

NATURAL RESOURCE DAMAGE PROGRAM



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STATE OF MONTANA

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August 4, 2023

Katie Garcin-Forba
Bureau Chief, Superfund, AML and Construction Bureau
Montana Department of Environmental Quality
Helena, MT 59601

Re: State of Montana Natural Resource Damage Program Comments on June 28, 2023, Blacktail Creek PDI Work Plan and Project

Dear Katie:

The State of Montana, Natural Resource Damage Program (NRDP) provided the Montana Department of Environmental Quality (DEQ) draft comments on DEQ's Blacktail Creek (BTC) Pre-design Investigation Work Plan (PDIWP) via email on April 6, 2023. Previously, on August 31, 2022, NRDP provided comments to DEQ on the BTC Project design materials it had received to date. NRDP has reviewed the May 26, 2023, and June 28, 2023, draft final Blacktail Creek (BTC) Pre-Design Investigation Work Plan and associated documents, including the response to comments and has identified the following concerns, comments, and questions that remain.

DEQ is performing this remedial work for the State of Montana, as outlined in Attachments C and H of the Butte Priority Soils Operable Unit Consent Decree (BPSOU CD).

Our questions and concerns are narrow and focused on delivering a project that: (1) is protective, (2) is cost-effective, and (3) meets the requirements of the BPSOU CD, specifically Attachment C and Attachment H.

Except for Comment 1, NRDP's comments come from a different perspective than EPA's March 21, 2023, and August 3, 2023, comments. We are solely focused on the issues related to the specific tasks necessary for delivering and constructing a protective and cost-effective project that also meets the requirements of the CD, and much less on the specific details of the draft Pre-design Investigation Work Plan (PDI WP), and draft Sampling and Analysis Plan (Draft SAP).

Comment 1: Remedial Design Work Plan

As noted by EPA in both sets of EPA comments, DEQ is required to have an EPA-approved Remedial Design Work Plan (RDWP) prior to developing a Preliminary Design Investigation. Appendix H, Section 3.1 (RD Work Plan), “*DEQ shall submit Remedial Design Work Plans (RDWP) for EPA approval for BTC Riparian Actions.*” Additionally, Exhibit 1 to the BPSOU RD/RA Statement of Work (SOW) (RD/RA Schedule for the Further Remedial Elements) indicates that RDWP are to be completed and approved prior to commencing with Pre-Design Investigations (PDIs).

EPA stated the following in its August 3, 2023, comments on DEQ’s June 28, 2023, comment responses:

Comments on: Response to EPA Comments Dated March 21, 2023

General Comment No. 1: Montana Department of Environmental Quality (MDEQ) did not submit the Remedial Design Work Plan (RDWP) prior to the submittal of the Draft Final Pre-Design Investigation Work Plan (PDIWP) as specified in Appendix H to the Consent Decree: Blacktail Creek (BTC) Riparian Actions Outline.

MDEQ Response: The United States Environmental Protection Agency (EPA) and MDEQ have come to the decision that MDEQ will submit the RDWP at a later date.

Further EPA Comment: No date is specified in MDEQ’s response or in the Draft Final PDIWP. In the opening paragraphs (Introduction) of the Draft Final PDIWP, the text states: “This site-specific BTC Riparian Actions PDI Work Plan and Sampling and Analysis Plan (SAP) was prepared in accordance with the BTC Riparian Actions Outline presented in Appendix H to the BPSOU CD.”

This is not the case because the RDWP was not submitted beforehand. There is no indication in the document that the EPA and MDEQ came to a consensus and that the RDWP will be submitted at a later date.

There are sound reasons that the RDWP is a necessary requirement under the BPSOU CD prior to additional studies or data collection. The RDWP outlines the entire scope of the project, and includes such details as, “a description of the overall management strategy for performing the RD, including a proposal for phasing of design and construction.” and “the proposed general approach to contracting, construction, operation, maintenance, and monitoring of the Remedial Action (RA) necessary to implement the BTC Riparian Actions.” Additionally, the data gaps are supposed to be identified as part of the holistic development of the RDWP.

A RDWP should outline the process and steps for delivering a protective, timely and cost-effective remedial action. This process is detailed for a number of good reasons; a

primary purpose is to ensure that only necessary tasks that provide value to the construction project are performed.

We look forward to receiving a draft RDWP for review and request that the comments in this letter be incorporated appropriately into the RDWP.

Comment 2: Implementation of work tasks identified in the draft PDIWP

After our initial review of the invoices and monthly reports, it appears that DEQ has directed the contractor to move forward with various Preliminary Design tasks before the release or approval of the draft PDIWP or a RDWP. NRDP requests a reevaluation of the work that DEQ’s contractor has been tasked with to make sure all parties are in alignment on the legal and technical steps necessary to proceed with the work.

Comment 3: Modeling the volume of groundwater

Task 9 of DEQ’s 2022 contract with Spectrum (which is now HydroGeologic, HGL) is labeled: “*Estimate Volume of Water Associated with De-watering Activities Related to Waste Removal*” (DEQ Task Order #4, Contract 421042).

“Contractor will conduct sampling pursuant to the QAPP and PDIWP with the objective of quantifying the total volume of water associated with construction dewatering as well as the quality of water.”

In Section 2.4 of the draft PDIWP labeled “Known Data Gaps,” it states, “*Based on review of the previous studies, the following data gaps need to be addressed to support the Remedial Design...*”. Within this list are two items that we don’t agree are data gaps that need to be addressed and seem to result in unnecessary additional engineering costs.

- The extent of dewatering and drying that is needed prior to loading and hauling materials to ensure safe and efficient transport of the materials to the repository.
- Dewatering volume and pumping rates and chemistry.

As we have previously stated in our August 2022 comments, we have concerns that this task is unnecessary. Per Paragraph 35 of the BPSOU CD, BP-AR will identify the volume and chemistry of water that can be accepted at the Butte Treatment Lagoons and DEQ’s contractor will adjust the project accordingly.

In general, waste dewatering: (1) is not a goal of the project but an ancillary action necessary to remove the wastes partially saturated by groundwater; (2) will be performed at the direction/control of the contractor according to an approved dewatering plan, and (3) will not dewater the entire site all at once but a contractor will control for volume through waste excavation and removal strategy, backfill techniques, types of equipment used, season, and schedule.

As far as quantifying aquifer hydraulic properties, BP-AR’s aquifer test on the BTC

Project boundary offers more than enough hydrogeological data to further quantify aquifer conductivities (K) and transmissivities (T). Providing K and T estimates is more information than what is typically provided in a construction bid package concerning groundwater conditions and dewatering. BP-AR’s pump-test was very rigorous and complete and was much more robust than aquifer tests for the Lower Area One, Streamside Tailings OU (SSTOU), Clark Fork River OU (CFROU), and the Parrot Tailings Waste Removal Action (Parrot Project), all of which had groundwater-saturated wastes to be removed.

Repeating BP-AR’s groundwater flow model including the Buffalo Gulch area and DEQ’s groundwater flow model at Montana Pole don’t seem to be necessary tasks for developing a BTC Project design or bid package.

Attachment B is a summary of how other ongoing cleanup projects by the State and BP-AR deal with the issue of groundwater dewatering to remove groundwater-saturated wastes. There is nothing in these three bid package documents summaries that uses groundwater models, determines “total volumes of groundwater,” or predicts rates of groundwater extraction.

We request that DEQ consider whether this modeling adds any value to the project, i.e., does it help the contractor more cost-effectively and protectively excavate and haul the waste that is required for the Blacktail Creek Riparian Actions. If the data does not affect how the project is bid out, then we respectfully request that DEQ not engage in the modeling as part of the PDIWP.

Comment 4: Additional geochemical analysis

In Section 2.4 of the draft PDIWP labeled “*Known Data Gaps*” it states, “*Based on review of the previous studies, the following data gaps need to be addressed to support the Remedial Design... Potential for dewatering to allow inaccessible tailings (if applicable) to oxidize¹ and their potential to contribute additional COCs to the ground and surface water; potential to contribute additional COCs to the ground and surface water.*”

On page 2-7 of the draft PDIWP is an explanation of the process of Acid Rock Drainage (ARD) and its causes. There is no evidence at the BTC Project site of the existence of: “waste rock,” “sulfidic tailings,” “rapidly oxidizing tailings,” “sulfides,” acidic conditions or “reduced groundwater conditions,” which would be necessary for ARD.

The State of Montana has been removing mine waste in and adjacent to streams, rivers and saturated by groundwater since the early 1980’s. More recently the Milltown Dam OU, Clark Fork River OU, Streamside Tailings OU, and the Parrot Project have all removed millions of cubic yards of wastes (most of which were partially or fully

saturated by groundwater), and these projects all have been designed/bid and implemented without ARD concerns, sampling or other additional analysis. BP-AR is not required to perform any similar modeling or analysis for all its BPSOU CD required waste removal remedial work. The kinetics of ARD are completely out of schedule with the timelines for these types of waste removal remedial actions even if the necessary elements for ARD formation did exist.

We request that DEQ consider whether this information adds any value to the project; i.e., does it help the contractor more cost-effectively and protectively excavate and haul the waste that is required for the Blacktail Creek Riparian Actions. If the data does not affect how the project is bid out, then we respectfully request that DEQ not engage in this task in the PDIWP.

DEQ and its contractor have spent over \$200,000 and have implemented some PDI work tasks and do not yet have approved CD deliverables, such as an RDWP, PDIWP, QAPP, or Area Safety and Health Plan and Emergency Response Plan. NRDP requests a reevaluation of the project, including whether the work that the contractor is being tasked with is necessary and required under the BPSOU CD, as outlined above. It would also be helpful for NRDP and the public if you would share your longer-term budget and schedule, so we can understand how DEQ envisions completing the work.

We want to flag a few other critical path tasks to help with overall projects costs and timing that it would make sense to address in the RDWP.

Some initial issues are:

- a. Written agreement with EPA and BP-AR: A written agreement with EPA and BP-AR on recontamination/sequencing from upstream BPSOU projects and WSSOU. As outlined in NRDP's letter dated December 8, 2021, to EPA (Attachment C), to provide continuity on the project) on the critical nature of project sequencing and schedule, there are additional risks and costs that may be incurred by the State from potential impacts from EPA's remedial sequencing activities on downstream sites. DEQ had previously agreed with NRDP's December 8, 2021, letter; please let us know if this has changed.

The sequence of the BPSOU CD remedial projects and EPA's WSSOU activities on Blacktail Creek will determine the general BTC Project construction schedule, and the general schedule needs to be determined for developing a project budget and schedule. NRDP believes that a schedule and budget should be developed so DEQ, NRDP, and the public can understand the project better. The RDWP should have a project schedule and should outlined what the expected sequence of BPSOU CD that needs to occur before it can proceed.

- b. Written agreement with BP-AR:

1. A written agreement with BP-AR on the selection of a waste repository location and MDT, BSB, MDOT and EPA-approved haul route from the BTC Project.
 2. A written agreement with BP-AR ensuring any additional costs for insurance required by MR to haul waste onto their property is characterized as a cost of transporting the waste.
- c. Agreement with MR:
On not discharging Horseshoe Bend water in confluence area during waste removal in that area of the BTC Project.
- d. Secure Clean Fill Source: DEQ needs to find and contract a source of clean fill (will need approximately 130,000-150,000cy). In our experience if this bid item is left up to the contractor, the fill will cost approximately 3-4 times more than what DEQ should be able to contract it for.

We suggest a detailed schedule with the RDWP that clearly identifies critical path items and their relationship to the project schedule.

Please let me know if you have any further questions or concerns or would like to meet to discuss these comments in further detail.

Sincerely,

Padraig Cunneen

Pat Cunneen
Natural Resource Damage Program

cc:

Amy Steinmetz, DEQ
Jon Morgan; DEQ
Harley Harris; NRDP
Jim Ford NRDP
Sydney Stewart, NRDP
Katherine Hausrath; NRDP

Attachment A

DEPARTMENT OF JUSTICE
NATURAL RESOURCE DAMAGE PROGRAM



AUSTIN KNUDSEN
ATTORNEY GENERAL

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January 26, 2022

PO BOX 201425
HELENA, MONTANA 59620-1425

Jenny Chambers
WMR Division Administrator
Montana Department of Environmental Quality
Sent via email:
jchambers@mt.gov

Re: Butte Priority Soils Operable Unit Consent Decree, Request for DEQ-NRDP MOU and Coordination and Documentation of the History of the \$20.5 Million Received by the State in the BPSOU Consent Decree

Dear Jenny,

Thank you for your memorandum dated January 20, 2022, in which you outline provisions in the *Site Specific Memorandum Of Agreement Between The State Of Montana, Through The Department Of Environmental Quality, The State Of Montana, Through The Montana Department Of Justice Natural Resource Damage Program And United States Environmental Protection Agency For The Butte Priority Soils Operable Unit Response Actions And General Coordination With The Butte Area One Restoration Plan (SMOA)*. We agree with your analysis that the SMOA requires DEQ to provide various documents to EPA and NRDP at the same time, and for EPA to provide DEQ and NRDP with documents at the same time as well. We are separately working with EPA to make sure it adheres to its commitments in the SMOA and the National Contingency Plan as well.

However, our request in the draft Memorandum of Understanding we provided to DEQ for comment on November 29, 2021, went further than the SMOA. It was intended to foster a more collaborative and supportive working relationship between two sister State agencies and to leverage available State resources and expertise, so that the State's overall interests in a good Blacktail Creek (BTC) Riparian Action and leftover funds can better be achieved. We continue to believe that a MOU is the best document to ensure DEQ and NRDP expectations are clear over the short-term, now and while the work is performed, and the over the long-term, several years down the road when NRDP will receive the left-over funds for restoration actions. Given the time frames involved, there will likely be entirely different staff when the project is being conducted and we don't want there to be future disagreements because there is confusion about the history and intent of the CD and related documents, and the other issues outlined in this letter.

We would be happy to delete the dispute resolution provision from the draft MOU we previously provided to address the primary concern in your memo. Dispute resolution was not central to the MOU and its inclusion was more a matter of boilerplate than any intent to create a potentially

inconsistent obligation on DEQ. However, if DEQ still does not want to enter into an MOU even with that change, we would like to make sure that DEQ's concerns are not around the substance of our requests. Accordingly, we request feedback if DEQ disagrees with any of the following requests:

1. Sharing Documents with NRDP

- a) We request that DEQ provide NRDP with drafts of the annual budgets, work plans, and design documents **prior to providing these documents to EPA (per the draft MOU)**. We also request the drafts with a reasonable opportunity to consult and comment on these documents (at least 15 days), but do not request an approval role (as was incorrectly asserted in your memo).
- b) We request that DEQ provide NRDP with a copy of the quarterly progress reports required under Paragraph 15 of the SMOA at the same time as EPA.

2. Documenting the Purpose of the Over-funding of the BTC Riparian Actions to Fund the Parrot Project with the Left-Over Funds

In addition, the draft MOU was intended to document the history of the \$20.5 million payment that BP-Atlantic Richfield Co. (BP-AR) made under the 2020 Butte Priority Soils Operable Unit. The Blacktail Creek remedial elements that DEQ, on behalf of the State, will complete (the "BTC Riparian Actions"), as described in Appendix H and the Blacktail Creek Remediation and Contaminated Groundwater Hydraulic Control Further Remedial Elements description, SOW Attachment C, Section 5 (except the groundwater remedy elements which Settling Defendants will complete) of the 2020 Butte Priority Soils Operable Unit Consent Decree (Consent Decree) are not anticipated to cost anywhere near \$20.5 million. In fact, as you were aware at the time, NRDP originally collected the data to support the need for the BTC Riparian Actions. Based on this data and analysis conducted for CD negotiations in 2017, NRDP's outside engineering consultant, Tetra Tech, calculated the cost (with a contingency) at less than \$5.0 million. NRDP recognizes that these costs are not static. We make this point to underscore that the \$20.5 million payment was viewed by the State team as an overpayment by BP-AR that was intended to ensure that as much as possible of the Parrot Tailings Waste Removal Project funds are repaid.

Although the recitals that we included in the draft MOU are generally pulled from other publicly available documents, we found it helpful to compile them all into one document, and restate them here:

- a) The Consent Decree requires Atlantic Richfield, Co. to pay the State of Montana \$20.5 million. Paragraph 21 requires the State to "use the principal amount and any interest or Earnings on the BPSOU Account solely for implementation of the BTC Riparian Actions; and, if and to the extent funds are not required for the BTC Riparian Actions, such funds can be used for (i) other State Restoration actions coordinated with the Remedy and (ii) end land use actions identified in the SOW (Attachment C, Addendum 1 (Further Remedial Elements Scope of Work – End Land Use Additions))."
- b) In order to implement item ii in Paragraph 21 of the Consent Decree, the Governor and Butte-Silver Bow entered into Memorandum of Understanding 2020-260, dated October 8, 2020 (BSB MOU), in which the State committed to maintain \$1.0 million and

associated interest payable for payment to Butte-Silver Bow, as provided in the BOD MOU.

- c) Beginning in 2006, NRDP started collecting data at Diggings East, Northside Tailings, Blacktail Creek, and the Butte Reductions Works Smelter Site to document the contamination, impacts on Blacktail/Silver Bow Creeks, and demonstrate the need for these areas to be addressed under remedy. This was required because EPA had not mandated BP-AR to investigate these areas and pathways. NRDP spent approximately \$1.0 million of Butte Area One restoration funds on this data collection efforts and investigations. NRDP has made all of this data available to BP-AR, EPA, and DEQ.
- d) NRDP's engineer estimated approximately 105,000 loose cubic yards (LCY) of wastes in the approximately 15-acre BTC area, although more data needs to be collected to refine the waste quantity more accurately (Tetra Tech, 2016ⁱ),
- e) Since at least 2006, the State of Montana has stated that the Parrot Tailings should be removed under the Butte Priority Soils Operable Unit (BPSOU) remedy. Partial Concurrence letter on BPSOU ROD from Richard Opper, Montana Department of Environmental Quality Director, to EPA (September 22, 2006); Response to Public Comments on Final Restoration Plan Amendments for Funding the Parrot Tailings Waste Removal Project (September 17, 2019) (Response to Comments). However, EPA disagreed with this position. From the Response to Comments, "[i]n determining to proceed with the Parrot Project, the Governor concluded [continuing to request that EPA require BP-AR to remove the Parrot Tailings] was an obstacle to getting the cleanup done in Butte, and that it was unlikely the State's efforts to persuade EPA to change its position on this question would be successful. The Governor concluded the State's action to remove the Parrot Tailings would avoid this impasse and facilitate the BPSOU negotiations moving forward more quickly." *Response to Comment # 17*.
- f) Many members of the public stated that BP-AR should pay for the Parrot Project, rather than funding the Parrot Project using restoration funds. *See* Response to Comments, Comment Group 17. As part of the Governor's decision to fund Phase 2 of the Parrot Project using an additional \$5.3 million from Butte Area One; \$5.2 million from the Upper Clark Fork River Basin Groundwater fund; and \$8.0 million from the Upper Clark Fork River Basin fund, the Governor laid out his expectation that "the CD should include a meaningful financial contribution from BP-AR that can be used for the Parrot Tailings." *Id.*
- g) The \$20.5 million payment from BP-AR is materially more than the then-estimated cost of the BTC Riparian Actions, and that the \$20.5 million settlement amount was intended to provide significant leftover funds to repay the restoration funds that have paid for the Parrot Tailings Waste Removal Project, as noted in the Trustee's Modifications to Plan Amendments Based on Public Comment and Approval of Plan Amendments as Modified (September 19, 2019). At the time the CD was announced, the Governor's representative Patrick Holmes publicly affirmed this arrangement and intent.

3. Avoiding Increases to the Cost of the BTC Riparian Action

Further, the draft MOU intended to address how to avoid unnecessarily increasing the costs of the BTC Riparian Actions. NRDP is concerned that BP-AR appears to be proposing a schedule and/or sequencing of projects that could increase these costs and EPA has not disapproved it. We continue to request that DEQ not agree to such a schedule. We request that before DEQ agrees to scheduling that could impact the cost of the BTC Riparian Actions, DEQ consult with NRDP and endeavor to reach an agreement on a unified State position on the proposed schedule.

In a letter to EPA dated December 8, 2021, which DEQ agreed with when reviewing the draft letter, NRDP outlined the scheduling issues it anticipates could increase the costs to the BTC Riparian Actions, such as performing the BTC Riparian Actions before the upstream remedial actions (which could re-contaminate the BTC Riparian Action project area); performing the BTC Riparian Actions after the Butte Reduction Works (BRW), which could re-contaminate the BRW area; and performing the BTC Riparian Actions in a time/manner where DEQ has to treat the contaminated dewatering water, rather than BP-AR.

4. Transfer of Funds

Finally, the draft MOU clarified when DEQ would transfer the funds to NRDP. We request that upon completion of the BTC Riparian Actions, as provided in the Consent Decree, DEQ transfer all remaining funds to NRDP within 90 days so that NRDP is able to repay the restoration funds, as provided in the Trustee’s Modifications to Plan Amendments Based on Public Comment and Approval of Plan Amendments as Modified (September 19, 2019). NRDP will set aside funding consistent with the BSB MOU, including any amendments thereto.

We do not wish to continue to expend time and energy on the matters discussed above and rather would like to put some of these issues to rest and focus our energies and efforts on assuring the best outcome for the State and the people of Butte. We are hopeful that NRDP agreeing to use this letter to memorialize the facts and our view of how we should work together instead of the draft MOU will help with this goal.

We trust that the factual statements and expectations we outline above are accurate and consistent with our joint responsibilities. We further trust that if you have any concerns with any of the above you will let us know.

Sincerely,



Harley Harris
NRDP

cc: Katherine Hausrath; NRDP counsel
Jon Morgan; DEQ counsel

Attachment B

BP-AR BPSOU Bid Documents Dewatering Requirements: (currently being developed for their bid packages)

“In general, we are requiring the bidders to develop draft construction dewatering plans for GG and BG as a component of their responses. These draft dewatering plans will need to consider the information we attained from the pre-design investigations including our pump test results, slug tests, lithology logs, etc. All that information is appended to the RAWPs of GG and BG (included as attachments to the RFP), so they’ll have to be diligent to locate and apply the information that is pertinent to them. Post-award, we’ll work with the selected contractor to finalize the dewatering plans, which we require to be complete prior to beginning work.”

In the past we did construction dewatering as a T&M task, but in this RFP, we’ve gone to lump sum payments for each project site. We’ve gotten way upside down with the T&M approach in the past as it seems to encourage/reward the contractor for poor excavation and reconstruction planning. Our hope, though the LS costs may appear initially high, is that the contractors will be diligent in their construction planning and productivity, knowing they have finite funds available for completion of all construction dewatering activities.”

There is nothing in BPs bid documents on total volumes of groundwater or rates of GW extraction as those are a function of waste removal strategy, backfill techniques, types of equipment used, season, and schedule. The Means and Methods are the responsibility of the contractor.

Means and Methods of Construction — a term used in construction contracts to describe the techniques and tactics (usually temporary structures) a contractor employs to complete construction of a permanent project or structure.

Who is responsible for means and methods? Only the contractor is responsible for the means and methods of the construction project, including the safety of those on site. Dangerous situations occur all the time on construction projects, but the Owner cannot make determinations or suggest a remedy for means and methods issues.

DEQs CFROU Bid Documents Dewatering Requirements:

See attached Special Provisions, Section N – Groundwater Dewatering Sediment Ponds, Section O- Well Point Installation, Section P – Dewatering Trenches and Sumps, and Section Q – Groundwater Dewatering Pump Operation. (pgs. 53 – 59).

“Groundwater dewatering is required to allow excavation of saturated materials from the floodplain. The intent of this work is to dewater saturated floodplain materials to allow equipment access for excavation and to allow hauling of non-saturated materials. Groundwater dewatering of a given area shall commence five (5) days before other excavation activities in order to provide sufficient time for dewatering. All work with the exception of streambank construction should occur in dry conditions. There are four major components to complete groundwater dewatering:

- (1) construction of sediment detention ponds,*
- (2) construction of well points and associated dewatering pumping systems,*
- (3) construction of dewatering trenches with sumps and associated dewatering pumping systems, and*
- (4) operation and maintenance of dewatering systems.*

Each sediment detention pond shall be constructed prior to commissioning of well points and trench sumps) associated with that pond. Contractor shall construct groundwater dewatering components in accordance with the Drawings, Sheets C104-C106, Dewatering Plan, and Sheets D102-D103, Dewatering Details; Bid Item 14, Groundwater Dewatering Sediment Ponds; Bid Item 15, Well Point Installation, Bid Item 16, Groundwater Dewatering Trenches and Sumps; and Bid Item 17, Groundwater Dewatering Pump Operation.

Contractor shall construct, maintain, and reclaim the groundwater dewatering sediment ponds and associated piping systems in the general locations and to the specific sizes shown on the Drawings, Sheets C104-C106, Dewatering Plan, and Sheets D102-D103, Dewatering Details. The inlets and outlets of ponds shall be located on opposite ends of the ponds lengthwise. The ponds shall be constructed to the lengths and widths listed on the Drawings, Sheets C104-C106, Dewatering Plan.” (pg. 53)

There is nothing in the entire CFROU bid document that relied on a groundwater flow model, the need to determine a total volume of groundwater, or even the rates of groundwater extraction as those are a function of waste removal strategy, backfill techniques, types of equipment used, season, and schedule. (i.e., it’s a Means & Methods)

NRDPs Parrot Tailings Waste Removal Project Bid Documents Dewatering Requirements: See attached Special Provisions, Section 00910

“9.5 Dewatering Systems., Bid Item 5-1 Construction Dewatering

Contractor shall adequately dewater areas of the Site prior to and during excavation. Dewatering will be required to excavate saturated tailings and alluvium from some areas of the Site.

Groundwater elevations shown in Construction Drawings are based on March 2018 groundwater elevations and are only shown to illustrate the excavation floor elevation. Actual groundwater elevations may vary depending on lithology and hydrogeologic conditions at the time of excavation. Groundwater elevations during previous construction activities have been recorded as much as 4 to 5 ft higher than the March 2018 elevations. Contractor shall plan for varied groundwater conditions. Contractor is responsible for all delays and difficulties associated with failure to adequately dewater any work area.

Groundwater at the Site is highly corrosive and contaminated with metals under low pH conditions; as a result, standard pumping materials and supplies may not be adequate. Historic pump tests have resulted in significantly reduced life of pump components, fittings, piping, etc.

The existing Interim Dewatering system is available for the Contractor to operate for construction dewatering activities. The Interim Dewatering system is capable of pumping up to 70 gpm. The discharge line is a 3x6-in double-walled HDPE pipe that discharges on MR property.

Contractor shall prepare a Construction Dewatering Plan consistent with the conditions and the substantive requirements of the Montana Construction Dewatering General Permit (http://deq.mt.gov/Portals/112/Water/WPB/MPDES/General%20Permits/2020_FPER_MTG070000.pdf) and submit the plan to Engineer for approval. The construction dewatering plan shall describe the proposed means and methods for dewatering, pumping and discharge of the dewatering water.

Contractor may use both the pipe discharge and truck discharge Construction Dewatering Access Points for delivery of Construction Dewatering Water to MR pursuant to the terms of the MR access agreement. Contractor will provide notification to Owner (who will notify MR) which Construction Dewatering Access Point will be utilized. If Contractor selects the Emergency Pond location, delivery must be via pipeline, and the plan must show the construction details including location of the pipeline. If the Contractor selects use of the Clearwater ditch, delivery will be via truck during the time period 7:15 am to 6:45 pm.

If Contractor selects the emergency pond location, Contractor may use the existing 3x6 discharge pipe, and install a second dewatering discharge pipe along the existing pipe alignment shown in the Construction Drawings, if needed. If new pipe is installed, the discharge pipe shall consist of HDPE, double-wall pipe sufficient for the estimated flow and pressure the Contractor expects to encounter during dewatering activities.

Contractor must monitor the flow rate using a method that can report flows to Engineer to verify compliance with MR access agreement. **The combined maximum instantaneous flow rate shall not exceed 200 gpm and the maximum annual volume is 52.5M gallons per year (100 gpm average flow rate).** The Contractor shall anchor the pipe sufficiently to prevent movement during flow events. Discharge pipe design details shall be described in the dewatering plan. The construction dewatering system shall be removed prior to completion. The Interim Dewatering system will be left in-place as described in Bid Item 5-2.

Contractor shall dewater the specified areas for an adequate duration as approved by Engineer prior to starting excavation of saturated tailings to provide sufficient time for dewatering of subsurface materials. Excavated areas must be fully dewatered prior to entry for sampling and survey efforts; Engineer personnel will not enter excavation if any visible water or unstable areas are present. Contractor shall be responsible for providing all facilities required to divert, collect, control, contain, filter and evacuate water from all construction work areas and excavations. Specifically, secondary containment must be provided on all piping. Water shall be discharged to the location shown on the Construction Drawings unless otherwise instructed by Engineer. No dewatering water shall be discharged on the BNSF property or anywhere else on MR property besides the approved discharge locations. No collection water shall be otherwise discharged without prior approval. Contractor is responsible for protecting against any releases of water and damage to adjacent structures. Any costs associated with the repair, restoration, or replacement of damaged property from unauthorized discharge of water shall be the responsibility of Contractor.

Contractor will implement the approved construction dewatering plan, method for dewatering, unwatering, and discharge efforts. Contractor shall seek approval for any deviations from the approved dewatering plan. These shall be submitted to Engineer for review and approval a minimum of 5 working days prior to installation of new controls in the field.

Contractor will maintain records of the amount, date and location of all Construction Dewatering Water delivered to the Construction Dewatering Access Points and provide these to Engineer at least weekly.

Contractor shall provide all labor, equipment, tools, materials, and incidentals necessary to complete the Work as specified and shown on the Construction Drawings. Contractor shall maintain and provide Engineer daily dewatering volume and pumping duration for all dewatering water delivered to the construction dewatering points on MR property.

Measurement

No measurement for Bid Item 5-1 Construction Dewatering will be made.

Payment

Payment for Bid Item 5-1 Construction Dewatering will be based on the **lump sum** amount bid as shown on the Bid Form made in proportion to the total project work completed.

Bid Item 5-2 Interim Dewatering System Extension

Contractor may operate the Interim Dewatering system during construction; however, the system must be maintained in an operational condition, as the Owner may choose to continue operation after construction activities are complete. Contractor will extend the cleanouts and sump to the final surface grade during backfill operations according to the Construction Drawings and Technical Specifications. Contractor shall construct surface completions once the backfill reaches final grade. Contractor will install 48-in manholes around each cleanout extension at the surface. The sump will be extended 24 inches above the final surface and bollards will be installed around the sump.

Contractor will provide all pipe, manholes, fittings, hardware, and appurtenances to complete the system extension as shown on the Construction Drawings. The Contractor will remove and stockpile the discharge pipe, pump, riser, pressure transducer, and control system on the Site for the Owner.

Measurement

No measurement for Bid Item 5-2 Interim Dewatering System Extension will be made.

Payment

*Payment for Bid Item 5-2 Interim Dewatering System Extension will be based on the **lump sum** amount bid as shown on the Bid Form made in proportion to the total project work completed.” (pgs. 30-33)*

<p>There is nothing in the entire Parrot Tailings Waste Removal Project bid documents on the need to determine the total volumes of groundwater or the rates of groundwater extraction as those are a function of waste removal strategy, backfill techniques, types of equipment used, season, and schedule. De-watering of the wastes to be removed is the responsibility of the contractor (i.e., it's a Means & Methods issue).</p>

Attachment C

DEPARTMENT OF JUSTICE NATURAL RESOURCE DAMAGE PROGRAM



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December 8, 2021

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Ms. Erin Agee, counsel
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1595 Wynkoop Street
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Re: State of Montana Natural Resource Damage Program Comments on Future EPA Decisions that Could Impact Cost and Implementability of Constructing the Blacktail Creek Remedial Action within the BPSOU CD

Dear Mr. Greene and Ms. Agee:

The State of Montana Natural Resource Damage Program wants to make EPA aware of issues it has identified and is concerned with which relate to EPA's Remedial Investigation of the West Side Soils Operable Unit and the remedial planning process for implementation of the Butte Priority Soils Operable Unit Consent Decree (BPSOU CD). Our concerns are narrow and focused. They relate solely to restoration funds, the effectiveness of the groundwater remedy which the State of Montana through the Natural Resource Damage Program has invested more than \$36M to address, and costs under the BPSOU CD. We provide these comments now to allow EPA time to address any conflicts that may exist before decisions are made.

We would like to ensure that:

- A) the remedial work on Blacktail Creek Site (BTC Site) being performed by the Montana Department of Environmental Quality is implemented as cost-effectively as possible. This is important because all the remaining funds from that effort (except for the \$1 million commitment to Butte-Silver Bow,

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Constructing a downstream project that involves removing the entire creek bed, banks, and floodplain before upstream projects that involve removing wastes from the entire floodplain on a fluvial system such as this poses a significant risk of downstream recontamination. There are instream sediment samples in the BTC Site that exceed the BPSOU CD Surface Water Management Plan removal criteria for copper by 39 times (5,890 mg/kg) and zinc by 14 times (6,510 mg/kg) (Attachment A, and Table 1).

If EPA allows BP-AR to construct the BRW Site before the BTC Site, Diggings East Stormwater treatment basin or other upstream projects are constructed and recontamination of the BRW Site sediment occurs (as would be expected), it creates confusion about the source of the contamination. Although the consequences of this confusion would require a careful review of the BPSOU CD, we see two likely results. First, it could be difficult or impossible to determine that the Butte Reduction Works Smelter Area Mine Waste Remediation and Contaminated Groundwater Hydraulic Control portion of the required remedy is complete, because not all of the contaminated sediments would be removed in the BRW area. Second, it would make it difficult to determine whether the BRW Contaminated Groundwater Hydraulic Control is functioning and whether BP-AR has adequately controlled discharge of contaminated groundwater to surface water and sediments in BPSOU, as required by Attachment C to Appendix D of the BPSOU CD.

Recontamination from upstream projects is likely regardless of when the BTC Site construction occurs. Instream sediment contamination from the BTC Site will transport to the BRW Site every year regardless of when construction occurs (Attachment B). Also, this situation should not preclude the full utilization of the Surface Water Management Plan instream sediment performance triggers for evaluating the effectiveness of BP-AR groundwater capture system specifically at the BRW Site (Table 1).

Issue 3:

The BTC groundwater capture system that BP-AR is required to construct should be fully functional prior to the State's construction of the BTC Riparian Actions (Attachment B). If the BTC Riparian Actions are constructed prior to this groundwater control, contaminated groundwater could recontaminate the instream sediments. BP-AR has recently acknowledged this sequencing necessity in its latest schedule, as is required by Exhibit 1 to Appendix D of the BPSOU CD. We thought it prudent to restate it here.

Issue 4:

It is clear from the attached figures that the Digging East Stormwater Basin (DESB) (Attachment D) and Buffalo Gulch Stormwater Basin (Attachment C) will both need to be constructed and functioning prior to the State's BTC Riparian Actions work. Without these capture and treatment systems in place, contaminated sediments would continue to be transported by Silver Bow Creek above the confluence to the BTC Site, specifically the confluence area. Clearly, as in other cases,

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per Memorandum of Understanding 2020-260, dated October 8, 2020), are intended to be available for restoration actions, as is specifically provided in Paragraph 21 of the BPSOU CD. The State is committed to providing a cost effective and fully protective remedy with the settlement funds;

- B) there are no additional costs incurred by the State from potential impacts from the remedial activities (referred to as the “BTC Riparian Actions” in the BPSOU CD) on downstream sites, primarily the Butte Reduction Works Smelter Site Remedial Action (BRW Site); and
- C) any project sequencing decisions made by EPA will not undermine or impact the BPSOU Surface Water Management Plan, Sediment Performance Monitoring (Exhibit 1 to Attachment A to Appendix D to the CD, Section 5). This sediment monitoring will evaluate the effectiveness of British Petroleum-Atlantic Richfield’s (BP-AR’s) groundwater capture systems at the BTC Site and the BRW Site to protect Silver Bow Creek and Blacktail Creek instream sediments and surface water from the existing contaminated groundwater discharge.

Issue 1:

NRDP and DEQ have documented and quantified over the last 15 years that instream sediments of Blacktail Creek within BPSOU and directly upstream of the BTC Site are contaminated with historic mine wastes. The State has collected this data to monitor the progress of the remedy and restoration of the Streamside Tailings Operable Unit (SSTOU) and while NRDP was investigating the contamination at the Blacktail Creek Site in 2015 - 2017. The most robust of these instream sediment quality sampling efforts on Blacktail Creek was performed by NRDP in 2016 (Attachment A).

There are instream sediment samples in Blacktail Creek in the West Side Soils Operable Unit (WSSOU) upstream of the BTC Site that exceed the BPSOU CD Surface Water Management Plan Table 8-1 for copper by 3 times (451 mg/kg) and zinc (Attachment A., Table 1). This contamination is part of the WSSOU and not the BPSOU.

Our understanding is that EPA is the lead for WSSOU, storm water, and Blacktail Creek in this area of WSSOU. If that is correct, what is the plan to address this waste source, pathway, and ultimately sequencing issue to make sure these wastes do not recontaminate the BTC Site and ultimately the corridor if left unaddressed? How does EPA plan to distinguish upstream contamination when considering the effectiveness of the groundwater capture system(s)?

Issue 2:

BP-AR has been clear in design meetings that it would like to construct the Butte Reduction Works Smelter Site (BRW Site) as its first major construction project following construction of a small sedimentation basin at Grove Gulch.

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these upstream historic mine waste contaminant sources and pathways need to be addressed prior to implementation of downstream waste removal projects.

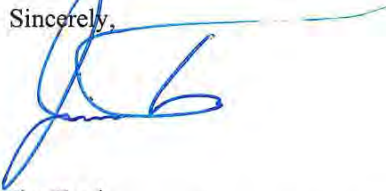
Issue 5:

Paragraph 35 of the BPSOU CD states that “AR will take the State’s BTC Riparian Actions construction de-watering water at the Butte Treatment Lagoons to the extent treatment is needed and at times when the volume and chemistry of such water will not overwhelm the Butte Treatment Lagoons’ capacity and/or prevent it from meeting discharge standards, as approved by EPA during Remedial Design.” Consistent with this provision, the BTC Riparian Actions must be scheduled at a time when there is BTL capacity and it is not being used for the other remedial actions, so that BP-AR is able to take all BTC Riparian Action dewatering water that requires treatment.

In summary, sequencing of the various BPSOU remedial projects is of critical importance and if done incorrectly could potentially recontaminate downstream BPSOU sites. This also applies to Blacktail Creek contamination within West Side Soils OU. These sources/pathways could negatively impact the cost of the BTC Site remedial work and the funds remaining for restoration purposes.

Please let me know if you have any further questions or would like to meet to discuss these concerns in further detail.

Sincerely,



Jim Ford
Natural Resource Damage Program
Montana Department of Justice

cc:

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Katherine Hausrath; NRDP
Ray Vinkey; NRDP
Chris Wardell; EPA
Dana Barnicoat; EPA
Joe Vranka; EPA
Jon Morgan; DEQ counsel
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Jean Martin; Counsel AR
Mave Gasaway; attorney for AR
Gary Icopini; MBMG
David Shanight, CDM Smith
Curt Coover, CDM Smith
Chapin Storrar; CDM Smith
Ian Magruder; CTEC

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References:

Tetra Tech, **Data Gap Investigation - Silver Bow Creek and Blacktail Creek Corridors**, July 21, 2016

RESPEC, **Monitoring Report for 2020 Streamside Tailings Operable Unit Silver Bow Creek/Butte Area NPL Site**, Prepared for MDEQ and MDJ/NRDP

BPSOU Surface Water Management Plan Exhibit 1 to Attachment A to Appendix D to the Consent Decree

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Table 1

Consent Decree for the Butte Priority Soils Operable Unit
 Partial Remedial Design/Remedial Action and Operation and Maintenance

Table 8-1. Probable Effect Concentrations for Sediment (Ingersoll *et al.* 2000, MacDonald *et al.* 2000)

Contaminant of Concern	Probable Effect Concentration (mg/kg, dry weight, bulk sample)
Arsenic	33
Cadmium	4.98
Copper	149
Lead	128
Mercury	1.06
Zinc	459

mg/kg – milligram per kilogram

Table 9-1. SWMP Lines of Evidence for Additional Groundwater Hydraulic Control

Medium	Metric	Criteria
Monitoring		
Sediment	Bulk sample (<2mm) contaminant concentrations	Probable Effects Concentrations (PECs, Table 8-1). Exceedance of PECs will be considered a “sediment deviation” and will trigger a preliminary diagnostic investigation and quarterly sediment monitoring unless the contaminated sediment is removed.
Surface Water (Normal Flow)	Contaminant concentrations	Surface water compliance exceedances during normal flow will trigger a diagnostic evaluation.
Diagnostic Response Investigation		
Sediment	Bulk sample (<2mm) contaminant concentrations	Statistically significant trends of quarterly COC concentrations per depth interval, that indicate sediments will continue to exceed PECs as a result of contaminated GW discharge.
Surface Water (Normal Flow)	Contaminant concentrations	Statistical trends or significant differences of contaminant concentrations between adjacent performance monitoring stations
Groundwater	Hydraulic gradient	Interpret groundwater gradient between surface water and adjacent groundwater to determine the potential for contaminated groundwater to impact surface water and sediment quality
Groundwater	Contaminant concentrations	Document groundwater COC concentrations adjacent to surface water areas of evaluation and the potential for contaminated groundwater to impact surface water and sediments quality.
Pore Water	Contaminant concentrations	Interpret contaminant concentrations from within the hyporheic zone to inform potential source of contamination.

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Attachment B

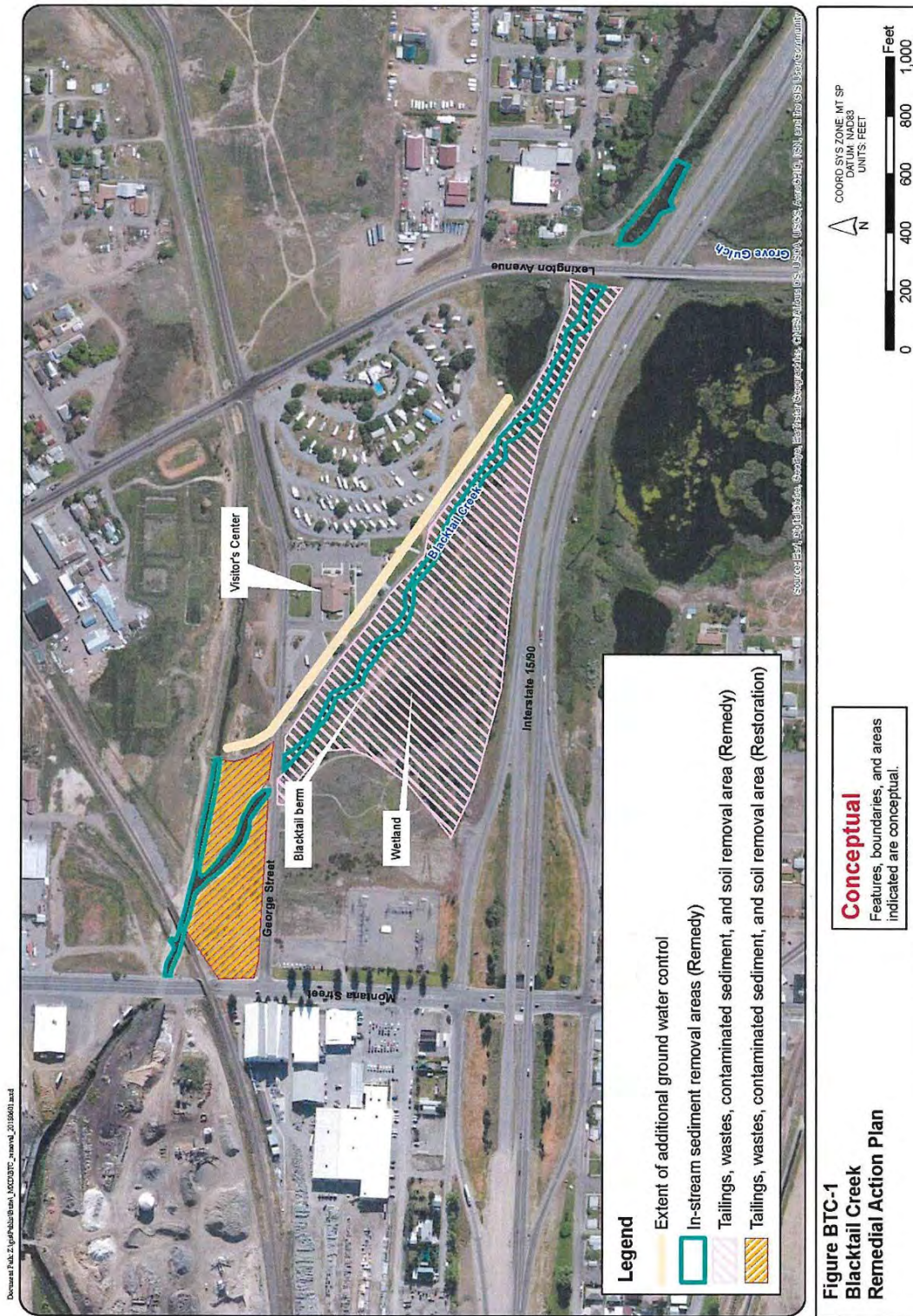
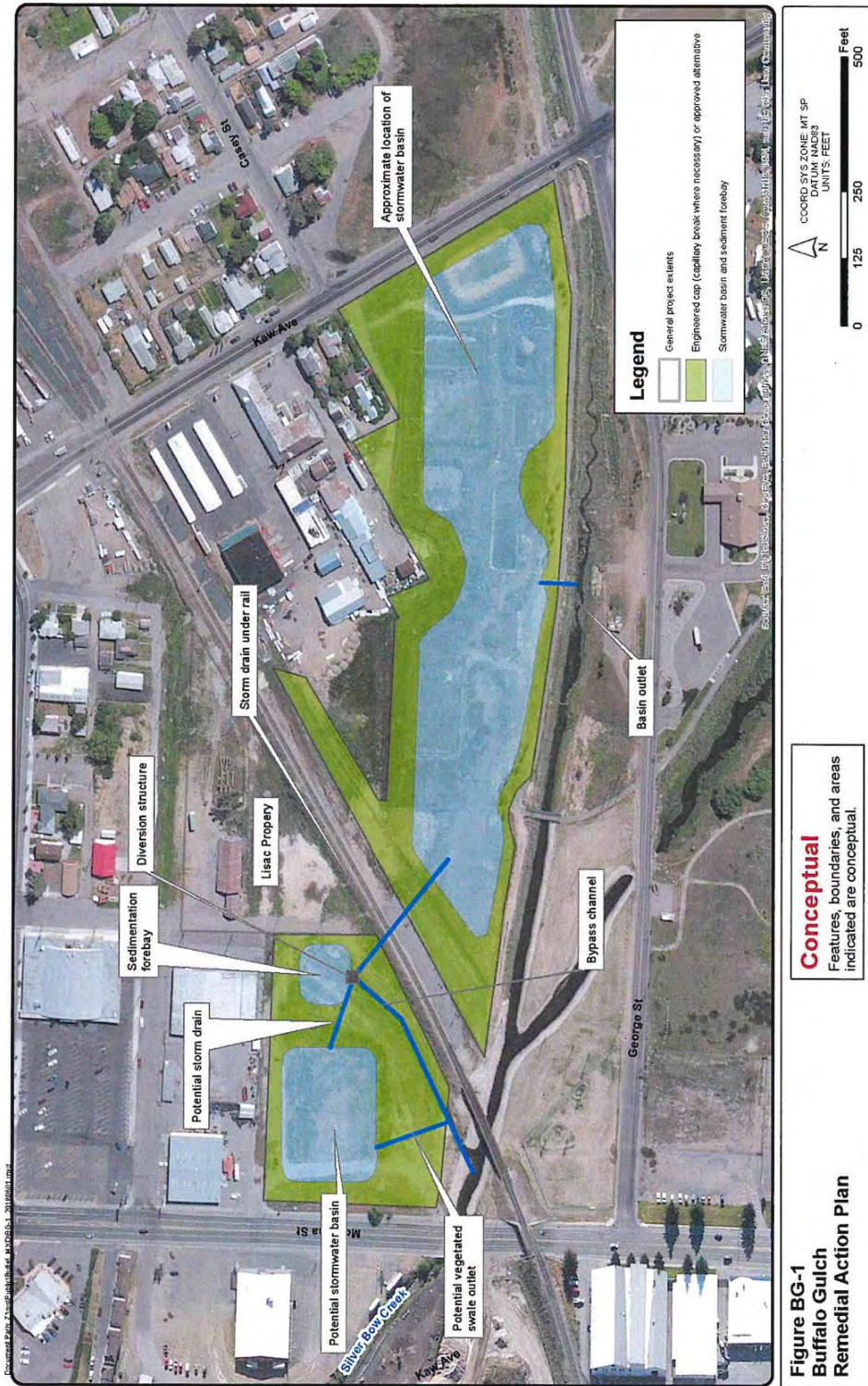


Figure BTC-1
 Blacktail Creek
 Remedial Action Plan

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Attachment C



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Attachment D

