Fall 11-2021

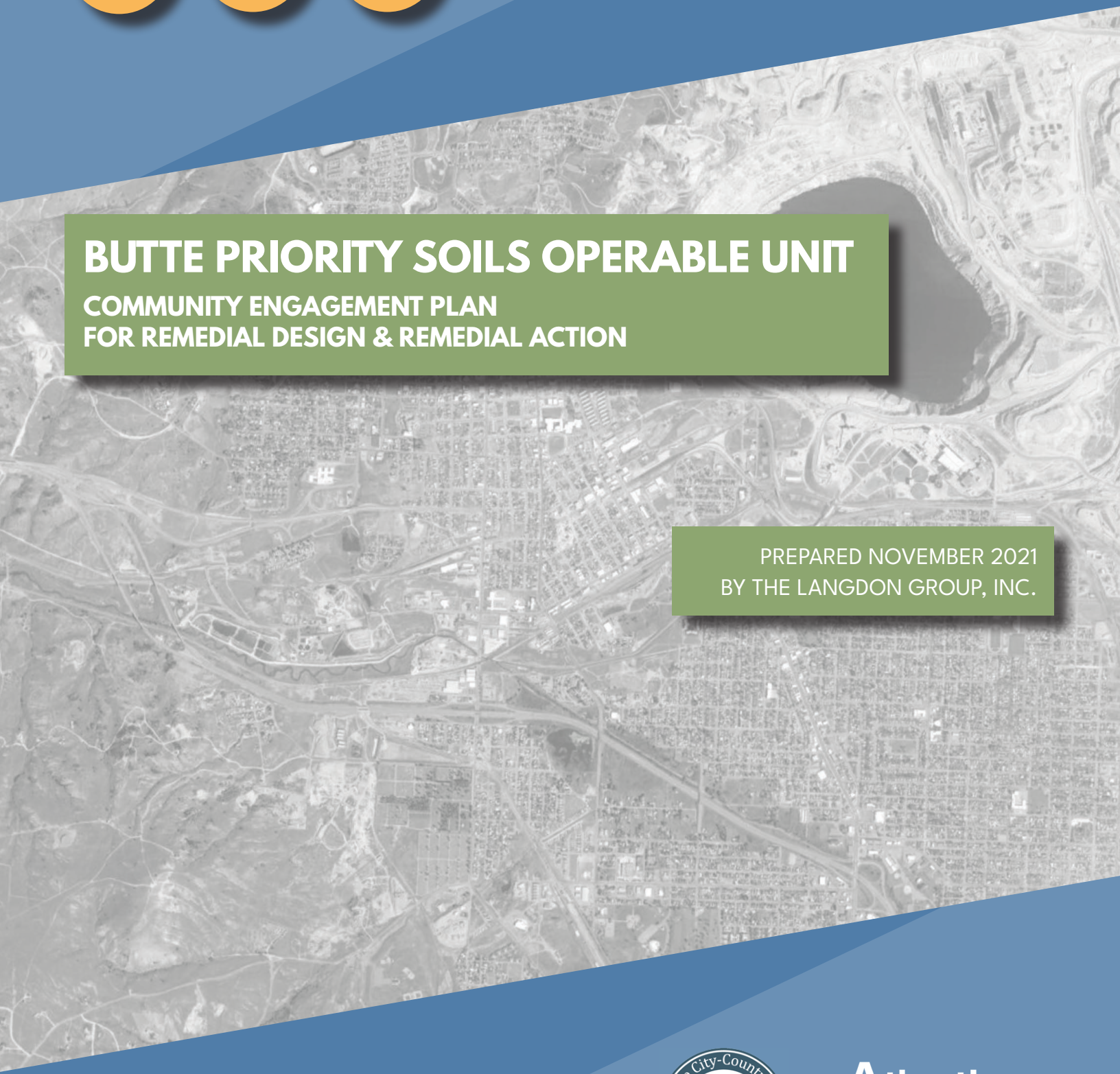
BUTTE PRIORITY SOILS OPERABLE UNIT COMMUNITY ENGAGEMENT PLAN FOR REMEDIAL DESIGN & REMEDIAL ACTION

THE LANGDON GROUP, INC.

Atlantic Richfield Company

BUTTE PRIORITY SOILS OPERABLE UNIT

COMMUNITY ENGAGEMENT PLAN FOR REMEDIAL DESIGN & REMEDIAL ACTION



PREPARED NOVEMBER 2021
BY THE LANGDON GROUP, INC.

The City-County of Butte-Silver Bow

Atlantic Richfield Company

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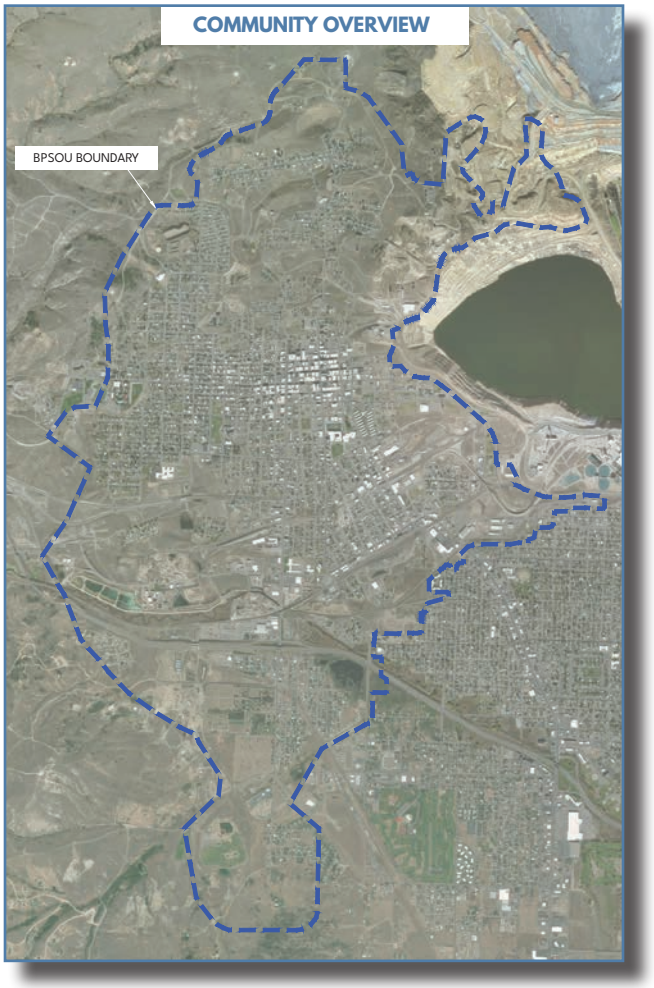


Atlantic Richfield Company (AR) and Butte-Silver Bow (BSB), as Settling Defendants (SDs) to the Butte Priority Soils Operable Unit (BPSOU) Consent Decree (CD), have committed to design, build, operate and maintain the remedy for abandoned mining sites and historic mining wastes described in the CD. As Settling Defendants, AR and BSB are legally required to complete the remedial actions described in the CD and its appendices, including development of project documents, necessary to support successful completion of the planned work. This includes a commitment to develop and submit a Community Engagement Plan (CEP) to the Environmental Protection Agency (EPA) for review and approval, in consultation with the Montana Department of Environmental Quality (DEQ). Development of a CEP is consistent with general requirements of the CD (Sections 2 and 26) to inform and educate the community throughout the remedial design (RD) and remedial action (RA) process, and is more specifically required to facilitate the Repository Siting Study (EPA, June 4, 2020).

This CEP supplements the 2021 EPA BPSOU Community Involvement Plan (APPENDIX A) and incorporates by reference the 2020 EPA Butte Environmental Justice Action Plan (APPENDIX B). It serves as a guide for how best to provide accurate and timely information to the community regarding the ongoing RD and RA of the BPSOU. The CEP describes the process and tools to be used, and explains how members of the community can become involved and learn how to voice their concerns, needs, support, and other opinions about the required remedy work in a process that allows SDs to address community concerns and needs as they plan and implement the remedy. Through implementation of the CEP, AR and BSB will encourage community members to share their concerns, interests, and objectives and will consider community input as design, planning and construction activities are completed.

The processes and tools described in the CEP are designed to work in concert with ongoing public engagement efforts, specifically the Citizens Technical Environment Committee (CTEC), which seeks to help the public understand and engage with the SDs on remedy issues requiring technical expertise, and monthly public meetings organized and facilitated by EPA.

The final CEP will be posted at armontana.com and Butte-Silver Bow's Reclamation and Environmental Services website, accessible for public review. The CEP will guide a dynamic and flexible communications strategy that responds to evolving public interests as the RD and RA progress. BSB and AR will encourage interested members of the community (stakeholders) to identify potential problems and issues that local residents, workers and visitors might encounter as the remedy is implemented, using a process that helps stakeholders, BSB, AR, and agencies identify potential solutions that can prevent or alleviate those problems. This allows solutions to be incorporated into remedy work plans before work begins, and allows emerging concerns to be addressed at an earlier stage of the remedy work. Engaging stakeholders in a manner that is interest-based, objective-driven and problem-solving will help foster an environment for partnership and project support. By working with stakeholders in a meaningful way, the project team can identify and discuss community concerns, reduce uncertainty about remedy work, effectively capture and identify stakeholder goals and objectives, promote participation in the communications process, build community consensus, and improve communication and understanding among decision-makers, community residents, local businesses and other stakeholders.

In the absence of a responsive, dynamic plan, good will may be squandered, schedules impacted, and relationships threatened if the public is not provided the opportunity to engage in a manner that meets their current needs and interests. Transparency and accessibility are key to maintaining a positive community connection.

BACKGROUND

The Silver Bow Creek area in Butte, Montana, was placed on the federal government's national priority list of contaminated sites in the 1980's. Since that time there have been a series of cleanup efforts under the Comprehensive Environmental Remediation, Compensation, and Liability Act of 1980 (CERCLA), also known as the "Superfund" Law. CERCLA remedies are selected by the US Environmental Protection Agency (EPA), and the required remedy work is performed under EPA direction and oversight. Some of the required work has included extensive, and at times disruptive, RAs in areas within and adjacent to residential and commercial neighborhoods.

On September 16, 2020, the Federal District Court of Montana approved a settlement agreement and consent decree (CD) that governs future remediation work to be completed within the BPSOU. The CD became effective and legally enforceable on November 16, 2020. The BPSOU is a portion of the Silver Bow Creek/Butte Area National Priority List (NPL) site. The 2020 CD agreement is a legal agreement between the United States, the State of Montana, the Butte-Silver Bow local government, and the Atlantic Richfield Company. The federal and state governments oversee remedy work required by the CD through their regulatory agencies, the EPA and DEQ, respectively. Butte-Silver Bow and the Atlantic Richfield Company together are referred to as the SDs, and they are responsible for completing the remedy work required by the CD. DEQ will also perform coordinated remedy and restoration work under the CD.

Mine Waste Remediation: Before Remedy

Under the CD, large volumes of mine wastes and impacted soil will be removed from areas within the community and transported to a mine waste repository. Following waste removal, several sites will be reconstructed with large quantities of backfill material. Some project areas require capping and revegetation and/or construction of stormwater best management practices (BMPs). The work to be completed is collectively referred to in the CD as the Further Remedial Elements Scope of Work (FRESOW). These activities will necessitate significant levels of heavy construction and construction-related traffic. Therefore, community engagement during the planning and execution of the RA will be critical to successful and safe project completion, in addition to understanding and addressing community concerns.

Mine Waste Remediation: After Remedy

COMMUNITY ASSESSMENT

In March and April 2021, The Langdon Group conducted a content analysis of existing materials and reports and spoke with a diversity of stakeholders (71 in total – See APPENDIX C) to gather information about community concerns, interests and communication needs and suggested methodology to inform the CEP.

As these interviews took place during the COVID-19 pandemic, stakeholder interviews were conducted in formats that met the needs and interests of the stakeholders including in-person, small group, phone and video conference. All interviews were conducted with safety protocols developed via a task risk assessment process that complied with COVID-19 guidance provided by local, state and federal government. Assessment strategy and process are detailed in Appendix D.

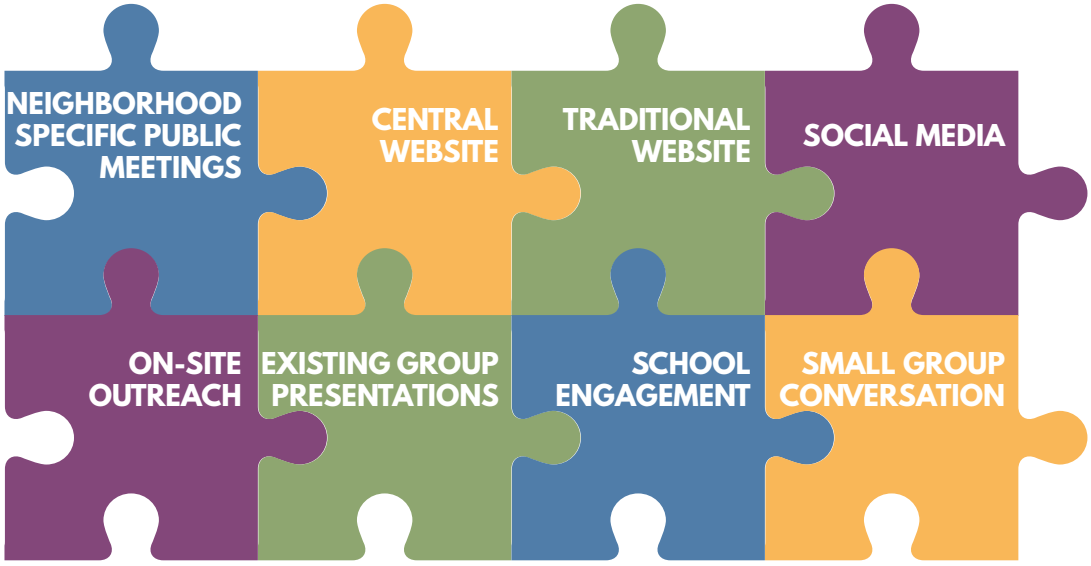
The objective of the community assessment was to speak with members of the community to determine what remedy information the community wants to hear and how they want to hear it. Many stakeholders said that the completion of the CD has resulted in a shift in the overall sentiments of the community about superfund, cleanup, responsible parties, and the past versus the future. Words such as “shift” and “pivot” were used to describe the change that has occurred with the CD. Some stakeholders remain confused by Superfund, legal and technical jargon, differences in liability, regulatory authority related to historic mining operations versus active mining operations, and who the responsible and regulatory parties are, and what roles they are to fulfill.

The assessment outcomes suggest that the community desires transparent and accessible communications that are concise, free of technical or legal jargon, and highly visual. The following summarizes key themes that emerged through the process:

What information does the community feel is most important regarding the BPSOU remedy?

- ☑ MINE WASTE REPOSITORY SITING
- ☑ PUBLIC HEALTH
- ☑ CONSTRUCTION IMPACTS
- ☑ ECONOMY

How does the community want to receive this information?



Frequently heard specific recommendations

- Plan a multi-faceted outreach approach that employs a range of in-person, online, and traditional media tools to reach all interests and socioeconomic levels of the community.
- Maintain a current website that serves as a centralized resource for project updates, documents, and calendar of expected project-related events.
- BSB is a highly-trusted public voice and should serve as the primary public-facing entity.
- Coordinate messaging between the parties to the extent practical.
- Focused engagement between SD staff, including BSB staff, and key interest groups including educators, health professionals, community services, and business leaders will produce a cadre of ambassadors to their constituents to help share information and frame common messaging.

- In the near term, developing test groups with one or more of these interests to evaluate and validate messaging and approach will help test communication and outreach strategies of the CEP and support development of community partners. The repository siting study committee represents a near term opportunity to implement a collaborative and inclusive process that will garner significant attention and its success will set the course for engagement efforts to follow.
- Implementation of best practices for working with disadvantaged and at-risk community members will be important. Partnering with organizations that have established relationships and training in working with these community members will ensure messaging is appropriate and strategies inclusive of these interests and needs.

DEFINING THE AUDIENCE

Key to planning this community engagement process is the understanding of the various constituencies that will be affected by removal, remediation, transport, disposal, and construction related activities. Three primary constituencies have been identified, each defined by the nature and degree of concern with respect to the actions to be undertaken. These constituencies are outlined below. It should be noted that in some cases constituencies may overlap. Not included here is the Environmental Justice population. This is discussed in more detail in the following section.

COMMUNITY WIDE

TRANSPORTATION RELATED

NEIGHBORHOOD SPECIFIC

COMMUNITY WIDE

The Silver Bow Creek Conservation Area (SBCCA) will be an asset to everyone in Butte and construction will have some degree of impact on anyone who travels through or adjacent to the work area. Required RA outside of the SBCCA, such as that related to Unreclaimed and Insufficiently Reclaimed Source Areas, Uncaptured Surface Flow Areas, and activities associated with implementation of the Residential Metals Abatement Program (RMAP) will also result in disruption to the community, though on a smaller and more dispersed scale. This means that activities associated with RD and RA will draw community-wide interest, irrespective of where people live and work, or their socioeconomic classification. Stakeholders include, but are not limited to, residents, visitors, local businesses, and their employees.

TRANSPORTATION RELATED

This constituency includes community members who live or work adjacent to the work sites, or commute along the routes identified for the transport of materials removed from each project site to the selected repository and the transport of clean backfill material to each site. Impacts are expected to include the following:

- Increased heavy equipment traffic
- Increased noise
- Increased emissions
- Slowed and congested traffic flows
- Commuting detours and delays
- Intersection service disruptions, particularly where left turns are required
- Potential impacts to business access and egress

NEIGHBORHOOD SPECIFIC

This constituency includes residents who live and businesses that operate in the areas that will be directly or indirectly affected by RA to be undertaken at each of the project areas. Impacts are expected to include the following:

- The presence of heavy equipment and noise emissions associated with its operation
- Potential vibrations from excavations and grading
- Potential project activity outside of common business hours
- Increased traffic associated with on-site activities
- Dust generated during construction activities and associated public health concerns
- Traffic delays and detours to allow for the removal and importation of materials and construction
- Impacts to business access, egress, and parking
- Long-term changes to neighborhood dynamics because of new end land uses
- Changes to established and appreciated viewsheds
- While each of the RAs will be area-specific, some members of this constituency may be affected by more than one project.

ENGAGEMENT STRATEGIES

A comprehensive engagement strategy will guide all outreach efforts and ensure that constituents receive timely and relevant information at key milestones. It will also provide ample opportunities for public feedback and inquiry. The SDs will have responsibility for proactively sharing project information through Project Team channels. The primary avenue for Remedial Design feedback and discussion will continue to be CTEC. This independent committee is best positioned to facilitate a running dialogue with the community and the CD partners to ensure public feedback is appropriately heard, considered and responded to. Additionally, the project website will offer capability for the public to provide comment and ask questions of the project team regarding ongoing and planned project activities.

Outreach efforts will reflect the following primary objectives:

1. Provide accurate and timely information through Project Team channels to the public regarding the full scope of the project beginning at RD through temporary disruptions associated with the RAs.
2. Maintain a consistent focus on the areas of public interest identified in the community assessment and listed in the Public Participation in Remedial Design, Butte Priority Soils Operable Unit, September 2020 information piece (Appendix E).
3. Encourage public engagement through available resources such as SD Project Team channels, SARTA, Council of Commissioners, and CTEC, consistent with the Public Participation in Remedial Design, Butte Priority Soils Operable Unit, September 2020 information piece (Appendix E). Representatives of AR and/or BSB will attend meetings that are focused BPSOU RD and RA activities and be available to respond to community questions or concerns.
4. Educate constituents about the specific improvements that will result from these projects in their neighborhoods and in their community.
5. Maintain project transparency and a commitment to listen and respond to questions and concerns in a timely manner.
6. Reach a diverse community at varying levels of interest, understanding, age and socioeconomic levels.

7. Provide every interested member of the community the opportunity to understand and engage at their preferred level and at their convenience using a wide range of tools and techniques.

8. Adapt methodology in response to public interest and preference. Initiate active engagement with the community at key milestones that correspond with the development of remedy designs, the process for selecting a mine waste repository location(s), and development of work plans for remedy construction.

9. Respect the community's time, access to technology, and capacity to receive and understand information by ensuring engagement is meaningful, concise, and clearly communicated through multiple venues.

Messaging will be clear, concise, and free of overly technical terms and acronyms. It was identified through the assessment process that terms such as "superfund" and "groundwater" are not always understood by all community members. While project details will be available for those interested, community-level messaging will be simplified and focused on "clean up" activities and final outcomes once the RD and RA are complete.

Community-level messaging will address the following questions: What, Where, Why, When, Who, How and What is it Not. This format will be adopted for all RA projects in the CD.

The most significant and highest interest RA and RD are within the Silver Bow Creek Conservation Area. Communication for this project will be as follows:

WHAT?	The Silver Bow Creek Conservation Area will include parks, open and gathering spaces, outdoor recreation opportunities and a gateway beautification into Butte. To construct the conservation area, contaminated soil from historic mining operations will be removed and hauled to repository sites.
WHERE?	The Silver Bow Creek Conservation Area will be located in central Butte at the base of Uptown, roughly between Harrison Avenue and the interstate overpass at the west end of town. Haul routes and repository sites will stretch beyond this. For more information about potential repository sites and haul routes, please visit website.
WHY?	Removal of contaminated soil from historic mining operations allows construction of a system to capture and treat stormwater before it reaches Silver Bow Creek. The completed stormwater system will improve water quality, expand community open space, and provide new amenities for Butte's enjoyment in the creek corridor.
WHEN?	Remedial Action construction will begin in 2022.
WHO?	Atlantic Richfield, in partnership with Butte-Silver Bow, will construct the Silver Bow Creek Conservation Area for Butte's citizens and visitors.
HOW?	To learn more about the history, parties and process that brought us to where we are today, please visit website.
WHAT IS IT NOT?	There are ongoing and planned remediation activity in areas within and near Butte that are not the responsibilities of the SDs, or otherwise addressed specifically by this CEP. These activities include but are not necessarily limited to remediation activities at the Montana Pole Treating Plant and Streamside Tailings. Similarly, this CEP does not address active mining operations or community concerns related to those operations. It is not always easy to identify how these efforts are related or different from RD and RA activities planned for BPSOU. Stakeholders will be encouraged to visit the website to better understand everything that is happening in Butte.

The assessment revealed a desire for consistent messaging that is highly visual and utilizes graphics to communicate key concepts. Simple infographics will be used to communicate the following:

- Schedule for construction of the SBCCA and ancillary RA efforts occurring in the community.
- Cubic yards of soil removed and of soil imported to reconstruct the project areas.
- Renderings of proposed project areas upon completion, including of end land use features.
- Maps of work areas and haul routes with easily understood landmarks (businesses, street names, etc.).

The tools and techniques described below are informed by input received through the community assessment and professional experience consistent with successful development, management and execution of public engagement strategies.

PROJECT WEBSITE

To aid in the dissemination of consistent, accurate and timely information all engagement outlets will direct the public to a central website as the trusted source for current information. Website content will be reviewed and updated as warranted.

Features of the website include:

- Cleanup Guide: A graphic representation of cleanup work occurring in Butte that simply describes how efforts are related or distinct and directs visitors to the appropriate location for information related to their interests. This guide will provide a high-level understanding of the ancillary efforts occurring in the community, then redirect them to the appropriate sources of information, keeping the messaging central to RD and RA in BPSOU.
- RMAP information and contact information.
- Maps and map overlays of RA sites, timelines, and other project information of concern.
- “Story maps,” which are site maps with supporting text and media. Story maps will provide information about Butte’s history, Superfund, the CD and SDs.
- The purpose of the projects, resulting area enhancements, and upcoming public meetings.
- The ability to comment, ask questions and share information securely, with a commitment from the AR and BSB remedy project team to respond in a timely manner.
- Frequently asked questions (FAQs) section.
- Prominent information of interest to constituents.
- Links to primary or secondary sources of information.
- Clearly communicated project timelines and challenges.
- HTTPS (Hypertext Transfer Protocol Secure) encryption, so we can assure user information on the central website is protected.
- A news feed with dates and timestamp providing the latest information to site visitors.
- The ability to sign up for email updates and notifications.
- The ability to follow via BSB social media channels.
- Graphic calendar of anticipated upcoming events, current construction, and anticipated duration.
- 508 compliance for accessibility for people with disabilities.
- Mobile platform and search engine friendly and responsive web page.

COMMUNITY OUTREACH AND TEST GROUPS

Community outreach and test groups with specific focuses provide the opportunity for engagement with a broad cross section of the community and an opportunity to regularly evaluate the effectiveness of project communications related to ongoing Remedial Design and Remedial Action activities required by the CD, as well as activities related to RMAP. These groups will include representatives from BSB and AR.

Close coordination and engagement with these groups will:

- Foster dialogue and discussion that leads to deeper understanding of the community interest
- Help assess efficacy of engagement efforts
- Identify new and improved opportunities for engagement
- Build a cadre of ambassadors to aid in correctly communicating accurate messaging
- Provide a window into the issues and interests that are not being directly communicated to the project team from the public

Specific groups should be convened around the following topics and interests:

REPOSITORY SITING STUDY ADVISORY COMMITTEE

- Where contaminated soil will be relocated and how it will be transported is of high interest throughout all areas of Butte. Representation and transparency on this group will be critical to establishing trust for all engagement efforts to follow. Members of the committee will include representatives of AR and BSB, EPA and DEQ, Montana Resources, CTEC, and public volunteers as appointed by Chief Executive JP Gallagher.
- Advisory Committee participants will gain increased familiarity with the proposed remedial actions, the requirement to select and develop a suitable repository location, and the logistics of how impacted soils will be transported to the approved repository location(s) for disposal.
- Updates and outcomes of Advisory Committee activities in screening, evaluation, and eventual recommendation of a preferred repository location to the SDs will be shared with the community at regularly scheduled CTEC meetings and at EPA Monthly Community Update meetings.
- The Advisory Committee will meet regularly throughout the repository siting study process until a suitable repository location(s) is approved by the Agencies.

EDUCATION COMMUNITY

- The Butte School District has expressed a strong desire to engage their staff, students and parents both through education and dissemination of information related to ongoing and planned remedial activities occurring in the Butte community. The education community will offer opportunities for student education in topics directly related to ongoing and planned remedial actions (e.g., soils sampling and analysis, technology demonstrations, biodiversity and sustainability), teacher and parent engagement, and provide a resource for sharing timely information broadly in the community. Members of the committee will include representatives of AR and/or BSB, and staff of the Butte School District as selected by Superintendent of Schools, Judy Jonart.
- This group will meet bi-annually, prior to the development of school year curriculum and mid-year to discuss what is working, what needs adjustments and new opportunities.

COMMUNITY RESOURCE ORGANIZATIONS

- Convening representatives from community resource organizations that work closely with Butte residents will help direct engagement through the most effective channels and provide the opportunity to evaluate effectiveness. Specific organizations that may be engaged include:
  - Action, Inc.
  - Butte Rescue Mission
  - Big Brothers and Big Sisters
  - Head Start
  - Southwest Montana Community Health Center
  - Public Housing Authority of Butte
  - Butte School District
  - Montana Independent Living Project
  - Butte Sheltered Workshop
- Representatives of Community Resource Organizations are encouraged to participate in regularly scheduled project meetings and updates (e.g., CTEC update meetings and EPA Monthly Community Update meetings).
- This group will meet bi-annually, once prior to beginning that year's planned exterior yard abatements, and once following exterior yard construction season. A primary focus of the Community Resource Organizations will be to disseminate information related to ongoing and proposed residential RMAP activities.

BUSINESS LEADERS

- The Chamber of Commerce, Butte Local Development Corporation ("Butte Elevated"), Young Professionals, and other business groups represent an opportunity to "check-in" with community stakeholders, assess the success of engagement efforts, identify any questions or concerns that may be underlying in the community, and help build ambassadors that can disseminate and share accurate information.
- Business leaders will be encouraged to participate in regularly scheduled project meetings and updates (e.g., CTEC update meetings and EPA Monthly Community Update meetings). If significant interest or demand is expressed by business leaders, then the Parties will meet with this group on an annual basis to discuss project progress, milestones, and upcoming activities.

NEIGHBORHOOD MEETINGS

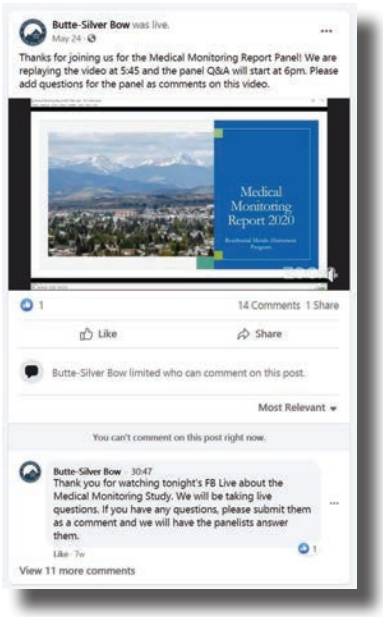
Butte neighborhoods are proud of their history and heritage and will therefore be referenced as residents of their respective neighborhood. Often residents and local businesses have limited time for engagement, therefore communication will focus on the critical information and be presented in straight-forward, and easily understood language and graphics.

Public meetings are a foundational element of community engagement. Public meetings support project transparency and community dialogue. Neighborhood meetings will be convened throughout Butte at key project milestones, with messaging targeted to the specific neighborhood interests and needs. Meetings may also be convened in Walkerville to reach impacted members of that community. Insight gathered through the assessment indicated a preference for:

- Meetings in the early evenings with refreshments provided.
- Opportunity for one-on-one conversations with elected officials and SD representatives.
- Notification through door-to-door fliers.
- Convenient location in the impacted neighborhood.

The public meeting element of engagement should include both in-person (if possible) and virtual components, to ensure that anybody who wants to attend can, regardless of susceptibility to COVID-19 or technological proficiency. Depending on the live-meeting format, separate events may be held for the virtual and in-person audiences, to provide each the most effective engagement possible.

The platform (e.g., Microsoft Teams, Facebook Live, Zoom, or Webex) chosen for virtual meeting access will depend on the hosting entity and be linked to the central website prior to the meeting. Those who wish to access public meetings virtually will be provided with easy navigation instructions via the website, rather than be expected to download virtual meeting applications from the Internet. Materials in support of these meetings may include handouts and various supporting visuals, such as slide presentations, maps, and design features (e.g., landscaping and interpretive elements). Meeting materials can be posted on the website.



ONLINE PROMOTION AND ADVERTISING

Facebook is the preferred social media source for those members of the community that gather their information electronically. BSB social media outlets will be utilized as the primary social media source of dissemination, directing the public to the website for more detail and updates. The project team will work directly with existing social media platforms, which may include Butte 411; Butte Elevated; Butte – We Just Wanna Know; and the Chamber of Commerce, to share BSB messaging. Updates will be evaluated monthly or more frequently if warranted.

TRADITIONAL MEDIA

Engagement with media outlets including newspaper, radio and television at key milestones will help reach a key demographic in Butte that relies on these sources as their primary source of information.

GETTING OUT IN THE COMMUNITY

Meeting the public where they are provides the opportunity for engagement with members of the public that may not have the time in their day to attend a neighborhood meeting and are less engaged with social and traditional media outlets. This also captures the population with a casual interest, that may not otherwise take the time to understand the work that is occurring. At key milestones, the project team will experiment with hosting information stations at high-trafficked events and locations such as farmers markets, entertainment events and sporting events.

INFORMATION PIECES

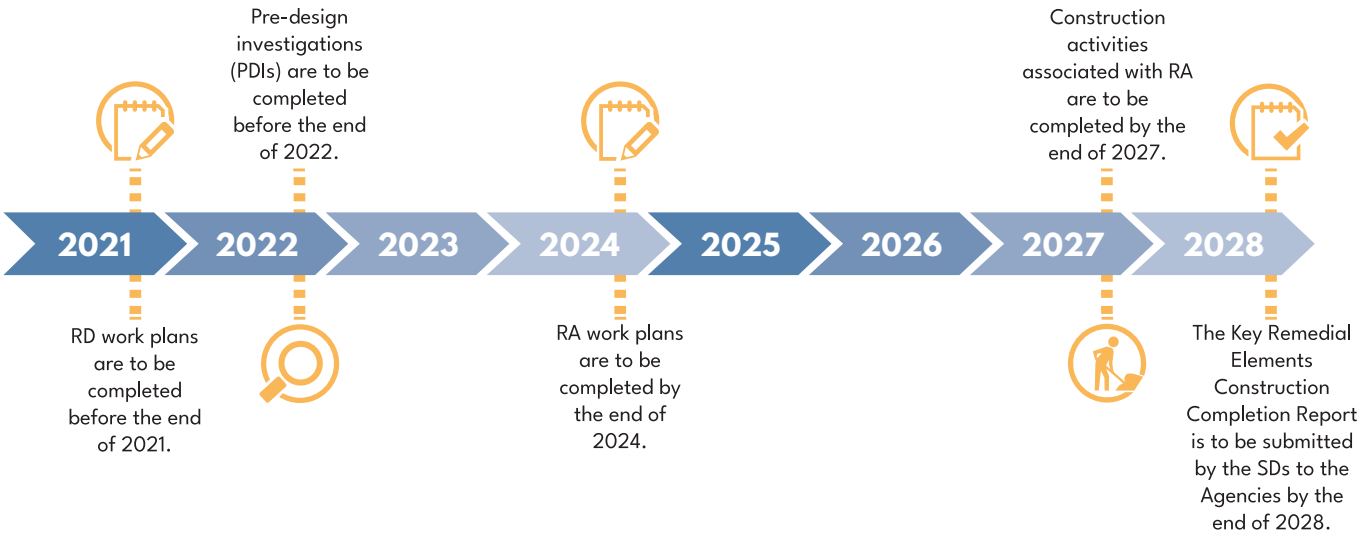
Key messaging created early and updated at key milestones will be utilized on the multiple platforms described above, as well as in print format. These information pieces will serve multiple purposes to generate public interest in upcoming events and engagement opportunities. Specifically:

- Fliers: Stakeholders indicated in the assessment that the most effective way to generate interest in neighborhoods is through hand-delivered fliers, left on front doorsteps. They are effective in providing information about upcoming projects, community disruptions, and future engagement opportunities. Fliers can supplement other forms of outreach and can help reach a broader range of people, while also providing links to the central website.
- Direct Mail: An alternative to hand-delivered fliers is the US Postal Service Direct Mail program. This method targets specific delivery routes. Information would include simplified website addresses and scannable Quick Response (QR) codes linking the reader to more detailed information on the central website.

IMPLEMENTATION SCHEDULE/TIMELINE

OVERALL SCHEDULE

The overall schedule for completing the work prescribed in the CD is described in Exhibit 1 of the CD. For reference, that exhibit is included in this Community Engagement Plan as Appendix F. The following are general highlights of the anticipated schedule:



INDIVIDUAL PROJECT MILESTONES

To manage the overall effort required by the CD, the RA work is separated into discrete projects. These are described in the Remedial Action Project Description (APPENDIX G).

Each of the discrete projects will include RD and RA phases. Each of those phases is further separated into sub-phases, detailed below. Critical information will be translated into an easily understood graphic, featured prominently on the central website and print materials.

REMEDIAL DESIGN
RD Work Plans – plans describing how the RD will be completed.
Periodic Meetings – during the RD process, SD meetings with DEQ and EPA to review design progress.
Pre-Design Investigations (PDIs) – field investigations to fill gaps in data needed to support RD.
Preliminary (30%) RDs – a RD Criteria Report, preliminary construction drawings, and a discussion of permits required submitted to EPA and DEQ for review and comment.
Intermediate (60%) RDs – an expansion of 30% RD, responding to Agency comments, and adding construction specifications, submitted to the Agencies for further review and comment.
Pre-Final (95%) RDs – an expansion of the previous design submittals addressing Agency comments, including construction ready elements, and certified by a professional engineer, submitted to Agencies for final review and comment.
Final (100%) RDs – final design documents that address any remaining Agency comments, submitted for EPA approval.

REMEDIAL ACTION
RA Work Plans – a plan detailing construction, schedule, permitting, and logistics, prepared by the SDs and submitted to EPA for approval.
Construction Execution Plan – a plan detailing construction sequencing, means, and methods; site, traffic, and dust control plans; quality control; and construction schedule prepared by the selected Contractor on behalf of the SDs.
Implementation and Construction of Work Elements Included in the RDs – actual RA construction of the work described in the RA work plan.
Meetings and Inspections – weekly meetings between the SDs and Agencies during RA construction.
Emergency Response and Reporting – plans for if there is an imminent threat or actual release of hazardous substances during RA construction.
RA Construction Completion – after actual construction is completed, an inspection will be conducted to verify work is completed followed by a period where the performance of the completed remedy is monitored and altered if needed (aka a "shakedown" period) to reach an operational and functional status.
Key Remedial Elements Construction Completion Report - After the shakedown period and determination of operational and functional status, the SDs will prepare and submit the KRECCR to the Agencies.
Certification of RA Completion – after RA construction is completed in accordance with the CD, and EPA has determined that the compliance standards have been achieved in accordance with the Compliance Determination Plan, EPA will certify that RA is complete. It should be noted that there is a rigorous and specific process described in the CD for obtaining certification of RA completion, and as noted in the overall CD schedule, this certification is not anticipated until 2041.
Periodic Review Support Plan – during the monitoring and compliance determination period, EPA will conduct periodic reviews of the remedy (aka Five-Year Reviews). The last such review of the Silver Bow Creek/Butte Area NPL site was in 2016 (U.S. Environmental Protection Agency 2016). The SDs will conduct and report on studies to support the periodic reviews as requested by EPA.

Each discrete project will have a more detailed schedule, consistent with the BPSOU CD RD/RA schedule, that includes each of the sub-phases described above.

COMMUNITY ENGAGEMENT SCHEDULE

Due to its complexity, it is not possible to develop a meaningful overall public engagement schedule for executing the RA at this time. However, a shorter-term schedule for public engagement can be developed through 2021. The following marks key milestones that warrant renewed engagement through methodologies described in the subsequent section:

THIRD QUARTER 2021

- Website launch coupled with release of the Community Engagement Plan. This plan will inform the public how the SDs and the Agencies will communicate with and engage the public.
- Logistics Analysis. Engagement to present and review potential haul routes and methods to transport waste. The logistics analysis is closely related to completion of the Repository Siting Study.
- Potential Community Tour of the SBCCA Project Sites. Depending on the status of the project development, potentially offer a community tour of these project sites. Discuss design status, expected construction activities, and upcoming project schedule.

FOURTH QUARTER 2021

- Anticipated recommendation of a preferred repository location to EPA and DEQ for consideration.

As the projects are developed, the public engagement schedule will be reviewed on a quarterly basis and updated accordingly.

ENVIRONMENTAL JUSTICE CONCERNS AND AREAS

Understanding the demographics of different neighborhoods within Butte will inform the most effective path to share information and maintain a dialogue with as wide an audience as possible. The EPA Environmental Justice Screening and Mapping Tool (Version 2020) applies demographical data pertaining to housing, income and other criteria to build a comprehensive picture of the Butte community. "EJ Screen" is a dynamic tool that will complement coordination with the community resource organizations identified above to inform best engagement tactics and prioritization of work performed in accordance with the BPSOU CD and the RMAP.

In compliance with the recommendations described in the EPA Environmental Justice Action Plan, 2020 (APPENDIX B), messaging will feature a forward thinking focus on the outcomes of the cleanup: creation of a safe environment for children; protection of surface water; and providing for recreational opportunities in and near impacted neighborhoods; and anticipated revitalization of community pride, increased economic opportunity and improved quality of life.

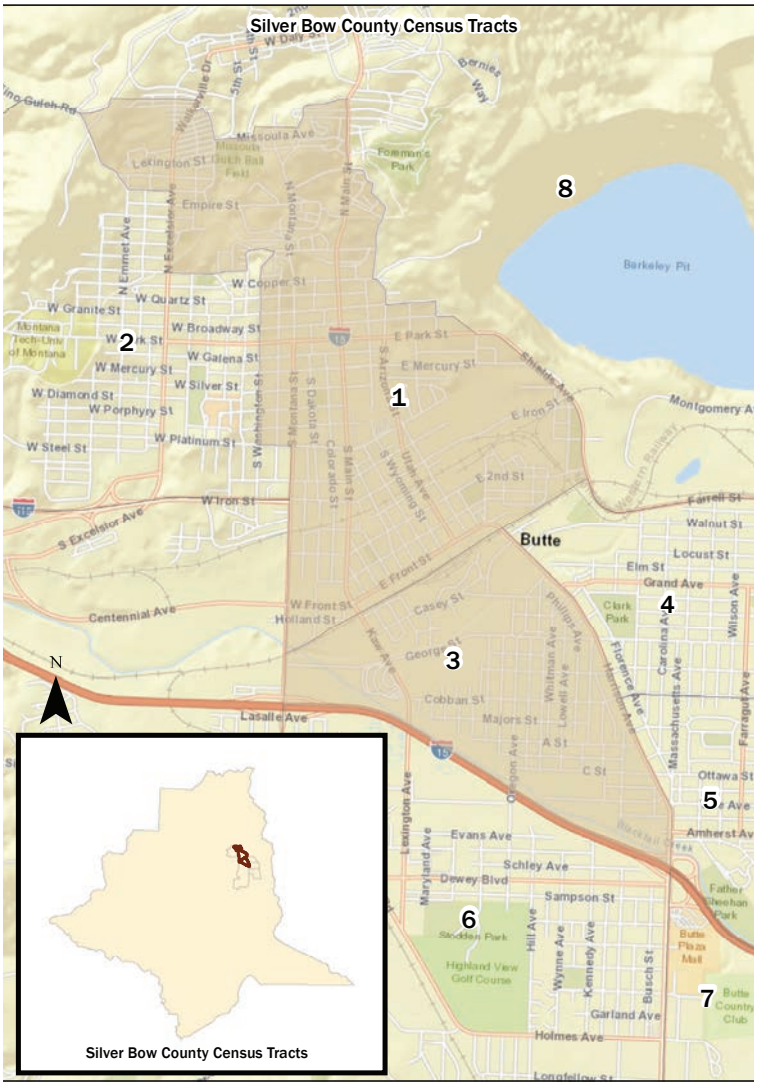


Figure 1. Census Tracts

As described above, the project team will coordinate outreach with community resource organizations to disseminate information through existing engagement outlets to all Butte residents, including potential Environmental Justice populations. Engaging with representatives from these organizations in a group format on a bi-annual basis will help ensure efforts are coordinated, effective and reflective of community interest.

Direct engagement will strive to meet community members where they are and limit demand on their schedules. Limited access to technology and median age will drive the necessity for online and in-person options. Distribution of door-to-door fliers will be one of the key tools to effectively disseminate information and provide notice of neighborhood-specific meetings in potential EJ areas. When neighborhood-specific meetings are warranted, the setting will be informal, and will provide refreshments when possible. Messaging will be reviewed by professionals most familiar with these neighborhoods to ensure that language is understandable and cognizant of the lived experiences of those attending the gathering. Consideration will be given to the unique concerns and ideas that may be voiced during these conversations so that community members feel heard and included throughout the process.

EVALUATION METHODOLOGY AND MONITORING

Public outreach does not always garner public engagement. The multi-faceted approach set forth in this plan is designed to assure access to a broad community, however it will be important to assess success in reaching all the stakeholders in this process. This could be accomplished in a number of ways, including, but not limited to:


Quantitative engagement metrics such as:

- Numbers of people participating in meetings.
- Central website analytics.
- Number of followers, shares, comments, and other social media metrics.


Feedback of effectiveness garnered through group meetings.


Level of interest as expressed through public input.


Ease of access to various virtual platforms including websites and on-line public meetings.


Peer review of engagement materials to determine clarity and consistency.

Ongoing review of engagement effectiveness will occur among the SDs, EPA and DEQ during regularly scheduled communications team meetings. These meetings will offer the opportunity for continuous feedback, sharing of lessons-learned, and recommendations for improvement, leading to improved effectiveness of engagement.

COMMUNITY ENGAGEMENT PLAN FOR REMEDIAL DESIGN & REMEDIAL ACTION

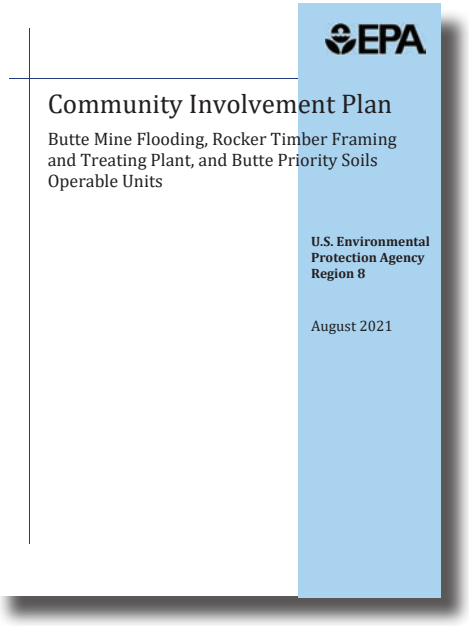
APPENDIX

APPENDIX

Click to jump to the section

APPENDIX A: 2021 EPA BPSOU COMMUNITY INVOLVEMENT PLAN (EPA, 2021)

https://semspub.epa.gov/work/08/100010736.pdf



APPENDIX B: EPA BUTTE ENVIRONMENTAL JUSTICE ACTION PLAN (EPA, 2020)

United States Environmental Protection Agency

ENVIRONMENTAL JUSTICE ACTION PLAN BUTTE, MT / REGION 8

DECEMBER – 2020

Environmental Justice

EPA is committed to promoting and supporting environmental justice (EJ) in all its programs and activities.

The purpose of this Environmental Justice Action Plan (EJ Plan) is to establish EJ goals, objectives and considerations for site activities of the Butte Priority Soils Operable Unit (BPSOU) and the West Side Soils Operable Unit (WSSOU) at the Silver Bow Creek/Butte Area Superfund Site.

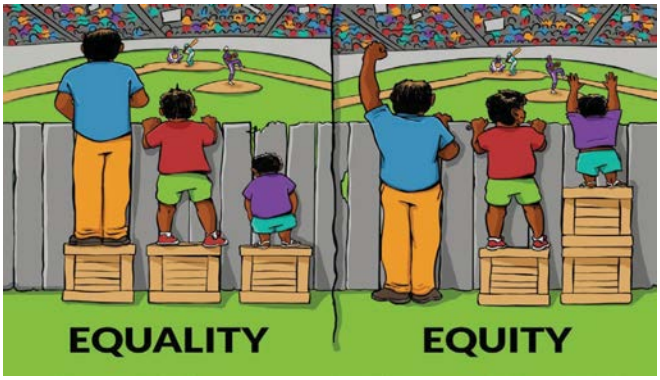
This plan was developed collaboratively by EPA and long-time EJ advocate and community partner, Dr. John Ray. EPA welcomes input from the community and other stakeholders on this plan.

The EJ Plan will become an addendum to the updated BPSOU Community Involvement Plan and to the WSSOU Community Involvement Plan when it is developed.

What is environmental justice and what does it include?

On February 11, 1994, through Executive Order 12898, President Clinton declared that: "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States."

Today, EPA defines environmental justice as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal and commercial operations.



Interaction Institute for Social Change | Artist: Angus Maguire. https://interactioninstitute.org/illustrating-equality-vs-equity/

EPA's goal is to provide an environment where all people enjoy the same degree of protection from environmental and health hazards; and equal access to the decision-making process to support and maintain a healthy environment in which to live, learn, and work.

EPA's Office of Land and Emergency Management in their *Integration of Environmental Justice into OSWER Policy, Guidance, and Regulatory Development* states "Environmental Justice issues should be considered at all stages of policy guidance and regulation development, beginning with preliminary efforts." (OSWER Directive No. 9200.3-17)

Goals for Environmental Justice Activities in Butte, MT

EPA's goals are to embrace all residents and stakeholders in Superfund decision making in Butte and the surrounding area (the area covered by the expanded Residential Metals Abatement Program (RMAP) and to:

- Assess risks and design remediation programs concerning harmful effects of Contaminants of Concern (COC's) on all citizens living in Butte, MT.
- Identify and notify the community of EJ concerns in Butte and the surrounding area.

- Familiarize and inform the public on a regular basis of the environmental justice activities being conducted in Butte and the surrounding area.

- Promote a clean and healthy natural environment in Butte and Silver-Bow County.

EPA will partner with community organizations and interested individuals to help achieve this EJ Plan's goals and to facilitate effective implementation. Specifically, EPA will partner with community organizations and interested individuals in Butte to:

- Identify issues related to environmental justice and the impact of remediation decisions and activities on vulnerable communities in Butte and the surrounding area.
- Develop and disseminate information regarding the impact of remediation decisions and activities as well as steps that individuals can take to protect themselves and their families from exposure to the COCs (e.g. arsenic and lead).
- Develop and disseminate information that focuses on vulnerabilities of low-income residents regarding services, such as the RMAP, that is available to make our lives safer from the possible effects of exposure to the COCs.
- Provide feedback opportunities for communities in Butte and surrounding areas to EPA and partners regarding the implementation and effectiveness of the EJ plan.

Profile of Potentially Impacted Area

EPA's publicly available, nationally consistent screening and mapping tool is called EJSCREEN and can be found at www.epa.gov/ejscreen. An EJSCREEN report is attached that helps describe the area potentially impacted by site activities for the Butte Priority Soils Operable Unit (BPSOU).

As indicated in the report for the BPSOU area, the overall low-income population in the area is 55% (compared to 34% for the State of Montana).

EPA's EJSCREEN tool defines low income as the percent of a population in households where the household income is less than or equal to twice the federal "poverty level."

Community Involvement Plan

EPA's Community Involvement Plan for Butte Priority Soils Operable Unit, dated *November 2003*, will be updated to incorporate the EJ Plan and include the EPA's commitment to all low-income citizens that they are represented in a meaningful way and have full opportunities to participate in the remedial design process surrounding the BPSOU and the WSSOU.

EPA's Community Involvement Handbook states that it is important to consider if there are hard to reach people in the community, such as people who may speak languages other than English or community members who may not trust the government because of legal status or other concerns.

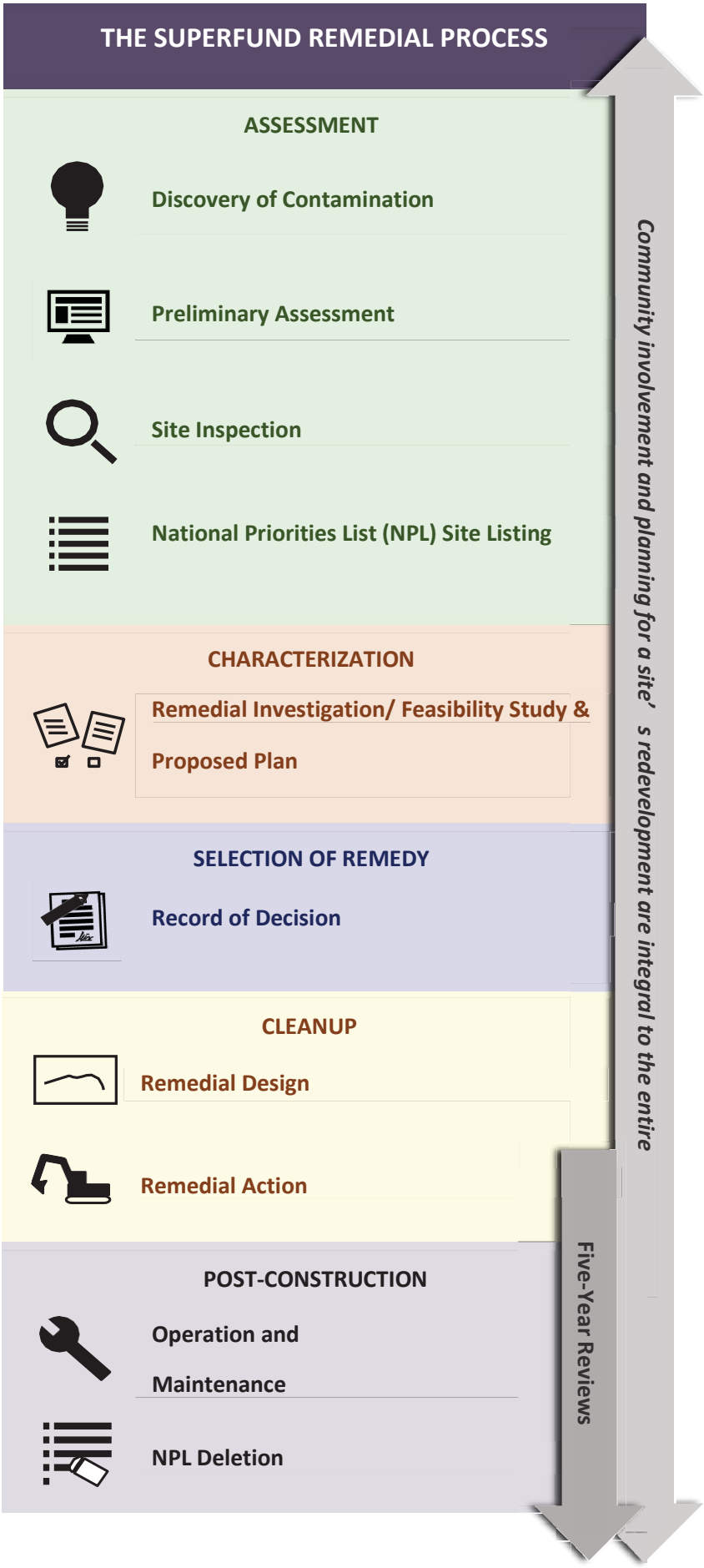
If the site is in a community that is likely to have environmental justice concerns, additional efforts should be made to involve segments of the community that are not effectively reached by conventional approaches.

The EPA's Butte and West Side Soils site teams will embrace this approach in their community involvement activities. Assessing and addressing environmental justice concerns is one of the overarching themes to keep in mind when planning and conducting community involvement and outreach.

As described in the Handbook, Site teams should consider tailoring community involvement approaches to reach out more effectively to specific populations.

Some examples include:

- Using translation or interpretation services
- Partnering with local community groups or community leaders
- Employing nontraditional media outlets for outreach
- Identifying non-government locations to hold public meetings
- Scheduling community involvement activities at times other than during subsistence fishing, hunting, or agriculture seasons
- Continuing to distribute paper copies of outreach materials when members of the community lack access to electronic forms of communication.



Considerations Prior to Implementing Environmental Justice Activities

As part of the development of the environmental justice action plan in Butte, MT and in collaboration with interested organizations and individuals, EPA and partners will:

- Specify and delineate the goals for reaching out to the low-income communities in Butte.
- Agree on the roles to be played by community partners and interested individuals as well as the EPA.
- Identify specific activities and how EPA and partners will interface with the low-income communities in Butte.
- Develop and articulate a common understanding of EJ goals and participant opportunities in the development and evaluation of EPA project plans in the BPSOU and WSSOU.
- Articulate a methodology for reaching out to all community members and determine the most effective venues for reaching out to low-income communities in Butte.
- Develop a timeframe for EJ activities and outreach to the community.

Citizens Technical Advisory Group

In all the above activities, EPA will work alongside the local Citizens Technical Advisory Group, CTEC, to ensure EJ information and activities are available to all citizens of Butte, MT.

"Making environmental justice concerns an integral part of all EPA activities in Butte and the surrounding area"

Picture of Butte and the Berkeley Pit in the mid-2000s (photo provided by Nikia Greene)

Site Activities

EJ site activities could include any of the following:

- Tailoring cleanup activities to address the needs of low-income citizens.
- Involving all citizens in Superfund remedial design decision making in Butte.
- Considering the impact and cleanup of contaminants of concern in Butte on all citizens through health studies and risk assessments that consider EJ concerns.
- Promoting educational outreach about human health protection throughout the community in Butte.
- Helping the local health department promote and foster environmental justice.
- Identifying opportunities for financial support through, for example, environmental justice grants in Butte.
- Adding this EJ Action Plan for BPSOU and the West Side Soils Operable Unit into the updated BPSOU Community Involvement Plan and the upcoming West Side Soils Community Involvement Plan.
- Continuing to include an environmental justice assessment/evaluation a part of all Five-Year Reviews of the BPSOU and WSSOU Superfund sites.
- Designating at least one EPA Montana Office employee as a member of the Region 8 Environmental Justice Action Team.
- Integrating environmental justice into all site activities, as appropriate.

"Tailoring cleanup activities to address the needs of all citizens."

Involving Communities in Butte in Superfund Decision Making

This effort includes outreach activities and ensures opportunities exist for low-income citizens to serve on existing and future community groups, such as the CTEC which assists EPA in developing the expanded RMAP Plan and the decision documents for the WSSOU.

"Promote the overall health of Butte Silver Bow by addressing an important component of that health—a clean and healthy natural environment."

Picture of RMAP workers in Butte, MT in early 2000s, cleaning-up attic dust photo provided by Nikia Greene

Picture of the Butte Berkeley Pit taken in mid-2010 photo provided by Nikia Greene in 2014

Superfund Cleanup Considerations

This involves evaluating the adverse and disproportionate effects on low-income citizens that is not experienced to the same extent by non-low-income citizens.

EPA and partners will focus on the special needs of low-income citizens. So, for example, a low-income citizen may not have access to Butte Silver Bow's website to learn about the RMAP and understand the adverse effects or what you can do about it.

EPA and partners may reach out by mail, go door to door, provide EJ information and contact information at local low-income community service centers, to name a few.

Examples of Environmental Justice Successes in Butte:

- Residential Metals Abatement Program (RMAP). RMAP has designed and implemented specific, tailored appeals to low-income citizens to participate in the program. The RMAP has been successful in reaching out to low-income residents.
- Butte-Silver Bow Health Department outreach to low- income citizens was successful as well.
- Be Contaminant Smart EPA Brochure

Attachment(s)

1. BPSOU Area EJSCREEN Report
2. Be Contaminant Smart EPA Brochure

Picture of a meeting in Butte provided by Nikia Greene

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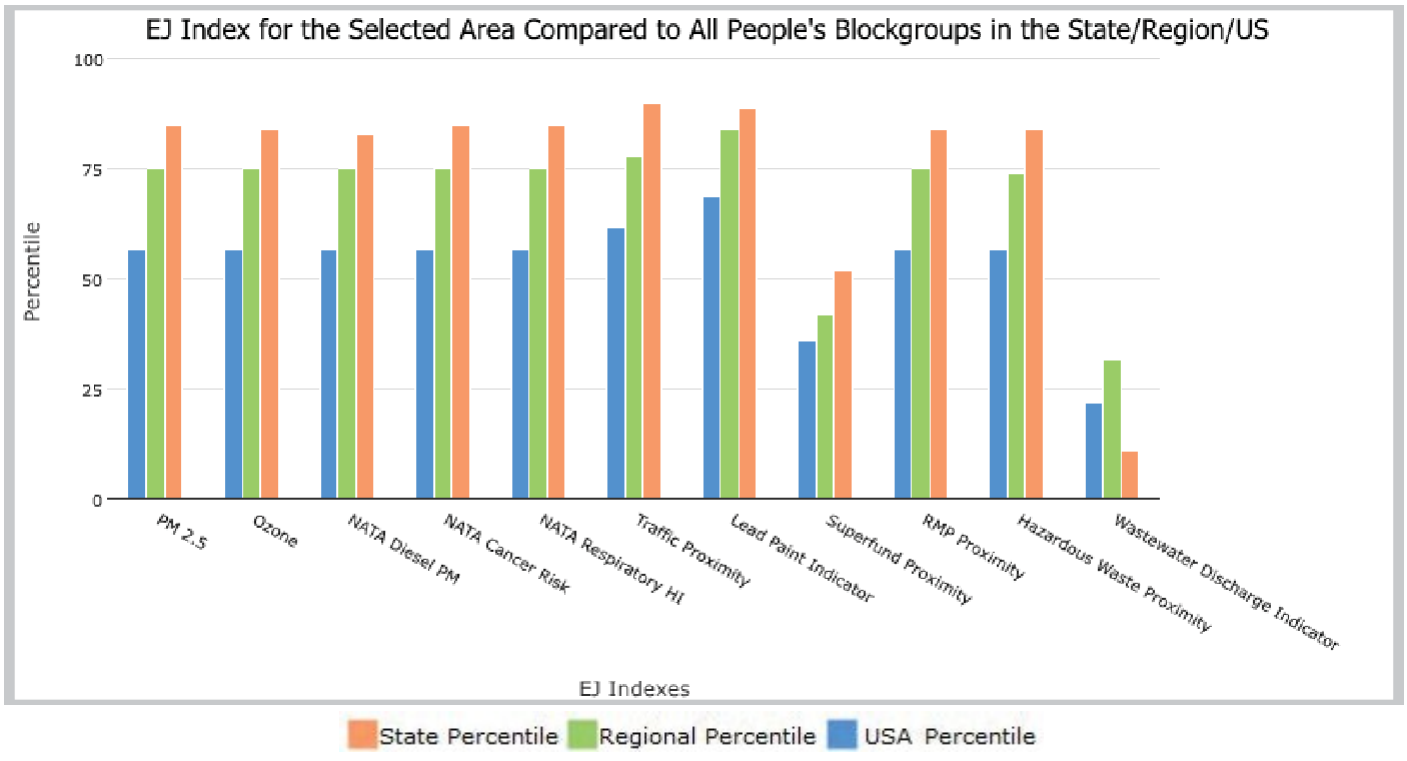
EJSCREEN Report (Version 2019)

the User Specified Area, MONTANA, EPA Region 8

Approximate Population: 14,158

Input Area (sq. miles): 5.69

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	85	75	57
EJ Index for Ozone	84	75	57
EJ Index for NATA* Diesel PM	83	75	57
EJ Index for NATA* Air Toxics Cancer Risk	85	75	57
EJ Index for NATA* Respiratory Hazard Index	85	75	57
EJ Index for Traffic Proximity and Volume	90	78	62
EJ Index for Lead Paint Indicator	89	84	69
EJ Index for Superfund Proximity	52	42	36
EJ Index for RMP Proximity	84	75	57
EJ Index for Hazardous Waste Proximity	84	74	57
EJ Index for Wastewater Discharge Indicator	11	32	22



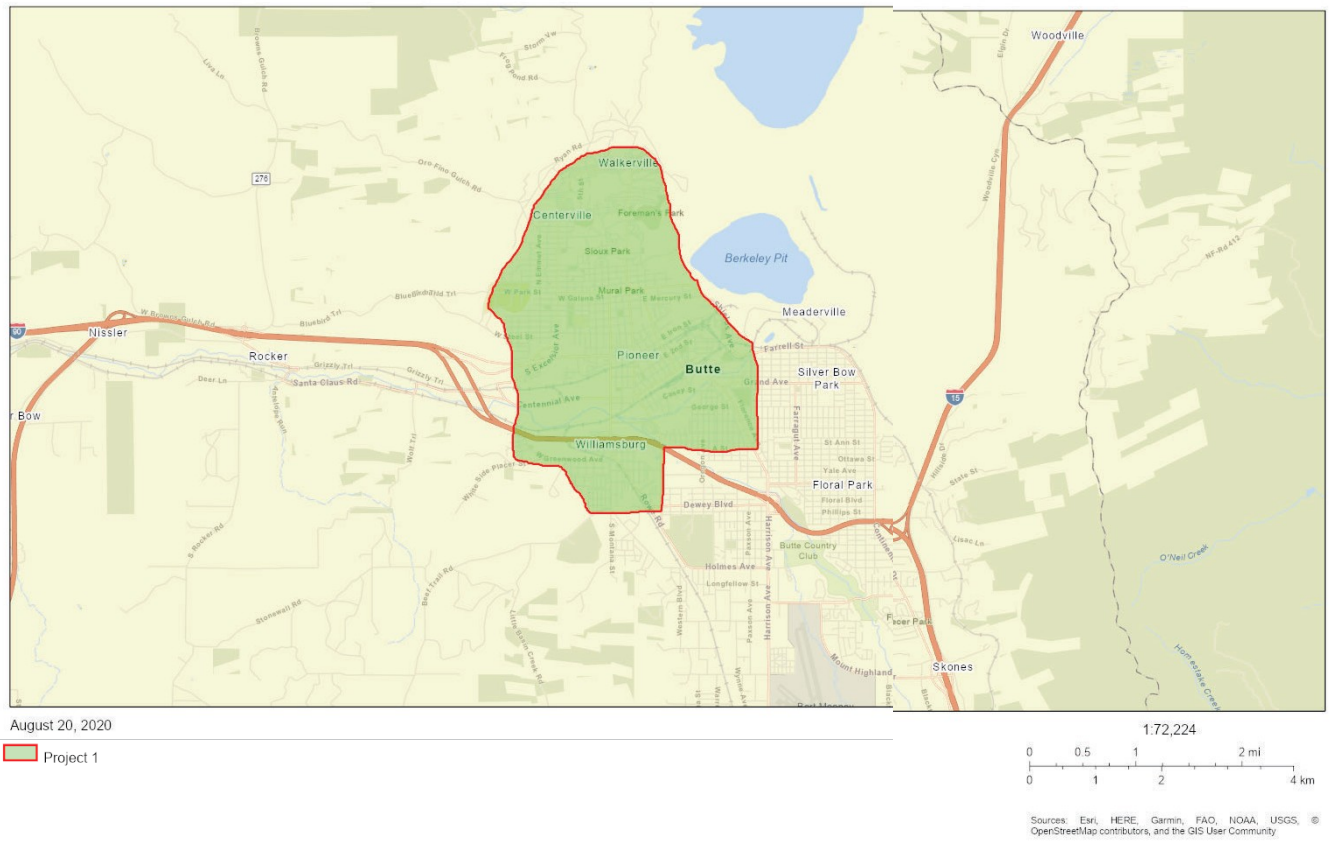
This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

EJSCREEN Report (Version 2019)

the User Specified Area, MONTANA, EPA Region 8

Approximate Population: 14,158

Input Area (sq. miles): 5.69



Sites reporting to EPA	
Superfund NPL	1
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

EJSCREEN Report (Version 2019)

the User Specified Area, MONTANA, EPA Region 8

Approximate Population: 14,158

Input Area (sq. miles): 5.69

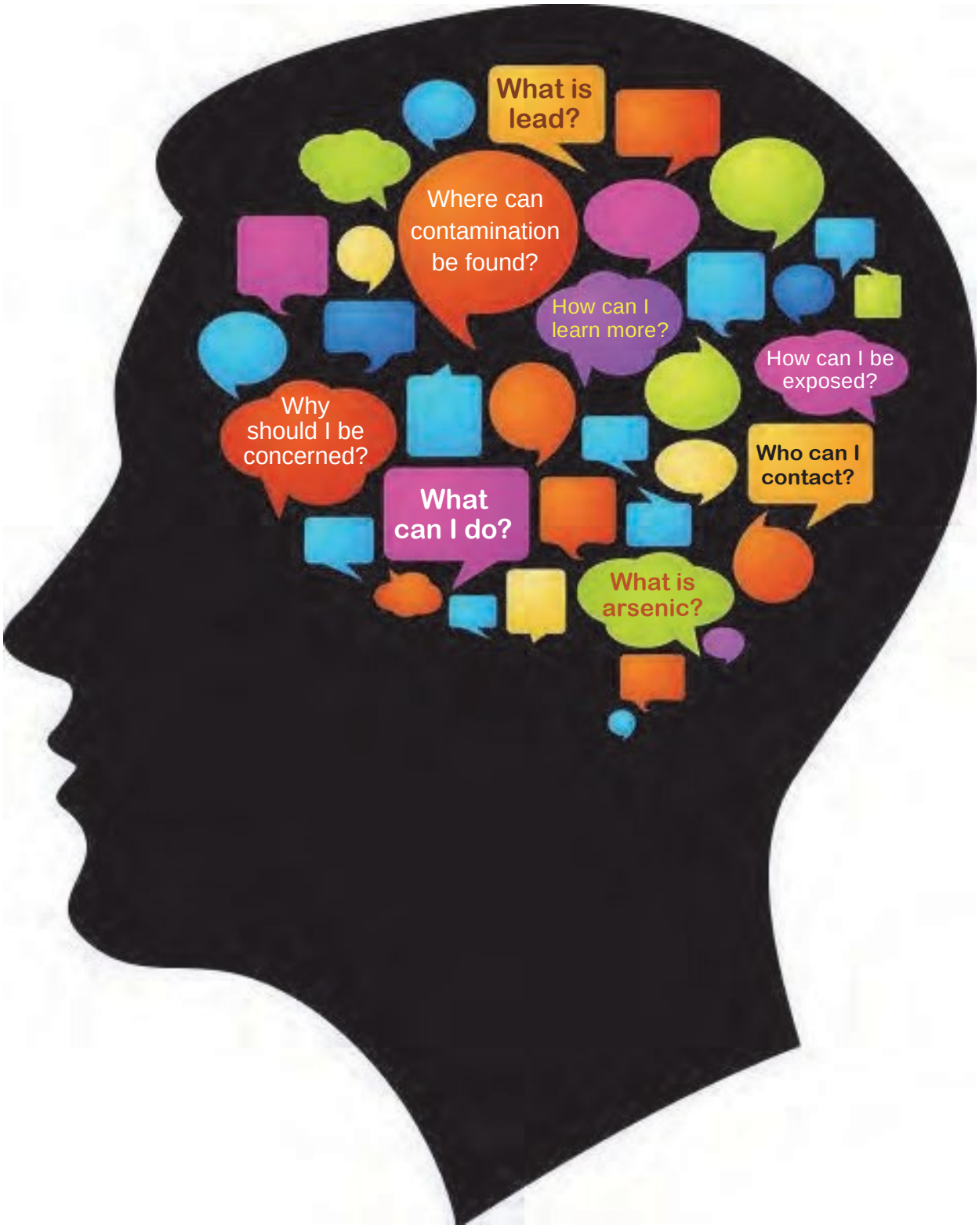
Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in µg/m³)	6.37	5.82	71	6.4	48	8.3	10
Ozone (ppb)	40.3	39.2	55	49.2	12	43	30
NATA* Diesel PM (µg/m³)	0.0902	0.113	52	0.423	<50th	0.479	<50th
NATA* Cancer Risk (lifetime risk per million)	14	18	15	23	<50th	32	<50th
NATA* Respiratory Hazard Index	0.18	0.24	21	0.31	<50th	0.44	<50th
Traffic Proximity and Volume (daily traffic count/distance to road)	280	190	77	460	58	750	55
Lead Paint Indicator (% Pre-1960 Housing)	0.79	0.29	95	0.22	96	0.28	92
Superfund Proximity (site count/km distance)	0.48	0.12	96	0.11	95	0.13	94
RMP Proximity (facility count/km distance)	0.08	0.49	31	0.62	14	0.74	11
Hazardous Waste Proximity (facility count/km distance)	0.08	0.42	39	0.63	25	4	14
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	0.0052	0.00061	97	80	64	14	75
Demographic Indicators							
Demographic Index	33%	24%	82	26%	72	36%	55
Minority Population	12%	13%	70	24%	35	39%	26
Low Income Population	55%	34%	85	29%	89	33%	83
Linguistically Isolated Population	0%	0%	84	2%	56	4%	45
Population With Less Than High School Education	10%	7%	75	8%	70	13%	52
Population Under 5 years of age	6%	6%	54	7%	42	6%	50
Population over 64 years of age	13%	17%	33	13%	55	15%	46

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: https://www.epa.gov/national-air-toxics-assessment.

For additional information, see: www.epa.gov/environmentaljustice

Attachment (2) Be Contaminant Smart

Be Contaminant Smart



Help protect yourself, your family, and your community from mining-related contamination in Butte, Montana

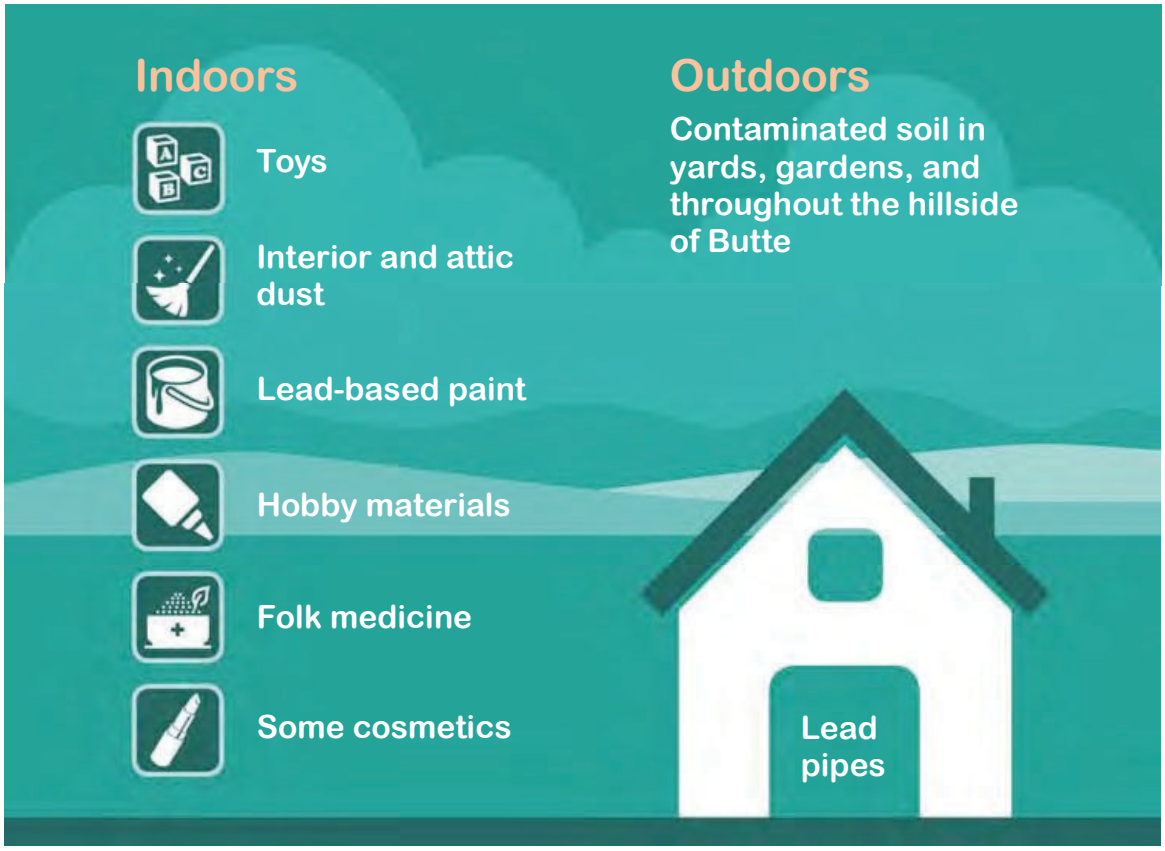
Be Safe and Avoid Mining Impacts

Land in and around Butte has been impacted by over a century of mining, leaving potentially harmful contamination. Cleanup measures are in place to ensure that people are protected from mining contamination and to promote comprehensive public health and wellness. **You can help!** There are steps you can take to protect yourself and your family.

Lead

Lead is the primary contaminant of concern in Butte. It is a naturally occurring element in the earth's crust and is found in higher soil concentrations in Butte because of historic mining activity. There are also many possible sources of lead in the home.

Sources of Lead in Butte



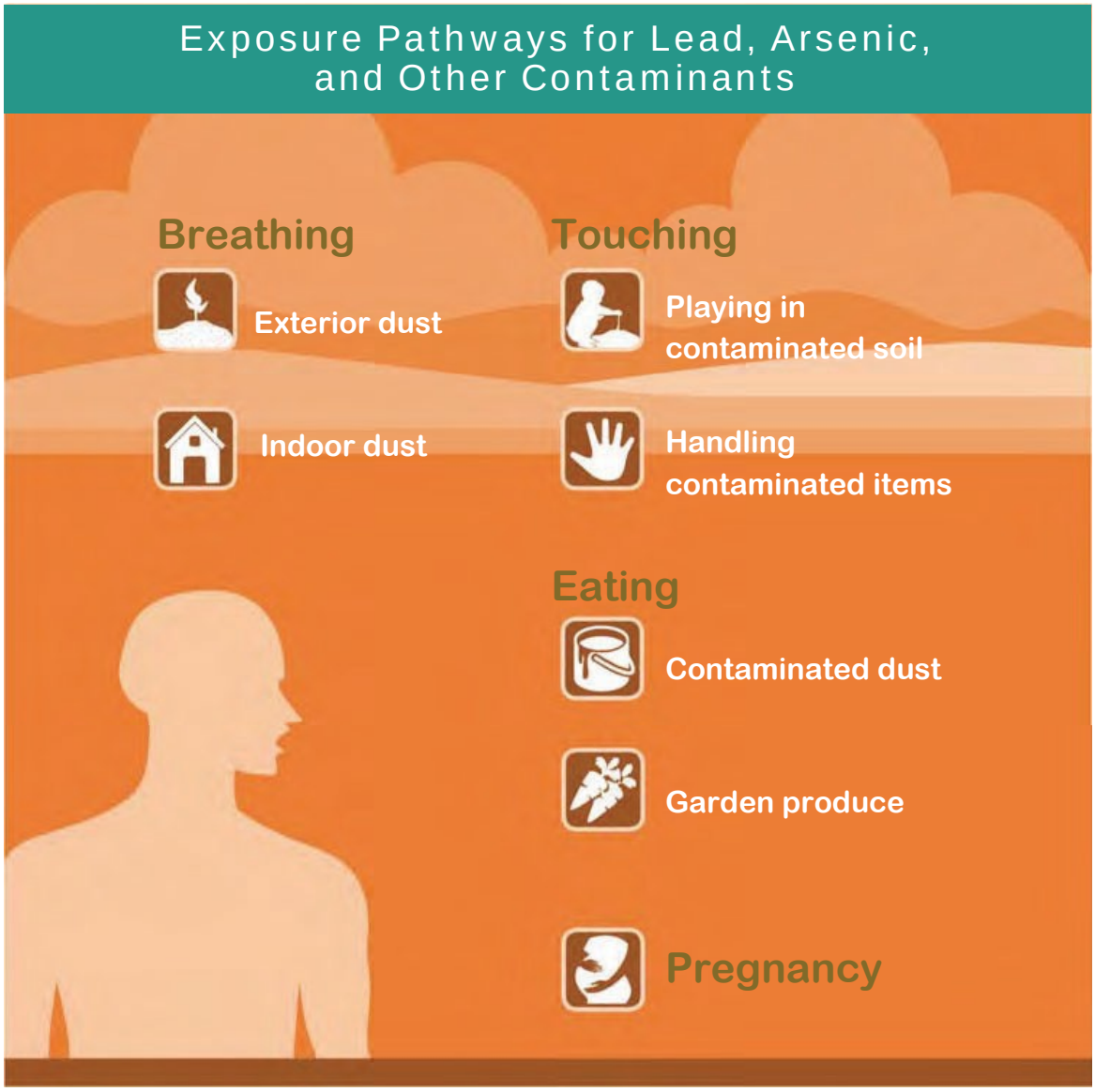
Arsenic and Other Metals

Arsenic and, to a lesser extent, copper, aluminum, cadmium, iron, mercury, and zinc are also contaminants found in Butte. Like lead, they are naturally occurring elements in the earth's crust and found in higher concentrations in Butte because of historic mining activity.

Web link to more info about lead: www.epa.gov/lead

Exposure Pathways

Exposure pathway is the term used to describe how people come in contact with a contaminant. In Butte, the exposure pathways for lead, arsenic, and the other contaminants of concern are similar. They include breathing, touching, and eating. For lead, exposures can also occur to the fetus during pregnancy causing reduced growth and premature birth.



Sampling and testing are the only way to know if your soil is contaminated.

Web link to more info about arsenic: www.epa.gov/arsenic

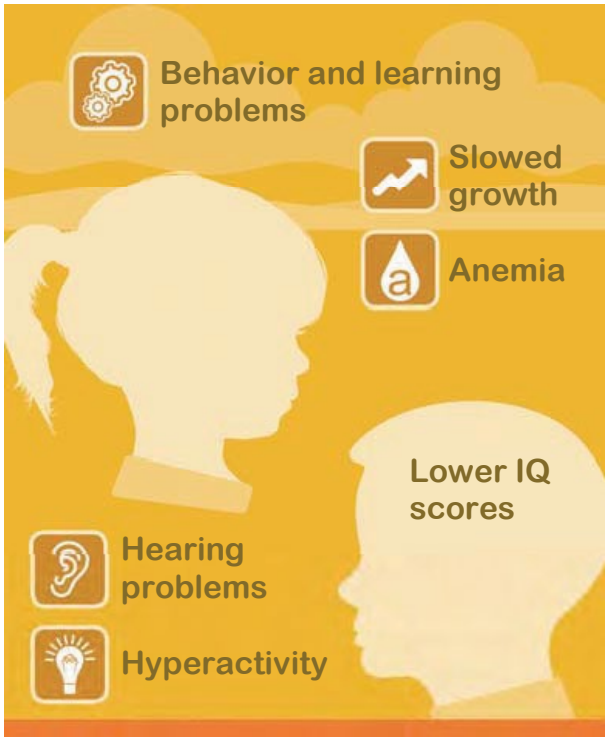
Understanding Health Impacts

Lead is a poisonous metal that can cause learning, hearing, and behavioral problems. While it has beneficial uses, it can be toxic to humans and animals and can cause adverse health effects.

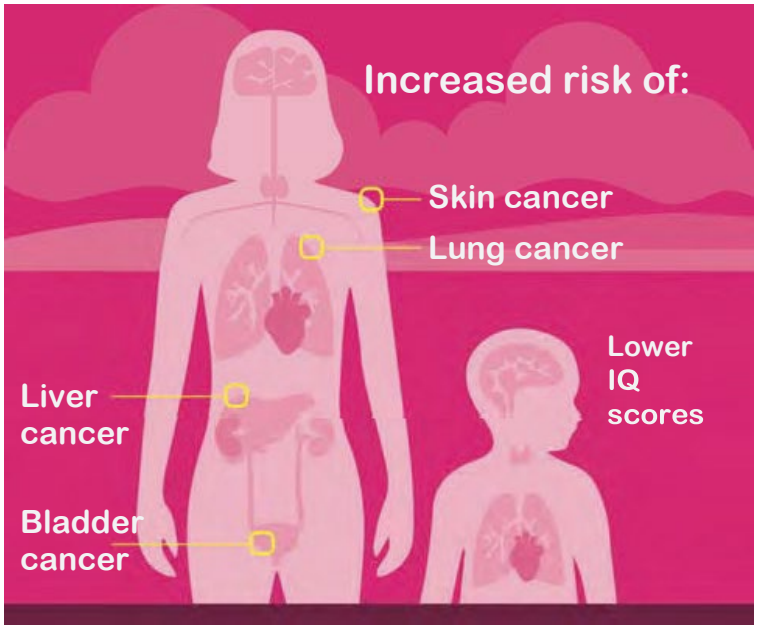
Lead can accumulate in our bodies over time. It is stored in bones along with calcium. **Children are more at risk from lead!** Exposure to lead can harm a child's brain, kidneys, and other organs. Children 6 years and younger are most susceptible since their nervous systems are still developing.

Even low levels of lead in the blood of children can result in serious problems. Children with elevated blood-lead levels usually do not look or act sick. The only way to know if your child has lead poisoning is by getting a blood test.

Lead Impacts in Children



Arsenic Impacts



Like lead, exposure to arsenic can be bad for your health. Arsenic is a known carcinogen and can impact the skin, bladder, liver and lungs. Some studies have also shown that arsenic exposure in children can result in lower IQ scores.

Web link to info about Superfund in Butte: www.epa.gov/superfund/silver-bow-butte

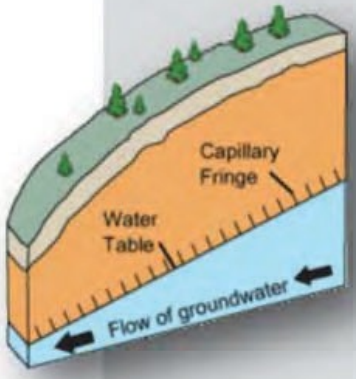
Working Together

People are working together in Butte to ensure residents are protected from lead and arsenic and other potentially harmful contamination. Community groups, the City and County of Butte-Silver Bow, the Montana Department of Environmental Quality, and the U.S. Environmental Protection Agency Superfund Program are cooperating to address the contamination and promote education and blood-lead testing to protect human health and the environment.

The Plan For Protection: Water

Drinking Water

Water from Butte faucets is not contaminated and comes from sources outside of Butte, including the upgraded Basin Creek Reservoir. It is safe to drink and routinely tested.



Groundwater

In certain areas of Butte, groundwater is contaminated. Use of this groundwater is restricted to prevent exposure and it is not allowed to be used for drinking. The contaminated groundwater is captured and treated before it is discharged into streams.

Surface and Storm Water

Water that flows through Butte in creeks after rain and snow melt can transport surface contamination that is potentially harmful to aquatic life. The plan is to manage this water to reduce spreading contamination around Butte.

The Plan For Protection: Soil

Removal

- Millions of cubic yards of mine tailings and contaminated soil in Butte have been removed to prevent human exposure.
- Removals include contaminated yard soils and interior sources of lead such as lead paint and attic dust through Butte-Silver Bow's Residential Metals Abatement Program (RMAP).
- Removal actions are ongoing in Butte.

The RMAP Will:

- Sample and analyze your home and yard.
- Clean up contaminated attic dust, indoor dust, yards and lead paint if needed.
- Provide these services free and with minimal disruption to the home occupant.

Learn more about the program by calling 406-497-5040 or visiting the RMAP website.

Capping

- Potentially hazardous contaminated soil that is not removed is covered with a protective layer of clean soil.
- These "caps" are maintained by Butte-Silver Bow County and are monitored using the Butte Reclamation and Evaluation System to ensure they are protective.
- The Butte Reclamation and Evaluation System is:

  Implemented in cooperation with the Clark Fork Watershed Education Program.

  Responsible for evaluating all reclaimed areas (25 percent of all sites evaluated annually).

  Responsible for correcting protective cap problems under EPA approved work plans.

Web link to RMAP: www.co.silverbow.mt.us/467/Residential-Metals-Abatement-Program

The Plan For Protection: Programs

Blood Lead Screening

- Available to all county residents at no charge through But te-Silver Bow's Women, Infants, and Children Program (406-497-5060).

Public Education

- Projects are ongoing in Butte through community outreach by public, private, and non-profit groups.

Butte-Silver Bow Women, Infants, and Children Program

- Offers and encourages free blood-lead testing at the County Health Department.
- Reports all elevated results to the RMAP for further evaluation.
- Provides a range of resources to improve health and nutrition to women, infants, and children up to 5 years of age.

Part of the Montana WIC

Web link to blood-lead screening program: www.co.silverbow.mt.us/147/WIC-program

Be Contaminant Smart: Family

Contamination from historic mining will remain in Butte even after cleanup is complete. In addition to the cleanup measures, there are things you can do to for your family to be contaminant smart.

Choose a Healthy Diet

- Eat iron-rich foods. Normal iron levels protect the body from lead. Good sources of iron are lean meats, fortified cereals, and dried fruits.
- Eat calcium-rich foods. Calcium reduces lead absorption. Good sources of calcium are green leafy vegetables, milk, and cheese.
- Eat regularly. Children with empty stomachs absorb more lead. Provide children 4 to 6 small meals during the day.

Properly Prepare Garden Produce

- Keep preparation surfaces clean.
- Wash produce to remove soil.
- Throw away the outer leaves of leafy vegetables and peel root crops to remove the skin and any residual soil.

Test Your Kids for Lead

- Enroll in the blood-lead testing program with Butte-Silver Bow's Women, Infants, and Children Program by calling 406-497-5060.

Stay Informed

- Read and follow the suggestions in the EPA Guide *Fight Lead Poisoning with a Healthy Diet*.
- Learn and educate others about lead, arsenic, and other contaminants in Butte.

Web link to *Fight Lead Poisoning with a Healthy Diet:*
www.epa.gov/lead/fight-lead-poisoning-healthy-diet

Be Contaminant Smart: Home

Safety starts at home and there are important and simple practices you can follow to keep your family healthy.

Keep Things Clean

- Keep your home clean and dust-free. This will cut down on the amount of contamination present in the environment.
- Wash hands and toys frequently to help prevent spreading germs and cut down on colds.
- Keep painted surfaces in good condition and clean around painted areas where friction can generate dust, such as around doors, windows and drawers.

Understand and Identify Potential Sources

- Identify and limit exposure to products that may contain lead. These may include toys, cosmetics, crafts, and other items.
- If buying a home built before 1978, find out if it contains lead-based paint. A seller must disclose any known lead-based hazards.

Don't Create Unnecessary Exposures

- Practice safe do-it-yourself renovations. Read and follow guidance in the EPA pamphlet *Renovate Right.*

Stay Informed

- Read and follow the suggestions in EPA's brochure *Protect Your Family from Lead in Your Home.*
- Contact Butte-Silver Bow's Residential Metals Abatement Program to have your home tested for lead and arsenic (406-497-5040 .

Web link to *Renovating Right:*
www.epa.gov/lead/lead-safe-certified-guide-renovate-right-2

Web link to *Protect Your Family from Lead in Your Home*:
www.epa.gov/lead/protect-your-family-lead-your-home

Be Contaminant Smart: Outside

Gardening is a fun and healthy hobby and there are contaminant smart tips to help keep gardening safe.

Don’t Let Contamination Into Your Home

- Leave dirty shoes at the door.
- Reduce dirt brought in by pets.
- Wash children's hands, bottles, pacifiers and toys often especially if they contact soil.
- Avoid contact between gardening clothes and furniture.
- Wash garden produce thoroughly to remove soil completely.

Garden Carefully

- Wear gloves while gardening and when harvesting produce.
- Add organic materials, like compost, manure, leaves, or grass clippings to your garden. Organic compounds bind lead and make it less available to contaminate plants.
- Add mulch to the garden to reduce dust and prevent soil from splashing onto plants during irrigation or rainstorms.
- Locate your garden as far as possible from busy streets, highways, or old buildings. Traffic can spread dust contaminated with lead and old buildings may shed lead paint.
- Encourage kids to play away from the garden.
- Select plants with shallow roots to ensure that roots do not reach contaminated soil. Increase planting of fruits and vegetables that grow on vines and on fruit trees.
- Grow crops in containers filled with clean soil or build raised beds using safe materials.

Be Contaminant Smart: Taboos

Finally, there are some things to avoid to be contaminant smart and keep your family safe.

STOP!

- **DO NOT knowingly consume lead, arsenic or other potentially harmful contamination.**
- **DO NOT let children chew or put paint chips in their mouths.**
- **DO NOT let children eat dirt.**
- **DO NOT try to remove lead-based paint yourself. Call the RMAP or use an EPA certified or approved contractor. Read and follow the guidance of EPA's Renovation, Repair and Painting Program.**
- **DO NOT allow children to play in known tailings or contaminated soil.**
- **DO NOT have hobbies that use lead.**

Remember, the Butte-Silver Bow RMAP is your best resource for help with lead paint identification and removal and for dealing with attic dust. Their assistance is provided at no cost to you.

Web link to info about EPA's Renovation, Repair and Painting Program:
www.epa.gov/lead/renovation-repair-and-painting-program

Contacts for More Information

Citizens for Labor and Environmental Justice

- www.facebook.com/Citizens-for-Labor-and-Environmental-Justice-860260360719942/
- 406-496-4228

Citizens Technical Environmental Committee

- www.buttectec.org
- 406-723-6247

City and County of Butte-Silver Bow

- www.co.silverbow.mt.us
- Health Department, 406-497-5020
- Women, Infants and Children Program, 406-497-5060
- Residential Metals Abatement Program, 406-497-5040

Montana Department of Environmental Quality

- www.deq.mt.gov/Land/fedsuperfund
- 406-444-6444

U.S. Environmental Protection Agency

- www.epa.gov/mt
- 406-457-5000

APPENDIX C: COMMUNITY ASSESSMENT PARTICIPANT LIST

1. Stacey Robinson, Land Design Inc.
2. Paul Babb, NorthWestern Energy Community Relations Manager
3. Mark Gollinger, SBCCA Neighborhood/Former BNRC
4. Linda Rask, SBCCA Neighborhood
5. Judy Jonart, BSB School Superintendent
6. JJ Adams, Hotel Finlen
7. Marcus McCaughey, Kennedy Elementary
8. Maureen Prigge, SBCCA Neighborhood
9. Ed Banderob, Greeley Neighborhood
10. Larry Winstel, Greeley Neighborhood
11. Clark Grant, Butte America radio
12. Daniel Hogan, Butte America radio
13. Nora Saks, Montana Public Radio
14. Stephanie Sorini, Chamber of Commerce
15. Butte KOA
16. John Pantano, Researcher
17. David McCumber, Montana Standard
18. Shawna Yates, Community Health Center
19. Mike McGree, A1 Ambulance/Timber Butte resident
20. Bob Lazzari, BSB Parks and Recreation
21. Abby Peltomaa, BSB Reclamation and Environmental Services
22. Mark Neary, BSB Public Works Director
23. Joe Willauer, Butte Local Development Corporation
24. Cassandra Noonan, Butte Local Development Corporation
25. Karen Byrnes, BSB Community Development
26. John Ries, Mayor of Walkerville
27. Theresa Conway, Timber Butte Neighborhood
28. George Everett, Mainstreet Uptown
29. Margie Seccomb, Action, Inc.
30. Matthew Stajcar, Northwest Energy/Superfund Advisory and Redevelopment Trust
31. Dr. Wendy Grace, St. James Healthcare/Superfund Advisory and Redevelopment Trust
32. Jocelyn Dodge, Restore our Creek Coalition
33. Dave Williams, BNRC/CTEC
34. Elizabeth Erickson, BNRC/Water and Environmental Technologies
35. Shanna Adams, Uptown Butte Master Plan
36. Jon Wick, 5518 Designs
37. Cassie Weightman, Montana Independent Living Project

38. Jenny Heglund, Butte Community Fitness Foundation
39. Mark Thompson, Trout Unlimited
40. Ted Duaime, Montana Bureau of Mines & Geology
41. Jack Standa, Montana Resources
42. Mark Thompson, Montana Resources
43. Revonda Stordahl, Public Housing Authority
44. Timmy Shea, Montana Tech Student
45. Barbara Miller, Community Activist
46. Dave Bowers, Montana DEQ – Montana Pole Site Manager
47. Kayla Lappin, CFWEP
48. Rayelynn Brandl, CFWEP
49. Moira Davin, Montana DEQ
50. Kevin Stone, Montana DEQ
51. Joe Griffin, CTEC
52. Dr. John Ray, CTEC
53. Mike Kujawa, Butte High School
54. Mike Kujawa Sr., Resident
55. Michele Shea, BSB Commissioner
56. Erik Nylund, US Senator John Tester's Office
57. J.P. Gallagher, BSB Chief Executive
58. Jim Kambich, BSB Chief Executive Assistant
59. Cathy Maloney, BSB County Superintendent of Schools
60. Cindi Shaw, Historian and BSB Commissioner
61. Bill MacGregor, CTEC
62. Dave Hutchins, CTEC
63. Raja Nagisetty, CTEC
64. Dave Williams, CTEC
65. Deanna Queer, Resident and Small Business Owner
66. Shawn Fredrickson, BSB Commissioner, SARTA
67. Ivy Fredrickson, Environmental Attorney, SARTA
68. Fritz Daily, Former State Legislator
69. Sister Mary Jo McDonald, ROCC/BNRC
70. Ron Davis, Butte Broadcasting

APPENDIX D: COMMUNITY ASSESSMENT STRATEGY AND PROCESS AND INFORMATION PIECE

BPSOU Community Assessment Strategy Guide

The assessment strategy guide serves as a reference for The Langdon Group (TLG) when conducting key stakeholder interviews for the Butte Priority Soils Operable Unit (BPSOU) Community Assessment. Per the Scope of Work, TLG will prepare an assessment findings and recommendations report that will inform the revised Community Engagement Plan (CEP).

- TLG will interview stakeholders in March 2021. The approved "One Pager" will serve as the primary communication piece for describing the purpose and process.

- Stakeholder will be determined with the internal project team (TLG, Atlantic Richfield, Pioneer Technical, Butte-Silver Bowe) and additional stakeholders will likely be added throughout the interview process.

- Interviews will occur where the interviewee is most comfortable. This could be on site, at their home, place of businesses, public space, video conference or phone. The interviewer will share the purpose of the meeting, express gratitude for their participation and ask permission to take notes during the discussion.

- Interviewers will employ active listening skills, built trust, and genuinely convey that the interviewee's input is valued.

- To protect interests and foster an open discussion, specific comments or findings received will not be attributed to anyone by name, position or agency in the CEP. Feedback will be grouped into common themes that emerge through the interviews.

- Some questions are geared to gather similar responses to the 2013 EPA Community Involvement Plan assessment, to determine how/if outlooks and opinions have evolved.

- Each discussion may differ depending on interests and the direction of the conversation. The typical process will follow the following sequence:
  1. Telling their story
  2. Communicating with THIS community
  3. What works well HERE?
  4. Who else should we be talking to?

Discussion Topics: To solicit input that is valuable and constructive, the format of key stakeholder interviews iare intended to be conversational– not all questions will always be asked and additional questions not listed here may help foster the dialogue. The following questions are intended to help generate internal team feedback, and serve as a reference during the assessment as needed.

<u>Getting to know the interviewee</u>

- Personal background, about self and organization

- History and involvement in Butte, with mining and the remediation
- What is your familiarity with the CD, BPOSA, the different companies and agencies involved?
- What else is important to know about you, your organization and/or community?

Understanding and opinion of the situation

- How well do you feel like you understand the cleanup effort and the different programs within it and how they interconnect?
- What would you consider to be successes of the cleanup process to date?
- Are you aware of where this project is at in the overall schedule of work?
- Are you concerned about the public's health? What specifically?
- What are your biggest concerns in the BPSOU? Repository locations? Dust? Construction impacts? Something else?
- What do most people in your community care about?
- Are you aware of the plan for developing open space/greenway when remediation is complete? Do you feel like the rest of the community knows? Do they feel positively about this?

Public involvement to-date

- Thoughts on public involvement to-date? What is working?
- Is there anything you received, read or heard about that particularly stands out?
- How would you characterize the community's level of interest in engaging in this issue?
- Is everyone impacted or interested given a voice? Are there underserved populations that need more, or special attention? What is the best way to connect with them?
- Do you feel like anyone who wants it has a seat at the table? If not, why?

Public involvement looking forward

- What topic areas would you like regular updates about?
- Who do you trust for advice and information?
- How does this community like to engage?
- What makes your community unique? Are there creative methods of engagement you think would work here?
- Thoughts about engaging children?
- Is social media widely used in Butte? What outlets?
- Where do people go to receive information?
- Who else should we be talking to?
- What is the best way to keep you and others informed?

BUTTE PRIORITY SOILS OPERABLE UNIT
COMMUNITY ENGAGEMENT

The 2020 Butte Site Consent Decree is a legal agreement that provides a path forward for cleanup of historic mining contamination in the Butte Priority Soils Operable Unit (BPSOU). *See map on reverse.* The BPSOU, covering an area of more than 4,200 acres, includes most of Uptown Butte, portions of Blacktail and Silver Bow Creeks, and the community near Timber Butte. The United States Environmental Protection Agency (EPA), the State of Montana, the Butte-Silver Bow local government and the Atlantic Richfield Company are all party to this agreement. As the settling defendants, Butte-Silver Bow and Atlantic Richfield are responsible for completing the cleanup work.

Upon completion of cleanup activities, areas that were formerly impacted by historic mining will be reclaimed and in some cases transformed into open green space and recreational areas for the community.

THE PROCESS

A key component of the consent decree is protection of human health and the environment. This process includes:

- **Removing contaminated soil**
- **Capturing more impacted groundwater**
- **Further protecting surface water**

WHERE WILL THE CLEANUP TAKE PLACE?

Contaminated soil that is removed during cleanup will be relocated to a repository. The selection of a repository location will be done in accordance with EPA guidance with public input. Selection of the repository location will consider public acceptance, public safety and health, and potential environmental impacts.

In addition to the cleanup taking place near Silver Bow and Blacktail Creeks, additional source areas on the Butte hill and near Timber Butte will be evaluated to determine if they pose a threat to human health or surface water. If they do, these areas will be reclaimed with clean soils, revegetated, and maintained as open space.

There are also several drainages south of the interstate that flow to Silver Bow Creek. Small basins will be constructed at the outfalls of these drainages if they are contaminated by historic mine waste that impacts stream quality. Near Timber Butte, the Copper Mountain Sports and Recreation Complex will be evaluated to determine how the area could be managed to prevent surface water contamination.

SCHEDULE

The BPSOU cleanup is currently in its design phase. Once designs are approved, construction is scheduled to begin in 2022 and reach completion by 2028.

MORE INFORMATION

To learn more, please contact the project team at:

(406) 324-7586 or

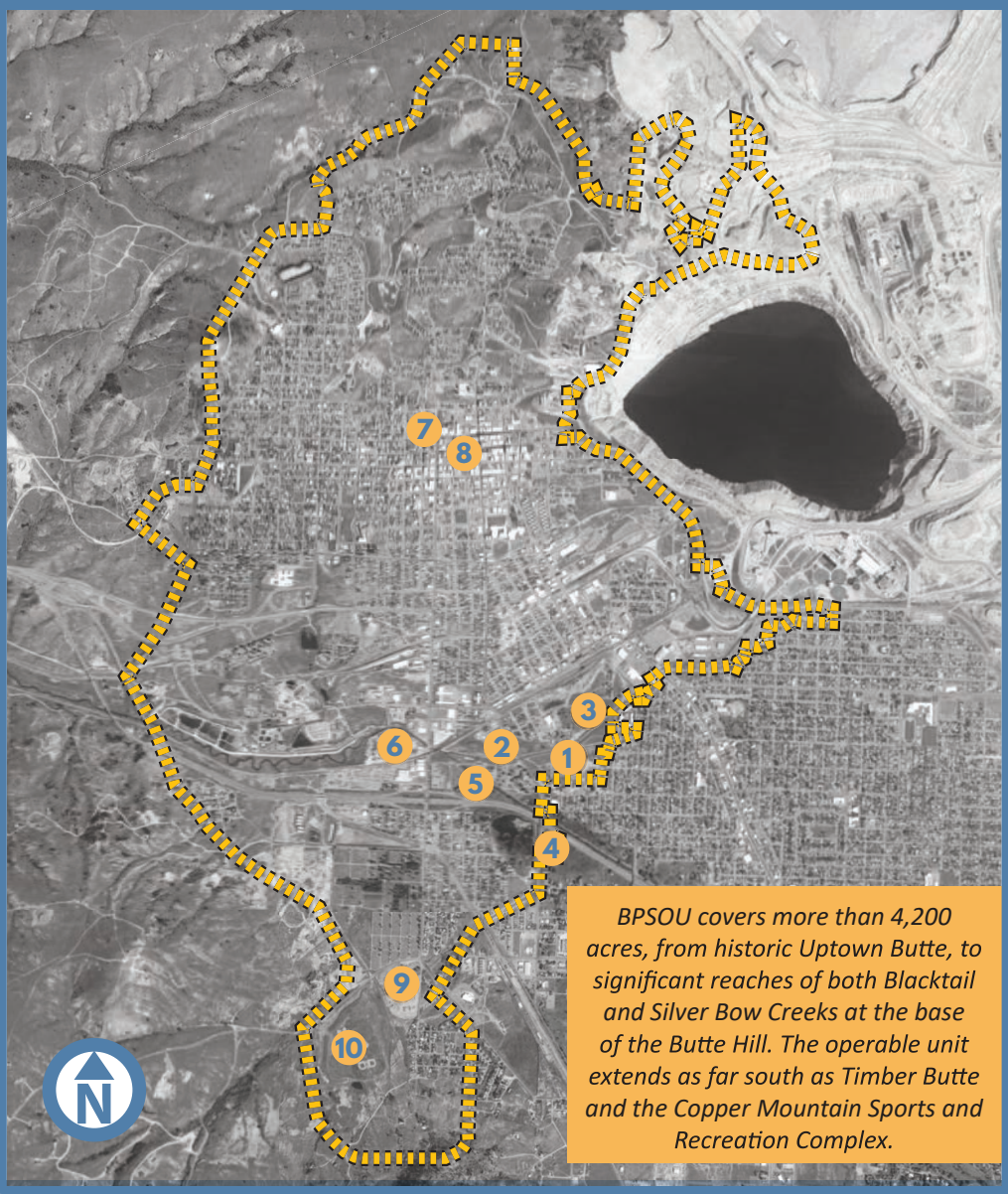
BPSOU@langdongroupinc.com

COMMUNITY ASSESSMENT

The Langdon Group has recently joined the project team and will lead the public engagement process for the BPSOU cleanup.

Over the next several months, staff of The Langdon Group will speak with community members and conduct a community-wide survey to understand the public's project concerns and communication needs. This information will help develop an effective public engagement strategy that builds upon previous communication efforts, and helps keep the public engaged and informed throughout the BPSOU cleanup process.

WHERE IS THE BUTTE PRIORITY SOILS OPERABLE UNIT?



BPSOU covers more than 4,200 acres, from historic Uptown Butte, to significant reaches of both Blacktail and Silver Bow Creeks at the base of the Butte Hill. The operable unit extends as far south as Timber Butte and the Copper Mountain Sports and Recreation Complex.

10 PROJECT AREAS WITHIN THE BPSOU

1. Diggins East Stormwater Basin Area
2. Buffalo Gulch Stormwater Basin(s)
3. Northside Tailings/East Buffalo Gulch Area
4. Grove Gulch Sedimentation Bay
5. Blacktail Creek Remediation & Contaminated Groundwater Control
6. Butte Reduction Works, Smelter Area Mine Waste, Remediation & Contaminated Groundwater Hydrological Control
7. Insufficiently Reclaimed Source Areas
   *Multiple Sites present throughout BPSOU
8. Unreclaimed Solid Media Sites
   *Multiple Sites present throughout BPSOU
9. Uncontrolled Surface Flow Areas (BMPs)
   *Multiple Sites present throughout BPSOU
10. Copper Mountain Sports & Recreation Complex

APPENDIX E: PUBLIC PARTICIPATION IN REMEDIAL DESIGN, BUTTE PRIORITY SOILS OPERABLE UNIT (SEPTEMBER 2020)

Public Participation in Remedial Design

Butte Priority Soils Operable Unit,

Silver Bow Creek/Butte Area Superfund Site

September 2020

With the recent signing of the 2020 Record of Decision Amendment and the Consent Decree, Superfund work at the Butte Priority Soils Operable Unit (BPSOU) of the Silver Bow Creek/Butte Area Superfund Site has moved into a new phase. The original cleanup began with time critical removal actions in the late 1980s, followed by characterization and remedial action after issuance of the 2006 Record of Decision and 2011 Unilateral Administrative Order. Since then, negotiations have successfully concluded, and we now have a Consent Decree that defines the final cleanup requirements in the BPSOU. The next steps are preparation of remedial designs—essentially the who, what, where, when, why, and how of the cleanup—and implementation of a communication strategy to obtain public input on design, which is key to the success of both design and construction.

Design is where the rubber meets the road for a protective cleanup. Engineers and designers will make decisions on hundreds of details to guide removals of contamination, construction of remedial elements, infrastructure development, and much more. Additional investigation may be needed to fill data gaps and, once designs are complete, construction can begin.

Conceptual design drawings prepared by Atlantic Richfield illustrate how the remedy and end land use features may be integrated and will now be advanced through the design process. Draft and final remedial designs will be prepared by Atlantic Richfield and Butte-Silver Bow County, with the input and review of the U.S. Environmental Protection Agency (EPA) and Montana Department of Environmental Quality (DEQ). The public will be provided the opportunity to contribute to the development of these designs through the Citizen's Technical Environmental Committee (CTEC).

Opportunity for Public Participation

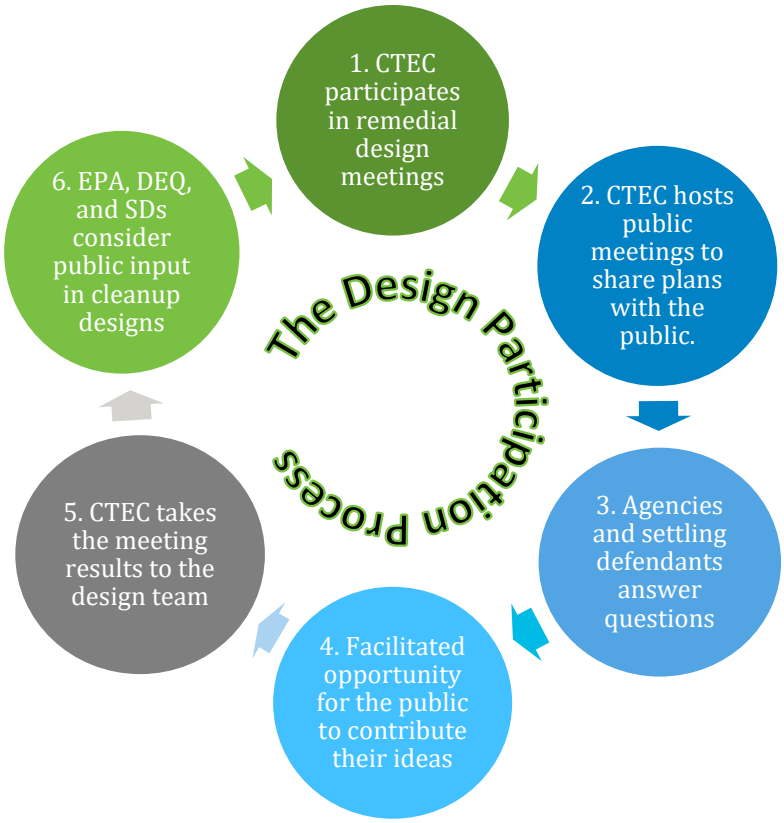
Under formal Superfund regulations, community involvement requirements during remedial design are limited to public notification of final designs and the hosting of an EPA public meeting. However, based on the success of the conceptual planning process, the agencies and settling defendants intend to do more than that and will provide opportunity for public participation early in the design process. We hope Butte citizens choose to participate in this opportunity, and take part in shaping the future of their community. The public participation process will be memorialized in two documents. Atlantic Richfield and Butte-Silver Bow, under oversight by the Agencies, will develop a Community Engagement Plan that will describe the process and tools to be used to ensure adequate community outreach, education, and participation during investigation, remedial design, and construction. EPA will update its Community Involvement Plan.

CTEC will provide the public a venue to learn about remedial design and solicit input for EPA, DEQ, Atlantic Richfield and Butte-Silver Bow consideration early in the design process. CTEC has been providing Superfund outreach to the community for over two decades and is funded by an annual technical assistance group grant from EPA. CTEC is making changes to their bylaws and goals to better serve the public and one of their first priorities will be supporting public involvement in BPSOU cleanup.

EPA DEQ Montana Department of Environmental Quality The City-County of Butte-Silver Bow Atlantic Richfield Company CTEC Citizens Technical Environmental Committee Butte, Montana

How Public Participation Will Work

CTEC will serve as the conduit between the public and the design team in a process illustrated below. In addition to CTEC meetings, the Settling Defendants may host public meetings throughout design and through construction.



Potential Areas of Interest

Not every aspect of remedial design and construction is likely to be of interest to the public, but the community may be most interested in the following activities:

- Identification and selection of a suitable waste repository location
- Removal of mine waste, tailings, and impacted soils
- Control and treatment of contaminated groundwater and stormwater
- End land use planning and design
- Potential impacts to traffic and neighborhoods during construction
- When investigation and construction work is expected to take place

If one or more of these topics sound like something you would want to have a voice in, consider participating in the CTEC meetings. Contact CTEC if you would like to receive email announcements.

Find Out More

If you have a question or suggestion about public participation in remedial design, please contact one of the representatives listed below.

- **Nikia Greene**, **EPA Remedial Project Manager**, 406-457-5019, greene.nikia@epa.gov
- **Dana Barnicoat**, **EPA Community Involvement Coordinator**, 406-560-6261, barnicoat.dana@epa.gov
- **Dave Williams**, **CTEC President**, 406-723-6247 or 406-498-9615, buttectec@hotmail.com
- **Daryl Reed**, **Montana DEQ Quality Project Officer**, 406-444-6433, dreed@mt.gov
- **Rebecca Harbage**, **Montana DEQ Public Information Officer**, 406-444-2813, rharbage@mt.gov
- **Josh Bryson**, **Atlantic Richfield, Liability Manager, 406-**723-1834, josh.bryson@bp.com
- **Cameron Nazminia**, **Atlantic Richfield Director of State and Local Affairs,** 307-757-6863, cameron.nazminia@bp.com
- **Eric Hassler**, **Butte-Silver Bow County Superfund Operations Manager**, 406-497-5042, ehassler@bsb.mt.gov
- **Julia Crain**, **Butte-Silver Bow County Special Projects Planner**, 406-497-6264, jcrain@bsb.mt.gov

CTEC
www.buttectec.org

Atlantic Richfield
www.armontana.com

EPA
www.epa.gov/superfund/silver-bow-butte

DEQ
www.deq.mt.gov

Butte-Silver Bow
www.co.silverbow.mt.us

APPENDIX F: REMEDIAL DESIGN/REMEDIAL ACTION SCHEDULE FOR FURTHER REMEDIAL ELEMENTS

EXHIBIT 1 TO THE BPSOU STATEMENT OF WORK (BPSOU SOW)

Remedial Design (RD)/Remedial Action(RA) Schedule for the Further Remedial Elements Scope of Work

Notes: 1) All deliverables and tasks required under this BPSOU SOW must be submitted or completed by the deadlines or within the time durations listed in the RD and RA Schedules set forth below.

2) Settling Defendants may submit proposed revised RD Schedules or RA Schedules for EPA approval.

3) Upon EPA approval, the revised RD and/or RA Schedules supersede the RD and RA Schedules set forth below, and any previously-approved RD and/or RA Schedules.

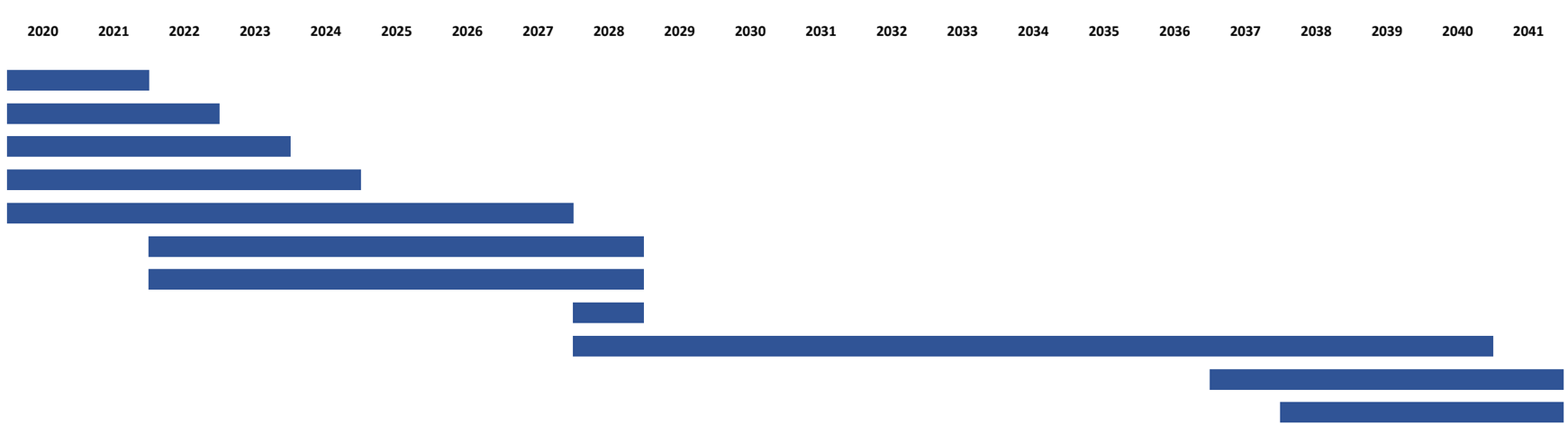
4) The below RD/RA Schedule is reflective of current project understanding and known site and project constraints, including but not limited to:

a) A BPSOU Consent Decree will be lodged with the Court in 2019.
b) Parties will attempt to minimize simultaneous operations within the project areas, on haul roads, and at the selected repository location.
c) No more than (1) project may contribute construction dewatering flow to the Butte Treatment Lagoons at any given time during execution of the work.
d) Further Remedial Element construction will be sequenced so that groundwater hydraulic controls are in place and operational prior to commencement of future work that could be impacted by the presence of contaminated groundwater.

5) The below RD/RA Schedule addresses content of Sections 3 through 6 of Appendix D, BPSOU SOW. Items that do not require deliverables in accordance with the BPSOU SOW, or would be addressed within the general tasks of the below RD/RA Schedule are omitted for clarity.

6) The below RD/RA Schedule is intended to be inclusive of all known activities required to complete the identified Further Remedial Elements Scope of Work, including the tasks associated with preliminary design, intermediate design, pre-final design and final design (30%, 60%, 95%, 100%), procurement, construction, shakedown, inspection, certification, monitoring, and reporting activities. A more specific Gantt chart schedule shall be developed during remedial design.

BPSOU SOW Reference	Task Description
3.1	Remedial Design Work Plans
3.3	Pre-Design Investigation
3.4-3.7	Remedial Design
4.1	Remedial Action Work Plans
4.2	Further Remedial Elements Construction
4.6 c	Shakedown
4.6 d	Remedial Action Construction Completion Reports
4.6 g	Key Remedial Elements Construction Completion Report
4.6 h	Surface Water Compliance Determination Period
4.7	Certification of Remedial Action Completion
4.7 b (3)	Begin Long-Term Surface Water Compliance Monitoring Period



APPENDIX G: REMEDIAL ACTION PROJECTS DESCRIPTION

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LIST OF FIGURES

1.0 INTRODUCTION

The Butte Priority Soils Operable Unit (BPSOU) Consent Decree (CD) requires additional remedial action (RA) within the BPSOU. The additional RA required is described in Attachment C to Appendix D (BPSOU Statement of Work) of the CD (available at https://www.co.silverbow.mt.us/2161/Butte-Priority-Soils-Operable-Unit-Conse). This document (an Appendix to the BPSOU Community Engagement Plan) provides a brief description of the additional RAs planned to inform the overall community engagement strategy and to help identify key engagement needs and milestones for each individual project. Collectively, the additional RA is referred to as Further Remedial Elements Scope of Work (FRESOW).

In general terms, the FRESOW includes:

- Remove tailings, contaminated soil, slag, and unconsolidated municipal waste (referred to herein as *waste*) from the upper Silver Bow Creek corridor area.
- Address unreclaimed or insufficiently reclaimed source areas within BPSOU.
- Further improve water quality in Silver Bow and Blacktail creeks.
- Prepare property owned by Atlantic Richfield Company (Atlantic Richfield) and Butte-Silver Bow (BSB) to be developed as a 120-acre chain of open green space and recreational areas along the Blacktail and Silver Bow Creek corridors, integrating the remedy with community land use plans.
- Complete a coordinated remedy and restoration project in the Blacktail Creek area (to be completed by the State of Montana with funds provided by Atlantic Richfield).

To facilitate management and community engagement, the remaining RA is divided into nine separate projects areas as described in the CD (Attachment C to Appendix D). The areas are listed below and detailed in subsequent sections:

- Butte Reduction Works (BRW) Smelter Area
- Northside Tailings Area
- Diggings East Area
- Grove Gulch Area
- Buffalo Gulch Area
- Blacktail Creek and Confluence Area
- Insufficiently Reclaimed Sites
- Unreclaimed Areas
- Uncontrolled Surface Flow Areas

The project locations are shown on Figure 1 of the BPSOU Community Engagement Plan.

In addition to these discrete project areas, there are three other BPSOU-wide projects that contribute to completion of the FRESOW:

- Waste Repository Development
- Groundwater Remedy Evaluation and Optimization
- Nursery/Plant Development

Per Paragraph 42 of the CD, the U.S. Environmental Protection Agency (EPA) in consultation with Montana Department of Environmental Quality (DEQ) may require additional RA if it is deemed necessary. At the time of this writing, only one such additional discrete project area has been identified: the Copper Mountain Recreation Complex.

Each of the project areas and discrete projects is described in respective sections below. Note that the details for each RA project may change as the project is developed and public input is received and incorporated.

2.0 BUTTE REDUCTION WORKS SMELTER AREA

The BRW is west of Montana Street and south of Centennial Avenue (see Figure 1). This area was formerly used for copper, zinc, and manganese production and is currently used by BSB Public Works Roads & Bridges Division to produce asphalt and gravel for road projects. To accommodate this industrial activity, Silver Bow Creek was channelized though this area, and currently flows through the slag canyon.

2.1 Remedial Action Activities

The proposed remedy for the BRW, as defined in the FRESOW, will remove tailings, slag, contaminated soils, and other waste from the southern portion of the site. To accommodate this work, the county's asphalt and crushing operation will be moved to another location. A large excavation will take place south of the slag wall. Waste will be removed to allow the construction of a new creek channel and floodplain. This will create an average 275-foot-wide corridor to move Silver Bow Creek out of the slag canyon and into the newly constructed floodplain. The land around the new creek will be revegetated. Hydraulic controls will be installed to protect Silver Bow Creek within and downstream of the site. The remedy will improve surface water quality in Silver Bow Creek and provide the public with an area for recreational use.

Atlantic Richfield will perform the proposed remedial construction activities.

2.1.1 Excavation and Disposal

Approximately 250,000 cubic yards of tailings, waste, contaminated soil, and slag will be excavated from the southern portion of the BRW smelter area and hauled to an approved repository for disposal. The excavation footprint will be an average of 275 feet wide and approximately 1,400 feet long. The final depth and removal volume of the excavation will be determined during the design phase of the project.

2.1.2 Groundwater Capture and Treatment

A hydraulic control system will be constructed to capture contaminated groundwater and to protect Silver Bow Creek. The captured contaminated groundwater will be conveyed to the Butte Treatment Lagoons (BTL). At the BTL the metal contaminants will be removed from the groundwater and clean water will be discharged to Silver Bow Creek.

2.1.3 Reconstruct Silver Bow Creek

Following excavation work and installation of the groundwater capture system, Silver Bow Creek and the riparian floodplain will be reconstructed within the excavation footprint through the BRW smelter area. The realigned creek and riparian floodplain will be constructed south of the existing slag canyon and connect with Silver Bow Creek at Lower Area One. The stream and/or floodplain may be lined to enhance the effectiveness of the groundwater capture and treatment system.

DISPLAYED AS:

COORD SYS/ZONE: NA

DATUM: NA

UNITS: NA

SOURCE: LDI

SCALE IN FEET

0 N.T.S.

FIGURE 1

CONCEPTUAL
BRW
SITE
PLAN

PIONEER
TECHNICAL SERVICES, INC.
1101 SOUTH MONTANA
BUTTE, MONTANA 59701
(406) 782-5177

DATE: 10/2021

2.1.4 Regrade and Construct Caps

The BRW smelter area will be regraded and any waste left in place will be capped to ensure protectiveness of human health and surface water. The capping will leave the site in an acceptable condition for anticipated end land uses.

2.1.5 End Land Use

Atlantic Richfield, BSB, EPA, and Montana DEQ will work with the residents of Butte to develop an anticipated end land use (ELU) plan that is compatible with the proposed remedy. Figure 1 depicts a possible ELU plan for BRW. The ELU will be integrated with other FRESOW projects along the Silver Bow Creek corridor and will collectively be planned and implemented as the Silver Bow Creek Conservation Area (SBCCA).

2.2 Remedial Action Details

Details of the planned BRW RA include:

- Waste, tailings, contaminated soil, and slag will be disposed of at a repository outside of the Silver Bow Creek and Blacktail Creek corridors
- Municipal waste, household waste, timbers, and other construction debris not suitable for re-use, if found, will be disposed of at an appropriately permitted facility
- Any petroleum-impacted soil in the excavation area will be properly addressed and removed by Atlantic Richfield
- The reconstructed channel and floodplain of Silver Bow Creek will be sized to accommodate the water flow of a 100-year flood
- The groundwater hydraulic gradient will be maintained to protect surface water (i.e., groundwater flows toward the capture system). A monitoring plan will be implemented to assess performance of the hydraulic capture system between the creek and the groundwater capture system.
- The BTL may be modified or expanded to provide sufficient capacity to treat additional groundwater captured from the BRW smelter area

2.3 Potential Disruptions and Concerns/Mitigating Measures

The potential disruptions and concerns listed below do not necessarily include those that may be identified by the community; however, they are identified here as items anticipated to be brought forth by the public during the community engagement process. Other items may be identified by the community and will be considered.

- Temporary disruptions associated with RAs related to moving large volumes of waste and dewatering activities (potentially 7 days a week, 24 hours a day):

    - Noise
    - Dust
    - Traffic delays, particularly on South Montana Street during slag wall demolition
    - Street and trail closures
    - Temporary reduced accessibility to businesses

- Prevention and Mitigation Measures

    - Best Management Practices (BMPs) to mitigate dust and noise during work hours and mitigate runoff onto local streets
    - Work schedule management to limit work hours to avoid noise during nights and weekends
    - Dust suppression
    - Approved traffic control plan and detours on Montana Street to accommodate slag wall removal, reduce traffic disruptions, and assure public safety during any temporary street or lane closures
    - Site access controls
    - Air monitoring
    - Acknowledgement of slag wall and other site feature historical designations

- Project Outcomes

    - Protection of human health and the environment
    - Positive social and economic impact
    - Repository location and haul routes that meet safety criteria and reduce carbon emissions
    - Re-routing and reconstruction of Silver Bow Creek
    - ELU with public amenities as part of the SBCCA

2.4 Timeline

This project will be completed within the timeframes identified in the general schedule with the CD, as described in the BPSOU Community Engagement Plan.

A more detailed schedule has been developed and is managed to assure adequate resources and time is allotted to each individual project. This more detailed schedule is subject to change as available resources, priorities, logistics, and other factors influence it. In other words, the timeline listed below for the BRW is subject to change:

- Pre-design investigations beginning in 2020
- Remedial design (RD) to be completed in 2023 (with 30%, 60%, and 95% complete design packages submitted for agency comment during the design process)
- RA commencing in 2024 and completed by the end of 2026

3.0 NORTHSIDE TAILINGS

The Northside Tailings area, north of upper Silver Bow Creek between Kaw Avenue and Casey Street (Figure 2), contains tailings and other wastes that were deposited near the former Silver Bow Creek location by past mining operations.

3.1 Remedial Action Activities

The RA at the Northside Tailings area will remove waste to the high groundwater elevation and will construct a stormwater basin in the excavated area to reduce the amount of contaminated stormwater and sediment that reach Silver Bow Creek and improve the quality of water in the creek.

The remedial activities, to be performed by Atlantic Richfield, are described below.

3.1.1 Excavation and Disposal

Approximately 76,000 cubic yards of wastes, will be excavated from the site and hauled to a repository. Some excavated materials, including uncontaminated soil and concrete remnants, may be reused to complete reconstruction of the site.

3.1.2 Stormwater Basin or Sedimentation Bay

A stormwater basin will be constructed at Northside Tailings to capture stormwater from the East Buffalo Gulch sub-drainage and improve water quality before it enters Silver Bow Creek. The basin may be lined or unlined, depending on findings during the RD process. The stormwater basin or sedimentation bay and associated channels and swales will be designed to cover approximately 3 acres to manage stormwater and accumulated sediment. Maintenance of the basin will include periodic removal and disposal of the captured sediment at a repository.

3.1.3 Regrade and Construct Caps

The Northside Tailings area will be regraded outside the areas of the basin and capped to support vegetative cover and allow for future land use. The RA will accommodate the Reserved Area per Addendum 1, End Land Use Additions, to the FRESOW.

3.1.4 End Land Use

Atlantic Richfield, BSB, EPA, and Montana DEQ will work with the residents of Butte to develop an ELU plan that is compatible with the proposed remedy. A vision for possible future land use plans, including recreational amenities, is reflected on Figure 2. The ELU will be integrated with other FRESOW projects along the Silver Bow Creek corridor and will collectively be planned and implemented as the SBCCA.

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: LDI

SCALE IN FEET
0 N.T.S.

FIGURE 2

CONCEPTUAL
NORTHSIDE
TAILINGS
SITE PLAN

PIONEER
TECHNICAL SERVICES, INC.
1101 SOUTH MONTANA
BUTTE, MONTANA 59701
(406) 782-5177

DATE: 10/2021

3.2 Remedial Action Details

Site-specific details at the Northside Tailings include:

- Tailings, waste, and contaminated soil will be removed to the depth of the most recently observed 3-year maximum groundwater elevation
- Tailings, waste, and contaminated soil will be disposed of at a repository outside of the Silver Bow Creek and Blacktail Creek corridors
- Municipal waste, household waste, timbers, and other construction debris will be disposed of at an appropriately permitted facility
- The stormwater detention/retention basin will be sized to capture a maximum 6-month, 24-hour, Type I Soil Conservation Service (SCS) design storm. This design storm is the runoff from the largest precipitation event over a 24-hour period that is expected to occur every six months on average
- Storm flows exceeding the 6-month, 24-hour storm and up to the 10-year, 24-hour storm will be diverted to Diggings East for treatment and management when sufficient capacity is available.
- Additional storage volume will be provided to support management of accumulated sediment

3.3 Potential Disruptions and Concerns/Mitigating Measures

These potential disruptions and concerns do not necessarily include those that may be identified by the community; however, they are identified here as items to anticipate and may be brought forth by the public during the community engagement process. Other items may be identified by the community and will be considered.

- Temporary disruptions associated with RAs related to moving large volumes of soil, dewatering activities (potentially 7 days a week, 24 hours a day), temporary street and trail closures, water main replacement, and temporary reduced accessibility to businesses:
    - Noise
    - Dust
    - Traffic delays
    - Street and trail closures
    - Access limitations
- Prevention and Mitigation Measures
    - General BMPs to mitigate dust and noise during work hours and mitigate runoff onto local streets
    - Work schedule management to limit work hours to avoid noise during nights and weekends
    - Dust suppression

    - Approved traffic control plan and detours to accommodate construction activities, reduce traffic disruptions, and assure public safety during any temporary street or lane or trail closures
    - Site access controls
    - Air monitoring

- Project Outcomes

    - Protection of human health and the environment
    - Positive social and economic impact
    - Repository location and haul routes that meet safety criteria and reduce carbon emissions
    - ELU with public amenities as part of the SBCCA

3.4 Timeline

This project will be completed within the timeframes identified in the general schedule with the CD, as described in the BPSOU Community Engagement Plan.

A more detailed schedule has been developed and is managed to assure adequate resources and time is allotted to each individual project. This more detailed schedule is subject to change as available resources, priorities, logistics, and other factors influence it. In other words, the timeline listed below for the Northside Tailings project is subject to change.

- Pre-design investigations beginning in 2020
- RD to be completed by 2024 (with 30%, 60%, and 95% complete design packages submitted for agency comment during the design process)
- RA commencing in 2025 and completed by the end of 2027

4.0 DIGGINGS EAST AREA

The Diggings East area, south of Silver Bow Creek between Kaw Avenue and Utah Avenue, (Figure 3), is a former unpermitted municipal landfill that contains a combination of municipal waste, construction debris, tailings, and other waste.

4.1 Remedial Action Activities

The RA at the Diggings East area will remove waste to the high groundwater elevation and will construct a lined stormwater basin in the excavated area to reduce the amount of contaminated stormwater and sediment that reach Silver Bow Creek and improve the quality of water in the creek.

The remedial activities, to be performed by Atlantic Richfield, are described below.

4.1.1 Excavation and Disposal

Approximately 232,000 cubic yards of wastes will be excavated from the site and hauled to a repository. Some excavated materials, including uncontaminated soil and small concrete, may be reused to complete reconstruction of the site.

4.1.2 Stormwater Basin

A lined stormwater basin will be constructed at Diggings East to capture stormwater and sediment from upper Silver Bow Creek and improve water quality before it enters Silver Bow Creek. The stormwater basin will be designed to cover approximately 10 acres (approximately 8 football fields), which is a sufficient size to manage stormwater and accumulated contaminated sediment. Maintenance of the basin will include removal and disposal of the captured sediment at a repository.

4.1.3 Regrade and Construct Caps

The Diggings East area will be regraded and capped to produce a landscape suitable for the determined future land us. The RA will accommodate the Reserved Area per Addendum 1, End Land Use Additions, to the FRESOW.

4.1.4 End Land Use

Atlantic Richfield, BSB, EPA, and Montana DEQ will work with the residents of Butte to develop an ELU plan that is compatible with the proposed remedy. A vision for possible future land use plans, including recreational amenities, is reflected on Figure 3.

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: LDI

SCALE IN FEET
0 N.T.S.

FIGURE 3

CONCEPTUAL
DIGGINGS EAST
AREA
SITE PLAN

PIONEER
TECHNICAL SERVICES, INC.
1101 SOUTH MONTANA
BUTTE, MONTANA 59701
(406) 782-5177

DATE: 10/2021

4.2 Remedial Action Details

Details specific to the Diggings East area include:

- Tailings, waste, and contaminated soil, including municipal wastes, will be removed to the depth of the most recently observed 3-year maximum groundwater elevation.
- Tailings, waste, and contaminated soil will be disposed of at a repository outside of the Silver Bow Creek and Blacktail Creek corridors.
- Municipal waste, household waste, timbers, and other construction debris, if found, will be disposed of at an appropriately permitted facility.
- The stormwater detention/retention basin will be sized to capture the 10 year, 24-hour, Type I SCS design storm equivalent to 32 acre-feet (more than 10 million gallons) of stormwater.
- Additional storage volume will be provided to support management of accumulated sediment.

4.3 Potential Disruptions and Concerns/Mitigating Measures

These potential disruptions and concerns do not necessarily include those that may be identified by the community; however, they are identified here as items to anticipate and may be brought forth by the public during the community engagement process. Other items may be identified by the community and will be considered.

- Temporary disruptions associated with RAs related to moving large volumes of waste, dewatering activities (potentially 7 days a week, 24 hours a day), temporary street closures, water main replacement, and temporary reduced accessibility to businesses:
    - Noise
    - Dust
    - Traffic delays
    - Street closures
    - Access limitations

- Prevention and Mitigation Measures
    - General BMPs to mitigate dust and noise during work hours and mitigate runoff onto local streets
    - Work schedule management to limit work hours to avoid noise during nights and weekends
    - Dust suppression
    - Approved traffic control plan and detours to accommodate construction activities, reduce traffic disruptions, and assure public safety during any temporary street or lane or trail closures

    - Site access controls
    - Air monitoring

- Project Outcomes
    - Protection of human health and the environment
    - Positive social and economic impact
    - Repository location and haul routes that meet safety criteria and reduce carbon emissions
    - ELU with public amenities as part of the SBCCA

4.4 Timeline

This project will be completed within the timeframes identified in the general schedule with the CD, as described in the BPSOU Community Engagement Plan.

A more detailed schedule has been developed and is managed to assure adequate resources and time is allotted to each individual project. This more detailed schedule is subject to change as available resources, priorities, logistics, and other factors influence it. In other words, the timeline listed below for the Diggings East project is subject to change.

- Pre-design investigations beginning in 2020
- RD to be completed by 2023 (with 30%, 60%, and 95% complete design packages submitted for agency comment during the design process)
- RA commencing in 2024 or 2025 and completed by the end of 2027

5.0 GROVE GULCH AREA

Grove Gulch is one of several gulches in Butte that may have been used to dispose of milling and mineral processing wastes, allowing that material to flow down the drainage and into Blacktail Creek. Grove Gulch begins above the Copper Mountain Youth Park and the old Butte Landfill. It crosses under the Interstate 15-90 (I-15/90) and enters Blacktail Creek just east of Lexington Avenue (Figure 4).

5.1 Remedial Action Activities

The planned remedy for the Grove Gulch area includes construction of a sedimentation bay and vegetated swale to reduce the amount of contaminated sediment and metals that reach Blacktail Creek and thereby improve the quality of water in the creek. Atlantic Richfield will perform the RD and RA, which will include the activities in this section.

5.1.1 Excavation and Disposal

Any tailings, waste, or contaminated soil found beneath the footprint of the sedimentation bay and vegetated swale will be excavated and hauled to a repository. An estimated 500 cubic yards of material will be removed. Some excavated materials, including clean topsoil, may be reused to complete reconstruction of the site.

5.1.2 Sedimentation Bay and Vegetated Swale

A sedimentation bay and vegetated swale will be installed parallel to Lexington Avenue, just south of I-15/90, and capture stormwater from the Grove Gulch drainage. Maintenance of the bay will include removal of captured sediment and disposal of the sediment at a repository.

5.1.3 Final Condition

All areas disturbed during construction activities will be regraded and vegetated. For maintenance purposes, an access road and turnaround area may be constructed. Possible final conditions are shown on Figure 4.

DISPLAYED AS:

COORD SYS/ZONE: NA

DATUM: NA

UNITS: NA

SOURCE: LDI

SCALE IN FEET

0 N.T.S.

FIGURE 4

CONCEPTUAL
GROVE
GULCH AREA
SITE PLAN

PIONEER
TECHNICAL SERVICES, INC.
1101 SOUTH MONTANA
BUTTE, MONTANA 59701
(406) 782-5177

DATE: 10/2021

5.2 Remedial Action Details

Details specific to the Grove Gulch area RA include:

- Waste, tailings, and contaminated soil that may be found will be removed and taken to an approved repository outside of the Silver Bow Creek and Blacktail Creek corridors.
- Municipal waste, household waste, timbers, and other construction debris not suitable for re-use, if found, will be disposed of at an appropriately permitted facility.
- The stormwater sedimentation bay will be sized to capture the 6-month, 24-hour, Type I SCS design storm.
- Additional storage volume will be provided to manage accumulated sediment.

5.3 Potential Disruptions and Concerns/Mitigations

These potential disruptions and concerns do not necessarily include those that may be identified by the community; however, they are identified here as items to anticipate and may be brought forth by the public during the community engagement process. Other items may be identified by the community and will be considered.

- Temporary disruptions associated with RAs related to moving large volumes of waste, dewatering activities (potentially 7 days a week, 24 hours a day), temporary street closures or disruptions especially on Lexington Avenue and Chula Avenue, and temporary reduced accessibility to businesses:
    - Noise
    - Dust
    - Traffic delays
    - Street closures
    - Access limitations
- Prevention and Mitigation Measures
    - General BMPs to mitigate dust and noise during work hours and mitigate runoff onto local streets
    - Work schedule management to limit work hours to avoid noise during nights and weekends
    - Dust suppression
    - Approved traffic control plan and detours to accommodate construction activities, reduce traffic disruptions, and assure public safety during any temporary street or lane closures
    - Site access controls
    - Air monitoring

- Project Outcomes

    - Protection of human health and the environment
    - Positive social and economic impact
    - Repository location and haul routes that meet safety criteria and reduce carbon emissions

5.4 Timeline

This project will be completed within the timeframes identified in the general schedule with the CD, as described in the BPSOU Community Engagement Plan.

A more detailed schedule has been developed and is managed to assure adequate resources and time is allotted to each individual project. This more detailed schedule is subject to change as available resources, priorities, logistics, and other factors influence it. In other words, the timeline listed below for the Grove Gulch area project is subject to change.

- Pre-design investigations beginning in 2020
- RD to be completed in 2022 (with 30%, 60%, and 95% complete design packages submitted for agency comment during the design process)
- RA commencing in 2022 and completed by the end of 2023

6.0 BUFFALO GULCH AREA

Buffalo Gulch is another sub-drainage of the Butte hill that may have been used to dispose of milling and mineral processing wastes, allowing that material to flow down the drainage and into Silver Bow Creek. Buffalo Gulch flows from the north and enters Silver Bow Creek just upgradient of its confluence with Blacktail Creek. The Buffalo Gulch area encompasses the area north of Silver Bow Creek and west of Kaw Avenue, as shown on Figure 5.

6.1 Remedial Action Activities

The Buffalo Gulch RA will remove tailings, waste, and contaminated soil from an approximately 9-acre site located at the bottom of Buffalo Gulch. A stormwater basin will be constructed in the excavated area to reduce the amount of contaminated sediment and metals that reach Silver Bow Creek and improve the quality of water in the creek. Atlantic Richfield will perform the RD and RA activities with EPA and Montana DEQ oversight and approval. The RA activities will include the activities in this section.

6.1.1 Excavation and Disposal

Approximately 32,000 cubic yards of tailings, waste, and contaminated soil, including municipal wastes, will be excavated from the site and hauled to a repository. Some excavated materials, including uncontaminated soil (from previous reclamation activities) and small concrete, may be reused to complete reconstruction of the site.

6.1.2 Stormwater Basin

A stormwater basin will be constructed to capture stormwater from the Buffalo Gulch drainage to improve water quality before it enters Silver Bow Creek. The stormwater basin may be partially or fully lined and will be designed to cover approximately 8 acres (about 6 football fields), which is a sufficient size to manage stormwater and accumulated sediment. Maintenance of the basin will include removal and disposal of the captured sediment at a repository.

6.1.3 End Land Use

The Buffalo Gulch area will be reconstructed in a manner that enables future community use of the site and land around the stormwater basin as part of the SBCCA. Although the basin is expected to occupy most of the site, Atlantic Richfield, BSB, EPA, and Montana DEQ will work with the residents of Butte to develop an ELU plan that is compatible with the proposed remedy. A vision for possible future land use plans, including recreational amenities, is reflected on Figure 5.

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: LDI

SCALE IN FEET
0 N.T.S.

FIGURE 5

CONCEPTUAL
BUFFALO
GULCH AREA
SITE PLAN

PIONEER
TECHNICAL SERVICES, INC.
1101 SOUTH MONTANA
BUTTE, MONTANA 59701
(406) 782-5177

DATE: 10/2021

6.2 Remedial Action Details

Details specific to the Buffalo Gulch area RA include:

- Wastes will be removed to the depth of the most recently observed 3-year maximum groundwater elevation.
- Waste, tailings, and contaminated soil will be disposed of at a repository outside of the Silver Bow Creek and Blacktail Creek corridors.
- Municipal waste, household waste, timbers, and other construction debris not suitable for re-use will be disposed of at an appropriately permitted facility.
- The stormwater detention/retention basin will be sized to capture a 10-year, 24-hour, Type I SCS design storm. This will allow for capture and treatment of 20 acre-feet (approximately 6.5 million gallons) of stormwater. Additional storage volume will be provided to support management of accumulated sediment.

6.3 Potential Disruptions and Concerns/Mitigations

These potential disruptions and concerns do not necessarily include those that may be identified by the community; however, they are identified here as items to anticipate and may be brought forth by the public during the community engagement process. Other items may be identified by the community and will be considered.

- Temporary disruptions associated with RAs related to moving large volumes of soil and dewatering activities (potentially 7 days a week, 24 hours a day):
    - Noise
    - Dust
    - Traffic delays
    - Street closures
    - Temporary reduced accessibility to businesses
- Prevention and Mitigation Measures
    - General BMPs to mitigate dust and noise during work hours and mitigate runoff onto local streets
    - Work schedule management to limit work hours to avoid noise during nights and weekends
    - Dust suppression
    - Approved traffic control plan and detours to accommodate construction activities, reduce traffic disruptions, and assure public safety during any temporary street or lane closures
    - Site access controls
    - Air monitoring

- Project Outcomes
    - Protection of human health and the environment
    - Positive social and economic impact
    - Repository location and haul routes that meet safety criteria and reduce carbon emissions
    - Publicly accessible amenities in accordance with the SBCCA

6.4 Timeline

This project will be completed within the timeframes identified in the general schedule with the CD, as described in the BPSOU Community Engagement Plan.

A more detailed schedule has been developed and is managed to assure adequate resources and time is allotted to each individual project. This more detailed schedule is subject to change as available resources, priorities, logistics, and other factors influence it. In other words, the timeline listed below for the Buffalo Gulch area project is subject to change.

- Pre-design investigations beginning in 2020
- RD to be completed in 2022 (with 30%, 60%, and 95% complete design packages submitted for agency comment during the design process)
- RA commencing in 2023 and completed by the end of 2025

7.0 BLACKTAIL CREEK AND CONFLUENCE AREA

The area where Blacktail and Silver Bow Creeks meet today has been impacted by past activities that disposed of mining, milling, smelting, and other wastes in the creek corridor area. However, Blacktail Creek and its tributaries continue to provide a natural source of fresh water flowing from the mountains into Silver Bow Creek.

7.1 Remedial Action Activities

The RA at the Blacktail Creek and Silver Bow Creek confluence area will remove tailings, waste, and contaminated soil from Blacktail Creek and the confluence area, reconstruct the creek channel, and revegetate the surrounding land. Groundwater controls will be installed to prevent contaminated groundwater from discharging to and adversely affecting surface water.

The proposed remedial construction activities will be performed in part by Atlantic Richfield (groundwater controls) and in part by the State of Montana through Montana DEQ (waste removal and stream reconstruction using funding provided by Atlantic Richfield). The activities are summarized in this section. Figure 6 shows the confluence area.

7.1.1 Hydraulic Control

Atlantic Richfield will install a hydraulic control system to capture impacted groundwater prior to discharge to Blacktail Creek. Captured groundwater will be conveyed to the BTL for treatment prior to discharge to Silver Bow Creek.

7.1.2 Excavation and Disposal

Montana DEQ will excavate tailings, waste, and contaminated soil along Blacktail Creek and near its confluence with Silver Bow Creek. All excavated wastes, up to 200,000 cubic yards, will be disposed of in an acceptable repository, provided by Atlantic Richfield and approved by EPA. The final depth of excavation will be determined during the design phase of the project. The proposed work in the confluence area will be considered as an integrated restoration and remedy activity.

7.1.3 Stream and Floodplain Reconstruction

Following excavation work, Montana DEQ will reconstruct Blacktail Creek and the confluence area. Blacktail Creek will be reconstructed within a riparian floodplain south of the Ulrich-Schotte Nature Trail, while Silver Bow Creek will be reconstructed near its existing alignment, north of George Street.

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: LDI

SCALE IN FEET
0 N.T.S.

FIGURE 6

CONCEPTUAL BLACKTAIL CREEK AND CONFLUENCE AREA SITE PLAN

PIONEER TECHNICAL SERVICES, INC.
1101 SOUTH MONTANA
BUTTE, MONTANA 59701
(406) 782-5177

DATE: 10/2020

7.1.4 End Land Use

The project area will be reconstructed in a manner that enables future community use of the site. Montana DEQ, BSB, EPA, and Atlantic Richfield will work with the residents of Butte to develop an ELU that is compatible with the proposed remedy. A vision for possible future land use plans, including recreational amenities, is reflected on Figure 6.

7.2 Remedial Action Details

Details specific to the Blacktail Creek and confluence area RA include:

- Waste, tailings, contaminated soil, and in-stream sediment will be disposed of at an acceptable repository, provided by Atlantic Richfield and approved by EPA and Montana DEQ, outside of the Silver Bow Creek and Blacktail Creek corridors
- Municipal waste, household waste, timbers, and other construction debris not suitable for re-use, if found, will be disposed of at an appropriately permitted facility
- The BTL may be modified or expanded to provide sufficient capacity to treat additional groundwater captured from the Blacktail Creek area

7.3 Potential Disruptions and Concerns/Mitigations

These potential disruptions and concerns are not necessarily all that may be identified by the community; however, they are identified here as items to anticipate and may be brought forth by the public during the community engagement process. Other items may be identified by the community and will be considered thusly.

- Temporary disruptions associated with RAs related to moving large volumes of soil, dewatering activities (potentially 7 days a week, 24 hours a day), temporary street and trail closures, water main replacement, and temporary reduced accessibility to businesses:
    - Noise
    - Dust
    - Traffic delays
    - Street and trail closures
    - Temporary access limitations

- Prevention and Mitigation Measures
    - General BMPs to mitigate dust and noise during work hours and mitigate runoff onto local streets
    - Work schedule management to limit work hours to avoid noise during nights and weekends
    - Dust suppression
    - Approved traffic control plan and detours to accommodate construction activities, reduce traffic disruptions, and assure public safety during any temporary street or lane or trail closures

    - Site access controls
    - Air monitoring

- Project Outcomes

    - Protection of human health and the environment
    - Positive social and economic impact
    - Repository location and haul routes that meet safety criteria and reduce carbon emissions
    - Publicly accessible amenities in accordance with the SBCCA

7.4 Timeline

This project will be completed within the timeframes identified in the general schedule with the CD, as described in the BPSOU Community Engagement Plan.

A more detailed schedule has been developed and is managed to assure adequate resources and time is allotted to each individual project. This more detailed schedule is subject to change as available resources, priorities, logistics, and other factors influence it. In other words, the timeline listed below for the Blacktail Creek and confluence area project is subject to change.

- Pre-design investigations beginning in 2022
- RD to be completed between 2022 and 2024 (with 30%, 60%, and 95% complete design packages submitted for agency comment during the design process)
- RA commencing in 2024 or 2025 and completed by the end of 2026

8.0 INSUFFICIENTLY RECLAIMED SITES

Within BPSOU, there are 26 historic mining-related sites (totaling approximately 100 acres) that were previously reclaimed to a standard that may not meet the requirements of the Butte Hill Revegetation Standards (BHRS) (an appendix to EPA 2006 Record of Decision, Butte Priority Soils Operable Unit, Silver Bow Creek/Butte Area NPL Site). These sites are shown on Figure 7. These sites will be evaluated by Atlantic Richfield and reclaimed if they are found to contain exposed mining waste and/or adversely impact surface water quality of Silver Bow Creek.

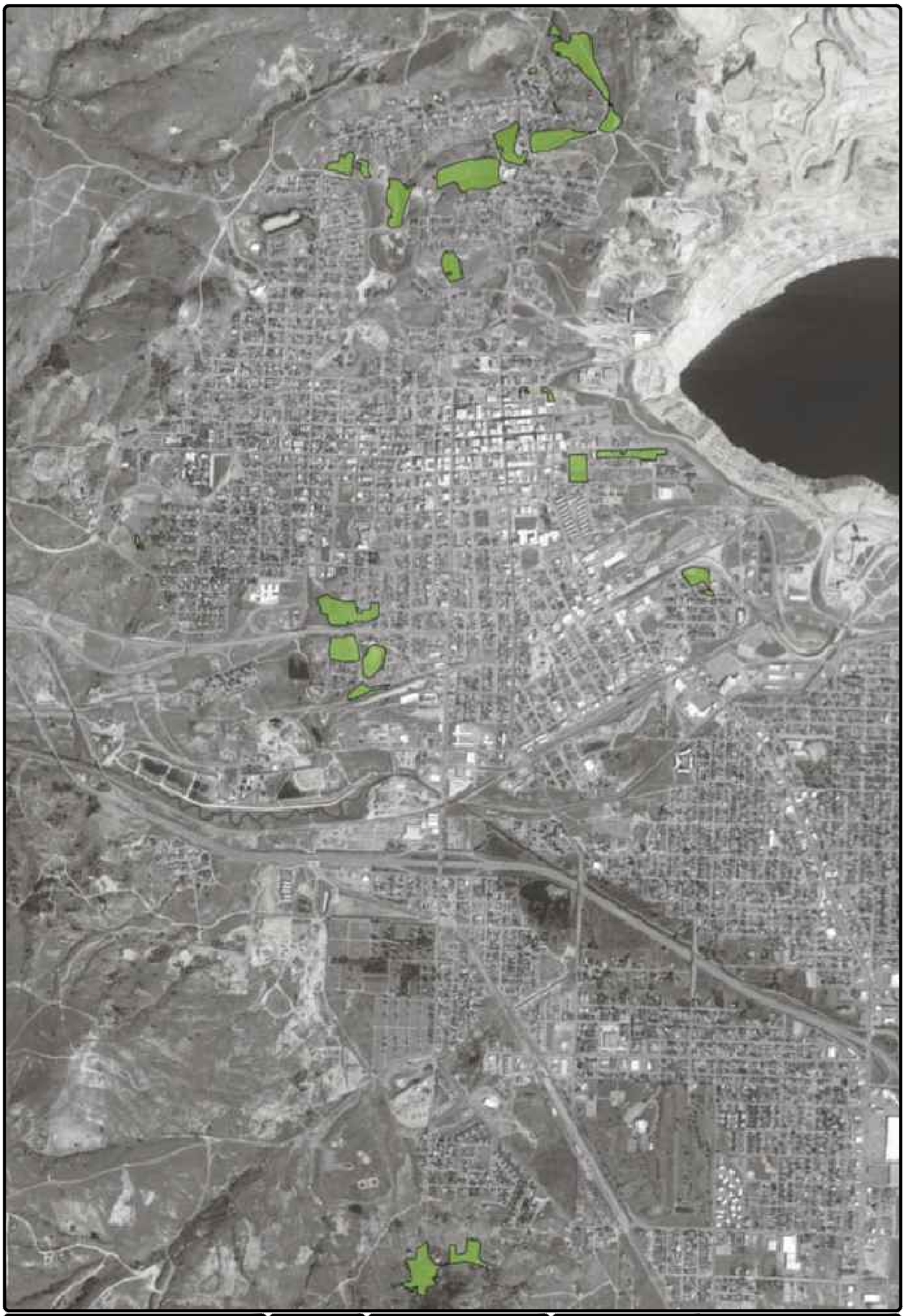
8.1 Remedial Action Activities

During the RD phase, each site will be evaluated to determine if it is sufficiently reclaimed. If it is deemed to be insufficiently reclaimed, then RA work may include import and placement of additional soil, revegetation, and/or construction of stormwater controls, which may include additions or upgrades to any curbs and gutters around the site. Any reclamation and other construction activities that are performed by Atlantic Richfield at an Insufficiently Reclaimed site will be conducted under the direction of EPA, in consultation with Montana DEQ.

8.2 Remedial Action Details

Details specific to the Insufficiently Reclaimed areas include:

- Evaluation may require additional sampling to determine if the presence of contaminants of concern (COCs), insufficient growth media, or remaining sources contribute to site deficiencies
- Following evaluation, a RA work plan will be developed and used to direct reclamation activities
- Following completion of reclamation activities, each site will be incorporated for ongoing inspection and maintenance



N

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

SCALE IN FEET
0 N.T.S.

FIGURE 7

INSUFFUCIENTLY RECLAIMED SITES

PIONEER
TECHNICAL SERVICES, INC.
1101 SOUTH MONTANA
BUTTE, MONTANA 59701
(406) 782-5177

DATE: 10/2020

8.3 Potential Disruptions and Concerns/Mitigations

These potential disruptions and concerns do not necessarily include those that may be identified by the community; however, they are identified here as items to anticipate and may be brought forth by the public during the community engagement process. Relative to other RA projects, the magnitude and duration of impacts to local residents will be fairly small for these Insufficiently Reclaimed sites, but nonetheless there will be impacts. The specifics of those impacts are not known at this time until the evaluation of each site is completed. General concerns are listed below. Other items may be identified by the community and will be considered.

- Temporary disruptions associated with RAs related to reclamation and general construction activities:
    - Noise
    - Dust
    - Traffic delays
    - Street closures (which may include residential parking)
    - Access limitations

- Prevention and Mitigation Measures
    - General BMPs to mitigate dust and noise during work hours and mitigate runoff onto local streets
    - Work schedule management to limit work hours to avoid noise during nights and weekends
    - Dust suppression
    - Approved traffic control plan and detours to accommodate construction activities, reduce traffic disruptions, and assure public safety during any temporary street or lane closures
    - Site access controls
    - Air monitoring

- Project Outcomes
    - Protection of human health and the environment
    - Positive social and economic impact

8.4 Timeline

This project will be completed within the timeframes identified in the general schedule with the CD, as described in the BPSOU Community Engagement Plan.

A more detailed schedule has been developed and is managed to assure adequate resources and time is allotted to each individual project. This more detailed schedule is subject to change as available resources, priorities, logistics, and other factors influence it. In other words, the timeline listed below for the Insufficiently Reclaimed sites work is subject to change.

- Pre-design investigations in 2021 and 2022
- RD to be completed in 2022 and 2023 (with 30%, 60%, and 95% complete design packages submitted for agency comment during the design process)
- RA commencing in 2023 and completed by the end of 2026

9.0 UNRECLAIMED AREAS

9.1 Remedial Action Activities

There are 39 sites, covering nearly 90 acres, in the BPSOU that may have been impacted by historic mining activities and may require reclamation. These sites are shown on Figure 8.

9.1.1 Site Evaluations

Per the CD, each of the 39 unreclaimed sites will be evaluated by Atlantic Richfield to determine if they were impacted by past mining and if they present a risk to human health or the environment. If so, the sites will be reclaimed.

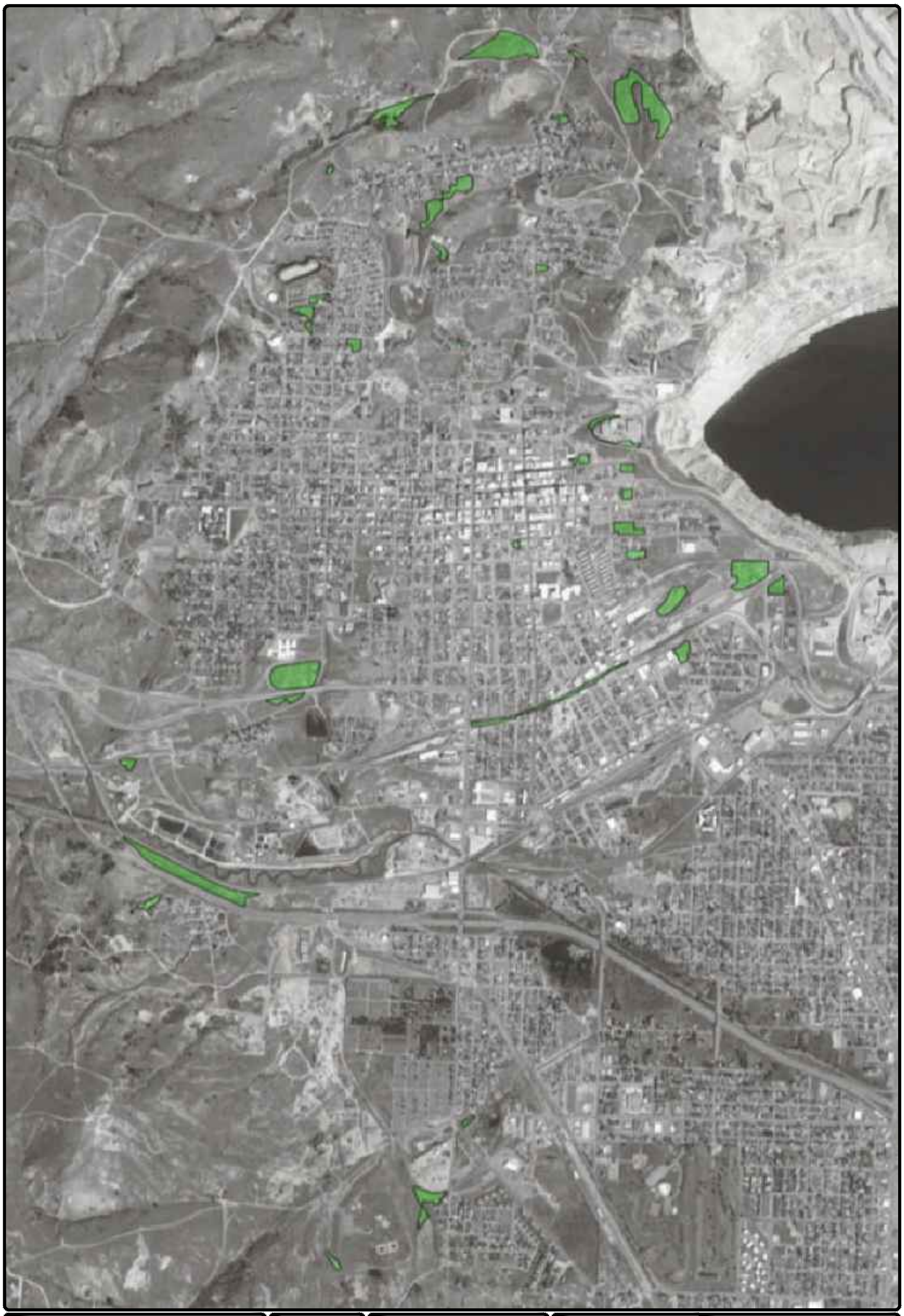
9.1.2 Site Reclamation

Any reclamation and other construction activities that are performed by Atlantic Richfield at these sites will be conducted under the direction of EPA, in consultation with Montana DEQ. This work may include import and placement of additional soil, revegetation, and/or construction of stormwater controls, which may include additions or upgrades to any curbs and gutters around the site.

9.2 Remedial Action Details

Details specific to the Unreclaimed Areas RA include the following.

- The evaluation will include additional sampling to determine if COCs exceed the human health action levels, contribute sediment to existing wet weather control features, or contribute to the degradation of surface water quality
- Following evaluation, a RA work plan will be developed and used to direct reclamation activities
- Following completion of reclamation activities, each site will be incorporated for ongoing inspection and maintenance within the BRES (an appendix to EPA 2006 Record of Decision, Butte Priority Soils Operable Unit, Silver Bow Creek/Butte Area NPL Site)
- Regular inspection and maintenance work will be funded by Atlantic Richfield and performed by BSB



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COORD SYS/ZONE: NA

DATUM: NA

UNITS: NA

SOURCE: PIONEER

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FIGURE 8

UNRECLAIMED AREAS IN BPSOU

PIONEER TECHNICAL SERVICES, INC.
1101 SOUTH MONTANA
BUTTE, MONTANA 59701
(406) 782-5177

DATE: 10/2020

9.3 Potential Disruptions and Concerns/Mitigations

These potential disruptions and concerns do not necessarily include those that may be identified by the community; however, they are identified here as items to anticipate may be brought forth by the public during the community engagement process. Relative to other RA projects, the magnitude and duration of impacts to local residents will be fairly small for these unreclaimed sites, but nonetheless there will be impacts. The specifics of those impacts are not known at this time until the evaluation of each site is completed. General concerns are listed below. Other items may be identified by the community and will be considered.

- Temporary disruptions associated with RAs related to moving large volumes of soil and general construction activities:
    - Noise
    - Dust
    - Traffic delays
    - Street closures (which may include residential parking)
    - Access limitations

- Prevention and Mitigation Measures
    - General BMPs to mitigate dust and noise during work hours and mitigate runoff onto local streets
    - Work schedule management to limit work hours to avoid noise during nights and weekends
    - Dust suppression
    - Approved traffic control plan and detours to accommodate construction activities, reduce traffic disruptions, and assure public safety during any temporary street or lane closures
    - Site access controls
    - Air monitoring

- Project Outcomes
    - Protection of human health and the environment
    - Positive social and economic impact

9.4 Timeline

This project will be completed within the timeframes identified in the general schedule with the CD, as described in the BPSOU Community Engagement Plan.

A more detailed schedule has been developed and is managed to assure adequate resources and time is allotted to each individual project. This more detailed schedule is subject to change as available resources, priorities, logistics, and other factors influence it. In other words, the timeline listed here for the Unreclaimed Sites project is subject to change.

- Pre-design investigations in 2021 and 2022
- RD to be completed in 2022 and 2023 (with 30%, 60%, and 95% complete design packages submitted for agency comment during the design process)
- RA commencing in 2023 and completed by the end of 2026

10.0 UNCONTROLLED SURFACE FLOW AREAS

Uncontrolled surface flows from historic mining areas can carry COCs to surface water bodies (Silver Bow Creek and Blacktail Creek). Much of the stormwater impacted by historic mining is captured and managed in existing stormwater BMP controls. The CD requires additional stormwater BMPs proposed at other locations throughout Butte, including Diggings East, Northside Tailings, Buffalo Gulch, and Grove Gulch (see Figure 9). As an additional part of the remedy per the CD, stormwater flows in BPSOU uncaptured by these BMP projects will be evaluated to assess the potential impact of historic mining sources in those areas on surface water quality in Silver Bow and Blacktail Creeks, and additional BMPs will be constructed in these remaining areas to improve water quality in the creeks if determined necessary.

10.1 Remedial Action Activities

10.1.1 Site Evaluations

During the RD phase, Atlantic Richfield will evaluate the remaining areas where stormwater is not captured in existing or proposed BMPs and may drain to Blacktail and Silver Bow Creeks to determine whether these areas have been impacted by historic mining activities and if they contribute to the degradation of surface water quality.

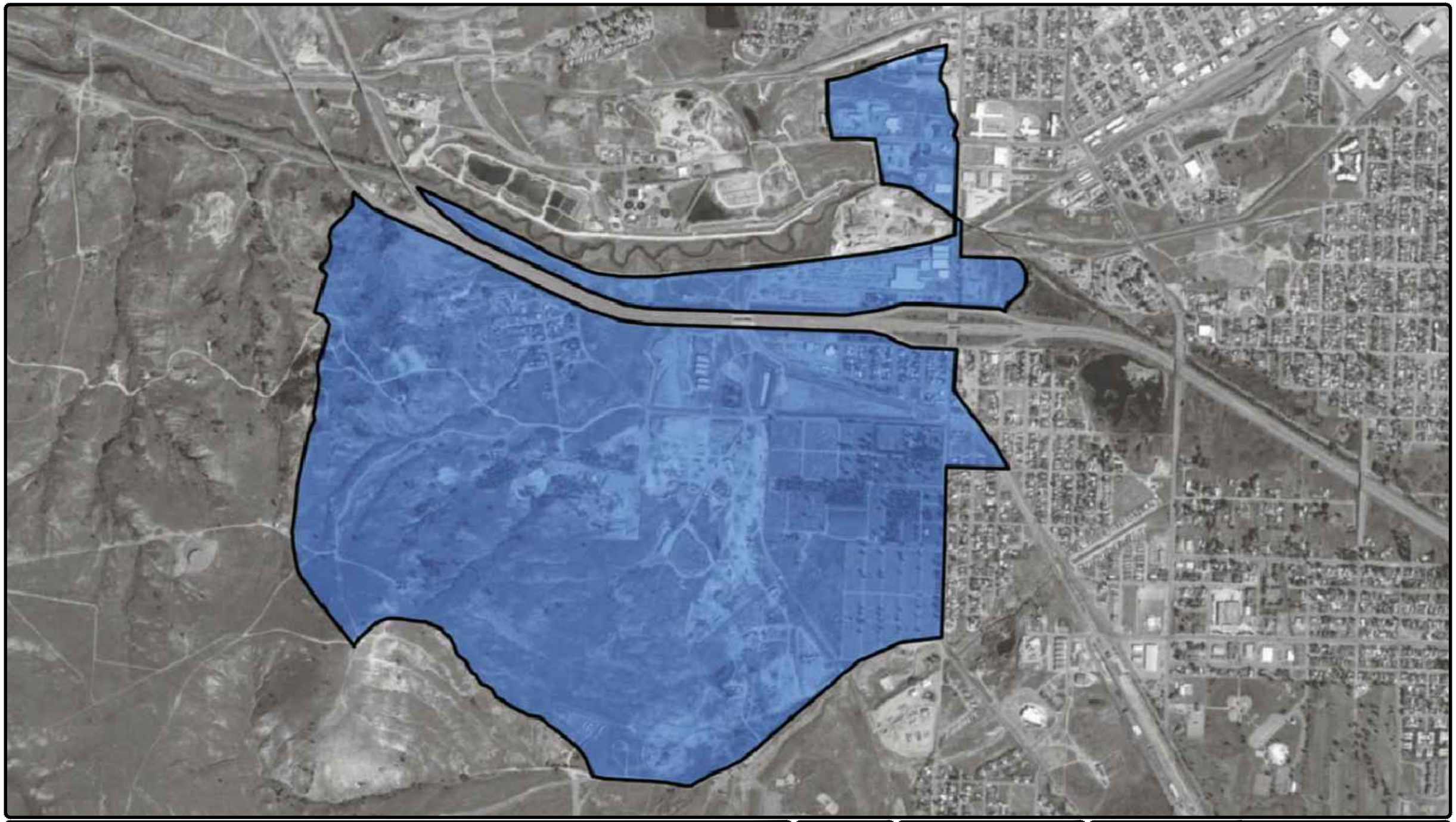
10.1.2 Remedial Action

If an area is determined to be contributing COCs and impacting Blacktail Creek or Silver Bow Creek water quality, an appropriately sized (up to 6-month design storm volume) BMP will be designed. A work plan will be developed detailing where and how the BMPs will be constructed to reduce or prevent contaminated stormwater and sediment from reaching Blacktail and Silver Bow Creeks. Following construction, each BMP will be integrated into the stormwater operation and maintenance program for BPSOU.

10.2 Remedial Action Details

Details specific to the Uncontrolled Surface Flow areas include:

- There are 12 remaining sub-drainages, covering an approximate area of 875 acres, that will be evaluated
- The BMPs installed in these sub-drainages will be sized up to the 6-month, 24-hour, Type I SCS design storm. The actual type and size of each BMP will be determined during the design phase



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DATUM: NA
UNITS: NA
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FIGURE 9

UNCONTROLLED SURFACE FLOW PROJECT AREAS

PIONEER TECHNICAL SERVICES, INC.
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(406) 782-5177

DATE: 10/2020

10.3 Potential Disruptions and Concerns/Mitigations

These potential disruptions and concerns do not necessarily include those that may be identified by the community; however, they are identified here as items to anticipate and may be brought forth by the public during the community engagement process. General items are listed below. Other items may be identified by the community and will be considered.

- Temporary disruptions associated with RAs related to reclamation activities and general construction activities:
    - Noise
    - Dust
    - Traffic delays
    - Street closures (which may include residential parking)
    - Access limitations
- Prevention and Mitigation Measures
    - General BMPs to mitigate dust and noise during work hours and mitigate runoff onto local streets
    - Work schedule management to limit work hours to avoid noise during nights and weekends
    - Dust suppression
    - Approved traffic control plan and detours to accommodate construction activities, reduce traffic disruptions, and assure public safety during any temporary street or lane closures
    - Site access controls
    - Air monitoring
- Project Outcomes
    - Protection of human health and the environment
    - Positive social and economic impact

10.4 Timeline

Uncontrolled Surface Flow area efforts will be incorporated into the other RA activities described herein. Work will be completed on by the end of 2028.

11.0 OPTIMIZATION OF GROUNDWATER REMEDY COLLECTION SYSTEM

11.1 Remedial Action Activities

As part of the RA, the efficacy of the existing groundwater remedy capture system will be evaluated to determine its capacity to control the migration of COCs from groundwater to surface water and resultant potential impact of surface water quality in Blacktail and Silver Bow Creeks.

The evaluation phase will include field activities to collect data to inform the evaluation. This may include pumping tests and possibly new well or piezometer installations.

It is anticipated that this evaluation will identify specific RA projects that should be implemented to improve and optimize the groundwater collection system. The scope of optimization projects may include modifications to the existing collection system and new or separate collection systems to address areas that the current systems do not address.

11.2 Potential Disruptions and Concerns/Mitigations

Potential disruptions and concerns listed below do not necessarily include those that may be identified by the community; however, they are identified here as items to anticipate and may be brought forth by the public during the community engagement process.

- Temporary disruptions associated with RAs related to reclamation activities, general construction activities, temporary street closures (George Street), and temporary reduced access to businesses:
    - Noise
    - Dust
    - Traffic delays
    - Street closures
    - Access limitations
- Prevention and Mitigation Measures
    - General BMPs to mitigate dust and noise during work hours and mitigate runoff onto local streets
    - Work schedule management to limit work hours to avoid noise during nights and weekends
    - Dust suppression
    - Approved traffic control plan and detours to accommodate construction activities, reduce traffic disruptions, and assure public safety during any temporary street or lane closures

    - Site access controls
    - Air monitoring

- Project Outcomes
    - Protection of human health and the environment
    - Positive social and economic impact

11.3 Timeline

Pre-design investigations to inform the evaluation of existing groundwater remedy systems are underway. Depending on these findings, RA components pertaining to groundwater remedy optimization will be integrated into the individual project RDs. For example, segments of the groundwater remedy that require optimization adjacent to Diggings East and Northside Tailings, if warranted, would ideally be designed and integrated into the Diggings East and Northside Tailings RD packages, respectively.

12.0 REPOSITORY

A repository is necessary to accommodate the large volumes of waste to be removed as part of the RA prescribed by the CD. The existing Butte Mine Waste Repository, including necessary expansion into the Northwest Dumps, may be determined suitable for this purpose, or EPA may approve an additional or alternate repository location. Disposal of mine waste at Montana Resources is being considered. EPA and Montana DEQ have identified the criteria to be used to identify the optimal repository location (reference Greene June 4, 2020, letter).

12.1 Remedial Action Activities

Activities related to the repository activities generally consist of:

1. Repository site identification and screening.
2. Repository site pre-design investigation(s) and site selection.
3. Repository design and construction.
4. Repository operation and maintenance.

12.1.1 Repository Site Identification and Screening

If an additional repository location is required, the process includes identification of potential locations and a preliminary screening process. The screening process addresses the possible locations and includes an evaluation of those locations to determine if they will satisfy Applicable or Relevant and Appropriate Requirements (ARARs). Possible repository locations identified thus far are shown on Figure 10.

A significant factor in selecting a repository evaluation is the haul route alternatives for transporting waste from the excavation areas to the repository (and possibly moving backfill from the repository site back to the excavated areas). Transport of waste and backfill materials has been identified as the most significant health and safety risk of the RA. Therefore, transportation options will be developed and evaluated as part of the repository screening process.

Public engagement will be important during the identification of potential repository locations and screening process. The repository, wherever it is ultimately located, will affect residents in the area during construction and operation. It will also affect citizens along the transportation route(s) used to move waste to the repository.

At the end of the repository identification and screening process, a preferred repository site will be identified to carry to the next stage of the selection process, along with one or more preferred alternatives in case the selected site proves to be undesirable during subsequent stages.

SITE: NORTHWEST DUMPS
PROPERTY OWNER: ARCO
AREA: 20 ACRES (162 AVAILABLE)
APPROX CAPACITY: OVER 1,000,000CY
AVG HAUL: 12.5 MILES (1-WAY)

EXISTING REPOSITORY
PROPERTY OWNER: BSB
AREA: 25 ACRES
EXISTING CAPACITY: 700,000 CY (2015)
AVG HAUL: 5.4 MILES (1-WAY)

SITE: WHISKEY GULCH 2
PROPERTY OWNER: ARCO
AREA: 17 ACRES (254 AVAILABLE)
AVG HAUL: 7.4 MILES (1-WAY)

SITE: WHISKEY GULCH 1
PROPERTY OWNER: ARCO
AREA: 13 ACRES
AVG HAUL: 1.5 MILES (1-WAY)

SITE: INTERSTATE PIT
PROPERTY OWNER: ARCO
AREA: 16 ACRES
AVG HAUL: 1.5 MILES (1-WAY)

SITE: PITTSMONT DUMP
PROPERTY OWNER: MONTANA RESOURCES
AREA: 42 ACRES
AVG HAUL: 2.5 MILES (1-WAY)

ALL POTENTIAL REPOSITORY SITE LOCATIONS AND THEIR RESPECTIVE BOUNDARIES ARE APPROXIMATE AND SUBJECT TO CHANGE. ALL POTENTIAL REPOSITORY SITES WILL BE EVALUATED IN ACCORDANCE WITH THE SCREENING CRITERIA IDENTIFIED IN THE BSB MINING & MILLING WASTE DISPOSAL AREA SITING STUDY (ARCO, 1992), AS MODIFIED FOR ONGOING REMEDIAL ACTIONS (IF NECESSARY), AND AS APPROVED BY EPA IN CONSULTATION WITH DEQ.

LEGEND

- POTENTIAL REPOSITORY LOCATIONS
- BUTTE MINE WASTE REPOSITORY
- TOP 10 POTENTIAL SITING AREAS (ARCO, 1992)
- NON EXCLUDED POTENTIAL SITING AREAS (ARCO, 1992)
- MAJOR REMEDIAL ACTION PROJECT AREA
- FEMA 100-YR FLOODPLAINS

N

DISPLAYED AS:
PROJECTION/ZONE: MSP
DATUM: NAD83
UNITS: INT FEET
SOURCE: PIONEER/AES/NAIP

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FIGURE 10

POTENTIAL REPOSITORY SITES

PIONEER TECHNICAL SERVICES, INC.

DATE: 11/23/2020

Path: Z:\Shared\Active Projects\ARCO\BPSOU\Repository\GIS\AllProposed.mxd

12.1.2 Pre-Design Investigation and Site Selection

Once a preferred site is identified, a pre-design investigation will be completed at the site to verify assumptions and provide data necessary to support the repository RD phase. The pre-design investigation will be completed in accordance with a pre-design investigation work plan prepared by Atlantic Richfield and approved by EPA.

If the pre-design investigation identifies something previously unknown that invalidates assumptions or makes the preferred site untenable, the pre-design investigation at that location will be suspended. The process will then begin at the second preferred site. If warranted, the public may be re-engaged at this stage to inform them of the findings and process moving forward.

12.1.3 Repository Design and Construction.

After a repository site has been determined suitable through the pre-design investigation process, the RD process will begin. After EPA approves the remedial design, the repository will be constructed by Atlantic Richfield.

12.1.4 Repository Operation and Maintenance.

The repository will be operated and maintained by Atlantic Richfield or BSB for the duration of its useful life. After RA is complete, the repository will be closed and capped in accordance with the approved design and will then enter a long-term monitoring and maintenance phase in accordance with applicable and relevant and appropriate solid waste regulations. If waste is disposed of at Montana Resources, repository closure and long-term operation and maintenance will vary substantially from the requirements of the sites shown outside of the mine area.

12.2 Potential Disruptions and Concerns/Mitigations

The potential disruptions and concerns related to the repository, and selecting the best location for it, are likely to solicit extensive public input. Probable issues include:

- Temporary disruptions associated with construction of the repository:
    - Noise
    - Dust
    - Traffic delays
    - Street closures
    - Access limitations

- Prevention and Mitigation Measures
    - General BMPs to mitigate dust and noise during work hours and mitigate runoff onto local streets
    - Work schedule management to limit work hours to avoid noise during nights and weekends
    - Dust suppression
    - Approved traffic control plan and detours to accommodate construction activities, reduce traffic disruptions, and assure public safety during any temporary street or lane closures
    - Site access controls
    - Air monitoring

- Project Outcomes
    - Protection of human health and the environment
    - Repository location and haul routes that meet safety criteria and reduce carbon emissions

12.3 Timeline

The selection of a repository location will be a critical path element in the overall RD/RA process. Therefore, engaging the public in the site selection process should begin as soon as practicable so that pre-design investigations for the repository can begin in 2021. This will allow RD and RA activities to be conducted in step with the RA projects that will generate waste to be placed in the repository.

13.0 NURSERY/PLANT DEVELOPMENT

Completion of the RA and SBCCA will require thousands of tree and shrub plantings to meet the ELU goals for the site. To increase the likelihood of survival for these plantings, Atlantic Richfield will work with a local nursery and their growers to secure, contract grow, acclimate, and deliver the nursery stock that will be used.

While this is not an RA project in and of itself, it is a peripheral project necessary to support the RA projects. It will be apparent to and will likely draw interest from the public and warrants community engagement in its planning and execution (Figure 11).

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COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: LDI

SCALE IN FEET
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FIGURE 11

CONCEPTUAL NURSERY LAYOUT AT LOWER AREA ONE

PIONEER TECHNICAL SERVICES, INC.
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(406) 782-5177

DATE: 10/2020

14.0 COPPER MOUNTAIN RECREATION COMPLEX

The Clark Tailings site, along with the adjacent Old Silver Bow Landfill, was reclaimed in the late 1990s under the regulatory authority of Montana DEQ Solid Waste regulations program and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). In 2001, the site was restored to beneficial public use as a park, the Copper Mountain Sports and Recreation Complex.

Since the reclamation of the site, it has been monitored and maintained in accordance with plans approved by the Montana DEQ, under their solid waste regulations. To date, this monitoring has not indicated a trend toward compliance with groundwater ARARs identified for the site. Analytical data, including from recent groundwater and surface water samples adjacent to and downgradient of the Copper Mountain Recreation Complex, indicate presence of elevated concentrations of BPSOU COCs and volatile organic compounds. It appears that higher groundwater elevations since 2018 may be exacerbating the situation. Due to the presence of BPSOU COCs in the groundwater seeps and within Grove Creek, EPA has directed Atlantic Richfield and BSB to begin investigation of the site to determine if additional RA is needed.

14.1 Remedial Action Activities

14.1.1 Site Evaluations

Related to the Clark Tailings Site, Atlantic Richfield and BSB will review existing data, identify data gaps, and then develop and implement a work plan to fill those data gaps. Atlantic Richfield will then prepare and submit an investigation report, including a conceptual site model (CSM), for the site.

14.1.2 Remedial Action

EPA, in consultation with DEQ, will determine if additional RA is warranted to address impacts from historic mine waste or related operations at the Clark Tailings waste management area. DEQ will determine if additional corrective action is warranted at the closed BSB landfill.

14.2 Potential Disruptions and Concerns/Mitigations

These potential disruptions and concerns do not necessarily include those that may be identified by the community; however, they are identified here as items to anticipate may be brought forth by the public during the community engagement process. Other items may be identified by the community and will be considered.

- Temporary disruptions associated with RAs if they are needed:
    - Noise
    - Dust
    - Traffic delays
    - Street closures
    - Access or activity limitations

- Prevention and Mitigation Measures
    - General BMPs to mitigate dust and noise during work hours and mitigate runoff onto local streets
    - Work schedule management to limit work hours to avoid noise during nights and weekends
    - Dust suppression
    - Approved traffic control plan and detours to accommodate construction activities, reduce traffic disruptions, and assure public safety during any temporary street or lane closures
    - Site access controls
    - Air monitoring

- Project Outcomes
    - Protection of human health and the environment

14.3 Timeline

Investigation work and CSM development is underway and will continue through 2022. If additional RA is needed, Atlantic Richfield will develop a schedule that will be reviewed and approved by EPA.

15.0 POST-REMEDIAL ACTION

After RA is completed, BPSOU will enter an interim shakedown period; a compliance standard determination period; a compliance monitoring period; and finally an operation, maintenance, and monitoring (OM&M) period. It will be important to engage with the community during this long-term phase of the remedy.

15.1 Shakedown

After RA is complete within each specific project, a shakedown period will begin. During shakedown, the operation and function of the RA improvements, such as hydraulic controls and sedimentation basin, will be closely monitored and, if warranted, adjusted to optimize their ability to prevent COCs from reporting the Silver Bow and Blacktail Creeks. Once each RA component is determined operational and functional, a Key Remedial Elements Construction Completion Report will be submitted to EPA, in consultation with Montana DEQ, for review and approval. Agency approval of the Key Remedial Elements Construction Completion Report will mark the beginning of the Compliance Standard Determination Period.

15.2 Compliance Standard Determination Period

The performance of the remedy will be monitored and optimized during the Compliance Standard Determination Period. During this time, expected to last 9-12 years, EPA will also evaluate if water quality standards can be met. If not, further surface water quality standards may be waived. Additional detail regarding the Compliance Standard Determination Period may be found within the Surface Water Compliance Determination Plan (Attachment A to Appendix D of the BPSOU CD). At the conclusion of the Compliance Standard Determination Period, EPA will issue a Certificate of Completion for the BPSOU RA, marking the beginning of the Compliance Monitoring Period.

15.3 Compliance Monitoring Period

Following determination of appropriate surface water compliance standards and Certificate of Completion, the Compliance Monitoring Period will begin. The Compliance Monitoring Period will be used to determine if any exceedances of surface water quality standards are occurring, and to determine if any additional RA is needed to protect surface water quality in BPSOU. The Compliance Monitoring Period will coincide with long-term OM&M activities. Additional detail regarding the Compliance Monitoring Period can be found in the Surface Water Compliance Determination Plan of BPSOU CD (Attachment A to Appendix D of the CD).

15.4 Operation, Maintenance, and Monitoring

Concurrent with the Compliance Monitoring Period, long-term OM&M of the BPSOU remedy will be conducted. While the required duration of long-term OM&M is unknown at this time, it will be conducted by Atlantic Richfield and BSB for as long as needed. The OM&M will consist of ongoing routine and non-routine activities necessary to monitor performance of the remedy, monitor surface water quality, and to maintain operation of remedy systems.