

ANALYSIS OF BROWNFIELD CLEANUP ALTERNATIVES

**U.S. EPA 128(a) Infrastructure Investment Jobs Act Grant
Cooperative Agreement (CA) # 4W-00E03306-5
Indiana Brownfields Program Site No. 4070454
ACRES ID No. 145705
Agency Interest No. 7820**

**Railroad Roundhouse
West Clinton Drive & Short Myrtle Street
Frankfort, Clinton County, Indiana
June 2026**

This Analysis of Brownfield Cleanup Alternatives (ABCA) was prepared by Industrial Waste Management Consulting Group, LLC (IWM Consulting) as a requirement for utilizing United States Environmental Protection Agency (U.S. EPA) grant monies to remediate a brownfield. Railroad Roundhouse (Indiana Brownfield Site ID: 4070454), located at West Clinton Drive & Short Myrtle Street in Frankfort, Clinton County, Indiana (site), is currently vacant and improved with the remnants of the former Roundhouse (~31,000 square feet [SF]), Machine Shop (~23,900 SF), foundation of the Coach Shop (~14,000 SF), Outbuilding #3 (~3,350 SF), and the former Yard Office (~2,265 SF) with a paved lot. The site is bordered by commercial structures, with rail lines to the north.

The laboratory results of the asbestos surveys confirmed that roofing debris scattered across the floor of the former Machine Shop is an asbestos-containing material (ACM). ACM roofing material is also present in collapsed roof debris piles which include wood roof decking, structure metal, and large wood support beams in the Roundhouse, former Coach Shop, and in Outbuilding #3/transformer room. Friable thermal system insulation (TSI) ACM pipe insulation is both attached and detached from pipe observed in the Roundhouse and Coach Shop areas, and it can be assumed that some of this material is buried in the collapsed roofing material debris piles.

This ABCA presents remedial alternatives considered to mitigate potential exposure to asbestos fibers. Site redevelopment plans include a potential recreational site or greenspace with a possible hotel. According to the Application, the current owner, Frankfort Midwest Rail Heritage, Inc., acquired the site via donation in 2017. However, the Quitclaim Deed indicates the property transfer occurred in November 2024. Frankfort Midwest Rail Heritage, Inc. will be the property owner when implementing the work activities discussed in this ABCA.

Site Details

Site Name: Railroad Roundhouse
West Clinton Drive & Short Myrtle Street
Frankfort, Clinton County, Indiana 46041

Property Owner: Frankfort Midwest Rail Heritage Inc.
62 N Main Street
Frankfort, Indiana 46041

Site Representative: C. David Little
253 N Jackson Street
Frankfort, Indiana 46041

Summary of Previous Site Activities

Site History

According to the earliest available Sanborn® Fire Insurance Map, the site was owned by Toledo, St. Louis, and Kansas City Railroad (commonly referred to as the “Clover Leaf Railroad”) in 1898 and contained eight structures, including a 12-stall roundhouse and turntable. Historical utilization includes locomotive repair and maintenance operations, a paint shop, and multiple machine shops associated with railroad operations. The roundhouse parcel has been vacant since the early 1990s and contains the main facility and supporting structures/outbuildings.

Previous Environmental Assessments/Environmental Investigations

Historical assessment activities, including several Phase I Environmental Site Assessments (ESAs), Phase II ESAs, and Further Site Investigations, have documented subsurface contamination.

Weston Solutions, Inc. prepared a *Phase II Environmental Site Assessment Report* for the *Frankfort Roundhouse Site* on January 14, 2013, which included a facility assessment to identify locations and quantities of friable and non-friable suspected ACMs. The report identified the following ACMs:

- Yard Office Building
 - 9-inch by 9-inch floor tile
 - Roof shingles above a drop ceiling
- Outbuilding No. 3
 - Asphalt roofing sheeting found in debris pile
- Roundhouse Building
 - Asphalt roofing shingles
 - Pipe insulation in debris piles
 - Pipe insulation inside the building.

Environmental Assurance Co., Inc. (EACI) prepared an asbestos survey for the *Frankfort Railroad Roundhouse* on January 21, 2025, which identified the following ACMs:

- Coach Shop
 - Roofing Material (indicated to be significantly damaged and/or burned)
 - Pipe Insulation
- Roundhouse (east)
 - Roofing Felt (indicated to be significantly damaged and/or burned)
 - Pipe Insulation
- Roundhouse (west)
 - Pipe Insulation

The 2025 survey conducted by EACI determined the previously identified ACM within the Yard Office was no longer present.

IWM Consulting prepared an *Asbestos Survey* focused on debris piles within the Machine Shop and on locating pipe insulation on March 12, 2026. The analytical results of the 2026 survey identified the following ACMs:

- Approximately 115-linear feet of pipe insulation was observed on overhead piping within the Roundhouse.
- Approximately 500-linear feet of detached pipe insulation/debris were observed on the Roundhouse floors underneath overhead piping.
- Approximately 23,900 square feet (SF) of scattered, friable, and non-friable roofing debris was observed on the Machine Shop floor.
- Friable and non-friable roofing materials were observed in collapsed piles of roof decking within the Roundhouse, Coach Shop, and Outbuilding No. 3/Transformer Room.

Summary of Site Characterization

Historical and recent site investigations support the following summary of site conditions.

1. The site is in the northwest $\frac{1}{4}$ of Section 10, Township 21 North, Range 1 West of Clinton County, Indiana, as shown on **Figure 1**. The site consists of two parcels (Roundhouse Parcel: 6.93 acres and East Parcel: 0.88 acres) totaling approximately 7.8 acres. Site features include remnants of the former Roundhouse (~31,000 SF), Machine Shop (~23,900 SF), foundation of the Coach Shop (~14,000 SF), Outbuilding #3 (~3,350 SF), and the former Yard Office (~2,265 SF) with a paved lot. The site is bordered by commercial structures, with rail lines to the north.
2. According to the earliest available Sanborn® Fire Insurance Map, the site was owned by Toledo, St. Louis, and Kansas City Railroad (commonly referred to as the “Clover Leaf Railroad”) in 1898 and contained eight structures, including a 12-stall roundhouse and turntable. Historical utilization includes locomotive repair and maintenance operations, a paint shop, and multiple machine shops associated with railroad operations. The roundhouse parcel has been vacant since the early 1990s and contains the main facility and supporting structures/outbuildings. The site was acquired by the current owner (Frankfort Midwest Rail Heritage Inc.) in 2017 from the Norfolk Southern Railway Company. A site map has been included as **Figure 2**.
3. The nearest surface water feature to the site is an unnamed drainage ditch, located approximately 0.43 miles south (downgradient) from the site. No surface water features are located on or adjacent to the site. The site is not located within the 100- or 500-year floodplain.
4. Previous environmental investigations conducted at the site indicate asbestos was utilized in the construction of the site structures, specifically:
 - Approximately 800 SF of black, maroon, and gray 9x9 floor tile in the Yard Office Building (no longer present).
 - Approximately 36-150 SF of roof shingles above drop ceilings in the Yard Office Building (no longer present).
 - An unknown quantity of asphalt roof sheeting debris is piled in Outbuilding No. 3.
 - Greater than 5,000 SF of asphalt roofing shingles debris piles within the Roundhouse.
 - Approximately 500 LF of pipe insulation in debris piles underneath overhead pipes within the Roundhouse.

- An unknown quantity of roofing material in poor/damaged condition within the Coach Shop.
- An unknown amount of pipe insulation in poor/damaged condition within the Coach Shop.
- Approximately 115 LF of pipe insulation in poor/damaged condition within the east and west portions of the Roundhouse.
- An unknown amount of roofing felt in poor/damaged condition within the east portion of the Roundhouse.
- Approximately 23,900 SF of roofing material debris in the Machine Shop.
- It should also be noted that additional TSI insulation may be present within the debris piles.

Remedial Action Objectives

Asbestos is a naturally occurring mineral fiber. Due to its tensile strength and heat resistance, asbestos has been utilized in various building construction materials for insulation, roofing, floor tiles, and fire retardants. The friable nature of the ACM and proposed redevelopment suggest the following human exposure routes represent possible risks for potentially exposed populations:

1. Inhalation of asbestos fibers is the primary exposure route of concern. The effects on the lungs resulting from the inhalation of asbestos fibers are the leading cause of asbestos-related health issues. Due to the unsecured and dilapidated condition of the Roundhouse and supporting structures, the primary risk of inhalation exists for unauthorized entry into the structure and surrounding properties during redevelopment activities.

Based on the results of previous site investigations, two aspects of the site require corrective action: TSI, including paper-style pipe insulation, adjoined by cementitious elbows and fittings, and Category I Non-friable roofing materials.

Analysis of Remedial Alternatives

The remedial action alternatives considered were evaluated using the following criteria:

(1) Effectiveness

- a. The degree to which the contamination's toxicity, mobility, and volume are expected to be reduced.
- b. The degree to which a remedial action option, if implemented, will protect public health, safety, welfare, and the environment over time.
- c. Considering any adverse impacts on public health, safety, welfare, and the environment that may be posed during the construction and implementation period until case closure.

(2) Implementability

- a. The technical feasibility of constructing and implementing the remedial action option at the Site or facility.
- b. The availability of materials, equipment, technologies, and services needed to conduct the remedial action option.
- c. The administrative feasibility of the remedial action option, including activities and time needed to obtain any necessary licenses, permits or approvals; the presence of any federal or state, threatened or endangered species; and the technical feasibility of recycling, treatment, engineering

controls, disposal or naturally occurring biodegradation; and the expected time frame needed to achieve the necessary restoration.

(3) Cost

- a. The following types of costs are generally associated with the remedial alternatives:
 - Capital costs, including direct and indirect costs; initial costs, including design and testing costs.
 - Annual operation and maintenance costs.

Summary of Remedial Alternatives

1. Alternative 1 – No Action.
2. Alternative 2 – Abatement of the accessible ACMs
3. Alternative 3 – Abatement of all the ACMs

Remedial Alternatives

1. ***Alternative 1 – No Action:*** The No Action alternative was assessed to provide a baseline against which the other alternatives can be evaluated. The No Action alternative requires no abatement to be performed to minimize or eliminate the potential inhalation exposure/hazards, and would leave the Railroad Roundhouse in its current condition. In accordance with State and Federal laws and regulations, redevelopment of the current structures, which is proposed to undergo a partial redevelopment, could not be performed.

The site structures are in a very dilapidated condition. Further deterioration of the site structures under natural circumstances and weather would increase the potential for exposure. Under the No Action alternative, there would be no mitigation of contaminant migration or exposure pathways, and neither monitoring nor maintenance would be performed.

- a. **Effectiveness** – None: This option does not reduce the potential exposure pathway, mobility, or volume of contamination, and does not protect human health, safety, welfare, or the environment.
 - b. **Implementability** – Easy: There are no required actions or technology to implement this option. Regulatory agencies have not mandated asbestos abatement, and the No Action alternative could be found acceptable, provided no redevelopment occurs within the site structures. However, future redevelopment of the site could not occur due to the unaltered exposure pathway and the potential for increased exposure as the building continues to deteriorate and/or be vandalized.
 - c. **Cost** – None: This option does not require ongoing operation, maintenance, or management costs. Any costs incurred would be in the form of loss of potential income from redevelopment.
2. ***Alternative 2 (regulated disposal alternative) – Abatement of accessible ACMs and disposal as regulated ACM (RACM):*** Alternative 2 involves the complete abatement of only accessible ACMs and disposal as RACM. An Asbestos Supervisor, licensed in the

State of Indiana, would be required on-site during all work hours to identify and abate all accessible ACMs. During abatement activities, personal air monitoring would be required to determine whether airborne asbestos fibers potentially threaten workers onsite.

- a. **Effectiveness** – High: The physical removal of accessible ACM and off-site disposal as RACM would achieve protection of human health and the environment by eliminating potential exposure pathways. By adequately wetting and bagging the ACM before off-site disposal, human health and the environment will be protected during transportation to a disposal facility that accepts RACM wastes. Protection against worker exposure and potential off-site exposure during abatement actions would be ensured through air monitoring, the use of adequate wetting techniques for asbestos mitigation, the provision of suitable personal protective equipment (PPE) for workers in areas undergoing mitigation, and proper off-site disposal via lined dumpsters. Dust suppression through wetting, physical removal, wrapping, and bagging ACM waste, as well as off-site disposal, reduces the contaminant's volume and mobility.
 - b. **Implementability** – Moderate: Asbestos removal must be conducted in accordance with all local, state, and federal laws and regulations. Industry standard abatement practices, performed by Licensed Abatement Workers under the direct supervision of a Licensed Asbestos Supervisor, would be performed. The equipment required to implement Alternative 2 includes water application equipment, plastic sheeting for lining dumpsters, personal protective equipment (PPE), asbestos disposal bags, gloves, and hand tools) is readily available and easily acquired from local contractors. Both USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) and the Indiana Department of Environmental Management (IDEM) require a Notification of Demolition and Renovation Operations to be submitted to the IDEM Office of Air Quality at least ten working days before commencing abatement activities. Off-site disposal of regulated ACM waste must be transported to an approved landfill.
 - c. **Cost—High:** This option involves overseeing subcontracted asbestos abatement activities and is anticipated to cost \$185,110.
3. **Alternative 3 (friable and non-friable disposal alternative) – Abatement of accessible ACM and disposal as regulated and non-regulated ACM:** Alternative 3 consists of complete abatement of only accessible ACMs and disposal of TSI as RACM and roofing debris materials as non-RACM. An Asbestos Supervisor, licensed in the State of Indiana, would be required on-site during all work hours to identify and abate all accessible ACMs and separate TSI and roofing debris materials prior to disposal. During abatement activities, personal air monitoring would be required to determine whether airborne asbestos fibers potentially threaten workers onsite.
- a. **Effectiveness** – Moderate: The physical removal of TSI and off-site disposal as RACM would achieve protection of human health and the environment by eliminating potential exposure pathways. By adequately wetting and bagging the TSI before off-site disposal, human health and the environment will be protected during transportation to a disposal facility that accepts RACM wastes. The physical removal of roofing debris material from the floors and off-site disposal as non-RACM in open and/or unlined dumpsters has the potential to release fibers during transportation to a permitted landfill. Protection against worker exposure and potential off-site exposure during abatement and/or transportation

actions could not be ensured without proper wetting and covering the roofing materials prior to off-site disposal.

- b. **Implementability** – Moderate to Difficult: Asbestos removal must be conducted in accordance with all local, state, and federal laws and regulations. Industry standard abatement practices, performed by Licensed Abatement Workers under the direct supervision of a Licensed Asbestos Supervisor, would be performed. The time-consuming separation of friable versus non-friable roofing material prior to disposal may require additional personnel and/or time on-site to complete. Both USEPA NESHAP and IDEM require a Notification of Demolition and Renovation Operations to be submitted to the IDEM Office of Air Quality at least ten working days before commencing abatement activities. Off-site disposal of RACM waste must be transported to an approved landfill that accepts such wastes. Off-site disposal of non-RACM must be transported to an approved facility that is permitted to accept such wastes.
- c. **Cost** – High: This option involves oversight of subcontracted asbestos abatement activities and is estimated to cost \$157,610. Disposal of non-friable roofing material as construction debris is a less stringent alternative; however, the potential exists for a fiber release incident during off-site transportation.

Remedial Alternatives with Respect to Climate Fluctuation Conditions

An evaluation of several consequences of climate fluctuation (e.g., sea level changes, increased frequency and intensity of flooding and/or extreme weather events, etc.) indicates that the site is not likely to be materially affected by such conditions.

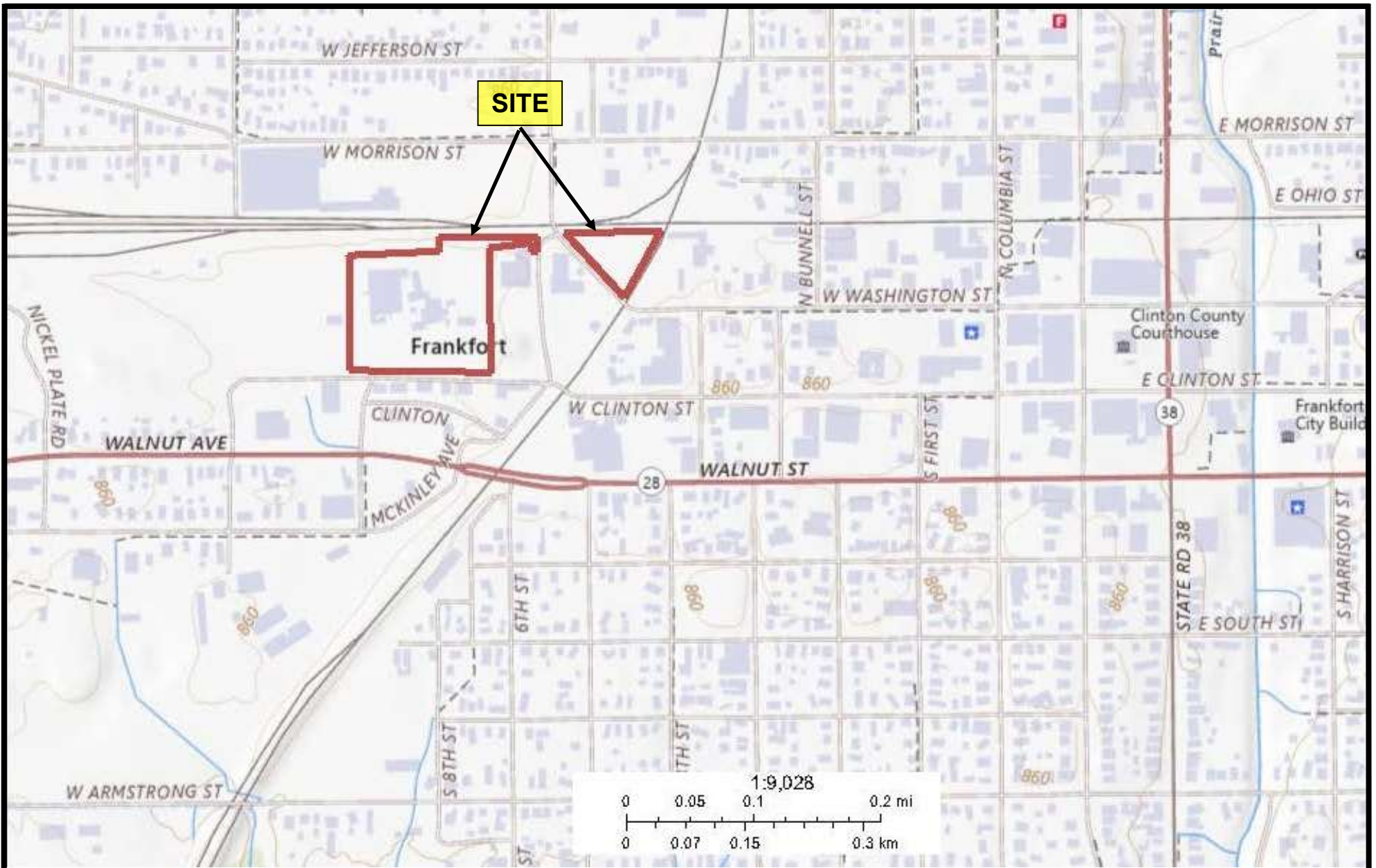
Recommendation for Site Remedy

The most feasible and appropriate cleanup alternative is Alternative 2, which involves the abatement of all accessible ACM and the off-site disposal as RACM. This alternative selects the remediation option that is best suited to ensure the protection against worker exposure and potential off-site exposure during abatement and/or transportation actions and provides a more definitive cost estimate for the remedial activities. The estimated cost to implement Alternative 2 is approximately **\$185,110**, plus supplemental administrative and reporting requirements, which amounts to an additional **\$5,000**.

Decision Document

A decision document with additional details on the selected alternative for the site remedy will be issued at the close of the public comment period. The decision document will serve as a notice to proceed with federally funded remediation activities and will be available in the local information repository for public review, along with the site ABCA and other site-related documents.

FIGURES



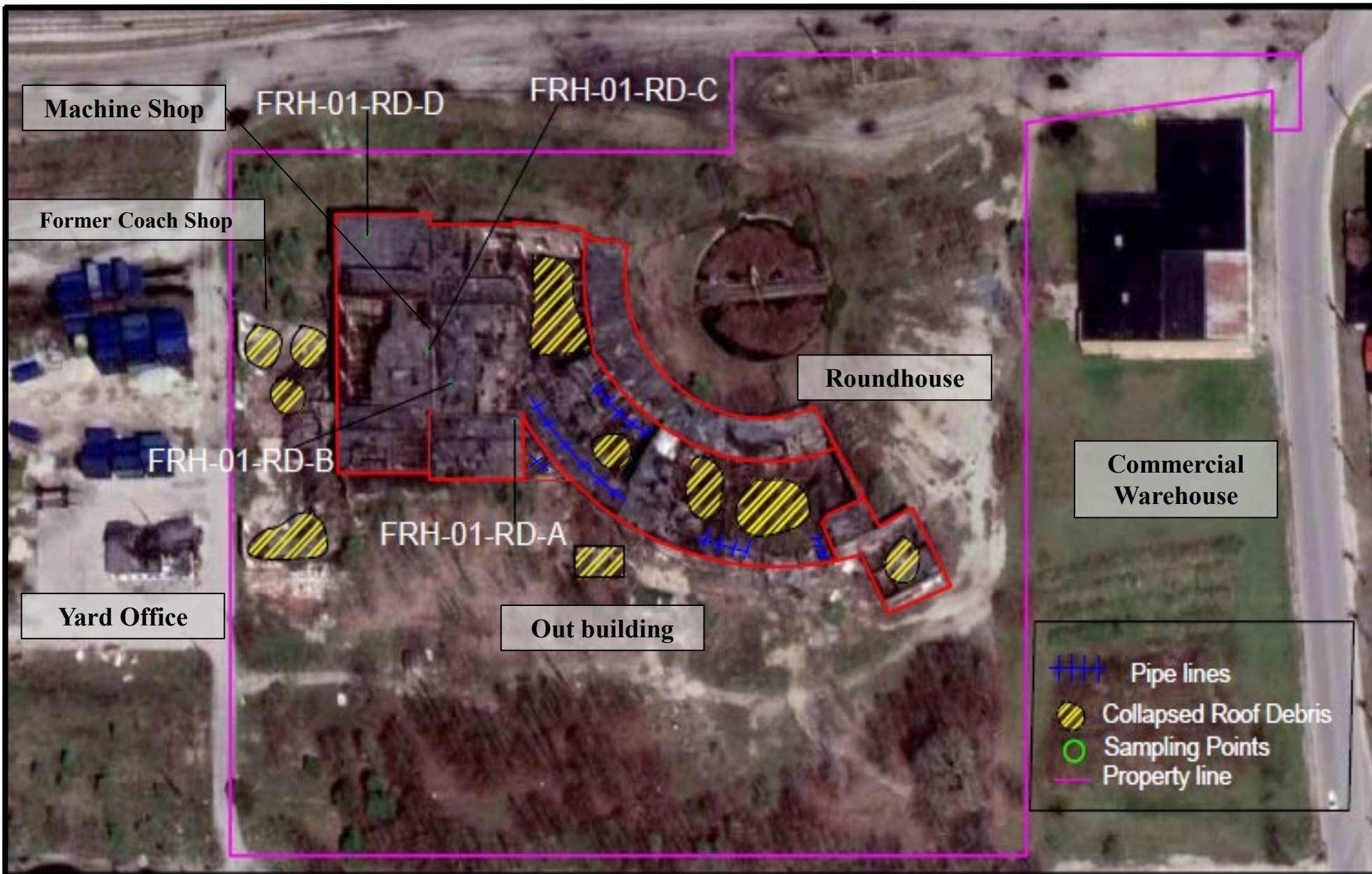
7428 Rockville Road
Indianapolis, IN 46214

(317) 347-1111
Fax: (317) 347-9326

TITLE **FIGURE 1 – Site Location Map**
Railroad Roundhouse
West Clinton Drive & Short Myrtle Street
Frankfort, Clinton County, Kentucky

CLIENT **Indiana Brownfield Program**
Indianapolis, Indiana

Project	Task	Size	Date
IN26004	01	A	01/21/2026



7428 Rockville Road
Indianapolis, IN 46214
(317) 347-1111
Fax: (317) 347-9326

TITLE

FIGURE 2: Site Map
Railroad Roundhouse
West Clinton Drive & Short Myrtle Street
Frankfort, Clinton County, Indiana

CLIENT

Indiana Brownfield Program
Indianapolis, Indiana

Project	Task	Size	Date
IN26004	01	A	02/25/2026