

**Analysis of Brownfields Cleanup Alternatives – Preliminary Evaluation**  
**Helmick Property**  
**11 10th Street Fairmont, Marion County, West Virginia**  
**Fairmont, Marion County, West Virginia**

**Prepared on behalf of the City of Fairmont**

**I. Introduction and Background**

**a) Site Location, Description, and Previous Site Use(s)**

The former Helmick property is located in the Beltline Neighborhood in Fairmont at 11 10th Street, Fairmont, Marion County, West Virginia (herein referred to as “the site”). The site totals between 7.21 and 8.57 acres and lies in an urbanized area northwest of the Monongahela River. The site is located on three contiguous tax parcels including: 24-03-0006-0147-0000, 24-03-0005-0138-0000, and 24-03-0005-0137-0000.

**b) Parcel Ownership**

The City is the owner of the property and is working with project stakeholders to redevelop the site for recreation.

**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. According to Climate Mapping for Resilience and Adaptation (CMRA), Assessment Tool, climate projections for this area anticipate increased instances of high temperatures (30-34 days per year above 95 ° F) and decreased instances of low temperatures (15-16 days per year with temperatures remaining below 32 ° F). Implementing the proposed redevelopment on the site will help to stabilize the local water table by incorporating greenspace and stormwater retention elements that will capture and filter stormwater and alleviate the heat island effect by providing vegetative spaces.

Furthermore, the site is situated out of the floodplain and the proposed reuse as playing fields will create valuable open space near Downtown Fairmont. Fairmont is the County Seat of Marion County, a rural county that has a lot of rivers, mountains and forests that does not have a surplus of flat, open space. In addition to providing a valuable community asset for recreation in the area, the site has the potential to fill an important need if there is ever

a local emergency. Many residents and businesses in Marion County are located along rural roads and waterways that are vulnerable to flooding and natural disasters. With natural disasters, such as flash flood events, tornados, and hurricanes effecting the Mid-Atlantic Region and surrounding areas more frequently and more profoundly than ever before, the proposed open greenspace has the potential to provide an important staging area for rescue efforts in Fairmont and Marion County, should the need arise.

#### d) Any Previous Cleanup/Remediation

Based on tax records, historic photography, and mapping, the parcels were at least partially developed as a machine shop and foundry by the late 1800s. Past uses include a machine shop, foundry, and metal fabrication business. Businesses operating on the subject property include Fairmont Mining and Machine Company, Galis Electric and Machine Company, and Helmick Corporation.

## II. Site Assessment Findings

Previous site investigations included a 2008 Phase I Environmental Site Assessment (ESA), a 2009 Limited Phase II ESA, a 2010 Remedial Action Work Plan, 2023 Phase I ESA, and a 2024 Phase II ESA & Hazardous Materials Survey.

### **2008 Phase I ESA (Burgess and Niple)**

The property and several adjacent parcels also owned by the Helmick Corporation were the target of a June 2008 Phase I ESA, completed by Burgess and Niple (B&N) under a US EPA Brownfield assessment grant awarded to the City of Fairmont. The ESA identified 14 RECs, eight of which applied to the site.

### **2009 Phase II ESA (Burgess and Niple)**

The 2009 Phase II investigated the following RECs, separated by parcel ID, that were identified in the 2008 Phase I ESA.

RECs confirmed, as **of 2009 standards**, are bolded:

- Parcel 6.147: REC-1, REC-2, REC-4, **REC-5**
- Parcel 5.138: **REC-3**
- Parcel 5.137: REC-6, REC-7, REC-8
- Off Site: REC-9, **REC-10**, REC-11, REC-12, REC-13, REC-14

A Phase II ESA and Hazardous Materials Survey were performed at the site under an EPA Assessment Grant for the City of Fairmont.

The 2009 Phase II ESA investigated site surface and subsurface soil; analysis included the Resource Conservation Recovery Act (RCRA) 8 metals (arsenic, barium, cadmium,

chromium, lead, mercury, selenium, and silver), polycyclic aromatic hydrocarbons (PAHs), semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), and total petroleum hydrocarbons (TPH). Soil sampling results were compared to the then-applicable West Virginia (WV) Industrial Soil de minimis standards. One groundwater sample was collected at the location of REC 4 and was analyzed for VOCs only. Groundwater sampling results were compared to 2009 WV de minimis groundwater standards. Benzo(b)fluoranthene was used in the US EPA Johnson Ettinger Model database to estimate potential for vapor intrusion (VI) to indoor air.

### **2010 Remedial Action Work Plan (Burgess and Niple)**

The 2010 Remedial Action Work Plan recommended removal and disposal of impacted soils and then backfilling with clean topsoil. This plan also recommended sampling and mitigation of asbestos, lead based paint, and universal waste. This work plan considered cleanup alternatives including capping and/or covering. Those alternatives were not preferred primarily due to structures and infrastructure in locations that would interfere with the cap. The conditions of the site have changed, particularly the removal of structures.

### **2023 Phase I ESA (DSS)**

The Phase I ESA conducted in 2023 identified twelve RECs, divided amongst seven “sections” of property

- REC 1: Historical unabated REC associated with paint room (Area A)
- REC 2: Historical unabated REC associated with historical industrial operations (Area A)
- REC 3: Historical unabated REC associated with historical industrial operations (Area B)
- REC 4: Historical unabated REC associated with historical industrial operations (Area C)
- REC 5: Historical unabated REC associated with overhead crane and fill material (Area D)
- REC 6: Historical and present-day soil staining (Area E)
- REC 7: Historical unabated REC associated with historical fill (Area F)
- REC 8: Drums, barrels, and/or containers > 5 gallons (Area A)
- REC 9: Drums, barrels, and/or containers > 5 gallons (Area B)
- REC 10: Metal fabrication operations (Area B)
- REC 11: Sump and floor drains (Area B)
- REC 12: Leaking industrial plastic drums (Area G)

### **2024 Phase II ESA (Montrose)**

Based on the Phase II ESA investigations Montrose concluded there are potentially complete exposure pathways for:

- Recreators
- Visitors/Trespassers
- Construction/utility workers
- Future indoor workers
- Future residents

As depicted in the comprehensive COC list below, surface soil, subsurface soil, and groundwater are the media that present potentially complete pathways for all receptors.

Media	Residential User	Construction/Utility/Industrial Workers*	Recreational – Trail User	Recreational – Athletic Field User	Recreational – Park User
<b>Surface Soil</b>	Arsenic Lead Benzo(a)pyrene Dibenz(a,h)anthracene	Arsenic Lead	Arsenic Lead Benzo(a)pyrene Dibenz(a,h)anthracene	Arsenic Lead Benzo(a)pyrene	Arsenic Lead Benzo(a)pyrene
<b>Subsurface Soil</b>	Lead Benzo(a)pyrene	Lead	Lead Benzo(a)pyrene	Lead Benzo(a)pyrene	Lead
<b>Groundwater</b>	Arsenic Lead Naphthalene				
<b>Vapor</b>	Trichloroethene	None	NA	NA	NA

**2024 Hazardous Materials Survey (Boggs Environmental Consultants)**

This survey 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.

**e) Project Goal**

The Site is included in the Beltline District Brownfield Revitalization Plan, a plan that was created through EPA Regionally Directed Technical Assistance provided by the EPA’s Office of Brownfields and Land Revitalization in 2022 and officially approved by Fairmont’s City Council in 2023. Since then, the City has made significant strides in implementing the Plan

by refining it, acquiring two key properties, and raising funds to implement discrete elements included in the Plan.

The planned reuse of the Helmick property is for recreation—specifically, to create playing fields and multi-use sport courts that will benefit the surrounding residential neighborhood and middle school. The proposed reuse would complement additional recreational developments and enhancements that are proposed in the neighborhood

### III. Applicable Regulations and Cleanup Standards

#### a) Cleanup Oversight Responsibility

The cleanup will be overseen by the West Virginia Department of Environmental Protection (WVDEP), Office of Environmental Remediation. 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 removal and/or capping of arsenic, lead, benzo(a)pyrene, and Dibenz(a,h)anthracene.
- US EPA and WVDEP standards for remediation of residential materials containing lead.
- As appropriate, WVDEP *de minimis* standards for residential and/or recreational soil.
- As appropriate, 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, and the West Virginia Voluntary Remediation and Redevelopment Act. 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.

### IV. Cleanup Alternatives

#### a) Cleanup Alternatives Considered

The results of the most recent 2024 Phase II Environmental Site Assessment and previous environmental reports, referenced previously were used in the development of cleanup alternatives. The following cleanup alternatives were considered:

- **Alternative #1: No Action.**

- **Alternative #2: Removal and Disposal of Impacted Soils and Replacement of Clean Fill.** Alternative #2 would require the wholesale removal and disposal of a minimum of one foot of surface soil covering the entire 8-acre site, as well as the removal of subsurface soil at a depth of 10' at targeted areas with groundwater impacted soils. The removed soil would then be replaced with clean material- a minimum of one foot of topsoil over the entire site and clean fill material at a depth of 10' in the targeted areas where additional soil would have been removed.
- **Alternative #3: Apply Soil Cover to Impacted Areas and Implement a Land Use Covenant Restricting Groundwater Use.** Alternative #3 would be designed as a refinement of the City of Fairmont's concept for installing a youth soccer field, multi-use sport courts, and a perimeter trail. Alternative # 3 would also include institutional controls restricting groundwater use on the site. This solution would include four treatment solutions to cover the different uses on the site as described below:

Treatment Area 1 –Youth Soccer field: The proposed youth soccer field covers the majority of the site. For Alternative #3, this area will be graded and capped with an engineered pervious membrane and 12" of clean topsoil that will be planted with turf lawn.

Treatment Area 2 – Multi-Use Sport Courts: There are 4 multiuse sport courts that are proposed on the eastern end of the site. This treatment area will be covered, graded, and then surfaced with a pervious pavement material, which may include recycled materials.

Treatment Area 3 – Perimeter Trail, Parking Area, and Standing/Circulation Areas: A 10' wide perimeter trail is proposed to go around the site. Treatment Area 3 will include the perimeter trail as well as a parking area and circulation/standing areas that will be accessed by future site users. Similarly to Treatment Area 2, this area will be graded and surfaced with a pervious pavement material, which may include recycled materials.

Treatment Area 4 – Landscaped Areas: All areas of the site that are not included in Treatment Areas 1, 2, or 3 will be landscaped. Landscape areas will be graded for stormwater management and retention. Landscaped areas will be designed to have low growing vegetation in areas where site lines are needed and taller shrubs & trees where site lines are not needed. The landscape areas will be designed to manage stormwater and promote the local ecosystem and climate resiliency while not allowing access for future site users.

### 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, and would prevent the City of Fairmont from reusing the site for the proposed recreational use.
- **Alternative #2: Removal and Disposal of Impacted Soils and Replacement of Clean Fill** – Alternative #2 will eliminate the existing exposure pathways and protect human health of future recreational/residential site users, including potential trespassers who may enter it currently.

#### Climate Change Considerations

The construction effort for Alternative #2 would be highly disruptive to the neighborhood, removing and replacing only the topsoil would require sending over 2,000 heavy truckloads through the mixed use residential and commercial area. This alternative would also have a large impact on local carbon emissions, as the removal of 12,907 cubic yards of topsoil over 8 acres in two locations, thus over 25,000 cubic yards of top soil in the Fairmont area is a very large earthwork project that will disrupt the local ecosystem and emit carbon into the environment. Furthermore, moving the material around will require fossil fuels, as well as wear and tear on the equipment and local roadways.

- **Alternative #3: Apply Soil Cover to Impacted Areas and Implement a Land Use Covenant Restricting Groundwater Use.** Alternative #3 would be effective in protecting future site users from potential exposure pathways, as all areas that are to be used by people will be covered with a pavement material or soil cap. Future site users will be deterred from venturing onto uncapped areas by a mix of plantings, which will be installed and maintained in coordination with Federal and State of WV health and safety standards.

Marion County Parks and Recreation Commission will be a site managing partner who will assist with scheduling, program support, etc.

Climate Change Considerations: Alternative #3 would be disruptive to the environment, as the topsoil covering the 8-acre site will be disturbed when it is graded and approximately 410 – 20-ton truck loads of fill and pavement material would be transported to the site. However, while still providing an effective remedial solution for reusing the site, Alternative #3 will have far less of a carbon footprint than presented in Alternative #2.

Additionally, the proposed plantings, pervious surfaces, and stormwater retention areas that will be created on the site will promote local biodiversity while reducing stormwater runoff and promoting local drought resiliency.

#### Implementation

- **Alternative #1: No Action** is simple to implement, as no actions will be required.
- **Alternative #2: Removal and Disposal of Impacted Soils and Replacement of Clean Fill**

To implement Alternative #2, impacted soils will be removed from the site and clean fill material will be placed on the site. The site is 8 acres or 348,480 square feet, therefore, removing the contaminated top one foot of soil will be removing 12,907 cubic yards of topsoil from the site.

- The soil would be dug and staged into piles by an excavator and loaded into dump trucks that would be driven to an approved landfill.
- A standard dump truck will hold 20 tons and approximately 10-14 cubic yards of soil. Therefore, removal of the topsoil would require approximately 1,075 dump truck loads away from the site.
- The removed soils would need to be trucked to a landfill that will accept the material, such as the Meadowfill Landfill in Bridgeport, located 18.5 miles from the site.

Furthermore, the same amount of clean fill would need to be sourced and removed from another location, sending another approximately 1,075 20-ton truck loads back to the site.

- **Alternative #3: Apply Soil Cover to Impacted Areas and Implement a Land Use Covenant Restricting Groundwater Use.**

To implement Alternative #3, the entire site will be graded, and then capping material will be installed on Treatment Areas 1, 2, and 3, and plantings will be installed on Treatment Area 4. The implementation strategy for each treatment area is described below:

Treatment Area 1 – The Youth Soccer Field will be installed in the center of the site, covering approximately 1 acre. The field will be graded with a nearly flat, 2 % slope that will provide positive drainage from the area. This area will be covered with an engineered pervious membrane and then 12” of clean topsoil that will be planted with turf lawn. The proposed cap will require 98,300 square feet of pervious membrane material, 3,640 cubic yards of fill material, and 400 pounds of grass seed.

Treatment Area 2 – Multi-Use Sport Courts: There are 4 multiuse sport courts that are proposed on the eastern end of the site. As with the soccer field in Area 1, each multi-use sport court will be graded nearly flat at 2% slope to drain stormwater. The total

area for multi-use sport courts is 18,500 square feet. The graded area will be covered with an engineered pervious pavement cap, approximately 8" deep. Treatment Area 2 will require approximately 12,300 cubic feet, or 460 cubic yards of pervious pavement material.

Treatment Area 3 – Perimeter Trail and Standing/Circulation Areas: A 10' wide perimeter trail is proposed to go around the site as well as all other circulation/standing areas that will be accessed by future site users. This area is estimated as 29,000 square feet. Treatment Area 3 will be graded and capped with an approximately 8" pervious pavement material. Treatment Area 3 will require approximately 19,300 cubic feet or 716 cubic yards of pervious pavement material.

Treatment Area 4 – Landscaped Areas: Landscaped areas that are not part of Treatment Areas 1, 2, or 3 will have landscape plantings. Areas immediately surrounding each of the playing fields and trails will be graded with swales to capture and filter stormwater. Those drainage areas will be planted thickly with low growing plant plugs and shrubs. Areas that are setback from the accessible spaces will retain existing native vegetation where possible, while incorporating additional vegetation where it does not exist. It is estimated that Treatment Area 4 will be comprised of 1.3 acres of low growing plant plugs and shrubs and 1 acres of taller shrubs and trees.

#### Cost

- **Alternative #1: No Action.** There will be no costs.
- **Alternative #2: Removal and Disposal of Impacted Soils and Replacement of Clean Fill**

The cost of Alternative #2: Removal and Disposal of Impacted Soils and Replacement of Clean Fill is estimated to cost a minimum of \$2,990,000.

Topsoil for purchase and for disposal may be estimated at approximately \$15 per cubic yard. The larger expense, however, is moving the material, which may cost approximately \$100 per cubic yard. The following is based on spending \$115 per cubic yard for soil removal and \$115 per cubic yard for soil replacement:

- 13,000 cubic yards x \$115 per cubic yard = \$1,495,000 for removal
- 13,000 cubic yards of topsoil x \$115 = \$1,495,000 for soil replacement

This does not include the removal and replacement of impacted subsoils, and therefore the actual implementation of Alternative #2 would be higher. Therefore, the cost of Alternative #2: Removal and Disposal of Impacted Soils and Replacement of Clean Fill is estimated to cost a minimum of \$2,990,000.

- **Alternative #3: Apply Soil Cover to Impacted Areas and Implement a Land Use Covenant Restricting Groundwater Use.**

The estimated cost for implementing Alternative #3: Apply Soil Cover to Impacted Areas and Implement a Land Use Covenant Restricting Groundwater Use is \$1,244,300. The

estimated costs for each of the treatment areas described in Alternative #3 above is outlined below.

Clearing and grading 8 acres: \$32,000

Treatment Area 1 –

- Engineered Pervious Membrane (\$1 per square foot): \$98,300
- Clean Topsoil (\$115 per cubic yard): \$418,500
- Grass Seed and Mulch: \$4,000

Treatment Area 2 – Multi-Use Sport Courts:

- Pervious Pavement(\$20 per square foot): \$370,000

Treatment Area 3 – Perimeter Trail and Standing/Circulation Areas:

- Pervious Pavement (\$20 per square foot): \$580,000

Treatment Area 4 – Landscaped Areas:

- 1.3 acres of low growing plant plugs and shrubs: \$65,000
- Installing 1 acres of taller shrubs and trees: \$50,000

Total Estimated Cost: \$1,617,800

Note: This estimate of probable costs is for planning purposes and does not represent an actual estimate of cleanup costs. An actual cost estimate will be needed in coordination with future design and engineering activities.

### Green Remediation Considerations

Green Remediation Considerations were at the forefront of this Analysis of Brownfield Cleanup Alternatives. Furthermore, 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 The number of mobilizations to the site will be minimized and erosion control measures used to minimize runoff. In addition, the City of Fairmont 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: Apply Soil Cover to Impacted Areas and Implement a Land Use Covenant Restricting Groundwater Use**. This alternative allows for repurposing the site for recreation. It protects human health and the environment through eliminating exposure pathways to soil contamination through proposed new recreational spaces, with capping material doubling as a finished, usable recreational space.

**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: Removal and Disposal of Impacted Soils and Replacement of Clean Fill.** Although this alternative would be highly effective at removing contamination and potential exposure risk for recreational users and local residents, Alternative #2 would be more labor intensive, more costly, and would have a greater negative impact to the local and global environment. Thus, Alternative #2 is not the recommended cleanup alternative for the Site.

**Alternative #3: Apply Soil Cover to Impacted Areas and Implement a Land Use Covenant Restricting Groundwater Use.** Applying a Soil Cover to Impacted Areas and Implementing a Land Use Covenant Restricting Groundwater Use is far less expensive and resource intensive than Alternative #2. Strategic capping will enable the reuse of the site for passive and organized recreational sports in different areas throughout the site. Implementing this alternative is also sensitive to local ecosystems and the climate, and will provide a valuable asset to the City of Fairmont and Marion County.