

ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES
FORMER JOHNS MANVILLE SITE

2905 2ND AVENUE
VIENNA, WOOD COUNTY, WEST VIRGINIA

Prepared For:

CITY OF VIENNA
MAYOR OFFICE
WEST VIRGINIA

Prepared By:

Northern West Virginia Brownfields Assistance Center

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ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES FORMER JOHNS MANVILLE SITE

I. Introduction & Background

a. Site Location and Description

The following Analysis of Brownfields Cleanup Alternatives (ABCA) for the development on the former John's Manville site (herein referred to as "the Site") is located at 2905 2nd Avenue in Vienna, Wood County, West Virginia.

The Site encompasses a 19-acre area of tax parcels known previously as the eastern portion, or Industrial area, but for this report we will refer to it as "the Site." The Site currently sits abandoned and dilapidated with debris piles, dilapidated office buildings and warehouses, a smoke stack, grassy areas, concrete slabs and roadways, and chain-link fencing surrounding the perimeter.

b. Previous Site Uses & Remediation

In the late 19th century, the Site was used to treat cut wood, but since then it was primarily associated with the production of glass products. In 1908, the Meyercord-Carter Co. began production of "vitolite" glass at the manufacturing facility on site, and in since the early 1950s, the Johns Manville company used the facility to manufacture fiberglass yarns and building insulation until approximately 2006.

c. Site Assessment Findings

Assessment of the Site includes multiple Phase I ESAs related to multiple property owners performing their due diligence as the City of Vienna did prior to purchasing the Site. The most recent Phase I ESA, which included the 19-acre Site and an additional Riverside property owned by Vienna, was completed on August 27th, 2014 by TRIAD Engineering, Inc.

The Site was also assessed through Phase II equivalents and site characterization reports including a limited soil sample analysis Burgess and Niple in January 2008, a limited Asbestos and Lead Inspection Report prepared by Lepi Enterprises, Inc. dated October 2009, and a Limited Asbestos Survey by Pinnacle Environmental Consultants, Inc. dated November 2011.

The entire Site is currently unused and sits vacant and partially dilapidated due to demolition activities undertaken by previous site owners. Site assessment and characterization report results found that the Site is known to contain multiple contaminants mostly resulting from the manufacturing of glass and glass bi-products and waste. The contaminants and concerns on the Site include asbestos, lead, and benzo(a)pyrene. Asbestos present onsite in existing debris piles that contain a mix of concrete, brick, wood, asbestos-containing roofing materials, and other debris resulting from prior owners' incomplete demolition efforts. Asbestos roofing shingles may also exist on the standing office buildings and warehouses.

The Site likely has lead in surface soils surround the former building foundations and water within 2 of the 4 pits on the eastern portion of the property near 3rd Avenue tested positive for lead in 2015. A small area near the former railroad spur tested positive for benzo(a)pyrene and is likely associated with heavy oils, asphalt, and/or coal.

Cleanup or remediation of the surface debris piles, isolated subsurface soils for lead and potentially benzo(a)pyrene, and removal of all buildings will be needed to mitigate and reuse the site.

d. Project Goals

This project will transform the former Johns Manville Site into a proposed mixed use property with commercial retail, small businesses, residential and medical offices onsite to produce jobs and tax revenue for the Vienna and its residents. It will be redeveloped in a phased approach with community identified needs, which will address concerns brought to the attention of the City by local residents.

Finally, the 28th Street extension, for which construction has already begun and will be completed in early- to mid- 2017, will connect near Grand Central Mall and focus on intentional pedestrian and traffic controls to alleviate residential congestion and help shoppers travel to their destinations. All of these design plans are based upon local market studies and community feedback focusing on the needs of local citizens as well as their concerns related to potential reuse options.

The cleanup and development of the Site will provide a significant boost to the overall revitalization of the City of Vienna. This 19-acre site is in the heart of the city, and sits between a residential area and the city's commercial downtown and a recently redeveloped riverfront property, which now includes the Gold Star Families veteran's memorial dedicated in November 2016 and several needed community amenities such as recreation fields, a running track, and river access. In addition, the potential creation of additional commercial and retail space, and nearby parking fits the City's market needs. The site is located nearby the Vienna Public Library and Vienna Senior Center and the redevelopment will include designed access to and from these locations.

II. Applicable Regulations and Cleanup Standards

a. Cleanup Oversight Responsibility

The cleanup will be managed by the Voluntary Remediation Program (VRP), a West Virginia Department of Environmental Protection (WVDEP) program that encourages cleanup of contaminated sites as well as the redevelopment of abandoned and under-utilized properties. The VRP program requires that a Licensed Remediation Specialist (LRS) from West Virginia oversees the site investigation and cleanup with all reporting to be submitted and approved by the WVDEP.

b. Clean up Standards for Contaminants

The VRPs De Minimis cleanup standards can be found in the West Virginia Voluntary Remediation and Redevelopment Rule (60CSR3) in Table 60-3B. Risk-based cleanup standards will be

generated for contaminants, in accordance with the WVDEP VRP program.

c. Laws & Regulations Applicable to the Cleanup

To protect human health, workers, and those that may potentially come into contact with the asbestos on site, the cleanup will be conducted in accordance with all applicable federal, state, and local laws including but not limited to the WV Code 45CSR151, Rule 64CSR632, Rule 64CSR35², Rule 33CSR³ and the WV Lead Abatement Law (2006)(§16-35-1). All required removal, management, transportation, notification, and asbestos-related cleanup will be performed by a licensed asbestos contractor in accordance with WV Code, WVDHHR Rules, and all applicable regulations, which may include the Federal Small Business Liability Relief and Brownfields Revitalization Act, the Federal Davis-Bacon Act, state environmental law, and town by-laws. Federal, state, and local laws regarding procurement of contractors to conduct the cleanup will be followed.

In addition, all appropriate permits (*e.g.*, notify before you dig, soil transport and disposal manifests) will be obtained prior to the work commencing.

III. Evaluation of Cleanup Alternatives

a. Cleanup Alternatives Considered

Based on the Phase II ESA equivalent and other assessment findings, available budget, and planned reuse, the recommended clean-up plan includes three alternatives for the Site:

Alternative # 1 : No Action

Alternative #2: Cleanup of Debris Piles with Offsite Disposal

Alternative #3: Cleanup of Entire Site with Offsite Disposal

b. Cost Estimate of Cleanup Alternatives

To satisfy EPA requirements, the effectiveness, implementability, and cost of each alternative must be considered prior to selecting a recommended cleanup. -

Cleanup Alternatives and Costs

Three alternatives are considered for addressing contaminants and dilapidated buildings onsite. The entire Site is approximately 19 acres, with a majority of the surface covered by concrete slabs, debris piles, parking areas, and dilapidated buildings that are in poor condition due to age and previous demolition.

¹ WV Department of Environmental Protection, Division of Air Quality

² WV Department of Health and Human Resources, Bureau for Public Health

³ WV Department of Environmental Protection, Division of Water and Waste Management, Office of Solid Waste Management

Alternative #1 - No Action

No further action. This alternative would involve no action, leaving the site in its current condition. This is not a viable alternative given the current potential for public health hazards related to contaminants including asbestos, lead, and benzo(a)pyrene. This alternative would also prevent the redevelopment of the Site leading to the loss of potential future revenue, services provided for residents, and tax generated income for the city, among other potential losses.

Total = \$0.00

Alternative #2 - Cleanup of Debris Piles with Offsite Disposal

Alternative #2 focuses on the removal the 7 existing debris piles that are intermingled with asbestos-containing materials (ACMs). The piles range in height from 8 feet to 12 feet and have footprints that range from approximately 2000 to 7200 square feet. The volume of all ACM debris piles on site is therefore estimated to be 10,698 yds³, which translates to approximately 5,349 tons, according to FEMA's Debris Estimating Field Guide⁴. For estimate calculations see attached *Table 1: Vienna Johns Manville Debris Pile Estimates* below. All of the ACMs will be contained, encapsulated during transportation, processed using proper chain-of-command procedures, and disposed of according to require laws and regulations and in coordination with the WV DEP, hired and approved contractors, City staff, and permitted landfills to ensure that future human health is protected. Alternative #2 activities are eligible for EPA Brownfields cleanup grant funding.

The Alternative #2 cost estimate is:

Work Plans, Remedial Action Plans, and Notifications	= \$ 17,000
Landfill disposal Costs (Parkersburg)	
5,349 (weight tons) x \$75/ton	= \$401,175
Trucking and Hauling Estimate	
5,349 (weight tons) /230 tons per day = 23.25 days	= <u>\$ 10,320</u>
23.25 days x 10 trips/day x \$44/trip	
Total Costs to Remove all Debris Piles	= \$428,405

Alternative #3: Cleanup of Entire Site with Offsite Disposal

Alternative #3 would focus on the removal of existing debris piles and asbestos (10,698 yds³, remnants of standing but dilapidated buildings and structures on the site, potential lead in soil from painted surfaces within and on the exterior of the buildings and structures, and potential benzo(a)pyrene resulting from oils, greases, and coal in immediate adjacent area of a previous railroad spur. Plans exist to leave remaining structurally intact concrete slabs for potential reuse of future buildings. Alternative #3 realizes the need to remove all asbestos and debris piles as the first phase of cleanup on the site. These activities are eligible for EPA Brownfield cleanup funding. The

⁴ https://www.fema.gov/pdf/government/grant/pa/fema_329_debris_estimating.pdf ..

⁵ Estimate from Athens, OH

second phase of Alternative #3 will be to demolish the remaining structures and remove lead and benzo(a)pyrene from soils.

The Alternative #3 Cost Estimate is provide below in separate calculations for the asbestos and debris removal, demolition of unstable structures coated with lead-based paint and benzo(a)pyrene.

Estimated costs of demolition and removal of lead impacted structures, lead in soil, and benzo(a)pyrene in soil:

Work Plan, Remedial Action Plans, and Notifications	= \$35,333
Landfill disposal Costs (Parkersburg)	
5,349 (weight tons) x \$75/ton	= \$401,175
Trucking and Hauling Estimate (contaminated materials)	
5,349 (weight tons)/230 tons per day = 23.25 days	
23.25 days x 10 trips/day x \$44/trip	= \$10,230
Landfill Disposal Costs (Athens) (Building Debris)	
14,302 (Total Volume yds ³) x \$17.80 ⁷ (per yd ³)	= \$254,580
Trucking and Hauling Estimate (Building Debris)	
7,151 (weight tons) x \$1000/30 tons	= \$238,367
Lead Soil Removal	= \$ 21,000
Benzo(a)pyrene Soil Removal	= \$ 22,000

Estimated costs to demo all structures,
asbestos abatement, removal of lead and
benzo(a)pyrene and site cleanup: = **\$982,685**

Effectiveness

Alternative # I: No Action

The No Action alternative will not be effective in controlling or preventing the exposure of receptors to contamination at the Site. It will not address or remove any site risks and will not encourage redevelopment of the property.

Alternative #2: Cleanup of Debris Piles with Offsite Disposal

The cleanup of debris piles with offsite disposal, Alternative #2, will be effective in removing asbestos contamination from the property while preventing exposure of receptors, both on and surrounding the Site, to contamination on the Site. While this will mitigate all asbestos concerns from the property, Alternative #2, will not fully clean the site or remove all environmental and safety concerns from standing but dilapidated structures. Existing dilapidated buildings and other remnants from previous owners' improper demolition activities still exist onsite. Further, Alternative #2 will require future institutional controls (land use restrictions) to be maintained in coordination with the WVDEP, City of Vienna, and US EPA to ensure that access to the Site is limited through the maintenance of the existing fencing and barriers. This will minimize and prevent any potential exposure pathways on the site,

⁶ Estimate from Athens, OH landfill, where material will be disposed of

⁷ Estimate from, Athens, OH landfill, where material will be disposed of

but will require routine maintenance and staff to complete inspections.

Alternative #3: Cleanup of Entire Site with Offsite Disposal

The cleanup of the entire site with offsite disposal, Alternative #3, will be an effective way to eliminate risk at the Site through the cleanup of all environmental and safety concerns. The environmental concerns that are present include asbestos and potential lead and benzo(a)pyrene. The safety concerns are related to the standing, but dilapidated, buildings and structures on the Site. Alternative #3 will be effective because it will address and remove all exposure pathways and safety concerns leaving the Site ready for future reuse and development. Human health, both on the Site and in the surrounding community, will be improved. The routine staff time required to maintain the perimeter fencing will be significantly reduced after contaminants and safety concerns are removed.

Implementability

Alternative #1: No Action

No Action, Alternative #1, requires no implementation or funding, but is not recommended, due to its effectiveness to protect human health and safety. Alternative #1 will also significantly limit future redevelopment of the site.

Alternative #2: Cleanup of Debris Piles with Offsite Disposal

The implementation of the cleanup of the debris piles with offsite disposal, Alternative #2, requires an easy to moderate amount of complexity to implement and complete. State, federal, and local laws and regulations, as discussed in Section II.B above, guide Asbestos Inspectors and Abatement contractors in a proven, specific process that protects human health and the environment. All required removal, management, transportation, notification, and asbestos-related cleanup will be performed by a licensed asbestos contractor in accordance with WV Code, WVDHHR Rules, and all applicable regulations, which may include the Federal Small Business Liability Relief and Brownfields Revitalization Act, the Federal Davis-Bacon Act, state environmental law, and town by-laws. Federal, state, and local laws regarding procurement of contractors to conduct the cleanup will be followed.

During asbestos abatement, ongoing monitoring and maintenance of the perimeter fencing and encapsulation of asbestos will require periodic coordination and reporting with the WVDEP Voluntary Remediation Program. Coordination (e.g., friable ACM materials, dust suppression, and monitoring) during cleanup activities and short-term disturbance to the community (e.g., trucks transporting contaminated soils and backfill) are anticipated.

Therefore, this alternative is considered easy to moderate to implement. Financially, of the two alternatives for cleanup, it will be the easiest to implement at approximately \$482,464.48, but will not cleanup the entire site, limiting its reuse. This will minimize and prevent any potential exposure pathways on the site but will require routine maintenance and staff to complete inspections.

Alternative #3: Cleanup of Entire Site with Offsite Disposal

The Excavation with Offsite Disposal alternative is moderately difficult to implement. It will complete the asbestos removal (as discussed above in Alternative #2). However, in addition to the asbestos removal, the buildings and structures on Site, and any remaining lead paint or benzo(a)pyrene in contaminated soils will be removed, deconstructed, transported to an approved landfill.

Coordination (e.g., dust suppression and monitoring) during cleanup activities and short-term disturbance to the community (e.g., trucks transporting contaminated asbestos, contaminated soils, and construction debris) are anticipated. Maintenance of the perimeter fencing and associated egress and ingress will need monitored and maintain to prevent public access while site is being cleaned up.

Therefore, this alternative is considered moderately difficult to implement. However, once complete requires no on-going maintenance and oversight, unless a land use covenant or restriction based on cleanup.

Financially, this alternative is the most expensive option for cleanup at approximately \$1,222,464.48. However, it is the only option available that will fully remediate and prepare the site for redevelopment.

c. Recommended Cleanup Alternative

Based on the evaluation above, the recommended cleanup is Alternative #2: Cleanup of Debris Piles with Offsite Disposal. The implementation of the cleanup of the debris piles with offsite disposal, Alternative #2, requires an easy to moderate amount of complexity to implement and complete. State, federal, and local laws and regulations, as discussed in Section II.B above, guide Asbestos Inspectors and Abatement contractors in a proven, specific process that protects human health and the environment. All required removal, management, transportation, notification, and asbestos-related cleanup will be performed by a licensed asbestos contractor in accordance with WV Code, WVDHHR Rules, and all applicable regulations, which may include the Federal Small Business Liability Relief and Brownfields Revitalization Act, the Federal Davis-Bacon Act, state environmental law, and town by-laws. Federal, state, and local laws regarding procurement of contractors to conduct the cleanup will be followed. This Alternative will be effective in removing asbestos contamination from the property while preventing exposure of receptors, both on and surrounding the Site, to contamination on the Site. While this will mitigate all asbestos concerns from the property it will not fully clean the site or remove all environmental and safety concerns from standing but dilapidated structures. However, the City of Vienna Mayor Office will continue to apply for grant funding and use funding from other sources to completely remove all contaminants and safety concerns that will impact human health and the environment.

Consideration of Changing Climate

A review of available climatic information was performed to evaluate whether changing climate conditions could significantly impact the selected remedy. Based on a review of that information, the increasing magnitude of severe storm events and rainfall intensity could cause greater than anticipated stormwater runoff and erosion. It will be important to plan for increasing intensity of storms by right-sizing designs for sewer and stormwater runoff systems to reduce surface flooding, erosion, and potential contamination of wastewater into recreational and drinking water sources, which could lead to health risks.

Information reviewed included:

Temperature and Precipitation Predictions for Wood County, WV

https://www2.usgs.gov/climate_landuse/clu_rd/nccv/viewer.asp

Climate Impacts in the Northeast found at:

<https://www.epa.gov/climate-impacts/climate-impacts-northeast>

What Climate Change Means for West Virginia. USEPA. August 2016 found at:

<https://www.epa.gov/sites/production/files/2016-09/documents/climate-change-wv.pdf>