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Fall 10-1-2023

### Remedial Action Work Plan - East Middle School

Environmental Protection Agency

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# Atlantic Richfield Company

317 Anaconda Road  
Butte MT 59701

## Mike McAnulty

Liability Manager

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September 28, 2023

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**RE: Residential Metals Abatement Program – Interior School Dust – Remedial Action  
Work Plan – East Middle School**

Agency Representatives:

I am writing to you on behalf of Atlantic Richfield Company to submit the draft Final 2023 Residential Metals Abatement Program *Remedial Action Work Plan – East Middle School* for indoor dust abatement within a basement.

The plan may be downloaded at the following link:

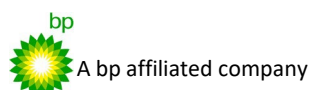
[https://theermgroup-my.sharepoint.com/:f/g/personal/thomas\\_beckman\\_erm\\_com/Ej\\_TVPOvaOBAjrAwB7INc9gB1jxLMOBo6akIJmdL5bIPpg?e=zMY4kv](https://theermgroup-my.sharepoint.com/:f/g/personal/thomas_beckman_erm_com/Ej_TVPOvaOBAjrAwB7INc9gB1jxLMOBo6akIJmdL5bIPpg?e=zMY4kv)

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

Sincerely,



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





**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8, MONTANA OFFICE**

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

Ref: 8MO

January 18, 2023

Mr. Mike McAnulty  
Liability Manager  
Atlantic Richfield Company  
317 Anaconda Road  
Butte, Montana 59701

**Re: Approval letter for the Butte Priority Soils Operable Unit (BPSOU) Residential Metals Abatement Program – Interior School Dust - Remedial Action Work Plan (RAWP) – East Middle School (dated December 8, 2022)**

Dear Mike:

The U. S. Environmental Protection Agency (EPA), in consultation with the Montana Department of Environmental Quality (DEQ), is approving the *Residential Metals Abatement Program – Interior School Dust – Remedial Action Work Plan – East Middle School (dated December 8, 2022)*. Please incorporate the following minor comments and distribute this RAWP submittal as final.

- Please include analytical data pertaining to this site within the RAWP.
- Section 4.1.3 Post-Cleaning Monitoring. Please specifically state who is responsible for post-cleaning monitoring and what reporting will be performed as a result of the monitoring.

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

Sincerely,

**NIKIA  
GREENE**

Digitally signed by  
NIKIA GREENE  
Date: 2023.01.18  
06:31:04 -07'00'

Nikia Greene  
Remedial Project Manager

cc: (email only)  
Butte File  
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Leo Berry; BNSF and UP counsel  
Doug Brannan; Kennedy Jenks for BNSF and UP  
Brooke Kuhl; BNSF counsel  
Lauren Knickrehm; for BNSF  
Philip Hooper; Kennedy Jenks for BNSF and UP  
Bob Andreoli; Patroit/RARUS  
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Robert Lowry, BNSF counsel  
Loren Burmeister; AR  
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Chris Greco; AR  
Mike Mcanulty; AR  
Dave Griffis; AR  
Jean Martin; Counsel AR  
Mave Gasaway; attorney for AR  
Adam Cohen; Counsel for AR  
Pat Sampson; Pioneer for AR  
Scott Sampson; Pioneer for AR  
Scott Bradshaw; TREC  
Karen Helfrich; Pioneer for AR  
Andy Dare; Pioneer for AR  
Scott Sampson; Pioneer for AR  
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Andy Dare; Pioneer for AR  
Tina Donovan; Woodardcurran for AR  
Ted Duaine; MBMG  
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Charlie Partridge; EPA  
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Janice Hogan; CTEC  
Marissa Stockton; Rosendale State Director  
Kristi Carroll; Montana Tech Library



Atlantic Richfield Company

# Remedial Action Work Plan

East Middle School

1 October 2023

Project No.: 0643586

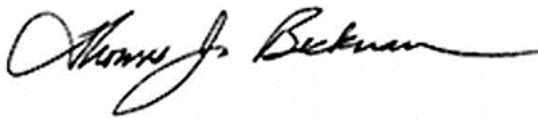
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Signature Page

1 October 2023

# Remedial Action Work Plan

East Middle School



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Thomas J. Beckman  
*Partner*



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Figure 3: East Middle School Kitchen Storage Room RA Work Area

Figure 4: East Middle School Auditorium Catwalk RA Work Area

### Table

Table 1: School Property Information

Table 2: Summary of Analytical Results

## APPENDIX A PHOTOGRAPHIC LOG



## Acronyms and Abbreviations

ERM	Environmental Resources Management, Inc.
HEPA	High-Efficiency Particulate Air
ICIAP	Institutional Control Implementation and Assurance Plan
QAPP	Quality Assurance Project Plan
RA	Remedial Action
RAWP	Remedial Action Work Plan
RMAP	Residential Metals Abatement Program

## 1. INTRODUCTION

This Remedial Action Work Plan (RAWP) was developed to outline a portion of the remedial action (RA) work resulting from the 2022 Residential Metals Abatement Program (RMAP) indoor school dust sampling events completed in September/November 2022 and July 2023. The sampling events were conducted in accordance with the Final Residential Metals Abatement Program (RMAP) Quality Assurance Project Plan (QAPP) (Non-Residential Parcels – Indoor Dust) (Atlantic Richfield Company, 2022 and the RMAP Field Sampling Plan - Indoor Dust – Group 7), 2022.

## 2. SCHOOL INDOOR DUST REMEDIATION SCOPE

The scope of work covered by this RAWP includes East Middle School, located at 2600 Grand Avenue in Butte, Montana ([Table 1](#), [Figure 1](#)).

**Table 1: East Middle School Property Information**

Count	Res-ID	Geocode	Name	Physical Address	Owner	Construction Date
1	S-0008	01119820229010000 01119820121010000 01119820122010000 01119820211010000 01119820101010000 01119820109010000 01119820110010000 01119820102010000 01119820103010000	East Middle School	2600 Grand Avenue, Butte, MT 59701	School District #1	1957

## 3. SCHOOL DUST REMEDIATION SCHEDULE

This scope of work is anticipated to be completed between October and November 2023. Coordination work is on-going with relevant stakeholders. Anticipated deadlines for remedial action are as follows and are contingent on the timing of United States Environmental Protection Agency approvals:

- Planning and access coordination – October 2023
- Remedy implementation – October/November 2023
- Reporting – December 2023 / January 2024

## 4. REMEDIAL ACTION WORK PLAN

### 4.1 East Middle School Remedial Action

Remediation at East Middle School will target three areas: the inaccessible basement storage area, the western kitchen storage room, and the auditorium catwalk. These areas are shown in Figure's 2, 3, and 4, respectively.

### **4.1.1 Basement Storage Area**

The basement storage area has been previously referred to as the “basement boiler room”, however field sampling efforts have confirmed that it is not a boiler room, but rather serves as a basement storage area. As shown on Table 2, lead was detected in exceedance of the Butte Priority Soils Site-Specific Residential Action Level for surface dust in the floor surface dust sample and associated duplicate sample collected from the basement storage area, prompting the need for remedial action.

Access to the basement storage area is adjacent to the south gym on the first floor. Access is currently restricted to engineering and janitorial staff. The basement storage room consists of an approximately 1,400 square foot rectangular area. The room contains equipment for the upstairs gym, including nets, balls, cones, and other recreational equipment. Steel utility conduits run throughout the basement storage area. There is a crawl space area with exposed soil to the west (no door), and a hallway crawl space with exposed soil through a doorway on the east side. In November 2022, soil from both crawl spaces were sampled, and no constituents were detected above the Butte Priority Soils Site-Specific Residential Action Levels. See Appendix A for photographs of the basement storage area.

### **4.1.2 West Kitchen Storage Room**

The west kitchen storage room is in the west corner of the kitchen, south of the cafeteria. As shown on Table 2, lead was detected in exceedance of the Butte Priority Soils Site-Specific Residential Action Level for surface dust in the micro-vacuum surface dust sample taken from the top of shelves from the kitchen storage room, prompting the need for remedial action.

Access to the kitchen storage room is through the cafeteria on the first floor. The room itself is locked and currently restricted to cafeteria staff. The storage room is an approximately 225 square foot rectangular area. The room contains stainless steel metal cabinets for food storage, food carts, and cash registers. There is a crawl space in the northwest corner, however the pathway is incomplete due to a secured crawlspace access door.

### **4.1.3 Auditorium Catwalk**

The auditorium catwalk is located above the auditorium and is accessed through the stage controls/lighting room located at the north end of the auditorium. As shown on Table 2, lead was detected in exceedance of the Butte Priority Soils Site-Specific Residential Action Level for surface dust in the micro-vacuum surface dust sample taken from the catwalk structure (i.e., handrails and baseboards). The entrance to the auditorium catwalk was temporarily sealed and access was restricted in 2022.

## **4.2 Dust Remediation**

Remediation of dust is necessary due to the lead concentrations detected in exceedance of the Butte Priority Soils Site-Specific Residential Action Levels for indoor dust in the floor surface sample and field duplicate sample location in the basement storage area, and the micro-vacuum surface dust sample taken from the top of a shelf in the west kitchen storage room. This remediation will prevent the migration of particulates and dust from these areas to the occupied areas of the school.

School materials (i.e., sporting equipment) stored in the basement storage area will be collected and disposed of accordingly. Large materials will be wrapped in heavy-duty plastic (6-milimeter plastic or similar sheeting that will resist puncture) and placed in a designated waste container. Smaller debris and materials will be placed directly into the designated waste container. After all materials are removed, accumulated dust will be wiped from horizontal surfaces and pipe chases, working from higher to lower surfaces. Following the initial wipe down, a high-efficiency particulate vacuum (HEPA) will be used to clean all surfaces including ceilings, shelves, doors, and floors, again working from higher to lower

surfaces. Once vacuuming is complete, all surfaces will be wiped down once more to ensure no dust is left behind. Wipes and filters from this remedial action work will be placed in sealed waste bags before being transported out of each area for proper disposal.

At the conclusion of cleaning, the remediated areas will be visually inspected to ensure that all visible dust and debris has been removed. If dust is detected, the areas will be cleaned again, following the same protocol as the prior cleaning. The outside of the waste container will be decontaminated with detergent cleaning material and disposable towels before being removed from the storage area.

### **4.3 Access Controls**

Access to the basement storage area and west kitchen storage room will be controlled by securing the entrances. The access door will be securely shut and locked, with access restricted to authorized personnel.

Access to the auditorium catwalk will be controlled by securing entrances and applying appropriate signage. A permanent access door will be constructed and installed at the catwalk access point and will be securely shut and locked. Additionally, appropriate signage will be applied to the catwalk access door. Signage will be white, black, and red, with a warning label, "DANGER: DO NOT ENTER HAZARDOUS AREA. AUTHORIZED PERSONS ONLY."

### **4.4 Post-Cleaning Monitoring**

The basement storage area and kitchen storage room will be inspected, and surface and floor dust samples will be collected and analyzed for lead one year after the area is cleaned. Post-cleaning monitoring and reporting will be conducted by Atlantic Richfield Company in accordance with the QAPP. An Investigation and Data Summary Report will be prepared and submitted to EPA following completion of the post-cleaning monitoring.

## 5. REFERENCES

Atlantic Richfield Company, 2019. Silver Bow Creek/Butte Are NPL Site Butte Priority Soils Operable Unit Final Institutional Controls Implementation and Assurance Plan. October 2019.

Atlantic Richfield Company, 2022a. Residential Metals Abatement Program Quality Assurance Project Plan (Non-Residential Parcels – Indoor Dust). October 2022.

Atlantic Richfield Company, 2022b. Residential Metals Abatement Program Field Sampling Plan - Indoor Dust – Group 7. May2022.

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## TABLES

**Table 2**  
**Summary of Analytical Sampling Results**  
**East Middle School**  
**Butte RMAP Indoor Dust**  
**Butte, Montana**

Location Type	Location ID	Sample ID	Sample Type	Date	Matrix	Chemical Name Butte Priority Soils Residential Action Level	Arsenic 250 mg/kg					Lead 1200 mg/kg					Mercury 147 mg/kg				
							Result	MDL	RL	Interp Qual	E / S	Result	MDL	RL	Interp Qual	E / S	Result	MDL	RL	Interp Qual	E / S
Floor	S-0008-F-01	S-0008-D-F-01-20220614	N	6/14/2022	Dust	First floor, Southeast corner of building, between storage room and World to Work room.	13.3	0.11	0.49		E	639	0.29	4.9		E	1.8	0.041	0.096	J-	S
Floor	S-0008-F-02	S-0008-D-F-02-20220614	N	6/14/2022	Dust	First floor, between shared space and art room.	9.8	0.11	0.49		E	60.7	0.029	0.49		E	0.082	0.0080	0.018	J-	S
Floor	S-0008-F-03	S-0008-D-F-03-20220614	N	6/14/2022	Dust	First floor, between computer lab and shared space.	9.0	0.11	0.49		E	65.7	0.029	0.49		E	0.16	0.0086	0.020	J-	S
Floor	S-0008-F-04	S-0008-D-F-04-20220614	N	6/14/2022	Dust	First floor, west wing of building, between Scullery and In-School Suspension room.	8.0	0.11	0.48		E	86.0	0.028	0.48		E	0.085	0.0085	0.020	J-	S
Floor	S-0008-F-05	S-0008-D-F-05-20220614	N	6/14/2022	Dust	Second floor, east wing outside north science room.	7.2	0.11	0.50		E	191	0.029	0.50		E	0.12	0.0084	0.019	J-	S
Floor	S-0008-F-06	S-0008-D-F-06-20220614	N	6/14/2022	Dust	Second floor, Northeast corner, between elevator and class room 222.	7.9	0.10	0.47		E	56.5	0.028	0.47		E	0.30	0.0079	0.018	J-	S
Floor	S-0008-F-07	S-0008-D-F-07-20220614	N	6/14/2022	Dust	Second floor, between stairs and shared space.	6.8	0.11	0.49		E	51.4	0.029	0.49		E	0.088	0.0087	0.020	J-	S
Floor	S-0008-F-08	S-0008-D-F-08-20220614	N	6/14/2022	Dust	Basement, Boiler room.	16.2	0.11	0.49		E	21700	2.9	49.0		E	1.2	0.016	0.036	J-	S
Floor	S-0008-F-08	S-0008-D-F-08D-20220614	FD	6/14/2022	Dust	Basement, Boiler room.	15.0	0.11	0.50		E	24800	2.9	49.9		E	1.5	0.039	0.089	J-	S
Floor Mat	S-0008-FM-01	S-0008-D-FM-01-20220613	N	6/13/2022	Dust	Southwest corner of gym.	14.7	0.11	0.49		E	50.9	0.029	0.49		E	0.096	0.0083	0.019		E
Floor Mat	S-0008-FM-01	S-0008-D-FM-01D-20220613	FD	6/13/2022	Dust	Southwest corner of gym.	14.2	0.11	0.49		E	48.3	0.029	0.49		E	0.059	0.0081	0.019		E
Floor Mat	S-0008-FM-02	S-0008-D-FM-02-20220613	N	6/13/2022	Dust	South of gym, west of concessions.	10.3	0.11	0.49		E	33.3	0.029	0.49		E	0.026	0.0079	0.018		E
Floor Mat	S-0008-FM-03	S-0008-D-FM-03-20220613	N	6/13/2022	Dust	East wing of building, north of health room.	6.8	0.11	0.49		E	15.3	0.029	0.49		E	0.026	0.0078	0.018		E
Floor Mat	S-0008-FM-04	S-0008-D-FM-04-20220613	N	6/13/2022	Dust	South wing of building, north of west gym, west of weight room.	13.1	0.11	0.49		E	52.2	0.029	0.49		E	0.11	0.0084	0.019		E
Floor Mat	S-0008-FM-05	S-0008-D-FM-05-20220614	N	6/14/2022	Dust	First floor, north east corner of bldg., between computer lab and life skills.	8.8	0.11	0.49		E	33.5	0.029	0.49		E	0.040	0.0078	0.018		E
Floor Mat	S-0008-FM-06	S-0008-D-FM-06-20220614	N	6/14/2022	Dust	First floor, main entrance, east of main office.	8.6	0.11	0.50		E	60.3	0.029	0.50		E	0.029	0.0078	0.018		E
Floor Mat	S-0008-FM-07	S-0008-D-FM-07-20220614	N	6/14/2022	Dust	First floor, north west corner of building, west of classroom 103.	8.6	0.11	0.49		E	40.3	0.029	0.49		E	0.039	0.0083	0.019		E
Other	S-0008-CS-01	S-0008-S-CS-01-20221114	N	11/14/2022	Surface Soil	Composite soil sample of west side (far-side) of exposed earthen basement.	24.7	0.71	2.5		E	69.7	0.46	2.5		E	0.24	0.0076	0.018		E
Other	S-0008-CS-02	S-0008-S-CS-02-20221114	N	11/14/2022	Surface Soil	Composite soil samples of east side (near-side by entry) of earthen exposed basement.	14.4	0.70	2.5		E	67.1	0.46	2.5		E	0.26	0.0077	0.018		E
Other	S-0008-CS-03	S-0008-S-CS-03-20221114	N	11/14/2022	Surface Soil	Composite soil sample of earthen exposed closeted area (hallway).	17.2	0.69	2.4		E	102	0.45	2.4		E	0.43	0.0076	0.018		E
Other	S-0008-O-01	S-0008-D-O-01-20220706	FB	7/6/2022	Dust	Filter blank.	ND	2.9	10.0	UJ	S	ND	1.9	10.0	UJ	S					
Other	S-0008-O-01	S-0008-D-O-01-20220915	FB	9/15/2022	Dust	Filter blank.	ND	3.2	11.1	U	E	ND	2.1	11.1	U	E	ND	0.059	0.14	U	E
Other	S-0008-O-02	S-0008-D-O-02-20220706	FB	7/6/2022	Dust	Field blank.	ND	2.9	10.0	U	S	ND	1.9	10.0	U	S	ND	0.052	0.12	R	R
Other	S-0008-O-03	S-0008-D-O-03-20230626	FB	6/26/2023	Dust	Filter Blank.	ND	3.4	11.9	U	S	ND	2.2	11.9	U	S	ND	0.061	0.14	U	S
Other	S-0008-O-04	S-0008-D-O-04-20230626	FB	6/26/2023	Dust	Field Blank.	ND	3.4	11.9	U	S	ND	2.2	11.9	U	S	ND	0.061	0.14	U	S
Surface	S-0008-S-01	S-0008-D-S-01-20220706	N	7/6/2022	Dust	2nd floor IT room. Top of lines and fuse box.	75.4	3.2	11.1		S	1030	2.1	11.1		S					
Surface	S-0008-S-01a	S-0008-D-S-01-20220915	N	9/15/2022	Dust	First floor, auditorium, below holes in ceiling.	9.0	0.59	2.0		E	45.0	0.38	2.0		E	0.38	0.027	0.063		E
Surface	S-0008-S-02	S-0008-D-S-02-20220706	N	7/6/2022	Dust	Auditorium, projection/storage room.	9.2	8.5	29.6	J	S	211	5.5	29.6		S					
Surface	S-0008-S-03	S-0008-D-S-03-20220706	N	7/6/2022	Dust	Auditorium, catwalk.	57.5	3.2	11.1		S	1770	2.1	11.1	J	S					
Surface	S-0008-S-03	S-0008-D-S-03D-20220706	FD	7/6/2022	Dust	Auditorium, catwalk.	103	12.5	43.6		S	1030	8.1	43.6	J	S	3.0	0.040	0.093	J-	S
Surface	S-0008-S-04	S-0008-D-S-04-20220706	N	7/6/2022	Dust	2nd floor, north wing, custodian's closet.	5.9	3.9	13.6	J	S	159	2.5	13.6		S	0.13	0.018	0.042	J-	S
Surface	S-0008-S-05	S-0008-D-S-05-20220706	N	7/6/2022	Dust	Basement, boiler room. Tops of equipment, pipes, and shelving.	21.9	2.0	7.0		S	1190	1.3	7.0		S	1.8	0.043	0.099	J-	S
Surface	S-0008-S-06	S-0008-D-S-06-20220706	N	7/6/2022	Dust	Basement, crawlspace west of boiler room.	36.0	2.2	7.6		S	397	1.4	7.6		S	1.6	0.021	0.047	J-	S
Surface	S-0008-S-07	S-0008-D-S-07-20220706	N	7/6/2022	Dust	Basement, East wing crawlspace.	59.2	13.8	48.3		S	471	9.0	48.3		S	13.2	0.28	0.66	J-	S
Surface	S-0008-S-08	S-0008-D-S-08-20220706	N	7/6/2022	Dust	Basement, southeast storage room. Top of shelving.	7.9	2.0	7.1		S	36.9	1.3	7.1		S	2.6	0.054	0.12	J-	S
Surface	S-0008-S-10	S-0008-D-S-10-20220706	N	7/6/2022	Dust	Basement, north wing crawlspace, top of piping.	36.0	3.4	11.8		S	219	2.2	11.8		S	1.3	0.019	0.045	J-	S
Surface	S-0008-S-11	S-0008-D-S-11-20220706	N	7/6/2022	Dust	Basement, main room off of elevator.	18.7	0.97	3.4		S	271	0.63	3.4		S	6.7	0.13	0.30	J-	S
Surface	S-0008-S-12	S-0008-D-S-12-20220707	N	7/7/2022	Dust	Main floor, Tool storage room, southeast corner of building.	11.3	1.2	4.2		S	39.0	0.77	4.2		S	0.18	0.0056	0.013	J-	S
Surface	S-0008-S-15	S-0008-D-S-15-20220707	N	7/7/2022	Dust	Storage room south of gym.	12.7	6.9	24.2	J	S	49.8	4.5	24.2		S	0.19	0.074	0.17	J-	S
Surface	S-0008-S-16	S-0008-D-S-16-20220707	N	7/7/2022	Dust	Storage room north of S-13. Top of shelving and equipment.	7.4	7.2	25.2	J	S	69.4	4.7	25.2		S	0.61	0.026	0.059	J-	S
Surface	S-0008-S-18	S-0008-D-S-18-20220707	N	7/7/2022	Dust	Electrical room near weight room.	6.4	0.50	1.7		S	32.8	1.6	8.7		S	0.081	0.0069	0.016	J-	S
Surface	S-0008-S-19	S-0008-D-S-19-20220707	N	7/7/2022	Dust	IT room near weight room.	4.1	0.50	1.7		S	19.7	1.6	8.7		S	1.2	0.015	0.035	J-	S
Surface	S-0008-S-20	S-0008-D-S-20-20220707	N	7/7/2022	Dust	Weight room, storage room.	12.1	2.6	9.1		S	102	1.7	9.1		S	1.4	0.029	0.066	J-	S
Surface	S-0008-S-21	S-0008-D-S-21-20220707	N	7/7/2022	Dust	East wing, custodian's storage room.	11.7	2.2	7.7		S	183	1.4	7.7		S	0.87	0.0088	0.020	J-	S
Surface	S-0008-S-22	S-0008-D-S-22-20220708	N	7/8/2022	Dust	Art room storage.	6.4	4.6	15.9	J	S	93.8	14.8	79.6		S	2.2	0.086	0.20	J-	S
Surface	S-0008-S-25	S-0008-D-S-25-20220708	N	7/8/2022	Dust	Library, electrical room, top of electrical boxes.	2.2	0.48	1.7		S	3.2	0.31	1.7		S	ND	0.0093	0.021	R	R
Surface	S-0008-S-28	S-0008-D-S-28-20220708	N	7/8/2022	Dust	North wing, custodian's room.	8.9	0.82	2.9		S	47.1	2.7	14.4		S	0.32	0.045	0.10	J-	S
Surface	S-0008-S-29	S-0008-D-S-29-20220708	N	7/8/2022	Dust	Kitchen, mop/spray area.	9.6	2.2	7.8		S	97.1	1.4	7.8		S	0.089	0.027	0.062	J-	S
Surface	S-0008-S-30	S-0008-D-S-30-20220708	N	7/8/2022	Dust	Kitchen, storage room.	38.6	3.4	11.8		S	1280	2.2	11.8		S	0.72	0.027	0.062	J-	S
Surface	S-0008-S-31	S-0008-D-S-31-20220711	N	7/11/2022	Dust	Custodial space in cafeteria.	13.4	0.82	2.9		S	108	2.7	14.3		S	0.31	0.012	0.029	J-	S
Surface	S-0008-S-32	S-0008-D-S-32-20220711	N	7/11/2022	Dust	West wing, electrical room, top of box.	16.8	4.2	14.8		S	98.4	2.8	14.8		S	0.43	0.024	0.055	J-	S
Surface	S-0008-S-34	S-0008-D-S-34-20220711	N	7/11/2022	Dust	West wing, music storage closet, top of cabinets.	6.7	1.3	4.5		S	84.0	4.2	22.4		S	0.95	0.032	0.074	J-	S
Surface	S-0008-S-35	S-0008-D-S-35-20220711	N	7/11/2022	Dust	Auditorium, stage area.	8.0	0.95	3.3		S	108	0.62	3.3		S	1.1	0.027	0.063	J-	S
Surface	S-0008-S-36	S-0008-D-S-36-20220711	N	7/11/2022	Dust	Auditorium, west storage area.	4.6	0.39	1.4		S	23.7	0.25	1.4		S	0.30	0.0044	0.010	J-	S
Surface	S-0008-S-37	S-0008-D-S-37-20220711	N	7/11/2022	Dust	West wing, instrument storage room, top of cabinets.	22.0	2.0	7.0		S	169									

**Table 2**  
**Summary of Analytical Sampling Results**  
**East Middle School**  
**Butte RMAP Indoor Dust**  
**Butte, Montana**

Location Type	Location ID	Sample ID	Sample Type	Date	Matrix	Chemical Name Butte Priority Soils Residential Action Level	Arsenic 250 mg/kg					Lead 1200 mg/kg					Mercury 147 mg/kg				
							Result	MDL	RL	Interp Qual	E / S	Result	MDL	RL	Interp Qual	E / S	Result	MDL	RL	Interp Qual	E / S
Surface	S-0008-S-42	S-0008-D-S-42D-20230626	FD	6/26/2023	Dust	Basement, northeast storage room.	<b>35.7</b>	3.5	12.3	J	S	<b>306</b>	2.3	12.3	J	S	<b>4.9</b>	0.13	0.30	J	S
Surface	S-0008-S-43	S-0008-D-S-43-20230626	N	6/26/2023	Dust	First floor southeast storage room.	<b>12.9</b>	1.5	5.2	J	S	<b>93.2</b>	0.96	5.2	J	S	<b>0.19</b>	0.018	0.042	J-	S
Surface	S-0008-S-44	S-0008-D-S-44-20230626	N	6/26/2023	Dust	First floor, southeast electrical room	<b>21.5</b>	1.4	4.9	J	S	<b>90.7</b>	0.91	4.9	J	S	<b>0.24</b>	0.0089	0.021	J-	S
Surface	S-0008-S-45	S-0008-D-S-45-20230626	N	6/26/2023	Dust	First floor, east storage room (north of art room)	<b>22.0</b>	1.5	5.3	J	S	<b>83.0</b>	0.99	5.3	J	S					
Surface	S-0008-S-46	S-0008-D-S-46-20230626	N	6/26/2023	Dust	First floor, conference room, east of library	<b>17.1</b>	0.97	3.4	J	S	<b>58.4</b>	0.63	3.4	J	S	<b>0.28</b>	0.035	0.080	J-	S
	QC	S-0008-D-EB-01-20220613	EB	6/13/2022	Dust	Equipment Blank	ND	0.11	0.49	U	E	ND	0.029	0.49	U	E	ND	0.0074	0.017	U	E
	QC	S-0008-D-EB-02-20220614	EB	6/14/2022	Dust	Equipment Blank	ND	0.11	0.48	U	E	<b>0.44</b>	0.028	0.48	J	E	ND	0.0082	0.019	U	E

**Notes:**

Gray highlighting indicates result value is greater than or equal to the Butte Priority Soils Site-Specific Residential Action Levels for indoor soil and dust. Reference: 2006 Record of Decision, Butte Priority Soils Operable Unit, Silver Bow Creek/Butte Area NPL Site, USEPA 2006.

Bold text indicates detection.

All reported values in mg/kg.

**Acronyms:**

EB Equipment Blank  
 FB Field Blank  
 FD Field Duplicate  
 MDL Method Detection Limit  
 mg/kg milligrams per kilogram  
 N Normal / Primary  
 ND Not detected above the MDL  
 QC Quality Control  
 RL Reporting Limit

**Interpreted Qualifiers:**

J The analyte was positively identified; the associated numerical value is an estimate of the concentration of the analyte in the sample. This will also include results reported between the MDL and RL.  
 J- The result is an estimated quantity, but the result may be biased low.  
 R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.  
 U The result is qualified as non-detect due to the detection of the analyte in an associated QC blank.  
 UJ The analyte was not detected above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

**E / S:**

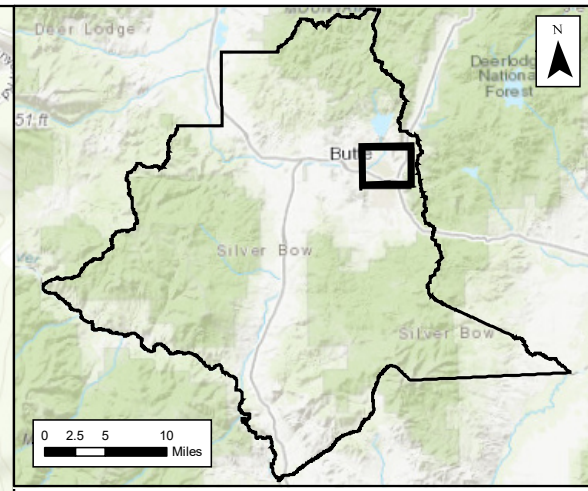
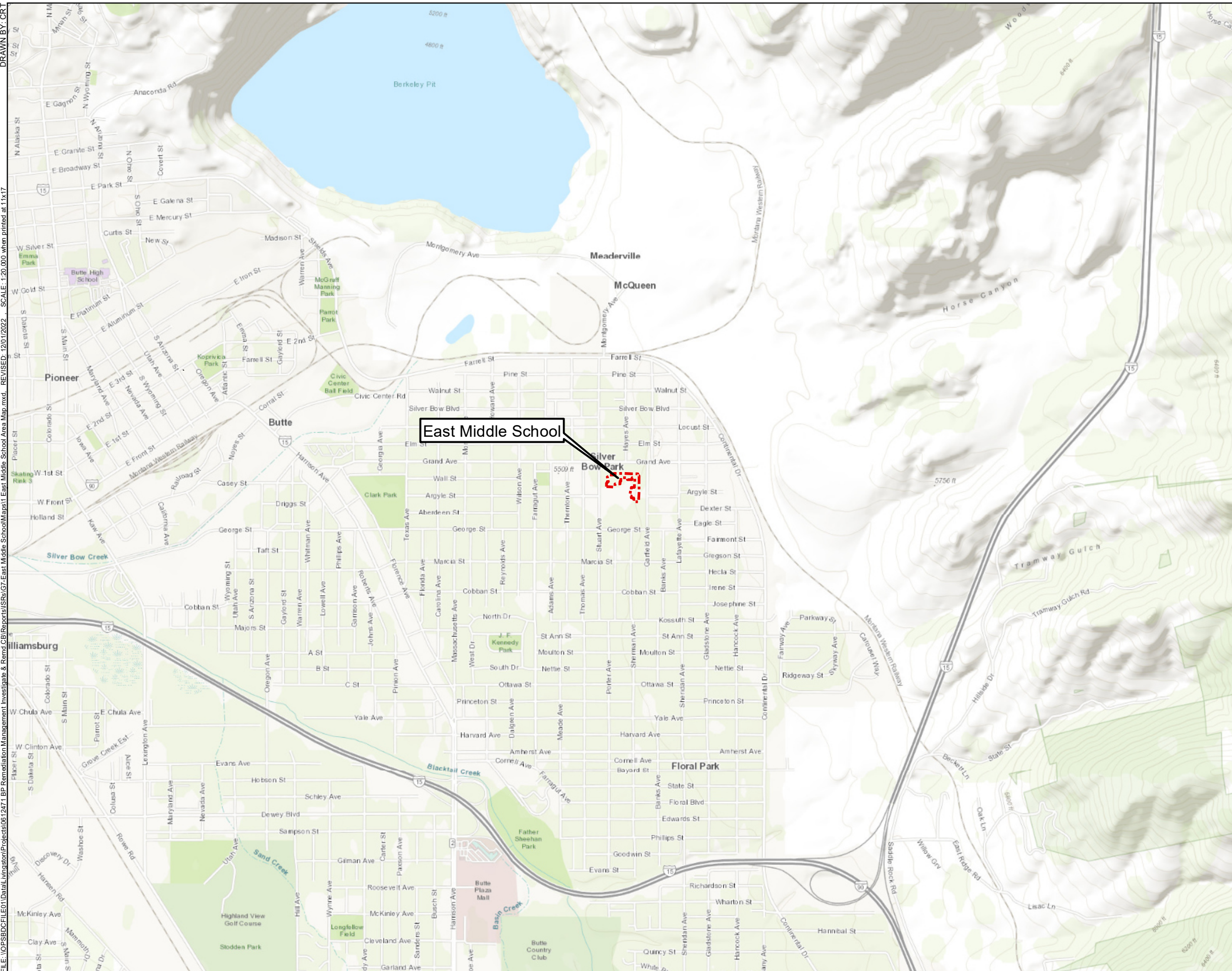
E Enforcement quality. No qualifiers, U qualifier, or J qualifier and meets Level A and B criteria.  
 R Unusable. R qualifier and/or does not meet Level A or B requirements.  
 S Screening quality. J or UJ qualifier and/or meets only Level A criteria.



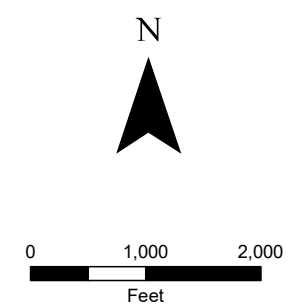
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## FIGURES

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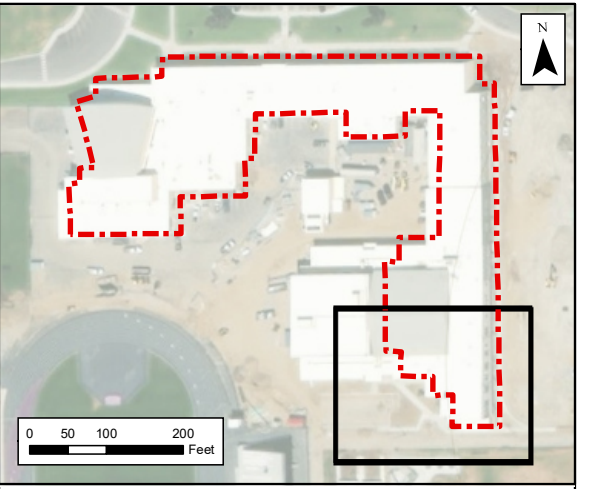
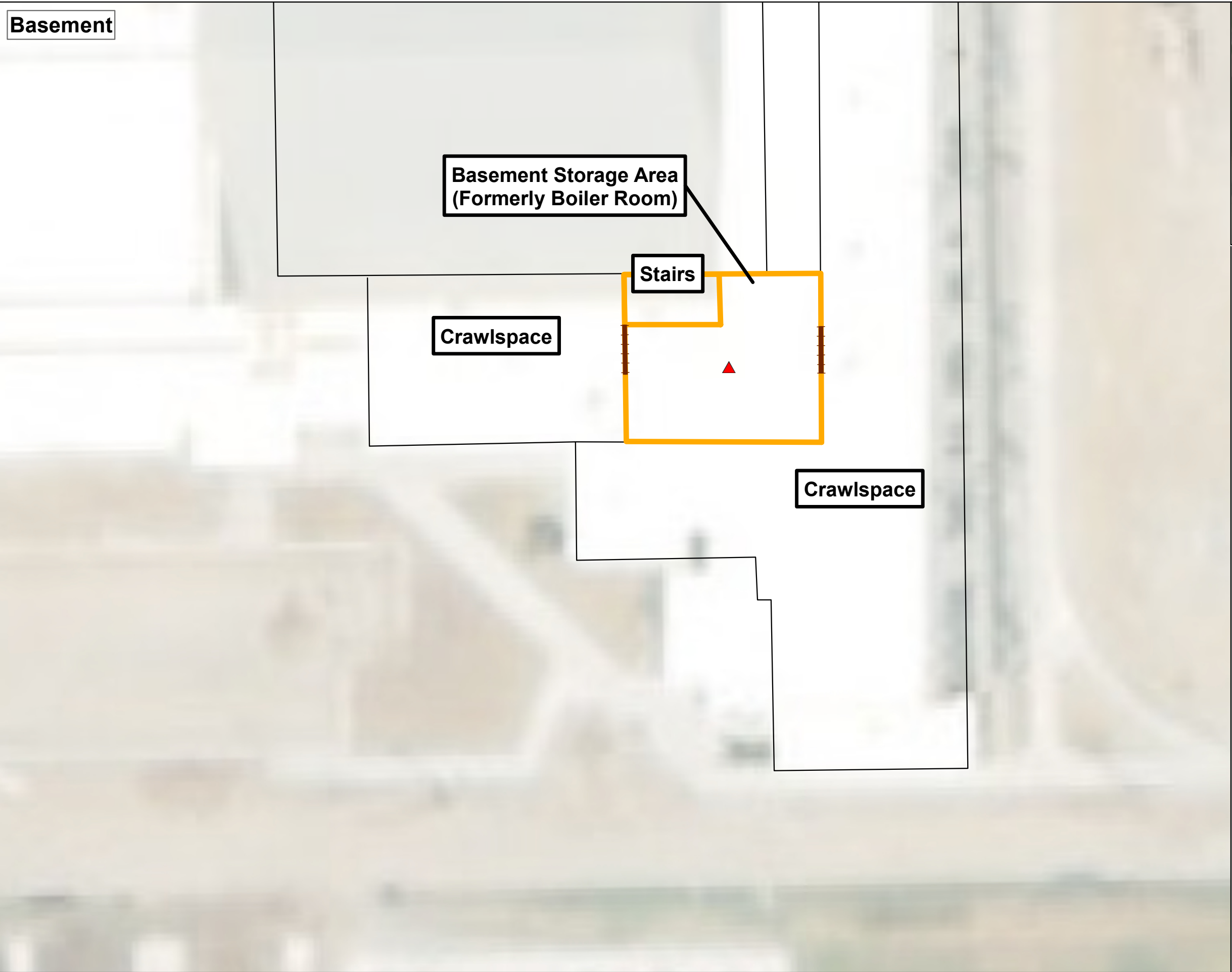
**Legend**  
[Red dashed box symbol] Site Area






**Figure 1**  
**East Middle School Location**  
2600 Grand Ave  
Butte, MT 59701

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

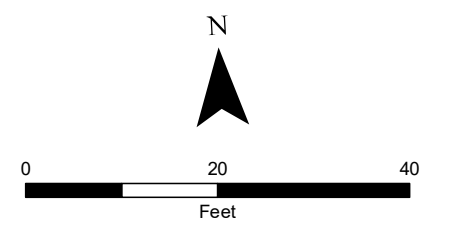
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**Legend**

-  Floor Surface Sample
-  Crawlspace Entrance
-  Inaccessible Area (1397 sq ft)

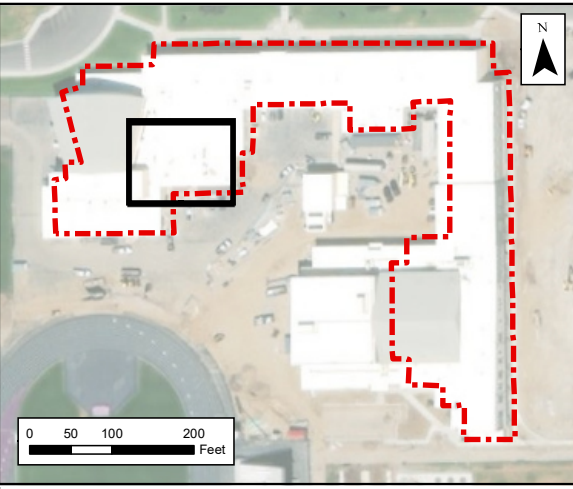
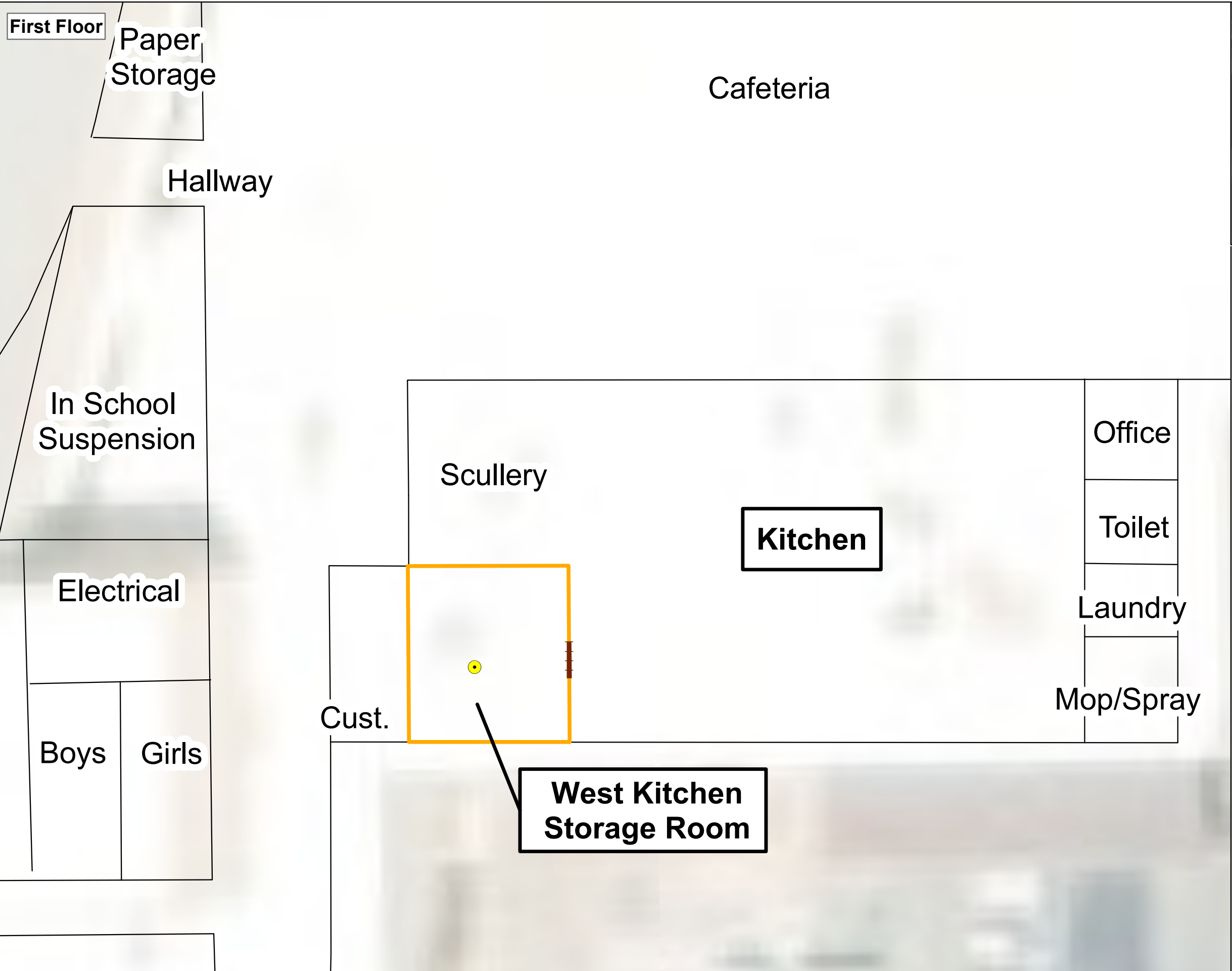
Notes:  
 Room IDs reflect verbiage used on site maps provided by Butte School District.



**Figure 2**  
**East Middle School Basement**  
**RA Work Area**  
 2600 Grand Ave  
 Butte, MT 59701

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

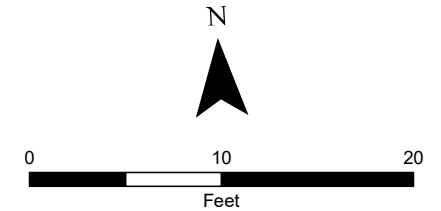
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**Legend**

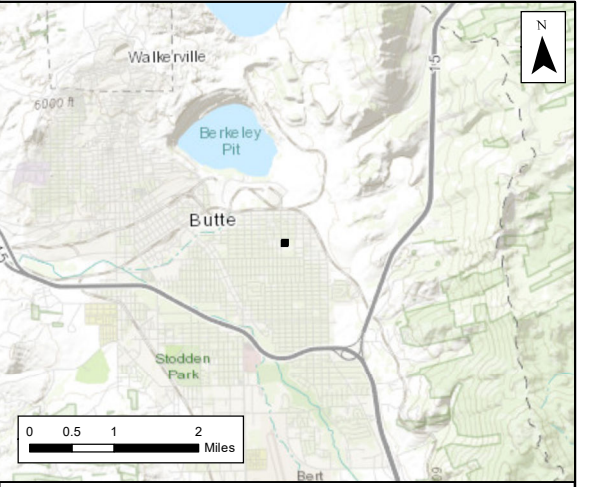
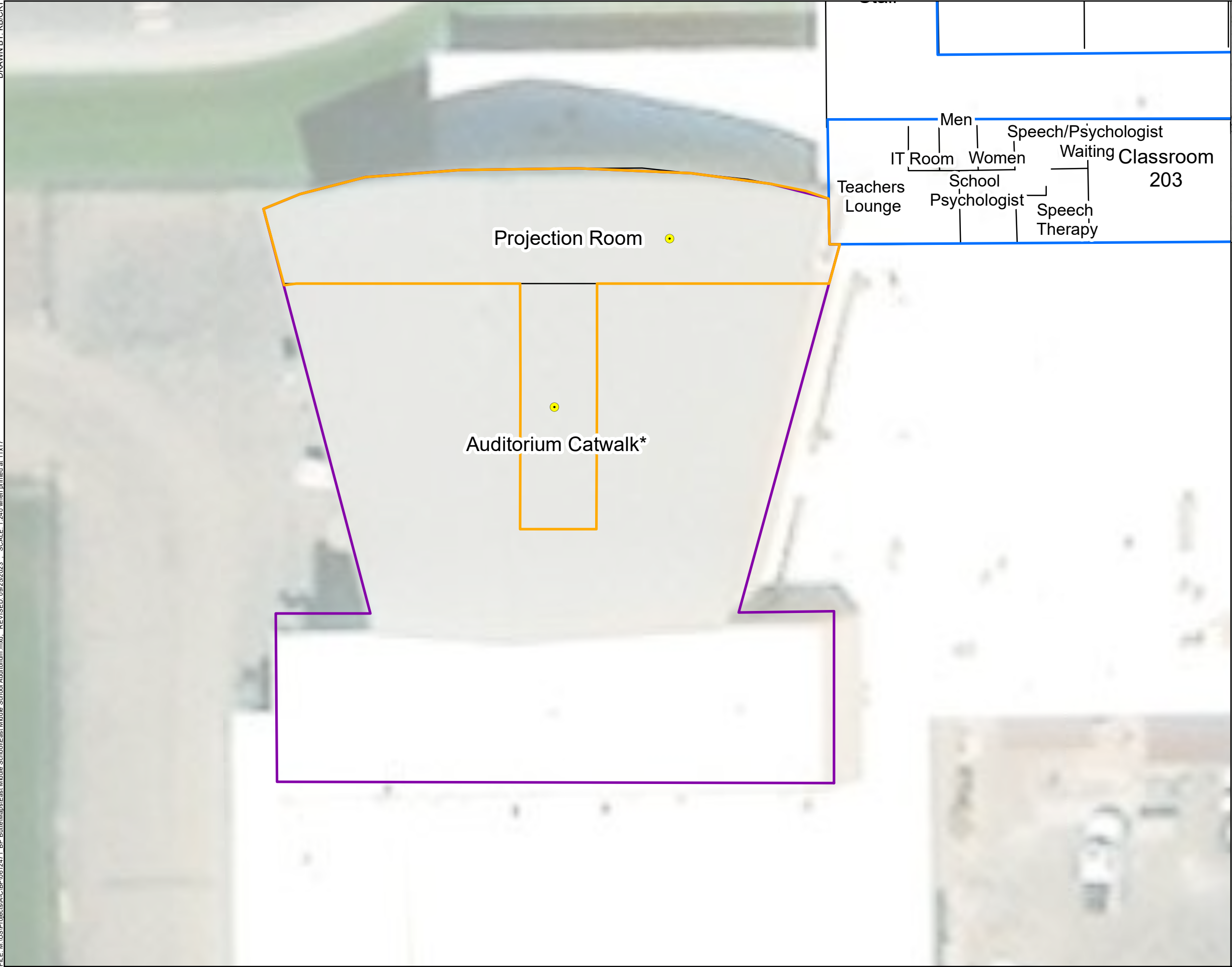
- Micro-vacuum Surface Sample
- Entrance
- ▭ Inaccessible Area (300 sq ft)

Notes:  
Room IDs reflect verbiage used on site maps provided by Butte School District.



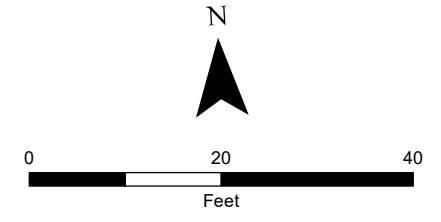
**Figure 3**  
**East Middle School Kitchen**  
**Storage Room RA Work Area**  
2600 Grand Ave  
Butte, MT 59701

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



- Legend**
- ▲ Floor Surface Sample
  - Micro-vacuum Surface Sample
  - Inaccessible Area
  - Decision Unit 10
  - Decision Unit 11
  - Decision Unit 12
  - Decision Unit 13
  - Decision Unit 14

Notes:  
 Room IDs reflect verbiage used on site maps provided by Butte School District.  
 \*Catwalk is above the auditorium



**Figure 4**  
**East Middle School Auditorium**  
**Catwalk RA Work Area**  
 2600 Grand Ave Butte, MT 59701

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**APPENDIX A      PHOTOGRAPHIC LOG**



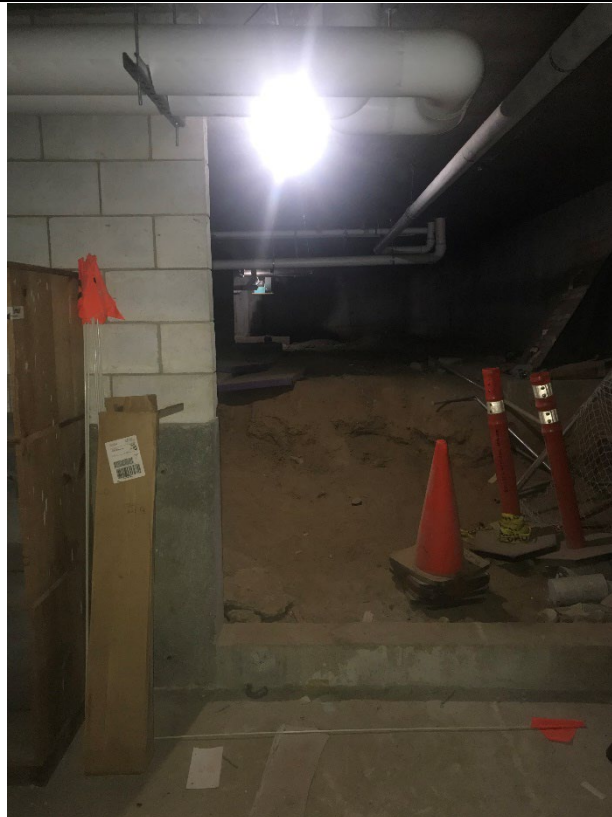
**Photograph: 1** | View of basement storage area, from bottom of stairwell, facing south.



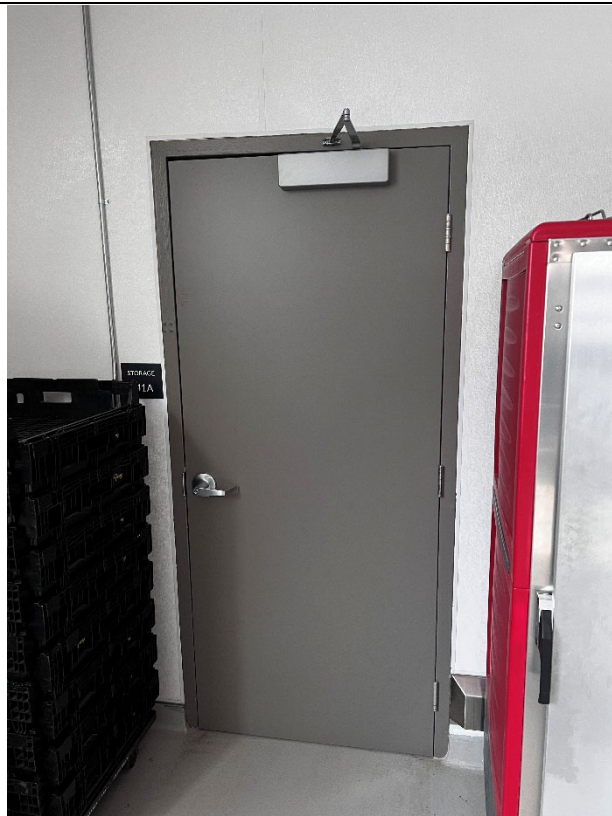
**Photograph: 2** | View of basement storage area floor, facing towards doorway that leads to eastern crawl space, facing southeast.



**Butte RMAP**  
**East Middle School RAWP**  
ERM Project Number 0643586  
4/5/2023



**Photograph: 3** View of entrance to western crawl space, taken from center of basement storage area, facing west.



**Photograph: 4** Door in kitchen leading to kitchen storage room. Access to the kitchen storage room is restricted to kitchen staff.







**Photograph: 5** Front left corner of storage room, facing south.



**Photograph: 6** Left wall of storage room, facing southwest.



**Butte RMAP**  
**East Middle School RAWP**  
ERM Project Number 0643586  
4/5/2023



**Photograph: 7** Far right corner of storage room, facing west.



**Photograph: 8** Right wall of storage room, facing north.





**Photograph: 9** Main ceiling air vent.



**Photograph: 10** Ceiling vent.



**Photograph: 11** Ladder to roof access.



**Photograph: 12** New wiring being run into room via ceiling.





**Photograph: 13** Top of cart near door to the room.



**Photograph: 14** Upper area of roof access point. Note: Little to no traces of dust that was found on top of the sampled cart was found at this location.





**Photograph: 15** View of crawl space access opened, taken from middle of storage room.



**Photograph: 16** Close-up of access ladder, left side.





**Photograph: 17** Earthen floor of crawl space.

