Agency Use

MTR04_____

Date Rec'd:

Amount Rec'd:

Check No.:

Rec'd By:

WATER PROTECTION BUREAU

MPDES Storm Water Small MS4 Annual Report Form

FORM

MS4-AR

Reporting period is for the calendar year, January 1st through December 31st.
Check one. Annual Report is due by March 1st of the following year.

☐2017 ☐2018 ☐2019 ☐2020 ☐2021

Instructions: This Annual Report Form is to be completed by each permittee and co-permittee authorized to discharge storm water under the General Permit for Storm Water Discharges Associated with Small Municipal Separate Storm Water Sewer Systems (MS4s). All authorized permittees and co-permittees are required to complete this Annual Report Form for each calendar year reporting period. For co-permittees authorized under one permit authorization or for co-permittees with multiple authorizations, you are required to complete this form and submit separate required documents/information exclusively for your respective regulated Small MS4 area(s). This completed Annual Report Form must be electronically submitted to the Montana Department of Environmental Quality, Water Protection Bureau. Electronic submission is required through the web-based tool: NetDMR. Additional information is located on DEQ's website: http://deq.mt.gov/Water/WQINFO/ctss/netdmr.

Small MS4 Authorization Number: MTR04 0002

Small MS4 Classification ☐**Traditional** ☐**Non-Traditional**

Small MS4 Name: City of Bozeman

Small MS4 Mailing Address: P.O. Box 1230

City, State, and Zip Code: Bozeman, MT 59771

Small MS4 Contact Person (and Title): Adam Oliver, Stormwater Program Manager

Mailing Address: P.O. Box 1230

City, State, and Zip Code: Bozeman, MT 59771

Phone Number: (406)-582-2916 **E-mail address:** aoliver@bozeman.net

Storm Water Management Team: Attach an organizational chart identifying a primary SWMP coordinator and the positions responsible for implementing each minimum measure.

Requested above chart: ☐ Attached ☐ Not Attached See SWMP Sec 1.5

Has the permittee established and executed a formalized mechanism for regular communication between storm water management team members? ☐ Yes ☐ No See SWMP Sec 1.5

Permittee's SWMP Resources:
How many FTEs does the permittee designate to the MS4 permit? _____ If needed, provide an explanation.

If more space is needed, submit on an additional page with corresponding reference or on a data storage device.

Answer the following five (5) questions on an additional page with corresponding reference or on a data storage device.

(1) What are the source(s) of funding for implementation of the MS4 permit and the estimated percentage of the total budget allocated from each source listed? See SWMP Sec 1.3

(2) Specific to the annual reporting calendar year, how did the permittee justify commitment of resources or budget allocations to the implementation of the MS4 permit to decision-makers and the public? Provide a summary of meetings and outcomes held with decision-makers and the public. See SWMP Sec 1.3

(3) Has the permittee demonstrated program effectiveness to obtain budget allocations for this annual reporting calendar year or previous years? Why or why not? If so, what program effectiveness metrics were presented? See SWMP Sec 1.3

(4) How was this annual reporting calendar year's approach to allocate resources different than the previous year's approach? See SWMP Sec 1.3

(5) Was the permittee successful in their request for budget allocations? Describe the outcome and factors that affected or resulted in that outcome. See SWMP Sec 1.3

Illicit Discharge Detection & Elimination:
Per the IDDE MCM requirement (Part II (3)(c.i)), has the permittee reviewed, and updated if needed, the storm sewer map during the calendar year? ☐ Yes ☐ No See SWMP Section 4.8

Per the IDDE MCM requirement (Part II (3)(e.i)), has the permittee dry weather inspected and screened outfalls during the calendar year? ☐ Yes ☐ No SWMP 4.7

Fill in the blanks with numbers. The permittee has inspected _____ outfalls during this calendar year. Since authorization under the 2017 General Permit, the permittee has inspected _____ total outfalls out of the _____ total MS4 outfalls.

Per the Illicit Discharge Detection & Elimination MCM (Part II (3)(e.i)), the permittee will complete the requirement to inspect and screen all outfalls during dry weather by the end of the permit cycle. ☐ Yes ☐ No

Construction Site Storm Water Management: During the calendar year, how many construction storm water management plan reviews were completed (Part II (4)(b))? _____

During the calendar year, how many construction projects were inspected for their storm water management controls (Part II (4)(c))? _____

Pollution Prevention/Good Housekeeping for Permittee Operations:

Has the permittee reviewed, and updated if needed, the inventory of permittee-owned/operated facilities and activities (Part II (6)(a.i))? ☐ Yes ☐ No

Has the permittee reviewed, and updated if needed, the map that identifies the locations of facilities and known locations of activities (Part II (6)(a.ii))? ☐ Yes ☐ No

Has the permittee conducted annual storm water pollution prevention training for permittee staff during the next permit year after development of each standard operating procedure (Part II (6)(a.v))? ☐ Yes ☐ No

Not applicable during calendar year 2017, 2018, and 2019. Check "No" during these years.

Training: According to Part II (B) Training requirements, has the permittee conducted applicable training during the 1st and 4th calendar years? ☐ Yes ☐ No

Not required during calendar year 2018, 2019, and 2021. Check "No" during these years.

According to Part II (B) Training requirements, has the permittee conducted applicable new employee training within 90 days of the hire date? ☐ Yes ☐ No

Special Conditions: Per **Pre-TMDL Approval (Part III.A) requirements**, attach the required information regarding identification of all outfalls that discharge to impaired waterbodies, the impaired waterbodies, and the associated pollutants of impairments. Summarize the BMPs implemented over the reporting period and a schedule of BMPs planned for the following year. See SWMP Sec. 4.7 and 8.9

☐Attached ☐ Not Attached ☐ Not Applicable

Special Conditions: Approved TMDLs (Part III.B) requirements per calendar year below.

Calendar Year 2017: The permittee has attached a Sampling Plan that includes strategy rationale, monitoring frequency, monitoring parameters, and monitoring locations.

☐Attached ☐ Not Attached ☐ Not Applicable

Calendar Year 2017: The permittee has attached all outfalls that discharge to impaired waterbodies and the associated pollutants of impairment.

☐Attached ☐ Not Attached ☐ Not Applicable

Calendar Year 2018: The permittee has attached all outfalls that discharge to impaired waterbodies and the associated pollutants of impairment.

☐Attached ☐ Not Attached ☐ Not Applicable

Calendar Year 2019: The permittee has attached all outfalls that discharge to impaired waterbodies and the associated pollutants of impairment.

☐Attached ☐ Not Attached ☐ Not Applicable

Calendar Year 2020: The permittee has attached all outfalls that discharge to impaired waterbodies and the associated pollutants of impairment.

☐Attached ☐ Not Attached ☐ Not Applicable

Calendar Year 2020: The permittee has attached the TMDL section of the SWMP that identifies the measures and BMPs it plans to implement, describes the MS4's impairment priorities and long term strategy, and outlines interim milestones for controlling the discharge of the pollutants of concern and making progress towards meeting the TMDL.

☐Attached ☐ Not Attached ☐ Not Applicable

Calendar Year 2021: The permittee has attached all outfalls that discharge to impaired waterbodies and the associated pollutants of impairment. See SWMP Sec. 4.7

☐Attached ☐ Not Attached ☐ Not Applicable

Calendar Year 2021: The permittee has evaluated the TMDL section of the SWMP based on monitoring results. The section has been revised, if needed, and is attached. See SWMP Sec. 8.0

☐Attached ☐ Not Attached ☐ Not Applicable

Monitoring: Per requirements in Part IV (B), has the permittee attached monitoring results, calculations, and evaluations? See SWMP Sec. 8.0

☐Attached ☐ Not Attached ☐ Not Applicable

INSTRUCTIONS: The permittee will only fill out the Annual Report Attachments section below that corresponds to the calendar in which an Annual Report is being submitted for. Attach the requested documents/information.

2017 Annual Report Attachments (1st Calendar Year)

Public Education and Outreach:

Per requirements a.i in the referenced MCM, attach the required information regarding key target audiences and associated pollutants.

☐Attached ☐ Not Attached

Public Involvement and Participation:

Per requirements a.i in the referenced MCM, attach the required information regarding the public involvement approach and schedule of each key audience.

☐Attached ☐ Not Attached

Illicit Discharge Detection & Elimination:

Per requirements a.i in the referenced MCM, attach the required information regarding categories of non-storm water discharges or flows, associated pollutants, and local controls or conditions.

☐Attached ☐ Not Attached

Per requirements b.i in the referenced MCM, attach the required information regarding occasional non-storm water discharges or flows, associated pollutants, and local controls or conditions.

☐Attached ☐ Not Attached

Per requirements f.i in the referenced MCM, attach the required Illicit Discharge Investigation and Corrective Action Plan and any associated documents.

☐Attached ☐ Not Attached

Construction Site Storm Water Management:

Per requirements a.iii in the referenced MCM, attach progress towards an Enforcement Response Plan and associated documents.

☐Attached ☐ Not Attached

Specific to Traditional MS4s and per requirements b.i in the referenced MCM, attach the construction storm water management plan review checklist.

☐Attached ☐ Not Attached ☐ Not applicable

Specific to Non-Traditional MS4s and per requirements b.iii in the referenced MCM, attach the construction storm water management plan review checklist.

☐Attached ☐ Not Attached ☐ Not applicable

Specific to Traditional MS4s and per requirements c.i in the referenced MCM, attach the construction storm water management inspection form or checklist.

☐Attached ☐ Not Attached ☐ Not applicable

Specific to Non-Traditional MS4s and per requirements c.ii in the referenced MCM, attach the construction storm water management inspection form or checklist.

☐Attached ☐ Not Attached ☐ Not applicable

Post-Construction Site Storm Water Management in New and Redevelopment		
Specific to Traditional MS4s and per requirements b.i in the referenced MCM, attach the post-construction storm water management plan review checklist.		
◯ Attached	◉ Not Attached	◯ Not applicable
Specific to Non-Traditional MS4s and per requirements b.ii in the referenced MCM, attach the post-construction storm water management plan review checklist.		
◯ Attached	◉ Not Attached	◯ Not applicable
Per requirements in b.iii in the referenced MCM, attach the performance standards and associated documents.		
◯ Attached	◉ Not Attached	

2018 Annual Report Attachments (2nd Calendar Year)

Public Education and Outreach:		
Per requirements b.i in the referenced MCM, attach the required information regarding outreach messages.		
◯ Attached	◉ Not Attached	
Per requirements c.i in the referenced MCM, attach the required information regarding a description of formats, distribution channels and schedule for key target audiences.		
◯ Attached	◉ Not Attached	
Public Involvement and Participation:		
Per requirements a.ii in the referenced MCM, attach the required information regarding participation and key target audience feedback on approaches.		
◯ Attached	◉ Not Attached	
Illicit Discharge Detection & Elimination:		
Per requirements a.i in the referenced MCM, attach the required information regarding categories of non-storm water discharges or flows, associated pollutants, and local controls or conditions.		
◯ Attached	◉ Not Attached	
Per requirements b.i in the referenced MCM, attach the required information regarding occasional non-storm water discharges or flows, associated pollutants, and local controls or conditions.		
◯ Attached	◉ Not Attached	
Specific to Traditional MS4s and per requirements d.i in the referenced MCM, attach the adopted ordinance or other regulatory mechanism to prohibit illicit discharges.		
◯ Attached	◉ Not Attached	◯ Not applicable
Specific to Non-Traditional MS4s and per requirements d.ii in the referenced MCM, attach the summary of legal authority to prohibit illicit discharges.		
◯ Attached	◉ Not Attached	◯ Not applicable
Per requirements d.iii in the referenced MCM, attach the required summary of the cooperative agreements.		

◯ Attached	◉ Not Attached	
Per requirements d.iv in referenced MCM, attach the Enforcement Response Plan and associated documents.		
◯ Attached	◉ Not Attached	
Per requirements e.ii in referenced MCM, attach the list of high priority outfalls.		
◯ Attached	◉ Not Attached	
Specific to Traditional MS4s and per requirements f.iii in the referenced MCM, attach the summary of investigations conducted and corrective actions taken per the required Illicit Discharge Investigation and Corrective Action Plan and any associated documents.		
◯ Attached	◉ Not Attached	◯ Not applicable
Specific to Non-Traditional MS4s and per requirements f.iv in the referenced MCM, attach the summary of investigations conducted and corrective actions taken per the required Illicit Discharge Investigation and Corrective Action Plan and any associated documents.		
◯ Attached	◉ Not Attached	◯ Not applicable
Post-Construction Site Storm Water Management in New and Redevelopment		
Specific to Traditional MS4s and per requirements c.i in the referenced MCM, attach the post-construction storm water management inspection form or checklist.		
◯ Attached	◉ Not Attached	◯ Not applicable
Specific to Non-Traditional MS4s and per requirements c.ii in the referenced MCM, attach the post-construction storm water management inspection form or checklist.		
◯ Attached	◉ Not Attached	◯ Not applicable
Per requirements in c.iii in the referenced MCM, attach the inventory of all new permittee-owned and private post-construction storm water management controls.		
◯ Attached	◉ Not Attached	
Per requirements in c.vi in the referenced MCM, attach an inspection frequency protocol.		
◯ Attached	◉ Not Attached	
Specific to Traditional MS4s and per requirements c.vii, attach the developed inspection program.		
◯ Attached	◉ Not Attached	◯ Not applicable
Pollution Prevention/Good Housekeeping for Permittee Operations		
Per requirements in a.iii in the referenced MCM, attach completed Standard Operating Procedures.		
◯ Attached	◉ Not Attached	

2019 Annual Report Attachments (3rd Calendar Year)

Public Education and Outreach:

Per requirements c.ii in the referenced MCM, attach the required information regarding outreach materials distributions.

○ Attached	◉ Not Attached

Public Involvement and Participation:

Per requirements a.ii in the referenced MCM, attach the required information regarding participation and key target audience feedback on approaches.

○ Attached	◉ Not Attached

Illicit Discharge Detection & Elimination:

Per requirements a.i in the referenced MCM, attach the required information regarding categories of non-storm water discharges or flows, associated pollutants, and local controls or conditions.

○ Attached	◉ Not Attached

Per requirements b.i in the referenced MCM, attach the required information regarding occasional non-storm water discharges or flows, associated pollutants, and local controls or conditions.

○ Attached	◉ Not Attached

Per requirements e.ii in referenced MCM, attach the list of high priority outfalls.

○ Attached	◉ Not Attached

Per requirements e.iii in referenced MCM, attach the required summary of screening results.

○ Attached	◉ Not Attached

Specific to Traditional MS4s and per requirements f.iii in the referenced MCM, attach the summary of investigations conducted and corrective actions taken per the required Illicit Discharge Investigation and Corrective Action Plan and any associated documents.

○ Attached	◉ Not Attached	○ Not applicable

Specific to Non-Traditional MS4s and per requirements f.iv in the referenced MCM, attach the summary of investigations conducted and corrective actions taken per the required Illicit Discharge Investigation and Corrective Action Plan and any associated documents.

○ Attached	◉ Not Attached	○ Not applicable

Construction Site Storm Water Management:

Specific to Traditional MS4s and per requirements a.i in the referenced MCM, attach the adopted ordinance or other regulatory mechanism to require construction storm water controls.

○ Attached	◉ Not Attached	○ Not applicable

Specific to Non-Traditional MS4s and per requirements a.ii in the referenced MCM, attach the legal authority summary.

○ Attached	◉ Not Attached	○ Not applicable

Per requirements a.iii in the referenced MCM, attach the adopted Enforcement Response Plan and associated documents.

○ Attached	◉ Not Attached

Post-Construction Site Storm Water Management in New and Redevelopment

Per requirements in c.viii in the referenced MCM, attach findings and compliance actions regarding inspections of high priority post-construction storm water management controls.		
◯ Attached	◉ Not Attached	
Specific to Traditional MS4s and per requirements c.ix, attach the findings and resulting actions regarding inspections of high priority privately-owned post-construction storm water management controls.		
◯ Attached	◉ Not Attached	◯ Not applicable
Pollution Prevention/Good Housekeeping for Permittee Operations		
Per requirements in a.iii in the referenced MCM, attach the completed Standard Operating Procedures.		
◯ Attached	◉ Not Attached	

2020 Annual Report Attachments (4th Calendar Year)

Public Education and Outreach:		
Per requirements c.ii in the referenced MCM, attach the required information regarding outreach materials distributions.		
◯ Attached	◉ Not Attached	
Public Involvement and Participation:		
Per requirements a.ii in the referenced MCM, attach the required information regarding participation and key target audience feedback on approaches.		
◯ Attached	◉ Not Attached	
Illicit Discharge Detection & Elimination:		
Per requirements a.i in the referenced MCM, attach the required information regarding categories of non-storm water discharges or flows, associated pollutants, and local controls or conditions.		
◯ Attached	◉ Not Attached	
Per requirements b.i in the referenced MCM, attach the required information regarding occasional non-storm water discharges or flows, associated pollutants, and local controls or conditions.		
◯ Attached	◉ Not Attached	
Per requirements e.ii in referenced MCM, attach the list of high priority outfalls.		
◯ Attached	◉ Not Attached	
Per requirements e.iii in referenced MCM, attach the required summary of screening results.		
◯ Attached	◉ Not Attached	
Specific to Traditional MS4s and per requirements f.iii in the referenced MCM, attach the summary of investigations conducted and corrective actions taken per the required Illicit Discharge Investigation and Corrective Action Plan and any associated documents.		
◯ Attached	◉ Not Attached	◯ Not applicable
Specific to Non-Traditional MS4s and per requirements f.iv in the referenced MCM, attach the summary of investigations conducted and corrective actions taken per the required Illicit Discharge		

Investigation and Corrective Action Plan and any associated documents.		
○ Attached	◉ Not Attached	○ Not applicable
Post-Construction Site Storm Water Management in New and Redevelopment		
Specific to Traditional MS4s and per requirements a.i in the referenced MCM, attach the adopted ordinance or other regulatory mechanism to require post-construction storm water controls.		
○ Attached	◉ Not Attached	○ Not applicable
Specific to Non-Traditional MS4s and per requirements a.ii in the referenced MCM, attach the legal authority summary.		
○ Attached	◉ Not Attached	○ Not applicable
Per requirements in a.iii in the referenced MCM, attach the Enforcement Response Plan and associated documents.		
○ Attached	◉ Not Attached	
Per requirements in c.viii in the referenced MCM, attach findings and compliance actions regarding inspections of high priority post-construction storm water management controls.		
○ Attached	◉ Not Attached	
Specific to Traditional MS4s and per requirements c.ix, attach the findings and resulting actions regarding inspections of high priority privately-owned post-construction storm water management controls.		
○ Attached	◉ Not Attached	○ Not applicable
Per requirements in d.i in the referenced MCM, attach a summary of the discussion outcomes.		
○ Attached	◉ Not Attached	
Pollution Prevention/Good Housekeeping for Permittee Operations		
Per requirements in a.iii in the referenced MCM, attach the completed Standard Operating Procedures.		
○ Attached	◉ Not Attached	

2021 Annual Report Attachments (5th Calendar Year)	
Public Education and Outreach:	
Per requirements c.ii in the referenced MCM, attach the required information regarding outreach materials distributions. See SWMP Sec. 3.0	
◉ Attached	○ Not Attached
Public Involvement and Participation:	
Per requirements a.ii in the referenced MCM, attach the required information regarding participation and key target audience feedback on approaches. See SWMP Sec. 3.0	
◉ Attached	○ Not Attached
Illicit Discharge Detection & Elimination: See SWMP Sec. 4.6	
Per requirements a.i in the referenced MCM, attach the required information regarding categories of non-storm water discharges or flows, associated pollutants, and local controls or conditions.	

◉ Attached	○ Not Attached	See SWMP Sec. 4.6
Per requirements b.i in the referenced MCM, attach the required information regarding occasional non-storm water discharges or flows, associated pollutants, and local controls or conditions.		
◉ Attached	○ Not Attached	See SWMP Sec. 4.6
Per requirements e.ii in referenced MCM, attach the list of high priority outfalls.		
◉ Attached	○ Not Attached	See SWMP Sec. 4.7
Per requirements e.iii in referenced MCM, attach the required summary of screening results.		
◉ Attached	○ Not Attached	See SWMP Sec. 4.7
Specific to Traditional MS4s and per requirements f.iii in the referenced MCM, attach the summary of investigations conducted and corrective actions taken per the required Illicit Discharge Investigation and Corrective Action Plan and any associated documents.		See SWMP Sec. 4.5
◉ Attached	○ Not Attached	○ Not applicable
Specific to Non-Traditional MS4s and per requirements f.iv in the referenced MCM, attach the summary of investigations conducted and corrective actions taken per the required Illicit Discharge Investigation and Corrective Action Plan and any associated documents.		
○ Attached	○ Not Attached	◉ Not applicable
Post-Construction Site Storm Water Management in New and Redevelopment		
Per requirements in c.viii in the referenced MCM, attach findings and compliance actions regarding inspections of high priority post-construction storm water management controls.		
◉ Attached	○ Not Attached	See SWMP Sec. 6.6
Specific to Traditional MS4s and per requirements c.ix, attach the findings and resulting actions regarding inspections of high priority privately-owned post-construction storm water management controls.		See SWMP Sec. 6.6 and Attachment B
◉ Attached	○ Not Attached	○ Not applicable
Pollution Prevention/Good Housekeeping for Permittee Operations		
Per requirements in a.iii in the referenced MCM, attach completed Standard Operating Procedures.		
◉ Attached	○ Not Attached	See Attachment A
Attach any updates, changes, or improvements to the Small MS4 Storm Water Management Program per requirements in Part IV (E).		See SWMP Sec. 9.0
◉ Attached	○ Not Attached	○ Not applicable

Annual Report Form Signature

This Annual Report Form must be completed, signed, and certified as follows:

- **For a corporation, by a principal officer of at least the level of vice president;**
- **For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or**

For a municipality, state, federal, or other public facility, by either a principal executive officer or rankin elected official.

All Permittees Must Complete the Following Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information; including the possibility of fine and imprisonment for knowing violations. [75-5-633, MCA].

Certification of this form indicates conformance with the 2017 General Permit for Storm Water Discharge Associated with Small Municipal Separate Storm Sewer Systems and the required Annual Reporting upon receipt of permit coverage.

Name (Type or Print)	
Jeff Mihelich	
Title (Type or Print)	**Phone Number**
City Manager	
Signature	**Date Signed**
DocuSigned by: Jeff Mihelich 251607ED8A824A6...	2/16/2022

Facility Stormwater Pollution Prevention Plan

City Parking Garage and Parking Lots (4)

Downtown Bozeman
Bozeman, Montana 59771

2021 Report

1.0 OVERVIEW

This Facility Stormwater Pollution Prevention Plan (FSWPPP) includes Standard Operating Guidelines (SOG) developed to mitigate pollutants generated at the Public Parking Garage and four Public Parking Lots (Facility).

2.0 STORMWATER TEAM

The following Staff members are responsible for the FSWPPP's implementation:

a. Leader: John Alston, Water, Sewer, and Stormwater Superintendent
b. Leader: Josh Watson, Signs and Signals Foreman
c. Offsite Coordinator: Adam Oliver, Stormwater Program Coordinator

3.0 SITE DESCRIPTION

The City parking facilities include a Parking Garage and four Parking Lots. All the City parking facilities are located in the downtown area. The City parking facilities function similarly regarding stormwater, so all five sites are included in this FSWPPP. Specifically, all the City parking lot facilities are comprised of stabalized parking surfaces that drains stormwater to the City's stormdrain infrastrucutre.

The Parking Garage includes two pre-treatment technologies: a sand/oil separator and a hydrodynamic separator. The Parking Garage has two drainage basins:

a. Drainage basin #1: 0.75 acres of 100% impervious surface drains from the upper parking level and conveys runoff to a hydrodynamic separator for pretreatment before discharging into stormdrain infrastructure.
b. Drainage basin #2: 0.25 acres of 100% impervious surface drains stormwater off the retail suits rooftops which are located on the western and northern faces of the Facility. This stormwater runoff is pre-treated with a sand/oil separator before flowing into the sanitary sewer system.

Public Parking Lots #1,2,3, and 4, respectively, have the following drainage basins:

a. Drainage basin (Parking lot #1): 0.37 acres of 100% impervious parking space
b. Drainage basin (Parking lot #2): 0.25 acres of 100% impervious parking space.
c. Drainage basin (Parking lot #3): 0.55 acres of 90% impervious parking space.
d. Drainage basin (Parking lot #4): 0.40 acres of 100% impervious parking space.

4.0 WATERBODY

Stormwater runoff from the Parking Garage receives pretreatment in a hydrodynamic separator before discharging to Bozeman Creek at outfall ID: OF.F04.00441. Stormwater from all four Public Parking Lots discharge to Bozeman creek without pretreatment. The Montana Department of Environmental Quality classifies Bozeman Creek as a 303(d) listed impaired waterbody because it does not fully support aquatic life and primary contact/recreation beneficial uses. Bozeman Creek's impairments include: Alterations in stream-side (littoral) vegetative cover, Chlorophyll-a, E. coli, total nitrogen, and sedimentation and siltation.

5.0 SAMPLING

Facility sampling is not required for the FSWPPP.

6.0 POLLUTION IDENTIFICATION

Following is a list of identified pollutants and an assessment of likely sources at the Facility:

a. Total Suspended Solids: Vehicle tracking
b. Oil and Grease: Vehicle leaks
c. Total Nitrogen: Organics
d. Phosphorus: Organics
e. Zinc: Metal surfaces and brake dust
f. Lead: Brake dust and exhaust
g. Copper: Brake dust and exhaust
h. Floatables: Litter

7.0 SITE ASSESSMENT

The site assessment outlines the City's Facility Minimum Standards (Standards) applicable to this Facility. All Standards are listed in Section 7.3 of the City's Stormwater Management Plan (SWMP).

Standard: Spill kits stocked with instructions, disposal bags, PPE, absorbents, and inlet barriers.

a. Site Components and Compliance Assessment:
    - Public Works Spill Response Vehicle
        - Compliant: Spill response materials stocked and maintained
b. Standard Operating Guidelines:
    - Inspect and purchase missing item annually
c. Corrective Action(s):
    - 2021: None

Standard: Preventative maintenance performed on equipment and vehicles.

a. Site Components and Compliance Assessment:
    - City Vehicles
        - Compliant: Vehicles are inspected and maintained regularly, preventative maintained is documented and files are stored in CityWorks
b. Standard Operating Guidelines:
    - Visual inspection of all vehicles before use
    - Complete maintenance of vehicles at the Vehicle Maintenance Facility
    - Document inspections, maintenance, and repair per Division specific guidelines
c. Corrective Action(s):
    - 2021: None

Standard: Vehicles and equipment washed in designated locations.

a. Site Components and Compliance Assessment
    - City Vehicles
        - Compliant: Vehicles are washed off site at the designated wash bay at the Vehicle Maintenance Facility
b. Standard Operating Guidelines:
    - Wash vehicles at the Vehicle Maintenance Facility designated wash bay
c. Corrective Action(s):
    - 2021: None

Standard: Maintain stormwater facilities.

a. Site Components and Compliance Assessment:
    - Storm Conveyance Infrastructure
        - Compliant: All pretreatment infrastructure is maintained on a routine basis,

including cleaning of the hydrodynamic separator and sand/oil separator at the Public Parking Garage

b. Standard Operating Guidelines:
   - Maintain all pretreatment units by cleaning assets on a routine schedule
   - Map the location of all stormwater infrastructure

c. Corrective Action(s):
   - 2021: None

8.0 SPILL RESPONSE PLAN

The following is the City's spill response plan, including response, mitigation, and reporting protocols.

8.1 Small and Medium Spills: Typically, the major dimension is less than 6' and can be contained, cleaned, and eliminated using onsite personnel, spill kits and/or the Public Works vehicle.

a. Locate spill kit and put on PPE.
b. If necessary, deploy the Public Works spill response vehicle.
c. Control spill by stopping or securing the source.
d. Protect all storm drain inlets near the spill using absorbent booms or inlet barrier.
e. Identify spilled material.
f. Clean spill using appropriate absorbents or other methods. *Never wash spills down the drain!*
g. Place spill material and absorbents in secure containers.
h. Consult with Stormwater Team Leader and the Saftey Data Sheets (SDS) for spill and waste disposal procedures.
i. Dispose of spilled material and the absorbent in compliance with state and federal regulations.
j. Consult with Stormwater Team Leader for appropriate reporting procedures.

8.2 Large and Continuous Spills: Typically, the major dimension is greater than 6', continuous flow, and cannot be contained, cleaned, and eliminated using onsite personnel.

a. Leave the area and notify Emergency Responders (911).
b. Give the operator the spill location, chemical name, and approximate amount.
c. If safe, protect nearby storm drain inlets using absorbent booms or inlet barrier.
d. Provide SDS information for the spilled chemical to emergency responders.
e. Advise responders of any absorbents, containers, or spill control equipment that is available.
f. Consult with Stormwater Team Leader for appropriate reporting procedures.

8.3 Spill Reporting

a. Report all chemical spills, regardless of size, to a Stormwater Program Coordinator.

9.0 TRAINING

Staff receives training related to this Facility per the requirements within the City's MS4 Permit and maintains training documentation in the SWMP.

10.0 INSPECTIONS

Stormwater staff completes an annual facility inspection and provides results to the Program Coordinator who determines compliance with the City's Facility Minimum Standards listed in the SWMP. Updates to this FSWPPP occur based on the results from:

a. 2021: Completed on September 28th

11.0 INFRASTRUCTURE IMPROVEMENTS

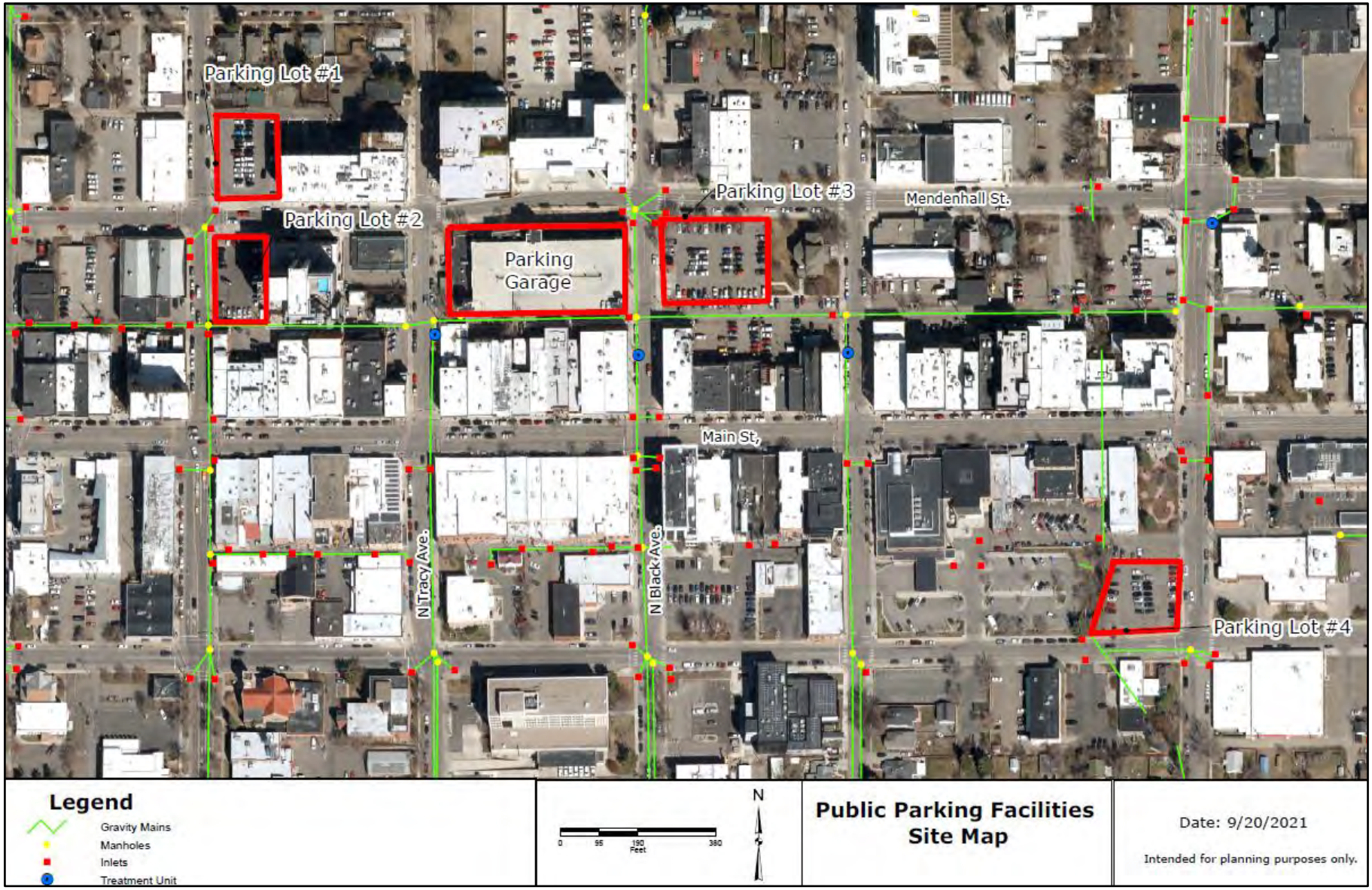
Staff identified the following project needs and plans to propose during the development of future Capital Improvement Plans (CIP):

a. Use of parking Lot 4 as a LID Demonstration project along Bozeman Creek, an impaired waterway.
    - Cost: TBD
    - Timeline: Propose in CIP

12.0 RECORD KEEPING AND REPORTING

Staff stores copies of this FSWPPP at the Stormwater Division's Office.

Appendix A: Site Map



Facility Stormwater Pollution Prevention Plan

City Shops Complex

814 North Bozeman Avenue
Bozeman, Montana 59715

2021 Report

1.0 OVERVIEW

This Facility Stormwater Pollution Prevention Plan (FSWPPP) includes Standard Operating Guidelines (SOG) developed to mitigate pollutants generated at the City Shops Complex (Facility).

2.0 STORMWATER TEAM

The following Staff members are responsible for the FSWPPP's implementation:

a. Leader: John Alston, Water, Sewer, and Storm Superintendent
b. Leader: John Vandelinder, Streets Superintendent
c. Leader: Thom White, Parks Superintendent
d. Leader: Mike Gray, Facilities Superintendent
e. Offsite Coordinator: Adam Oliver, Stormwater Program Coordinator

3.0 SITE DESCRIPTION

The Facility includes buildings, parking lots, and staging areas for the Streets, Parks, Facilities,Water, Sewer, Storm Divisions. The Facility has three distinct drainage basins:

a. Drainage Basin #1: 2.52 acres with 89% impervious cover. Drainage system components include six inlets, 550 feet of storm sewer, and a four-foot diameter Contech CDS mechanical separation unit. Basin #1 discharges into a storm drain beneath Tamarack St. to the north, which discharges into Bozeman Creek at Outfall OF.E03.00450.
b. Drainage Basin #2: 0.56 acres with 98% impervious cover. Drainage system components include a valley gutter, inlet, and 20 feet of storm drain. Basin #2 discharges into a storm drain beneath Tamarack St. to the north, which dumps into Bozeman Creek at Outfall OF.E03.00450.
c. Drainage Basin #3: 0.82 acres with 90% impervious cover. Drainage system components include four inlets, 144 feet of storm sewer, and an underground infiltration facility. Basin #3 discharges to an underground infiltration facility.

4.0 IMPAIRED WATERBODIES

Drainage basins #1 and #2 discharges to Bozeman Creek at Outfall OF.E03.00450. The Montana Department of Environmental Quality classifies Bozeman Creek as a 303(d) listed impaired waterbody because it does not fully support aquatic life and primary contact/recreation beneficial uses. Bozeman Creek's impairments include: Alterations in stream-side (littoral) vegetative cover, Chlorophyll-a, E. coli, total nitrogen, and sedimentation and siltation.

5.0 SAMPLING

Staff conducted baseline sampling on April 20 and 26, 2019, at the following locations:

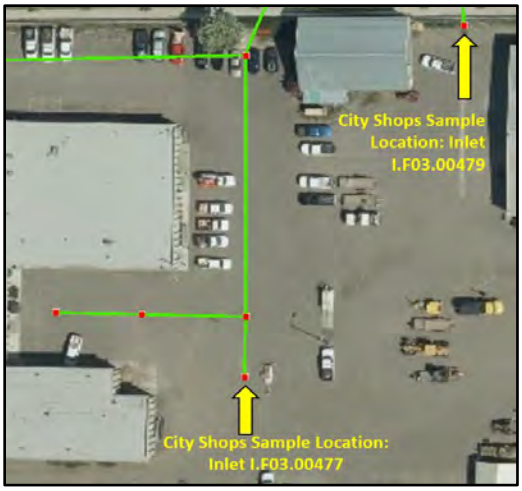


Figure 5.0: Sampling location map.

Staff analyzed the following parameters and compiled the results:

a. Total Suspended Solids (TSS), mg/L
b. Chemical Oxygen Demand (COD), mg/L
c. Total Nitrogen (TN), mg/L
d. Total Phosphorus (TP), mg/L
e. Copper (Cu), mg/L
f. Lead (Pb), mg/L
g. Zinc (Zn), mg/L
h. Oil and Grease, mg/L
i. pH, standard units

Table 5.1: Facility sampling results.

Sampling Date	TSS (mg/L)	Oil & Grease (mg/L)	Total Nitro. (mg/L)	Phosp. (mg/L)	Zinc (mg/L)	Lead (mg/L)	Copper (mg/L)	COD (mg/L)	pH
April 20, 2019	1,930	11.0	5.56	3.07	1.560	0.122	0.245	1350	7.5
April 26, 2019	14,100	5.0	8.70	4.28	1.940	0.153	0.352	548	8.0
Median	**8,015**	**8.0**	**7.13**	**3.68**	**1.750**	**0.138**	**0.299**	**1450**	**7.8**

The data shows the Facility yields high concentrations of TSS, oils and grease, phosphorous, zinc, lead, copper, and COD.

6.0 POLLUTION IDENTIFICATION

Following is a list of identified pollutants and an assessment of likely sources at the Facility:

a. Total Suspended Sediment (TSS): Uncontained vehicle and equipment washing, organics
b. Oil and Grease: Fueling, vehicle leaks, uncontained vehicle and equipment washing
c. Total Nitrogen: Fertilizer transfers, uncontained vehicle and equipment washing, organics
d. Phosphorus: Fertilizer transfers, uncontained vehicle and equipment washing, organics
e. Zinc: Steel surfaces, brake dust, uncontained vehicle and equipment washing
f. Lead: Brake dust, uncontained vehicle and equipment washing
g. Copper: Brake dust, uncontained vehicle and equipment washing
h. COD: Vehicle and equipment leaks, uncontained vehicle and equipment washing

7.0 SITE ASSESSMENT

Section 7.0 outlines the City's Facility Minimum Standards (Standards) applicable to this Facility. All Standards are listed in the City's Stormwater Management Plan (SWMP).

Standard: Wash bays and interior floor drains connected to the sanitary sewer.

a. Site Components and Compliance Assessment:
   - North Complex Building Floor Drains
     - Compliant: Connected to the sanitary sewer with P-trap
   - South Complex Building Floor Drains
     - Compliant: Connected to the sanitary sewer with sand-oil separator
   - Green Shed Floor Drains
     - Non-compliant: Connected to infiltration drain system without pretreatment
   - Wash Bay #1 Drain System
     - Non-compliant: Connected to storm drain (infiltration facility downline)
   - Wash Bay #2 Drain System
     - Non-compliant: Connected to storm drain (CDS mechanical separator downline)

b. Standard Operating Guidelines:
   - Annual inspection (condition, debris depth, accumulated pollutants)
   - Schedule maintenance as needed to maintain the intended function of CDS mechanical separator

c. Corrective Action(s):
   - ~~2019: Retrofit Green Shed floor drains or provide enhanced spill kit materials. Retrofit Wash Bay #1 drain system. Retrofit or relocate Wash Bay #2 drain system~~
   - ~~2020: Retrofit Green Shed floor drains, or provide enhanced spill kit materials. Retrofit Wash Bay #1 drain system. Retrofit or relocate Wash Bay #2 drain system~~
   - 2021: None

Standard: Chemicals stored under cover and within secondary containment.

a. Site Components and Compliance Assessment:
   - CRF storage tank
     - Non-compliant: Stored outside without secondary containment.

b. Standard Operating Guidelines:
   - Inspect storage containers weekly for leaks. This is a highly viscous material that will not dissolve or flow quickly. CRF storage tanks that are not in use are primarily stored indoors.
   - If a leak is detected, implement Spill Response Plan provided in Section 8.0

c. Corrective Action(s):
   - ~~2019: Install secondary containment for CRF tank~~
   - ~~2020: Install secondary containment for CRF tank~~
   - 2021: Install secondary containment for CRF tank

Standard: Fuel tanks protected by secondary containment.

a. Site Components and Compliance Assessment:
   - 500-gallon fuel tank
     - Compliant: Double-walled tank

b. Standard Operating Guidelines:
   - Insert nozzle securely into the vehicle fuel tank before engaging the pump
   - Stay with vehicle or equipment during fueling to reduce the chance of tank overflows
   - Shut off pump before removing the nozzle from the vehicle fuel tank
   - Securely place nozzle back into fuel tank cradle
   - Clean up spills immediately using the SOGs provided in Section 8.0
   - Inspect secondary containment annually per manufacturer's recommendation

c. Corrective Action(s):
   - ~~2019: None~~
   - ~~2020: None~~
   - 2021: None

Standard: Tracking prevented at all entries, exits, and within parking areas.

a. Site Components and Compliance Assessment:
   - Parking Areas, East Entrance, West Entrance, and South Entrance
     - Compliant: Asphalt surfaces
   - Wash Bays #1 and #2
     - Compliant: Debris accumulation controlled with sweeping

b. Standard Operating Guidelines:
   - Inspect paved surfaces for debris accumulation, sweep once present

c. Corrective Action(s):
   - ~~2019: Improve operational controls and increased street sweeping~~
   - ~~2020: None~~
   - 2021: None

Standard: Spill kits stocked with instruction, disposal bags, PPE, absorbents, and inlet barriers.

a. Site Components and Compliance Assessment
   - Green Shed Spill Kit
     - Compliant: Instructions, disposal bags, PPE, and inlet barrier included
   - South Complex Building Spill Kit and North Complex Building Spill Kit
     - Compliant: Response plan, disposal bags, or PPE included
   - Fuel Tank Spill Kit
     - Compliant: Response plan and inlet barrier included

b. Standard Operating Guidelines:
   - Inspect and replace missing items annually

c. Corrective Action(s):
   - ~~2019: Purchase inlet barrier mats for Green Shed and Fuel Tank spill kits. Place a copy of the spill response plan with each spill kit. Provide disposal bags and PPE for the spill kits in the Green Shed, South Complex Building, and North Complex Buildings. Purchase spill kit for the fuel tank.~~
   - ~~2020: None~~
   - 2021: None

Standard: Preventative maintenance performed on equipment and vehicles.

a. Site Components and Compliance Assessment
   - Water/Sewer/Storm, Street, Parks, and Facility's Equipment and Vehicles
     - Compliant: Vehicles and equipment inspected and maintained regularly, preventative maintenance documentation filed in CityWorks

b. Standard Operating Guidelines:
   - Visual inspection of all vehicles and equipment before use
   - Complete maintenance and repairs at the Vehicle Maintenance Facility
   - Document inspections, maintenance, and repair per Division specific guidelines

c. Corrective Action(s):
   - ~~2019: None~~

- ~~2020: None~~
- 2021: None

Standard: Vehicles and equipment washed in designated locations.

a. Site Components and Compliance Assessment
   - Wash Bay #1
     - Compliant: Designated wash location
   - Wash Bay #2
     - Not Compliant: See 'Wash Bay and Interior Floor Drain' standard above

b. Standard Operating Guidelines:
   - Wash vehicles and equipment in Wash Bay #1

c. Corrective Action(s):
   - ~~2019: Switch degreasers and soaps to EPA approved Safer Choice Products~~
   - ~~2020: Switch degreasers and soaps to EPA approved Safer Choice Products~~
   - 2021: Switch degreasers and soaps to EPA approved Safer Choice Products

Standard: Maintain above and below ground stormwater infrastructure.

d. Site Components and Compliance Assessment:
   - 11 inlets and 714' of storm drains
     - Compliant: Maintained once every five years
   - CDS mechanical Separator Treatment Unit
     - Compliant: Maintained annually
   - Underground Infiltration Facility
     - Not Compliant: Not maintainable due to design and installation error

e. Standard Operating Guidelines:
   - Maintenance schedules include:
     - Maintain treatment storm infrastructure annually
     - Maintain conveyance storm infrastructure once every five years

f. Corrective Action(s):
   - ~~2019: See Section 11.0~~
   - ~~2020: See Section 11.0~~
   - 2021: See Section 11.0

8.0 SPILL RESPONSE PLAN

The following is the City's spill response plan, including response, mitigation, and reporting protocols.

8.1 Small and Medium Spills: Typically, the major dimension is less than 6' and can be contained, cleaned, and eliminated using onsite personnel, spill kits or the spill response vehicle.

a. Locate spill kit and put on PPE.
b. In necessary, deploy Public Works spill response vehicle.
c. Control spill by stopping or securing the source.
d. Protect all storm drain inlets near the spill using absorbent booms or inlet barrier.
e. Identify spilled material.
f. Clean spill using appropriate absorbents or other methods. *Never wash spills down the drain!*
g. Place spill material and absorbents in secure containers.
h. Consult with Stormwater Team Leader and the SDS for spill and waste disposal procedures.
i. Dispose of spilled material and the absorbent in compliance with state and federal regulations.
j. Consult with Stormwater Team Leader for appropriate reporting procedures.

8.2 Large and Continuous Spills: Typically, the major dimension is greater than 6', continuous flow, and cannot be contained, cleaned, and eliminated using onsite personnel.

a. Leave the area and notify Emergency Responders (911).
b. Give the operator the spill location, chemical name, and approximate amount.
c. If safe, protect nearby storm drain inlets using absorbent booms or inlet barrier.
d. Provide SDS information for the spilled chemical to emergency responders.
e. Advise responders of any absorbents, containers, or spill control equipment that is available.
f. Consult with Stormwater Team Leader for appropriate reporting procedures.

8.3 Spill Reporting

a. Report all chemical spills, regardless of size, to the Stormwater Program Coordinator.

9.0 TRAINING

Staff receives training related to this Facility per the requirements within the City's MS4 Permit and maintains training documentation in the SWMP.

10.0 INSPECTIONS

Stormwater staff completes an annual facility inspection and provides results to the Program Coordinator who will determine compliance with the City's Facility Minimum Standards listed in the SWMP. Updates to this FSWPPP were based on the results from:

a. 2019: Completed on March 21
b. 2020: Completed on September 18
c. 2021: Completed on September 14

11.0 INFRASTRUCTURE IMPROVEMENTS

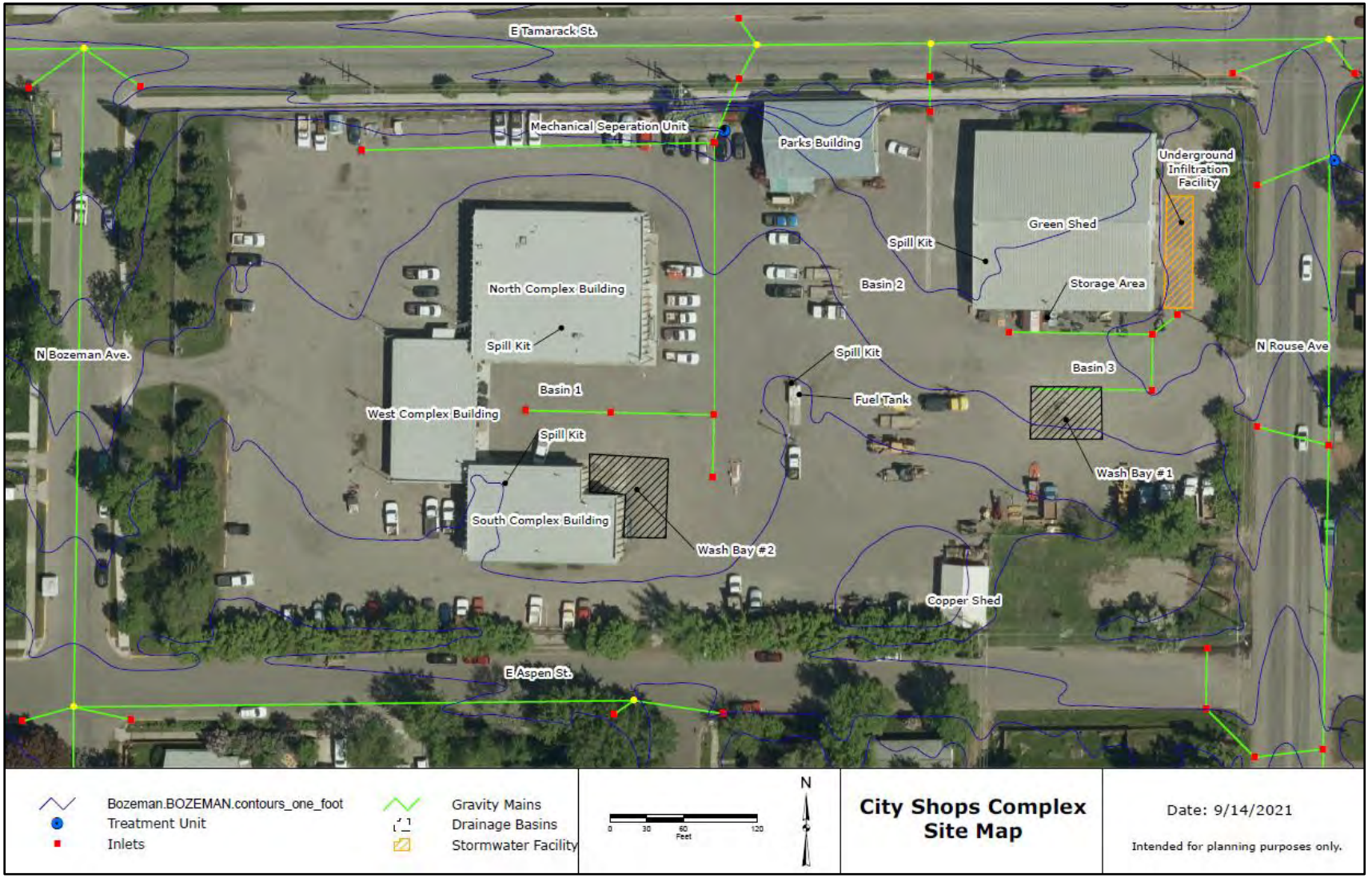
Staff identified the following project needs and plans to propose to the City Commission during the development of future Capital Improvement Plans (CIP):

a. Public Works Facility Space and Needs Assessment
    - Cost: ~$180,000
    - Timeline: Ongoing
b. Wash Bay #2 Drain System Retrofit or Relocation
    - Cost: $25,000
    - Timeline: Propose in CIP
c. Basin #2 Inlet Treatment Installation
    - Cost: $1,000
    - Timeline: 2021 Completion
d. Infiltration Facility Maintenance Access Modification
    - Cost: $15,000
    - Timeline: Propose in CIP
~~e. Facility Surfacing and Stormwater Upgrades (CDS Unit, ADS Infiltration System, and Wash Pad)~~
    - ~~Cost: $250,000~~
    - ~~Timeline: Completed in 2016~~

12.0 RECORD KEEPING AND REPORTING

Staff maintains copies of this FSWPPP at the Facility and the Stormwater Division Office.

Appendix A: Site Map



Facility Stormwater Pollution Prevention Plan

East Gallatin Storage Area

2300 Block of North Rouse Ave
P.O. Box 1230
Bozeman, Montana 59771

Updated: 2021

1.0 OVERVIEW

This Facility Stormwater Pollution Prevention Plan (FSWPPP) includes Standard Operating Guidelines (SOG) developed to mitigate pollutants generated at the East Gallatin Storage Area (Facility).

2.0 STORMWATER TEAM

The following Staff members are responsible for the FSWPPP's implementation:

a. Leader: John Vandelinder, Streets Superintendent
b. Leader: Alex Nordquest, Forestry Superintendent
c. Offsite Coordinator: Adam Oliver, Stormwater Program

3.0 SITE DESCRIPTION

The Facility provides storage for materials such as rock chips, street sweepings, cut boulevard trees, and fill. One drainage basin exists:

a. Drainage Basin #1: 4.7 acres with 9% impervious cover from the newly constructed acess road on the southern boudary of the Facility. A detention basin lies in the parking area just outside south east of the Facility.

4.0 IMPAIRED WATERBODY

The Facility is adjacent to the East Gallatin River, which is impaired for nutrients; however, existing topography holds water on site where it infiltrates and/or evaporates. Any discharge from the gravel work and storage area is treated by a detention basin before discharging to the East Gallatin River at Outfall ID: OF.F01.00638.

5.0 SAMPLING

Sampling is not required for this FSWPPP.

6.0 POLLUTION IDENTIFICATION

Following is a list of identified pollutants and an assessment of likely sources at the Facility:

a. Total Suspended Solids: Traction sand and organics (ex. tree trimmings and mulch)
b. Oil and Grease: Vehicle leaks
c. Total Nitrogen: Organics
d. Phosphorus: Traction sand and organics
e. Zinc: Metal surfaces and brake dust
f. Lead: Brake dust and exhaust
g. Copper: Brake dust and exhaust
h. pH: Concrete washout
i. Floatables: Litter

7.0 SITE ASSESSMENT

Section 7.0 outlines the City's Facility Minimum Standards (Standards) applicable to this Facility. All Standards are listed in the City's Stormwater Management Plan (SWMP).

Standard: Tracking controlled at all entries, exits, and within parking areas.

a. Site Components and Compliance Assessment:
    - Gravel lot
        - Compliant: Asphalt entrance and compacted gravel lot
b. Standard Operating Guidelines:
    - Sweep paved entryway if a noticeable accumulation of debris occurs
c. Corrective Action(s):
    - ~~2020: None~~
    - 2021: None

Standard: Preventative maintenance on equipment and vehicles.

a. Site Components and Compliance Assessment:
    - Water/Sewer/Storm, Forestry, and Street Division Equipment and Vehicles
        - Compliant: Vehicles and equipment inspected and maintained regularly, and preventative maintenance documentation is filed in CityWorks
b. Standard Operating Guidelines:
    - Visual inspection of all vehicles/equipment before use
    - Complete minor maintenance and repair of equipment indoors. Complete more extensive work at the Vehicle Maintenance Facility
    - Document inspections, maintenance, and repair per Division specific guidelines
c. Corrective Action(s):
    - ~~2020: None~~
    - 2021: None

Standard: Stabilize disturbed areas within 14-days.

a. Site Components and Compliance Assessment:
    - Ongoing construction of the access road from the southwest includes erosion and sediment control BMPs, and will be stabilized post-construction
        - Compliant
b. Standard Operating Guidelines:
    - None
c. Corrective Action(s):
    - ~~2020: None~~
    - 2021: None. Maintain temporary BMPs when road construction resumes

Standard: Store chemicals under cover and within secondary containment.

a. Site Components and Compliance Assessment:
    - Water containers are stored on site, no chemicals stored at the Facility
        - Compliant
    - Uncontained concrete washout on the ground
        - Not Compliant
b. Standard Operating Guidelines:
    - Contain concrete washout in a lined capture area, let liquids dry/evaporate, and dispose solids in a dumpster or haul directly to the landfill
    - City crews construct a temporary washout if needed and dispose of it in the onsite dumpster
c. Corrective Action(s):
    - ~~2020: Construct a temporary or permanent concrete washout~~
    - 2021: None.

8.0 SPILL RESPONSE PLAN

The following is the City's spill response plan, including response, mitigation, and reporting protocols.

8.1 Small and Medium Spills: Typically, major dimension is less than 6' and can be contained, cleaned, and eliminated using onsite personnel, spill kits and/or the Public Works vehicle.

a. Locate spill kit and put on PPE.
b. If necessary, deploy Public Works spill response vehicle.
c. Control spill by stopping or securing the source.
d. Protect all storm drain inlets near the spill using absorbent booms or inlet barrier.
e. Identify spilled material.
f. Clean spill using appropriate absorbents or other methods. *Never wash spills down the drain!*
g. Place spill material and absorbents in secure containers.
h. Consult with Stormwater Team Leader and the SDS for spill and waste disposal procedures.
i. Dispose of spilled material and the absorbent in compliance with state and federal regulations.
j. Consult with Stormwater Team Leader for appropriate reporting procedures.

8.2 Large and Continuous Spills: Typically, major dimension is greater than 6', continuous flow, and cannot be contained, cleaned, and eliminated using onsite personnel.

a. Leave the area and notify Emergency Responders (911).
b. Give the operator the spill location, chemical name, and approximate amount.
c. If safe, protect nearby storm drain inlets using absorbent booms or inlet barrier.
d. Provide SDS information for the spilled chemical to emergency responders.
e. Advise responders of any absorbents, containers, or spill control equipment that is available.
f. Consult with Stormwater Team Leader for appropriate reporting procedures.

8.3 Spill Reporting

a. Report all chemical spills, regardless of size, to a Stormwater Team Leader.

9.0 TRAINING

Staff receives training related to this Facility per the requirements within the Citys MS4 Permit and maintains training documentation in the SWMP.

10.0 INSPECTIONS

The Offsite Coordinator, or their designated representative, completes an annual inspection at the Facility to determine compliance with the City's Facility Minimum Standards listed in the SWMP. Updates to this FSWPPP occur based on the results.

a. 2020: Completed on September 22
b. 2021: Completed on July 22

11.0 INFRASTRUCTURE IMPROVEMENTS

Staff identified the following project needs and plans to propose during the development of future Capital Improvement Plans (CIP):

a. None

12.0 RECORD KEEPING AND REPORTING

Staff store copies of this FSWPPP at the City Shops Facility and the Stormwater Division's Office.

Appendix A: Site Map

Facility Stormwater Pollution Prevention Plan

City Fire Stations

Bozeman, Montana 59715

2021 Report

1.0 OVERVIEW

This Facility Stormwater Pollution Prevention Plan (FSWPPP) includes Standard Operating Guidelines (SOGs) developed to mitigate stormwater pollutants generated at the City Fire Stations (Facility).

2.0 STORMWATER TEAM

The following Staff members are responsible for the FSWPPP's implementation:

a. Leader: John Alston, Water, Sewer, and Stormwater Superintendent
b. Leader: Varies daily, Onsite Battalion Cheif
c. Offsite Coordinator: Adam Oliver, Stormwater Program Coordinator

3.0 SITE DESCRIPTION

There are three City fire stations located in Bozeman. Fire station #1 is currently located downtown at 34 N. Rouse Ave., and will be relocated to the new Public Safety Center once construction is complete. It will be added to this FSWPPP upon relocation. Fire Station #2 is presently located at 410 S 19th Ave. and will soon be relocated to the Montana State University campus. The new Fire Station #2 will have stormwater drainage built to modern design standards. Fire Station #3 is located at 1075 Vaquero Pkwy. All of the City fire stations function similarly regarding stormwater impacts. Specifically, the fire stations are all conventional buildings that drain stormwater to the City's storm drain infrastructure. The drainage basins at Fire Station #2 and #3 are as follows:

a. Drainage basin for Fire Station #2: 0.4 acres of 75% impervious cover. The rear impervious surface sheet flows to a landscaped area where it infiltrates. The front of the building and driveway discharges into inlet ID I.I05.00179.
b. Drainage basin for Fire Station #3: 1.9 acres of 70% impervious surface conveys storm runoff to two onsite detention basins for treatment before discharging to Tributary – SWWW_00012.

4.0 WATERBODY

Fire Station #1 will be added to this FSWPPP once relocated to the new Public Safety Center in 2022. The drainage basin of Fire Station #2: discharges stormwater directly to Farmers Canal at Outfall ID: OF.I05.00350. Fire Station #3 discharges stormwater indirectly from two onsite detention ponds to Tributary – SWWW_00012 at Outfall ID: OF.K02.00270. The Montana Department of Environmental Quality does not classify either Farmers Canal or Tributary – SWWW_00012 as 303(d) listed impaired waterbodies. The new location for Fire Station #1 at the Public Safety Center will be located in the Bozeman Creek Watershed and is designed to retain the 10-year, 2-hour event. The Montana Department of Environmental Quality classifies Bozeman Creek as a 303(d) listed impaired waterbody because it does not fully support aquatic life and primary contact/recreation beneficial uses. Bozeman Creek's impairments include: Alterations in stream-side (littoral) vegetative cover, Chlorophyll-a, E. coli, total nitrogen, and sedimentation and siltation.

5.0 SAMPLING

Sampling is not required for this FSWPPP.

6.0 POLLUTION IDENTIFICATION

Following is a list of identified pollutants and an assessment of likely sources at the Facility:

a. Total Suspended Solids: Organics (ex. Grass clippings)
b. Oil and Grease: None
c. Total Nitrogen: Organics
d. Phosphorus: Organics
e. Zinc: Metal surfaces and brake dust
f. Lead: Brake dust and exhaust
g. Copper: Brake dust and exhaust
h. Floatables: None

7.0 SITE ASSESSMENT

The site assessment outlines the City's Facility Minimum Standards (Standards) applicable to this Facility. All Standards are listed in Section 7.3 of the City's Stormwater Management Plan (SWMP).

Standard: Spill kits stocked with instructions, disposal bags, PPE, absorbents, and inlet barriers

a. Site Components and Compliance Assessment:
    - Inside Spill Kits at Fire Station #2 and #3
        - Compliant: Spill kits are maintained.
b. Standard Operating Guidelines:
    - Inspect spill kit and purchase missing items annually
    - Maintain all spill kit supplies in a designated location
c. Corrective Action(s):
    - 2021: None

Standard: Connect wash bays and interior floor drains to the sanitary sewer

a. Site Components and Compliance Assessment:
    - All City Fire Stations
        - Compliant: Fire Station #3 is built to modern stormwater design standards and thereby has wash bays and interior floor drains that connect to the sanitary sewer. Fire Stations #1 and #2 are scheduled to be relocated to newly constructed buildings that will be built to modern stormwater design standards.
b. Standard Operating Guidelines:
    - Inspect floor drains as needed to make sure they are unclogged and functioning
c. Corrective Action(s):
    - 2021: None

Standard: Preventative maintenance performed on equipment and vehicles

a. Site Components and Compliance Assessment:
    - Fire station vehicles
        - Compliant: Vehicles are maintained often
b. Standard Operating Guidelines:
    - Visually inspect all vehicles before use
    - Complete maintenance of vehicles at the Vehicle Maintenance Facility
    - Document inspections, maintenance, and repair per Division specific guidelines
c. Corrective Action(s):
    - 2021: None

Standard: Vehicles and equipment washed in designated locations

a. Site Components and Compliance Assessment
    - Vehicles and equipment
        - Compliant: Vehicles and equipment are maintained at designated locations
b. Standard Operating Guidelines:

- Designated wash locations include the Vehicle Maintenance Facility or inside the Fire Stations above the wash bays

c. Corrective Action(s):
   - 2021: none

Standard: Contain fuel tanks with secondary containment

a. Site Components and Compliance Assessment:
   - Fire Station #3
     - Compliant: A ConVault diesel secondary container is located outside behind bollards

b. Standard Operating Guidelines:
   - Insert nozzle securely into the vehicle fuel tank before engaging the pump
   - Stay with vehicle or equipment during fueling to reduce the chance of tank overflows
   - Shut off pump before removing the nozzle from the vehicle fuel tank
   - Securely place nozzle back into fuel tank cradle
   - Clean up spills immediately using the SOGs provided in Section 8.0
   - Inspect secondary containment annually per manufacturer's recommendation

c. Corrective Action(s):
   - 2021: None

Standard: Maintain stormwater facilities

a. Site Components and Compliance Assessment:
   - Fire Station #3 Detention Ponds (2)
     - Compliant: Maintained every fall for vegetation and debris clearing
   - Fire Station #3 238' of storm drains
     - Compliant: Maintained once every five years

b. Standard Operating Guidelines:
   - Maintenance schedules include:
     - Maintain stormwater retention basin vegetation every fall
     - Maintain conveyance storm infrastructure every five years

c. Corrective Action(s):
   - 2021: None

Standard: Wash bays and interior floor drains connected to the sanitary sewer

a. Site Components and Compliance Assessment:
   - Fire Station #2
     - Compliant: Connected to the sanitary sewer
   - Fire Station #3
     - Compliant: Connected to the sanitary sewer

b. Standard Operating Guidelines:
   - Annual inspection (condition, debris depth, accumulated pollutants)

c. Corrective Action(s):
   - 2021: None

8.0 SPILL RESPONSE PLAN

The following is the City's spill response plan, including response, mitigation, and reporting protocols.

8.1 Small and Medium Spills: Typically, the major dimension is less than 6' and can be contained, cleaned, and eliminated using onsite personnel, spill kits and/or the Public Works vehicle.

a. Locate spill kit and put on PPE.
b. If necessary, deploy the Public Works spill response vehicle.
c. Control spill by stopping or securing the source.

d. Protect all storm drain inlets near the spill using absorbent booms or inlet barrier.
e. Identify spilled material.
f. Clean spill using appropriate absorbents or other methods. *Never wash spills down the drain!*
g. Place spill material and absorbents in secure containers.
h. Consult with Stormwater Team Leader and the Safety Data Sheets (SDS) for spill and waste disposal procedures.
i. Dispose of spilled material and the absorbent in compliance with state and federal regulations.
j. Consult with Stormwater Team Leader for appropriate reporting procedures.

8.2 Large and Continuous Spills: Typically, the major dimension is greater than 6', continuous flow, and cannot be contained, cleaned, and eliminated using onsite personnel.

a. Leave the area and notify Emergency Responders (911).
b. Give the operator the spill location, chemical name, and approximate amount.
c. If safe, protect nearby storm drain inlets using absorbent booms or inlet barrier.
d. Provide SDS information for the spilled chemical to emergency responders.
e. Advise responders of any absorbents, containers, or spill control equipment that is available.
f. Consult with Stormwater Team Leader for appropriate reporting procedures.

8.3 Spill Reporting

a. Report all chemical spills, regardless of size, to the Stormwater Program Coordinator.

9.0 TRAINING

Staff receives training related to this Facility per the requirements within the City's MS4 Permit and maintains training documentation in the SWMP. Additional spill response training is completed by Fire Department personnel.

10.0 INSPECTIONS

Stormwater staff completes an annual facility inspection and provides results to the Program Coordinator who determines compliance with the City's Facility Minimum Standards listed in the SWMP. Updates to this FSWPPP occur based on the results from:

a. 2021: Completed on September 29th

Stormwater staff contacted the onsite Battalion Chief for the day of 9/29/21, Graver Johnson, before inspecting the Facilities.

From the inspections, stormwater staff documented that the City Fire Stations as a facility presents minimal to no risk to stormwater infrastructure or water quality, similar to structural facilities like City Hall or the City Library.

11.0 INFRASTRUCTURE IMPROVEMENTS

Staff identified the following project needs and plans to propose during the development of future Capital Improvement Plans (CIP):

a. None

12.0 RECORD KEEPING AND REPORTING

Staff store copies of this FSWPPP at the Stormwater Division's Office.

Appendix A: Site Map

Facility Stormwater Pollution Prevention Plan

Laurel Glen Operations Facility

5521 Saxon Way
P.O. Box 1230
Bozeman, Montana 59718

2021 Update

1.0 OVERVIEW

This Facility Stormwater Pollution Prevention Plan (FSWPPP) includes Standard Operating Guidelines (SOG) developed to mitigate pollutants generated at the Laurel Glen Operations Facility (Facility).

2.0 STORMWATER TEAM

The following Staff members are responsible for the FSWPPP's implementation:

a. Leader: John Alston, Water, Sewer, and Stormwater Superintendent
b. Leader: Josh Watson, Signs and Signals Foreman
c. Offsite Coordinator: Adam Oliver, Stormwater Program Coordinator

3.0 SITE DESCRIPTION

The Facility contains a vehicle/equipment storage building and sewer lift station accessed by a gravel driveway and parking area. The Facility has one drainage basin, including:

a. Drainage Basin #1: 2.3 acres with 6% impervious cover, including a building and concrete pads.

4.0 WATERBODY

The Facility discharges to a subdivision detention basin that outfalls at OF.N03.00300 into Aakjer Creek.

5.0 SAMPLING

The Facility does not contain any storm notable drain infrastructure, as such Staff did not conduct sampling.

6.0 POLLUTION IDENTIFICATION

Following is a list of identified pollutants and an assessment of likely sources at the Facility:

a. Total Suspended Solids: Gravel driveway and parking area, Organics (ex. Grass clippings)
b. Oil and Grease: Vehicle leaks
c. Total Nitrogen: Organics
d. Phosphorus: Organics
e. Zinc: Metal surfaces and brake dust
f. Lead: Brake dust and exhaust
g. Copper: Brake dust and exhaust
h. Floatables: Litter

7.0 SITE ASSESSMENT

Section 7.0 outlines the City's Facility Minimum Standards (Standards) applicable to this Facility. All Standards are listed in the City's Stormwater Management Plan (SWMP).

Standard: Tracking controlled at all entries, exits, and within parking areas.

a. Site Components and Compliance Assessment:
    - Gravel access and parking areas.
        - Compliant: Compacted gravel surface
b. Standard Operating Guidelines:
    - Inspect area for trash. If present, collect and dispose

- Sweep Saxon Way when noticeable accumulation of tracked debris occurs

c. Corrective Action(s):
   - ~~2020: None~~
   - 2021: None

Standard: Spill kits stocked with instructions, disposal bags, PPE, absorbents, and inlet barriers.

a. Site Components and Compliance Assessment:
   - Vehicle/Equipment Building
     - Compliant: Spill kit located next to flammable cabinet.

b. Standard Operating Guidelines:
   - Inspect spill kit and purchase missing items annually
   - Maintain all spill kit supplies in a single location

c. Corrective Action(s):
   - ~~2020: None~~
   - 2021: None

Standard: Preventative maintenance performed on equipment and vehicles.

a. Site Components and Compliance Assessment:
   - Water/Sewer/Storm, Street Equipment, and Vehicles
     - Compliant: Vehicles and equipment inspected and maintained regularly, preventative maintenance documentation filed in CityWorks

b. Standard Operating Guidelines:
   - Visual inspection of all vehicles/equipment before use
   - Complete minor maintenance and repair of equipment indoors. Complete more extensive work at the Vehicle Maintenance Facility
   - Document inspections, maintenance, and repair per Division specific guidelines

c. Corrective Action(s):
   - ~~2020: None~~
   - 2021: None

Standard: Vehicles and equipment washed in designated locations.

a. Site Components and Compliance Assessment
   - Compliant: Vehicles/Equipment washed off site at the Vehicle Maintenance Facility

b. Standard Operating Guidelines:
   - Wash vehicles at the Vehicle Maintenance Facility in the designated location

c. Corrective Action(s):
   - ~~2020: none~~
   - 2021: None

Standard: Wash bays and interior floor drains connected to the sanitary sewer.

a. Site Components and Compliance Assessment:
   - Laurel Glen Operational Facility
     - Compliant: Connected to the sanitary sewer

b. Standard Operating Guidelines:
   - Annual inspection (condition, debris depth, accumulated pollutants)
   - Schedule maintenance as needed to maintain the intended function

c. Corrective Actions:
   - ~~2019: None~~
   - ~~2020: None~~
   - 2021: None

Standard: Maintain above and below ground stormwater infrastructure

a. Site Components and Compliance Assessment:
   - Storm Conveyance Infrastructure
     - Compliant: All nearby infrastructure is mapped on GIS, all of which is off site

b. Standard Operating Guidelines:
   - Communicate maintenance responsibilities with Laurel Glen Homeowner's Association about the detention pond

c. Corrective Action(s):
   - 2021: The Facility is located within the Laurel Glen Homeowner's Association, which is responsible for the maintenance of the subdivision's post-construction stormwater basins. The City owns and maintains street infrastructure around the Facility. Vegetation removal maintenance by the homeowner's association is necessary to maintain the capacity of the detention pond to the west of the Facility.

8.0 SPILL RESPONSE PLAN

The following is the City's spill response plan, including response, mitigation, and reporting protocols.

8.1 Small and Medium Spills: Typically, the major dimension is less than 6' and can be contained, cleaned, and eliminated using onsite personnel, spill kits and/or the Public Works vehicle.

a. Locate spill kit and put on PPE.
b. If necessary, deploy Public Works spill response vehicle.
c. Control spill by stopping or securing the source.
d. Protect all storm drain inlets near the spill using absorbent booms or inlet barrier.
e. Identify spilled material.
f. Clean spill using appropriate absorbents or other methods. *Never wash spills down the drain!*
g. Place spill material and absorbents in secure containers.
h. Consult with Stormwater Team Leader and the Saftey Data Sheets (SDS) for spill and waste disposal procedures.
i. Dispose of spilled material and the absorbent in compliance with state and federal regulations.
j. Consult with Stormwater Team Leader for appropriate reporting procedures.

8.2 Large and Continuous Spills: Typically, the major dimension is greater than 6', continuous flow, and cannot be contained, cleaned, and eliminated using onsite personnel.

a. Leave the area and notify Emergency Responders (911).
b. Give the operator the spill location, chemical name, and approximate amount.
c. If safe, protect nearby storm drain inlets using absorbent booms or inlet barrier.
d. Provide SDS information for the spilled chemical to emergency responders.
e. Advise responders of any absorbents, containers, or spill control equipment that is available.
f. Consult with Stormwater Team Leader for appropriate reporting procedures.

8.3 Spill Reporting

a. Report all chemical spills, regardless of size, to a Stormwater Program Coordinator.

8.4 Sanitary Sewer Overflow.

a. Lift station onsite and bypass pumping equipment stored in the vehicle/equipment storage building. See the Water and Sewer Division's Sanitary Sewer Overflow SOGs for more details about emergency procedures.

9.0 TRAINING

Staff receives training related to this Facility per the requirements within the City's MS4 Permit and

maintains training documentation in the SWMP.

10.0 INSPECTIONS

Stormwater staff will complete an annual facility inspection and report the results to the Program Coordinator who will determine compliance with the City's Facility Minimum Standards listed in the SWMP. Updates to this FSWPPP occur based on the results.

a. Initial site inspection completed September 24th, 2020
b. Updated site inspection completed September 17th, 2021

11.0 INFRASTRUCTURE IMPROVEMENTS

Staff identified the following project needs and plans to propose during the development of future Capital Improvement Plans (CIP):

a. Reoccurring: The Facility is located within the Laurel Glen Home Owner's Association, which is responsible for the maintenance of the subdivision's stormwater detention pond. Upon request by the HOA, the City will likely have to contribute funding to complete maintenance-related work for the stormwater basin adjacent to the Facility and others in the subdivision. The basin's current retention capacity is being reduced by vegetation.

12.0 RECORD KEEPING AND REPORTING

Staff store copies of this FSWPPP at the Stormwater Division's Office.

Appendix A: Site Map

Facility Stormwater Pollution Prevention Plan

Snow Storage Facility

501 Haggerty Lane
P.O. Box 1230
Bozeman, Montana 59771

2021 Update

1.0 OVERVIEW

This Facility Stormwater Pollution Prevention Plan (FSWPPP) includes Standard Operating Guidelines (SOG) developed to mitigate pollutants generated at the Snow Storage Facility (Facility).

2.0 STORMWATER TEAM

The following Staff members are responsible for the FSWPPP's implementation:

a. Leader: John Vandelinder, Streets Superintendent
b. Offsite Coordinator: Adam Oliver, Stormwater Program Coordinator

3.0 SITE DESCRIPTION

The Facility is an asphalt parking lot used for municipal snow storage during winter and spring. One drainage basin exists, including:

a. Drainage Basin #1: 3.3 acres with approximately 40% impervious cover, including an asphalt parking area and a section of Tributary SWWW_00040.

4.0 IMPAIRED WATERBODY

The Facility discharges to Tributary SWWW_00040, which then empties into a Tributary SWWW_00065 before the flow drains into Rocky Creek north of I-90.

The Montana Department of Environmental Quality (MDEQ) classifies Rocky Creek as a 303(d) listed impaired waterbody because it does not fully support the aquatic life beneficial use. Rocky Creek's impairments include: Alteration in stream-side (littoral) cover, other anthropogenic substrate alterations, physical substrate habitat alterations, and sedimentation-siltation.

5.0 SAMPLING

Staff conducted composite baseline sampling on April 9 and 24, 2019, at the following location:

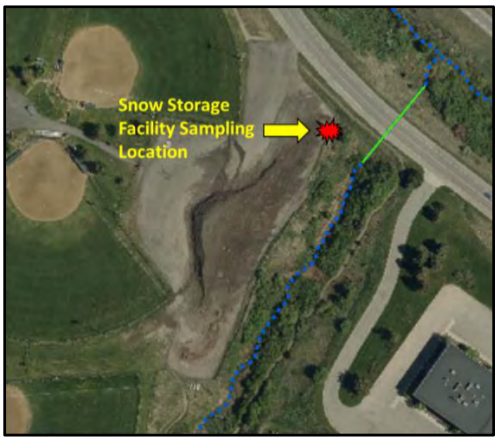


Figure 5.0: Sampling Location Map.

Staff analyzed the following parameters and compiled the results:

a. Total Suspended Solids (TSS), mg/L
b. Chemical Oxygen Demand (COD), mg/L
c. Total Nitrogen (TN), mg/L
d. Total Phosphorus (TP), mg/L
e. Copper (Cu), mg/L
f. Lead (Pb), mg/L
g. Zinc (Zn), mg/L
h. Oil and Grease, mg/L
i. pH, standard units

Table 5.1: Facility sampling results.

Sampling Date	TSS (mg/L)	Oil & Grease (mg/L)	Total Nitro. (mg/L)	Phosp. (mg/L)	Zinc (mg/L)	Lead (mg/L)	Copper (mg/L)	COD (mg/L)	pH
April 9, 2019	430	4	0.800	0.510	0.100	0.013	0.022	152.0	7.9
April 24, 2019	1,640	5	3.900	1.860	0.380	0.049	0.077	696.0	7.9

The data shows the Facility yields high concentrations of TSS and lead.

6.0 POLLUTION IDENTIFICATION

Following is a list of identified pollutants and an assessment of likely sources at the Facility:

a. Total Suspended Solids: Traction sand and organics (ex. Grass clippings)
b. Oil and Grease: Vehicle leaks
c. Total Nitrogen: Organics
d. Phosphorus: Traction sand and organics
e. Zinc: Metal surfaces and brake dust
f. Lead: Brake dust and exhaust
g. Copper: Brake dust and exhaust
h. Floatables: Litter

7.0 SITE ASSESSMENT

Section 7.0 outlines the City's Facility Minimum Standards (Standards) applicable to this Facility. All Standards are listed in the City's Stormwater Management Plan (SWMP).

Standard: Tracking controlled at all entries, exits, and within parking areas.

a. Site Components and Compliance Assessment:
    - Snow storage area
        - Compliant: Asphalt surface
    - Northwest Parking lot
        - Compliant: Asphalt surface
b. Standard Operating Guidelines:
    - Inspect asphalt for debris accumulation, sweep once present
    - Periodically clean around the Facility during melting (handpick and sweep as necessary)
c. Corrective Action:
    - ~~2019: None~~
    - ~~2020: None~~
    - 2021: None

Standard: Preventative maintenance on equipment and vehicles.

a. Site Components and Compliance Assessment
    - Street Division Equipment and Vehicles
        - Compliant: Inspected and maintained regularly, documentation in place
b. Standard Operating Guidelines:
    - Visual inspection of all vehicles and equipment before use
    - Maintenance and repairs completed at the Vehicle Maintenance Facility

- Document inspections, maintenance, and repairs per Division specific guidelines

c. Corrective Actions:
   - ~~2019: None~~
   - ~~2020: None~~
   - 2021: None

Standard: Stabilize disturbed areas.

b. Site Components and Compliance Assessment:
   - Gully northeast of the Facility
     - Non-compliant: No major erosion events have occurred in recent years and vegetation has stabilized this slope. Another disturbance was created at the south end of the slope, which has also been stabilized. These sloped areas need to be evaluated each year.

c. Standard Operating Guidelines:
   - See Section 11.0

d. Corrective Actions:
   - ~~2019: See Section 11.0, remove the eastern boundary silt fence~~
   - ~~2020: See Section 11.0, remove the eastern boundary silt fence~~
   - 2021: See Section 11.0.a Infrastructure Improvement for proposed CIP to control erosion and flow from onto the steep slopes east of the Facility. Temporary BMPs have been removed.

8.0 SPILL RESPONSE PLAN

The following is the City's spill response plan, including response, mitigation, and reporting protocols.

8.1 Small and Medium Spills: Typically, major dimension is less than 6' and can be contained, cleaned, and eliminated using onsite personnel, spill kits and/or the spill response vehicle.

a. Locate spill kit and put on PPE.
b. If necessary, deploy Public Works spill response vehicle.
c. Control spill by stopping or securing the source.
d. Protect all storm drain inlets near the spill using absorbent booms or inlet barrier.
e. Identify spilled material.
f. Clean spill using appropriate absorbents or other methods. *Never wash spills down the drain!*
g. Place spill material and absorbents in secure containers.
h. Consult with Stormwater Team Leader and the SDS for spill and waste disposal procedures.
i. Dispose of spilled material and the absorbent in compliance with state and federal regulations.
j. Consult with Stormwater Team Leader for appropriate reporting procedures.

8.2 Large and Continuous Spills: Typically, the major dimension is greater than 6', continuous flow, and cannot be contained, cleaned, and eliminated using onsite personnel.

a. Leave the area and notify Emergency Responders (911).
b. Give the operator the spill location, chemical name, and approximate amount.
c. If safe, protect nearby storm drain inlets using absorbent booms or inlet barrier.
d. Provide SDS information for the spilled chemical to emergency responders.
e. Advise responders of any absorbents, containers, or spill control equipment that is available.
f. Consult with Stormwater Team Leader for appropriate reporting procedures.

8.3 Spill Reporting

a. Report all chemical spills, regardless of size, to the Stormwater Team Leader.

9.0 TRAINING

Staff receives training related to this Facility per the requirements within the Citys MS4 Permit and maintains training documentation in the SWMP.

10.0 INSPECTIONS

The Offsite Coordinator completes an annual inspection at the Facility to determine compliance with the City's Facility Minimum Standards listed in the SWMP. Updates to this FSWPPP occur based on the results.

a. 2019: Completed on June 25
b. 2020: Completed on September 10
c. 2021: Completed on September 29

11.0 INFRASTRUCTURE IMPROVEMENTS

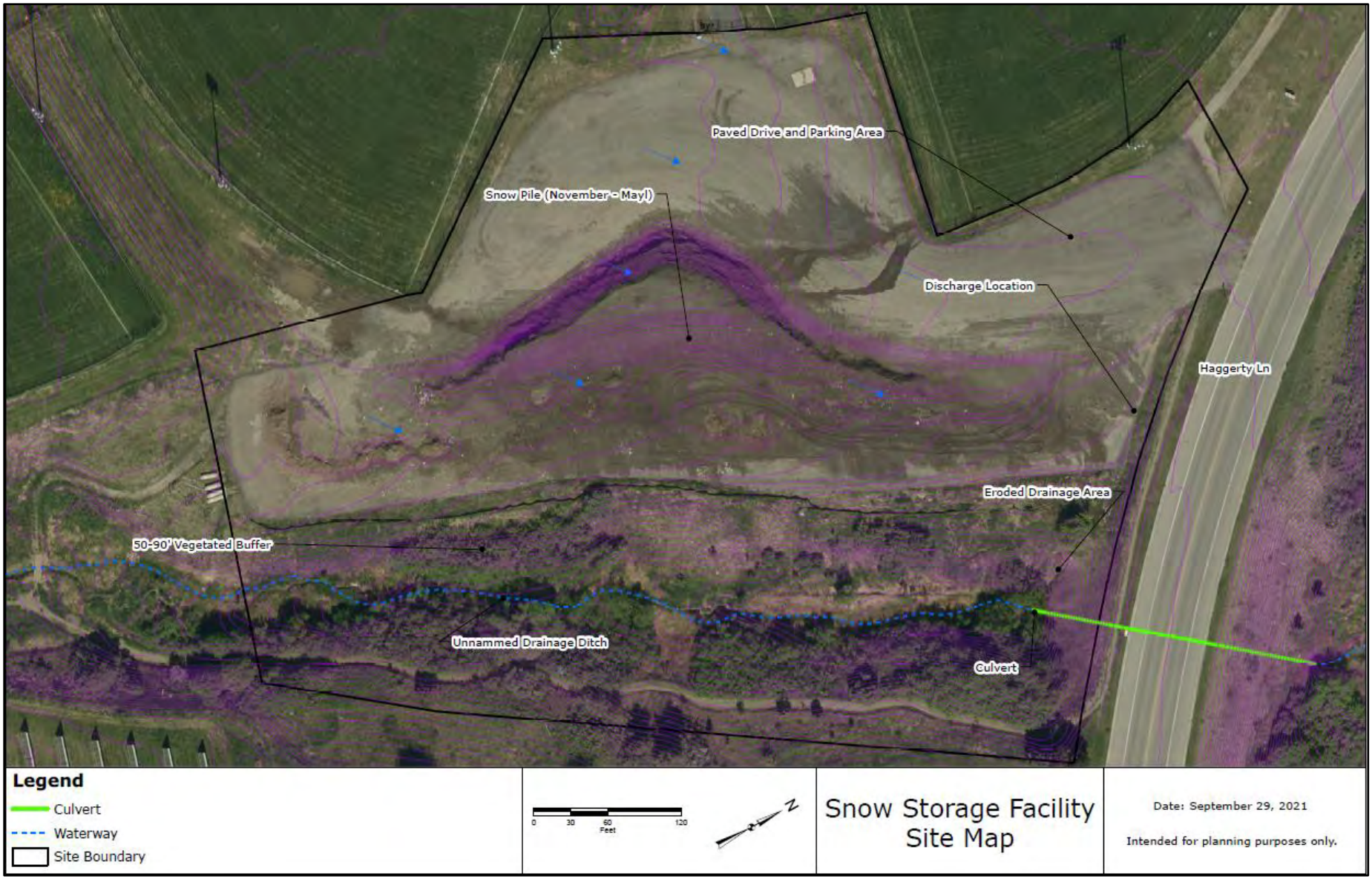
Staff identified the following project need and plans to propose to the City Commission during the development of future Capital Improvement Plans (CIP):

a. Sediment Basin Construction, Slope Stabilization, and Culvert Maintenance
    - Cost: ~$75,000
    - Timeline: Propose in CIP, not yet scheduled

12.0 RECORD KEEPING AND REPORTING

Staff store copies of this FSWPPP at the City Shops Facility and the Stormwater Division's Office.

Appendix A: Site Map



Facility Stormwater Pollution Prevention Plan

Vehicle Maintenance Facility

1812 North Rouse Avenue
Bozeman, Montana 59715

2021 Update

1.0 OVERVIEW

This Facility Stormwater Pollution Prevention Plan (FSWPPP) includes Standard Operating Guidelines (SOG) developed to mitigate pollutants generated at the Vehicle Maintenace Facility (Facility).

2.0 STORMWATER TEAM

The following Staff members are responsible for the FSWPPP's implementation:

a. Leader: John Vandelinder, Streets Superintendent
b. Leader: Alex Nordquest, Forestry Division Manager
c. Leader: John Alston, Water, Sewer, and Storm Superintendent
d. Leader: Mike Gray, Facility Manager
e. Leader: Josh Waldo, Fire Chief
f. Offsite Coordinator: Adam Oliver, Stormwater Program Coordinator

3.0 SITE DESCRIPTION

The Facility includes buildings, parking lots, and staging areas that support the Streets, Forestry, Facilities, Fire, and Water/Sewer/Storm Divisions. The Facility has one drainage basin:

a. Drainage Basin #1: 8.4 acres with 62.5% impervious cover, including office and equipment storage buildings, parking areas, material storage, and equipment staging. Basin #1 system components include seven inlets, 1,125 feet of storm drain, and a detention basin. Basin #1 discharges into a storm drain beneath Griffin Drive, which drains to the East Gallatin River.

4.0 IMPAIRED WATERBODY

The Vehicle Maintenance Facility discharges to the East Gallatin River at Outfall OF.E01.00050. The Montana Department of Environmental Quality classifies the East Gallatin River as a 303(d) listed impaired waterbody because it does not fully support the aquatic life and primary contact/recreation beneficial uses. East Gallatin River impairments include total nitrogen and total phosphorous.

5.0 SAMPLING

Staff conducted baseline sampling on August 22, 2019, at the following location:

Graphic 5.0: Sampling Location Map.

Staff analyzed the following parameters and compiled the results:

a. Total Suspended Solids (TSS), mg/L
b. Oil and Grease, mg/L
c. Total Nitrogen (TN), mg/L
d. Total Phosphorus (TP), mg/L
e. Zinc (Zn), mg/L
f. Lead (Pb), mg/L
g. Copper (Cu), mg/L
h. Chemical Oxygen Demand (COD), mg/L
i. pH, standard units

Table 5.1: Facility sampling results.

Sampling Date	TSS (mg/L)	Oil & Grease (mg/L)	Total Nitro. (mg/L)	Phosp. (mg/L)	Zinc (mg/L)	Lead (mg/L)	Copper (mg/L)	COD (mg/L)	pH
August 22, 2019	139	2.0	7.6	0.540	0.260	0.010	0.042	548	6.6

The data shows the Facility yields high concentrations of COD.

6.0 POLLUTION IDENTIFICATION

Following is a list of identified pollutants and an assessment of likely sources at the Facility:

a. TSS: Traction sand storage, equipment, unstabilized areas, organics
b. Oil and Grease: Vehicle and equipment leaks, stored chemicals
c. Total Nitrogen: Organics, traction sand
d. Phosphorus: Fertilizer transfers, organics, traction sand
e. Zinc: Steel surfaces, brake dust
f. Lead: Brake dust
g. Copper: Brake dust
h. COD: Vehicle and equipment leaks, traction sand
i. Magnesium Chloride: Stored chemicals
j. Used Antifreeze: Stored chemicals

7.0 SITE ASSESSMENT

The Site Assessment outlines the City's Facility Minimum Standards (Standards) applicable to this Facility. All standards are listed in Section 7.3 of the City's Stormwater Management Plan (SWMP).

Standard: Wash bays and interior floor drains connected to the sanitary sewer with pretreatment.

a. Site Components and Compliance Assessment:
    - Vehicle Maintenance Building
        - Compliant: Connected to the sanitary sewer with sand-oil separator
    - Vehicle Maintenance Building Wash Bay (east side of building)
        - Compliant: Connected to the sanitary sewer with sand-oil separator
b. Standard Operating Guidelines:
    - Annual inspection (condition, debris depth, accumulated pollutants)
    - Schedule maintenance as needed to maintain the intended function
c. Corrective Actions:
    - ~~2019: None~~
    - ~~2020: None~~
    - 2021: None

Standard: Chemicals stored under cover and within secondary containment.

d. Site Components and Compliance Assessment:

- 1,000-gallon used oil tank
  - Compliant: Double-walled tank
- Small metal used oil tank
  - Compliant: Inside storage (2021)
- Spent antifreeze tank
  - Compliant: Double-walled tank
- Spent antifreeze bottles
  - Compliant: Covered with secondary containment (2021)
- 10,000-gallon magnesium chloride tank
  - Not Compliant: No secondary containment
- SumaGrow Barrel
  - Compliant: Inside storage (2021)

e. Standard Operating Guidelines:
- Inspect storage containers weakly for leaks
- If a leak is detected, implement Spill Response Plan provided in Section 8.0

f. Corrective Actions:
- ~~2019: Install secondary containment for small metal used oil tank, spent antifreeze bottles, magnesium chloride tank, and SumaGrow barrel.~~
- ~~2020: Install secondary containment for magnesium chloride tank. Design is underway for 2021 construction.~~
- 2020: Install secondary containment for magnesium chloride tank. Design is complete and pending internal review.

Standard: Tracking prevented at all entries, exits, and within parking areas.

a. Site Components and Compliance Assessment:
- South Parking Lot, Fire Department Training Area, North Parking Lot, Forestry Entrance, West Entrance
  - Compliant: Asphalt surface
- Forestry Parking Lot
  - Not Compliant: Unimproved lot
- Sand Storage Area
  - Not Compliant: Road mix surface

b. Standard Operating Guidelines:
- Inspect paved surfaces for debris accumulation, sweep once present

c. Corrective Action:
- ~~2019: See Section 11.0.a~~
- ~~2020: See Section 11.0.a~~
- 2021: See Section 11.0.a

Standard: Spill kits stocked with instructions, disposal bags, PPE, absorbents, and inlet barriers.

a. Site Components and Compliance Assessment
- Vehicle Maintenance Building Spill Response Materials
  - Compliant: Spill response material stocked and maintained
- Spill Response Vehicle Spill Kit
  - Compliant: Spill response material stocked and maintained

b. Standard Operating Guidelines:
- Inspect and purchase missing items annually

c. Corrective Actions:

- ~~2019: Purchase inlet barrier mats for Vehicle Maintenance Building and Spill Response Vehicle, place a copy of the Facility FSWPPP with each spill kit, and purchase spill kit for used oil/spent antifreeze deposition area~~
- ~~2020: None~~
- 2021: None

Standard: Preventative maintenance performed on equipment and vehicles.

a. Site Components and Compliance Assessment
   - Water/Sewer/Storm, Streets, Parks, and Facility's Equipment and Vehicles
     - Compliant: Vehicles and equipment inspected and maintained regularly, preventative maintenance documentation filed in CityWorks

b. Standard Operating Guidelines:
   - Visual inspection of all vehicles and equipment before use
   - Complete maintenance and repairs at the Vehicle Maintenance Facility
   - Document inspections, maintenance, and repair per Division specific guidelines

c. Corrective Action(s):
   - ~~2019: None~~
   - ~~2020: None~~
   - 2021: None

Standard: Vehicles and equipment washed in designated locations.

a. Site Components and Compliance Assessment
   - Wash Bay
     - Compliant: Designated wash location

b. Standard Operating Guidelines:
   - Wash vehicles and equipment at the Wash Bay

c. Corrective Actions:
   - ~~2019: None~~
   - ~~2020: None~~
   - 2021: None

Standard: Maintain stormwater facilities.

a. Site Components and Compliance Assessment:
   - Storm Conveyance Infrastructure
     - Compliant: Site map is updated annually and storm infrastructure maintained
   - Stormwater Detention Facility
     - Compliant: Maintained

g. Standard Operating Guidelines:
   - Maintenance schedules include:
     - Maintain stormwater retention basin vegetation every fall
     - Maintain conveyance storm infrastructure every five years

h. Corrective Actions:
   - ~~2019: Install a barrier on the south edge of the detention facility, dredge deposited materials, remove silt fence, clear inlet pipe and accumulated debris in the detention facility, map storm infrastructure, place on maintenance schedule~~
   - ~~2020: None~~
   - 2021: None

8.0 SPILL RESPONSE PLAN

The following is the City's spill response plan, including response, mitigation, and reporting protocols.

8.1 Small and Medium Spills: Typically, major dimension is less than 6' and can be contained, cleaned, and eliminated using onsite personnel, spill kits, or the spill response vehicle.

a. Locate spill kit and put on PPE.
b. If necessary, deploy Public Works spill response vehicle.
c. Control spill by stopping or securing the source.
d. Protect all storm drain inlets near the spill using absorbent booms or inlet barrier.
e. Identify spilled material.
f. Clean spill using appropriate absorbents or other methods. *Never wash spills down the drain!*
g. Place spill material and absorbents in secure containers.
h. Consult with Stormwater Program Coordinator and the Saftey Data Sheets (SDS) for spill and waste disposal procedures.
i. Dispose of spilled material and the absorbent in compliance with state and federal regulations.
j. Consult with Stormwater Program Coordinator for appropriate reporting procedures.

8.2 Large and Continuous Spills: Typically, major dimension is greater than 6', continuous flow, and cannot be contained, cleaned, and eliminated using onsite personnel.

a. Leave the area and notify Emergency Responders (911).
b. Give the operator the spill location, chemical name, and approximate amount.
c. If safe, protect nearby storm drain inlets using absorbent booms or inlet barrier.
d. Provide SDS information for the spilled chemical to emergency responders.
e. Advise responders of any absorbents, containers, or spill control equipment that is available.
f. Consult with Stormwater Program Coordinator for appropriate reporting procedures.

8.3 Spill Reporting

a. Report all chemical spills, regardless of size, to the Stormwater Program Coordinator.

9.0 TRAINING

Staff receives training related to the Facility through the the City's training software platform per the requirements within the Citys MS4 Permit. Staff maintains training documentation in the SWMP.

10.0 INSPECTIONS

The Offsite Coordinator completes an annual inspection at the Facility to determine compliance with the City's Facility Minimum Standards listed in the SWMP. Updates to this FSWPPP occur based on the results.

a. Initial site inspection completed on August 6, 2019
b. Completed reinspection and updated FSWPPP on September 9, 2020
c. Completed reinspection and updated FSWPPP on September 14, 2021

11.0 INFRASTRUCTURE IMPROVEMENTS

Staff identified the following project needs and plans to propose to the City Commission during the development of future Capital Improvement Plans (CIP):

a. Public Works Facility Space and Needs Assessment
    - Cost: ~$180,000
    - Timeline: 2023
b. Stabilize Forestry Parking Lot and Sand Storage Area

- Cost: TBD
- Timeline: Propose in CIP

c. Magnesium Chloride Secondary Containment
- Cost: $75,000
- Timeline: Propose in CIP

~~d. Used Oil Secondary Containment~~
- ~~Cost: $15,000~~
- ~~Timeline: Propose in 2022-2026 CIP~~

~~e. Spent Antifreeze Secondary Containment~~
- ~~Cost: $15,000~~
- ~~Timeline: Propose in 2022-2026 CIP~~

~~f. Suma Grow Secondary Containment~~
- ~~Cost: $15,000~~
- ~~Timeline: Propose in 2022-2026 CIP~~

12.0 RECORD KEEPING AND REPORTING

Staff maintains copies of this FSWPPP at the Facility and the City's Stormwater Division office.

Appendix A: Site Map

Facility Stormwater Pollution Prevention Plan

Water Treatment Plant

7024 Sourdough Canyon Rd
P.O. Box 1230
Bozeman, Montana 59771

2021 Update

1.0 OVERVIEW

This Facility Stormwater Pollution Prevention Plan (FSWPPP) includes Standard Operating Guidelines (SOG) developed to mitigate pollutants generated at the Water Treatment Plant (Facility).

2.0 STORMWATER TEAM

The following Staff members are responsible for the FSWPPP's implementation:

a. Leader: Jill Miller, Water Treatment Plant Superintendent
b. Stormwater Coordinator: Adam Oliver, Stormwater Program Coordinator

3.0 SITE DESCRIPTION

The Facility treats drinking water before it is distributed throughout the City of Bozeman. The perimeter is fenced. The site includes buildings that house various equipment and concrete drying beds basins used to evaporate liquids, one surface retention facility, and one surface detention facility. Three drainage basins exist, including:

a. Drainage Basin #1: 12-acres with 39% impervious cover, including parking lots and buildings.
b. Drainage Basin #2:11-acre closed basin primarily comprised of lawn area.
c. Drainage Basin #3: 10-acres with 18% impervious cover, including a 5.3 million gallon potable water storage tank.

The Facility operates under federal and state requirements for groundwater discharge, surface water discharge, and water treatment for municipal potable water supply. The Facility's equipment, chemicals, drains, water treatment controls, and membranes are contained within the interior of the Facility and compliant with governing regulations.

4.0 WATERBODY

The Facility lies above 68 Ditch, which drains to Bozeman Creek. The Facility was constructed in 2014 and includes a modern drainage design that meets the City's water quality and flood control standards. The risk of stormwater pollution and off-site discharge from the Facility is low.

5.0 SAMPLING

Staff conducted composite baseline sampling on Dec 2, 2020, at the following location:

Figure 5.0: Sampling Location.

Staff analyzed the following parameters and compiled the results:

a. Total Suspended Solids (TSS), mg/L
b. Chemical Oxygen Demand (COD), mg/L
c. Total Nitrogen (TN), mg/L
d. Total Phosphorus (TP), mg/L
e. Copper (Cu), mg/L
f. Lead (Pb), mg/L
g. Zinc (Zn), mg/L
h. Oils and Greases, mg/L
i. pH, standard units

Table 5.1: Facility sampling results.

Sampling Date	TSS (mg/L)	Oil & Grease (mg/L)	Total Nitro. (mg/L)	Phosp. (mg/L)	Zinc (mg/L)	Lead (mg/L)	Copper (mg/L)	COD (mg/L)	pH
December 2, 2020	67	1.0 RL	1.3	0.239	0.04	0.002	0.007	61	6.8

The data shows the Facility yields low concentrations of all measured pollutants.

6.0 POLLUTION IDENTIFICATION

Following is a list of identified pollutants and an assessment of likely sources at the Facility:

a. Total Suspended Solids: Organics
b. Oil and Grease: Vehicle leaks
c. Total Nitrogen: Organics
d. Phosphorus: Organics
e. Zinc: Metal surfaces and brake dust
f. Lead: Brake dust and exhaust
g. Copper: Brake dust and exhaust
h. Other: Treatment chemicals
i. Floatables: Litter

7.0 SITE ASSESSMENT

The Site Assessment outlines the City's Facility Minimum Standards (Standards) applicable to this Facility. All Standards are listed in Section 7.3 of the City's Stormwater Management Plan (SWMP).

Standard: Wash bays and interior floor drains connected to the sanitary sewer.

a. Site Components and Compliance Assessment:
    - Primary Building
        - Compliant: Drains are connected to onsite septic.
b. Standard Operating Guidelines:
    - Annual inspection (condition, debris depth, accumulated pollutants)
c. Corrective Action(s):
    - ~~2020: None~~
    - 2021: None

Standard: Chemicals stored under cover and within secondary containment.

a. Site Components and Compliance Assessment:
    - Chemical storage
        - Compliant: Chemicals stored inside within secondary containment.
b. Standard Operating Guidelines:
    - Follow the Facility's SOGs during chemical delivery.
    - Inspect chemical containment multiple times per day.
    - If a leak or spill is detected, implement the appropriate response per Facility SOGs.
a. Corrective Action(s):
    - ~~2020: None~~
    - 2021: None

Standard: Tracking controlled at all entries, exits, and within parking areas.

a. Site Components and Compliance Assessment:
   - Buildings, Sheds, and Parking Areas
     - Compliant: Primary entries, exits, and parking areas are paved with asphalt and controlled by a control gate and perimeter fencing. A few un-stabilized access points exist; however, are only used during infrequent or emergency operations.

b. Standard Operating Guidelines:
   - Sweep impacted paved areas if noticeable accumulation of tracked debris occurs.

c. Corrective Action:
   - ~~2020: None~~
   - 2021: None

Standard: Spill kits stocked with instructions, disposal bags, PPE, absorbents, and inlet barriers.

a. Site Components and Compliance Assessment
   - Primary Building
     - Compliant: Chemicals rooms and the garage have spill kits.

b. Standard Operating Guidelines:
   - Inspect and purchase missing from spill kit on an as-needed basis.

c. Corrective Action(s):
   - ~~2020: None~~
   - 2021: None

Standard: Preventative maintenance performed on vehicles and equipment.

a. Site Components and Compliance Assessment
   - Water Treatment Plant Equipment and Vehicles
     - Compliant: Inspected and maintained regularly, documentation in place.

b. Standard Operating Guidelines:
   - Visual inspection of all vehicles and equipment before use.
   - Complete minor and preventative maintenance in the garage.
   - Complete significant repairs at the Vehicle Maintenance Facility.
   - Document inspections, maintenance, and repairs per Division specific guidelines.

c. Corrective Actions:
   - ~~2020: None~~
   - 2021: None

Standard: Vehicles and equipment washed in designated locations.

a. Site Components and Compliance Assessment
   - Main Parking Area (south of building)
     - Compliant: Occasional car washing occurs; however, activity is infrequent and insignificant.

b. Standard Operating Guidelines:
   - Wash vehicles indoors at the Vehicle Maintenance if a noticeable amount of pollutants are present.

c. Corrective Action(s):
   - ~~2020: None~~
   - 2021: None

Standard: Maintain stormwater facilities.

a. Site Components and Compliance Assessment:
   - Compliant: 1500’ of pipe, ten inlets, six manholes and two stormwater basins exist and

were added to the maintenance schedule in 2020. Maintenance operations program developed. Annual mowing was completed in the surface detention facility during the fall of 2021.

b. Standard Operating Guidelines:
   - Inspect and clear overgrown vegetation from stormwater basins annually.
   - Inspect and clean underground infrastructure every five-years.

c. Corrective Actions:
   - ~~2020: Develop asset management program, add infrastructure to the maintenance district map to facilitate operations.~~
   - 2021: None

8.0 SPILL RESPONSE PLAN

The City's typical Spill Response Plan is followed for minor spills in the parking area. Because of the chemical storage and trained staff, details about the sizes of spills, incident command, and types of response can be found in the Hazard Communication, Emergency Response Plan, and applicable documents stored onsite.

9.0 TRAINING

Staff receives training related to this Facility per the requirements within the City's MS4 Permit and maintains training documentation in the SWMP.

10.0 INSPECTIONS

Stormwater staff completes an annual facility inspection and reports the results to the Program Coordinator who will determine compliance with the City's Facility Minimum Standards listed in the SWMP. Updates to this FSWPPP were based on the results from:

a. 2020: Completed on November 17
b. 2021: Completed on September 20

11.0 INFRASTRUCTURE IMPROVEMENTS

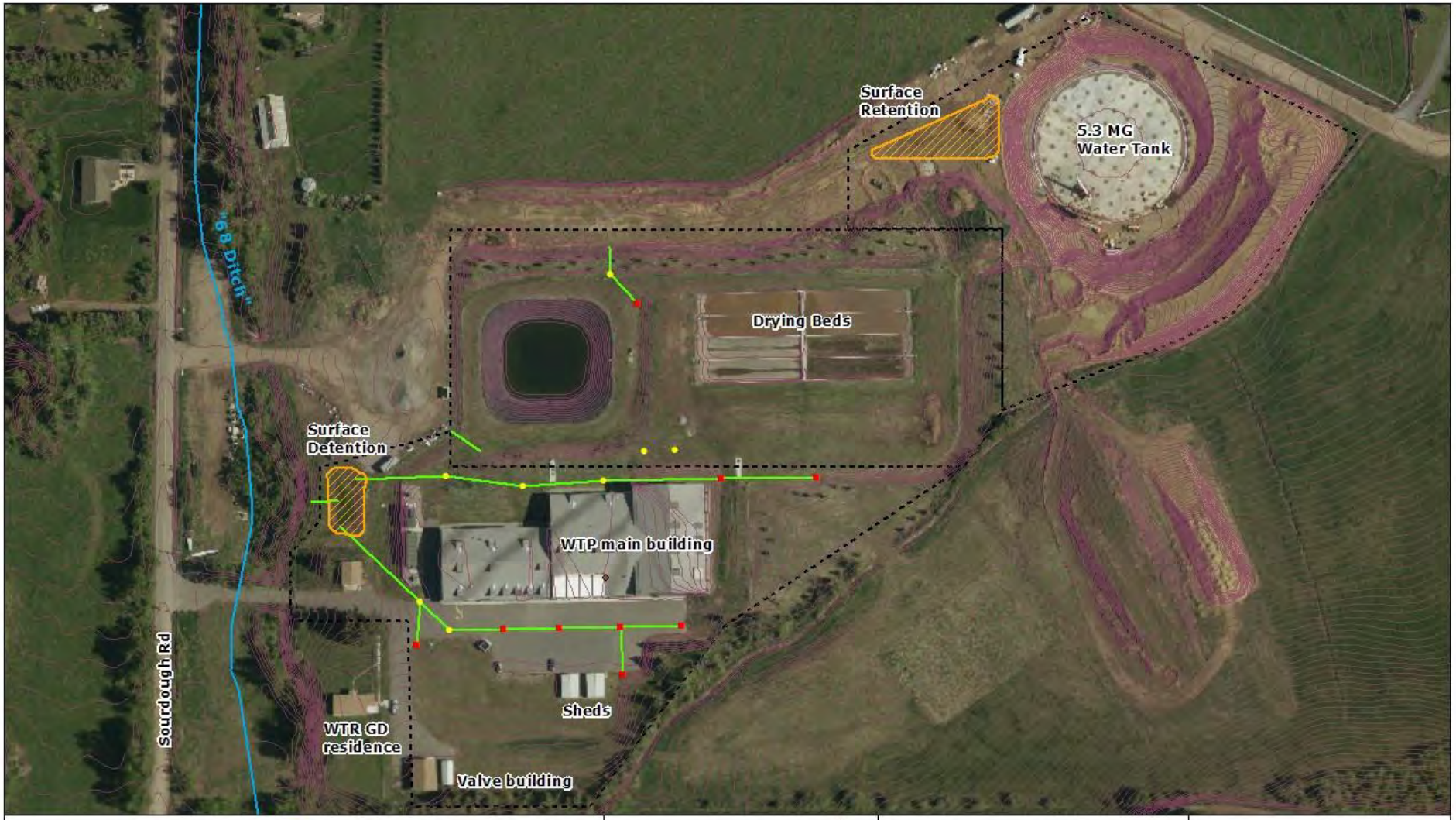
Staff identified the following project need and plans to propose to the City Commission during the development of future Capital Improvement Plans (CIP):

~~a. 2020: None~~
b. 2021: None

12.0 RECORD KEEPING AND REPORTING

Staff store copies of this FSWPPP at the Water Treatment Plant and the Stormwater Division's Office.

Appendix A: Site Map



Activity Stormwater Pollution Prevention Plan

Curb and Concrete Slurry Capture

December 22, 2021

1.0 OVERVIEW

This Activity Stormwater Pollution Prevention Plan (ASWPPP) includes Standard Operating Guidelines (SOGs) to mitigate stormwater pollutants generated during curb and concrete cutting (Activity).

2.0 STORMWATER TEAM

The following Staff member is responsible for this ASWPPP's implementation:

a. Leader: John Vandelinder – Streets Superintendent
b. Leader: John Alston - Water, Sewer, and Storm Superintendent
c. Offsite Coordinator: Adam Oliver, Stormwater Program Coordinator

3.0 ACTIVITY DESCRIPTION

The Activity includes concrete cutting and removal. Removal of waste includes the capture of liquid concrete slurry.

4.0 POLLUTION IDENTIFICATION

Following is a list of stormwater pollutants generated during this Activity:

a. pH: Portland cement has high pH and is mobilized when concrete is cut
b. Total Suspended Solids (TSS): Sediments within the slurry or carried up from the substrate below

5.0 STANDARDS ASSESSMENT

Section 5.0 outlines the City's Activity Minimum Standards applicable to this operation. All standards are listed in the City's Stormwater Management Plan.

5.1 Standard: Protect street surfaces and inlets by deploying controls that capture, contain, and allow the disposal of generated pollutants, and treat dewatering flows to remove sediment to the maximum extent practicable before entering the storm sewer system or waterways.

a. Standard Operating Guidelines:
   - Clean affected street surfaces and storm sewer infrastructure once operations are complete
   - Crews generated less than a gallon of slurry when cutting concrete. Sites were worked and cleaned in favorable weather, leaving no pollutants in the right of way.
   - Use quick gel and shovel or wet vac if a large project is proposed
b. Corrective Action(s):
   - None. Use quick gel and shovel or wet vac if a large project is proposed.

5.2 Standard: Capture and dispose concrete waste

a. Standard Operating Guidelines:
   - Haul concrete waste and stage it separately from fill or other materials, or dispose of concrete directly from the job site
   - Crews staged concrete in a bin or took it to the appropriate section of the landfill
b. Corrective Action(s):

- None

6.0 TRAINING

Staff receives training related to this Activity per the requirements within the City's MS4 Permit and training is documented in the SWMP.

7.0 RECORD KEEPING AND REPORTING

Staff stores copies of this FSWPPP at the Stormwater Division's Office.

Activity Stormwater Pollution Prevention Plan

Emergency Water Main Break

1.0 OVERVIEW

This Activity Stormwater Pollution Prevention Plan (ASWPPP) includes Standard Operating Guidelines (SOGs) to mitigate stormwater pollutants generated during Emergency Water Main Breaks (Activity).

2.0 STORMWATER TEAM

The following Staff member is responsible for this ASWPPP's implementation:

a. Leader: John Alston - Water, Sewer, and Storm Superintendent

3.0 ACTIVITY DESCRIPTION

The Activity includes water main excavation, dewatering, repair, cleanup, and site restoration. Water and Sewer Division SOGs also exist for this Activity.

4.0 POLLUTION IDENTIFICATION

Following is a list of stormwater pollutants generated during this Activity:

a. Total Suspended Solids (TSS): Sediments from pressurized washout and dewatering.

5.0 STANDARDS ASSESSMENT

Section 5.0 outlines the City's Activity Minimum Standards applicable to this operation:

5.1 Standard: Protect street surfaces and inlets by deploying controls that capture, contain, and allow the disposal of generated pollutants, and treat dewatering flows to remove sediment to the maximum extent practicable before entering the storm sewer system or waterways.

a. Standard Operating Guidelines:
   - Reduce flows to water main as soon as possible by operating valves.
   - Direct dewatering discharges to permeable area (park or field), when available. If not, place multiple weighted wattles in the curb line above impacted inlets.
   - Sweep affected streets and clean storm sewers once the main is repaired.

b. Corrective Action(s):
   - Replace rock bags with manufactured weighted wattles.

5.2 Standard: Cover or contain material stockpiles.

a. Standard Operating Guidelines:
   - Excavate soil and place directly into dump trucks and dispose of the materials offsite.
   - Hydro-excavate soils and dispose of the materials offsite.

b. Corrective Action(s):
   - None

5.3 Standard: Contain or stabilize disturbed areas within 14 days of activities.

a. Standard Operating Guidelines:
   - Stabilized disturbed area with asphalt surfacing, temporary packed road base, steel plat cover, or low to grade backfill.

b. Corrective Action(s):
   - None

5.4 Standard: Capture and dispose concrete waste.

a. Standard Operating Guidelines:
   - Capture all concrete washout in an enclosed container or within the excavation.

b. Corrective Action(s):
   - Purchase concrete washout bags and stage in vehicles.

6.0 TRAINING

Applicable staff review annually using the City's training software.

7.0 RECORD KEEPING

Stored in the City's electronic files and training software.

Activity Stormwater Pollution Prevention Plan

Parks Mowing

December 20, 2021

1.0 OVERVIEW

This Activity Stormwater Pollution Prevention Plan (ASWPPP) includes Standard Operating Guidelines (SOGs) to mitigate stormwater pollutants generated while mowing City Parks (Activity).

2.0 STORMWATER TEAM

The following Staff members are responsible for this ASWPPP's implementation:

a. Leader: Thom White, Parks Superintendent Division Manager
b. Offsite Coordinator: Adam Oliver, Stormwater Program Coordinator

3.0 ACTIVITY DESCRIPTION

The Activity includes Parks staff conducting mowing within City Parks.

4.0 POLLUTION IDENTIFICATION

Following is a list of stormwater pollutants generated during this Activity:

a. Nitrogen: Organic material, soil ammendment, mulch
b. Phosporus: Organic material, soil ammendment, mulch
c. Floatables: Dry grass

5.0 STANDARDS ASSESSMENT

Section 5.0 outlines the City's Activity Minimum Standards applicable to this operation. All standards are listed in the City's Stormwater Management Plan.

Standard: Protect street surfaces and inlets by deploying controls that capture, contain, and allow the disposal of generated pollutants.

a. Standard Operating Guidelines:
   - If significant grass clippings are discharged to the street or curb, call a street sweeper or blow the clippings back onto a mowed area.
   - Use high quality mowers designed to mulch in place rather than discharge to the side.
b. 2021 Assessment:
   - Crews were trained on high-end mowers, with fewer seasonal employees than in the past. Regular mowing resulted in clippings being mulched in place with insignificant amounts of clippings migrating onto the road or curb.
     - ➢ Compliant
b. Corrective Action(s):
   - 2021: None

Standard: Implement tracking controls to prevent the offsite migration of debris

a. Standard Operating Guidelines:
   - Vehicles and equipment are designed for low pressure on the ground. If there are disturbed areas in a Park, mowers avoid them.

b. 2021 Assessment:
    - Crews kept vehicles and equipment on stabilized surfaces and they used street sweepers to clean debris in the curb line and around the excavation.
        - Compliant
c. Corrective Action(s):
    - None

Additional considerations for soil amendments

d. Standard Operating Guidelines:
    - Do no apply soil amendments to natural areas, watercourse setbacks, or stormwater facilities.
    - Follow all manufacturers guidelines surrounding the timing and rate of application.
e. 2021 Assessment:
    - Crews followed standard guidelines, resulting in an efficient application of soil amendments. These procedures should keep excess nutrients out of stormwater runoff.
        - Compliant
f. Corrective Action(s):
    - None

6.0 TRAINING

Staff receives training related to this Activity per the requirements within the MS4 Permit and maintains training documentation in the SWMP.

7.0 RECORD KEEPING AND REPORTING

Copies of the plan are stored at the City Shops Facility and the Stormwater Office.

Activity Stormwater Pollution Prevention Plan

Roadway Traction Sand Application

1.0 OVERVIEW

This Activity Stormwater Pollution Prevention Plan (ASWPPP) includes Standard Operating Guidelines (SOGs) to mitigate stormwater pollutants generated during roadway traction sand application (Activity).

2.0 STORMWATER TEAM

The following Staff member is responsible for this ASWPPP's implementation:

a. City Leader: John Vandelinder, Streets Superintendent
b. MSU Leader: EJ Hook, Director of Facilities Services

3.0 ACTIVITY DESCRIPTION

The Activity includes the application of sand to roads for vehicle and pedestrian traction during snow and freezing weather patterns. The City implements year-round street sweeping and storm sewer maintenance programs, in large part focused on picking up applied road sand.

4.0 POLLUTION IDENTIFICATION

Following is a list of stormwater pollutants generated during this Activity:

a. Total Suspended Solids (TSS): Road sand
b. Magnesium and Sodium Chlorides: Road sand mixtrues contain approximatly 10% sodium chloride and minor amounts of Magnesium Chloride to promote use and application.

5.0 STANDARDS ASSESSMENT

Section 5.0 outlines the City's Activity Minimum Standards applicable to this operation:

5.1 Standard: Protect street surfaces and inlets by deploying controls that capture, contain, and allow the disposal of generated pollutants.

a. Standard Operating Guidelines:
   - Apply traction sand at an appropriate rates and locations as directed by management.
   - Inspect equipment to ensure proper application rates are occuring.
   - Inspect Magnesium Chloride tanks for cracks and leaks.
   - Notify management of any equipment issues upon identification.

b. Corrective Action(s):
   - None

6.0 TRAINING

Applicable staff review annually using the City's training software.

7.0 RECORD KEEPING

Stored in the City's electronic files and training software.

Activity Stormwater Pollution Prevention Plan

Sanitary Sewer Overflows

1.0 OVERVIEW

This Activity Stormwater Pollution Prevention Plan (ASWPPP) includes Standard Operating Guidelines (SOGs) to mitigate stormwater pollutants generated during Sanitary Sewer Overflows (Activity).

2.0 STORMWATER TEAM

The following Staff member is responsible for this ASWPPP's implementation:

a. City Leader: John Alston, Water, Sewer, and Storm Superintendent
b. MSU Leader: EJ Hook, Director of Facilities Services

3.0 ACTIVITY DESCRIPTION

The Activity includes clearing the sewer obstruction and cleaning affected infrastructure. Water and Sewer Division SOGs also exist for this Activity.

4.0 POLLUTION IDENTIFICATION

Following is a list of pollutants generated during this Activity:

a. E. Coli: Municipal wastewater/sewage
b. Floatables: Municipal wastewater/sewage
c. Nutrients: Municipal wastewater/sewage

5.0 STANDARDS ASSESSMENT

Section 5.0 outlines the City's Activity Minimum Standards applicable to this Activity:

5.1 Standard: Protect street surfaces and inlets by deploying controls that capture, contain, and allow the disposal of generated pollutants

a. Standard Operating Guidelines:
   - Clean sewage and wash-waters from impacted storm sewers during and post-event.
   - Wash sanitary sewage from the street once the blockage is cleared.
   - Dispose of collected sewage at the Vehicle Maintenance Facility's dump station.
   - Contact County Health and MDEQ and follow provided mitigation measures.
b. Corrective Action(s):
   - None

6.0 TRAINING

Applicable staff review annually using the City's training software.

7.0 RECORD KEEPING

Stored in the City's electronic files and training software.

Activity Stormwater Pollution Prevention Plan

Sidewalk and Curb Construction

December 30, 2021

1.0 OVERVIEW

This Activity Stormwater Pollution Prevention Plan (ASWPPP) includes Standard Operating Guidelines (SOGs) to mitigate stormwater pollutants generated during concrete sidewalk, driveway and curb construction (Activity).

2.0 STORMWATER TEAM

The following Staff member is responsible for this ASWPPP's implementation:

a. Leader: John Vandelinder, Streets Superintendent
b. Leader: John Alston - Water, Sewer, and Storm Superintendent
c. Offsite Coordinator: Adam Oliver, Stormwater Program Coordinator

3.0 ACTIVITY DESCRIPTION

The Activity includes replacing concrete surfaces which have deteriorated, need regrading, or have to be removed for utility work. The City only constructs small concrete patches, larger jobs are contracted out.

4.0 POLLUTION IDENTIFICATION

Following is a list of stormwater pollutants generated during this Activity:

a. pH: Portland cement within the concrete mix has high pH, and is mobile until it cures.
b. Total Suspended Solids (TSS): Sediments from concrete aggregate and underlying materials.

5.0 STANDARDS ASSESSMENT

Section 5.0 outlines the City's Activity Minimum Standards applicable to this operation. All standards are listed in the City's Stormwater Management Plan.

5.1 Standard: Protect street surfaces and inlets by deploying controls that capture, contain, and allow the disposal of generated pollutants, and treat dewatering flows to remove sediment to the maximum extent practicable before entering the storm sewer system or waterways.

a. Standard Operating Guidelines:
   - Finish pouring concrete in one day, clean job site when complete
   - Construct concrete sidewalk, driveway, or curb and gutter when the weather will not produce runoff

b. Corrective Action(s):
   - 2021: None. A larger washout and portable washouts will be made available to ensure a thorough cleanup. Crews mix and pour small concrete jobs, avoiding the mixing of excess concrete.

5.2 Standard: Cover or contain material stockpiles

a. Standard Operating Guidelines:
   - Little material is moved in a typical concrete project. Excavate soil or concrete and place directly into dump trucks and dispose of the materials offsite. Only the needed

amount of fill is dispensed from the dump truck.

b. Corrective Action(s):
   - 2021: None

5.3 Standard: Implement tracking controls to prevent the offsite migration of debris

a. Standard Operating Guidelines:
   - Vehicles and equipment shall travel on stabilized surfaces
   - Sweep sediment from all affected impervious areas and dispose of the materials offsite

b. Corrective Action(s):
   - 2021: None

5.4 Standard: Capture and dispose concrete waste

a. Standard Operating Guidelines:
   - Only mix the amount of concrete needed for the job.
   - Capture any concrete washout in a temporary or permanent washout.

b. Corrective Action(s):
   - 2021: None. Stormwater staff suggests purchasing additional concrete washout bags to stage in vehicles, and to build a lined washout for any scheduled large projects.

6.0 TRAINING

Staff receives training related to this Activity per the requirements within the City's MS4 Permit and maintains training documentation in the SWMP.

7.0 RECORD KEEPING AND REPORTING

Staff stores copies of this ASWPPP at the Stormwater Division's Office.

Activity Stormwater Pollution Prevention Plan

Solid Waste Collection

1.0 OVERVIEW

This Activity Stormwater Pollution Prevention Plan (ASWPPP) includes Standard Operating Guidelines (SOGs) to mitigate stormwater pollutants generated during routine solid waste collection (Activity).

2.0 STORMWATER TEAM

The following Staff member is responsible for this ASWPPP's implementation:

a. City Leader: Kevin Handelin, Solid Waste Superintendent
b. MSU Leader: EJ Hook, Director of Facilities Services

3.0 ACTIVITY DESCRIPTION

Collection of solid waste from inidivdual containers and transport to the landfill for disposal.

4.0 POLLUTION IDENTIFICATION

Following is a list of stormwater pollutants generated during this Activity:

a. Floatables: Typical garbage items that do not fit or stay within the receptacle.
b. Various Chemical: Leaking household/commercial chemicals and pollutants.

5.0 STANDARDS ASSESSMENT

Section 5.0 outlines the City's Activity Minimum Standards applicable to this operation:

5.1 Standard: Protect street surfaces and inlets by deploying controls that capture, contain, and allow the disposal of generated pollutants.

a. Standard Operating Guidelines:
   - Visually inspect cans, dumpsters, and equipment for leaks, spills, and dangerous fluids/materials. If identified, report to your supervisor immediately, who will contact the appropriate agency for response and clean-up (City Vehicle Maintenance or City Fire - HazMat).
   - Inspect for rusty, broken, or damaged cans and dumpsters. If identified, leave in place and notify your supervisor, who will develop a plan for removal and replacement. Moving or lifting a cracked can or dumpster could result in a large and uncontrollable spill.
   - Upon route completion, haul solid waste directly to the Gallatin County Landfill for disposal.
   - Maintain a spill kit at the Solid Waste Facility that can be deployed, as necessary.

b. Corrective Action(s):
   - None

6.0 TRAINING

Applicable staff review annually using the City's training software.

7.0 RECORD KEEPING

Stored in the City's electronic files and training software.

Activity Stormwater Pollution Prevention Plan

Tree Planting, Pruning and Removal

December 30, 2021

1.0 OVERVIEW

This Activity Stormwater Pollution Prevention Plan (ASWPPP) includes Standard Operating Guidelines (SOGs) to mitigate stormwater pollutants generated during tree planting, pruning, and removal (Activity).

2.0 STORMWATER TEAM

The following Staff members are responsible for this ASWPPP's implementation:

a. Leader: Alex Nordquest, Forestry Division Manager
b. Offsite Coordinator: Adam Oliver, Stormwater Program Coordinator

3.0 ACTIVITY DESCRIPTION

This Activity covers City forestry staff activities involving tree planting, pruning, and removal activities at City properties including facilities, parks, and street boulevards. Tree planting involves creating a small disturbance area during the digging of the tree hole, planting the tree, and adding fertilizers/ soil amendments to the newly planted area. Tree pruning and removal activities involve the removal of overgrown vegetative material or complete trees from City properties. Vegetative material and debris are disposed of properly at the East Gallatin Storage Facility.

4.0 POLLUTION IDENTIFICATION

Following is a list of stormwater pollutants generated during this Activity:

a. Nitrogen: Organic material, soil amendments, fertilizers, mulch
b. Phosphorus: Organic material, soil amendment fertilizers, mulch
c. Potassium: Soil amendments and fertilizers, mulch
d. Hydrocarbons: Equipment fuels
e. Floatables: Fine woody debris, sawdust
f. Total Suspended Solids (TSS): Soils

5.0 STANDARDS ASSESSMENT

Section 5.0 outlines the City's Activity Minimum Standards applicable to this operation. All standards are listed in the City's Stormwater Management Plan.

5.1 Standard: Protect street surfaces and inlets by deploying controls that capture, contain, and allow the disposal of generated pollutants.

a. Standard Operating Guidelines:
   - Finish tree activities in one day, clean job site when complete
   - Use hand sweeping tools to clean up sediment from the street surfaces. If necessary, coordinate with the City street sweeper vehicle to clean streets after larger jobs.
   - Increase frequency of street sweeping based on rainy weather conditions

b. Corrective Action(s):
   - 2021: None

5.2 Standard: Cover or contain material stockpiles

a. Standard Operating Guidelines:

- Little material is used during these tree activities. Excavated material can typically be used to refill tree holes. If large amounts of materials are generated, excavated soil will be immediately and directly placed into containers and disposed of properly offsite.

b. Corrective Action(s):
   - 2021: None

5.3 Standard: Contain or stabilize disturbed areas within 14 days of activities

a. Standard Operating Guidelines:
   - Minimize disturbance areas during tree planting and removal activities
   - Stabilized disturbed areas immediately following tree activities using mulch or

b. Corrective Action(s):
   - 2021: None

5.4 Standard: Implement tracking controls to prevent the offsite migration of debris

a. Standard Operating Guidelines:
   - Vehicles and equipment shall travel on stabilized surfaces
   - Sweep sediment from all affected impervious areas and dispose of the materials offsite

b. Corrective Action(s):
   - 2021: None

6.0 TRAINING

Staff receives training related to this Activity per the requirements within the City's MS4 permit and maintains training documentation in the Stormwater Management Plan (SWMP).

7.0 RECORD KEEPING AND REPORTING

Copies of this ASWPPP are located at the Forestry Office and the Stormwater Office. This ASWPP is also stored in the City's electronic files and training software.

Activity Stormwater Pollution Prevention Plan

Trenching and Excavation

1.0 OVERVIEW

This Activity Stormwater Pollution Prevention Plan (ASWPPP) includes Standard Operating Guidelines (SOGs) to mitigate stormwater pollutants generated during trenching and excavation (Activity).

2.0 STORMWATER TEAM

The following Staff member is responsible for this ASWPPP's implementation:

a. Leader: John Alston - Water, Sewer, and Storm Superintendent

3.0 ACTIVITY DESCRIPTION

The Activity includes water main excavation, dewatering, infrastrucutre repair or installation, cleanup, and surface restoration.

4.0 POLLUTION IDENTIFICATION

Following is a list of stormwater pollutants generated during this Activity:

a. Total Suspended Solids (TSS): Dewatering and excavation.

5.0 STANDARDS ASSESSMENT

Section 5.0 outlines the City's Activity Minimum Standards applicable to this operation. All standards are listed in the City's Stormwater Management Plan.

5.1 Standard: Protect street surfaces and inlets by deploying controls that capture, contain, and allow the disposal of generated pollutants, and treat dewatering flows to remove sediment to the maximum extent practicable before entering the storm sewer system or waterways.

a. Standard Operating Guidelines:
   - Minimize the limits of disurbance to the extent practical.
   - Direct dewatering discharges to permeable area (park or field), when available. If not, place multiple weighted wattles in the curb line above impacted inlets.
   - Sweep affected streets and clean storm sewers once the main is repaired.

b. Corrective Action(s):
   - Replace rock bags with manufactured weighted wattles.

5.2 Standard: Cover or contain material stockpiles

a. Standard Operating Guidelines:
   - Excavate soil and place directly into dump trucks. Dispose of the materials offsite.
   - Hydro-excavate soils and dispose of the materials offsite.

b. Corrective Action(s):
   - None

5.3 Standard: Contain or stabilize disturbed areas within 14 days of activities

a. Standard Operating Guidelines:
   - Stabilized disturbed area with asphalt surfacing, temporary packed road base, steel plat cover, or low to grade backfill.

b. Corrective Action(s):
   - None

5.4 Standard: Implement tracking controls to prevent the offsite migration of debris

a. Standard Operating Guidelines:
   - Limit vehicle and equipment travel to stabilized surfaces.
   - Sweep or vac sediment from all affected roads and dispose of the materials offsite.

b. Corrective Action(s):
   - None

5.5 Standard: Capture and dispose concrete waste

a. Standard Operating Guidelines:
   - Remove concrete from excavation and stage separately from other fill materials.
   - Capture all concrete washout in an enclosed container or within the excavation.

b. Corrective Action(s):
   - Purchase concrete washout bags and stage in vehicles.

6.0 TRAINING

Applicable staff review nnnually using the City's training software.

7.0 RECORD KEEPING

Stored in the City's electronic files and training software.

Attachment B:

High-Priority Post Construction Facility Inspections

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: DP.H04.00006	**Facility Type:** Surface Detention
Date/Time: 6/25/2021 0900	
Owner: Bozeman School District	**Contact:** Matthew Stark, Gary Cuchine
Inspector's Name, contact info: Adam Oliver, aoliver@bozeman.net	
Location/Access info: Parking lot off 11th by the service building	

Type of Inspection: High Priority

☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other: _____

Section 2: Weather and Discharge Information

Most recent precipitation or melt: ~0.1" overnight

Temperature: 55°F

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes: N/A

Section 3: Facility Maintenance Priority

☒ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

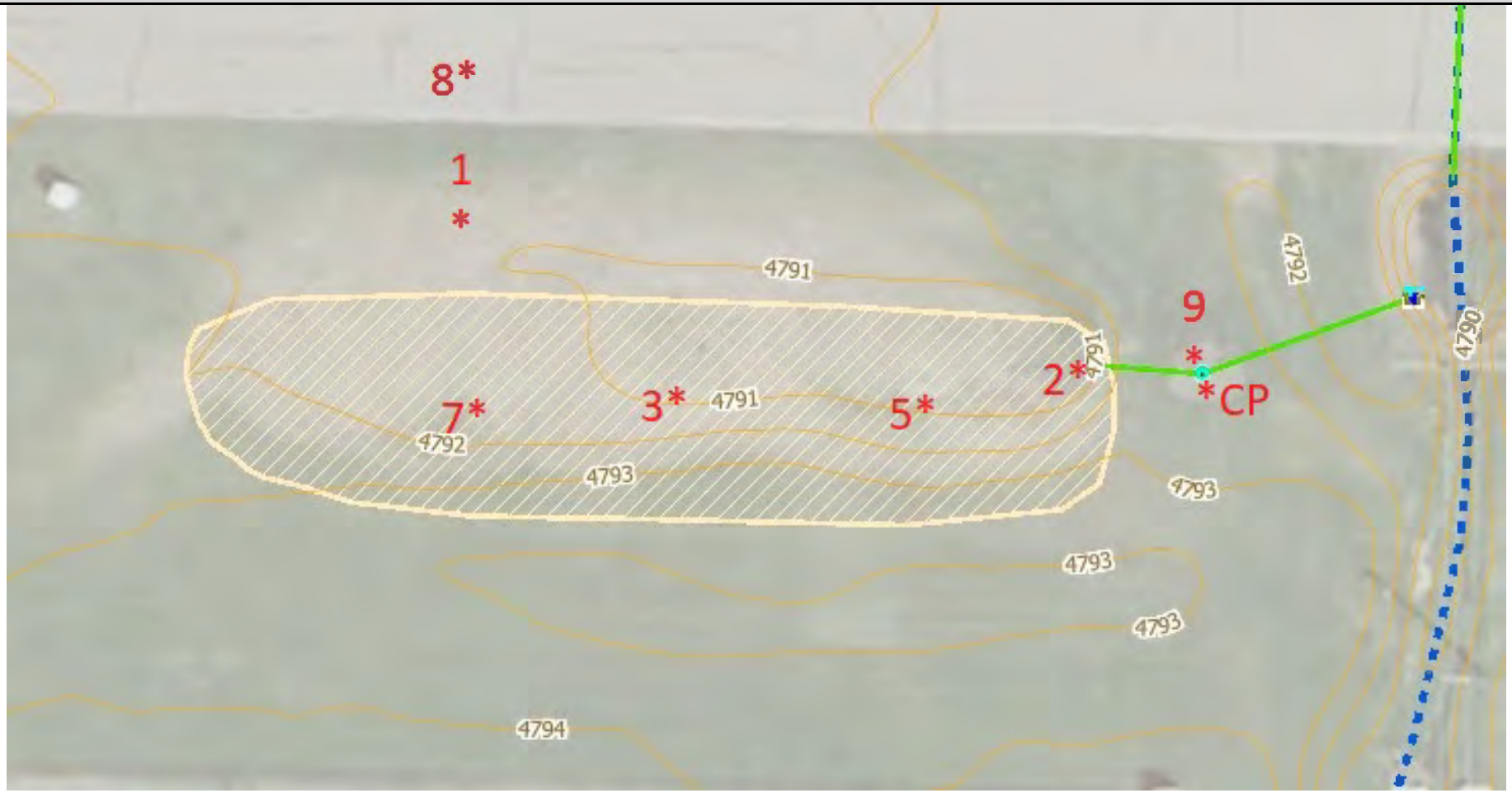
☐ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: Adam Oliver **Date:** 6/25/2021

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☐ Yes ☒ No	
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☐ Yes ☒ No	
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☐ Yes ☒ No	
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☐ Yes ☒ No	
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☐ Yes ☒ No	
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☐ Yes ☒ No	Damp, but drained down within 24 hrs
	2.4	Flow Path	Clogged or obstructed flow path?	☐ Yes ☒ No	
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☐ Yes ☒ No	
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☐ Yes ☒ No	
	3.2	Implementation	Is there evidence of maintenance?	☒ Yes ☐ No	Mowing, integrated with surrounding landscape. Outfall area is natural, not mowed.

Section 5: Quantitative Analysis				
Vegetation	**Cover type**	**% Within facility**	**Notes**	
	Bare ground	0		
	Aquatics	0		
	Grasses/Herbaceous	100		
	Trees >3” DBH	0		
	Shrubs	0		
	Total	100		
Elevation Analysis	**Location**	**Reading (ft)**	**Elevation (ft)**	**Notes**
	SRV#CP Control Point	1.24	4793	Outlet structure lid
	SRV#1 Inlet	3.5	4790.74	Curb cuts, =/- 0.1’
	SRV#2 Outlet	4.71	4789.53	Invert from basin
	SRV#3 Center	3.99	4790.25	
	SRV#4 North of Center	-	-	
	SRV#5 East of Center	4.48	4789.76	
	SRV#6 South of Center	-	-	
	SRV#7 West of center	3.98	4790.26	
	SRV#8 Berm or overflow	3.3	4790.94	Approximate high point
	SRV#9	4.91	4789.33	Invert within outlet structure, outlet side
	Summary	The site appeared to be in the same condition as last year. I did not shoot any elevations, will perform that task again next year.		

Section 6: Facility Sketch



Section 7: Photo Log

Image 1
Facility overview. Control point is foreground, outlet structure rim. (west view)

Image 2
Outlet structure. Flow is from top of photo, to tee, bottom of photo to outfall. (close-up)

Image 3
Outfall is below long grass at upper left of photo. (east view)

Image 4
Curb cuts leading to facility. This facility also accepts flow from the south and west fields. (south view)

Image 5

Evidence of high flows since last year. Slight debris in outlet structure.

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: TBD, west of the green tennis court	**Facility Type:** Surface Detention
Date/Time: 6/25/2021 0915	
Owner: Bozeman School District	**Contact:** Matthew Stark, Gary Cuchine
Inspector's Name, contact info: Adam Oliver, aoliver@bozeman.net	
Location/Access info: Tennis court parking lot	

Type of Inspection: High Priority

☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other: _____

Section 2: Weather and Discharge Information

Most recent precipitation or melt: ~0.1" overnight

Temperature: 55°F

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes: N/A

Section 3: Facility Maintenance Priority

☒ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

☐ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: Adam Oliver **Date:** 6/25/2021

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☐ Yes ☒ No	
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☐ Yes ☒ No	
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☐ Yes ☒ No	
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☐ Yes ☒ No	
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☐ Yes ☒ No	
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☐ Yes ☒ No	Damp, but drained down within 24 hrs
	2.4	Flow Path	Clogged or obstructed flow path?	☐ Yes ☒ No	
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☐ Yes ☒ No	
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☐ Yes ☒ No	
	3.2	Implementation	Is there evidence of maintenance?	☒ Yes ☐ No	Less frequent mowing in the basin. No signs of debris or trash buildup. Outfall area is natural, planted saplings, no signs flow from the basin.

Section 5: Quantitative Analysis				
Vegetation	**Cover type**	**% Within facility**	**Notes**	
	Bare ground	5		
	Aquatics	0		
	Grasses/Herbaceous	90		
	Trees >3" DBH	5		
	Shrubs	0		
	Total	100		
Elevation Analysis	**Location**	**Reading (ft)**	**Elevation (ft)**	**Notes**
	SRV#CP Control Point	3.05	4798	From Infrastructure contours. H.I. = 4801.05
	SRV#1 Inlet	6.62	4794.43	Invert at trash rack, inlet from southwest
	SRV#2 Outlet	6.88	4794.17	Rim
	SRV#3 Center	7	4794.05	
	SRV#4 ~~North of Center~~	3.19	4797.86	West curb cut, flow line
	SRV#5 East of Center	7.09	4793.96	
	SRV#6 ~~South of Center~~	3.7	4797.35	East curb cut, flow line
	SRV#7 West of center	6.97	4794.08	
	SRV#8 Berm or overflow	5.1	4795.95	On gravel
	SRV#9	5.9	4795.15	Inlet from south
	Summary	The site appeared to be in the same condition as last year. I did not shoot any elevations, I will repeat that task next year.		

Section 6: Facility Sketch

Section 7: Photo Log

Image 1
Curb cut. (northwest view)

Image 2
Facility overview. (east view)

Image 3
Slotted manhole, leads to basin at center of photo. Parking lot drains from curb cut by the birch tree at upper right. (northeast view)

Image 4
Second inlet from south. (south view)

Image 5

Overflow channel of gravel and asphalt leading to Mandeville Creek. (east view)

Image 6

Overflow channel and outfall. (southeast view)

BOZEMAN MT
Stormwater Division

September 9, 2021

Attn: Kim A. Center, Registered Agent
Bridger Creek Subdivision Community Association, Inc.
PO Box 4592
Bozeman, MT 59772

RE: Bridger Creek Subdivision High-Priority Stormwater Facility Inspection

Kim Center,

Bridger Creek Subdivision Community Association is responsible for the maintenance of a stormwater facility the City of Bozeman has deemed as a high-priority due to its size and discharge location. Stormwater facilities are engineered systems designed to capture, store, infiltrate, and release urban runoff to local waterways. Unmaintained stormwater facilities pose a risk to residents, property, and the environment by increasing the chance of urban flooding and waterway pollution. As such, the City completes annual inspections of high-priority facilities.

On September 1st, 2021, Stormwater Division personnel completed an inspection of the Bridger Creek Subdivision Community Association facility and have compiled the following information for your review:

1. Bridger Creek Stormwater Facility Map
2. Stormwater Facility Inspection Report, including findings and maintenance items
3. Stormwater Facility Maintenance Guide

In summary, we have identified the following issues during the inspection:

1. The stormwater facility contains sediment, overgrown dead and dying vegetation, and excessive live vegetation which may prevent stormwater from accessing the outlet structure.
2. Stormwater capacity may be reduced over time, and potentially negatively affect detention time (increasing flood risk and erosion) and downstream water quality of the East Gallatin River.

The City asks that Bridger Creek Subdivision Community Association submit a plan for maintenance of these issues.

I am available to answer questions regarding this letter and the attached information and can be reached at rsmith@bozeman.net or 406-582-2937.

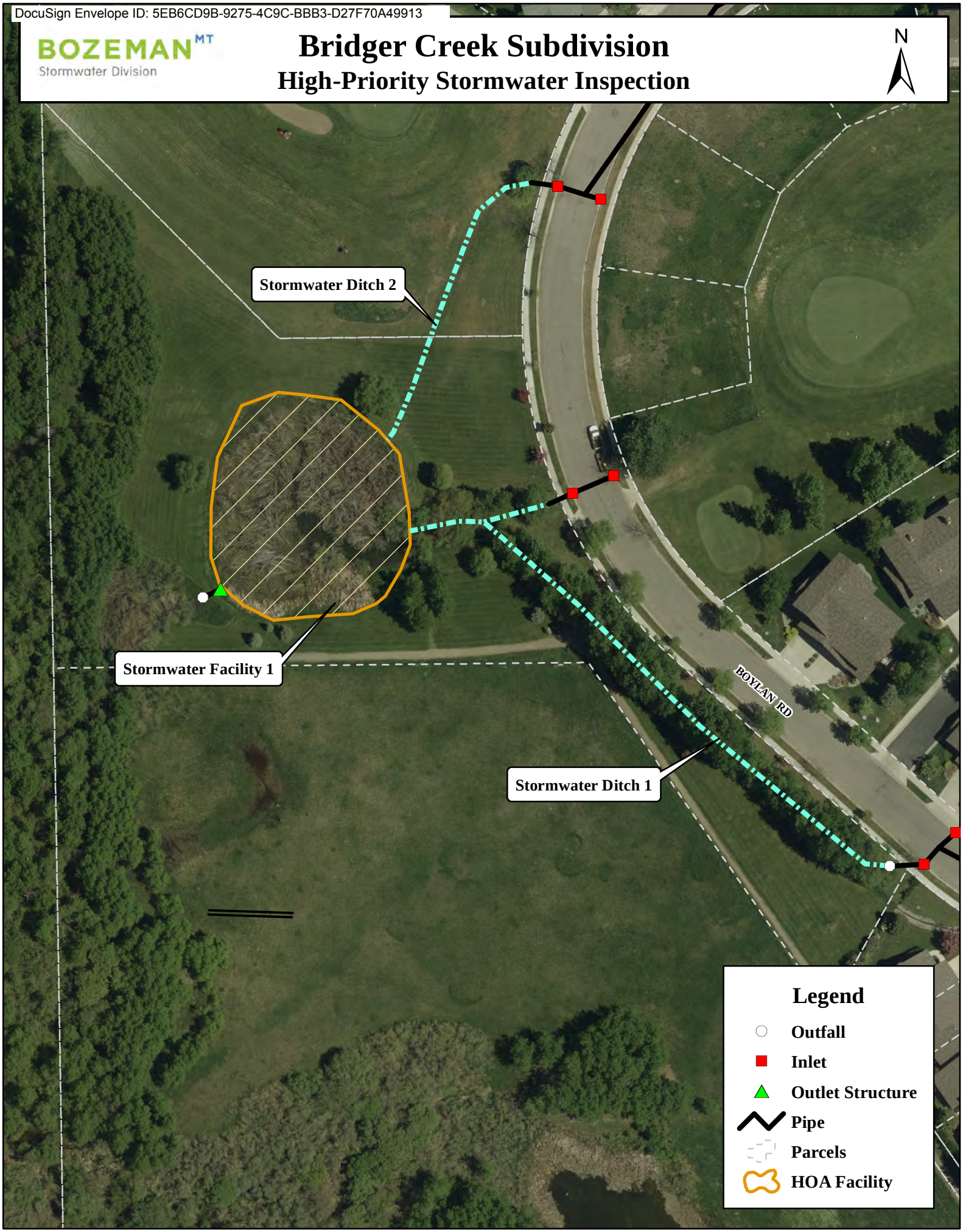
Regards,

Russ Smith

Russ Smith, Stormwater Program Technician

BOZEMAN MT
Stormwater Division

Bridger Creek Subdivision
High-Priority Stormwater Inspection



Map created by the City of Bozeman Stormwater Division on 9/2/2021 and is intended for planning purposes only.

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: DP.E01.00007	**Facility Type:** Surface Detention
Date/Time: 11:30 9/1/2021	
Owner: Bridger Creek HOA	**Contact:** Kim Center – registered agent (Sharyn Anhalt, previous)
Inspector's Name, contact info: Russ Smith, Stormwater Program Technician	
Location/Access info: Boylan Rd, apex. Access off road	

Type of Inspection:

☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other: High Priority

Section 2: Weather and Discharge Information

Most recent precipitation or melt: 0", 48+ hrs

Temperature: 62° F

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes: 5+ gpm flowing into impoundment from southerly ditch.

Section 3: Facility Maintenance Priority

☐ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

☒ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: _____ **Date: 9/1/2021**

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☐ Yes ☒ No	
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☒ **Yes** ☐ No	(1) Significant sediment within pond ***Remove excess sediment around inlet and outlet***
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☒ **Yes** ☐ No	(1) Significant live plant matter, dead plant matter & overgrown vegetation in and around pond. ***Reduce excess vegetation that impedes flow or reduces volume***
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☒ **Yes** ☐ No	(1) Irrigation box inside of inlet, irrigation pipe inside culvert ***Monitor outlet grate condition for sufficient conveyance***
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☒ **Yes** ☐ No	(1) Reduced capacity inside storage impoundment ***See Section 1.3***
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☒ Yes ☐ No	Standing water throughout
	2.4	Flow Path	Clogged or obstructed flow path?	☒ **Yes** ☐ No	(1) Significant obstructions in flowpath ***See Section 1.3***
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☐ Yes ☒ No	
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☐ Yes ☒ **No**	***Please submit a written plan that addresses long term maintenance of increased vegetation growth***
	3.2	Implementation	Is there evidence of maintenance?	☐ Yes ☒ No	Mowing outside the pond perimeter

Section 5: Quantitative Analysis				
Vegetation	**Cover type**	**% Within facility**	**Notes**	
	Open Water	25		
	Aquatics	55	Cattails are rapidly encroaching into pond	
	Grasses/Herbaceous	10		
	Trees >3" DBH	5	Aspen trees once colonized into pond and then died from inundation, are a dominant characteristic	
	Shrubs	5		
	Total	100		
Elevation Analysis	**Location**	**Reading (ft)**	**Elevation (ft)**	**Notes**
	CP San Swr Lid 22+87.66	9.42	4703.0	Backsight control elevation inferred from design plans; may vary from actual.
	SP01 Inlet Grate	10.29	4702.13	Grate at west side, street curb level at Boylan Rd
	SP02 Inlet Pipe Invert	13.39	4699.03	RCP apron in dense vegetation; irrigation control box in flowpath
	SP03 WSE	12.67	4699.75	Pond water surface elevation
	SP04 NW Topo Low	11.74	4700.68	Low area NW of pond bank (potential overflow)
	SP05 Outlet Structure Invert	12.05	4700.37	8" PVC invert interior of outlet CMP
	SP06 Outlet Top of Grate	11.11	4701.31	Grate elevation top of vertical CMP
	SP07 Outfall Invert	12.12	4700.30	8" PVC invert at outfall
	SP08 South Topo Low	10.74	4701.68	Low area south of outlet works (potential overflow)
	Summary	Geometry and volume of impoundment are similar to that in design documentation. Basin bottom elevation is likely lower than originally specified. Increasing vegetative growth may reduce capacity over time.		

Section 6: Facility Sketch

Section 7: Photo Log

Image 1
Detention pond (west view); standing water, dead and decadent tree and shrub vegetation layer.

Image 2
Inlet from road CMP; abundance of vegetation clogging structure.

Image 3
Outlet structure; clogged with vegetation.

Image 4
Outlet structure; notched weir closeup.

Stormwater Facility Maintenance Guide

BOZEMAN MT
Stormwater Division

What is a stormwater facility?

A stormwater facility is an engineered depression constructed to capture and treat polluted stormwater flowing from roads, parking lots, and driveways. Maintenance of stormwater facilities is necessary to ensure their proper function, reducing negative impacts on local waterways and flooding.

Image 1 - Stormwater Basin

What is the benefit of a stormwater facility?

A stormwater facility:

- Controls the rate of stormwater runoff flowing into streams, reducing flooding and erosion.
- Removes stormwater pollutants, such as sediment, fertilizers, pet waste, metals, and oils, protecting the public and the environment.

Who is responsible for stormwater facility maintenance?

Typically, the City requires developers to create and implement a stormwater facility maintenance plan when constructing a subdivision or property. Home Owner Associations (HOAs) assume responsibility when the subdivision changes ownership, and the developer is no longer involved.

How do I maintain a stormwater facility?

The City recommends HOAs complete the following:

- Compile relevant documents, such as infrastructure plans, maintenance plans, and contracts.
- Complete a facility inventory, documenting facility location, and condition information.
- Develop a comprehensive plan, including budget, inspection frequency, and a record-keeping process. Assistance from a qualified professional may be helpful.

Important stormwater facility characteristics to consider include:

- Capacity: Excess vegetation and sediment reduces capacity and affects performance.
- Soil infiltration: Compaction and accumulated sediment reduce infiltration rates, resulting in stagnant, standing water that can breed mosquitos and algae.
- Vegetation height: 6” or taller reduces flow velocity and provides water treatment.

Images 2 through 5 show the results of inadequate stormwater facility maintenance.

Image 2 - Overgrown vegetation

Image 3 - Erosion causing channelized flow

Image 4 - Obstructed inlet pipe

Image 5 - Water 3-days after rain event

Recommended Maintenance Strategy

HOAs should complete routine inspections and maintenance to ensure a stormwater facility functions as designed, reducing pollution, costly repairs, and flood risks. The City recommends the following maintenance strategy:

1. Routine Maintenance Activities (1-3 Months)

- ❖ Designate “no-cut zones” in the bottom of the facility
- ❖ Remove trash, leaves, grass clippings, and debris
- ❖ Establish a chemical-free zone in and around the facility
- ❖ Inspect for uniform ponding, and that water disappears three days after rain events

2. Annual Maintenance Activities (Annually)

- ❖ Cut vegetation to 6” in fall, remove clippings
- ❖ Re-establish vegetation on eroded and barren areas
- ❖ Remove excess sediment buildup
- ❖ Update maintenance plan and inspection log

3. Long-Term Maintenance Activities (10-15 Years)

- ❖ Consult a qualified professional to inspect and return the facility back to its initial design and capacity
- ❖ Dredge facility if sediment buildup is greater than 6”
- ❖ Re-establish vegetation along the facility’s banks and bottom

Image 6 – No cut zone

Image 7 – Annual Maintenance

Image 8 – Long-Term Maintenance

Contact Information

It is important HOAs maintain their stormwater facilitys to ensure Bozeman continues to be “The Most Livable Place”. Please contact the Stormwater Division for more information or to schedule a voluntary inspection.

Adam Oliver
Stormwater Program Coordinator
406-582-2916
aoliver@bozeman.net

Russ Smith
Stormwater Project Technician
406-582-2937
rsmith@bozeman.net

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: DP.H02.00001 (Kenyon Noble DP2)	**Facility Type:** Surface Detention
Date/Time: 9/1/2020 12:15	
Owner: Kenyon Noble	**Contact:** Jayson Thompson, 406-556-2912, 406-595-3687
Inspector's Name, contact info: Russ Smith, Stormwater Program Technician	
Location/Access info: Call Jayson prior to visit as necessary	
Type of Inspection: High priority, overflows to Mandeville Creek ☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other: _____	

Section 2: Weather and Discharge Information

Most recent precipitation or melt: 0", 48+ hrs

Temperature: 68° F

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes: Please see italicized maintenance items in section 4.

Section 3: Facility Maintenance Priority

☐ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

☒ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: _____ **Date: 9/1/2021**

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☐ Yes ☒ No	
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☐ Yes ☒ No	
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☒ **Yes** ☐ No	(1) Dense cattails. This is usually a sign of standing water. ***Remove excess vegetation that is blocking the flow path to the outlet pipe.***
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☐ Yes ☐ No	Did not observe
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☒ **Yes** ☐ No	(1) West side of facility has visible sediment or fill. ***Remove sediment to regain original capacity of the stormwater basin.***
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☐ Yes ☐ No	N/A Did not observe, but cattails indicate stagnant water.
	2.4	Flow Path	Clogged or obstructed flow path?	☒ **Yes** ☐ No	See 4.1.3 Vegetation (above)
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☐ Yes ☒ No	
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☐ Yes ☒ No	
	3.2	Implementation	Is there evidence of maintenance?	☐ Yes ☒ No	

Section 5: Quantitative Analysis				
Vegetation	**Cover type**	**% Within facility**	**Notes**	
	Bare ground	5	Recently placed or disturbed soil in the northwest corner.	
	Aquatics	75	Heavy overgrowth of cattails choking inlet and outlet structures.	
	Grasses/Herbaceous	20		
	Trees >3" DBH	0		
	Shrubs	0		
	Total	100		
Elevation Analysis	**Location**	**Reading (ft)**	**Elevation (ft)**	**Notes**
	SRV#CP Control Point	4.56	4727.00	
	SRV#1 Inlet	6.75	4724.81	
	SRV#2 Outlet	7.64	4723.92	
	SRV#3 West of Center	7.36	4724.20	
	SRV#4 Center	7.42	4724.14	
	SRV#5 East of Center	7.42	4724.14	
	Summary	Bottom is uniform, but northwest corner appears to be filled in; aerial images confirm.		

Section 6: Facility Sketch

Section 7: Photo Log

Image 1
Facility overview (west view).

Image 2
Inlet pipe with accumulated sediment.

Image 3
Inlet pipe location (at survey stadia); note heavy overgrowth of detention basin.

Image 4
Northwest corner of detention basin. Note fill on right, likely from snow removal and storage efforts (south view).

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: HP Stormwater Facility #1 (DP.H06.00026)	**Facility Type:** Surface Detention
Date/Time: 8/31/2021 13:06	
Owner: MSU	**Contact:** EJ Hook, edward.hook1@montana.edu
Inspector's Name, contact info: Russ Smith, Stormwater Program Technician	
Location/Access info: Roskie parking lot	
406-994-7840	
Type of Inspection: ☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other: _____	

Section 2: Weather and Discharge Information

Most recent precipitation or melt: 0", 48+ hrs

Temperature: 75° F

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes:

Section 3: Facility Maintenance Priority

☒ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

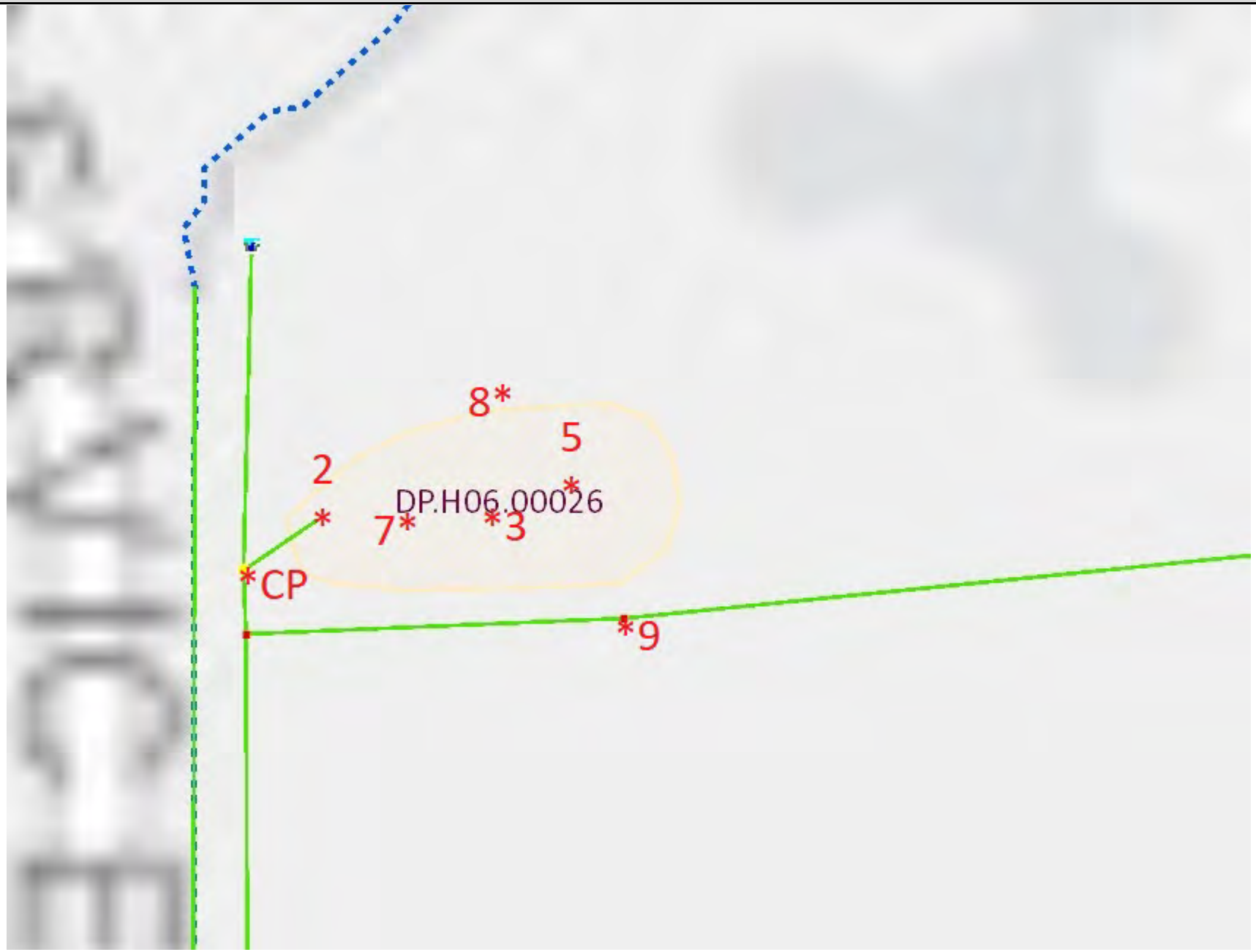
☐ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: _____ **Date:** 8/31/21

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☐ Yes ☒ No	
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☒ Yes ☒ No	
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☐ Yes ☒ No	
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☐ Yes ☒ No	
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☐ Yes ☒ No	
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☐ Yes ☒ No	
	2.4	Flow Path	Clogged or obstructed flow path?	☐ Yes ☒ No	
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☐ Yes ☒ No	
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☒ Yes ☐ No	Draft
	3.2	Implementation	Is there evidence of maintenance?	☒ Yes ☐ No	mowing

Section 5: Quantitative Analysis					
Vegetation	**Cover type**	**% Within facility**	**Notes**		
	Bare ground	<5			
	Aquatics	0			
	Grasses/Herbaceous	95			
	Trees >3” DBH	0			
	Shrubs	0			
	Total	100			
Elevation Analysis	**Location**	**Reading (ft)**	**Elevation (ft)**	**Notes**	
	SRV#CP Control Point				
	SRV#1 Inlet				
	SRV#2 Outlet				
	SRV#3 Center				
	SRV#4 North of Center				
	SRV#5 East of Center				
	SRV#6 South of Center				
	SRV#7 West of center				
	SRV#8 Berm or overflow				
	SRV#9				
	Summary	It does not appear that any sedimentation or changes in geometry have occurred since this site was last surveyed; did not measure elevations.			

Section 6: Facility Sketch



Section 7: Photo Log

Image 1
Facility overview. (East view)

Image 2
Emergency overflow. (West view)

Image 3
Facility inlet/outlet. Small amounts of sediment in pipe.

Image 4
Cobble reinforced emergency spillway.

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: HP Stormwater Facility #2 (DP.H06.00400)	**Facility Type:** Surface Detention
Date/Time: 8/31/2021 13:00	
Owner: MSU	**Contact:** EJ Hook, edward.hook1@montana.edu
Inspector's Name, contact info: Russ Smith, Stormwater Program Technician	
Location/Access info: Parking by greenhouse	
406-994-7840	

Type of Inspection:

☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other: _____

Section 2: Weather and Discharge Information

Most recent precipitation or melt: 0", 48+ hrs

Temperature: 74° F

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes:

Section 3: Facility Maintenance Priority

☒ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

☐ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: _____ **Date:** 8/31/21

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☐ Yes ☒ No	
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☐ Yes ☒ No	
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☐ Yes ☒ No	
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☐ Yes ☒ No	
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☐ Yes ☒ No	
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☐ Yes ☒ No	
	2.4	Flow Path	Clogged or obstructed flow path?	☐ Yes ☒ No	
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☐ Yes ☒ No	
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☒ Yes ☐ No	Draft
	3.2	Implementation	Is there evidence of maintenance?	☒ Yes ☐ No	mowing

Section 5: Quantitative Analysis					
Vegetation	**Cover type**	**% Within facility**	**Notes**		
	Bare ground	0			
	Aquatics	0			
	Grasses/Herbaceous	100			
	Trees >3” DBH	0			
	Shrubs	0			
	Total	100			
Elevation Analysis	**Location**	**Reading (ft)**	**Elevation (ft)**	**Notes**	
	SRV#CP Control Point				
	SRV#1 Inlet				
	SRV#2 Outlet				
	SRV#3 Center				
	SRV#4 North of Center				
	SRV#5 East of Center				
	SRV#6 South of Center				
	SRV#7 West of center				
	SRV#8 Berm or overflow				
	SRV#9				
	Summary	It does not appear that any sedimentation or changes in geometry have occurred since this site was last surveyed; did not measure elevations.			

Section 6: Facility Sketch

Confirm outlet structure and appx width

Section 7: Photo Log

Image 1
Facility overview. (East view)

Image 2
Outlet structure sump with debris. (Close-up)

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: HP Stormwater Facility #3 (DP.H06.00024)	**Facility Type:** Surface Retention
Date/Time: 8/31/2021 12:42	
Owner: MSU	**Contact:** EJ Hook, edward.hook1@montana.edu
Inspector's Name, contact info: Russ Smith, Stormwater Program Technician	
Location/Access info: East end of Deer St (off S 13th Ave)	

Type of Inspection:

☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other: _____

Section 2: Weather and Discharge Information

Most recent precipitation or melt: 0" 48+hrs

Temperature: 73 °F

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes:

Section 3: Facility Maintenance Priority

☒ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

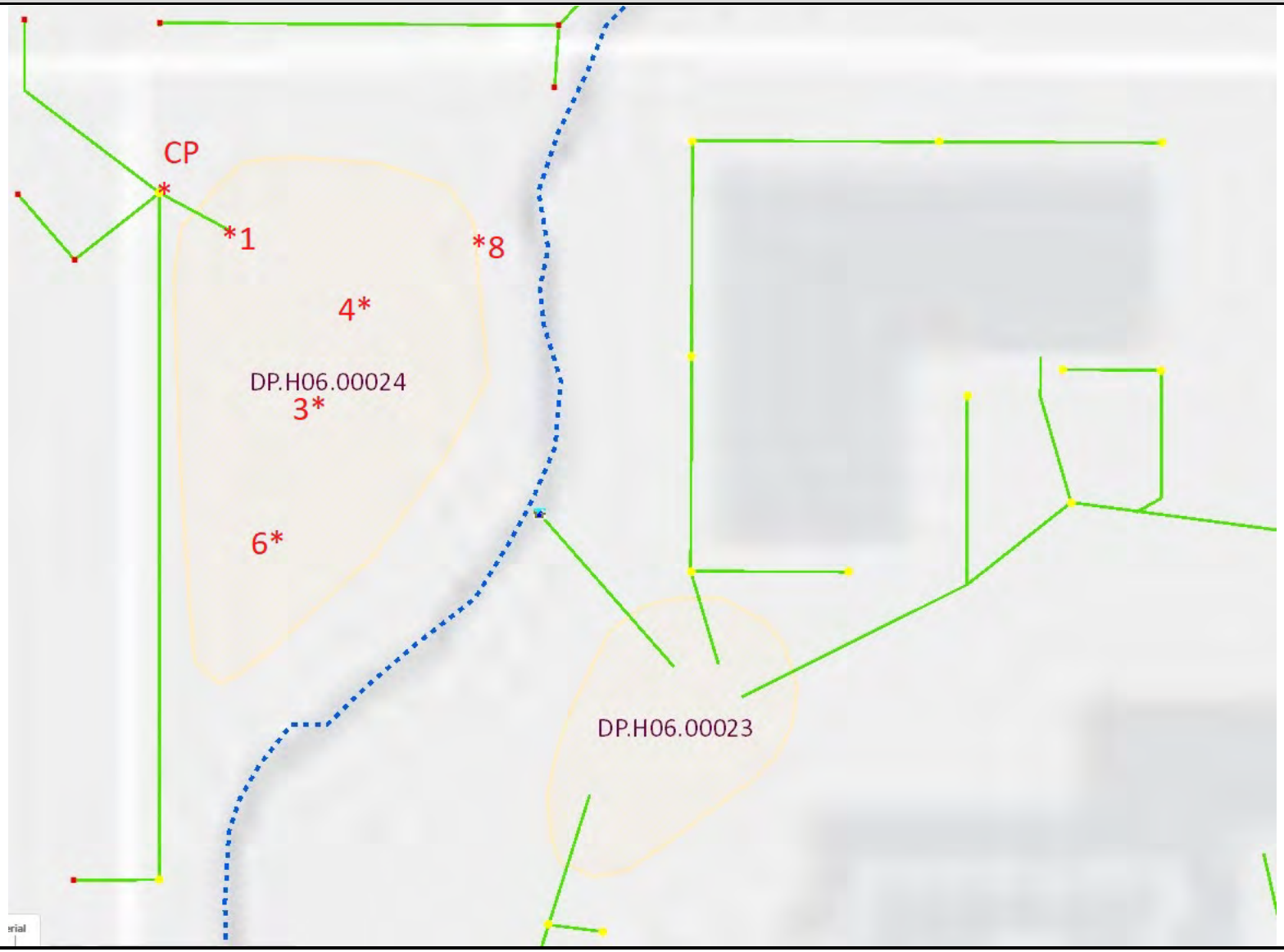
☐ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: _____ **Date:** 8/31/21

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☐ Yes ☒ No	
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☐ Yes ☒ No	
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☐ Yes ☒ No	
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☐ Yes ☒ No	
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☐ Yes ☒ No	
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☐ Yes ☒ No	
	2.4	Flow Path	Clogged or obstructed flow path?	☐ Yes ☒ No	
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☐ Yes ☒ No	
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☒ Yes ☐ No	Draft
	3.2	Implementation	Is there evidence of maintenance?	☒ Yes ☐ No	Recent Mowing

Section 5: Quantitative Analysis				
Vegetation	**Cover type**	**% Within facility**	**Notes**	
	Bare ground	0		
	Aquatics	0		
	Grasses/Herbaceous	95		
	Trees >3" DBH	5	perimeter	
	Shrubs	0		
	Total	100	The facility bottom is uniform and well maintained.	
Elevation Analysis	**Location**	**Reading (ft)**	**Elevation (ft)**	**Notes**
	SRV#CP Control Point			
	SRV#1 Inlet			
	SRV#2 Outlet			
	SRV#3 Center			
	SRV#4 North of Center			
	SRV#5 East of Center			
	SRV#6 South of Center			
	SRV#7 West of center			
	SRV#8 Berm or overflow			
	SRV#9			
	Summary	It does not appear that any sedimentation or changes in geometry have occurred since this site was last surveyed; did not measure elevations.		

Section 6: Facility Sketch



Section 7: Photo Log

Image 1
Overview (north view). Basin inlet is at far left hand side of facility, overflow is toward right.

Image 2
Pond inlet (west view). Small amounts of debris and sediment behind trash rack.

Image 3
Overflow with riprap armoring (east view).

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: HP Stormwater Facility #4 (DP.H06.00023)	**Facility Type:** Surface Detention
Date/Time: 8/31/2021 12:45	
Owner: MSU	**Contact:** EJ Hook, edward.hook1@montana.edu
Inspector's Name, contact info: Russ Smith, Stormwater Project Technician	
Location/Access info: from W Garfield and behind Plant Growth Center	

Type of Inspection:

☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other: _____

Section 2: Weather and Discharge Information

Most recent precipitation or melt: 0" 48+ hrs

Temperature: 74° F

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes:

Section 3: Facility Maintenance Priority

☒ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

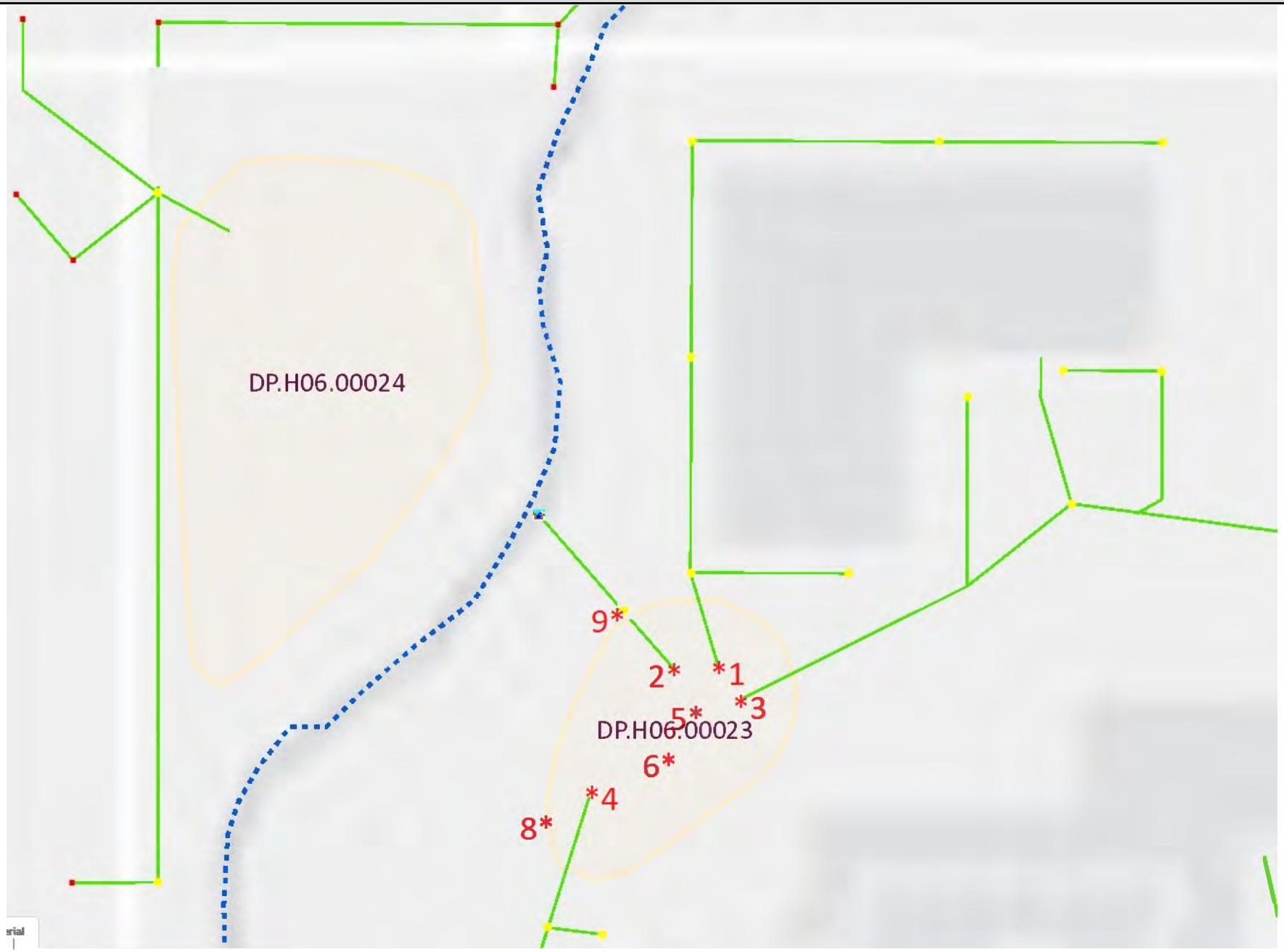
☐ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: _____ **Date:** 8/31/21

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☐ Yes ☒ No	
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☐ Yes ☒ No	
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☒ **Yes** ☐ No	(1) Overgrown grass and herbaceous layer potential to constrict flow. Small infestation of spotted knapweed (*Centaurea stoebe*). ***Routine weed control, mowing and debris removal will address potential flow restrictions or noxious weed occurrences.***
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☐ Yes ☒ No	
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☐ Yes ☒ No	
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☐ Yes ☒ No	
	2.4	Flow Path	Clogged or obstructed flow path?	☐ Yes ☒ No	
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☐ Yes ☒ No	
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☒ Yes ☐ No	Draft
	3.2	Implementation	Is there evidence of maintenance?	☐ Yes ☒ No	

Section 5: Quantitative Analysis				
Vegetation	**Cover type**	**% Within facility**	**Notes**	
	Bare ground	10		
	Aquatics	0		
	Grasses/Herbaceous	85	Basin appears to be functioning as designed. Vegetation is accumulating in and around trash racks.	
	Trees >3" DBH	0		
	Shrubs	5		
	Total	100		
Elevation Analysis	**Location**	**Reading (ft)**	**Elevation (ft)**	**Notes**
	SRV#CP Control Point			
	SRV#1 Inlet			
	SRV#2 Outlet			
	SRV#3 ~~Center~~			
	SRV#4 ~~North of Center~~			
	SRV#5 ~~East of Center~~			
	SRV#6 ~~South of Center~~			
	SRV#7 West of center			
	SRV#8 Berm or overflow			
	SRV#9			
	Summary	It does not appear that any sedimentation or changes in geometry have occurred since this site was last surveyed; did not measure elevations.		

Section 6: Facility Sketch



Section 7: Photo Log

Image 1
Facility overview (northeast view).

Image 2
Outlet structure (northwest view).

Image 3
Inlet apron (southwest view). Overgrown vegetation.

Image 4
Inlet structure (northeast view). Overgrown vegetation.

Image 5
Inlet 2 close-up inside trash rack.

Image 6
Inlet structure facing (northeast view). Overgrown vegetation.

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: HP Stormwater Facility #5 (DP.H06.00028)	**Facility Type:** Surface Detention
Date/Time: 8/31/2021 12:30	
Owner: MSU	**Contact:** EJ Hook, edward.hook1@montana.edu
Inspector's Name, contact info: Russ Smith, Stormwater Program Technician	
Location/Access info: Across from W Harrison, off S. 11th St.	

Type of Inspection:

☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other: _____

Section 2: Weather and Discharge Information

Most recent precipitation or melt: 48 Hours +

Temperature: 73 °F

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes:

Section 3: Facility Maintenance Priority

☒ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

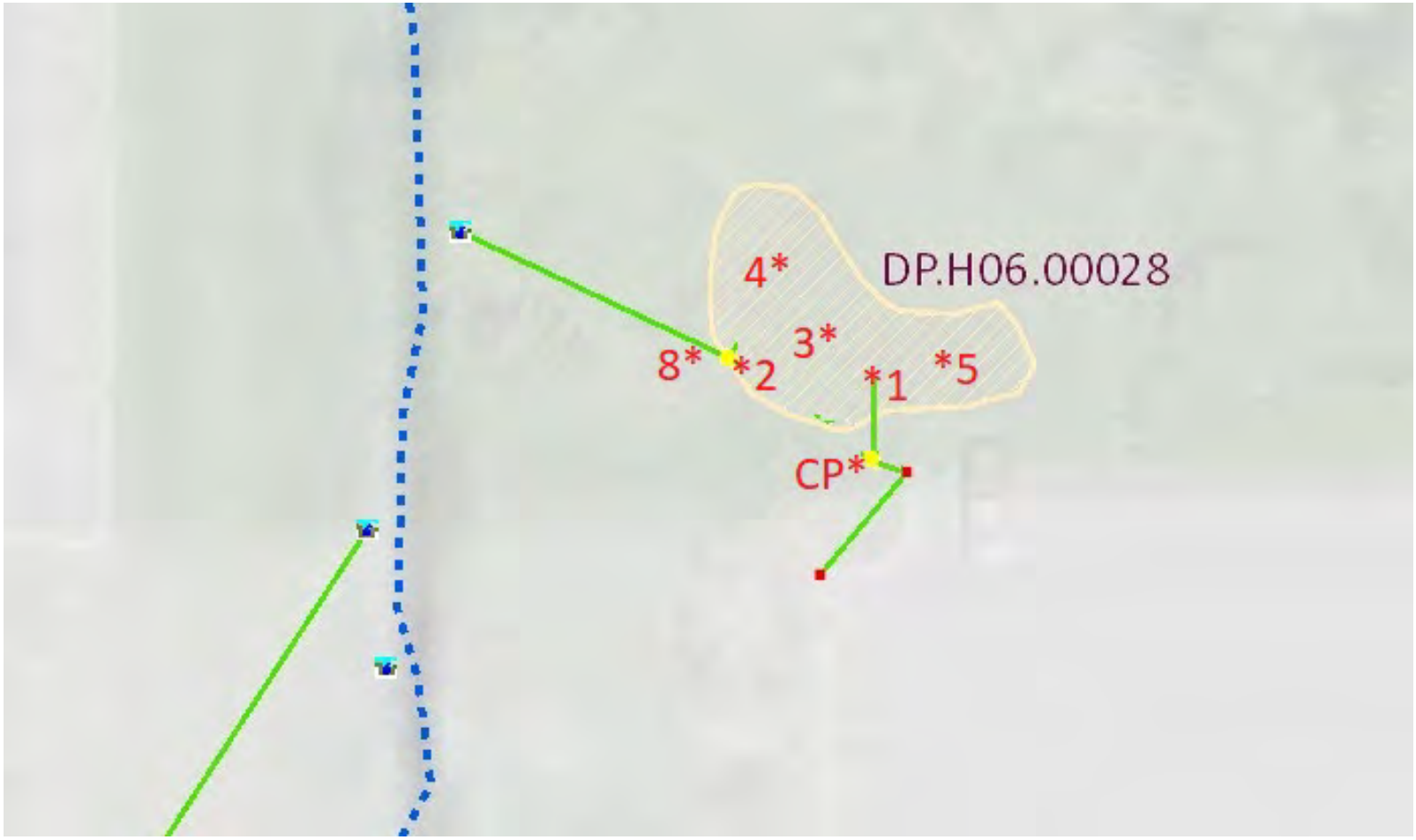
☐ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: _____ **Date:** 8/31/21

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☐ Yes ☒ No	
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☐ Yes ☒ No	
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☐ Yes ☒ No	
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☐ Yes ☒ No	
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☐ Yes ☒ No	
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☐ Yes ☒ No	
	2.4	Flow Path	Clogged or obstructed flow path?	☐ Yes ☒ No	
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☐ Yes ☒ No	
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☒ Yes ☐ No	Draft
	3.2	Implementation	Is there evidence of maintenance?	☒ Yes ☐ No	Recent mowing

Section 5: Quantitative Analysis					
Vegetation	**Cover type**	**% Within facility**	**Notes**		
	Bare ground	5			
	Aquatics	0			
	Grasses/Herbaceous	95			
	Trees >3” DBH	0			
	Shrubs	0			
	Total	100			
Elevation Analysis	**Location**	**Reading (ft)**	**Elevation (ft)**	**Notes**	
	SRV#CP Control Point				
	SRV#1 Inlet				
	SRV#2 Outlet				
	SRV#3 Center				
	SRV#4 North of Center				
	SRV#5 East of Center				
	SRV#6 South of Center				
	SRV#7 West of center				
	SRV#8 Berm or overflow				
	SRV#9				
	Summary	It does not appear that any sedimentation or changes in geometry have occurred since this site was last surveyed; did not measure elevations.			

Section 6: Facility Sketch



Section 7: Photo Log

Image 1
Facility overview (west view).

Image 2
Basin inlet from manhole. 15” HDPE (south view).

Image 3
Outlet structure. Overflow is cobble stone to background (west view).

Image 4
Outfall, 18” HDPE (east view).

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: HP Stormwater Facility #6 (DP.H06.00025)	**Facility Type:** Surface Detention
Date/Time: 8/31/2021 12:15	
Owner: MSU	**Contact:** EJ Hook, edward.hook1@montana.edu
Inspector's Name, contact info: Russ Smith, Stormwater Program Technician	
Location/Access info: Antelope parking lot off S 13th Ave	

Type of Inspection:

☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other: _____

Section 2: Weather and Discharge Information

Most recent precipitation or melt: 0" 48+ hrs

Temperature: 72° F, Smoke haze

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes: Recently constructed.

Section 3: Facility Maintenance Priority

☒ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

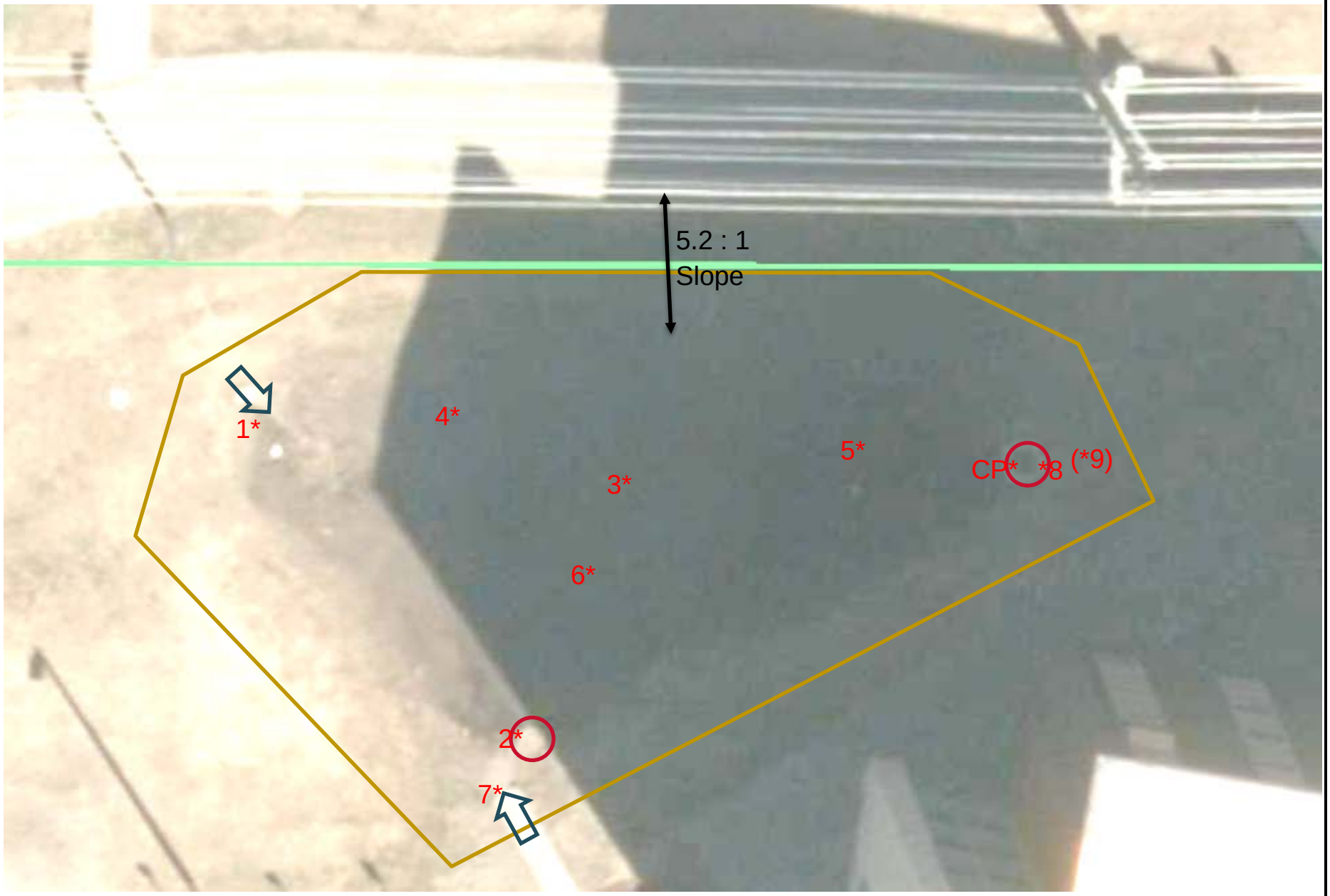
☐ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: _____ **Date:** 8/31/21

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☐ Yes ☒ No	
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☐ Yes ☒ No	
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☒ Yes ☐ No	(1) Moderate amount of red clover overgrowing on bottom of basin ***Complete routine mowing to avoid flow path restriction.***
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☐ Yes ☒ No	
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☐ Yes ☒ No	
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☐ Yes ☒ No	
	2.4	Flow Path	Clogged or obstructed flow path?	☒ Yes ☐ No	Mild obstruction of bottom infiltration structure
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☒ Yes ☐ No	(1) Small amount of unvegetated side slopes ***Establish vegetation on bare ground area.***
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☒ Yes ☐ No	Draft
	3.2	Implementation	Is there evidence of maintenance?	☒ Yes ☐ No	Perimeter mowing

Section 5: Quantitative Analysis				
Vegetation	**Cover type**	**% Within facility**	**Notes**	
	Bare ground	10	Some side slopes not vegetated	
	Aquatics	0		
	Grasses/Herbaceous	90	Red clover overgrowing in bottom	
	Trees >3" DBH	0		
	Shrubs	0		
	Total	100		
Elevation Analysis	**Location**	**Reading (ft)**	**Elevation (ft)**	**Notes**
	SRV#CP Control Point/ Surface Outlet Top CMP	6.69	100.00	Control
	SRV#1 NW Inlet	8.02	98.67	
	SRV#2 Bottom Outlet	8.1	98.59	
	SRV#3 Center	8.11	98.58	
	SRV#4 Northwest of Center	8.05	98.64	
	SRV#5 East of Center	8.29	98.40	
	SRV#6 South of Center	8.18	98.51	
	SRV#7 Southern Inlet	7.73	98.96	
	SRV#8 Wier Control	8.48	98.21	
	SRV#9 PVC Outlet Invert	9.91	96.78	
	Summary	North pond slope approximately 5.2 : 1		

Section 6: Facility Sketch



Section 7: Photo Log

Image 1
Detention pond overview looking (northeast view). Note bare ground on top break.

Image 2
Inlet one; note red clover in foreground.

Image 3
Inlet 2; concrete curb and gutter from Hyalite Hall front parking lot.

Image 4
Surface outlet structure.

Image 5
Outlet structure weir.

Image 6
Drywell; vertical infiltration drain. Note heavy cover of red clover.

Image 7
Retention pond overview looking westward.

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: DP.F01.00026	**Facility Type:** Surface Detention
Date/Time: 7/16/2021 10:30	
Owner: SID 674, public easement	**Contact:** Resonon (406) 586-3356
Inspector's Name, contact info: Adam Oliver, aoliver@bozeman.net	
Location/Access info: Easement or trail at the west end of Commercial Dr.	

Type of Inspection: High Priority - EGR

☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other: _____

Section 2: Weather and Discharge Information

Most recent precipitation or melt: Very dry

Temperature: 80°F

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes:

Section 3: Facility Maintenance Priority

☐ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

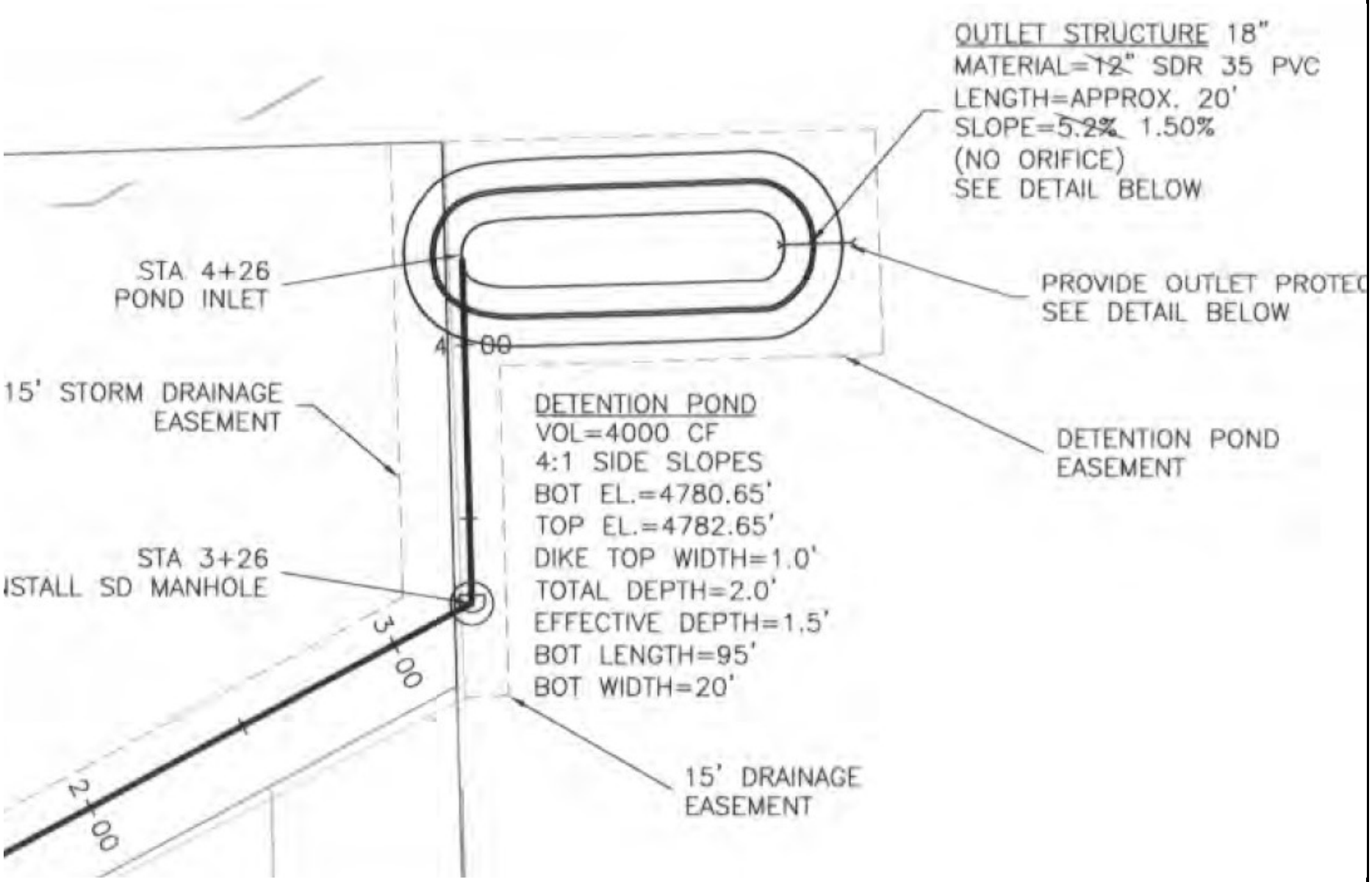
☒ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: _____ **Date:** _____

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☒ Yes ☐ No	(1) Vegetation has grown in the easement and basin which would prevent maintenance *Trim back vegetation to allow maintenance access.*
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☐ Yes ☒ No	
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☒ Yes ☐ No	Thick willows and brush in the basin *Remove woody vegetation from the basin to restore capacity and infiltration functions*
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☐ Yes ☒ No	
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☐ Yes ☐ No	Unable to determine with the amount of vegetation
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☐ Yes ☐ No	Unable to determine with current conditions
	2.4	Flow Path	Clogged or obstructed flow path?	☐ Yes ☒ No	
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☐ Yes ☒ No	
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☐ Yes ☒ No	
	3.2	Implementation	Is there evidence of maintenance?	☐ Yes ☒ No	

Section 5: Quantitative Analysis					
Vegetation	**Cover type**	**% Within facility**	**Notes**		
	Bare ground	5			
	Aquatics	5			
	Grasses/Herbaceous	10			
	Trees >3” DBH	10			
	Shrubs	70			
	Total	100			
Elevation Analysis	**Location**	**Reading (ft)**	**Elevation (ft)**	**Notes**	
	SRV#CP Control Point				
	SRV#1 Inlet				
	SRV#2 Outlet				
	SRV#3 Center				
	SRV#4 North of Center				
	SRV#5 East of Center				
	SRV#6 South of Center				
	SRV#7 West of center				
	SRV#8 Berm or overflow				
	SRV#9				
	Summary	Unable to survey elevations due to thick vegetation			

Section 6: Facility Sketch



Section 7: Photo Log

Image 1

Severely overgrown detention basin

Image 2

Looking east at edge of the detention impoundment.

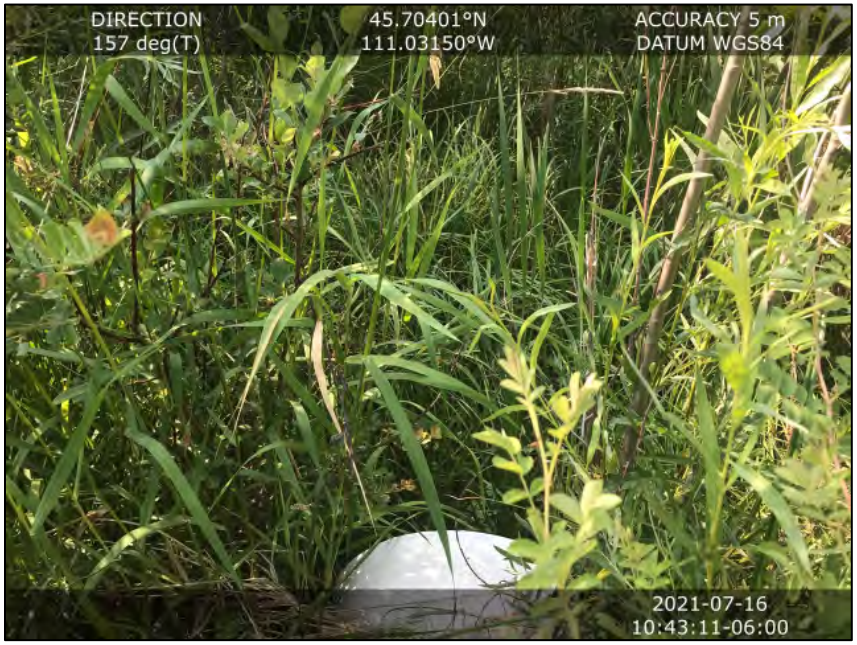


Image 3

Inlet pipe. Note overgrown vegetation.

Image 4

Outlet channel looking northeast. Note overgrown vegetation.

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: DP.H07.00022 (SUD #1)	**Facility Type:** Surface Detention
Date/Time: 5/5/2021 9:00	
Owner: South University District	**Contact:** CoB
Inspector's Name, contact info: Adam Oliver, aoliver@bozeman.net	
Location/Access info: Gravel paths by Campus Blvd	
Type of Inspection: High priority, Mandeville Creek watershed ☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other: _____	

Section 2: Weather and Discharge Information

Most recent precipitation or melt: 0.01" <48 hrs

Temperature: 48°F

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes:

Section 3: Facility Maintenance Priority

☒ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

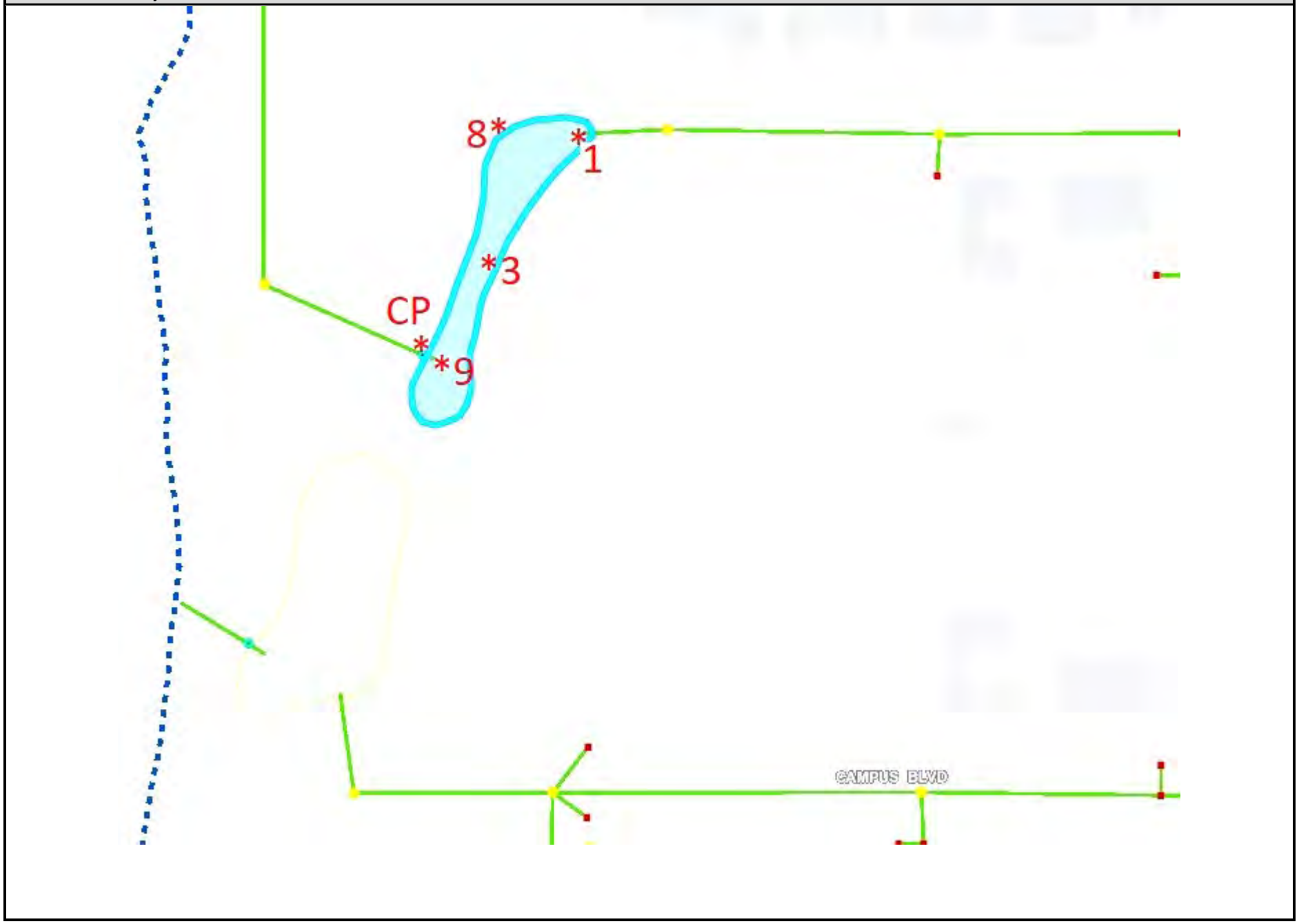
☐ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: Adam Oliver **Date:** 5/14/2021

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☐ Yes ☒ No	
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☒ Yes ☐ No	Trash, mostly located near facility inlet. Image 6. *Remove trash from facility.*
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☐ Yes ☒ No	
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☐ Yes ☒ No	
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☐ Yes ☒ No	
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☐ Yes ☒ No	
	2.4	Flow Path	Clogged or obstructed flow path?	☐ Yes ☒ No	
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☐ Yes ☒ No	
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☐ Yes ☐ No	*TBD. Look for Park Plan in internal documents*
	3.2	Implementation	Is there evidence of maintenance?	☒ Yes ☐ No	Mowing

Section 5: Quantitative Analysis				
Vegetation	**Cover type**	**% Within facility**	**Notes**	
	Bare ground	0		
	Aquatics	0		
	Grasses/Herbaceous	95		
	Trees >3" DBH	0		
	Shrubs	5	Tree species, young, planted	
	Total	100		
Elevation Analysis	**Location**	**Reading (ft)**	**Elevation (ft)**	**Notes**
	SRV#CP Control Point	6.68	4931	Outlet structure rim
	SRV#1 Inlet	8.56	4929.12	invert
	SRV#2 Outlet	9	4928.68	Invert leaving facility
	SRV#3 Center	9.26	4928.42	
	SRV#4 North of Center	9.18	4928.5	
	SRV#5 East of Center	-	-	
	SRV#6 South of Center	9.09	4928.59	
	SRV#7 West of center	-	-	
	SRV#8 Berm or overflow	7.92	4929.76	
	SRV#9	-	-	
	Summary	The site appeared to be in the same condition as last year. I did not shoot any elevations, will perform that task next year. There is no second inlet from the east as shown in GIS. Check next year for new site construction. Facility Sketch below shows current conditions.		

Section 6: Facility Sketch



Section 7: Photo Log

Image 1
Facility overview. (north view)

Image 2
Outlet from the facility, outlet structure can be seen about ten feet behind it. (west view)

Image 3
Inside the outlet structure.

Image 4
Bottom of facility. (north view)

Image 6

Trash and small amount of sediment at facility inlet. (east view)

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: DP.H07.00023 (SUD #2)	**Facility Type:** Surface Detention
Date/Time: 5/5/2021 9:00	
Owner: South University District/CoB	**Contact:** Storm, Parks
Inspector's Name, contact info: Adam Oliver, aoliver@bozeman.net	
Location/Access info: Gravel paths by Campus Blvd	
Type of Inspection: High priority, Mandeville Creek watershed ☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other:_____	

Section 2: Weather and Discharge Information

Most recent precipitation or melt: 0.01" <48 hrs

Temperature: 48°F

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes:

Section 3: Facility Maintenance Priority

☒ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

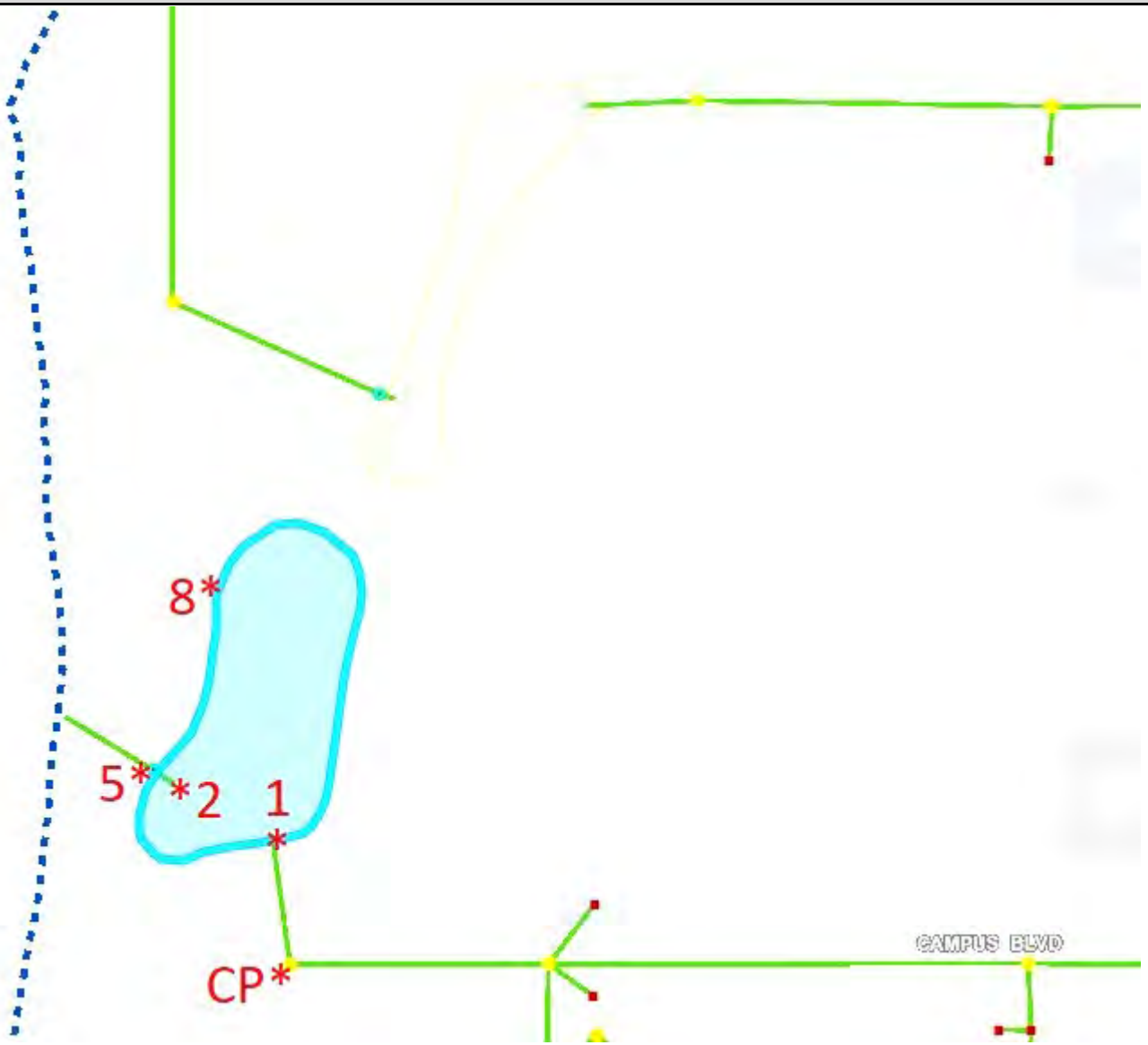
☐ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: Adam Oliver **Date:** 5/14/2021

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☐ Yes ☒ No	
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☒ Yes ☐ No	Trash, mostly located near facility inlet. Image 2. *Remove trash from facility.*
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☐ Yes ☒ No	
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☐ Yes ☒ No	
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☐ Yes ☒ No	
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☒ Yes ☐ No	Very small pool by facility inlet, possibly from irrigation. >48 hrs since rainfall. Image 2. *No action needed.*
	2.4	Flow Path	Clogged or obstructed flow path?	☒ Yes ☐ No	Sand bags in outlet pipe. Image 4. *Remove sand bags if they are not being used under an active SWPPP.*
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☐ Yes ☒ No	
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☐ Yes ☒ No	*Look for Park Plan*
	3.2	Implementation	Is there evidence of maintenance?	☐ Yes ☒ No	

Section 5: Quantitative Analysis				
Vegetation	**Cover type**	**% Within facility**	**Notes**	
	Bare ground	0		
	Aquatics	5		
	Grasses/Herbaceous	95		
	Trees >3" DBH	0	Planted trees are dead and/or outside of the facility	
	Shrubs	0		
	Total	100		
Elevation Analysis	**Location**	**Reading (ft)**	**Elevation (ft)**	**Notes**
	SRV#CP Control Point	1.41	4939	SD manhole lid south of facility. Elevation estimated from plan contours. H.I.=4940.41
	SRV#1 Inlet	9.63	4930.78	Facility inlet invert. 2" of water, likely from irrigation
	SRV#2 Outlet	9.8	4930.61	Invert, pipe from facility
	SRV#3 Center	9.65	4930.76	
	SRV#4 North of Center	9.72	4930.69	
	SRV#5 Outlet structure rim	7.17	4933.24	
	SRV#6 South of Center	9.22	4931.19	
	SRV#7 West of center	-	-	
	SRV#8 Berm or overflow	8.7	4931.71	
	SRV#9	-	-	
	Summary	The site appeared to be in the same condition as last year. I did not shoot any elevations, will perform that task next year.		

Section 6: Facility Sketch



Section 7: Photo Log

Image 1
Facility overview. (north view)

Image 2
Facility inlet with sediment and trash beginning to accumulate. Overall, taking a very small amount of volume. (east view)

Image 3

Sediment and standing water at facility inlet. (east view)

Image 4

Facility outlet to outlet structure. Sand bags are intact but not meant to be permanent. There is one phase of construction still to be completed which leads to this facility. (west view)

Image 5
Outfall. (northwest view)

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: DP.G02.00017 (Tanges #1)	**Facility Type:** Surface Detention
Date/Time: 7/16/2021 11:09	
Owner: Tanges Subdivision	**Contact:** Unknown
Inspector's Name, contact info: Adam Oliver, aoliver@bozeman.net	
Location/Access info: Performed inspection from the N 11th Ave sidewalk.	
Type of Inspection: High priority, Mandeville Creek watershed ☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other: _____	

Section 2: Weather and Discharge Information

Most recent precipitation or melt: >48 hours, dry weather

Temperature: 60 F

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes: This facility needs significant vegetation maintenance. Mandeville Creek appears to now be flowing through facility. In earlier mapping layers, Mandeville Creek flowed to the east of the larger pond and detention facility. Creek flows are now moving through both ponds.

Section 3: Facility Maintenance Priority

☐ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

☒ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: Adam Oliver **Date:** 7/16/2021

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☒ Yes ☐ No	Ownership and easement are uncertain
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☐ Yes ☒ No	
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☒ Yes ☐ No	Overgrown appearance. Image 1.
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☐ Yes ☒ No	Outfall structure is submerged and water flowing around it
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☐ Yes ☒ No	Unable to tell from sidewalk
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☒ Yes ☐ No	Mostly filled with water, need to compare to creek elevation. Image 3. *Determine cause of standing water and remove blockage if possible. Determine the role of the adjacent stream and pond.*
	2.4	Flow Path	Clogged or obstructed flow path?	☒ Yes ☐ No	Curb inlets are scheduled to be maintained by City crews this year. Images 1 and 2. If they are under water, they will not be able to be maintained.
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☐ Yes ☒ No	
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☐ Yes ☐ No	Unknown
	3.2	Implementation	Is there evidence of maintenance?	☐ Yes ☒ No	

Section 5: Quantitative Analysis				
Vegetation	**Cover type**	**% Within facility**	**Notes**	
	Bare ground	60	water	
	Aquatics	10		
	Grasses/Herbaceous	10		
	Trees >3" DBH	0		
	Shrubs	20	willows	
	Total	100		
Elevation Analysis	**Location**	**Reading (ft)**	**Elevation (ft)**	**Notes**
	SRV#CP Control Point	-	-	
	SRV#1 Inlet	-	-	
	SRV#2 Outlet	-	-	
	SRV#3 Center	-	-	
	SRV#4 North of Center	-	-	
	SRV#5 East of Center	-	-	
	SRV#6 South of Center	-	-	
	SRV#7 West of center	-	-	
	SRV#8 Berm or overflow	-	-	
	SRV#9	-	-	
	Summary	Did not shoot elevations due to thick vegetation.		

Section 6: Facility Sketch

Section 7: Photo Log

Image 1

Facility overview, detention facility toward right where curb ends (north view).

Image 2

Water backed up into inlet structure (close-up view).

Image 3

Water flowing through facility / around outlet structure

Image 4

Standing water in facility (south view).

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: DP.E02.00006	**Facility Type:** Surface Detention
Date/Time: 9/14/2021	
Owner: City of Bozeman	**Contact:** John Vandelinder, 582-3203
Inspector's Name, contact info: Russ Smith, rsmith@bozeman.net	
Location/Access info: From E Griffin Dr. and driveway	

Type of Inspection:

☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other: _____

Section 2: Weather and Discharge Information

Most recent precipitation or melt: 0", >48 + hrss

Temperature: 68°F

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes:

Section 3: Facility Maintenance Priority

☒ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

☐ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: Russ Smith **Date:** Sept 14, 2021

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☐ Yes ☒ No	
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☐ Yes ☒ No	
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☐ Yes ☒ No	
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☐ Yes ☒ No	
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☐ Yes ☒ No	
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☐ Yes ☒ No	
	2.4	Flow Path	Clogged or obstructed flow path?	☐ Yes ☒ No	
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☒ Yes ☐ No	Pea gravel installed on bottom of pond. Side slopes stabilized.
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☒ Yes ☐ No	
	3.2	Implementation	Is there evidence of maintenance?	☒ Yes ☐ No	

Section 5: Quantitative Analysis				
Vegetation	**Cover type**	**% Within facility**	**Notes**	
	Bare ground	70	Pea gravel bottom	
	Aquatics	0		
	Grasses/Herbaceous	30	Timothy, *Poa* spp.	
	Trees >3" DBH	0		
	Shrubs	0		
	Total	100		
Elevation Analysis	**Survey Point**	**Reading (ft)**	**Elevation (ft)**	**Notes**
	SP01	7.85	4696.00	Top of Grate - Benchmark / Control Point
	SP02	10.37	4693.48	Pond 1 FETS outlet Invert
	SP03	10.64	4693.21	Pond Bottom Center
	SP04	10.66	4693.19	Pond Bottom West
	SP05	10.81	4693.04	Pond Bottom East
	SP06	10.32	4693.53	Pond 1 Inlet PVC Invert
	SP07	10.25	4693.60	Pond 1 Inlet CMP Invert
	SP08	10.53	4693.32	Pond 2 FETS inlet
	SP09	8.43	4695.42	Pond 1 E. Spillway
	SP10	12.00	4691.85	Pond 2 Outlet CMP Invert
	SP11	11.91	4691.94	Outfall north of Griffin Rd <1" sediment
	Summary			

Section 6: Facility Sketch

Section 7: Photo Log

Image 1

Facility overview. Main pond inlet at foreground (white PVC). Note gravel installed on bottom of impoundment (northwest view).

Image 2

Primary detention basin with traction control aggregate facility on right; note concrete barriers and stabilization blanket installed on the break in slope and pond edge, respectively.

Image 5
Main basin outlet and outlet structure manhole, the control point, visible above center (east view).

Image 6
Outfall. Grass is tall but the outfall has a clear path to the East Gallatin River (southeast view).

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: DP.I51.00073	**Facility Type:** Surface Detention
Date/Time: 5/12/2021 13:40	
Owner: City of Bozeman	**Contact:** Tom Radcliffe, tradcliffe@bozeman.net
Inspector's Name, contact info: Adam Oliver, aoliver@bozeman.net	
Location/Access info: WRF, within fenced area	

Type of Inspection:

☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other: _____

Section 2: Weather and Discharge Information

Most recent precipitation or melt: >48hrs

Temperature: 59°F

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes: 2021 High Priority Inspection.

Section 3: Facility Maintenance Priority

☒ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

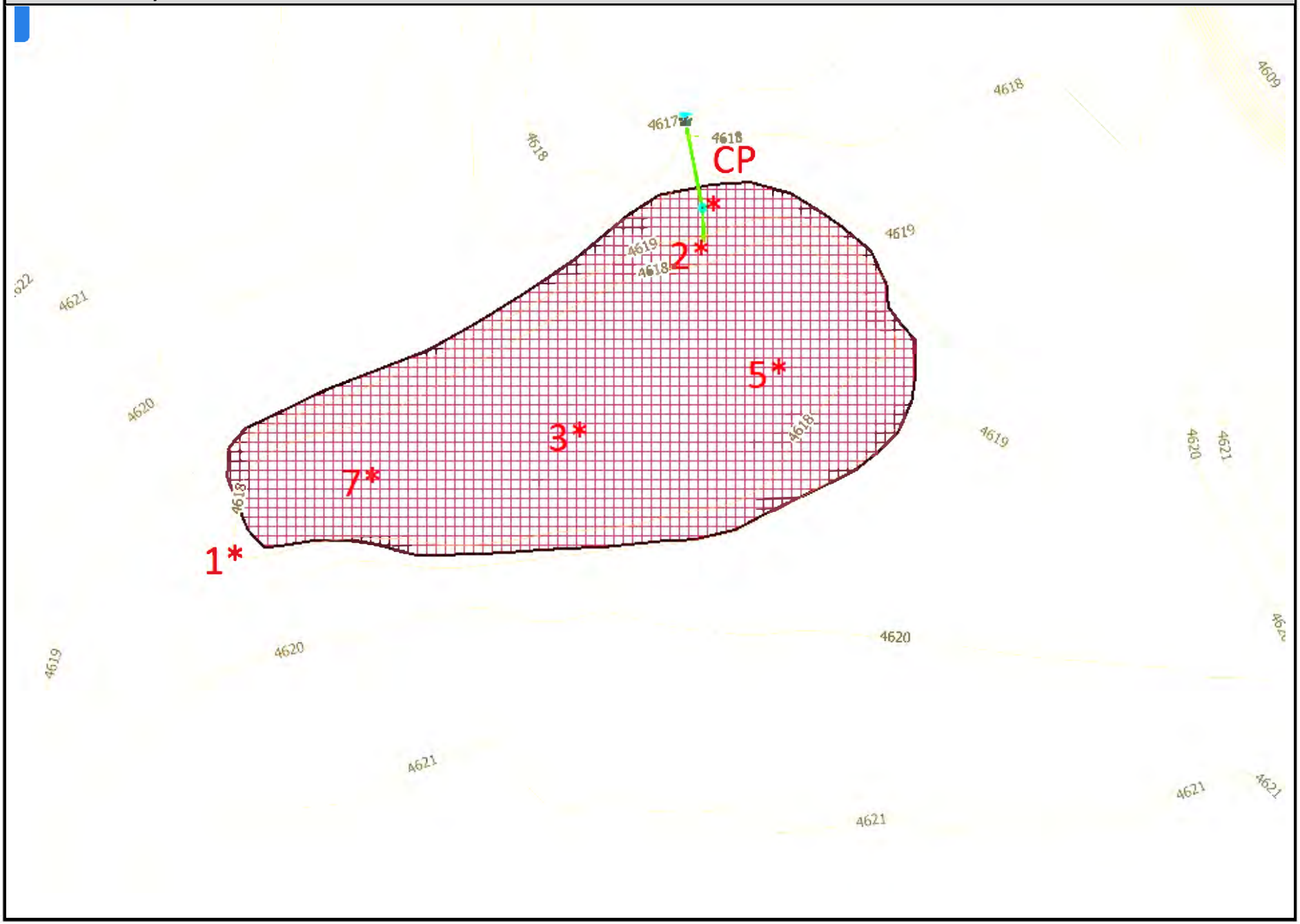
☐ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: Adam Oliver _____ **Date:** 6/8/2021 _____

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☐ Yes ☒ No	
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☐ Yes ☒ No	
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☐ Yes ☒ No	
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☐ Yes ☒ No	
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☐ Yes ☒ No	
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☐ Yes ☒ No	No rain within 48 hours, but no signs of standing water either
	2.4	Flow Path	Clogged or obstructed flow path?	☐ Yes ☒ No	
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☐ Yes ☒ No	
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☒ Yes ☐ No	
	3.2	Implementation	Is there evidence of maintenance?	☒ Yes ☐ No	

Section 5: Quantitative Analysis				
Vegetation	**Cover type**	**% Within facility**	**Notes**	
	Bare ground	0		
	Aquatics	0		
	Grasses/Herbaceous	100		
	Trees >3" DBH	0		
	Shrubs	0		
	Total	100		
Elevation Analysis	**Location**	**Reading (ft)**	**Elevation (ft)**	**Notes**
	SRV#CP Control Point	4.27	4620	MH lid. H.I. = 4624.27. Height from contours on plans.
	SRV#1 Inlet	6.4	4617.87	West swale bottom, mowed area
	SRV#2 Outlet	6.35	4617.92	PVC invert out of basin
	SRV#3 Center	6.9	4617.37	
	SRV#4 North of Center	-	-	
	SRV#5 East of Center	6.7	4617.57	
	SRV#6 South of Center	-	-	
	SRV#7 West of center	6.6	4617.67	
	SRV#8 Berm or overflow	5.7	4618.57	
	SRV#9	-	-	
	Summary	This facility is in good condition. There were no apparent changes, so I did not take elevations. I will repeat that task in 2022. Routine maintenance included fall mowing and spring spot application of pesticide for weeds.		

Section 6: Facility Sketch



Section 7: Photo Log

Image 1
Outlet structure and east half of the facility. (south view)

Image 2
West half of the facility. There is a small swale entering from the background at the left of the photo. (west view)

Image 3
Path of potential discharge toward the East Gallatin River. No signs of flow. (north view)

Image 4
Outlet structure. Outfall is inside the fenced area. (north view)

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: DP.I51.00075	**Facility Type:** Surface Detention
Date/Time: 5/12/2021	
Owner: City of Bozeman	**Contact:** Tom Radcliffe, tradcliffe@bozeman.net
Inspector's Name, contact info: Adam Oliver, aoliver@bozeman.net	
Location/Access info: WRF, near parking area.	
Type of Inspection: ☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other: _____	

Section 2: Weather and Discharge Information

Most recent precipitation or melt: >48hrs

Temperature: 59°F

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes: 2021 High Priority Inspection.

Section 3: Facility Maintenance Priority

☒ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

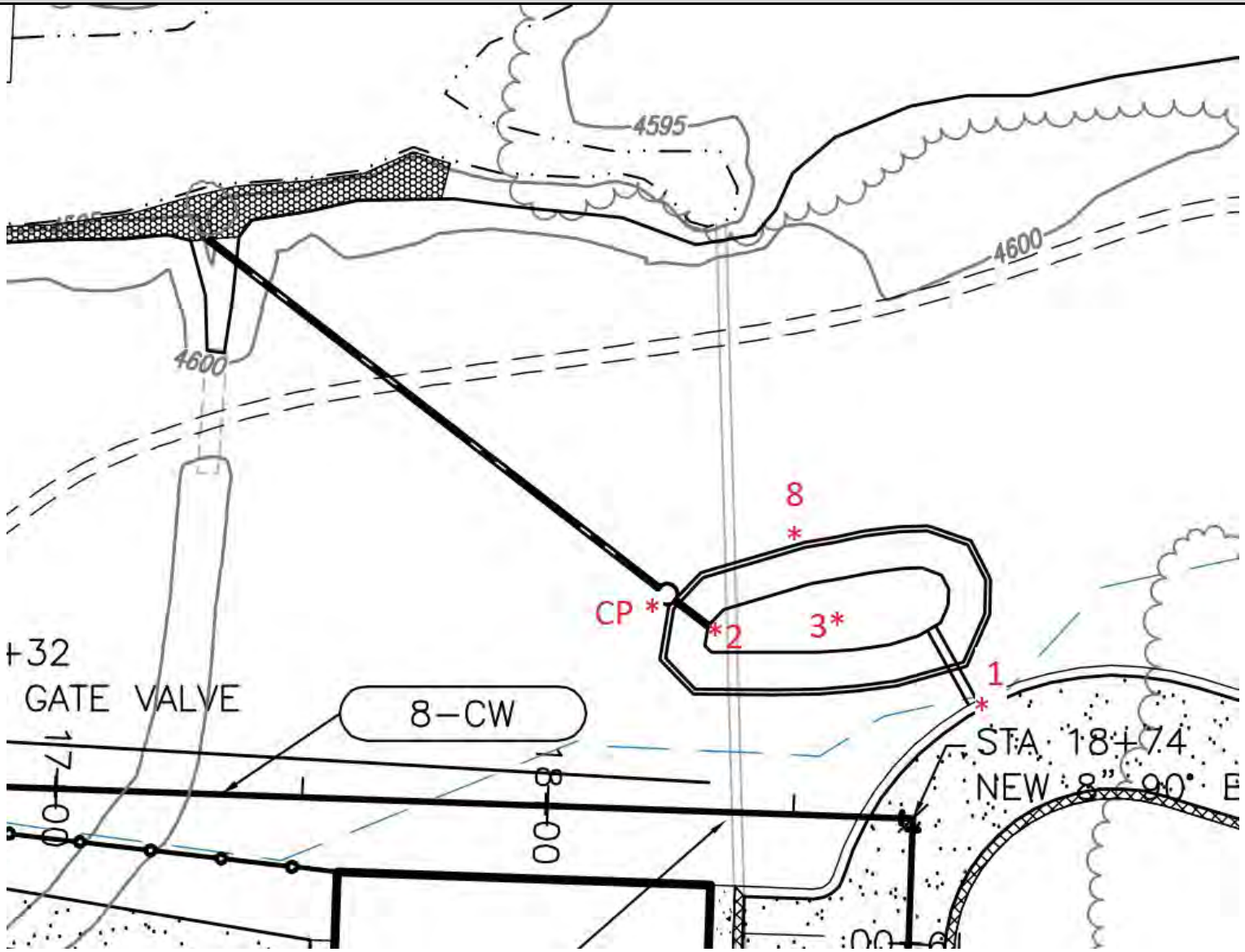
☐ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: _____ **Date:** _____

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☐ Yes ☒ No	
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☐ Yes ☒ No	
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☐ Yes ☒ No	
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☐ Yes ☒ No	
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☐ Yes ☒ No	Sediment and cattails, not significant at this time.
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☐ Yes ☒ No	
	2.4	Flow Path	Clogged or obstructed flow path?	☐ Yes ☒ No	
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☐ Yes ☒ No	
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☒ Yes ☐ No	
	3.2	Implementation	Is there evidence of maintenance?	☒ Yes ☐ No	

Section 5: Quantitative Analysis				
Vegetation	**Cover type**	**% Within facility**	**Notes**	
	Bare ground	0		
	Aquatics	25		
	Grasses/Herbaceous	75		
	Trees >3" DBH	0		
	Shrubs	0		
	Total	100		
Elevation Analysis	**Location**	**Reading (ft)**	**Elevation (ft)**	**Notes**
	SRV#CP Control Point	3.43	4603	MH lid. H.I. = 4606.43. Height from contours on water plans.
	SRV#1 Inlet	4.01	4602.42	Curb cut at asphalt height
	SRV#2 Outlet	5.7	4600.73	PVC invert out of basin to outlet structure
	SRV#3 Center	6.07	4600.36	
	SRV#4 North of Center	-	-	
	SRV#5 East of Center	5.94	4600.49	
	SRV#6 South of Center	-	-	
	SRV#7 West of center	5.92	4600.51	
	SRV#8 Berm or overflow	4.05	4602.38	
	SRV#9	-	-	
	Summary	Cattails indicate fines slowing infiltration. Volume is not yet diminished, but this basin will likely need sediment removal sooner than the others at WRF. There were no apparent changes from last year, so I did not take elevations. I will repeat that task in 2022 and compare bottom elevation.		

Section 6: Facility Sketch



Section 7: Photo Log

Image 1

Facility overview. Curb cut at foreground has been cleaned out since last year and curbline has been swept. (north view)

Image 2

Basin is mowed up to the boundary with cattails. (south view)

Image 3

West half of facility, outlet and outlet structure. (northwest view)

Image 4

Path from outlet structure to outfall. (northwest view)

BOZEMAN MT
Stormwater Division

Stormwater Facility Inspection Form

Section 1: General Information	
Facility ID: DP.I51.00074	**Facility Type:** Surface Detention
Date/Time: 5/12/2021	
Owner: City of Bozeman	**Contact:** Tom Radcliffe, tradcliffe@bozeman.net
Inspector's Name, contact info: Adam Oliver, aoliver@bozeman.net	
Location/Access info: WRF, outside of fenced area near WRF outfall	

Type of Inspection:

☒ Routine, Dry Weather ☐ Routine, Wet Weather ☐ Complaint Driven ☐ Other: _____

Section 2: Weather and Discharge Information

Most recent precipitation or melt: >48hrs

Temperature: 59°F

Is a stormwater discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Is an illegal discharge occurring? ☐ Yes ☒ No

If yes, what is the source and quality of discharge?

Notes: 2021 High Priority Inspection.

Section 3: Facility Maintenance Priority

☒ **Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.**

☐ **Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure.**

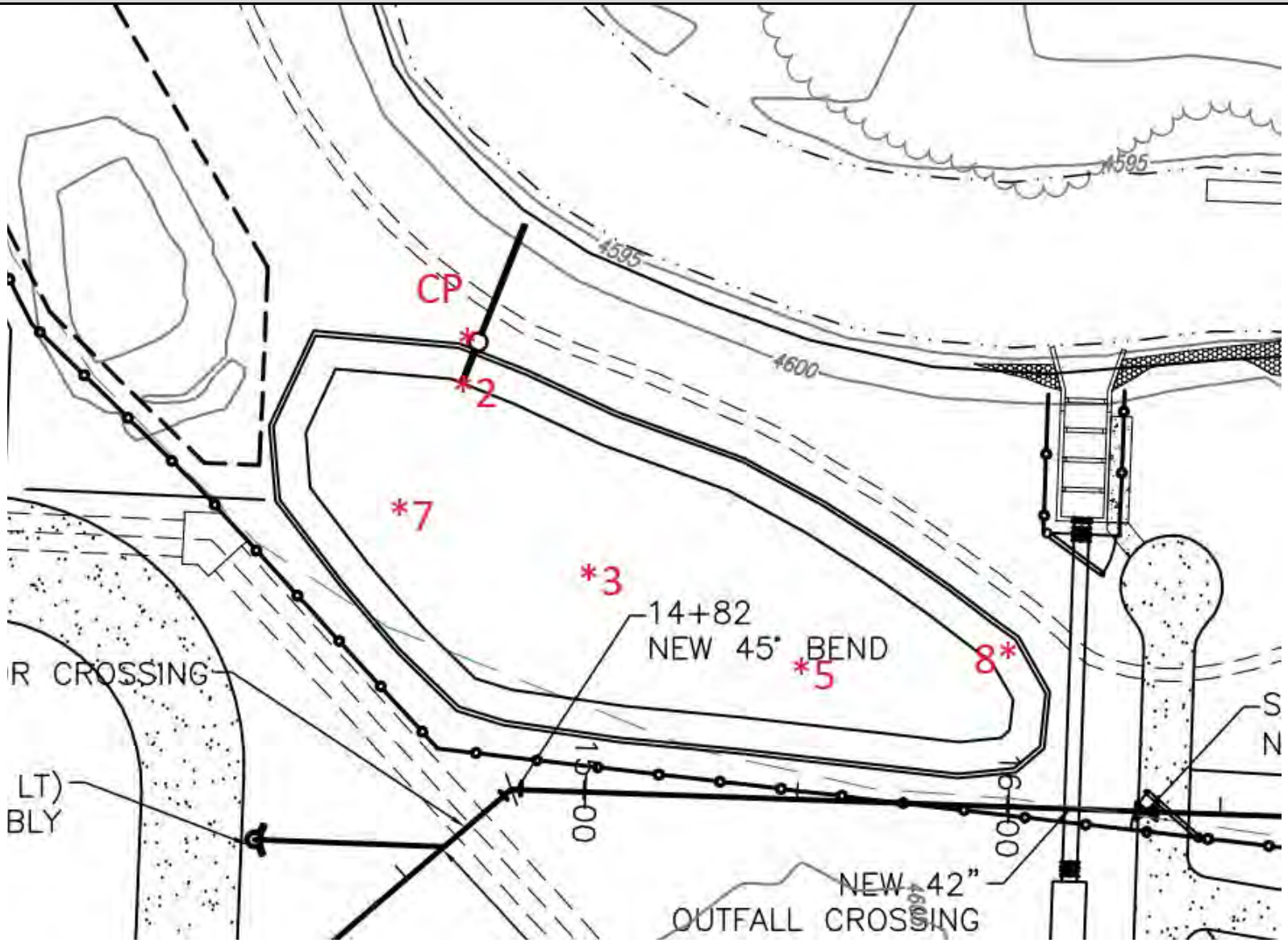
☐ **High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.**

Inspector's Signature: Adam Oliver **Date:** 6/8/2021

Section 4: Qualitative Analysis					
Components	**#**	**Items**	**Conditions**	**Results**	**Notes and Required Actions**
General	1.1	Accessibility	Degraded, missing, or inadequate maintenance access?	☐ Yes ☒ No	
	1.2	Debris	Trash, sediment, and waste within and around the facility?	☐ Yes ☒ No	
	1.3	Vegetation	Overgrown or dead cattails, woody shrubs, weeds, grass, and trees?	☐ Yes ☒ No	
	1.4	Infrastructure Condition	Damaged inlet pipe, outlet pipe, outfall structure, or fencing?	☐ Yes ☒ No	
Facility Condition	2.1	Pretreatment Bay or Facility	Clogged, obstructed, or filled pretreatment forebay or facility?	☐ Yes ☒ No	
	2.2	Storage Bay	Clogged or filled storage bay?	☐ Yes ☒ No	
	2.3	Groundwater or Standing Water	Stagnant water with a drain downtime greater than 48 hours post-rain event?	☐ Yes ☒ No	No rain within 48 hours, but no signs of standing water either
	2.4	Flow Path	Clogged or obstructed flow path?	☐ Yes ☒ No	
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	☐ Yes ☒ No	
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan?	☒ Yes ☐ No	
	3.2	Implementation	Is there evidence of maintenance?	☒ Yes ☐ No	

Section 5: Quantitative Analysis				
Vegetation	**Cover type**	**% Within facility**	**Notes**	
	Bare ground	0		
	Aquatics	0		
	Grasses/Herbaceous	100		
	Trees >3" DBH	0		
	Shrubs	0		
	Total	100		
Elevation Analysis	**Location**	**Reading (ft)**	**Elevation (ft)**	**Notes**
	SRV#CP Control Point	3.82	4605.82	MH lid. H.I. = 4605.82
	SRV#1 Inlet	-	-	
	SRV#2 Outlet	6.51	4599.31	PVC invert out of basin to outlet structure
	SRV#3 Center	6.78	4599.04	
	SRV#4 North of Center	-	-	
	SRV#5 East of Center	6.56	4599.26	
	SRV#6 South of Center	-	-	
	SRV#7 West of center	6.78	4599.04	
	SRV#8 Berm or overflow	4.42	4601.4	
	SRV#9	-	-	
	Summary	This facility is in good condition. There were no apparent changes, so I did not take elevations. I will repeat that task in 2022.		

Section 6: Facility Sketch



Section 7: Photo Log

Image 1
Facility overview, evidence of mowing since last inspection. (west view)

Image 2
Outfall. (north view)

Image 3

PVC outlet from basin to outlet structure. There is no evidence of recent flow. (north view)

Image 4

Outlet structure and basin. (south view)