



# STORMWATER FACILITIES MAINTENANCE & MITIGATION

PRESENTED BY: DILLON FATOUROS, ASSISTANT SECRETARY

ANNUAL HOA MEETING – APRIL 8, 2025

*West Winds*  
— HOA —

West Winds Master Homeowners' Association, Inc.

# ROAD MAP

- What, Why, How
- Stormwater Regulations
- West Winds Stormwater Facility Locations
- Current Status of Facilities
- Project outline
- Budgeting and Estimated Cost
- Project overlaps
- Timeline & Goals
- Conclusion & Resources



# WHAT, WHY, HOW



Stormwater facilities manage water from rainfall, snow runoff, and peak-season flooding. They mitigate erosion, protect public infrastructure, and filter pollutants from runoff.



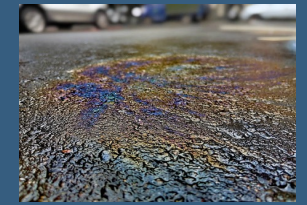
Installed by the subdivision developer during neighborhood development. Critical infrastructure in areas like Bozeman due to wetlands and soil conditions.



Water flows into curbside drains → underground pipes → stormwater basins. Water is slowly released into the ground, where soil naturally filters contaminants.



# WHAT, WHY, HOW





# STORMWATER REGULATIONS

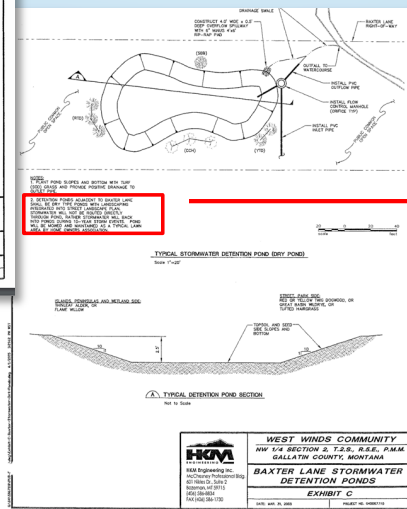
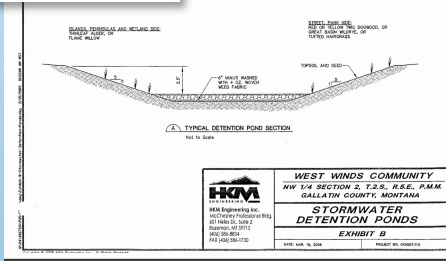
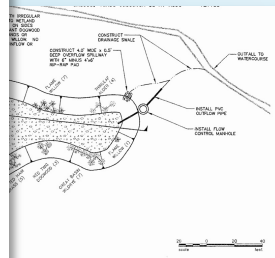
## CC&Rs 12.9

Stormwater detention or retention facilities shall be required for all subdivisions and site plans in compliance with the current **City of Bozeman** and **Montana Department of Environmental Quality** regulations. Stormwater management plans shall be submitted to and approved by the Committee concurrently with the City review of subdivision and site plans. Stormwater facilities shall be designed and installed in conformance with the approved **Storm Water Investigation Report prepared by HKM Engineering, Inc.** and approved by the City of Bozeman through the **Master West Winds PUD** review process.



Declaration of Covenants,  
Conditions and Restrictions

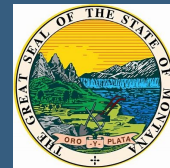
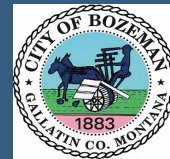
West Winds Master Homeowners' Association, Inc.



2. DETENTION PONDS ADJACENT TO BAXTER LANE SHALL BE DRY TYPE PONDS WITH LANDSCAPING INTEGRATED INTO STREET LANDSCAPE PLAN. STORMWATER WILL NOT BE ROUTED DIRECTLY THROUGH POND, RATHER STORMWATER WILL BACK INTO PONDS DURING 10-YEAR STORM EVENTS. POND WILL BE MOWED AND MAINTAINED AS A TYPICAL LAWN AREA BY HOME OWNERS ASSOCIATION.

# STORMWATER REGULATIONS

- CITY OF BOZEMAN CODE (SEC. 40.04.720):
  - ANNUAL SELF-INSPECTION AND DOCUMENTATION
- MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ):
  - DEQ 8 CURRENT REVISED GUIDELINES FOR MONTANA
- FEDERAL ENVIRONMENTAL PROTECTION AGENCY (EPA):
  - APPLIES TO HOA-MANAGED SYSTEMS
  - MUST MAINTAIN AND DOCUMENT ACTIVITIES FOR 5 YEARS

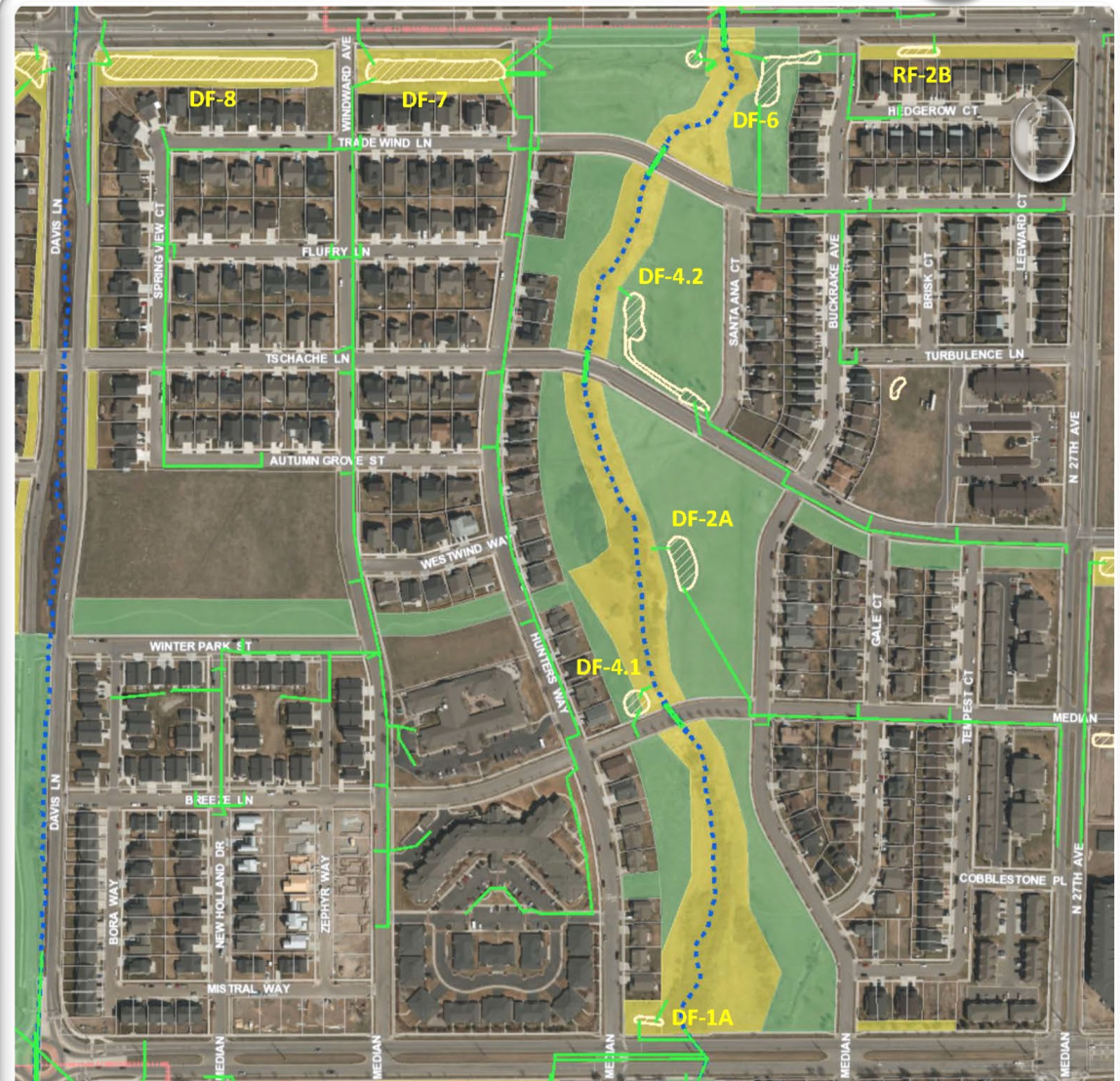




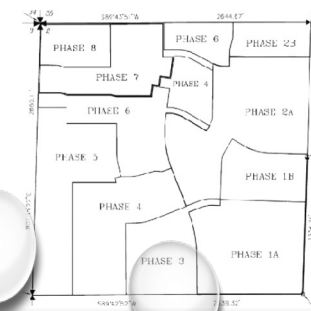
# 8 STORMWATER FACILITY LOCATIONS

## West Winds HOA

- Responsible for **8** stormwater **basins**
- **7** Detention Facilities (DF)
- **1** Retention Facility (RF)



- Bozeman City Park
- West Winds HOA Open Space
- Urban Waterway
- Storm Sewer Conveyance




**BOZEMAN** MT  
Stormwater Division

## CURRENT STATUS



- **2021 city inspection** on West Winds stormwater facilities (most recent).
- **No evidence** of stormwater facility maintenance and reporting since their installation.
- **No evidence** of any maintenance performed since the 2021 city inspection.
- Currently one of the few neighborhoods taking necessary measures to address stormwater facility issues.

 <h1 style="margin: 0; display: inline;">Stormwater Facility Inspection Form</h1>	
<b>Section 1: General Information</b>	
<b>Facility ID:</b> DP.02.00046 – (DF-7)	<b>Facility Type:</b> Surface Detention
<b>Date/Time:</b> 10/28/21 11:09	
<b>Owner:</b> The Windy Master Homeowners' Assoc., Inc.	<b>Contact:</b> Lindsay Freitas; 406-581-0142
<b>Inspector's Name, contact info:</b> Russ Smith, rsmith@bozeman.net	
<b>Location/Access info:</b> NE corner subdivision; Baxter & Hunters	
lindsay@saddlepeakproperties.com	
<b>Type of Inspection:</b> <input checked="" type="checkbox"/> Routine, Dry Weather <input type="checkbox"/> Routine, Wet Weather <input type="checkbox"/> Complaint Driven <input type="checkbox"/> Other:	
<b>Section 2: Weather and Discharge Information</b>	
<b>Most recent precipitation or melt:</b> > 48 hr	
<b>Temperature:</b> 45°F	
<b>Is a stormwater discharge occurring?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, what is the source and quality of discharge?	
<b>Is an illegal discharge occurring?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, what is the source and quality of discharge?	
<b>Section 3: Facility Maintenance Priority</b>	
<input type="checkbox"/> Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.	
<input checked="" type="checkbox"/> Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, wastewater pollution, and infrastructure failure.	
<input type="checkbox"/> High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.	
<b>Findings and Recommended Actions:</b> Significant vegetation removal is necessary to return stormwater storage, conveyance and overall basin function.	
<b>Inspector's Signature:</b> <u>Russ Smith</u>	<b>Date:</b> 10/28/21

Stormwater Facility Inspection Form
Page 38
DP-7

	2.4	Flow Path	Clogged or obstructed flow path?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Heavy vegetative cover
	2.5	Side Slopes	Barren or exposed surfaces on Facility's side slopes and bottom?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Maintenance	3.1	Maintenance Plan or Agreement	Is there a written plan, specific to this facility?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Record Drawings detail maintenance for facilities along Baxter Ln
	3.2	Implementation	Is there evidence of maintenance?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Elevation	Inventory Area	Area	Area	Area
	NE Detention Facility Inlet 2	8.41	4725.94	FETS bottom
	Detention Facility Outlet	9.01	4725.98	FETS bottom
	Outlet - Offset	8.97	4727.32	
	Wing Wall Top	7.63	4725.81	
	Wing Wall Notch Bottom	9.14	4729.32	
	Overflow Top of Bank	5.63	4724.96	Sidewalk at Hunters Way

Stormwater Facility Inspection Form

Page 40

Diagram illustrating a stormwater inlet and outlet on a design documentation. The diagram shows a cross-section of a road surface with a stormwater inlet on the left and an outlet on the right. A dashed line indicates the 'FUTURE TRASH BIN LANE'. A note states: 'Note: Not all conveyances, inlets and outlets shown on design documentation.'



# CURRENT STATUS

## 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

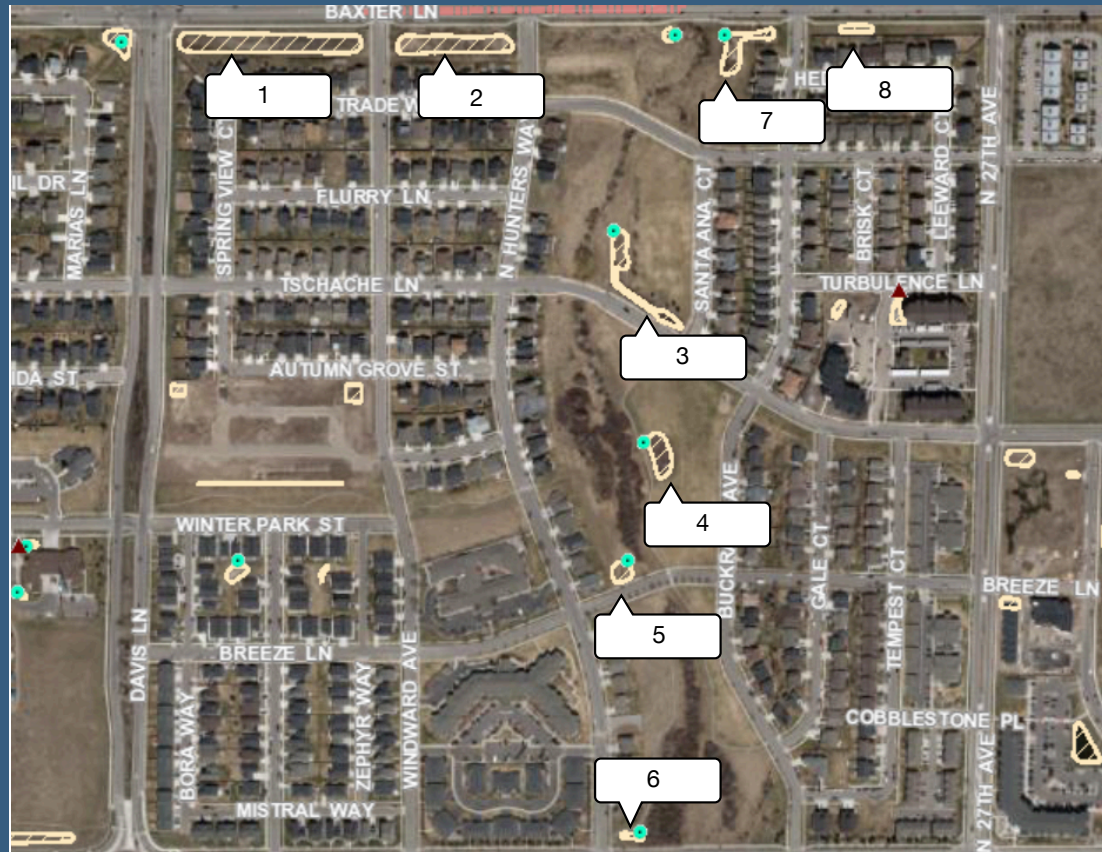
Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.

Out of the 8 stormwater facilities in West Winds:

- **2 Low** Priority
- **0 Medium** Priority
- **6 High** Priority



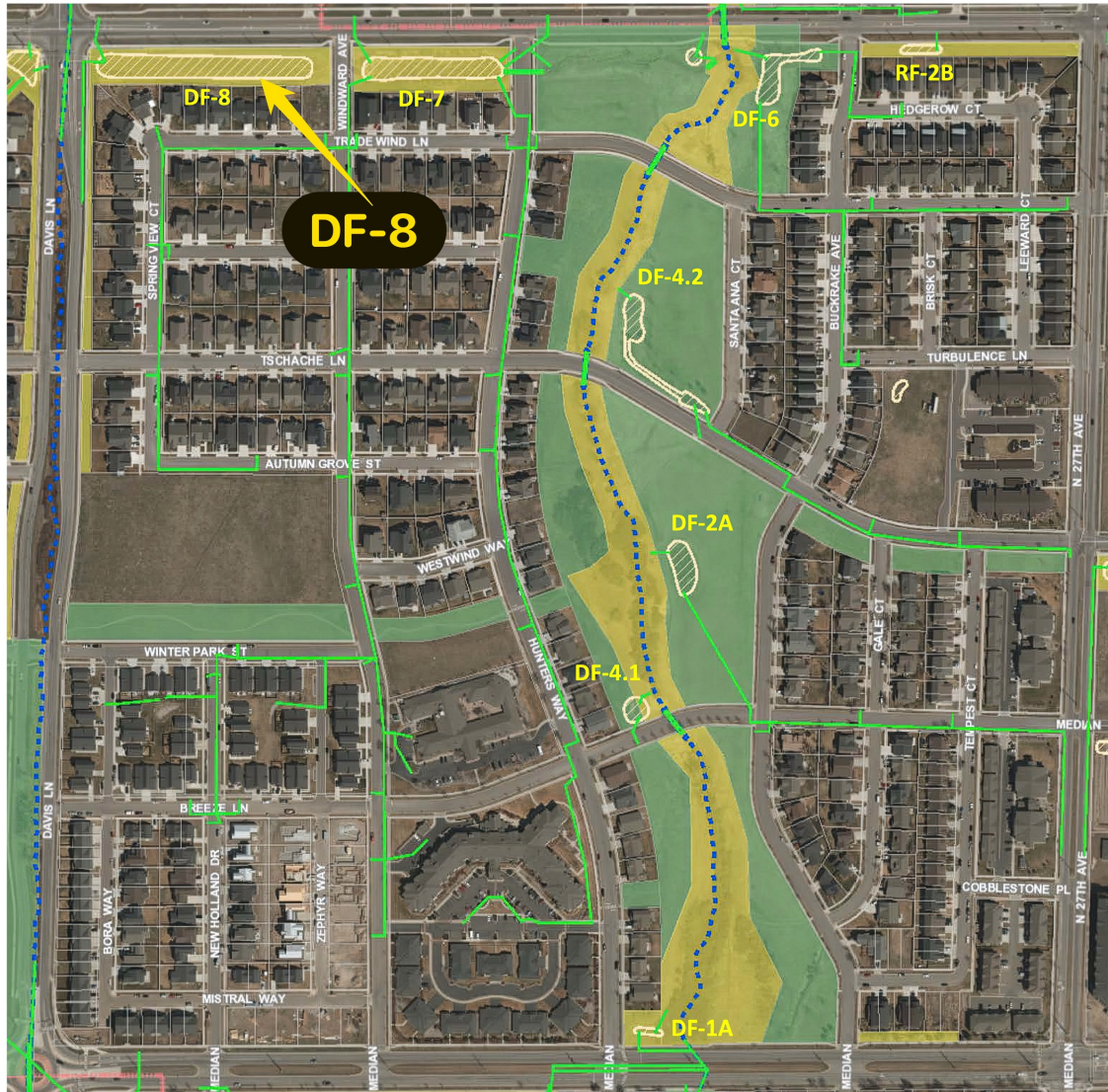
# DEGREE OF DECAY



Stormwater Facility	Level of Decay	Level of Labor and Cost
1) DF-8	High	\$\$\$
2) DF-7	High	\$\$\$\$\$
3) DF-4.2	High	\$\$\$\$
4) DF-2A	High	\$\$\$\$
5) DF-4.1	Low	\$
6) DF-1A	Low	\$
7) DF-6	High	\$\$\$
8) RF-2B	High	\$
Total Facilities: 8	High: 6 Medium: 0 Low: 2	\$ -- \$\$\$\$\$ Low - High



West Winds Master Homeowners' Association  
Stormwater Facilities Inspection Report

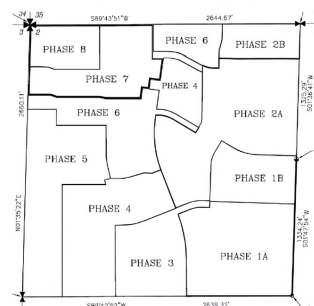


# 1) DF-8

Baxter Ln & Davis Ln



- Bozeman City Park
- West Winds HOA Open Space
- Urban Waterway
- Storm Sewer Conveyance



**BOZEMAN**<sup>MT</sup>  
Stormwater Division



# 1) DF-8

**BOZEMAN<sup>MT</sup>**  
Stormwater Division

## Stormwater Facility Inspection Form

<b>Section 1: General Information</b>	
Facility ID: DP_J02.00048 - (DF-8)	Facility Type: Surface Detention
Date/Time: 10/28/21 10:14	
Owner: West Winds Master Homeowners' Assoc., Inc.	Contact: Lindsay Freitas; 406-581-0142
Inspector's Name, contact info: Russ Smith, rsmith@bozeman.net	
Location/Access info: NW subdivision; Baxter Ln & Davis Ln lindsay@saddlepeakproperties.com	
<b>Type of Inspection:</b> <input checked="" type="checkbox"/> Routine, Dry Weather <input type="checkbox"/> Routine, Wet Weather <input type="checkbox"/> Complaint Driven <input type="checkbox"/> Other:	
<b>Section 2: Weather and Discharge Information</b>	
Most recent precipitation or melt: > 48 hrs Temperature: 43°F	
Is a stormwater discharge occurring? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, what is the source and quality of discharge?	
Is an illegal discharge occurring? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, what is the source and quality of discharge?	
<b>Section 3: Facility Maintenance Priority</b>	
<input type="checkbox"/> Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance. <input type="checkbox"/> Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure. <input checked="" type="checkbox"/> High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.	
<b>Findings and Recommended Actions:</b> Hand clearing around detention facility inlets, outlets and outfalls is recommended. Continued mowing of facility is advisable.	
Inspector's Signature: <u>Russ Smith</u>	Date: 10/28/21

Stormwater Facility Inspection Form    Page 45    DF-8



Image 1  
Detention Facility 8, overview looking west



Image 2  
Inlets at west end of detention facility, partially clogged with sediment



Image 3  
Detention Facility outlet; inhibited flow and vegetation growth.



## High

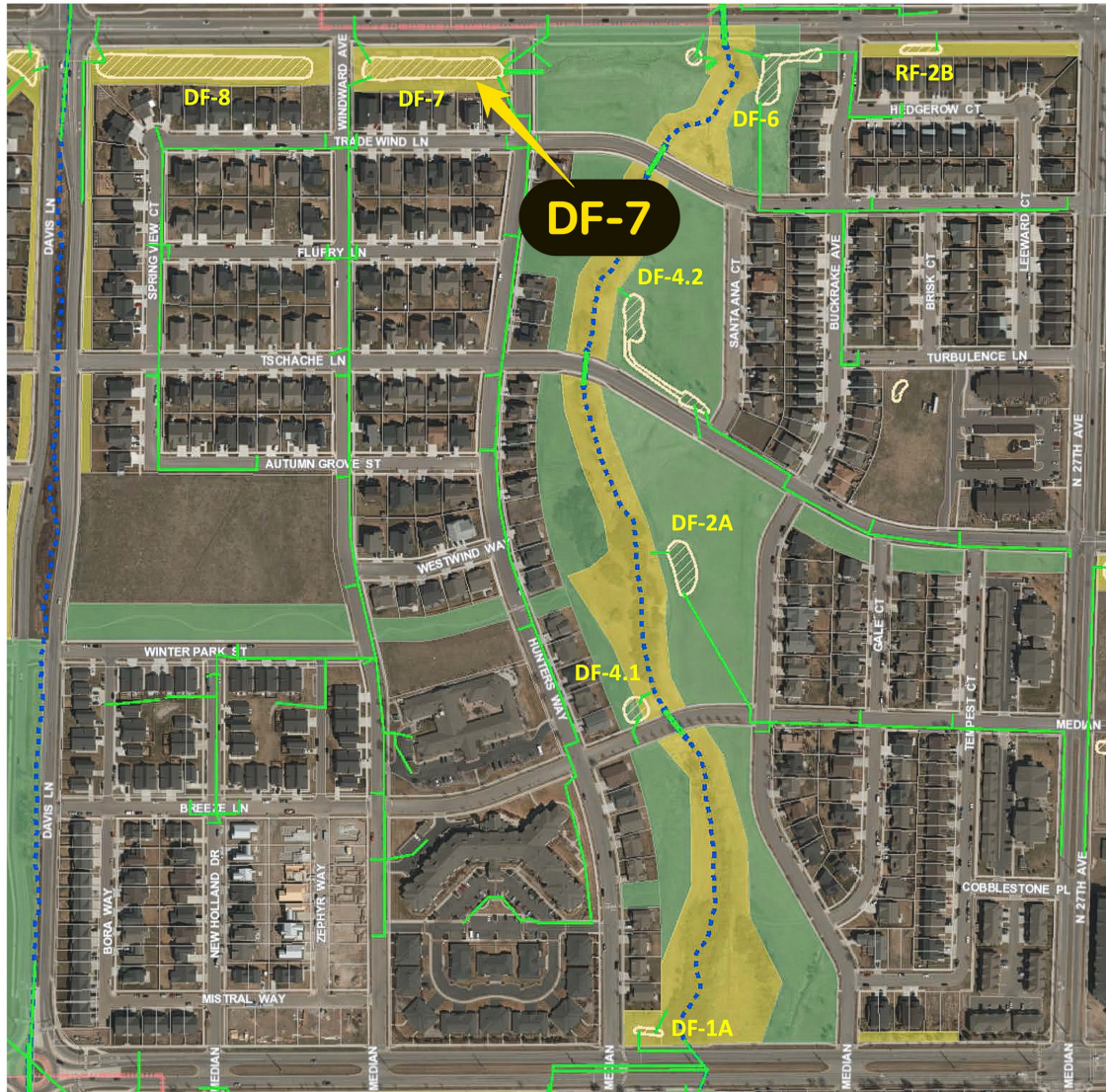
Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.

Est. Mitigation Cost:

**\$11,130**



West Winds Master Homeowners' Association  
Stormwater Facilities Inspection Report

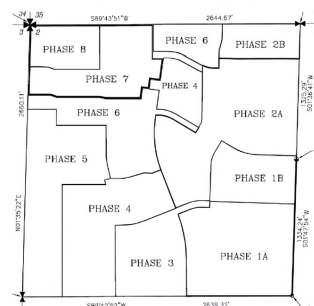


## 2) DF-7

Baxter Ln & Windward Ave



- Bozeman City Park
- West Winds HOA Open Space
- Urban Waterway
- Storm Sewer Conveyance



**BOZEMAN<sup>MT</sup>**  
Stormwater Division



## 2) DF-7

**BOZEMAN<sup>MT</sup>**  
Stormwater Division

### Stormwater Facility Inspection Form

<b>Section 1: General Information</b>	
Facility ID: DPJ02.00046 -- (DF-7)	Facility Type: Surface Detention
Date/Time: 10/28/21 11:09	
Owner: West Winds Master Homeowners' Assoc., Inc.	Contact: Lindsay Freitas; 406-581-0142
Inspector's Name, contact info: Russ Smith, rsmith@bozeman.net	
Location/Access info: NE corner subdivision; Baxter & Hunters	
lindsay@saddlepeakproperties.com	
Type of Inspection: <input checked="" type="checkbox"/> Routine, Dry Weather <input type="checkbox"/> Routine, Wet Weather <input type="checkbox"/> Complaint Driven <input type="checkbox"/> Other:	
<b>Section 2: Weather and Discharge Information</b>	
Most recent precipitation or melt: > 48 hr	
Temperature: 45°F	
Is a stormwater discharge occurring? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, what is the source and quality of discharge?	
Is an illegal discharge occurring? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, what is the source and quality of discharge?	
<b>Section 3: Facility Maintenance Priority</b>	
<input type="checkbox"/> Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance. <input type="checkbox"/> Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure. <input checked="" type="checkbox"/> High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.	
<b>Findings and Recommended Actions:</b> Significant vegetation removal is necessary to return stormwater storage, conveyance and overall basin function.	
Inspector's Signature: <u>Russ Smith</u>	Date: 10/28/21

Stormwater Facility Inspection Form    Page 38    DF-7



Image 1  
View from interior of detention facility looking east



Image 2  
Detention Facility Inlet from the west



Image 3  
Severe overgrowth at slotted concrete weir, near detention facility outlet



Image 4  
Detention facility outflow FETS



**High**

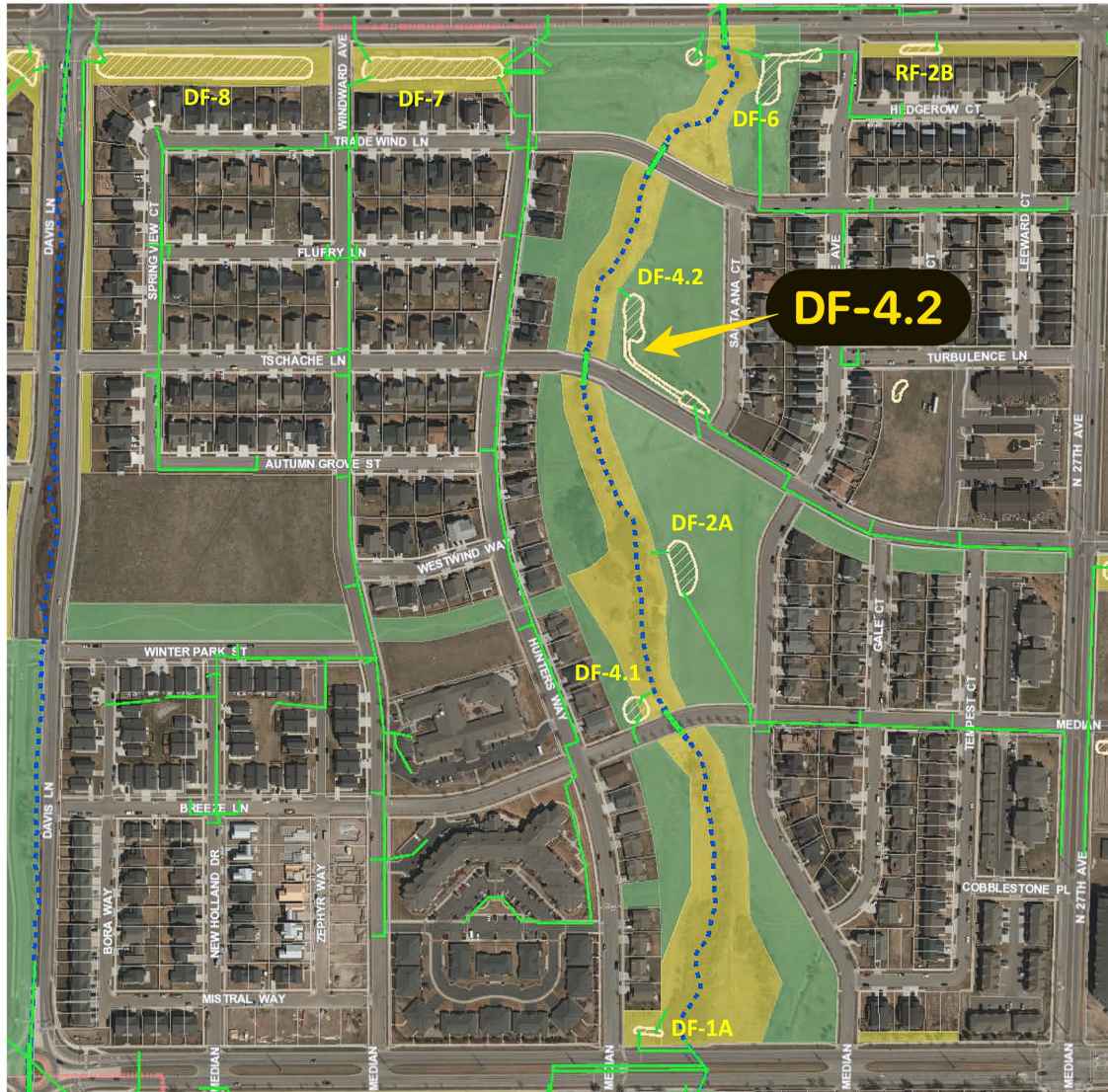
Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.

Est. Mitigation Cost:

**\$38,580**



West Winds Master Homeowners' Association  
Stormwater Facilities Inspection Report

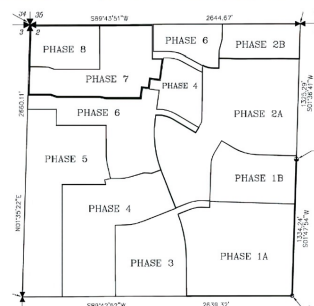


### 3) DF-4.2

Tschache Ln & Santa Ana Ct



- Bozeman City Park
- West Winds HOA Open Space
- Urban Waterway
- Storm Sewer Conveyance



**BOZEMAN**<sup>MT</sup>  
Stormwater Division



# 3) DF-4.2

**BOZEMAN**<sup>MT</sup>  
Stormwater Division

## Stormwater Facility Inspection Form

<b>Section 1: General Information</b>	
Facility ID: DP-J02.00021 - (DF-4.2)	Facility Type: Surface Detention
Date/Time: 10/27/21 14:35	
Owner: West Winds Master Homeowners' Assoc., Inc	Contact: Lindsay Freitas; 406-581-0142
Inspector's Name, contact info: Russ Smith, rsmith@bozeman.net	
Location/Access info: Southern end Tschache Rd between Santa Anna Ct & Hunters Way	
lindsay@saddlepeakproperties.com	
<b>Type of Inspection:</b>	
<input checked="" type="checkbox"/> Routine, Dry Weather <input type="checkbox"/> Routine, Wet Weather <input type="checkbox"/> Complaint Driven <input type="checkbox"/> Other:	
<b>Section 2: Weather and Discharge Information</b>	
Most recent precipitation or melt: < 48 hrs; 0.6"	
Temperature: 50°F	
Is a stormwater discharge occurring? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, what is the source and quality of discharge?	
Is an illegal discharge occurring? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, what is the source and quality of discharge?	
<b>Section 3: Facility Maintenance Priority</b>	
<input type="checkbox"/> Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance. <input type="checkbox"/> Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure. <input checked="" type="checkbox"/> High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.	
<b>Findings and Recommended Actions:</b> This facility has both an inlet ditch and detention feature. The ditch should be cleared around the inlet pipe and the crossing culvert in order to generally maintain conveyance to the larger facility to the north. Clearing of vegetation, sediment and debris around pipes, along with regular mowing will restore stormwater function. Access agreement or permission from Parks Department is needed before machinery can be used in this facility.	
Inspector's Signature: <u>Russ Smith</u>	Date: <u>10/27/21</u>

Stormwater Facility Inspection Form

Page 25

DF-4.2



Image 1  
Detention Facility 'forebay' closest to Tschache Rd inlet



Image 2  
Detention Facility Inlet from Tschache Rd to 'forebay'



Image 3  
Facility culvert (down-gradient end), arrow pointing to culvert location



Image 4  
Detention facility main bay, overview looking northwest



**High**

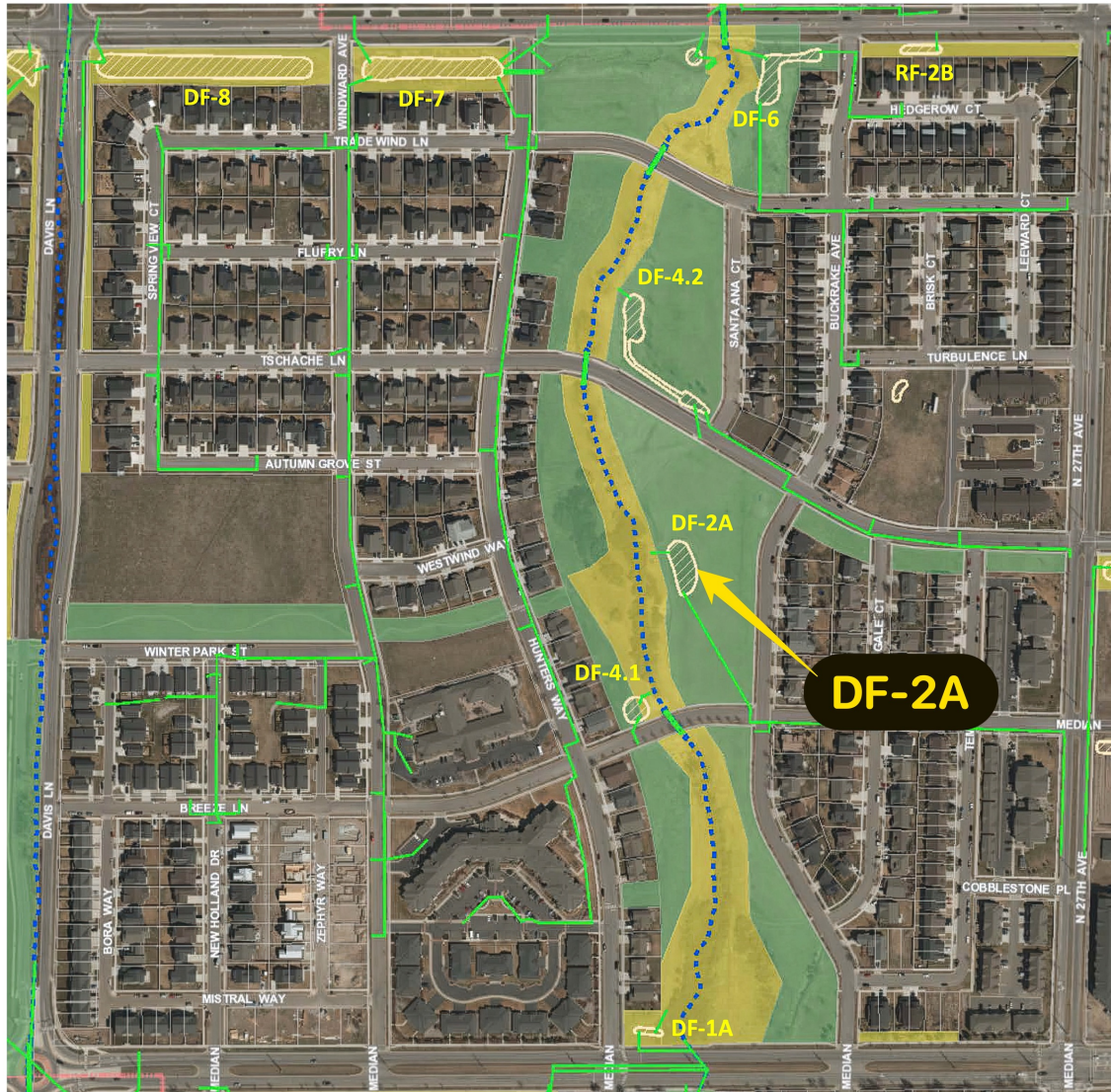
Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.

Est. Mitigation Cost:

**\$30,325**

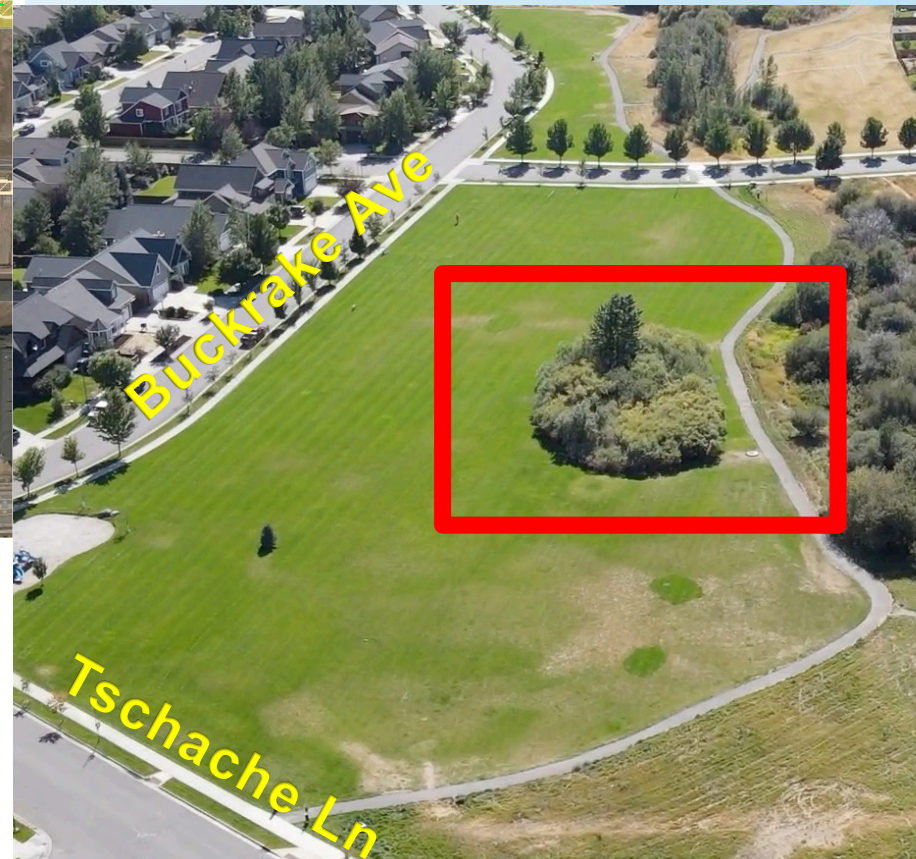


West Winds Master Homeowners' Association  
Stormwater Facilities Inspection Report

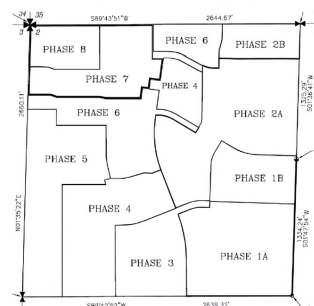


## 4) DF-2A

Tschache Ln & Buckrake Ave



- Bozeman City Park
- West Winds HOA Open Space
- Urban Waterway
- Storm Sewer Conveyance



**BOZEMAN**<sup>MT</sup>  
Stormwater Division



# 4) DF-2A

**BOZEMAN<sup>MT</sup>**  
Stormwater Division

## Stormwater Facility Inspection Form

<b>Section 1: General Information</b>	
Facility ID: DPJ02.00006 – (DF-2A)	Facility Type: Surface Detention
Date/Time: 10/27/21 13:58	
Owner: West Winds Master Homeowners' Assoc., Inc.	Contact: Lindsay Freitas; 406-581-0142
Inspector's Name, contact info: Russ Smith, rsmith@bozeman.net	
Location/Access info: East of Buckrake Ave between Tschake Ln and Breeze Ln	
lindsay@saddlepeakproperties.com	
Type of Inspection:	
<input checked="" type="checkbox"/> Routine, Dry Weather <input type="checkbox"/> Routine, Wet Weather <input type="checkbox"/> Complaint Driven <input type="checkbox"/> Other:	
<b>Section 2: Weather and Discharge Information</b>	
Most recent precipitation or melt: <48 hr - 0.6"	
Temperature: 48°F	
Is a stormwater discharge occurring? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, what is the source and quality of discharge?	
Is an illegal discharge occurring? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, what is the source and quality of discharge?	
<b>Section 3: Facility Maintenance Priority</b>	
<input type="checkbox"/> Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance. <input type="checkbox"/> Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure. <input checked="" type="checkbox"/> High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.	
<b>Findings and Recommended Actions:</b> The detention facility's inlets and outlets should be cleared to retain hydraulic function. Flowpaths should be free of obstructions and vegetation clearing will make future maintenance more practicable. Access agreement or permission from Parks Department is needed before machinery can be used in this facility.	
Inspector's Signature: <u>Russ Smith</u>	Date: <u>10/27/21</u>

Stormwater Facility Inspection Form    Page 8    DF-2A



Image 1  
Detention Facility 2A Overview – note abundance of willow



Image 2  
Detention Facility Inlet



Image 3  
Detention Facility Outlet



Image 4  
Detention Facility Outfall



**High**

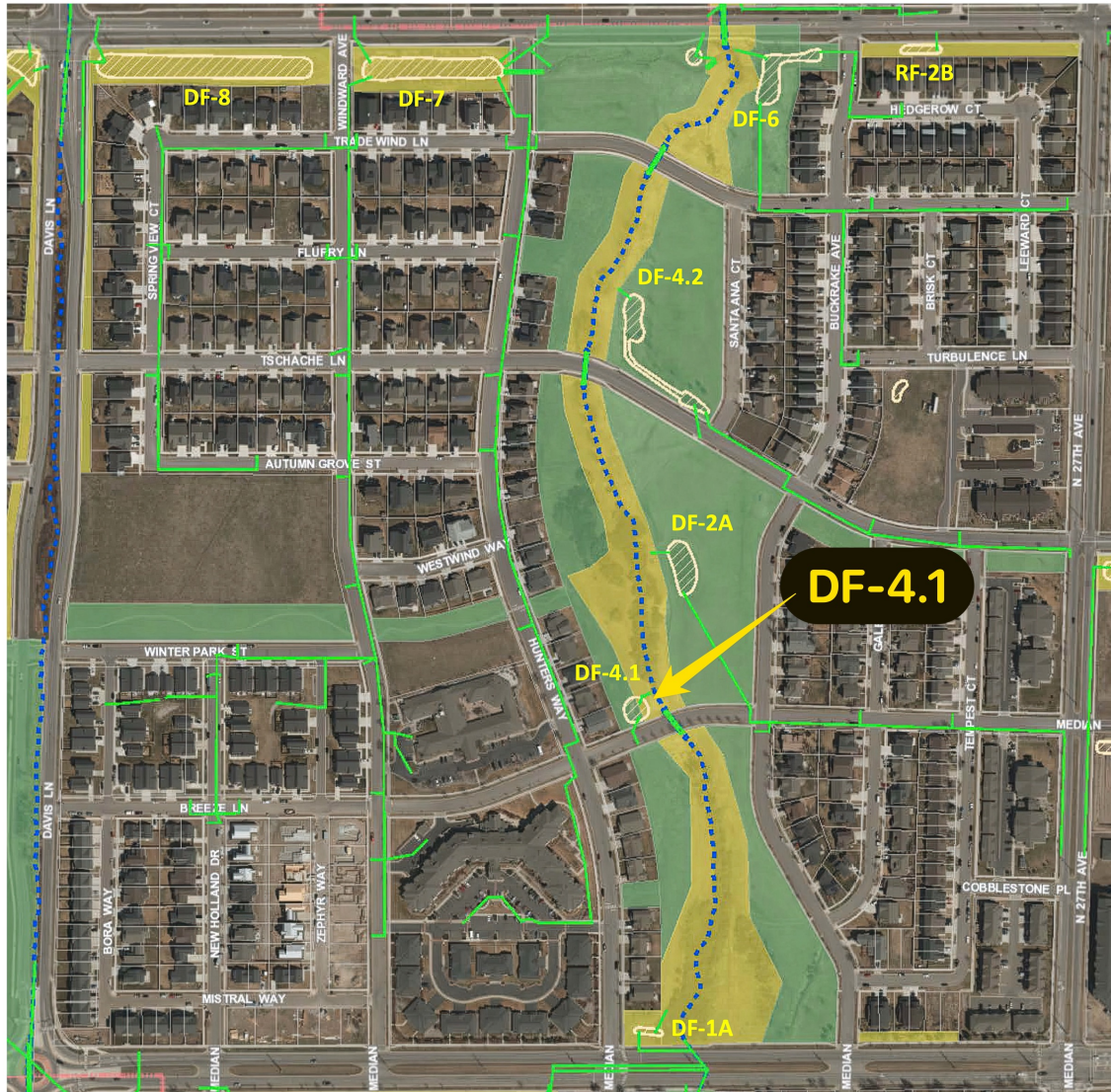
Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.

Est. Mitigation Cost:

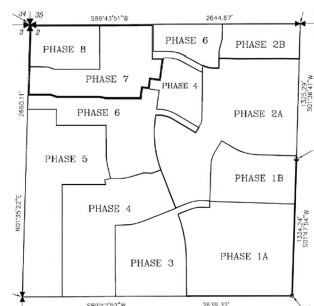
**\$23,780**



West Winds Master Homeowners' Association  
Stormwater Facilities Inspection Report



- Bozeman City Park
- West Winds HOA Open Space
- Urban Waterway
- Storm Sewer Conveyance



**BOZEMAN<sup>MT</sup>**  
Stormwater Division

## 5) DF-4.1

Hunters Way & Breeze Ln





# 5) DF-4.1

**BOZEMAN**<sup>MT</sup>  
Stormwater Division

## Stormwater Facility Inspection Form

<b>Section 1: General Information</b>	
Facility ID: DPJ02.00020 – (DF-4.1)	Facility Type: Surface Detention
Date/Time: 10/27/2021 13:23	
Owner: West Winds Master Homeowners' Assoc., Inc.	Contact: Lindsay Freitas; 406-581-0142
Inspector's Name, contact info: Russ Smith, rsmith@bozeman.net	
Location/Access info: N end, Breeze Ln between Hunters Way and Buckrake Ave	
lindsay@saddlepeakproperties.com	
Type of Inspection:	
<input checked="" type="checkbox"/> Routine, Dry Weather <input type="checkbox"/> Routine, Wet Weather <input type="checkbox"/> Complaint Driven <input type="checkbox"/> Other:	
<b>Section 2: Weather and Discharge Information</b>	
Most recent precipitation or melt: < 48 hrs 0.6"	
Temperature: 48°F	
Is a stormwater discharge occurring? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, what is the source and quality of discharge?	
Is an illegal discharge occurring? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, what is the source and quality of discharge?	
<b>Section 3: Facility Maintenance Priority</b>	
<input checked="" type="checkbox"/> Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance. <input type="checkbox"/> Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure. <input type="checkbox"/> High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.	
<b>Findings and Recommended Actions:</b> Minor hand clearing of vegetation within detention facility needed. Clearing of sediment near and around facility inlets and outlets needed.	
Inspector's Signature: <u>Russ Smith</u>	Date: <u>10/27/21</u>

Stormwater Facility Inspection Form    Page 19    DF-4.1



Image 1  
Detention Facility 4.1 - Overview looking north



Image 2  
Detention Facility Inlet showing sediment accumulation



Image 3  
Detention Facility Outlet showing sediment accumulation



Image 4  
Detention Facility Outfall with vegetation and sediment accumulation



**Low**

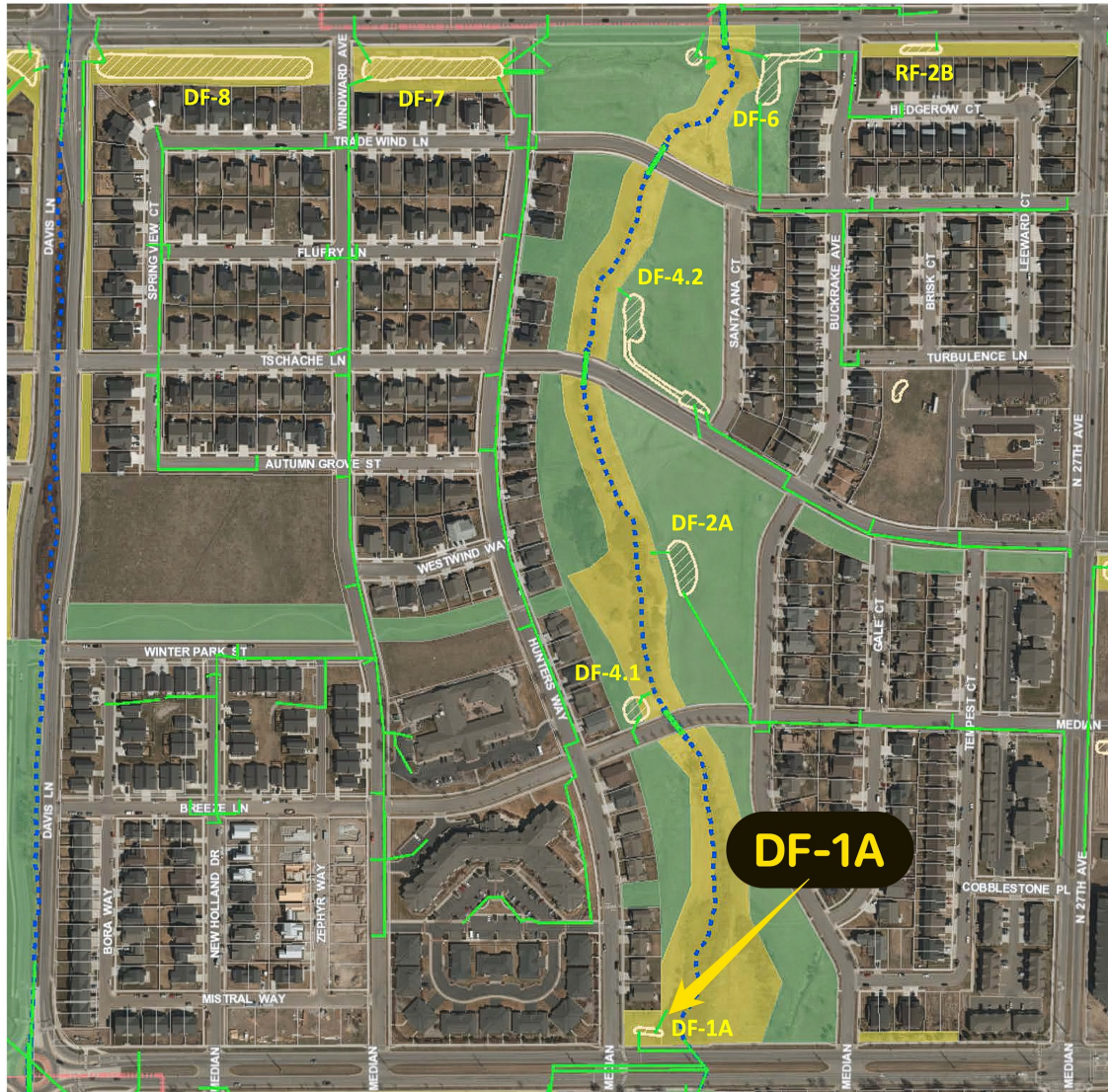
Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.

Est. Mitigation Cost:

**\$2,690**



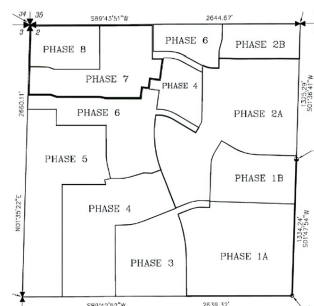
West Winds Master Homeowners' Association  
Stormwater Facilities Inspection Report



## 6) DF-1A

W Oak St & Hunters Way

- Bozeman City Park
- West Winds HOA Open Space
- Urban Waterway
- Storm Sewer Conveyance



**BOZEMAN**<sup>MT</sup>  
Stormwater Division





# 6) DF-1A

**BOZEMAN**<sup>MT</sup>  
Stormwater Division

## Stormwater Facility Inspection Form

<b>Section 1: General Information</b>	
Facility ID: DP.J02.00005 – (DF-1A)	Facility Type: Surface Detention
Date/Time: 10/27/2021	
Owner: West Winds Master Homeowners' Assoc., Inc.	Contact: Lindsay Freitas; 406-581-0142
Inspector's Name, contact info: Russ Smith, rsmith@bozeman.net	
Location/Access info: Hunters Way & Oak St	
lindsay@saddlepeakproperties.com	
Type of Inspection:	
<input checked="" type="checkbox"/> Routine, Dry Weather <input type="checkbox"/> Routine, Wet Weather <input type="checkbox"/> Complaint Driven <input type="checkbox"/> Other:	
<b>Section 2: Weather and Discharge Information</b>	
Most recent precipitation or melt: < 48 hrs – 0.6"	
Temperature: 48°F	
Is a stormwater discharge occurring? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, what is the source and quality of discharge?	
Is an illegal discharge occurring? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, what is the source and quality of discharge?	
<b>Section 3: Facility Maintenance Priority</b>	
<input checked="" type="checkbox"/> <b>Low:</b> Stormwater facility appears to be functioning as designed. Continue scheduled maintenance. <input type="checkbox"/> <b>Medium:</b> Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure. <input type="checkbox"/> <b>High:</b> Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.	
<i><b>Findings and Recommended Actions:</b> Hand clearing around detention facility inlets, outlets and outfalls is recommended. Continued mowing of facility is advisable.</i>	
Inspector's Signature: <u>Russ Smith</u>	Date: <u>10/27/21</u>

Stormwater Facility Inspection Form      Page 2      DF-1A



Image 1  
Detention facility overview looking east



Image 2  
Overgrown grass at facility inlet



Image 3  
Outlet pipe within detention facility showing willow growth encroachment



Image 4  
Vegetation growth at facility outfall



**Low**

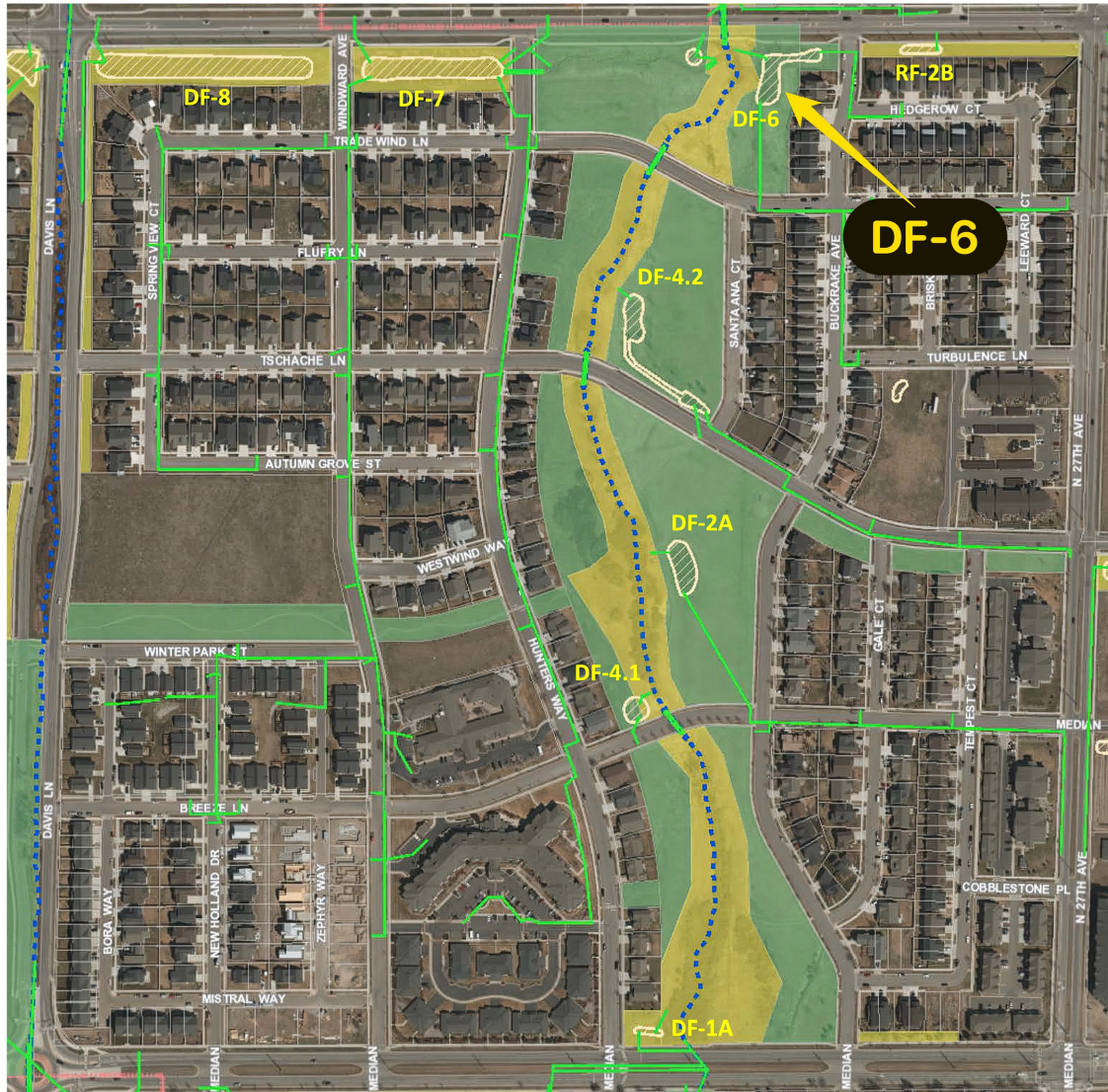
Stormwater facility appears to be functioning as designed. Continue scheduled maintenance.

Est. Mitigation Cost:

**\$3,560.00**



West Winds Master Homeowners' Association  
Stormwater Facilities Inspection Report

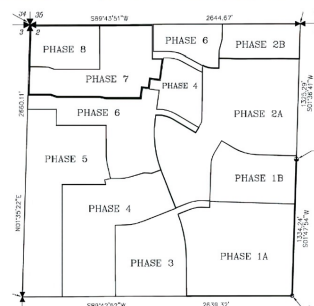


## 7) DF-6

Baxter Ln & Buckrake Ave



- Bozeman City Park
- West Winds HOA Open Space
- Urban Waterway
- Storm Sewer Conveyance



**BOZEMAN<sup>MT</sup>**  
Stormwater Division



# 7) DF-6

**BOZEMAN**<sup>MT</sup>  
Stormwater Division

**Stormwater Facility Inspection Form**

<b>Section 1: General Information</b>	
Facility ID: DP.J02.00022 – (DF-6)	Facility Type: Surface Detention
Date/Time: 11/3/21 10:06	
Owner: West Winds Master Homeowners' Assoc., Inc.	Contact: Lindsay Freitas; 406-581-0142
Inspector's Name, contact info: Russ Smith, rsmith@bozeman.net	
Location/Access info: South of Baxter Ln @ West of Buckrake Ave	
lindsay@saddlepeakproperties.com	
Type of Inspection:	
<input checked="" type="checkbox"/> Routine, Dry Weather <input type="checkbox"/> Routine, Wet Weather <input type="checkbox"/> Complaint Driven <input type="checkbox"/> Other:	
<b>Section 2: Weather and Discharge Information</b>	
Most recent precipitation or melt: > 48 hrs	
Temperature: 36°F	
Is a stormwater discharge occurring? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
If yes, what is the source and quality of discharge? Groundwater is entering detention pond at northern inlet (appears to be flowing outside the inlet pipe). The groundwater is clear as it leaves the detention facility.	
Is an illegal discharge occurring? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, what is the source and quality of discharge?	
<b>Section 3: Facility Maintenance Priority</b>	
<input type="checkbox"/> Low: Stormwater facility appears to be functioning as designed. Continue scheduled maintenance. <input type="checkbox"/> Medium: Stormwater facility requires minor to moderate sediment and vegetation maintenance to mitigate the risk of flooding, waterway pollution, and infrastructure failure. <input checked="" type="checkbox"/> High: Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.	
<b>Findings and Recommended Actions:</b> This detention facility is overgrown with vegetation and has ponded and flowing water. Groundwater is following the outside of the pipe and entering the detention facility at the southern inlet. The base flow will limit maintenance options and function of this feature. Excess vegetation should be removed. Access agreement or permission from Parks Department is needed before machinery can be used in this facility.	
Inspector's Signature: <u>Russ Smith</u>	Date: <u>11/3/21</u>

Stormwater Facility Inspection Form
Page 32
DF-6



Image 1  
Overview of detention facility looking west



Image 2  
Overview of detention facility looking northeast



Image 3  
Southern detention facility inlet, water flowing into basin from around and outside of pipe



Image 4  
Detention facility outlet; flowing water



**High**

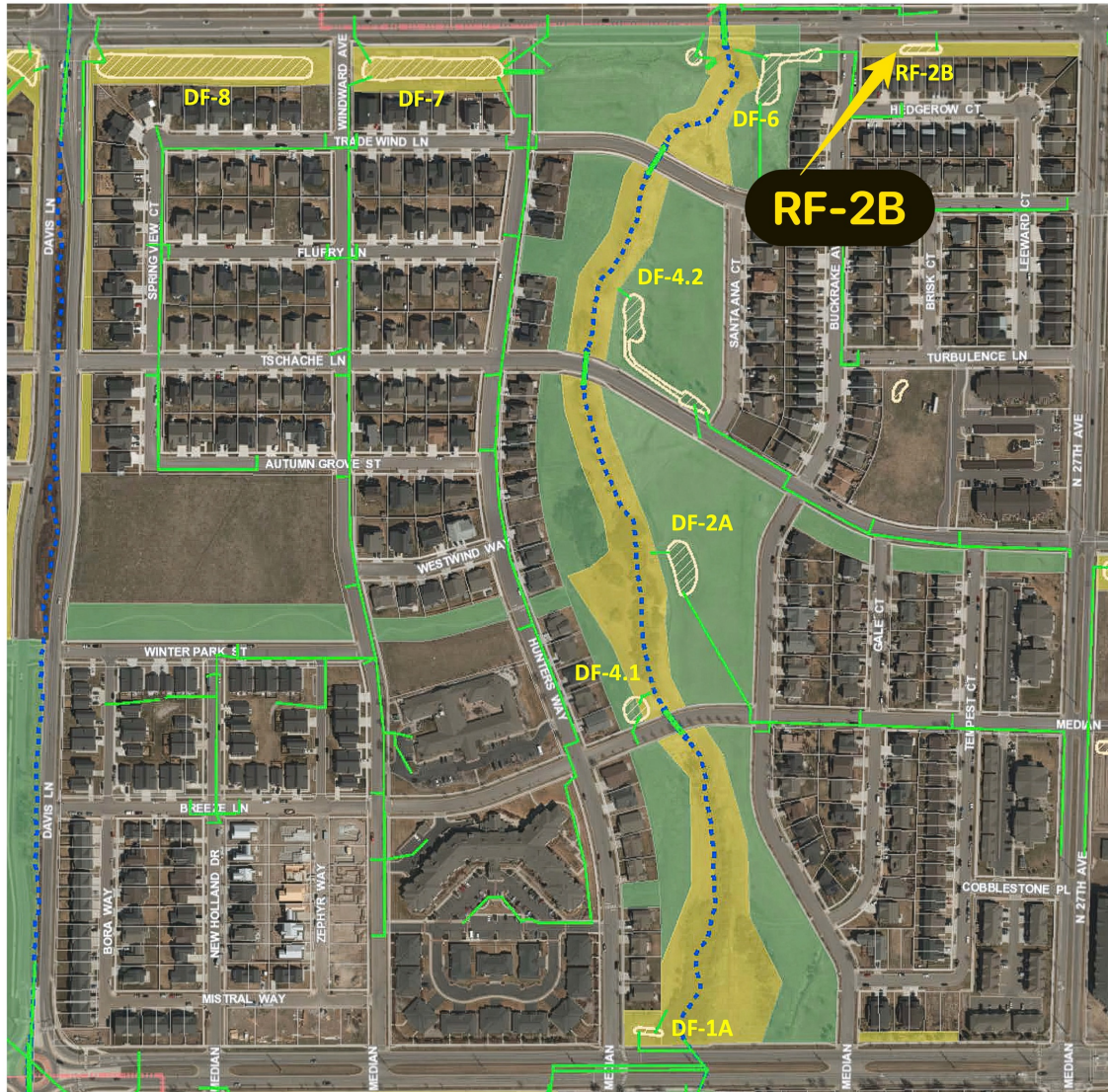
Stormwater facility requires significant sediment dredging, vegetation removal, and/or infrastructure repairs to restore function.

Est. Mitigation Cost:

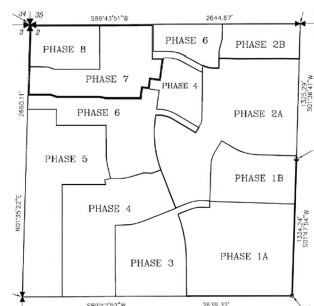
**\$17,400**



West Winds Master Homeowners' Association  
Stormwater Facilities Inspection Report



- Bozeman City Park
- West Winds HOA Open Space
- Urban Waterway
- Storm Sewer Conveyance



**BOZEMAN**<sup>MT</sup>  
Stormwater Division

## 8) RF-2B

Baxter Ln & Buckrake Ave





# 8) RF-2B

**BOZEMAN**<sup>MT</sup>  
Stormwater Division

## Stormwater Facility Inspection Form

### Section 1: General Information

Facility ID: DP.J02.00029 – (RF-2B)	Facility Type: Surface Retention
Date/Time: 11/3/21 10:47	
Owner: West Winds Master Homeowners' Assoc., Inc.	Contact: Lindsay Freitas; 406-581-0142
Inspector's Name, contact info: Russ Smith, rsmith@bozeman.net	
Location/Access info: South of Baxter Ln, east of Buckrake Ave	
lindsay@saddlepeakproperties.com	

### 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: 37°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?

### 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.

**Findings and Recommended Actions:** Significant overgrowth of cattails has constricted stormwater storage volume and there is a high risk of conveyance plugging at the pipe flowing in to the facility. Retention ponds do not have an active, piped outlet and wholly rely on infiltration. Sediment and excessive vegetation should be removed to improve infiltration.

Inspector's Signature: Russ Smith

Date: 11/3/21



Image 1  
Retention Facility 2B overview looking west



Image 2  
Retention Facility inlet from Baxter Ln; more than 1/2 filled with sediment



**High**

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

Est. Mitigation Cost:

**\$2,290**





# TOTAL FACILITIES

## -MITIGATION SUMMARY-

Stormwater Facility	Level of Decay	Cost Per Facility
1) DF-8	High	\$11,130
2) DF-7	High	\$38,580
3) DF-4.2	High	\$30,325
4) DF-2A	High	\$23,780
5) DF-4.1	Low	\$2,690
6) DF-1A	Low	\$3,560
7) DF-6	High	\$17,400
8) RF-2B	High	\$2,290
-	-	Total Cost Est: \$129,755



# PROJECT OUTLINE

## -Project Scope, Costs, and Management Risks-

**Scope:** 8 Stormwater Facilities in West Winds HOA – Maintenance & Mitigation

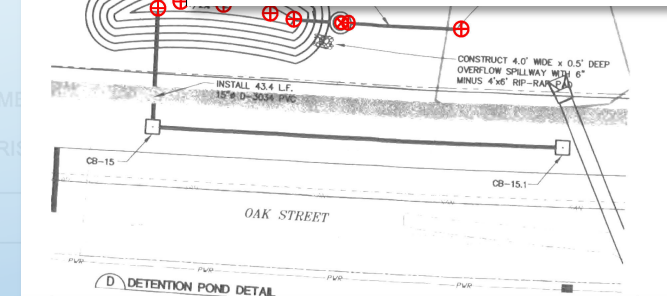
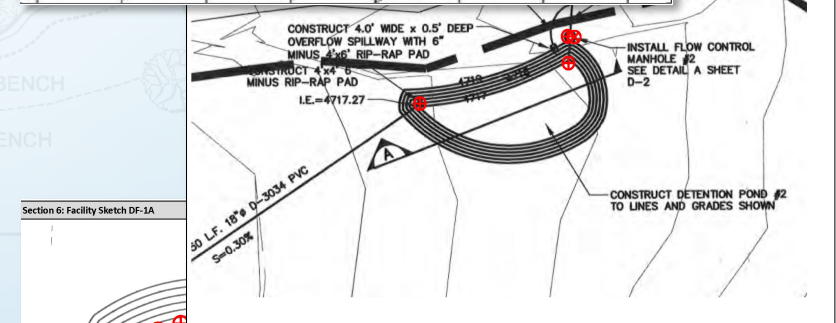
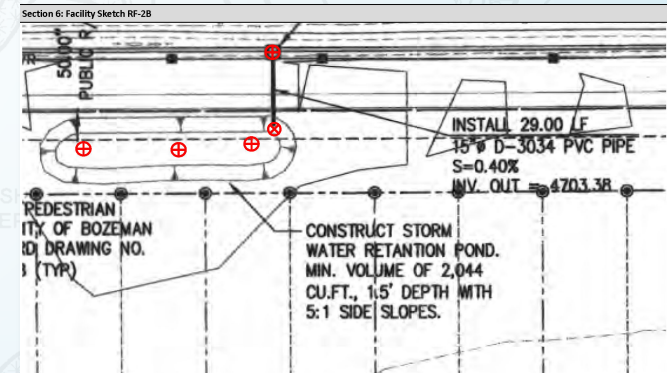
**Original Estimated Costs:** \$200-250K; up to \$1M

**Board/Member Time:** ~400 volunteer hours (10 Weeks)

**Risk Management:** property boundaries, park areas, Legal, contractual, toxicity, liability issues

**Funding & Investments:** Researched grants, collaborating with Trout Unlimited/GWC to lower costs

**2025 Budget:** \$130,000 total (Stormwater Maintenance: \$5,000; Major Repairs: \$125,000 - Reserve Funds)





# PROJECT OUTLINE

## -Phases-

### Initial Planning 2024-2025

- Initial Vendor Quotes & Evaluations: Late 2024
- Refining Scope & Requirements: Early 2025
- Final vendor quotes & vendor selection: Spring 2025

### Phase 1 Implementation (Fall 2025):

- \$100,000 budgeted work
- DF-6 & DF-7 (Tree & Sediment Removal)
- DF-1A & DF-2A (Vegetation Clearing & Mowing)
- DF-4 & DF-5 (Tree & Sediment Removal)
- DF-3 (Tree Removal & Sediment Clearing)

### Phase 2 Implementation (2026):

- \$29,755 budgeted work
- Cleanup / Finishing leftover work

**Completion Goal:** End of 2025 for Phase 1, 2026 for Phase 2



# BUDGETING & ESTIMATED COST

## 2025 Budget:

Storm Drain Maintenance:	\$5,000
Reserve Funds:	\$125,000
<b>Total:</b>	<b>\$130,000</b>

## Estimated Cost:

<b>Total Cost:</b>	<b>\$129,755</b>
- Tree Removal:	\$76,300
- Vegetation	\$16,855
- Sediment	\$33,970

## PHASE-BASED APPROACH:

- \$100K IN 2025
- \$29.7K IN 2026





# PROJECT OVERLAPS



GALLATIN  
WATERSHED  
COUNCIL

TROUT  UNLIMITED



Gallatin Watershed Council  
(GWC) + Trout Unlimited (TU)  
Partnership: Habitat restoration  
& **willow harvesting**



**Surveying Project:** including HOA  
Open Space, City Parks, and  
Stormwater Facilities.



**Missing Improvements Project:**  
Resolve incomplete or  
uninstalled drainage  
infrastructure



# TIMELINE & GOALS







*West Winds*  
— HOA —

## CONCLUSION & RESOURCES

- Scan the QR code to access the West Winds HOA Website for more information and future updates.
- Or visit the website using the link:  
[www.westwindshoabozeman.org](http://www.westwindshoabozeman.org)