Montana Tech Library

Digital Commons @ Montana Tech

Silver Bow Creek/Butte Area Superfund Site

Montana Superfund

Fall 9-19-2022

Butte Priority Soils Operable Unit (BPSOU) Final Street and Snow Management Plan

Mike McAnulty

Follow this and additional works at: https://digitalcommons.mtech.edu/superfund_silverbowbutte

Part of the Environmental Health and Protection Commons, Environmental Indicators and Impact Assessment Commons, and the Environmental Monitoring Commons

Atlantic Richfield Company

Mike Mc Anulty

Liability Manager

317 Anaconda Road Butte MT 59701 Direct (406) 782-9964 Fax (406) 782-9980

September 19, 2022

Nikia Greene Remedial Project Manager US EPA – Montana Office Baucus Federal Building 10 West 15th Street, Suite 3200 Helena, Montana 59626

Daryl Reed
DEQ Project Officer
P.O. Box 200901
Helena, Montana 59620-0901

Erin Agee
Senior Assistant Regional Counsel
US EPA Region 8 Office of Regional Counsel
CERCLA Enforcement Section
1595 Wynkoop Street
Denver, CO 80202
Mail Code: 8ORC-C

Jonathan Morgan, Esq. DEQ, Legal Counsel P.O. Box 200901 Helena, Montana 59620-0901

RE: Butte Priority Soils Operable Unit (BPSOU) Final Street and Snow Management Plan

Agency Representatives:

On behalf of Atlantic Richfield Company and Butte-Silver Bow (BSB), the Final BPSOU Street and Snow Management Plan is being distributed per the Agency approval letter dated August 18, 2022. The List of Figures and references within the Plan have been updated to address Agency comment received in the approval letter. The Final plan is available at the link below:

https://pioneertechnicalservices.sharepoint.com/:f:/s/submitted/EmVfXAlzBO1Cp3KYezUSrvYBXUa0ukuNIjCVM9vQ7DGa3Q.

If you have any questions or concerns, please call me at (907) 355-3914, or Eric Hassler at (406) 497-5042.

Sincerely,

Mike Mednulty

Mike Mc Anulty
Liability Manager
Remediation Management Services Company
An affiliate of Atlantic Richfield Company

Eric Hassler, Director
Department of Reclamation
and Environmental Services
Butte-Silver Bow





Atlantic Richfield Company

Mike Mc Anulty

Liability Manager

317 Anaconda Road Butte MT 59701 Direct (406) 782-9964 Fax (406) 782-9980

Cc: Patricia Gallery / Atlantic Richfield - email

Chris Greco / Atlantic Richfield - email

Josh Bryson / Atlantic Richfield - email

Loren Burmeister / Atlantic Richfield – email

Dave Griffis / Atlantic Richfield - email

Jean Martin / Atlantic Richfield - email

Irene Montero / Atlantic Richfield - email

David A. Gratson / Environmental Standards / email

Mave Gasaway / DGS - email

Brianne McClafferty / Holland & Hart - email

Joe Vranka / EPA - email

David Shanight / CDM - email

Curt Coover / CDM - email

James Freeman / DOJ - email

John Sither / DOJ - email

Dave Bowers / DEQ - email

Carolina Balliew / DEQ - email

Matthew Dorrington / DEQ – email

Wil George / DEQ – email

Jim Ford / NRDP - email

Pat Cunneen / NRDP - email

Harley Harris / NRDP - email

Katherine Hausrath / NRDP - email

Meranda Flugge / NRDP - email

Ted Duaime / MBMG - email

Gary Icopini / MBMG - email

Becky Summerville / MR - email

Kristen Stevens / UP - email

Robert Bylsma / UP - email

John Gilmour / Kelley Drye - email

Leo Berry / BNSF - email

Robert Lowry / BNSF - email

Brooke Kuhl / BNSF – email

Lauren Knickrehm / BNSF - email

Jeremie Maehr / Kennedy Jenks - email

Annika Silverman / Kennedy Jenks - email

Matthew Mavrinac / RARUS - email

Harrison Roughton / RARUS - email

Brad Gordon / RARUS - email

Mark Neary / BSB - email

Eric Hassler / BSB - email

Julia Crain / BSB - email

Chad Anderson / BSB - email

Atlantic Richfield Company

Mike Mc Anulty

Liability Manager

317 Anaconda Road Butte MT 59701 Direct (406) 782-9964 Fax (406) 782-9980

Brandon Warner / BSB - email Abigail Peltomaa / BSB - email Eileen Joyce / BSB – email Sean Peterson/BSB - email Gordon Hart / BSB – email Jeremy Grotbo / BSB – email Karen Maloughney / BSB – email Josh Vincent / WET - email Craig Deeney / TREC - email Scott Bradshaw / TREC - email Brad Archibald / Pioneer - email Pat Sampson / Pioneer - email Joe McElroy / Pioneer – email Andy Dare / Pioneer - email Karen Helfrich / Pioneer - email Leesla Jonart / Pioneer - email Randa Colling / Pioneer – email Ian Magruder/ CTEC- email Joe Griffin / CTEC – email CTEC of Butte - email Scott Juskiewicz / Montana Tech – email

File: MiningSharePoint@bp.com - email BPSOU SharePoint - upload



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 8, MONTANA OFFICE

FEDERAL BUILDING, 10 West 15TH Street, Suite 3200 Helena, MT 59626-0096 Phone 866-457-2690 www.epa.gov/region8

Ref: 8MO

August 18, 2022

Mr. Eric Hassler Director Butte-Silver Bow County Dept. of Reclamation & Environmental Services 155 W. Granite St. Butte, MT 59701 Mr. Mike McAnulty Liability Manager Atlantic Richfield Company 317 Anaconda Road Butte, Montana 59701

Re: Approval letter for the Butte Priority Soils Operable Unit (BPSOU) Draft Final 2022 Street & Snow Management Plan (dated July 29, 2022)

Dear Eric and Mike:

The U. S. Environmental Protection Agency (EPA), in consultation with the Montana Department of Environmental Quality (DEQ), is approving the *Draft Final 2022 Street & Snow Management Plan* (dated July 29, 2022). Please address comments below prior to final distribution.

Comments

• <u>List of Figures:</u> Please correct the names on the figures to match those on page ii (List of Figures). In addition, Figure 1 (Primary and Secondary Snow Removal Routes and Snow Storage Locations) on page ii does not exist within the plan. Confirm text in plan to accurately reflect figure titles.

If you have any questions or concerns, please call me at (406) 457-5019.

Sincerely,

NIKIA Digitally signed by NIKIA GREENE Date: 2022.08.18 12:14:48 -06'00'

Nikia Greene Remedial Project Manager

cc: (email only)
Butte File
Matt Dorrington, DEQ

Daryl Reed; DEQ Will George; DEQ

Jon Morgan; DEO counsel Carolina Balliew; DEQ Harley Harris; NRDP Katherine Hausrath; NRDP

Jim Ford; NRDP Pat Cunneen; NRDP John Gallagher; BSBC Sean Peterson; BSBC Eileen Joyce; BSBC Eric Hassler; BSBC Brandon Warner; BSBC Chad Anderson; BSBC Karen Maloughney; BSBC

Julia Crain; BSBC Abby Peltomaa; BSBC Jeremy Grotbo; BSBC

Anne Walsh; UP

Robert Bylsma; UP counsel

Leo Berry; BNSF and UP counsel

Doug Brannan; Kennedy Jenks for BNSF and UP

Brooke Kuhl; BNSF counsel Lauren Knickrehm; for BNSF

Annika Silverman; Kennedy Jenks for BNSF and UP

Bob Andreoli; Patroit/RARUS

Becky Summerville; counsel for Inland Properties Inc.

Robert Lowry, BNSF counsel

Loren Burmeister; AR

Josh Bryson; AR Chris Greco; AR Mike Mcanulty; AR Dave Griffis; AR

Jean Martin; Counsel AR

Mave Gasaway; attorney for AR Adam Cohen; Counsel for AR Pat Sampson; Pioneer for AR Scott Sampson; Pioneer for AR

Scott Bradshaw; TREC

Karen Helfrich; Pioneer for AR Andy Dare; Pioneer for AR Scott Sampson; Pioneer for AR Brad Archibald; Pioneer for AR Andy Dare; Pioneer for AR

Tina Donovan; Woodardcurran for AR

Ted Duaime; MBMG Gary Icopini; MBMG David Shanight, CDM Smith Curt Coover, CDM Smith Chapin Storrar; CDM Smith

Erin Agee, EPA Joe Vranka; EPA Chris Wardell; EPA Dana Barnicoat; EPA Charlie Partridge; EPA

Ian Magruder; CTEC (Tech Advisor)

Janice Hogan; CTEC

Marissa Stockton; Rosendale State Director

Kristi Carroll; Montana Tech Library

FINAL STREET & SNOW MANAGEMENT PLAN

FOR THE CITY-COUNTY OF BUTTE-SILVER BOW



PREPARED FOR:

US Environmental Protection Agency, Region 8

Butte Office

400 North Main Street, Room 339

Butte, MT 59701

September 2022

Table of Contents

1.0	INTROD	DUCTION		
2.0	STREET	/SNOW MANAGEMENT ACTIVITIES1		
2.1	Stree	et Maintenance		
2	2.1.1	Sweeping and Flushing1		
2	2.1.2	Sand Source Sampling2		
2	2.1.3	Street Deicing2		
2	2.1.4	Street Maintenance BMPs2		
2.2	Snow	Removal and Storage2		
2	2.2.1	Snow Removal Routes		
2	2.2.2	Snow Storage Areas		
2	2.2.3	Snow Removal BMPs3		
3.0	3.0 COORDINATION AND TRAINING			
4.0	4.0 CONTACT INFORMATION			
5.0	5.0 SUMMARY			
List of	f Figures			
Figure 1.		Butte Silver Bow Snow Plow Routes		
Figure 2-1.		Snow Storage Area #1		
Figure 2-2.		Snow Storage Area #2		
Figure 2-3.		Snow Storage Area #3		
Figure	2-4.	Snow Storage Area #4		

Figure 2-5.

Figure 2-6.

Snow Storage Area #5

Snow Storage Area #6

1.0 INTRODUCTION

The Butte-Silver Bow (BSB) Public Works Department - Road Division is tasked with providing street and snow maintenance activities for specific primary and secondary routes within the City-County of Butte-Silver Bow. Typical street and snow management activities include:

- Street Sweeping;
- Street Flushing;
- Sand Application;
- Deicer Application;
- Sampling of Sand Sources;
- Snow Removal; and
- Snow Storage.

Pursuant to a requirement by the Environmental Protection Agency (EPA) as part of a 2011 Unilateral Administrative Order (UAO) on the responsible parties, BSB has prepared this Street/Snow Maintenance Plan. This plan focuses on activities that could result in potentially contaminated sediment being delivered to area receiving waters. This plan will be implemented by BSB to ensure that environmental impacts from street and snow maintenance activities are minimized and appropriate administrative and structural Best Management Practices (BMPs) are implemented. The following sections summarize BSB's activities and BMPs that are employed to minimize potential impacts to area receiving waters.

2.0 STREET/SNOW MANAGEMENT ACTIVITIES

2.1 Street Maintenance

Street maintenance activities occur throughout the year as a taxpayer-provided service to local residents not only to ensure safe travel on area streets, but also to reduce airborne dust and sediment transport to storm sewers and ultimately area receiving waters. The following sections summarize the BSB Road Division's street and snow maintenance activities.

2.1.1 Sweeping and Flushing

The BSB Road Division operates five (5) street sweepers throughout the City-County. Street sweeping occurs throughout the year on an as needed basis. Sweeping is conducted during dry winter periods and in the spring to remove accumulated traction sand before spring snowmelt and street flushing activities to minimize sediment loading to storm sewers. Street sweeping occurs during the summer and fall months on an as needed basis to reduce sediment, litter, and leaf loading to storm sewers as well as reduce small particulate dust generation. All BSB street sweepers use water to minimize dust generation during use, except during freezing conditions during the winter months.

Streets and gutters are flushed periodically to remove residual sand and debris not removed by the sweepers, and to reduce airborne dust generation after sweeping. Street flushing is only conducted after streets are swept, in order to reduce the amount of debris that reaches storm water infrastructure.

Sediment from street sweeping and storm inlet maintenance is collected and transported to the BSB landfill or mine waste repository, depending on where maintenance activities are being conducted.

2.1.2 Sand Source Sampling

BSB currently uses multiple sand sources for application to city streets. Sand stockpiles are located at the BSB Airport and BSB Crusher. BSB will sample the sand sources prior to use, according to the BPSOU Reclaimed Areas Maintenance and Monitoring (M&M) Quality Assurance Project Plan (QAPP), to confirm metals-impacted materials are not used on roadways and provide analytical data in compliance with the Solid Media Management Program Plan, as approved by EPA.

2.1.3 Street Deicing

The BSB Road Division applies street deicer (Magnesium Chloride) during winter freezing conditions where the nighttime low temperature is not below 20 degrees Fahrenheit. Colder temperatures reduce the effectiveness of the deicer. BSB applies deicer at the minimal effective application rate (25 gallons per lane-mile) to prevent excess loading of Magnesium Chloride to surface waters. The use of deicer reduces the volume of sand applied to streets; however, it has limited effectiveness on steep slopes and at colder temperatures.

2.1.4 Street Maintenance BMPs

To minimize environmental impacts to receiving surface waters, the BSB Road Division employs administrative and structural BMPs for street maintenance activities.

Administrative BMPs utilized by the Road Department are as follows:

- Routine sweeping during dry periods (summer and winter);
- Use of water during sweeping;
- Street sweeping prior to flushing;
- Regular cleaning of storm system drop inlets as prioritized by the BSB Storm Water Operation and Maintenance Plan;
- Periodic sampling of road sand sources; and
- Using minimum effective application rate of Magnesium Chloride deicer.

Other site-specific BMPs may be implemented by BSB staff if specific conditions warrant additional protection.

2.2 Snow Removal and Storage

The BSB Road Division routinely plows and removes snow from primary and secondary travel routes within the Butte urban limits. Typically, snow is plowed to center medians for later removal with snow removal equipment and haul trucks. Collected snow is hauled to the nearest designated snow storage area. For snow removal routes in more rural areas, snow is plowed to the edges of the street or borrow ditch and is not collected. The following sections describe BSB snow removal routes, snow storage areas, and snow removal/storage BMPs.

2.2.1 Snow Removal Routes

Snow removal occurs along primary and secondary travel routes as shown on Figure 1. Snow removal frequency is dependent on weather conditions and available manpower. Snowplow trucks clear the snow from the roadways by plowing snow to medians where the snow can be collected in haul trucks using snow removal machines. Haul trucks transport the snow to the nearest snow storage areas.

2.2.2 Snow Storage Areas

The Butte Silver-Bow Road Department utilizes six designated snow storage areas that are centrally located near snow removal routes:

- Area #1: Northeast Civic Center Parking Lot (Figure 2-1);
- Area #2: South of West Elementary (Figure 2-2);
- Area #3: Kelley Mine Yard (Figure 2-3);
- Area #4: George Street Near Chamber of Commerce (Figure 2-4);
- Area #5: Missoula Gulch Ball Fields (Figure 2-5); and
- Area #6: Madison Street (Figure 2-6).

Snow is stored at these areas throughout the winter months. Snow piles melt in the spring and remaining sediment will be removed and transported to the Mine Waste Repository.

Observation of the surrounding Superfund vegetation in the areas where removed snow is placed by BSB County (BSBC) will be done by the Respondents through the Butte Reclamation Evaluation System (BRES) program, with appropriate oversight. Snow Storage Area #4 is located within BRES Site No. 152 and will be evaluated using the BRES during the BRES Quadrant 4 evaluation cycle. The remaining snow storage areas are not reclaimed sites; therefore, they will not be evaluated using BRES. The remaining snow storage areas will be monitored annually only for potential erosion. When and if vegetation is adversely affected by the salt from the snow stockpile areas, BSBC will develop work plans per existing BSB protocol to address the adversely affected vegetation for review and approval by EPA and will implement those plans upon approval.

2.2.3 Snow Removal BMPs

Where practical, snow storage areas are selected where drainage does not leave the site or discharge to storm water infrastructure. For locations that do discharge near existing storm water infrastructure, sites have been evaluated for structural BMPs to prevent sediment from directly entering receiving surface waters without treatment. Details on each snow storage location, the type/location of structural BMPs, and the final discharge points are shown on individual snow storage area maps (Figures 2-1 through 2-6) and summarized in Table 1 below.

Table 1. Snow Removal Area BMPs and Discharge Points

Snow Removal Area	Existing BMPs	Final Discharge Point (Existing)	Proposed BMPs
Area #1: Northeast Civic Center Parking Lot	Flat impervious surface with long travel distance to storm water infrastructure	Sheet flows to storm inlets on Civic Center Road that discharge to Anaconda Road storm main.	Parking lot will be replaced (NRDP). BSB will ensure that the new design will route storm water to new retention areas or the Warren Avenue HDD.
Area #2: South of West Elementary	On-site retention area Vegetative Buffer	Does not discharge off site as sheet flows to west and south toward newly constructed retention area	None
Area #3 Kelley Mine Yard	Vegetative Buffer Armored Slopes Superfund Structures	Discharges to Kelley Channel "B", Kelley Catch Basin, or directly to Berkley Pit. Note: Kelley Channel "B" will be inspected after significant snowmelt events.	Inspect two drop inlets in snow area in Spring and confirm drainage location. Either abandon or install BMPs to minimize sediment.
Area #4: George Street near Chamber of Commerce	On-site retention area Vegetative Buffer	Does not discharge off site	None
Area #5: Missoula Gulch Ball Fields	Relatively flat snow storage surface Vegetative Buffer	Snow storage is on relatively flat area west of the northern ball field. Runoff from snow melt will flow to north and west toward nearby storm water ditches as sheet flow through vegetative buffer.	Inspect nearby storm water ditches for evidence of sediment laden runoff from storage area. If necessary, earthen berms will be constructed to contain runoff and minimize sediment.
Area #6: Madison Street	Relatively flat snow storage surface Vegetative Buffer	Snow storage occurs south of Madison Street. Runoff from snow melt will flow to south toward nearby storm water inlets and ditches as sheet flow through vegetative buffer.	Inspect nearby storm water ditches and inlets for evidence of sediment laden runoff from storage area. If necessary, earthen berms will be constructed to contain runoff and minimize sediment.

As described in **Table 1**, only Area #1 (Northeast Civic Center Parking Lot) currently discharges directly into receiving waters without existing BMPs (berms, retention pond, vegetative buffer, etc.). As part of the NRDP Draft Conceptual Restoration Plan, the Civic Center parking lot will be removed and replaced during construction activities. BSB will ensure that the new parking lot design includes a snow storage location with adequate BMPs to treat snow melt. This may be achieved through the installation of retention areas or routing through the Warren Avenue HDD.

Snowmelt runoff from Area #3 (Kelley Mine Yard) discharges into Kelley Channel "B". BSB crews will inspect the condition of the channels and determine if sediment must be removed from the channel. This activity will be concurrent with inspection and maintenance activities identified in the Superfund Storm Water Operations and Maintenance (O&M) Plan.

Snowmelt runoff from Area #5 (Missoula Gulch Ball Fields) discharges into Missoula Gulch storm water ditches. BSB crews will inspect the ditches and determine if sediment must be removed from the channels or if additional BMPs are necessary at the snow storage area. This activity will be concurrent with inspection and maintenance activities identified in the Superfund Storm Water O&M Plan.

Snowmelt runoff from Area #6 (South of Madison Street) discharges into inlets and ditches connected to the Warren Avenue storm water tunnel and TCRA ditches. BSB crews will inspect the inlets, manholes, and ditches to determine if sediment must be removed from the pipe and channels, or if additional BMPs are necessary at the snow storage area. This activity will be concurrent with inspection and maintenance activities identified in the Superfund Storm Water O&M Plan.

Area #6 is part of the Anderson Shaft site and will have additional remedy work completed as part of the Consent Decree. BSB will coordinate with EPA on the need for any permanent BMPs; however, it is anticipated that this storage area will be temporary.

Annual site inspections will be conducted each spring (post-snowmelt) to monitor the effectiveness of site BMBs and discharge points (if any). If necessary, additional BMPs will be developed and implemented to prevent sediment from entering the storm water system. During the annual inspection, BSB will also sample the snow pile remnants per the BPSOU Unreclaimed Sites QAPP and compare results to action levels listed in Table 1 and 2 to verify the metals results prior to disposing of the snow pile remnant sediment and to confirm associated storm water or melted snow storage will not contribute to surface water degradation. Snow pile remnants exceeding action levels listed in Table 1 of the Unreclaimed Sites QAPP will be disposed of at the Mine Waste Repository. All remnant materials below action levels will be disposed of at appropriate facilities at the discretion of BSB.

3.0 COORDINATION AND TRAINING

BSB has implemented several additional control measures related to its municipal maintenance activities as required by its Municipal Separate Storm Sewer System (MS4) Permit with Montana DEQ. A major requirement of the MS4 program is the implementation of training programs for BSB employees. BSB Road Division employees receive annual training on several MS4 requirements, including the

following topics: BMPs (installation and maintenance), Illicit Discharge Detection and Elimination (IDDE), Construction Site Storm Water Management, and internal BSB maintenance activities. Topics vary each session and are specific to maintenance and construction activities that are frequently conducted by BSB employees. BSB Road Division staff also communicates with BSB Metro Sewer Maintenance staff on a regular basis in order to coordinate maintenance activities between the two divisions, as Metro Maintenance is responsible for cleaning of the storm water system.

4.0 CONTACT INFORMATION

Street and snow management activities are implemented by the Butte-Silver Bow Public Works – Road Division. Questions related to street and snow management activities can be directed to the following personnel:

Public Works Director: Mark Neary – 497-6519, <u>mneary@bsb.mt.gov</u>

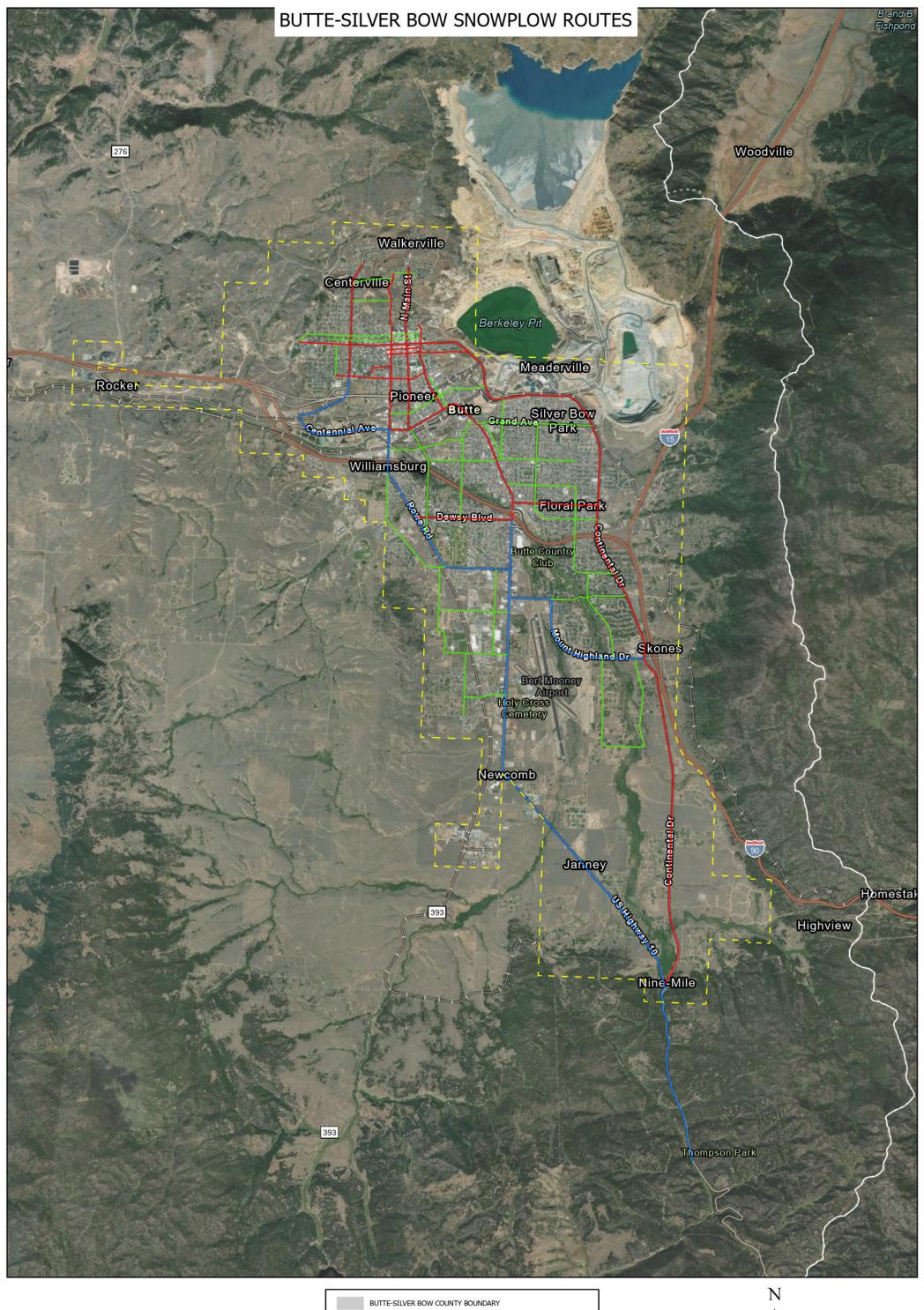
Supervisor—Road Division: Tom Loggins – 490-0053, tloggins@bsb.mt.gov

5.0 SUMMARY

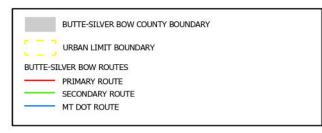
Butte-Silver Bow is committed to the ultimate goal of minimizing sediment runoff from street and snow maintenance activities into area receiving waters. This Street and Snow Management Plan uses a combination of administrative and structural BMPs to accomplish this goal.

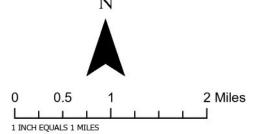
It is important to note that BSB's current sand sources have low levels of metals that are below EPA screening levels; as a result, runoff from snow storage locations should not be considered a primary source of metals contamination to surface water. However, the use of proper management and practices on its street and snow maintenance activities will minimize discharge of sediment to storm water infrastructure and area receiving waters.

Figures



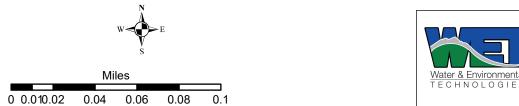




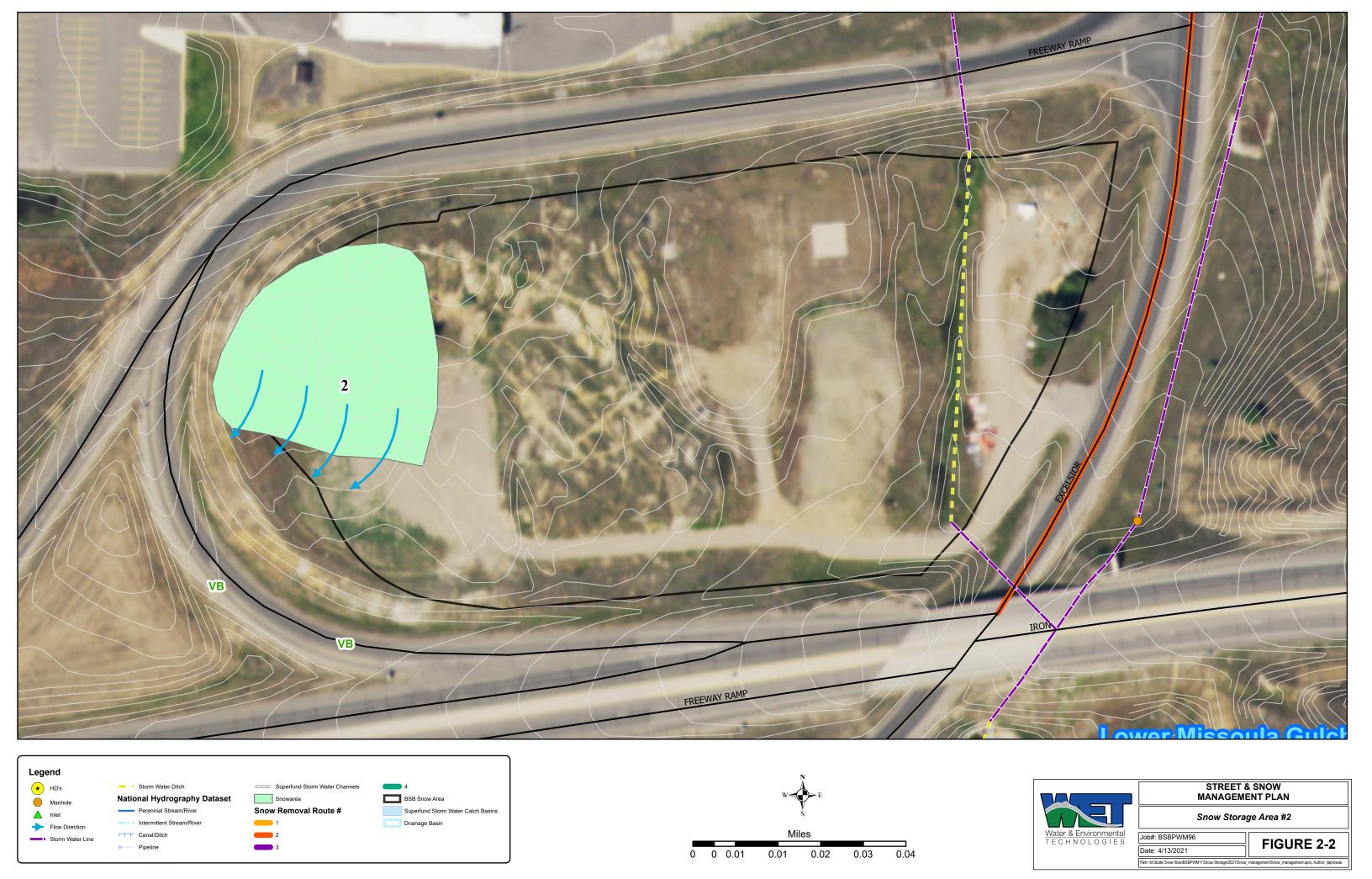


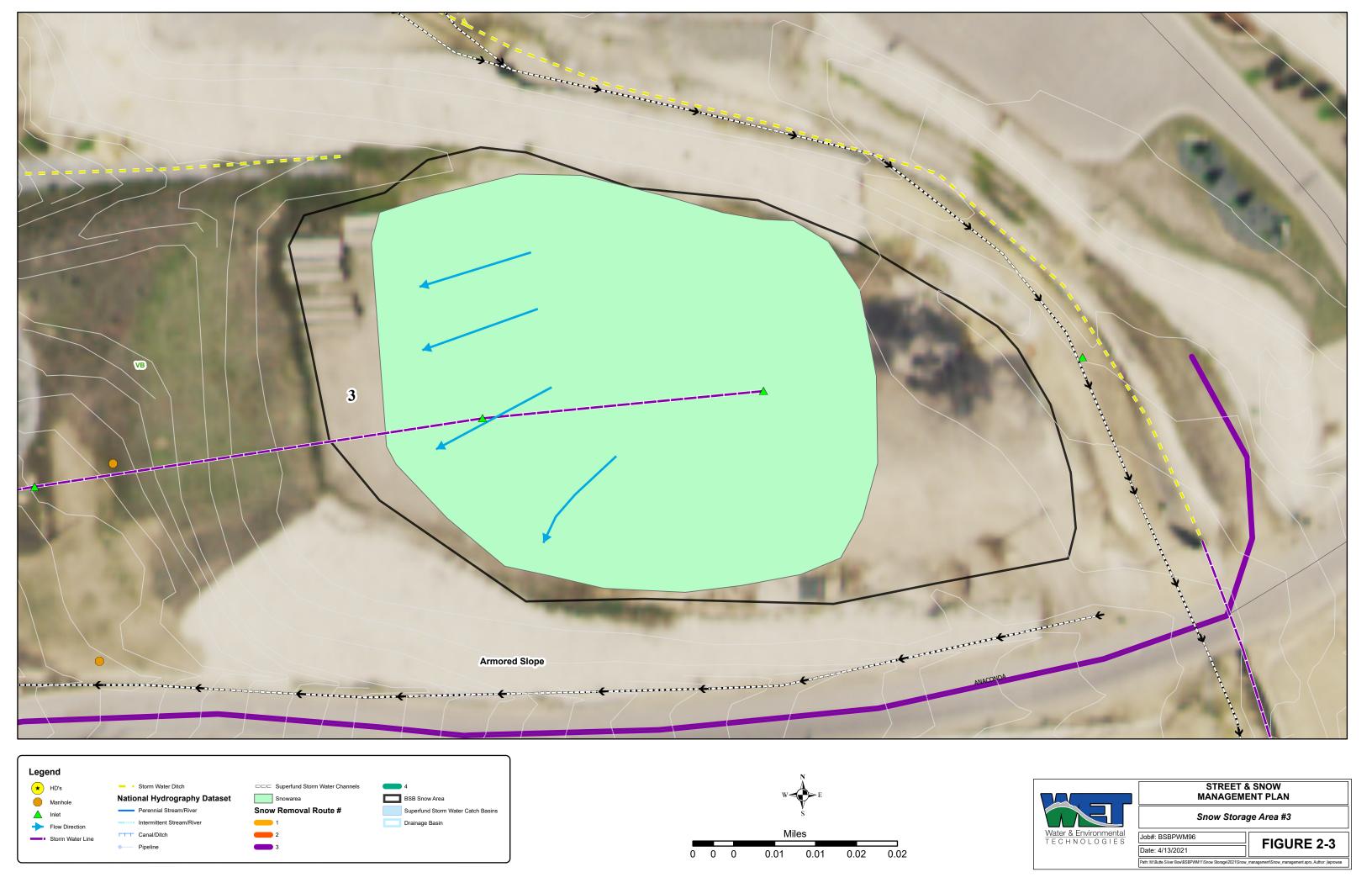


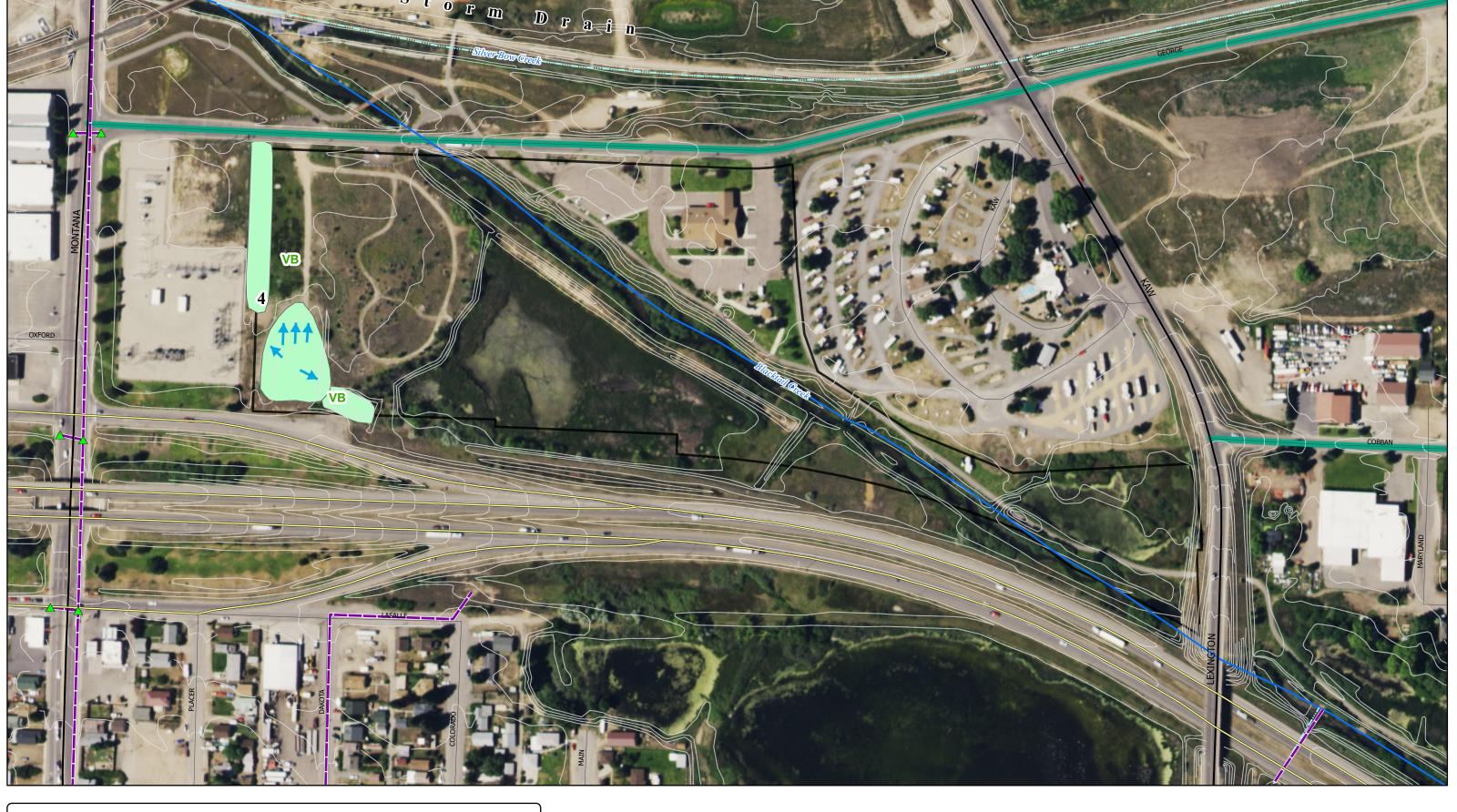


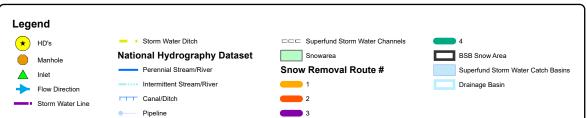


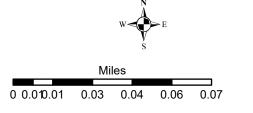




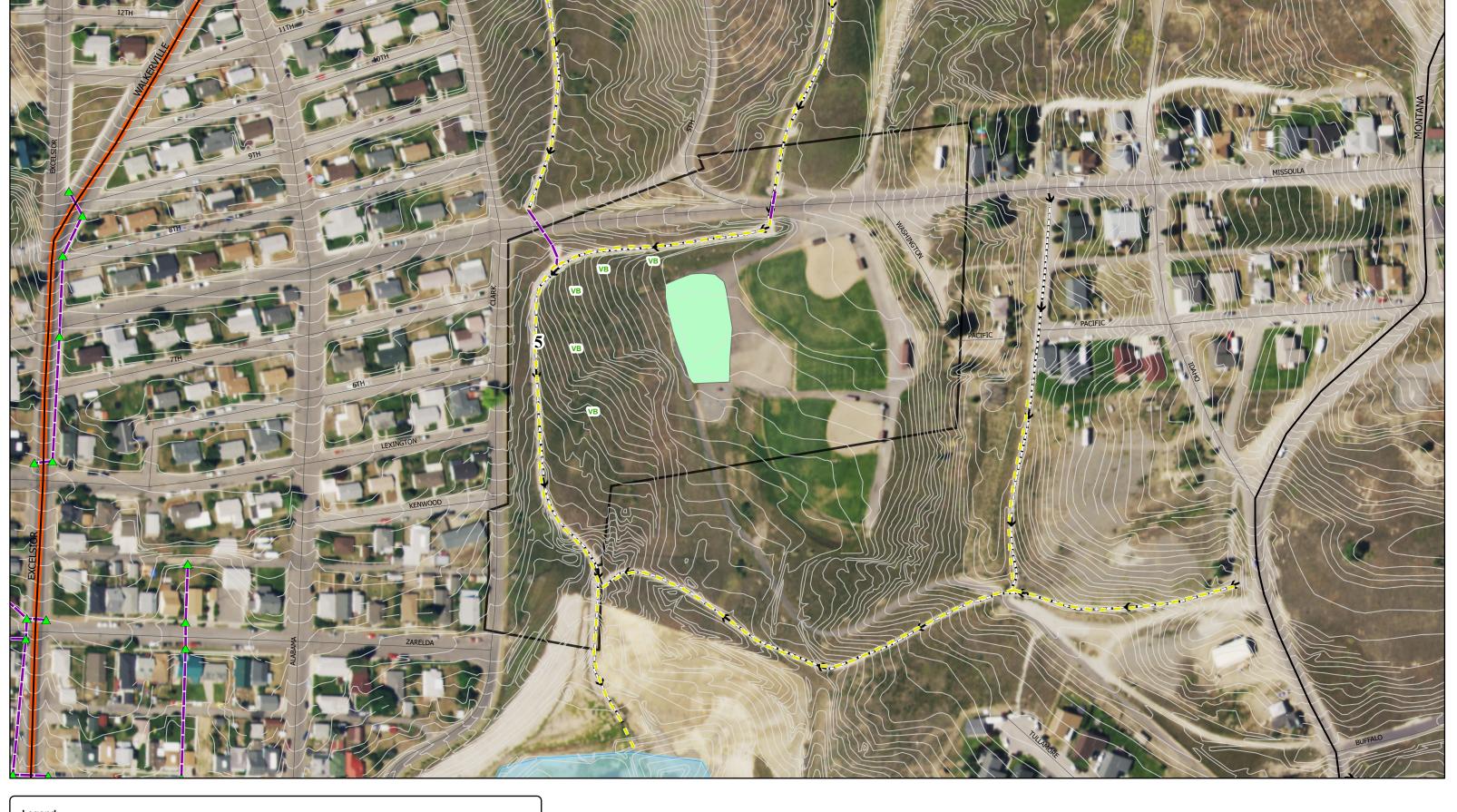


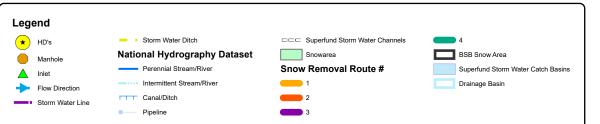


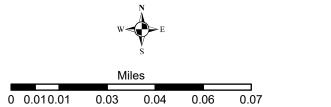


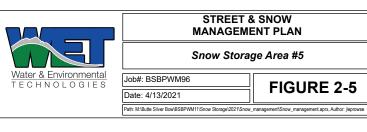


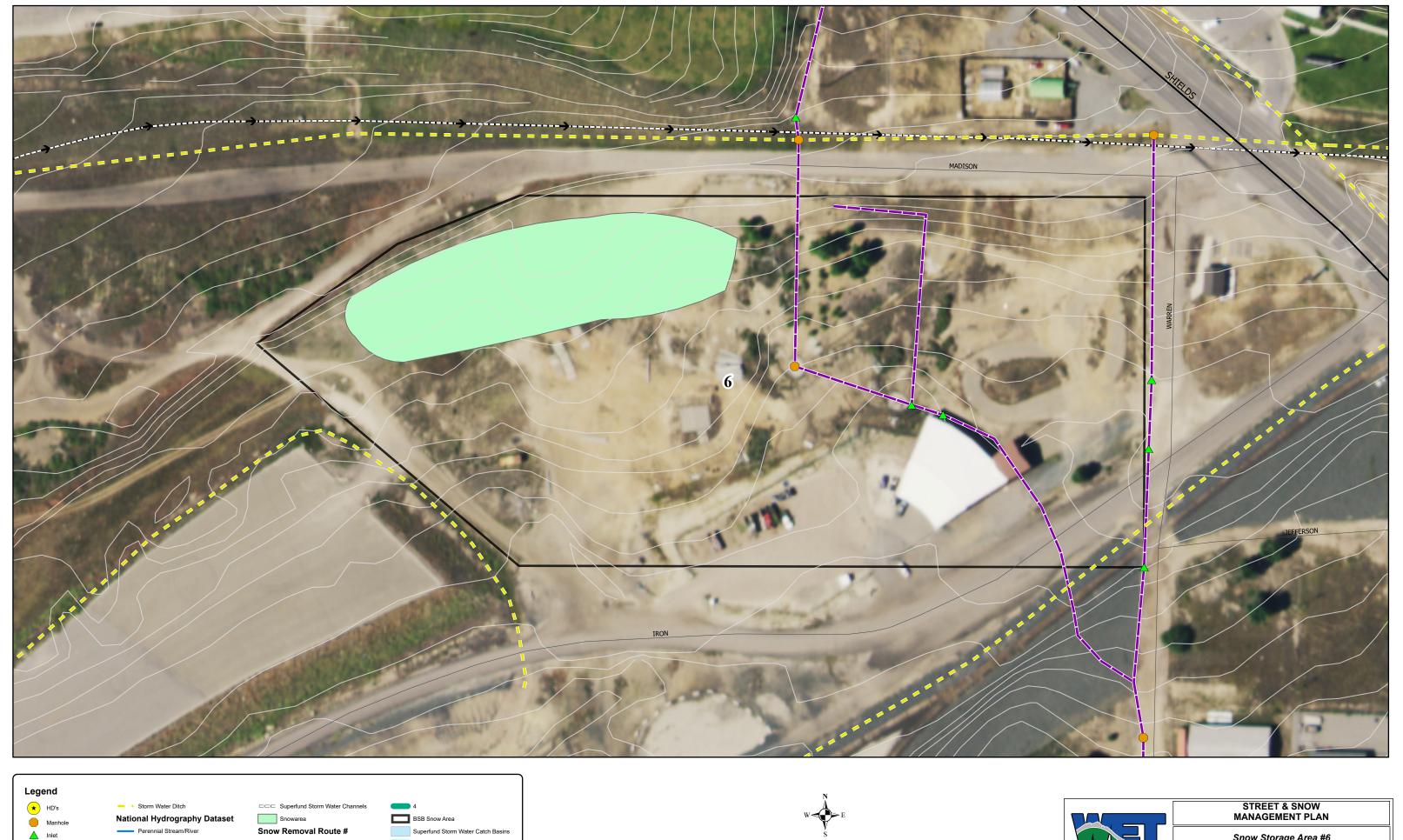












Storm Water Line

