ANALYSIS OF BROWNFIELD CLEANUP ALTERNATIVES

CLAY SCHOOL PROJECT

131 15TH STREET, WHEELING, WV

Prepared for:

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Final – Updated: March 3, 2025

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I. Introduction & Background

a. Site Location

The Clay School site is located at 131 15th Street, Wheeling, Ohio County, West Virginia (herein referred to as "the site"). The 0.661-acre property lies in the East Wheeling neighborhood, adjacent to the downtown area of the City of Wheeling.

b. Site Description

The site has one 140,511 square foot four-story, masonry building which encompasses much of the land parcel. The building is in disrepair and is not currently suitable for occupation. It is an eye sore and symbol of a bygone era. Broken windows, scattered building debris, water intrusion, collapsing ceilings, peeling paint, aged fluorescent light tubes/ballasts, and mold growth are present. The site is currently unused and is improved with out-of-service utilities (gas, water, sewage, and electricity). In 2022, the City of Wheeling purchased the Clay School to promote its rehabilitation. Since the time of purchase, the building condition has further deteriorated due to water intrusion and is unfit for rehabilitation. The City is working with project stakeholders to replace the Clay School with a new indoor recreation center to benefit the neighborhood and help revitalize this area of Wheeling.

c. Forecasted Climate Conditions

According to the US Global Change Research Program (USGCRP), climate trends for the northeast region of the United States include increased temperatures, increased precipitation with greater variability, increased extreme precipitation events, and rises in sea level. Some of these factors, most specifically increased precipitation that may affect storm water runoff and flooding potential, are most applicable to the cleanup of the site.

Flooding of the building's basement has occurred in the past during wet weather events. Under current site conditions, increased precipitation and extreme weather could result in additional storm water runoff inundation of the building, and potential erosion to the subject property should the building be removed. The remedial design plans should account for the current flooding as well as projected increases due to forecasted climate conditions.

d. Previous Site Use(s) and Any Previous Cleanup/Remediation

In the 1940s, the site was developed as a public school (*i.e.*, the Clay School). Prior to that, dating as far back as 1884, the land was residential. The school closed in the 1990s. There has been some intermittent use by the community for education, but the site has largely been vacant since its closure and has been entirely vacant since the 2000s.

There have been no previous site cleanups or remediation.

e. Site Assessment Findings

2021 Phase I Environmental Site Assessment (Environmental Standards, a subsidiary of Montrose)

The Phase I ESA completed December 21, 2021 under a brownfields assessment grant administered by Belomar Regional Council did not identify any recognized environmental conditions (RECs) associated with the property. However, the Phase I ESA identified the following *de minimis* conditions:

- Lead-based paint (LBP) – Buildings constructed and painted prior to 1978 are likely to have some LBP. The building was reportedly constructed in the 1940s, which makes LBP a concern.
- Small-quantity chemicals - Various containers of chemicals are in what appear to be former science classrooms. The containers were in aged and poor condition, some with illegible labels. The handling and disposal of these chemicals is a de minimis condition.
- Fluorescent light tubes – Aged fluorescent light tubes and ballasts were visible throughout the structure. The handling and disposal of these fluorescent light tubes and ballasts is a de minimis condition.
- Asbestos-containing materials (ACM) – Based on the age of the building, the presence of ACM is a concern, particularly in floor tiles, ceiling tiles, roofing, shingles, and as insulation around heating systems and piping.
- Water intrusion – Water intrusion is visible in portions of the structure, resulting in damaged ceilings, floors, and walls. Several rooms were open to the elements via shattered windows, and the floors in these areas were completely covered in mold and vegetative growth. Due to water intrusion, the basement of the building is inaccessible.

2022 Hazardous Materials Survey (BEC for Environmental Standards, Inc.)

A Hazardous Materials Survey completed March 16, 2022 by Boggs Environmental Group (BEC) as a subcontractor to Environmental Standards, Inc. showed the following:

- Lead-based paint - Sampling was conducted for Toxic Characteristic Leachate Procedure (TCLP) testing on representative architectural building components, to evaluate if typical demolition waste would be considered as hazardous waste based upon lead content. Bulk samples of both painted

materials and unpainted building components were collected to form one composite sample. TCLP testing concluded that the architectural building component waste stream does not meet the definition of lead hazardous waste and may undergo disposal as general construction debris and/or recycling.

- PCBs, Mercury, Petroleum, & Hazardous Materials Screen Results - There were 517 ballasts and one old transformer identified as presumed to be PCB-containing. Fluorescent lamp light tubes throughout the subject Site (1,004 tubes surveyed) were labeled by their manufacturer as containing low-pressure mercury and/or phosphorus vapors. These fluorescent light tubes, light bulbs (29 surveyed), and incandescent bulbs (18 surveyed) are presumed to contain mercury vapors. Chemical products surveyed on Site included lead acid batteries, paint, detergent, emulsifier, antifreeze, glycerin, cleaners, cathode-ray tubes, smoke detectors, laboratory chemicals, and unlabeled liquids. It was recommended the hazardous materials be removed and properly recycled or disposed prior to renovation or demolition activities that could result in human exposure.
- Asbestos-containing materials (ACM) - Materials containing more than 1% asbestos by laboratory analysis include air-cell pipe insulation, pipe wrap, 9” by 9” floor tiles, vinyl stair treads, rooftop end-cap mastic and curb flashing, vinyl cove base, 12” by 12” vinyl floor tile and its associated mastic, and door masonry sealant. It was recommended the ACM be mitigated prior to renovation or demolition activities that could result in human exposure.

2025 Asbestos-Containing Debris Results (BEC)

In January 2025, BEC visited the building to confirm conditions prior to developing the “Hazardous Materials Removal Project Manual”. BEC noted that the building conditions had deteriorated and that fallen ACM may have mixed with other fallen building debris. BEC tested debris materials and confirmed they did contain asbestos, requiring disposal of all of this material as ACM.

f. Project Goal

The planned reuse for the subject property is based on initial community input. Planned reuse is a combination of community-based recreation/education, office spaces, and small-business commercial use. Final plans will be determined by further input from the community on which use(s) would be of most benefit, as well as costs for remediation and redevelopment with new construction.

II. Applicable Regulations and Cleanup Standards

a. Cleanup Oversight Responsibility

The cleanup will be overseen by the West Virginia Department of Environmental Protection (WVDEP), Division of Air Quality and Office of Environmental Remediation, and the West Virginia Department of Health and Human Resources asbestos licensing section. A West Virginia Licensed Remediation Specialist (LRS) or Qualified Environmental Professional (QEP) will oversee and direct all site cleanup activities.

b. Cleanup Standards for Major Contaminants

The applicable cleanup standards will be:

- US EPA and WVDEP standards for asbestos removal and disposal.
- US EPA and WVDEP standards for remediation of residential materials containing LBP.
- As appropriate, WVDEP *de minimis* standards for residential and/or recreational soil.
- Potentially WVDEP *de minimis* standards for groundwater.

c. Laws and Regulations Applicable to the Cleanup

Laws and regulations that are applicable to this cleanup include the Federal Small Business Liability Relief and Brownfields Revitalization Act, the Federal Davis-Bacon Act, Occupational Safety and Health Administration (OSHA) permissible exposure limits (PELs) for lead and asbestos exposure, the West Virginia Voluntary Remediation and Redevelopment Act, and County by-laws. Federal, state, and local laws regarding procurement of contractors to conduct the cleanup will also be followed. In addition, all appropriate permits, as applicable, will be obtained prior to the work commencing.

III. Cleanup Alternatives

a. Cleanup Alternatives Considered

The results of the Phase I ESA and the Hazardous Materials Survey Report were used in the development of cleanup alternatives. The following cleanup alternatives were considered:

- **Alternative #1: No Action.**
- **Alternative #2: ACM Removal/Disposal; LBP Testing/Mitigation; and Hazardous Materials Disposal Prior to Building Renovation and Reuse**. Alternative #2 would involve removal of ACM and remediation of any building surfaces containing LBP. Some building debris is mixed with ACM and will require disposal as ACM, but where possible ACM will still be segregated to the extent practical to control mixing of solid waste with hazardous debris. Hazardous

Materials identified in small quantities throughout the building would be properly disposed prior to initiating building renovations. Water intrusion would be prevented as part of the renovation process.

- **Alternative #3: ACM Removal/Disposal and Hazardous Materials Disposal Prior to Building Demolition**.

Similar to Alternative #2, Alternative #3 would involve removal of ACM. Building debris mixed with ACM will require disposal as ACM, but where possible ACM will still be segregated to the extent practical to control mixing of solid waste with hazardous debris. Hazardous Materials identified in small quantities throughout the building would be properly disposed prior to demolition. Water in the building basement will require removal prior to ACM abatement to check that area for ACM and removal of any found prior to demolition.

b. Evaluation of Cleanup Alternatives

The effectiveness, the ability to implement the cleanup, and the costs of each alternative are to be considered prior to selecting a recommended cleanup alternative. The analysis for each alternative is presented below.

Effectiveness - Including Climate Change Considerations

- **Alternative #1: No Action** - Performing no action would not be effective in preventing or controlling exposure pathways to contaminants at the site. The integrity and viability of the building would continue to decay and be an ongoing burden for the community.

Climate Change Considerations – Alternative #1 would leave ACM, LBP, and hazardous materials in the building, which has already been impacted by previous water intrusion events. With climate change, the frequency and intensity of these water intrusion events would be expected to increase, creating increased and additional hazards. It would also potentially subject the materials inside to increased migration potential, as the water could carry contaminants both off site and into the subsurface.

- **Alternative #2: ACM Removal/Disposal; LBP Testing/Mitigation; and Hazardous Materials Disposal Prior to Building Renovation and Reuse** – ACM removal will eliminate this exposure pathway and protect human health of site users, including potential trespassers who may enter it currently. Removal of ACM by licensed asbestos abatement contractors is the most effective way to eliminate future risk of exposure to fibers. With removal of source ACM, inhalation and ingestion pathways for ACM will no longer exist.

Engineering controls (ECs) employed by the removal contractor will control and reduce the quantity of contaminants released to the environment during the removal activities. Paint would be tested to determine if any is LBP. If LBP is identified, removal by licensed lead abatement contractors is the most effective way to eliminate future risk of exposure to lead. With removal of LBP, inhalation and ingestion pathways for lead will no longer exist from such painted surfaces. Small-quantity chemicals in various containers in the former science classrooms require removal and disposal. Aged fluorescent light tubes and ballasts throughout the structure that likely contain hazardous materials such as mercury require removal. Along with renovation of the existing building, stormwater runoff at the site would be controlled to prevent future infiltration into the basement to discourage mold growth, eliminate transport of hazardous substances, and protect human health. Project design would incorporate stormwater management improvements, including, if possible, stormwater retention and infiltration strategies.

Climate Change Considerations - Alternative #2 would remove or mitigate ACM, and hazardous materials from the building which has already been impacted by previous water intrusion events. With climate change, the frequency and intensity of these water intrusion events would be expected to increase. Removal of these materials would ensure that any flooding would not carry contaminants off site. Additionally, the most recent Best Management Practices (BMPs) issued under ASTM Standard E-2893: Standard Guide for Greener Cleanups will be used as a reference in this effort. The carbon footprint associated with asbestos and other hazardous abatement is relatively small. Electrical, water, and wastewater services are not currently available within the building but can be connected. The abatement contractor will work with the City to make these services available. The number of mobilizations to the site will be minimized and control measures used to control runoff. In addition, the City of Wheeling will consider asking bidding cleanup contractors to propose additional green remediation techniques in their response to any Request for Proposals for the cleanup contract. The City will consider sustainable stormwater management practices as site redevelopment proceeds.

- **Alternative #3: ACM Removal/Disposal and Hazardous Materials Disposal Prior to Building Demolition and Site Redevelopment** – Similar to Alternative #2 ACM would be removed to eliminate exposure to asbestos fibers and protect human health of site users. The small quantity chemical containers and aged fluorescent light tubes and ballasts also require removal

and disposal. Subsequent demolition of the building would require stormwater management strategies, including taking into consideration future increases in storm intensity, as well as elimination of infiltration to a new structure. Additionally, site clearance would allow for confirmation that site environmental conditions (soil, groundwater) meet WVDEP residential/recreational de minimis standards.

Climate Change Considerations - Alternative #3 would remove ACM and hazardous materials prior to demolition of the building. With climate change, the frequency and intensity of flood events would be expected to increase. Removal of these materials would ensure that any flooding would not carry contaminants off site Additionally, the most recent Best Management Practices (BMPs) issued under ASTM Standard E- 2893: *Standard Guide for Greener Cleanups* will be used as a reference in this effort. The carbon footprint associated with asbestos and other hazardous abatement is relatively small. Electrical, water, and wastewater services are not currently available within the building but can be connected. The abatement contractor will work with the City to make these services available. The number of mobilizations to the site will be minimized and control measures used to control runoff. In addition, the City of Wheeling will consider asking bidding cleanup contractors to propose additional green remediation techniques in their response to any Request for Proposals for the cleanup contract. The City will consider sustainable stormwater management practices as site redevelopment proceeds.

<u>Implementation</u>

- **Alternative #1: No Action** is simple to implement, as no actions will be required.
- **Alternative #2: ACM Removal/Disposal; LBP Testing/Mitigation; and Hazardous Materials Disposal Prior to Building Renovation and Reuse.** ACM removal is moderately difficult to implement and requires proper preparation of the work area. Removal includes implementation of ECs to control/contain concentrations of contaminants by modifying the source and/or reducing the quantity of contaminants released into the work environment. ECs include contaminant barriers and decontamination processes and potentially using wet removal techniques, encapsulation/enclosure techniques, and HEPA-equipped vacuum cleaners where site conditions warrant. Painted surfaces in accessible areas of the building could easily be tested for the presence of lead. If found, LBP would be mitigated via encapsulation. Proper preparation of the work areas is required, as is the suitability of surfaces for

application of lead-neutralizing paint prior to encapsulation (*i.e.*, fresh painting). The small quantity containers of chemicals and fluorescent light bulbs and ballast are relatively easy to remove and dispose. Access to the basement will require water removal, followed by further ACM and LBP testing. ACM abatement and LBP mitigation in the basement will require ongoing water removal unless water infiltration can be stopped prior to the cleanup work.

- **Alternative #3: ACM Removal and Disposal and Hazardous Materials Disposal Prior to Building Demolition.** The ACM and hazardous materials removal activities under this Alternative would be performed as described in Alternative #2. LBP TCLP testing has verified building materials containing LBP can be disposed as regular solid waste. The small quantity containers of chemicals and fluorescent light bulbs and ballast are relatively easy to remove and dispose prior to demolition. Soil would be tested for contaminants of potential concern typical to historic fill (metals, PCB, and polycyclic aromatic hydrocarbons) following demolition.

Cost

- **Alternative #1: No Action**. There will be no costs.
- **Alternative #2: ACM Removal/Disposal; LBP Testing/Mitigation; and Hazardous Materials Disposal Prior to Building Renovation and Reuse.** Costs are estimated to be **$1,317,568.48** for the ACM removal and waste disposal; LBP testing and encapsulation; and hazardous materials disposal. ACM removal costs have increased from the November 2023 estimate due to the mixing of ACM-containing debris with other building debris in areas where the building structures have fallen. LBP mitigation costs were calculated assuming 10,000 square feet of the building requires LBP mitigation. The estimate includes correcting stormwater infiltration into the building and developing site closeout documents for the City and the WVDEP, as applicable.
- **Alternative #3: ACM Removal and Disposal and Hazardous Materials Disposal Prior to Building Demolition.** Costs are estimated to be **$1,267,568.48** to perform the ACM removal and waste disposal and hazardous materials disposal. ACM removal costs have increased from the November 2023 estimate due to the mixing of ACM-containing debris with other building debris in areas where the building structures have fallen. The estimate includes confirmation that soil meets WVDEP residential/recreational de minimis standards, as well as developing site closeout documents for the City and the WVDEP, as applicable. The estimate does not include demolition costs.

Green Remediation Considerations

To make the selected alternative more sustainable, several techniques will be considered. The most recent Best Management Practices (BMPs) issued under ASTM Standard E- 2893: *Standard Guide for Greener Cleanups* will be used as a reference in this effort. The carbon footprint associated with asbestos and other hazardous abatement is relatively small. Electrical, water, and wastewater services are not currently available within the building. The abatement contractor will work with the City to make these services available. The number of mobilizations to the site will be minimized and erosion control measures used to minimize runoff. In addition, the City of Wheeling will consider asking bidding cleanup contractors to propose additional green remediation techniques in their response to any Request for Proposals for the cleanup contract. The City will consider sustainable stormwater management practices as site redevelopment proceeds.

c. Recommended Cleanup Alternative

The recommended cleanup alternative is **Alternative #3**: This alternative protects human health and the environment through removal of ACM and hazardous materials, while providing the community and future site tenants critical information, involvement, and security in the site's redevelopment and use.

- **Alternative #1: No Action**. This alternative cannot be recommended since it does not address the site risks and the community would continue to be exposed to site environmental hazards.
- **Alternative #2: ACM Removal/Disposal; LBP Testing/Mitigation and Hazardous Materials Disposal Prior to Building Renovation and Reuse.** Alternative #2 would be more labor intensive and thus more costly to implement than Alternative #3. LBP would have to be mitigated to prevent future exposure. Areas of the building that are not currently accessible (*i.e.*, the basement), would require water infiltration and stormwater control prior to successful cleanup. The building condition has deteriorated to the point that it is no longer practical or safe to contemplate reuse.
- **Alternative #3: ACM Removal and Disposal and Hazardous Materials Disposal Prior to Building Demolition.** ACM removal and disposal and hazardous materials disposal prior to building demolition is less expensive than Alternative #2. Strategic demolition will enable access to all areas of the building to ensure removal of all ACM. Building components with potential LBP have been determined to be non-hazardous waste and can be disposed of as

regular solid waste along with the building debris. Hazardous materials will still be removed and disposed prior to demolition. The site can be confirmed as having environmental hazards removed prior to new construction. It is not practical to reuse the building due to structural and cost issues, therefore Alternative #3 is the preferred alternative.