



Summary of BPSOU Conceptual Agreement

May 30, 2018



Atlantic Richfield Company

Presentation Outline

- Introductions
- Status and Next Steps
- Conceptual Agreement Overview
- Work Completed to Date
- Work to be Done
- Surface Water Quality
- Process Moving Forward
- Questions and Informal Comments



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Status and Next Steps

- EPA wants to hear from you. In addition to the public meetings we're holding today, we will have public availability sessions in the next couple of weeks to provide more information on the proposed future cleanup actions and give you the opportunity to voice your comments, questions and concerns.
- Please visit our website at: www.epa.gov/superfund/silver-bow-butte to submit comments, questions or concerns you may have now or in the future that will be addressed in the upcoming availability sessions.
- In addition to the public meetings and availability sessions, the public will also have an opportunity to provide formal public comments on the proposed future cleanup actions, if consent decree negotiations make sufficient progress, on the upcoming Proposed Plan for a Record of Decision Amendment.



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Conceptual Agreement Overview



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Conceptual Agreement

- May 22, 2018, the court approved a modification to the current confidentiality order to publicly disclose certain assessments and other information about the proposed remedial actions in Butte.
- Based on community input and collaboration between agencies and stakeholders, a modified remedy proposal has been developed.
- Under the proposed remedy:
 - Northside Tailings and Diggings East tailings, waste, and contaminated soils would be removed.
 - Extensive removal of sediments and floodplain waste along Blacktail Creek from Grove Gulch through the confluence with upper Silver Bow Creek will occur under a combined remedy restoration action performed by MDEQ and funded by Atlantic Richfield Company.
 - Butte Reduction Works (BRW) tailings, waste, and contaminated soils would be removed. Silver Bow Creek will be moved out of the Slag Canyon and reconstructed through the BRW, connecting to Lower Area One.



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- Atlantic Richfield would provide funding to the State which would be used for the Blacktail Creek riparian work and for restoration actions coordinated and/or integrated with the BPSOU remedy.
- The State would perform the Confluence work at Blacktail Creek and the Parrot Tailings Waste Removal Project.
- The proposed remedy also includes:
 - Construction of vegetated stormwater basins and sedimentation bays.
 - Stormwater basins and sedimentation bays reduce contaminant loading to Silver Bow Creek.
 - Also helps BSB meet Clean Water Act municipal requirements at no cost to local taxpayers.
 - Expanded groundwater controls near the visitors' center and Slag Canyon to further protect Silver Bow Creek.
 - Further and improved reclamation of areas on the Butte Hill.



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- Implementation of these remedy and restoration projects will support future delisting of BPSOU. Approximately a million cubic yards of waste will be removed through these additional remedial actions.
- BSB and AR will amend the allocation agreement to provide funding for proposed additional remedial work.
- Under remedy, the end land use plan for the corridor would be developed through community participation and visioning.



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Work Completed To Date



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Work Completed To Date



- Site investigation work began in 1984.
- RI/FS identified sources of contamination within an ~5 square mile area of Butte.
- Remediation has included waste removals, consolidation, capping, and stormwater and groundwater control, addressing ~8 million cubic yards of mine waste.
 - Time Critical Removal Actions (TCRA).
 - Expedited Response Actions (Non-TCRA).
 - Initial Remedy Implementation.
- Reclamation of ~600 acres of land to protect human health and the environment.
 - Currently monitored and maintained through the Butte Reclamation Evaluation System (BRES) program.
- Established the Residential Metals Abatement Program (RMAP) to carry out the remedy in residential settings.
- Groundwater collection and treatment system, called the Butte Treatment Lagoons, was built and engineered to discharge water meeting water quality standards.



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Work to Be Done



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Remedy Work Plans

- End land use
- Northside Tailings
- Diggings East
- Buffalo Gulch
- Grove Gulch
- Blacktail Creek and confluence area
- Butte Reduction Works
- Uncontrolled surface flow areas
- Unreclaimed areas
- Insufficiently reclaimed sites



End Land Use

- Remedy implementation will guide future discussions on end land use.
- Proposed work not inconsistent with end land use views expressed to date.
- Remedy work will complement community vision.
- Parties are committed to engaging the community on end land use decisions.
- Multiple community engagements will be required.
- Compromise and collaboration will be necessary to achieve stakeholders goals.



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Northside Tailings

Major Elements

- Excavation, disposal, and reclamation
 - Tailings, wastes, and contaminated soils
 - Disposal in a repository
- Installation of stormwater basin or sedimentation bay
 - Lined or unlined stormwater basin or sedimentation bay (~3 acre footprint)
 - Vegetated swale
 - Additional storage for sediments
 - Captures stormwater from East Buffalo Gulch drainage



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Diggings East

Major Elements

- Excavation, disposal, and reclamation
 - Tailings, wastes, and contaminated soils
 - Municipal wastes
 - Disposal in a repository
- Installation of stormwater basin
 - Forebay and lined stormwater basin (~10 acre footprint)
 - Additional storage for sediments
 - Captures stormwater from upper Silver Bow Creek



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Buffalo Gulch

Major Elements

- Excavation, disposal, and reclamation
 - Possible removal of tailings, wastes, and contaminated soils
 - If found, waste removed and disposed in a repository
- Installation of stormwater basin
 - Forebay and lined or unlined stormwater basin (~8 acre footprint)
 - Additional storage for sediments
 - Captures stormwater from Buffalo Gulch drainage



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Grove Gulch

Major Elements

- Excavation, disposal, and reclamation
 - If found, waste removed and disposed in a repository
- Installation of sedimentation bay and vegetated swale
 - Sedimentation bay and vegetative swale constructed adjacent to Lexington Avenue
 - Additional storage for sediments
- Disturbed areas will be regraded and revegetated



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Blacktail Creek and the Confluence

Major Elements of this MDEQ-led effort, funded by Atlantic Richfield Company

- Excavation and disposal (Grove Gulch to Montana Street)
 - All floodplain wastes (above and below groundwater)
 - Instream sediments
 - Excavated wastes disposed in a repository provided by the Atlantic Richfield Company and agreed to by EPA and the state
- Stream reconstruction
 - Reconstruction of the riparian and floodplain areas
- Hydraulic control (by AR)
 - Installation to prevent contaminated groundwater discharging to Silver Bow and Blacktail Creeks
 - Captured groundwater will be treated at the Butte Treatment Lagoons



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Butte Reduction Works

Major Elements

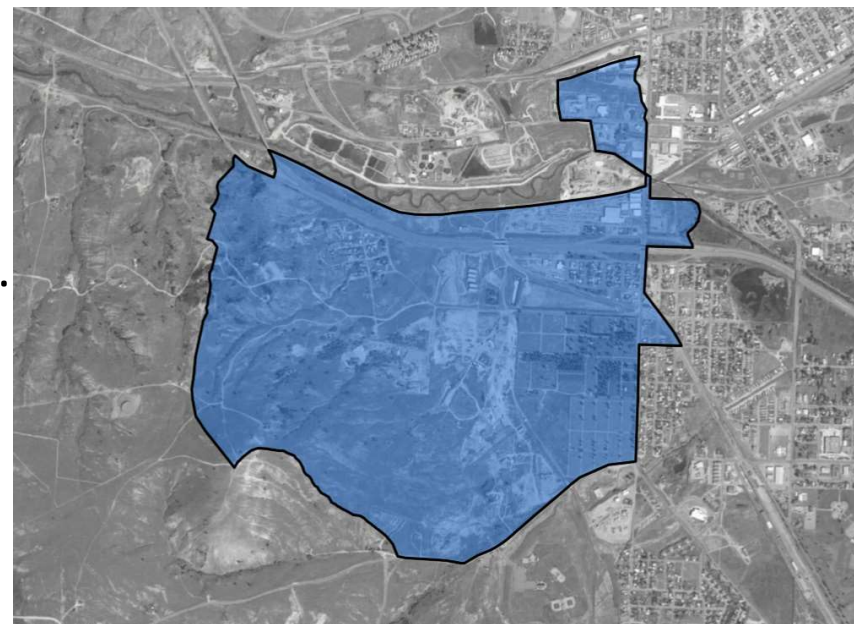
- Excavation and disposal
 - Tailings, wastes, and contaminated soils
 - Disposal in a repository
- Reconstruct Silver Bow Creek
 - Realign/reconstruct Silver Bow Creek through the BRW within the riparian floodplain south of the existing slag canyon
- Possible groundwater capture and treatment
 - Capture contaminated groundwater to protect water quality in Silver Bow Creek
 - Captured groundwater will be treated at the Butte Treatment Lagoons



Uncaptured Surface Flow Areas

Major Elements

- Site evaluations
 - All uncaptured surface flow areas (twelve sub-drainages) will be evaluated to determine appropriate best management practices (BMPs) to control impacts of sediment/contaminate loading caused by historic mining activities.
- BMPs
 - BMPs will be designed up to a 6-month, 24-hour storm design, as appropriate.
 - Prepare remedial design work plans for approval by EPA in consultation with MDEQ.
 - After reclamation is complete, the sites will be integrated into stormwater operations and maintenance program.



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Unreclaimed Areas

Major Elements

- Site evaluations
 - 39 sites impacted by historic mining activities have been identified.
 - Contains provisions for evaluating other sites not included on the initial list.
 - Human health and environmental risks will be determined.
 - All evaluations and recommendations will be approved by EPA in consultation with MDEQ.
- Site reclamation
 - Prepare remedial design work plans for approval by EPA in consultation with MDEQ.
 - After reclamation is complete, the sites will be placed into the BRES program for long-term maintenance.



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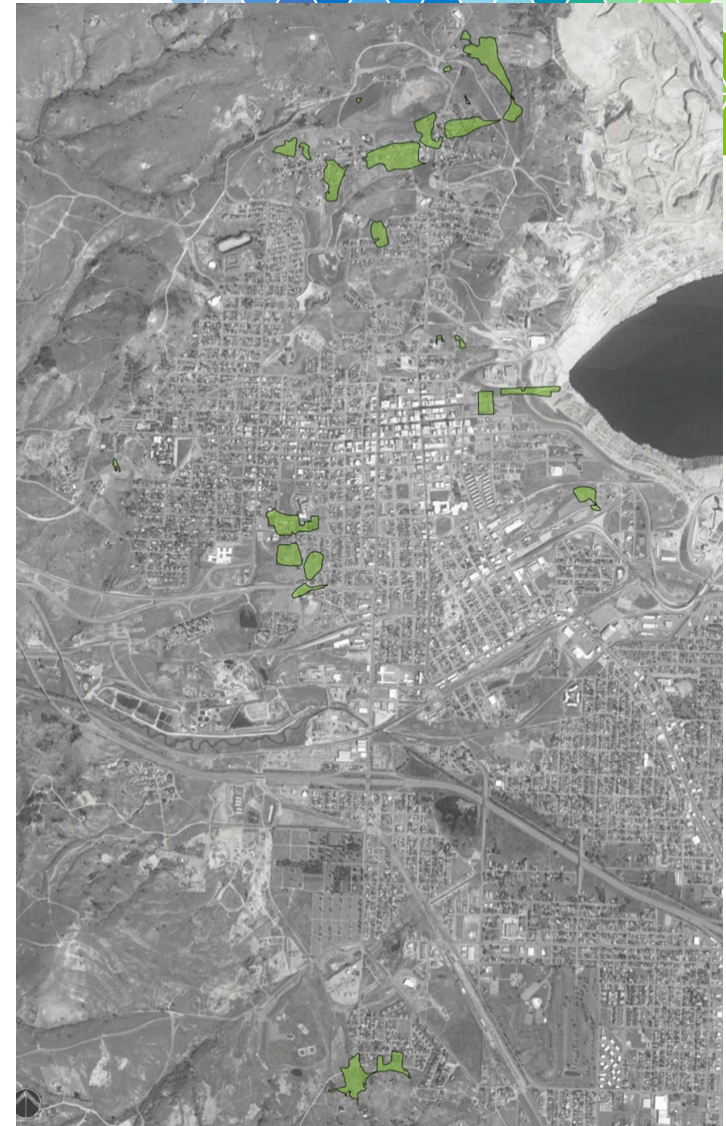
Insufficiently Reclaimed Sites

Major Elements (funded by AR, performed by BSB)

- Site evaluations
 - 26 sites have been identified.
 - Previously reclaimed, but do not meet BRES standards.
 - Human health and environmental risks will be determined.
 - All evaluations and recommendations will be approved by EPA in consultation with MDEQ.
- Site reclamation
 - Prepare remedial design work plans for approval by EPA in consultation with MDEQ.
 - After reclamation is complete, the sites will be placed into the long-term BRES program.



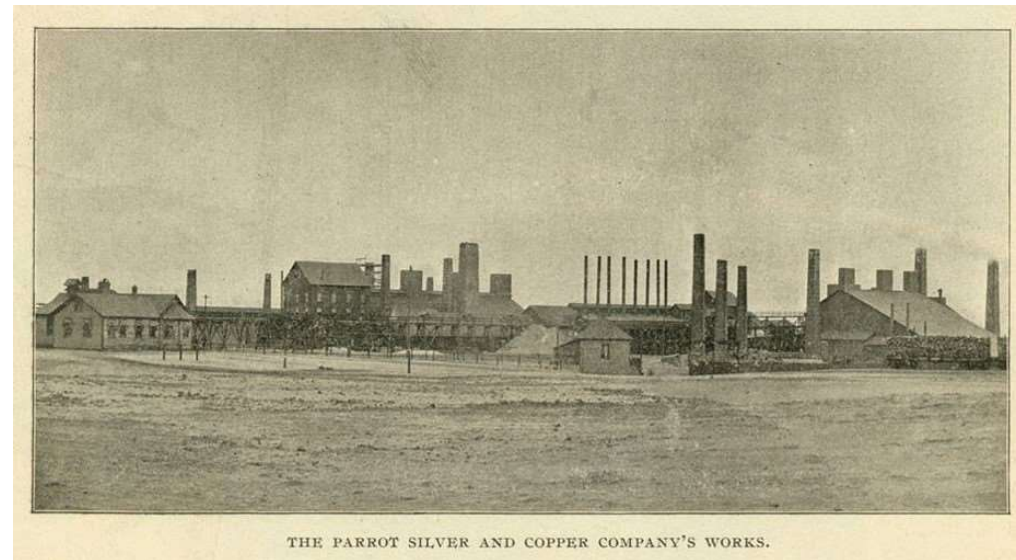
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Parrot Tailings Waste Removal Project

Major Elements of this NRDP-led Effort

- The Parrot Tailings Waste Removal continues to be implemented through the Montana Natural Resource Damage Program (NRDP) as set forth in the 2012 Butte Area One Final Restoration Plan and Restoration Plan Amendment - Parrot Tailings Waste Removal.
- Phase I
 - Removal of overburden and waste materials north of Civic Center Road.
 - Contractor for Phase 1 work was selected in May .
 - Construction should begin in June and be completed by early 2019.

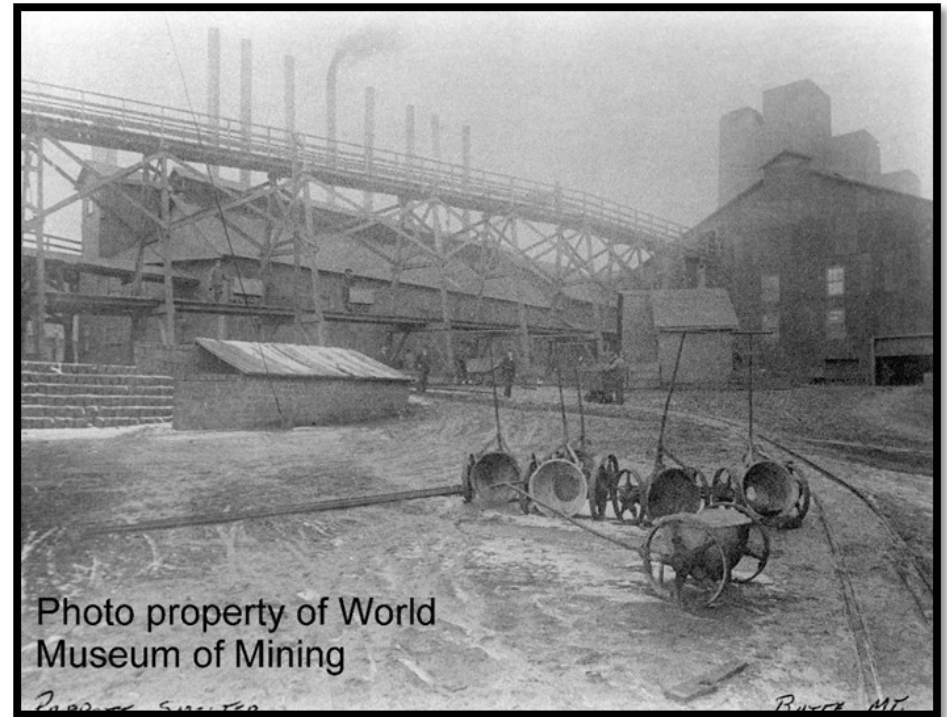


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Parrot Tailings Waste Removal Project

Major Elements of this NRDP-led Effort (cont.)

- Phase II
 - Calls for Civic Center Road adjacent to the BSB Shop Complex to be removed to Texas Avenue and overburden and waste excavated on the south side of Civic Center Road.
 - BSB Shop Complex would need to be removed once the new facility is constructed.
- Both phases
 - Excavated tailings will be transported to a temporary stockpile location within Montana Resources mine permitted area.
 - Montana Resources will then take responsibility of the tailings pursuant to its operating permits, transporting them to an active mining area.
 - Excess overburden, which includes slag, will be placed nearby beneath an evapotranspiration (ET) cover system.



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Surface Water Quality



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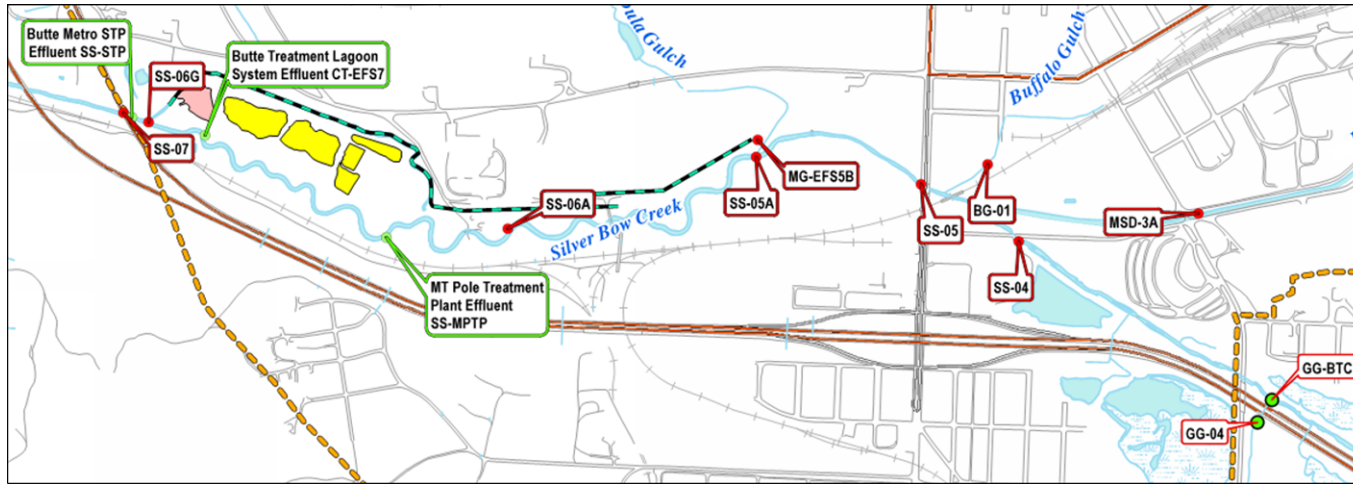
Technical Impracticability Evaluation

- Aquatic life standards are met in Silver Bow Creek most of the time.
- Impacts from stormwater runoff have been lessened, but aquatic life standards are exceeded most of the time during storm conditions.
- Draft evaluation has been completed.
 - Numerous BMPs evaluated for effectiveness
 - Stormwater basins predicted to be most effective
- Proposal to waive copper and zinc to Federal Standards for wet weather conditions.
- Additional waivers, if necessary, will follow completion of all remedy components.



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Compliance Determination Plan



- Requires in-stream monitoring for metals during wet weather and normal flow conditions.
- Begins after construction is complete.
- Includes process for replacing State standards with protective Federal replacement standards for certain COCs, if needed.

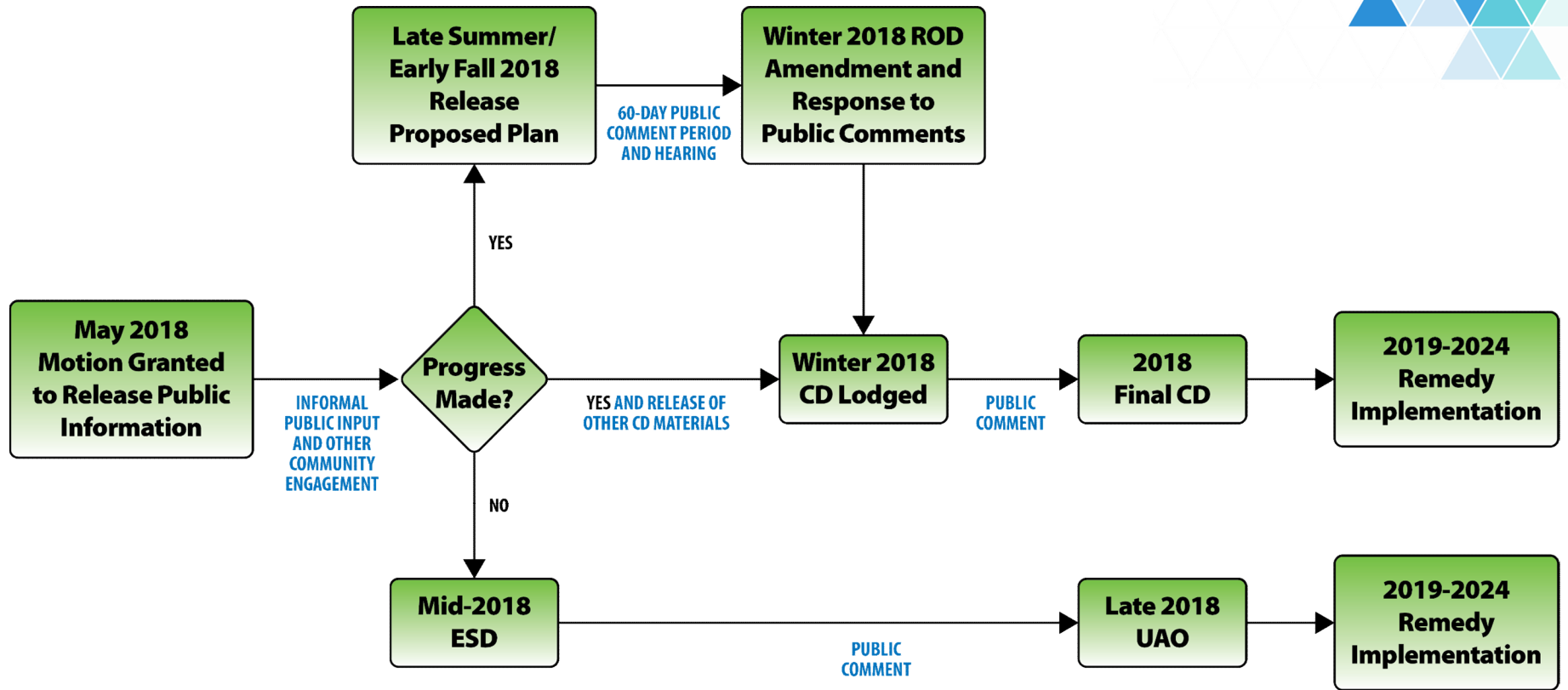


Process Moving Forward



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Timeline



Public Engagements

- EPA wants to hear from you.
- Public meetings and availability sessions – June-September 2018.
- Please visit our website at: www.epa.gov/superfund/silver-bow-butte to submit comments, questions or concerns.
- Formal public comment period (60 days) after release of proposed plan for a ROD amendment.
- Formal public comment period prior to finalizing consent decree.



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Questions & Informal Comments



Photos and figures references provided upon request



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