Winter 2-12-2024

Residential Metals Abatement Program Construction Completion Report (Non-Residential Parcels – Indoor Soil) - Butte High School

Environmental Resource Management (ERM)

Atlantic Richfield Company

317 Anaconda Road
Butte MT 59701

Mike McAnulty
Liability Manager

Direct (406) 782-9964
Fax (406) 782-9980

February 12, 2024

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

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

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

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

RE: Residential Metals Abatement Program Construction Completion Report (Non-Residential Parcels – Indoor Soil) – Butte High School

Agency Representatives:

I am writing to you on behalf of Atlantic Richfield Company to submit the *Draft Residential Metals Abatement Program Construction Completion Report (Non-Residential Parcels – Indoor Soil) – Butte High School.*

The report may be downloaded at the following link:

https://theermgroupnam-my.sharepoint.com/:f:/r/personal/thomas_beckman_erm_com/Documents/Atlantic%20Richfield%20Co/CCRs/Butte%20High%20School?csf=1&web=1&e=U9mQBr

If you have any questions or comments, please call me at (907) 355-3914.

Sincerely,

Mike McAnulty

Mike McAnulty
Liability Manager
Remediation Management Services Company
An Affiliate of **Atlantic Richfield Company**

Residential Metals Abatement Program Construction Completion Report (Non-Residential Parcels – Indoor Soil)

Butte High School

12 February 2024

Project No.: 0643586

The business of sustainability

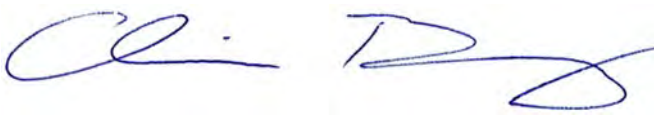
ERM

Signature Page

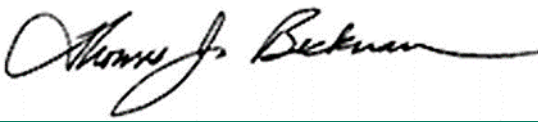
12 February 2024

Residential Metals Abatement Program Construction Completion Report (Non-Residential Parcels – Indoor Soil)

Butte High School



Christopher Berg
Project Manager



Thomas J. Beckman
Partner

ERM
1 Ninth Street Island Drive
Livingston, MT 59047

T: +1 406 222 7600
F: +1 406 222 7677

CONTENTS

List of Tables

List of Figures

Acronyms and Abbreviations

Name	Description
ARAR	Applicable or Relevant and Appropriate Requirements
ARCO	Atlantic Richfield Company
BPSOU	Butte Priority Soils Operable Unit
CCR	Construction Completion Report
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EDD	electronic data deliverable
ERM	Environmental Resources Management, Inc
FSP	Field Sampling Plan
ICIAP	Institutional Control Implementation and Assurance Plan
ISR	Investigation Summary Report
mg/kg	milligrams per kilogram
QAPP	Quality Assurance Project Plan
RA	Remedial Action
RAWP	Remedial Action Work Plan
RL	reporting limit
RMAP	Residential Metals Abatement Program
USEPA	United States Environmental Protection Agency

1. INTRODUCTION

This Construction Completion Report (CCR) documents soil Remedial Action (RA) construction activities completed at Butte High School as part of the 2022 Residential Metals Abatement Program (RMAP).

1.1 Background

The Butte-Silver Bow County Multi-Pathway RMAP is designed to mitigate exposure of residents of the Butte Priority Soils Operable Unit (BPSOU), the larger Butte community, and rural residential development within the Silver Bow Creek/Butte Area Superfund Site to sources of arsenic, lead, and mercury contamination.

The United States Environmental Protection Agency (USEPA) has included schools (public and private schools, daycares, and preschools) in the RMAP in the First Amendment to the Administrative Order (USEPA Docket No. Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA]-08-2011-0011; USEPA 2020). Contamination of schools may originate from both mining-related (waste rock, tailings, aerial emissions) and non-mining-related sources (e.g., lead paint or broken mercury thermometers). The BPSOU residential action levels are 250 milligrams per kilogram (mg/kg) for arsenic, 1,200 mg/kg for lead, and 147 mg/kg for mercury.

Environmental Resources Management, Inc. (ERM) performed the soil investigation to determine whether remediation or abatement was required using the decision framework outlined in the *2022 Residential Metals Abatement Program Quality Assurance Project Plan (Non-Residential Parcels – Indoor Dust* (ARCO 2022). Lead was reported in the composite soil sample collected from an interior crawlspace area at a concentration exceeding the RMAP action level. It was determined that interior remedial action was required to ensure containment and mitigate potential exposures from occurring.

1.2 Site Description

Butte High School and its Annex were constructed in 1937 and 1968, respectively. The entire school was extensively remodeled between 1989 and 1990. The results of an August 2021 exterior surface soil investigation performed by Atlantic Richfield Company (ARCO) and Pioneer Technical Services, Inc. found exterior surface soils contain metals at concentrations above action levels requiring soil remediation.

ERM for ARCO conducted an interior soils investigation in April 2022 and an interior dust investigation between May and August 2022. Laboratory analytical results for the interior dust investigation did not exceed the BPSOU residential action levels for arsenic, lead, or mercury, in the dust samples collected from locations throughout the school. However, laboratory analytical results for the interior soils investigation found that soil in “Area 1” of the basement crawl space had lead concentrations exceeding the BPSOU residential action levels of 1,200 mg/kg, prompting the need for remedial action or abatement. ERM developed a Remedial Action Work Plan (RAWP) and performed remedial action containment activities presented in this CCR between January 2023 and August 2023.

1.3 Remedial Action Objectives

ERM performed sampling and assessment to determine whether remediation or abatement was required using the following decision logic:

- Remediation/abatement was required where accessible interior soil contained arsenic, lead, or mercury at concentrations in excess of solid media action levels in areas currently accessible to children, students, or faculty.

- Remediation/abatement was required where inaccessible interior soil contained arsenic, lead, or mercury at concentrations in excess of solid media action levels in areas mainly accessible to facility staff. Inaccessible dust is defined as surface dust found in locations such as boiler or mechanical rooms, tops of ceiling tiles, janitorial closets, on ventilation system ductwork or vents, and storage rooms in areas that are not commonly accessed or occupied by children or students.
- Remediation/abatement was required for buildings constructed in 1980 and earlier, where soil/dust contains arsenic, lead, or mercury at concentrations in attics and/or crawlspaces in excess of solid media action levels and where there is an exposure pathway to an interior occupied space.

The primary objective of the RA documented in this CCR involves minimization of potential exposure pathways where interior soil was identified to have lead concentrations equal to or greater than 1,200 mg/kg. Agency-approved remedial objectives are defined in the *Butte High School Remedial Action Work Plan* (ERM 2022b). The area of concern is identified as Area 1 within the crawl space, which is located south of the boiler room and below the first-floor classrooms (Figure 2).

2. DESCRIPTION OF SOIL CONTAINMENT ACTIVITIES

2.1 Mobilization/Demobilization

ERM mobilized on 20 February 2023 and conducted remedial activities in the crawl space from 20 February 2023 to 23 February 2023. Additional one-day mobilizations were needed on 7 March 2023 and 12 August 2023 to secure the geo-textile liner to the crawlspace. The schedule is shown in Table 2.

2.2 Crawl Space Interior Soils Remediation

The Butte High School crawl space remediation area, Area 1, is shown in Figure 2. The Area 1 crawlspace consists of an approximately 3,200 square-foot rectangular area roughly 320 feet in length and 10 feet in width. This crawlspace has one walk-in door at the north end and two 3-foot by 3-foot crawlspace openings at the south end. Prior to remediation, the crawlspace contained dirt, dust, and debris (i.e., old school crafting supplies, general refuse) on the ground surface. Steel and cast-iron conduits run through the full extent of Area 1. See Appendix A for photographs of the Area 1 crawlspace.

Containment of soil and dust was necessary due to the lead concentrations detected in exceedance of the Butte Priority Soils Site-Specific Residential Action Levels for indoor soil and dust in the surface soil sample and field duplicate location in the Area 1 crawlspace. This containment measures prevents the migration of soil vapors, particulates, and dust from the crawlspace to the occupied areas of the school.

Refuse and debris in the Area 1 crawlspace were collected, and accumulated dust was wiped from horizontal surfaces and pipe chases. Refuse, debris, soil, and wipes from this remedial action work were placed in sealed waste bags before being transported out of Area 1 for proper disposal. Approximately 40 yards of refuse was removed from the Area 1 crawl space.

Gaps between utility conduits and surrounding concrete foundations were sealed to address the potential preferential pathways for soil particulate migration from the crawlspace to the occupied areas of the school from Area 1. Sealing methods included the use of spray foam insulation and/or grout placement to fill in gaps.

The floor of the crawlspace entrances were graded as needed using a piece 2x4 lumber to provide a flat level surface for installation of geotextile fabric. US 380NW nonwoven geotextile fabric was used within the first approximately 300 to 900 square feet of all three entrances (1,900 square feet in total) to the crawlspace to provide a barrier between the surface soil, receptors, and indoor air (Figure 2). US 380NW geotextile fabric will not allow soil particulates greater than 150 microns to migrate past this barrier while

remaining air and water permeable. Once the fabric was placed over surface soil, it was secured with to the crawl space walls using construction adhesive. 2”x4” lumber was adhered to the wall of each corner of the liner using construction-grade adhesive and a caulk-gun. An additional 2”x4” was attached to each corner of the crawl space liner using 1/4” screws and washers. The pieces of lumber (one on the wall, one on the corner of the liner) were screwed together to secure the liner in place.

Access to the Area 1 crawlspace was controlled by securing entrances and applying appropriate signage. The access door located at the north end of Area 1 was fixed with a Master lock. The two other crawlspace openings were sealed with plywood and secured with 3-inch screws. Aluminum signage has been secured to each of the three entrances, stating “DANGER: DO NOT ENTER HAZARDOUS AREA. AUTHORIZED PERSONS ONLY.” A full list of materials used is shown in Table 3.

3. PROJECT DOCUMENTATION AND SCHEDULE

3.1 Remedial Action Records

Documentation of the 2023 RA containment project consists of a RAWP, pre- and post-remediation photos, and field notes as discussed in the following subsection.

3.1.1 Remedial Action Work Plan

The *2022 Resident Metals Abatement Program Remedial Action Work Plan – Butte High School – Indoor Soil*. (ERM 2022a) contains the following information:

- School address and site description
- Soil remediation scope
- School soil remediation schedule
- Lead levels in crawl space
- A comprehensive description of planned remedial actions in the crawl space

The RAWP was used to guide containment activities and was subject to agency approval prior to implementing the RA work.

3.1.2 Photographs and Field Notes

Pre- and post-containment photographs are presented in Appendix A and field notes generated during the containment effort are presented in Appendix B.

3.1.3 Deviations

There were no deviations from the approved activities specified in the RAWP.

3.2 Project Documents

Below is a summary of relevant documents relating to the RA containment activities:

- *2006 Record of Decision, Butte Priority Soils Operable Unit, Silver Bow Creek/Butte Area NPL Site (BPSOU ROD) (USEPA 2006)*
- *Explanation of Significant Differences to the 2006 Butte Priority Soils Operable Unit Record of Decision (USEPA 2011)*

- *2020 Unilateral Administrative Order Amendment (UAO Amendment) for "Partial Remedial Design/Remedial Action Implementation and Certain Operation and Maintenance at the Butte Priority Soils Operable Unit/Butte Site (EPA Docket No. CERCLA-08-2011-0011) (USEPA 2020)*
- *2022 Residential Metals Abatement Program Quality Assurance Project Plan (Non-Residential Parcels – Indoor Dust* (ARCO 2022)
- *2022 Residential Metals Abatement Program (RMAP) Field Sampling Plan (FSP) – Butte High School – Indoor Soil* (ERM 2022a)
- *2022 Resident Metals Abatement Program (RAMP) Remedial Action Work Plan (RAWP) – Butte High School – Indoor Soil* (ERM 2022b)
- *Draft 2022 Resident Metals Abatement Program (RAMP) Investigation Summary Report (ISR) – Butte High School – Indoor Soil* (ERM 2023)

3.3 Project Schedule

Containment activities began on 20 February 2023 and concluded 12 August 2023. The full project schedule is shown on Table 2.

4. SAFETY AND ENVIRONMENTAL CONSIDERATIONS

4.1 Safety

Health and safety documentation for the 2023 Interior Soils RA containment project was incorporated into an ERM Health and Safety Plan. Safety meetings discussing planned activities, hazards and mitigation/prevention requirements for remedial activities were completed every morning. Safety meetings addressed the daily scope of work, proper personnel protection equipment (PPE) use, and any safety observations from prior work completed.

4.1.1 Personal Protective Equipment

PPE used by ERM staff performing this work included: hard hats, safety glasses, Tyvek suits, nitrile gloves, N95 masks, long sleeve shirt, and steel toe boots.

4.1.2 Recordable Incidents

No recordable incidents occurred during the 2023 RA containment project.

4.1.3 Near Misses

No near misses occurred during the 2023 RA containment project.

4.2 Environmental Considerations

To prevent migration of soil and dust containing lead at concentrations above action levels, all debris and material removed from Area 1 was placed on plastic liners. Refuse and plastic liners were placed in industrial trash bags, and the exterior of the bags were wiped down prior to disposal. Refuse and industrial bags were placed in dumpsters outside of the school.

5. INSTITUTIONAL CONTROLS

Access to the Area 1 crawlspace will be controlled by securing entrances and applying appropriate signage. The access door located at the north end of Area 1 was securely shut and locked. The two other crawlspace were covered with a lockable access door. Appropriate signage will be applied to the access door and crawlspace openings. Signage will be white, black, and red, with a warning label, “DANGER: DO NOT ENTER HAZARDOUS AREA. AUTHORIZED PERSONS ONLY”. Additional signage will be added that includes contact information for the Butte School District and Butte-Silver Bow County Reclamation and Environmental Services if additional information is needed.

6. PERFORMANCE STANDARDS/ARARS COMPLIANCE

The institutional controls, as described in Section 5, will be maintained consistent with the requirements of the “Institutional Control Implementation and Assurance Plan” (ICIAP) for the BPSOU Site (BSB and ARCO, 2019). The Area 1 crawlspace will be inspected annually by Atlantic Richfield Company, and/or Butte-Silver Bow County and will be documented using a standard inspection form. The geotextile liner will be inspected for tears and deterioration. The utility conduits will be inspected for gaps and deterioration of the sealant. In general, Butte-Silver Bow County has primary responsibility for the implementation, monitoring, and enforcement of most of the institutional controls described in this ICIAP with funding and support from Atlantic Richfield and with oversight and support by the USEPA, in consultation with Montana Department of Environmental Quality. Atlantic Richfield also has certain direct responsibilities under the ICIAP.

7. REFERENCES

ARCO (Atlantic Richfield Company). 2022. *Residential Metals Abatement Program Quality Assurance Project Plan (Non-Residential Parcels – Indoor Soil).* October 2022.

BSB and ARCO (Butte-Silver Bow County and Atlantic Richfield Company). 2019. *Institutional Controls Implementation and Assurance Plan. Priority Soils Operable Unit Silver Bow Creek/Butte Area, National Priorities List Site, Butte, Montana.* Butte-Silver Bow County and Atlantic Richfield Company, October 2019.

BSB and ARCO. 2020. *Revised Final Multi-Pathway Residential Metals Abatement Program (RMAP) Plan. Priority Soils Operable Unit Silver Bow Creek/Butte Area, National Priorities List.*

ERM (ERM-West, Inc.). 2022a. *2022 Residential Metals Abatement Program (RMAP) Field Sampling Plan (FSP) – Butte High School – Indoor Soil*. March.

ERM. 2022b. *2022 Resident Metals Abatement Program (RAMP) Remedial Action Work Plan (RAWP) – Butte High School – Indoor Soil*. December.

ERM. 2023. *Draft 2022 Resident Metals Abatement Program (RAMP) Investigation Summary Report (ISR) – Butte High School – Indoor Soil*. Submitted for agency review August 2023.

USEPA (United States Environmental Protection Agency). 2006. *Record of Decision, Butte Priority Soils Operable Unit, Silver Bow Creek/Butte Area NPL Site.* U.S. Environmental Protection Agency, September 2006.

USEPA. 2020. *U.S. Environmental Protection Agency (EPA) Unilateral Administrative Order Amendment (UAO Amendment) for “Partial Remedial Design/Remedial Action Implementation and Certain Operation and Maintenance at the Butte Priority Soils Operable Unit/Butte Site”* (EPA Docket No. CERCLA-08-2011-0011).

TABLES

Table 1
Project Parties
Butte High School
Butte RMAP Indoor Dust
Butte, Montana

Entity	Party	Responsibility
UAO Respondent	**Atlantic Richfield Company**	Responsible for conducting work elements as described in the Record of Decision
	Liability Manager: Mike McAnulty	
	Phone: (406)7 23-1822	
	Email: mcanumc@bp.com	
Government Oversight	**US Environmnetal Protection Agency**	Government oversight of remedial design and remedial action
	Project Manager: Nikia Green	
	Phone: (406) 457-5019	
	Email: Green.Nikia@epa.gov	
	CDM Smith (EPA Representative)	
	Oversight: David Shanight	
	Phone: (406) 459-3950	
Design/Construction Contractor	**Environmental Resources Management**	Remedial design, primary remedial action contractor
	Project Manager: Christopher Berg	
	Design Team: NA	
	Oversight: Tim Wilson	

Table 2
Construction Completion Project Schedule
Butte High School
Butte RMAP Indoor Dust
Butte, Montana

Task Name	Duration	Start	Finish
Refuse Removal	3 Days	2/20/2023	2/23/2023
Wipe down surfaces	2 Days	2/21/2023	2/22/2023
Fill in Openings/Pathways	1 Day	2/20/2023	2/23/2023
Fix Liner to Crawl Space Openings	3 Days	2/23/2023	8/12/2023[1]
Seal Three Entrances to Crawl Space	1 Day	2/23/2023	2/23/2023

Notes

[1]There were two additional one-day mobilizations to adhere the fabric to the crawl space entrances, as the originally installed adhesives failed. These occurred on 7 March 2023 and 12 August 2023.

Table 3
Construction Completion Equipment List
Butte High School
Butte RMAP Indoor Dust
Butte, Montana

Equipment	# of Units by Contractor	Description
Power Drill	1	Drill used to seal entrances to crawl space
Insulation Foam	7	Seal pathways from pipes and other openings
Plastic Liner	3	Used to wrap large refuse materials
DAP Concrete Sealer	3	Seal pathways in outerwalls bordering crawl space
Industrial Garbage Bags	100	Used for disposal for refuse
Geotextile Liner	1 - 3,600 square foot liner	Fixed to crawl space ground at 3 entrances
Warning Signs	3	Signs were fixed to 3 crawl space entrances
Tri-Phosphate Solution	1	Wipe down interior surfaces and refuse
Shop Paper Towel Rolls	5	Wipe down interior surfaces, refuse, clean work area
Can of White Paint	1	Paint plywood that was fixed to two crawl space entrances

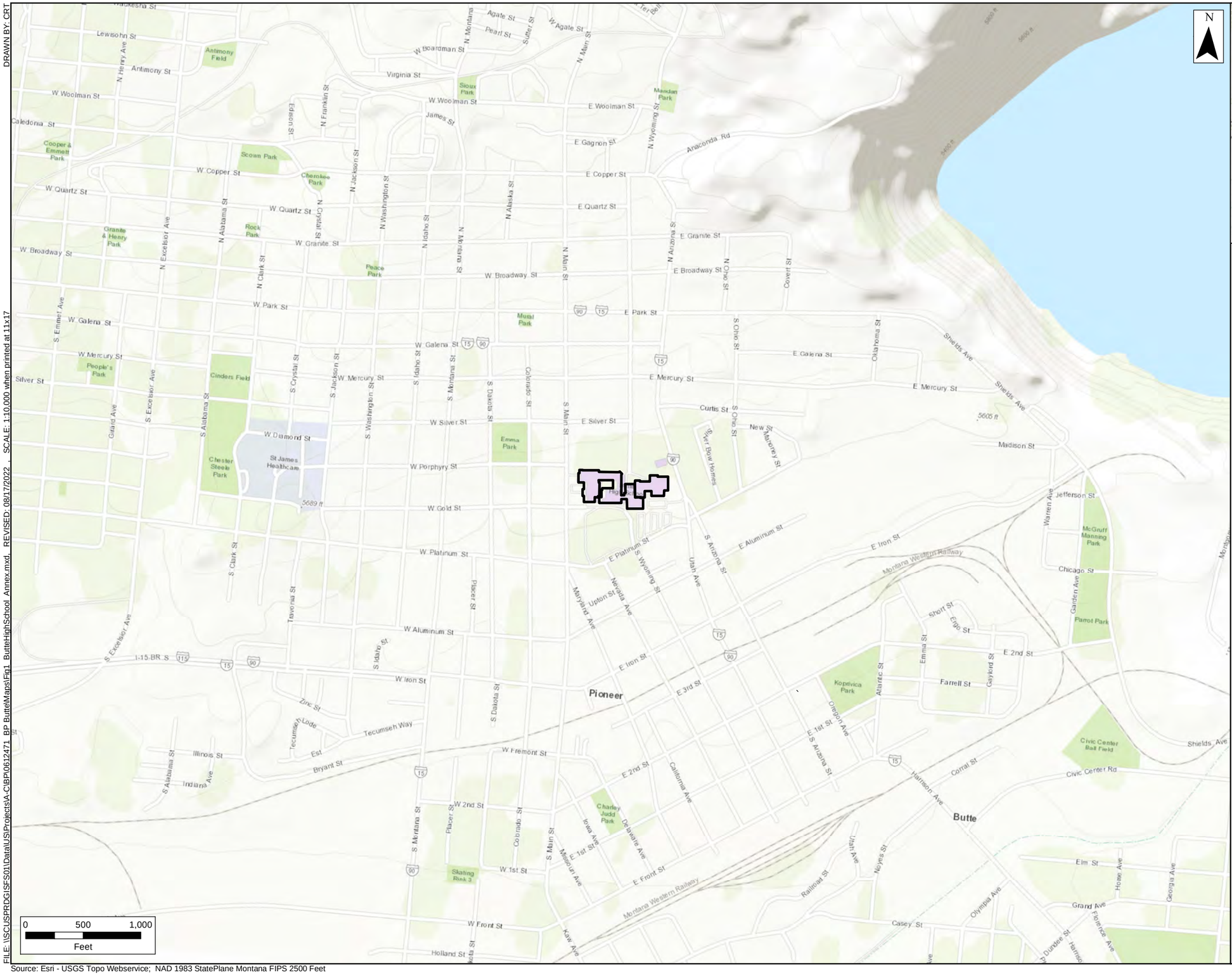
Table 4
Construction Completion Material Quantities
Butte High School
Butte RMAP Indoor Dust
Butte, Montana

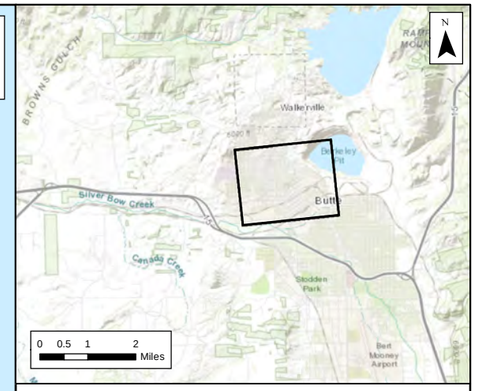
Materials	Quantities	Notes
Removed debris/refuse	Approximately 40 yards	Debris/refuse that were in crawl space. They were placed in heavy duty trash bags, larger materials were wrapped in plastic and placed in dumpsters

FIGURES

DRAWN BY: CRT

FILE: \\SCUSPRDGISFS01\Data\US\Projects\A-C\BP\0612471 BP Butte\Maps\Fig1 ButteHighSchool Annex.mxd, REVISED: 08/17/2022, SCALE: 1:10,000 when printed at 11x17





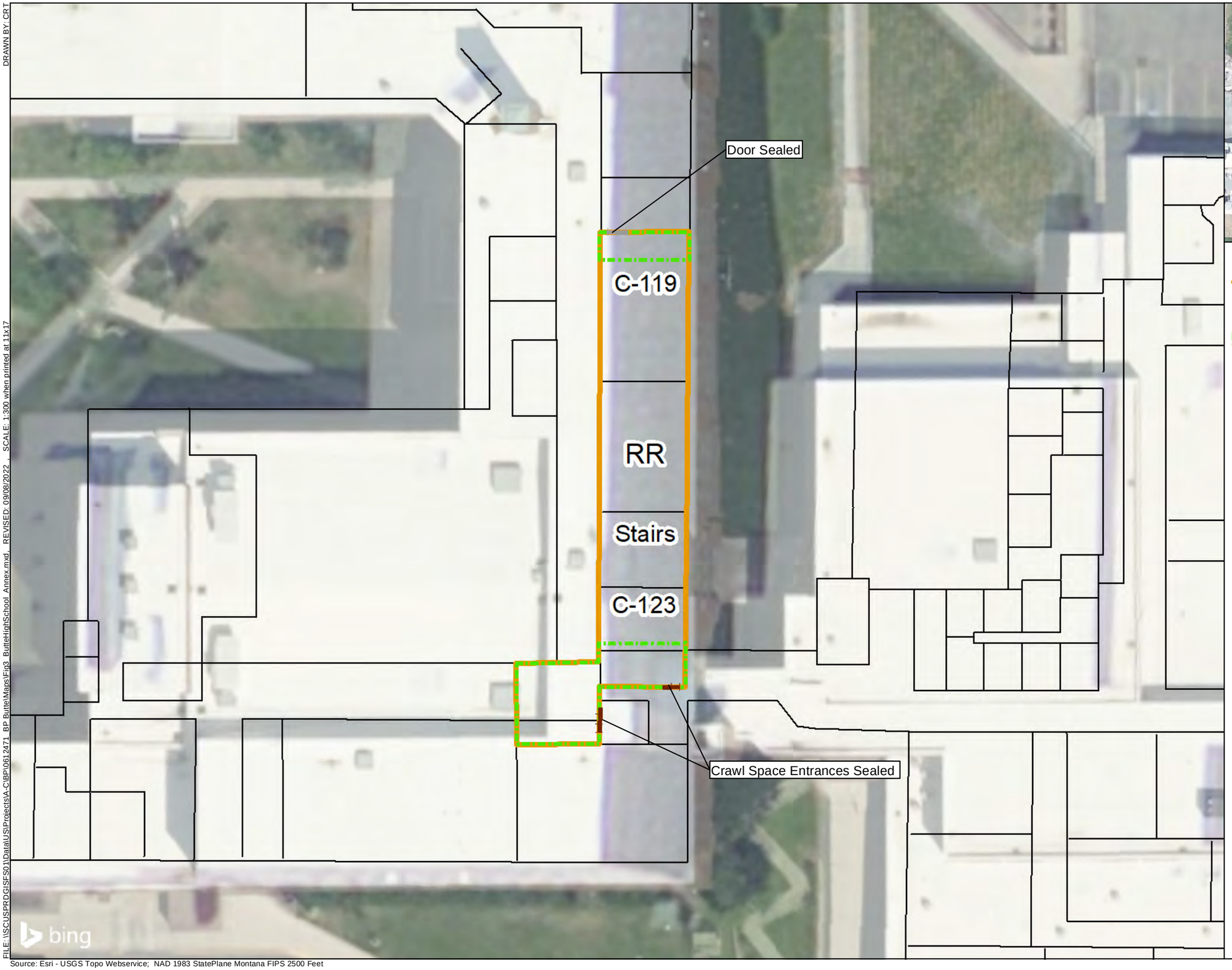
Legend

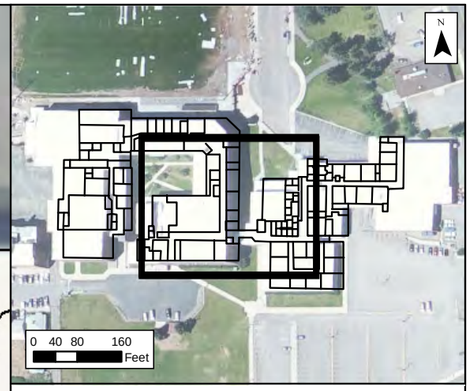
Site Area

Source: Esri - USGS Topo Webservice; NAD 1983 StatePlane Montana FIPS 2500 Feet

Figure 1
Butte High School Site Location
401 S Wyoming Street
Butte, MT 59701

Environmental Resources Management
www.erm.com





Legend

- Area 1 (3179 sq ft)
- Door
- Crawlspace Entrance
- Geotextile Fabric Placement

Notes:
-Room IDs reflect verbiage used on site maps provided by Butte School District.
-Warning signs were affixed to sealed entrances.

Key:
C Classroom
RR Restroom

N

0 10 20
Feet

Figure 2
Butte High School RA Work Area
401 S Wyoming Street
Butte, MT 59701

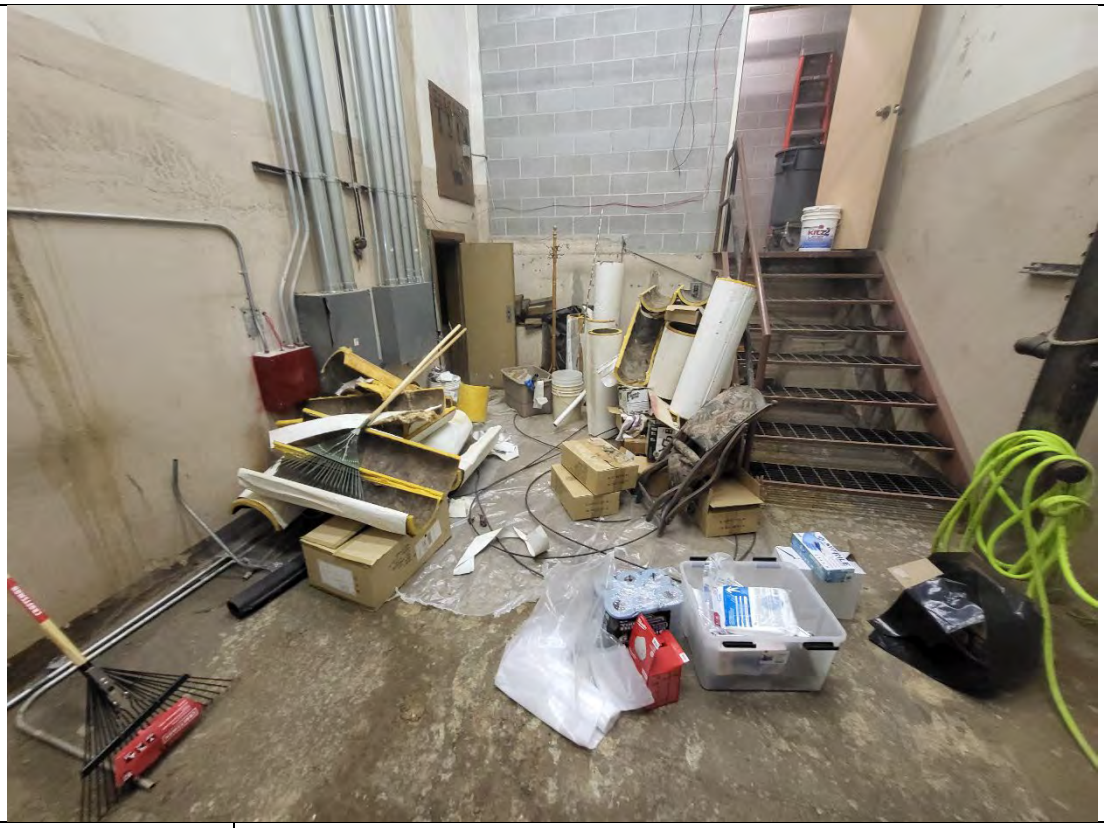
Environmental Resources Management
www.erm.com
ERM

Source: Esri - USGS Topo Webservice; NAD 1983 StatePlane Montana FIPS 2500 Feet

DRAWN BY: CRT

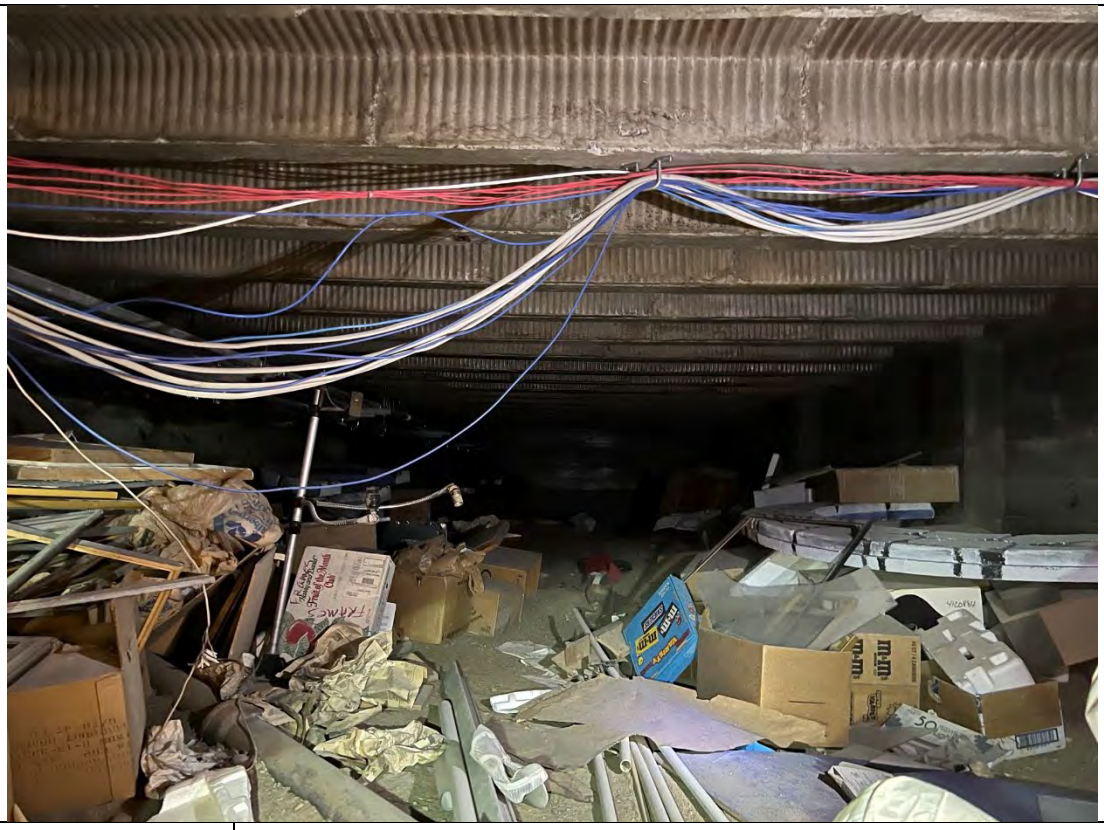
FILE: \\SCUSPRDGISFS01\Data\US\Projects\A-C\BP\0612471 BP Butte\Maps\Fig3 ButteHighSchool Annex.mxd REVISED: 09/08/2022 SCALE: 1:300 when printed at 11x17

APPENDIX A SITE PHOTOGRAPHS



Photograph: 1	Boiler room area, showing all refuse removed from north crawl space entrance. Approximately 3-5 cubic yards of material was removed from the northern crawl space area.

Photograph: 2	More refuse located deeper at north entrance of crawl space.



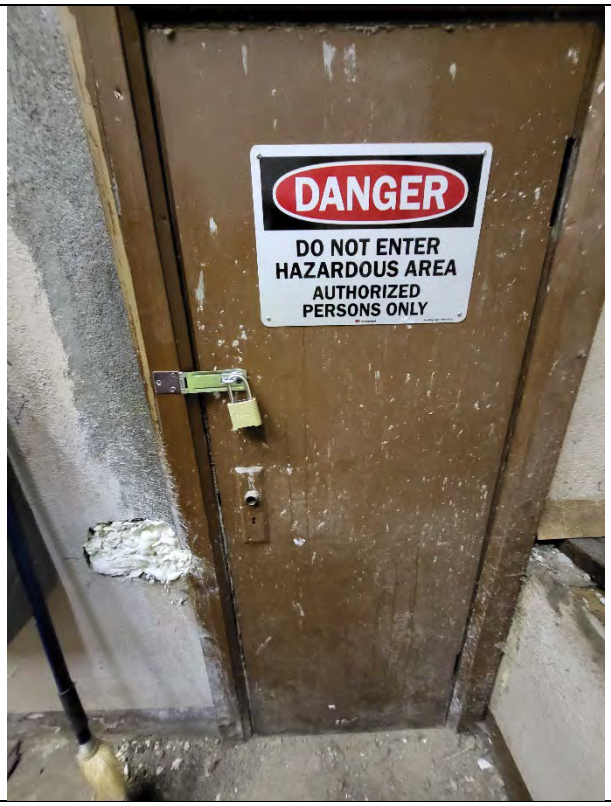
Photograph: 3	Refuse in southwest crawl space area. The southwest crawl space was completely full of refuse and it took the field team all day Tuesday and Wednesday morning to remove all materials. Approximately 40 cubic yards (filled 4 10 yard dumpsters) of material was removed from this area.

Photograph: 4	After all refuse was removed from southwestern crawl space corner.

Photograph: 5	Refuse in south east crawl space entrance. Approximately 2-3 cubic yards of material was removed.

Photograph: 6	Pipes after they were wiped down, near the northern boiler room entrance. All horizontal surfaces in crawl space were wiped down with tri-phosphate wipes.

Photograph: 7	Openings around pipes in crawl space were sealed with insulation foam.

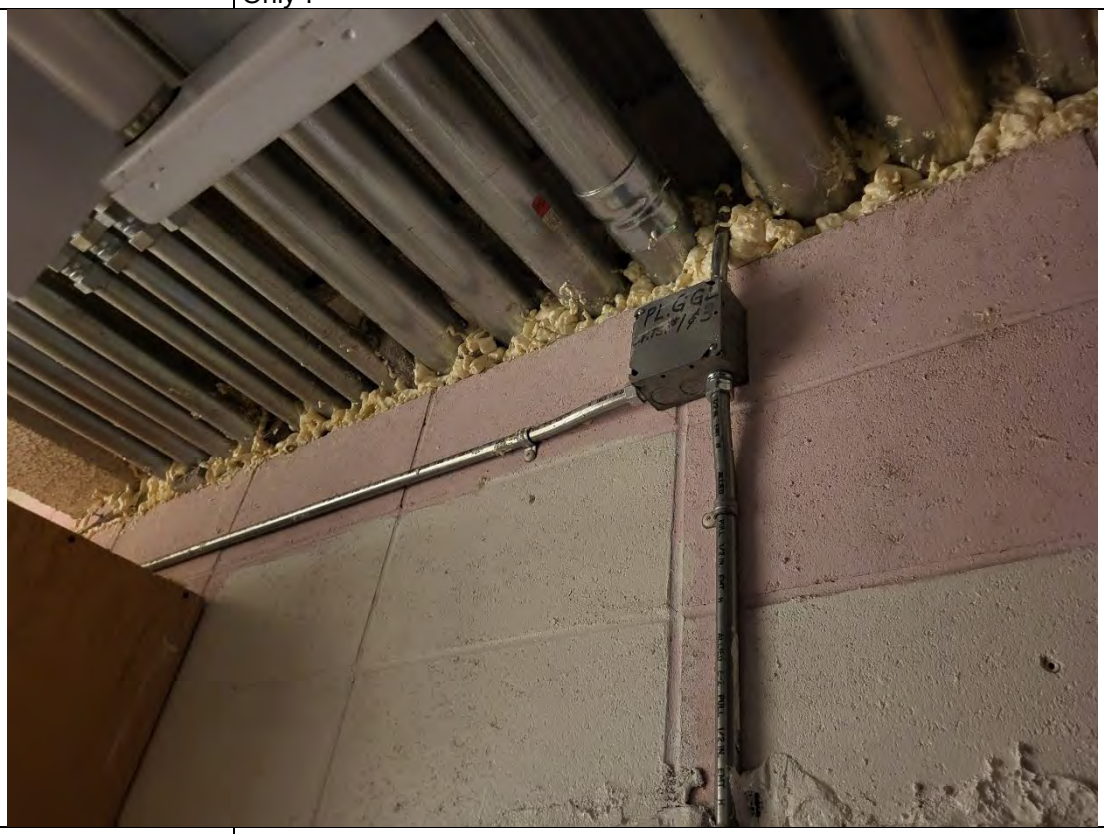


Photograph: 8	Door in boiler room with aluminum sign stating: “Danger: Do Not Enter Hazardous Area Authorized Personnel Only”. Door would not close, so door hinges were removed to allow for door to be closed properly. A double hinge hasp was installed, and combination lock was used to lock the door. The combination was given to administrative staff.

Photograph: 9	Smaller holes were filled with combination of insulation foam and DAP concrete patch.

Photograph: 10	Southwest crawl space entrance, sealed with screws and attached aluminum sign stating “Danger: Do Not Enter Hazardous Area Authorized Personnel Only”.

Photograph: 11	South crawl space entrance, sealed with screws and attached aluminum sign stating “Danger: Do Not Enter Hazardous Area Authorized Personnel Only”.



Photograph: 12	Large gap above southern crawl space entrance, sealed with DAP and insulation foam.

Photograph: 13	Hole above southern crawl space entrance, sealed with DAP and painted.

Photograph: 14	Four holes next to southwest crawl space entrance, sealed with DAP and painted.

Photograph: 15	Two large holes, next to southern crawl space entrance, sealed with DAP.

Photograph: 16	Large hole in boiler room, sealed with combination of wood, DAP, and insulation foam.

Photograph: 17	Geo-textile fabric, fixed to southwest crawl space entrance, facing east.

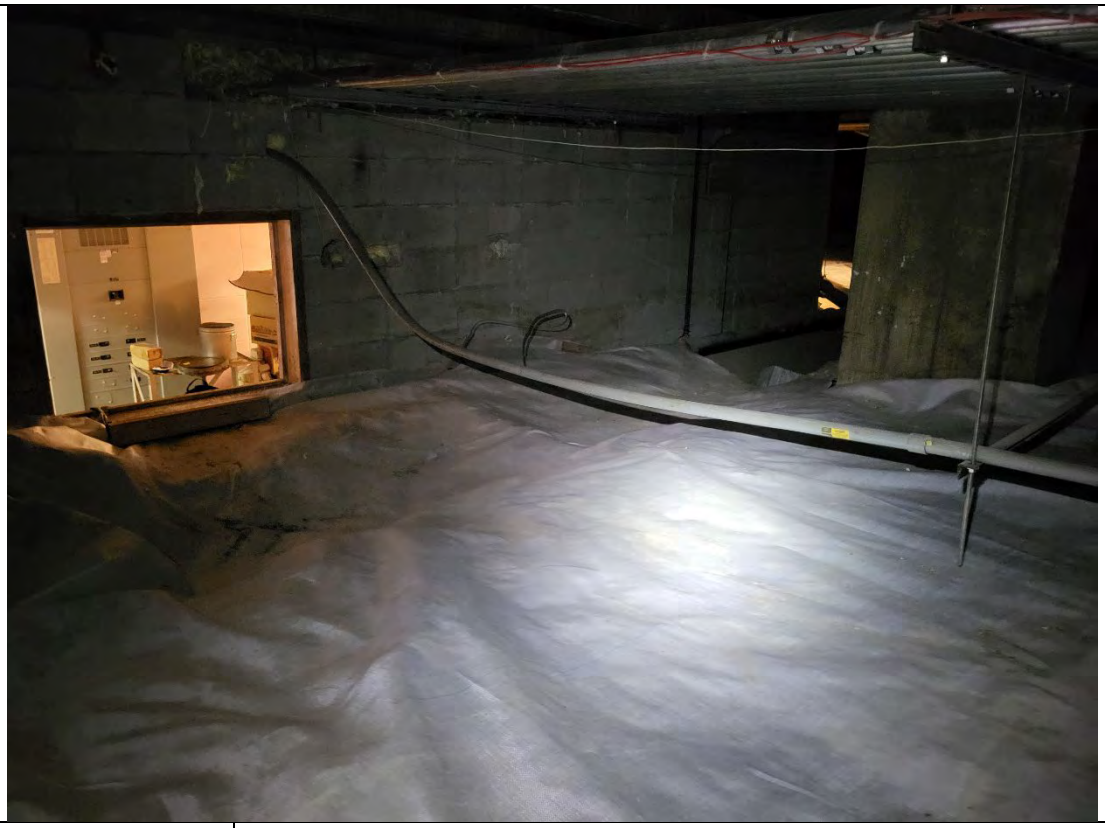
Photograph: 18	The fabric could not be secured to the earthen crawl space with stakes or adhesive (soil material was too fine for stakes, adhesive would not stick to tarp material), so 2x4s were adhered to each corner of concrete walls, and additional 2x4s were drilled to the tarp and to the 2x4s adhered to the wall.

Photograph: 19	View from southwest crawl space entrance, with geo-textile fabric fixed to ground, facing west. Existing pipes created “bumps” on fabric surface.

Photograph: 20	Main entrance of crawl space from boiler room doorway, with geo-textile fabric, facing south.

Photograph: 21	View from east corner of crawl space entrance by boiler room, with geo-textile fabric, facing west. Door entrance is on the right in the photograph.

Photograph: 22	View of east side of crawl space entrance by boiler room, with-geotextile fabric, facing east.



Photograph: 23	South entrance of crawl space, with geo-textile fabric, facing southwest.

Photograph: 24	South entrance of crawl space, with geo-textile fabric, facing west.

Photograph: 25	South entrance of crawl space, with geo-textile fabric facing east. A large trench (center of photo) made establishing geo-textile fabric flush to ground difficult. This area is still relatively uneven, and personnel inspecting the south crawl space entrance should use caution.

APPENDIX B FIELD NOTES

Butte R-MAP Remediation 2/20/23

T. Wilson, C. Daniels, B. Armstrong

0800 Pick-up rental

0940 Pick-up Charlie Daniels

1000 Grab supplies from Lowes/ Home Depot

1350 Pickup Brookelynn Armstrong from airport, Leave for Butte

1530 on-site at Butte High school

1540 check in with front office, site contact, walk through

1600 Begin removing garbage from North Entrance by boiler room

1800 Dumpster not on site, receive permission to use other dumpsters, fill as much as possible

1900 off-site

Butte RMAP Remediation 2/21/23

TW, BA, CD

Butte High School

0800 On-site, check-in, safety meeting

0830 Dumpster arrived coordinated with site contact to place geo-textile fabric

0930 Refuse removed from SW crawl space

1200 Break for lunch

1230 Back on site

1245 Continue to remove refuse

1100 Done w/ CMB on site (≈ 11 cy)

TW 2/21/23

1300 Dumpsters full, remaining refuse was bagged

1330 Measure out crawl space dimensions

1500 cut geo-fabric

1600 Begin to wipe down subfloors w/ tri-phosphate wipes

1340 Off site

TW 2/21/23

Scale: 1 square = _____

Butte RMAP Remediation 2/22/23

TW, CD, BA

0800 on site @ Butte High school check-in, safety meeting

0830 Dumpsters empty, remove rest of refuse/debris

1200 Break for lunch

1230 Back on site

1300 Rest of refuse removed

1500 Begin sealing holes/gaps with foam/quick-crete

1600 Put down lines at 3 small entrances

1730 Continue to seal holes

1040 off-site

TW 2/22/23

Butte RMAP Remediation 2/23/23

TW CD BA

0800 on site at Butte HS
safety meeting, check-in
0830 Remove residual refuse
0900 Continue to seal holes
1100 Screw in plywood at
crawl space entrances
1130 clean up area
1230 off-site

TW 2/23/22

Scale: 1 square = _____

Field Log

ERM

Site Address: Butte HS
Personnel: TW NC
Date: 3/7/23
Pages: 1 of 1
Scope of Work: Fix door to N crawl space entrance, adhere liner to wall

0830	Leave Bozeman
1000	on-site check in, safety meeting
1030	Fix N crawl space door, secure with lock
1300	Enter crawl space, apply tape (adhesive) to liner/walls
1500	inspect door, adhesive, clean up
~~1530~~ 1530	OFF-site
TW	
3/7/23	

Field Log

ERM

Site Address: Butte HS	Personnel: TW CW
Date: 8/12/23	Pages: 1 of 1

Scope of Work: Fix liner to crawl space

0730	Leave Bozeman for Butte High school
0900	Arrive on site, check in
1000	Safety meeting
1030	Enter crawl space, install lumber on wall corners
1230	Allow adhesives to dry
1308	Drill lumber corners to wall corners
1510	Reapply adhesive to corners in Northern entrance
1600	Re-check corners
1630	off-site

ERM has over 160 offices across the following countries and territories worldwide

Argentina
Australia
Belgium
Brazil
Canada
China
Colombia
France
Germany
Ghana
Guyana
Hong Kong
India
Indonesia
Ireland
Italy
Japan
Kazakhstan
Kenya
Malaysia
Mexico
Mozambique
The Netherlands
New Zealand
Peru
Poland
Portugal
Puerto Rico
Romania
Russia
Senegal
Singapore
South Africa
South Korea
Spain
Switzerland
Taiwan
Tanzania
Thailand
UAE
UK
US
Vietnam

ERM's Livingston Office
1 Ninth Street Island Drive
Livingston, MT 59047

T: +1 406 222 7600
F: +1 406 222 7677

www.erm.com

The business of sustainability

ERM