

ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES

Former Jenkins Wholesale and Smoot Tannery Property

Maple Street

Tax Parcel ID 1403211

North Wilkesboro, North Carolina 28659

Prepared for:

United States Environmental Protection Agency

Region 4 Division of Land, Chemical, and Redevelopment Branch

61 Forsyth Street, SW

Atlanta, Georgia 30303

Prepared by:

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October 21, 2024

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October 21, 2024

Mr. Matthew Simone
Region 4 Division of Land, Chemical, and Redevelopment Branch
61 Forsyth Street, SW
Atlanta, Georgia 30303

Subject: **Analysis of Brownfields Cleanup Alternatives
Former Jenkins Wholesale and Smoot Tannery Property
Maple Street
Tax Parcel ID 1403211
North Wilkesboro, North Carolina 28659
WSP Project US-EI-6228230056**

Dear Mr. Simone:

On behalf of the North Carolina Department of Environmental Quality (NCDEQ) and the Town of North Wilkesboro, WSP USA Environment & Infrastructure Inc. (WSP) is pleased to submit this Analysis of Brownfields Cleanup Alternatives (ABCA) for the above-referenced property (referred to as “subject property”) located in North Wilkesboro, North Carolina. The purpose of this document is to provide an evaluation of cleanup alternatives of asbestos containing material (ACM) and lead based paint (LBP) at the Former Smoot Tannery and Jenkins Wholesale Brownfields Property. Cleanup efforts will allow for additional assessment to evaluate potential impacts beneath the subject property buildings to support the Town of North Wilkesboro’s goal to make the subject property “pad ready” for future beneficial redevelopment opportunities.

This document presents project information, applicable regulations and cleanup standards, evaluations of cleanup alternatives, and the recommended cleanup alternative. If you have questions, please contact us.

Sincerely,

WSP USA Environment & Infrastructure Inc.

A handwritten signature in black ink, appearing to read 'Reed Dowdy', written over a light blue horizontal line.

Reed Dowdy, LG
Geologist
Registered, NC #2870

A handwritten signature in black ink, appearing to read 'Stephanie Damasceno', written over a light blue horizontal line.

Stephanie Damasceno, PE
Environmental Engineer
Registered, NC #043346

Enclosures

Cc: Ms. Jordan Thompson, NCDEQ
 Mr. Matthew Schuneman, NCDEQ
 Ms. Meredith Detsch, The Town of North Wilkesboro

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SECTION A. INTRODUCTION

The subject property is comprised of a 3.01-acre parcel identified as Wilkes County Tax Parcel 1403211 (PIN 3868-93-4975) and is located in a commercial/industrial area of North Wilkesboro, North Carolina (**Figure 1**). The subject property is occupied by six dilapidated office and warehouse buildings (**Figure 2**).

A1. FORECASTED CLIMATE CONDITIONS

According to the Climate Mapping for Resilience & Adaptation (CMRA) tool¹, climate trends for Wilkes County, North Carolina include increased temperatures, increased precipitation with greater variability, and increased extreme precipitation events when comparing the Wilkes County modeled history (1976 to 2005) to early century (2015 to 2044), midcentury (2035 to 2064) and late century (2070 to 2099) climate projections. By 2099, average annual total precipitation is expected to increase between 4.3 and 6.4 inches from the modeled history of Wilkes County (1976 to 2005). Additionally, the annual days with total precipitation exceeding 1 inch are expected to increase between 1.9 to 3.0 days by 2099. Increased precipitation totals and precipitation variability may affect flood waters and stormwater runoff and are the most applicable factor to the cleanup of the subject property.

According to Federal Emergency Management Agency (FEMA) Flood Zone Map 3710386800J, portions of the subject property are located within both the 100-year and 500-year floodplains of the Yadkin River, indicating the subject property is at a moderate risk for flooding. Greater storm frequency and intensity in a changing climate may result in more frequent and more powerful flood waters within the Yadkin River, which may result in changes to the flood zone and increased risk of flooding of the subject property. In addition, historical flooding has been documented at the subject property. Flooding of the Yadkin River in 1940 reportedly destroyed the majority of former tannery operations.

The Yadkin River is located between 400 to 700 ft from the subject property to the north, east, and south as shown on **Figure 1**. The eastern boundary of the river is flanked by a topographic high, thereby indicating that the subject property is located topographically downgradient from the nearby Yadkin River along Maple Street in North Wilkesboro, North Carolina. However, the subject property generally slopes south towards a tributary of the Yadkin River located along the southern property boundary. Based on topography and lack of observed stormwater utility infrastructure at the subject property, WSP USA Environment & Infrastructure Inc. (WSP) interprets stormwater discharge to generally flow to the south (topographically downgradient) towards the Yadkin River. Under current conditions, increased precipitation and precipitation variability could result in additional stormwater runoff and potential erosion to the dilapidated buildings and infrastructure at the subject property.

A2. SUBJECT PROPERTY BACKGROUND

According to an article in the Wilkes Journal-Patriot (dated February 16, 2023), the subject property was occupied by a tannery from 1897 to 1940 under the names C.C. Smoot & Sons Tannery (Smoot Tannery) (1897 to 1925) and International Shoe Company (1925 to 1940). A flood and fire in 1940 reportedly destroyed the majority of the tannery operations and Jenkins Wholesale Supply Company (Jenkins) moved into the subject property in the 1950s. Jenkins occupied the subject property until the early 2000s. The Jenkins Wholesale Supply Company included an automobile restoration business known as Jenkins Properties, Inc. Antique Auto Sales & Restorations.

Historic tanning operations typically utilized chromium and arsenic during the tanning process. Hides were typically soaked in vats containing solutions with these chemicals. Sanborn® fire insurance maps for the subject property

¹ <https://livingatlas.arcgis.com/assessment-tool/search/>

depict the former presence of vats and tanks, which likely contained these chemicals, and rail spurs (**Figure 3**) which were likely used to transport these chemicals to the subject property.

Automotive restoration activities commonly utilize solvents and petroleum products in their operations. During WSP's recent site reconnaissance, in-ground hydraulic lifts, several aboveground storage tanks (ASTs), a paint mixing room with a hazardous waste drum, and a parts washer were observed at the subject property. In addition, numerous containers filled with fluids used in the maintenance and restoration of vehicles (oils, lubricants, adhesives, paints, etc.) were observed at the subject property. A comprehensive assessment of the materials present at the subject property could not be conducted during WSP's site reconnaissance due to the dilapidated nature of site infrastructure.

Since tanning operations at the subject property reportedly ceased in 1940, minimal evidence of the tanning operations infrastructure was observed during recent site assessment activities. The former rail spur observed on the center portion of the subject property and the smokestack located along the southern boundary can be attributed to the former Smoot Tannery. The remaining observations made during previous site reconnaissance activities are likely attributed to the more recent former Jenkins Properties, Inc. Antique Auto Sales & Restorations.

A3. PREVIOUS SITE ASSESSMENT AND CLEANUP ACTIVITIES

Leaking Underground Storage Tank (LUST) Incident No. 12498

Two gasoline underground storage tanks (USTs) were formerly present at the subject property in the northeastern portion of the property. The subject property was identified as Jenkins Wholesale Supply Inc. (Facility ID 00-0-0000027186) on the UST database, as Jenkins Prop., Inc. on the Incident Management Database (IMD), and as Jenkins Properties Inc. (LUST Incident No. 12498) on the Leaking Underground Storage Tank (LUST) and Resource Conservation and Recovery Act (RCRA)-Very Small Quantity Generator (VSQG) databases. The UST, IMD, and LUST database listings are related to two former USTs located at the subject property. According to the North Carolina Department of Environmental Quality (NCDEQ) UST Database one 1,000-gallon gasoline UST, one 2,000-gallon gasoline UST, and one 10,000-gallon diesel UST were installed at the subject property in 1976. However, based on the available information reviewed from the NCDEQ online document management system Laserfiche, and information provided by the NCDEQ UST Program Winston-Salem Regional Office (WSRO), the 10,000-gallon diesel UST was located on the adjoining parcel located at 102 Maple Street to the north of the subject property. Reportedly, the 1,000-gallon and 2,000-gallon gasoline USTs were removed from the subject property in 1993.

The two USTs were observed to be buried beneath one to two feet of fill material consisting of bricks and timbers. Laboratory analysis of eight samples collected following the removal of the USTs identified total petroleum hydrocarbons (TPH) concentrations above the applicable standards in six of the eight soil samples. Based on the soil samples results, petroleum-affected soils were removed from the UST excavations and disposed offsite in 1994. Six confirmation soil samples were collected following the removal of the impacted soil, one from each of the four sidewalls, one from the bottom at approximately seven feet below grade, and one from the bottom at approximately nine feet below grade. A total petroleum hydrocarbon – gasoline range organics (TPH GRO) concentration (526 milligram per kilogram [mg/kg]) was identified in the bottom sample which exceeded the Site Sensitivity Evaluation (SSE) cleanup level established at the time of 160 mg/kg. The TPH GRO concentration also exceeded the current NCDEQ State Action level of 50 mg/kg for TPH GRO. The report for the 1994 activities did not specify if the soils where the 7-foot bottom sample was collected were removed prior to collecting the 9-foot bottom sample, or if they remained in place.

According to comments on the NCDEQ LUST Database for LUST Incident No. 12498 from 2019, the NCDEQ determined the results of the 1993 soil samples did not exceed the current standards and the subject property was eligible for No Further Action (NFA) status. In a letter (dated February 11, 2020), the NCDEQ issued NFA status for LUST Incident No. 12498. The February 2020 letter stated the NFA status was issued because the soil sample

results did not exceed the lower of the soil-to-water or residential Maximum Soil Contaminant Concentrations (MSCCs).

Environmental Site Assessments

WSP performed a Phase I environmental Site Assessment (ESA) in April 2023 at the subject property. This assessment revealed the following Recognized Environmental Conditions (RECs):

- Historic tanning operations typically utilized chromium and arsenic during the tanning process. Hides were typically soaked in vats which contained solutions with these chemicals. Sanborn® fire insurance maps for the subject property depict the former presence of vats and tanks which likely contained these chemicals and rail spurs which were likely used to transport these chemicals to the subject property.
- Automotive restoration activities commonly utilize solvents and petroleum products in their operations. During WSP's site reconnaissance, in-ground hydraulic lifts, several ASTs, a paint mixing room with a hazardous waste drum, and a parts washer were observed at the subject property. In addition, numerous containers filled with fluids used in the maintenance and restoration of vehicles (oils, lubricants, adhesives, paints, etc.) were observed at the subject property.
- Poor storage conditions of the ASTs, drums, containers filled with automotive related fluids, and vehicles were observed at the subject property during the site reconnaissance.
- Staining was observed in the vicinity of the in-ground hydraulic lifts and floor drains.

In August 2023, WSP performed a Brownfields Site Assessment to evaluate potential impacts from the RECs identified during the April 2023 Phase I ESA. The assessment activities included the advancement and sampling of 10 soil borings via direct push technology (DPT), the advancement and sampling of 5 soil borings via hand auger, the installation and sampling of 9 soil-gas sampling points, the installation and sampling of 5 monitoring wells, and the sampling of 1 existing monitoring well. A summary of the assessment results is provided below. The sample locations are depicted on **Figure 4**.

Soil Results

- Ethylbenzene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, m,p-xylene and 1-methylnaphthalene were detected in sample B-1 (8 to 10 feet below ground surface [ft bgs]) at concentrations which exceeded their respective NCDEQ Residential Preliminary Soil Remediation Goals (PSRGs). Detections of ethylbenzene and naphthalene also exceeded their respective NCDEQ Industrial/Commercial PSRGs in sample B-1 (8 to 10 ft bgs). Soil boring B-1 is located in the area of two former USTs along the northern subject property boundary.
- Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene were detected in sample B-2 (2 to 4 ft bgs) at concentrations which exceeded their respective NCDEQ Industrial/Commercial PSRGs. A detection of benzo(k)fluoranthene also exceeded its respective NCDEQ Residential PSRG in sample B-2 (2 to 4 ft bgs). Soil boring B-2 is located in the vicinity of hand vats and a tank of tanning liquor associated with the past tannery operations at the subject property.
- Benzo(a)pyrene exceeded its respective NCDEQ Residential PSRG in sample B-6 (3 to 5 ft bgs). Soil boring B-6 is located in the vicinity of former rail spur associated with the past tannery operations at the subject property.

- A detection of 1-methylnaphthalene exceeded its respective NCDEQ Residential PSRG in sample HA-4 (1 to 3 ft bgs). Soil boring HA-4 is located in the vicinity of a hydraulic lift associated with the past automotive restoration activities at the subject property.
- Arsenic was identified in soil samples B-2 (2 to 4 ft bgs), B-3 (3 to 5 ft bgs), B-5 (3 to 5 ft bgs), B-6 (3 to 5 ft bgs), B-7 (2 to 4 ft bgs), HA-1 (2 to 4 ft bgs) and HA-4 (1 to 3 ft bgs) exceeding their respective NCDEQ Industrial/Commercial PSRGs. Arsenic was also identified in soil samples B-4 (2 to 4 ft bgs), B-8 (2 to 4 ft bgs), B-9 (6 to 8 ft bgs) and B-10 (3 to 5 ft bgs) exceeding their respective NCDEQ Industrial/ Commercial PSRGs. Arsenic detections in these soil samples remained within the published regional background range for arsenic in soil. However, it is understood that arsenic was used historically in the tanning operations and is a potential constituent of concern at the subject property.
- Hexavalent chromium was identified in soil samples B-2 (2 to 4 ft bgs), B-3 (3 to 5 ft bgs), B-4 (2 to 4 ft bgs), B-5 (3 to 5 ft bgs), B-6 (3 to 5 ft bgs), B-7 (2 to 4 ft bgs), B-8 (2 to 4 ft bgs), B-9 (6 to 8 ft bgs), B-10 (3 to 5 ft bgs), HA-1 (2 to 4 ft bgs), HA-4 (1 to 3 ft bgs) and HA-5 (1 to 2.5 ft bsg) exceeding their respective NCDEQ Residential PSRGs. It is understood that chromium was used historically in the hand vats and is a potential constituent of concern at the subject property.
- The soil laboratory analytical results were input in the NCDEQ Risk Calculator (July 2023 version) to evaluate the cumulative risk for non-residential worker soil exposure, construction worker soil exposure, and recreator/trespasser soil exposure pathways. The Risk Calculator output indicated the cumulative target carcinogenic risk was exceeded for the residential and recreator/trespasser soil exposure pathways. In addition, the cumulative target hazard index of 1.0 was exceeded for the residential, construction worker, and recreator/trespasser soil exposure pathways.

Groundwater Results

- Laboratory analyses of the six groundwater samples collected during the Brownfield Assessment did not identify concentrations of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) or Resource Conservation and Recovery Act (RCRA) Metals above their respective North Carolina Administrative Code, Title 15A, Subchapter 2L, Section .0202 Groundwater Quality Standards (NC 2L Standards).

Sub-Slab Soil Gas Results

- Tetrachloroethylene (PCE) and trichloroethylene (TCE) were detected in sample SG-4 at concentrations exceeding their respective NCDEQ Residential Soil Gas Screening Levels (SGSLs). Sub-slab soil gas sample SG-4 was collected from the southeastern most building at the subject property near a hydraulic lift.
- Naphthalene was detected in sample SG-6 at a concentration exceeding its respective NCDEQ Residential SGSL. Sub-slab soil gas sample SG-6 was collected the former filtering basin building.

During the August 2023 Brownfields Site Assessment, buried debris was noted by WSP personnel while advancing boring B-3 with hollow-stem augers. The debris consisted of wood, glass, plastic, and fabric and was encountered at an approximate depth of 17 to 19 feet bgs. Similar debris was not encountered in the other borings advanced during the assessment activities. A nearby resident, that stated he was formerly employed at the tannery, informed WSP field personnel that trash was sometimes discarded in the area of boring B-3 by tannery workers. Based on the depth at which the debris was encountered, it appears that fill soil was placed over the waste in the past. No visible staining or discoloration of the near surface soil was noted in this area. The areal extent of the filled portion of the property to the south of the building is not known.

WSP performed supplemental assessment activities in June 2024 to evaluate potential methane impacts from the buried debris. The assessment included the advancement and installation of a methane monitoring point (MMP-01) via hand auger and two rounds of methane screening to identify potential methane release from the buried debris. No detectable concentrations of methane were noted in methane monitoring point MMP-01 during the two rounds of methane screening. Monitoring point MMP-01 is located in the vicinity of soil boring B-3/monitoring well MW-3, where buried debris was noted during the August 2023 Brownfields Assessment activities.

In June 2024, WSP performed an additional Phase I ESA at the subject property. This assessment did not identify additional RECs at the subject property. In addition, based on the results of the 2023 and 2024 Brownfields Assessments, WSP considered the RECs identified in the 2023 Phase I ESA to be findings.

Regulated Building Material Survey

In August 2023, WSP performed a Regulated Building Material Survey at the subject property. The survey was performed by a licensed NC asbestos inspector to identify existing asbestos containing material (ACM) and lead based paint (LBP) within existing buildings at the subject property. During the survey, multiple areas within buildings at the subject property were inaccessible due to significant building dilapidation and building materials within these areas were not able to be comprehensively assessed and sampled. A visual survey was performed to observe the presence of suspect ACM and LBP, within accessible areas. Once the visual survey identifying suspect ACM and LBP was complete, bulk ACM and LBP samples were collected.

Results from the laboratory analysis identified ACM including built up roofing (BUR)/roofing layers (shingles, felt, asphalt tar, etc.), floor tiles, mastics, sink undercoat, thermal system insulation, sealants, cement board siding, vinyl sheet flooring, and silver paint. Building materials, apart from wood, metal, rubber and other non-suspect building material, in inaccessible areas of the subject property are also considered ACM. Laboratory analysis of LBP identified 10 Environmental Protection Agency (EPA) defined LBP (lead concentration equal to or exceeds 0.5% by weight) and 47 Occupational Health and Safety Administration (OSHA) defined lead-containing paints (any detectable lead concentration) on buildings at the subject property. Paints present within inaccessible portions of the subject property are also considered LBP, due to the age of the buildings and inability to assess these paints.

A4. SITE CONTAMINATION EVALUATION

For evaluation of the cleanup alternatives, a summary of environmental impacts relative to existing subject property infrastructure is provided below. **Tables 1** and **2** provide summaries of constituent exceedances in soil and sub-slab soil gas and **Figure 4** shows sample locations in relation to current subject property buildings.

Building 1

This building appears to have been utilized as office space, therefore the potential for environmental impacts beneath Building 1 is considered low. Soil boring B-4 and monitoring well MW-4 are located to the east of Building 1. The soil sample collected from B-4 identified arsenic and hexavalent chromium above their respective NCDEQ Residential PSRGs. The groundwater sample collected from MW-4 did not identify constituent exceedances of NC 2L Standards. Since ACM present on the exterior of the northern portion Building 1 is generally in fair condition and not friable, it is unlikely stormwater runoff would spread the material to the surrounding soils. However, damaged exterior building materials, including roofing layers (shingles and felt) and roofing sealants, were identified as ACM and is located on the southern portion of the building. Therefore, stormwater runoff could contribute to the spreading of friable ACM to the surrounding soils by the southwest side of this building. In general, the potential for subsurface environmental impacts beneath Building 1 remains low and additional assessment does not appear warranted beneath this building.

Building 2

The southern portion of Building 2 is located within an area identified as a former leach house for the former Smoot Tannery. Soil samples were not collected from beneath Building 2 due to the dilapidated state of the building; further this area was considered inaccessible and unsafe because of the collapsed roof. In 2023, a soil sample collected from soil boring B-7 (located topographically downgradient of Building 2) identified an arsenic concentration above the NCDEQ Residential and Industrial/Commercial PSRGs and a hexavalent chromium concentration above the NCDEQ Residential PSRG. Since arsenic and chromium were frequently utilized in historical tanning operations, these detections warrant investigation beneath Building 2 to evaluate a potential source area. ACM was identified in damaged roofing materials (BUR, tar) sampled from accessible areas of Building 2. ACM is also suspected to be present in various building materials that could not be assessed due to inaccessibility. The presence of ACM exposed to the exterior within the dilapidated structure represents a potential for stormwater runoff to spread friable ACM to the surrounding soils. The debris and remaining portions of Building 2 would need to be removed and disposed of to provide access for future assessment and to prevent potential spreading of friable ACM.

Building 3

A former leach house and railroad spur associated with the former tannery were located along the western exterior of Building 3. In addition, a former maintenance shop for the tannery was located in the northeastern portion of Building 3. During the 2023 Brownfield Assessment activities, soil samples were collected from borings B-3, B-5, B-6, and B-10 to assess potential environmental impacts associated with Building 3 operations. Soil boring B-3 is located topographically downgradient of Building 3, boring B-5 is located in the northern portion of Building 3 (and paired with a monitoring well location, MW-5), borings B-6 is located along the former railroad spur closest to Building 3, and B-10 is located adjacent to the former AST (contents unknown). Concentrations of several polycyclic aromatic hydrocarbons (PAHs) were detected in the soil samples collected from borings B-3 and B-6. Concentrations of arsenic above the NCDEQ Residential and Industrial/Commercial PSRGs and concentrations of hexavalent chromium above the NCDEQ Residential PSRG were identified in the samples collected from soil borings B-3, B-5, B-6, and B-10. Since the eastern and southern portions of Building 3 are heavily dilapidated, including portions of the roof having collapsed, samples were not able to be collected beneath these portions of the building. The presence of arsenic and hexavalent chromium in soils beneath and downgradient of Building 3, where vats and tanks used in tanning operations likely contained these chemicals, warrant additional assessment to evaluate a potential source area beneath the southern and eastern portions of Building 3. ACM was identified in damaged roofing materials (roofing layers, tars, sealants) sampled within accessible areas of Building 3. The presence of ACM exposed to the exterior within the dilapidated structure represents a potential for stormwater runoff to spread friable ACM to the surrounding soils. The debris and remaining portions of Building 3 would need to be removed and disposed of to provide access for future assessment and to prevent potential spreading of friable ACM.

Building 4

Former hand vats and tanning liquor/leach tanks associated with tannery operations were located within this building's footprint. Reportedly, Building 4 was most recently used as a furniture storage area for the Jenkins Wholesale Business. During 2023 Brownfield Assessment activities, soil samples were not collected within the building due to the heavily dilapidated conditions, including portions of the roof having collapsed, within the eastern portion of the building. The western portion of Building 4 was in good condition, but was inaccessible with a drill rig, therefore soil and groundwater samples were not able to be collected from beneath this portion of the building. Soil borings B-1 and B-2 were collected adjacent to the building exterior to evaluate potential environmental impacts from Building 4 operations. Soil boring B-1 (and paired with a monitoring well location, MW-1) is located north (topographically upgradient) of the eastern portion of Building 4 in the vicinity of the former UST area and boring B-2 was located south (topographically downgradient) of Building 4. Concentrations of arsenic, ethylbenzene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, m,p-xylene and 1-

methylnaphthalene were detected at concentrations which exceeded their respective NCDEQ Residential PSRGs in the soil sample collected from boring B-1. Additionally, ethylbenzene and naphthalene concentrations were identified above their respective NCDEQ Industrial/Commercial PSRGs. Although constituent exceedances were not identified in the groundwater sample collected from MW-1, sitewide groundwater elevation data suggests that groundwater in MW-1 is in a “perched” groundwater condition that may be related to the fill material and sub-grade floor structure noted in historic reports. Concentrations of several PAHs were detected in the soil sample collected from boring B-2 exceeding their respective NCDEQ Residential and Industrial/Commercial PSRGs. Furthermore, concentrations of arsenic above the NCDEQ Residential and Industrial/Commercial PSRGs and concentrations of hexavalent chromium above the NCDEQ Residential PSRG were identified in the samples collected from soil boring B-2. The detections of PAHs, arsenic, and hexavalent chromium indicate a possible source area may exist beneath Building 4. Suspect ACM samples collected from the dilapidated, eastern portion of Building 4 did not identify asbestos in exterior building materials. Additionally, the western portion of Building 4 is generally in good condition with minimal ACM (roofing sealants) identified in exterior building materials, therefore, it is unlikely stormwater runoff is contributing to the spreading of friable ACM to the surrounding soils of Building 4. Additional assessment beneath Building 4 is warranted to evaluate the potential impacts from the former UST area, former hand vats, and tanning liquor/leach tanks in this area of subject property. Both the eastern and western portions of Building 4 would need to be removed and disposed of to provide access for future assessment.

Building 5

Former oil and scouring areas, hand vat areas, and underground cistern of the historic tannery operations are located near or within this building’s footprint. During 2023 Brownfield Assessment activities, two soil borings were advanced within or adjacent to Building 5 to evaluate environmental impacts. A soil sample was collected from soil boring HA-4 located east of the building footprint, adjacent to an existing AST (contents unknown), and near the footprint of former tannery hand vats and oiling and scouring areas. Soil boring HA-3 was advanced near a hydraulic lift in the central portion of the building. However, no soil sample was collected from HA-3 due to shallow auger refusal and lack of soil in the boring. The soil sample collected from HA-4 identified an arsenic concentration that exceeded its respective NCDEQ Industrial/Commercial PSRG and hexavalent chromium above its respective NCDEQ Residential PSRG. The detections of arsenic and hexavalent chromium indicate a possible source area may exist beneath Building 5. The hydraulic lift remains a potential source of subsurface impacts as no soil data was able to be collected during the 2023 assessment. ACM was detected in damaged roofing materials (silver paint and sealants) sampled from accessible areas of Building 5. While Building 5’s roof is mostly intact, ACM roofing, specifically silver paint, is in poor condition and friable. Therefore, the presence of friable, exterior ACM represents a potential for stormwater runoff to spread ACM to the surrounding soils. Additional assessment beneath Building 5 is warranted to evaluate the potential impacts from the former oiling and scouring areas, hand vat areas, and the hydraulic lift. Building 5 and the hydraulic lift would need to be removed and disposed of to provide access for future assessment and to prevent potential spreading of friable ACM to surrounding soils.

Building 6

Building 6 was historically used as a car maintenance shop. During 2023 Brownfield Assessment activities, soil samples were collected from borings HA-1, HA-5, B-8, and B-9 and sub-slab soil gas samples were collected from sub slab points SG-4 and SG-6. Soil boring HA-1 and sub-slab point SG-4 are located in the northeast portion of this building adjacent to a hydraulic lift, soil boring HA-5 is located in the southeast portion of this building in a former paint/chemical storage room, sub-slab point SG-6 is located in the southwest portion of the building near a hydraulic lift, and borings B-8 and B-9 are located on the exterior of the building near multiple ASTs. Soil boring HA-2 was also advanced near the hydraulic lift in the southwestern portion of the building near SG-6. However, soil sample were not collected from HA-2 due to shallow auger refusal and lack of soil in the boring. Soil samples collected from HA-1, HA-5, B-8, and B-9 identified arsenic and hexavalent chromium detections exceeding their respective NCDEQ Industrial/Commercial or Residential PSRGs. Building 6 is located downgradient from Buildings 3 and 4 where former tannery operations existed. Arsenic and hexavalent chromium impacts identified in Building 6 indicate potential downgradient migration of constituents associated with possible source areas from Buildings 3

and 4. Sub-slab soil gas sample exceedances of NCDEQ Residential SGSLs were detected at SG-4 for TCE and PCE and SG-6 for naphthalene. The detections of TCE and PCE identified in SG-4 and naphthalene identified in SG-6 indicate potential source areas of subsurface impacts in the northeastern and southwestern portions of the building, respectively. Building 6 is generally in good condition with minimal ACM identified in exterior building materials, therefore, it is unlikely stormwater runoff is contributing to the spreading of friable ACM to the surrounding soils. Further assessment beneath Building 6 is warranted to evaluate the potential impacts from former tannery, hand vat areas, and the existing hydraulic lifts. Building 6 and the hydraulic lifts would need to be removed and disposed of to provide access for future assessment.

A5. PROJECT GOAL

The objective of this ABCA is to provide an evaluation of cleanup alternatives of ACM and LBP at the Former Smoot Tannery and Jenkins Wholesale Brownfields Property to facilitate additional assessment to evaluate potential impacts beneath the subject property buildings. The additional assessment efforts will support the Town of North Wilkesboro's goal to make the Site "pad ready" for future economically beneficial redevelopment options.

SECTION B. APPLICABLE REGULATIONS AND CLEANUP STANDARDS

B1. Cleanup Oversight Responsibility

Cleanup and assessment are the responsibility of the NCDEQ Brownfields Program. WSP has been engaged on behalf the Town of North Wilkesboro to provide oversight during environmental activities and prepare documentation for submittal to the NCDEQ Brownfields Program and EPA.

B2. Cleanup Standards for Major Contaminants

Media-specific data will be compared to the following screening levels and regulations:

- 1) Soil/sediment – compounds detected in soil/sediment samples will be compared to the NCDEQ Residential and Industrial/Commercial Health-Based PSRGs (July 2024). Soil/sediment sample RCRA metals data was also compared to regional background levels (Dragun and Chekiri, 2005).
- 2) Groundwater – compounds detected in groundwater samples will be compared to the NC 2L Standards and Interim Maximum Allowable Concentrations (IMACs) (April 2022). The groundwater sample data will also be compared to the NCDEQ Residential and Non-Residential Groundwater Screening Levels (GWSL) (February 2024).
- 3) Soil-gas – compounds detected in soil-gas samples will be compared to the current version of the NCDEQ Soil-gas Screening Levels (SGSLs) and Indoor Air Screening Levels (IASLs).
- 4) Asbestos Containing Material (ACM) - Analytical results for suspect ACM samples will be compared to the ACM definition provided in 29 Code of Federal Regulations (CFR) 1910.1001(b) and 40 CFR 61.141: any material containing more than 1% asbestos.
- 5) Lead Based Paint (LBP) - When LBP is present in a building, OSHA (29 CFR 1926.62), along with state regulations, require some form of controls to be followed during any construction work where an employee may be occupationally exposed to lead. The Department of Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing and the EPA Requirements for Lead-Based Paint Activities in Target and Child-Occupied Facilities (40 Code of Federal Regulation (CFR) Part745) provide regulatory and industry guidelines for conducting lead-based paint sampling. LBP means paint or other surface coatings that contain lead equal to or in excess of 1.0 milligram per square centimeter (mg/cm²), or 0.5 percent (0.5%) by weight or 5000 parts per million (ppm). OSHA has no lower threshold for exposure to lead.

B3. 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, state environmental law, and town by-laws. Federal, state, and local laws regarding procurement of contractors to conduct the cleanup will be followed.

Additionally, prior to any renovation or demolition activities that will disturb ACM, federal and state regulations require removal of friable ACM and non-friable ACM that may become friable during any renovation or demolition activities in accordance with applicable local, state, and federal regulations by an abatement contractor licensed in the State of North Carolina. Federal and State National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations require that notification of any proposed demolition activity or renovation activity that would disturb ACM be provided to the appropriate regulatory agency.

The disturbance of lead-containing painted surfaces should be performed in accordance with U.S. EPA-Lead; Renovation, Repair and Painting Program (40 CFR 745.80, Subpart E) and also be addressed in accordance with OSHA Construction Standard for Lead (29 CFR 1926.62). Waste generated by operations that would disturb the identified lead-containing components, should be considered as being a potentially hazardous exposure to the workers.

Appropriate permits (e.g., notify before you dig, soil transport/disposal manifests, demolition) will be obtained prior to the work commencing.

SECTION C. CLEANUP ALTERNATIVES

C1. Cleanup Alternatives Considered

To address contamination at the subject property, three different alternatives were considered, including Alternative #1: No Action, Alternative #2: Capping, and Alternative #3: ACM and LBP Abatement and Debris Removal with Offsite Disposal. Cleanup Alternatives are summarized in **Table 3**.

C2. Evaluation of Cleanup Alternatives

The effectiveness, implementability, and cost of each cleanup alternative are discussed below.

C2.1 Effectiveness – Including Climate Change Considerations

- **Alternative #1: No Action** – No action is not an effective cleanup alternative as it does not allow for additional assessment beneath the subject property buildings since the ACM and LBP debris will not be removed. Selecting this alternative will prevent Town of North Wilkesboro from achieving their goal of making the Site “pad ready” for future social and economically beneficial redevelopment. Additionally, the subject property is not secure, and evidence of trespassers are evident throughout the site (graffiti, broken lightbulbs, household waste, etc.). As such, there is potential for the public to have direct contact with ACM and LBP debris and impacts from soil vapor creating an environmental and exposure liability for the Town of North Wilkesboro.

The CMRA tool indicates Wilkes County, North Carolina will likely have increased precipitation and an increased probability of extreme precipitation events due to climate change throughout the rest of this century. As such, there is an increased risk of flooding at the subject property due to its location within 100-year and 500-year floodplains of the Yadkin River. Flooding reduces the effectiveness of this alternative as it increases the probability of the off-site migration of impacted soil and hazardous ACM due to flooding and heavy rainfall.

- **Alternative #2: Soil Capping** – Soil capping of existing contamination, ACM debris, and LBP can be a moderately effective way to reduce risk for potential receptors from direct contact exposure to contaminated soils and hazardous materials. However, capping is not an effective way to control other exposures, including potential vapor intrusion risk from contamination by the former underground storage tank area, the chlorinated VOCs beneath Building 4’s footprint, or other inaccessible areas of the subject property that have not been evaluated. As noted above, the subject property is not secure, and evidence of trespassers is evident throughout the subject property (graffiti, broken lightbulbs, household waste, etc.). As such, the potential for exposure to contamination and ACM and LBP debris by the public remains, creating an environmental and exposure liability for the Town of North Wilkesboro.

Also, due to the likelihood of increased precipitation with greater variability and an increased probability of extreme precipitation throughout the rest of this century at the subject property, there is an increased risk of flooding due to the subject property’s location within 100-year and 500-year floodplains of the Yadkin River. The subject property generally slopes south towards a tributary of the Yadkin River located along the southern property boundary. If a soil cap was possible, more stringent measures and controls would likely be necessary to maintain the soil cap. As such, the soil cap alternative is not feasible due to the large amount of ACM debris that would need to be capped and the measures that would need to be implemented due to the slope of the subject property, location within the Yadkin River’s 100 and 500-year floodplains, and the presence of a tributary along the southern property boundary.

- **Alternative #3: Building Demolition, ACM and LBP Abatement, and Debris Removal with Offsite Disposal** – Building demolition, ACM and LBP abatement, and debris removal with offsite disposal is a very effective cleanup alternative as it will allow for additional assessment of subsurface impacts within existing building footprints that were not able to be evaluated during previous assessments due to inaccessibility. Additional assessment will further delineate subsurface impacts at the subject property, which will help in the development of mitigation measures for other contamination during future redevelopment. In addition, this alternative will be effective in removing hazardous ACM and LBP, which will eliminate exposure pathways of these contaminants to potential receptors.

As described in Section A4, based on previous assessment data and inaccessibility of portions of Buildings 2, 3, 4, 5 and 6, further assessment is needed to evaluate potential environmental impacts beneath the footprints of these buildings. Buildings 2, 3, 4, 5 and 6 will need to be removed to access these areas of the subject property to facilitate the additional environmental assessment.

The potential for increasing severe weather events due to climate change would not impact the effectiveness of this alternative as the ACM and LBP debris would be removed from the subject property.

C2.2 Implementability

- **Alternative #1: No Action** – The no action alternative is easy to implement as no action is necessary.
- **Alternative #2: Soil Capping** – Soil capping of existing soil contamination and dilapidated ACM and LBP debris is not feasible to implement. This alternative would require demolition of subject property buildings, which would necessitate the abatement of existing ACM in buildings. ACM debris would be segregated and capped with two feet of clean soil in a designated area of the subject property. Other measures associated with a soil cap include, and are not limited to, landfill permitting, long-term monitoring and maintenance activities, engineering measures to control stormwater discharge, restrictions to soil excavation and grading, and establishment of land use restrictions. In addition, the steep slope of the southern portion of the subject property, the location of the subject property within the Yadkin River’s 100 and 500-year floodplains, and the presence of a tributary of the Yadkin River along the southern boundary would prohibit a significant portion of the subject property to be utilized for this alternative. (e.g. thicker soil cap, engineered stormwater discharge features, etc.) to implement. These measures, along with the significant amount of identified or suspected ACM and LBP at the subject property needed to be capped, renders this alternative not feasible to implement as it would prevent the Town of North Wilkesboro’s goal to make the subject property “pad ready” for future redevelopment and significantly restrict redevelopment options.
- **Alternative #3: Building Demolition, ACM and LBP Abatement and Debris Removal with Offsite Disposal** – Building Demolition, ACM and LBP abatement, and debris removal with offsite disposal will be moderately difficult to implement. However, abatement and removal of existing ACM at Buildings 2, 3, 4, 5, and 6, associated ACM debris, and associated LBP is necessary to perform additional assessment activities beneath these buildings. In addition, the removal will eliminate potential exposure to hazardous materials at the subject property. Federal and state regulations require removal of friable ACM and non-friable ACM that may become friable during renovation or demolition activities in accordance with applicable local, state and federal regulations by an abatement contractor licensed in the State of North Carolina. Federal and State NESHAP regulations require that notification of any proposed demolition activity or renovation activity that would disturb ACM be provided to the appropriate regulatory agency. When LBP is present in a building, OSHA (29 CFR 1926.62), along with state regulations, require some form of controls to be followed during any construction work where an employee may be occupationally exposed to lead. Waste generated by operations that would disturb the identified lead-containing components, should be considered as being a potentially hazardous exposure to the workers.

Asbestos and LBP abatement, demolition, excavation, and disposal contractors are widely available to implement these remedial actions, but this alternative is the most intrusive and will potentially cause a prolonged disruption to the surrounding community. Additionally, this option will create an exposure risk for contractors performing the work. However, this alternative will remove these hazardous materials, and long-term monitoring and maintenance activities will not be necessary once removal activities are complete.

C2.3 Cost

- Alternative #1: No Action – \$0 – No costs are associated with this alternative.
- Alternative #2: Soil Capping – Not Feasible – Due to the large volume of hazardous building material and the additional measures and controls necessary to implement this alternative due to the existing sloped topography of the subject property, location of the subject property in floodplains and near surface water, and climate change considerations, capping existing soil contamination and hazardous building material is not feasible. Therefore, WSP has not estimated the cost to implement the soil capping alternative.
- Alternative #3: ACM and LBP Abatement and Debris Removal with Offsite Disposal – Approximately \$1,700,000 – This alternative will include costs for demolition of buildings and abatement of ACM and LBP at the subject property, removal of remaining building material and concrete slab, removal of four in-ground hydraulic lifts, and additional assessment to further delineate subsurface impacts at the subject property. A general, itemized cost estimate for this alternative is included as **Appendix A**.

SECTION D. RECOMMENDED CLEANUP ALTERNATIVE

The recommended cleanup alternative is Alternative #3: Soil Excavation with Offsite Disposal. Rational for selecting this alternative is provided below:

- Alternative #1: No Action – This alternative cannot be recommended as it does not allow for additional assessment and evaluation of subsurface impacts which is necessary for the Town of North Wilkesboro to make the subject property “pad ready”.
- Alternative #2: Soil Capping – Not feasible due to the limiting measures that would be necessary to implement this alternative.
- Alternative #3: ACM and LBP Abatement and Debris Removal with Offsite Disposal – This alternative is recommended as it allows for additional assessment of subsurface impacts, which will be necessary for the Town of North Wilkesboro to make the subject property “pad ready” and for the development of mitigation measures of subsurface impacts during future redevelopment. Additionally, this alternative will address the subject property’s ACM and LBP contamination, is feasible to implement, eliminates the exposure risk of asbestos and LBP to potential receptors, and will not require ongoing future monitoring and maintenance.

TABLES

Table 1: Summary of Constituent Exceedances in Soil
Former Jenkins Wholesale and Smoot Tannery Property
Maple Street
North Wilkesboro, North Carolina
WSP Project Number 6228-23-0056

Sample ID	TINB	TIC	TIWS	T2NSW	J2	B-1 (8-10)	B-2 (2-4)	B-3 (3-5)	B-4 (2-4)	B-5 (3-5)	B-6 (3-5)	B-7 (2-4)	B-8 (2-4)	B-9 (6-8)	B-10 (3-5)	HA-1 (2-4)	HA-4 (1-3)	HA-5 (1-2.5)	DUP-S	NCDEQ Action Level for TPH	Residential PSRGs	Industrial/Commercial PSRGs	Regional Background Metals in Soil ⁽¹⁾	
Sample Depth (ft bgs)	6-10	6-10	6-10	6-10	7	8-10	2-4	3-5	2-4	3-5	3-5	2-4	2-4	6-8	3-5	2-4	1-3	1-2.5	1-2.5					
Sample Collection Date	8/20/1993	8/20/1993	8/20/1993	8/20/1993	6/23/1994	8/9/2023	8/9/2023	8/8/2023	8/7/2023	8/9/2023	8/8/2023	8/8/2023	8/9/2023	8/9/2023	8/9/2023	8/11/2023	8/10/2023	8/11/2023	8/11/2023					
Sample Location Description	Former UST Location - Tank 1 North Bottom	Former UST Location - Tank 1 Cuttings	Former UST Location - Tank 1 West Sidewall	Former UST Location - Tank 2 North Sidewall	Former UST Location	Former UST Location/ North of Building 4 & 5	Downgradient of Former Tannery Facility/ Building 4	Downgradient Portion of Property/ South of Building 7	Upgradient Portion of Property/ East of Building 1	Former Maintenance Shop/ Building 3	Former Rail Spur/ Between Building 2 & 3	Downgradient of Leach House/ Building 2	Aboveground Storage Tank/ North of Building 6	Aboveground Storage Tank/ North of Building 6	Aboveground Storage Tank/ Between Building 2 & 3	Hydraulic Lift/ Building 6	Aboveground Storage Tank/ East of Building 5	Hydraulic Lift/ Building 6	HA-5 (1-2.5) Duplicate Sample					
Total Petroleum Hydrocarbons (TPH) via EPA Method 5030/5550																								
TPH-Gasoline Range Organics (GRO)	52	150	72	--	526	--	--	--	--	--	--	--	--	--	--	--	--	--	--	50	Not Applicable		Not Applicable	
TPH-Diesel Range Organics (DRO)	--	--	--	180	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	Not Applicable		Not Applicable	
Volatile Organic Compounds (VOCs) via EPA Method 8260D																								
Ethylbenzene	--	--	--	--	--	91.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Applicable	6.1	27	Not Applicable
Naphthalene	--	--	--	--	--	29.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--		2.1	8.8	
1,2,4-Trimethylbenzene	--	--	--	--	--	269	--	--	--	--	--	--	--	--	--	--	--	--	--	--		63	370	
1,3,5-Trimethylbenzene	--	--	--	--	--	76.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--		56	320	
m,p-Xylene	--	--	--	--	--	311	--	--	--	--	--	--	--	--	--	--	--	--	--	--		120	500	
Semi-Volatile Organic Compounds via EPA Method 8270E																								
Benzo(a)anthracene	--	--	--	--	--	--	62.4	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Applicable	1.1	21	Not Applicable
Benzo(a)pyrene	--	--	--	--	--	--	63.4	--	--	--	0.154 J	--	--	--	--	--	--	--	--	--		0.11	2.1	
Benzo(b)fluoranthene	--	--	--	--	--	--	72.4	--	--	--	--	--	--	--	--	--	--	--	--	--		1.1	21	
Benzo(k)fluoranthene	--	--	--	--	--	--	26.4	--	--	--	--	--	--	--	--	--	--	--	--	--		11	210	
Dibenzo(a,h)anthracene	--	--	--	--	--	--	5.49 J	--	--	--	--	--	--	--	--	--	--	--	--	--		0.11	2.1	
Indeno(1,2,3-cd)pyrene	--	--	--	--	--	--	38.5	--	--	--	--	--	--	--	--	--	--	--	--	--		1.1	21	
1-Methylnaphthalene	--	--	--	--	--	1.78	--	--	--	--	--	--	--	--	--	--	0.244	--	--	--	0.039	73		
RCRA Metals via EPA Methods 6020B/7471B and Hexavalent Chromium via EPA Method 7199																								
Arsenic	--	--	--	--	--	1.7 J f	3.1 f	3.4 f	2.9 J f	4.4 f	3.6 f	4.1 f	2.9 f	2.9 f	3.0 J f	3.5 J c	5.3 f	--	--	Not Applicable	0.68	3	1.0-18	4.8
Hexavalent Chromium	--	--	--	--	--	--	1.7	1.5	0.78	0.70	0.56	0.48	0.62	0.78	0.37 J	0.77	0.92	0.84	0.74		0.31	6.5	NE	NE

- Notes:**
- Concentrations shown in milligrams per kilograms (mg/kg)
 - ft bgs = feet below ground surface
 - PSRGs = North Carolina Department of Environmental Quality (NCDEQ) Inactive Hazardous Sites Branch (IHSB) Preliminary Soil Remediation Goals, dated July 2024
 - = Result did not exceed NCDEQ PSRGs
 - J = J-flag, value was detected above method detection limit but below laboratory reporting limit, value is considered an estimate
 - f = Sample dilution required due to difficult matrix
 - c = Elevated reporting limit(s) due to matrix interference
 - NE = Not established
 - BLUE SHADED cell indicates concentration exceeded NCDEQ Residential or Industrial/Commercial PSRG; however, the concentration is within the range of "naturally occurring" metals in soil
 - DUP-S sample collected from parent sample HA-5 (1-2.5)
 - ⁽¹⁾ Range and mean values for "Background Metals for North Carolina Soils" taken from Elements in North American Soils by Dragun and Chekiri, 2005.

**Table 2: Summary of Constituent Exceedances in Sub-Slab Soil Gas
Former Jenkins Wholesale and Smoot Tannery Property
Maple Street
North Wilkesboro, North Carolina
WSP Project Number 6228-23-0056**

Sample ID	SG-4	DUP-SG	SG-6	Residential SGSLs (TCR = 1.0e⁻⁰⁶ and THQ = 0.2)	Non-Residential SGSLs (TCR = 1.0e⁻⁰⁶ and THQ = 0.2)
Sample Type	Sub-Slab	Duplicate	Sub-Slab		
Sample Collection Date	8/10/2023	8/10/2023	8/10/2023		
Sample Location Description	Building 6	SG-4 Duplicate Sample	Former Filtering Basin/ Building 6		
Naphthalene	--	--	5.8	2.8	36
Tetrachloroethylene	359	428	--	280	3,500
Trichloroethylene	115	137	--	14	180

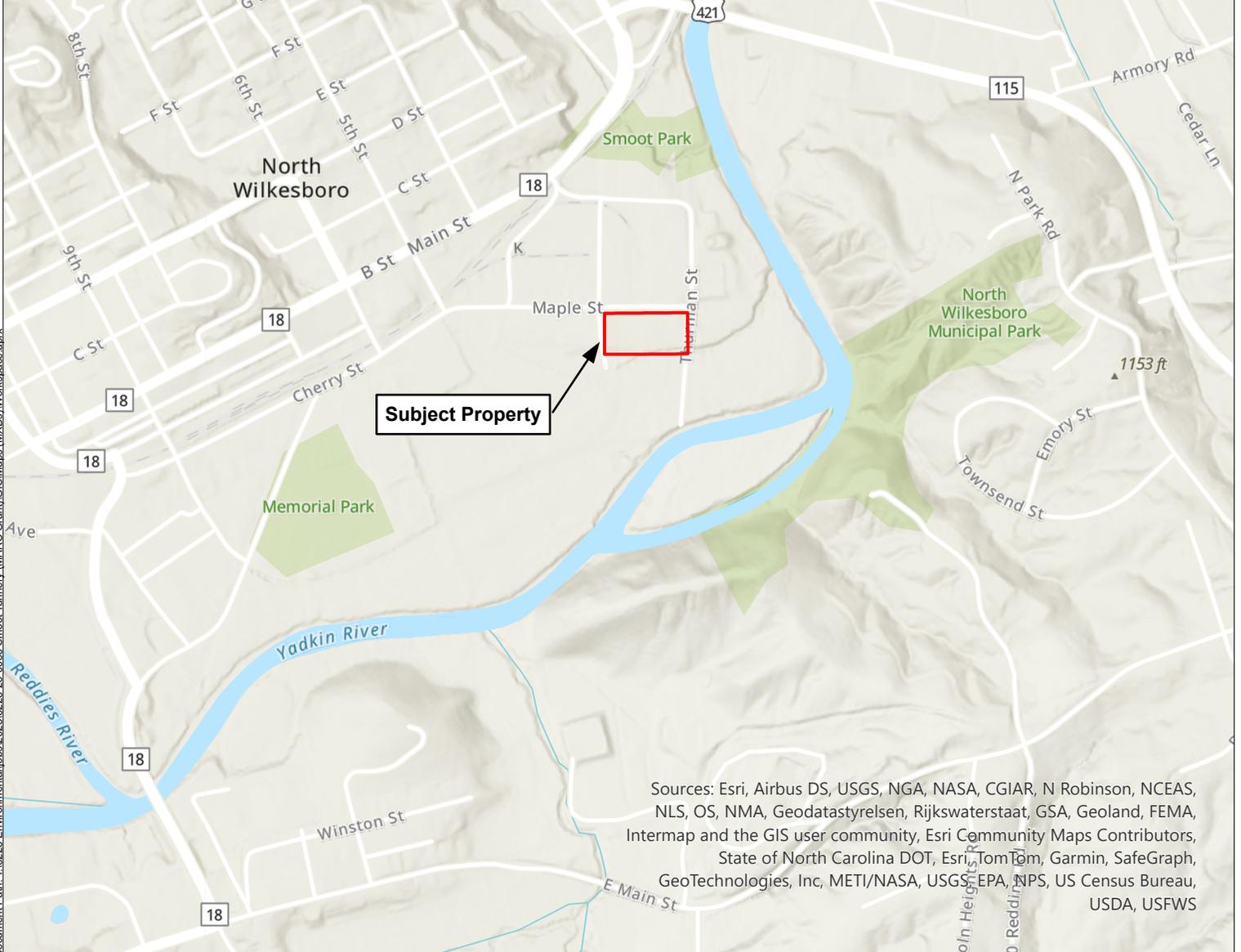
Notes:

1. Concentrations shown in micrograms per meter cubed ($\mu\text{g}/\text{m}^3$)
2. Samples analyzed for volatile organic compounds (VOCs) via EPA Method TO-15
3. NCDEQ SGSLs = North Carolina Department of Environmental Quality Residential Sub-Slab and Exterior Soil-Gas Screening Levels, dated July 2024
4. TCR = Target Cancer Risk
5. THQ = Target Hazard Quotient
6. -- = result did not exceed NCDEQ SGSLs
7. DUP-SG collected from parent sample SG-4

Table 3: Summary of Cleanup Alternatives
Former Jenkins Wholesale and Smoot Tannery Property
Maple Street
North Wilkesboro, North Carolina
WSP Project Number 6228-23-0056

Alternative	Description	Effectiveness	Implementability	Estimated Cost
1	No Action	Not Effective	Easy	\$0
2	Soil Capping	Moderately Effective	Not Feasible	Not Feasible
3	ACM and LBP Abatement with Off-Site Disposal	Very Effective	Moderately Difficult	\$1,672,500

FIGURES



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WSP USA Environment & Infrastructure Inc.

1001 Morehead Square Drive, Suite 610
Charlotte NC 28203

SUBJECT PROPERTY TOPO
Former Jenkins Wholesale and Smoot Tannery
Maple Street, North Wilkesboro, North Carolina



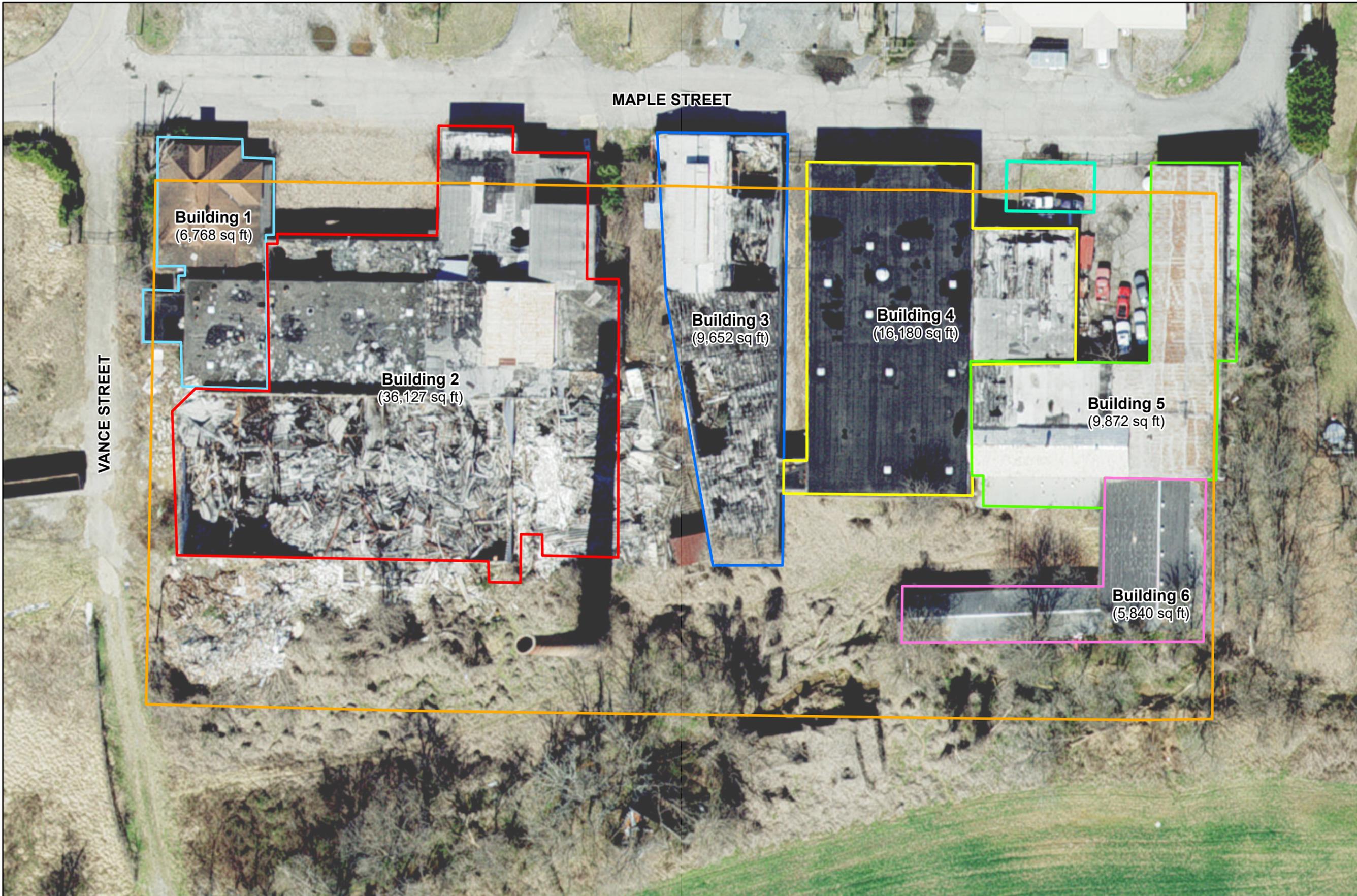
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DATE: 07/17/2024

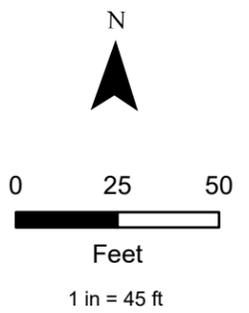
CHECKED BY: RPD

DATE: 07/17/2024

PROJECT: US-EI-6228230056



- ### Legend
- Subject Property
 - Building 1
 - Building 2
 - Building 3
 - Building 4
 - Building 5
 - Building 6
 - Former Location of Two Gasoline USTs



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 1001 Morehead Square Drive, Suite 610
 Charlotte NC 28203

Note: This map is for reference only.

Title: **SUBJECT PROPERTY MAP**
 Former Jenkins Wholesale and Smoot Tannery
 Maple Street, North Wilkesboro, North Carolina

Date: 10/11/2024
 Project No: US-EI-6228230056

Projection: NC State Plane (NAD83, feet)
 File: T:\6228 Environmental\jobs\2023\6228-23-0056 Smoot Tannery (MARC Grant)\GIS\Maps (MXDs)\Workspace.aprx

Figure: **2**



Legend

- Subject Property
- Parcel Boundray
- Approximate Location of Sanborn Map Feature
- Boiler Area
- Hand Vats
- Leach House
- Maintenance Shops
- Oiling and Scouring Area
- Tanning Liquor or Leach Tanks
- Underground Cistern
- Former Rail Spur
- Building 1
- Building 2
- Building 3
- Building 4
- Building 5
- Building 6
- Streams
- Surface Contours
- Former Location of Two Gasoline USTs

N

0 25 50

Feet



WSP USA Environment & Infrastructure Inc.
 1001 Morehead Square Drive, Suite 610
 Charlotte NC 28203

Note: This map is for reference only.

Title: **HISTORIC INFRASTRUCTURE**
 Former Jenkins Wholesale and Smoot Tannery
 Maple Street, North Wilkesboro, North Carolina

Date: 10/11/2024
 Project No: 6228-23-0056

Projection: NC State Plane (NAD83, feet)
 File: T:\6228 Environmental\jobs\2023\6228-23-0056 Smoot Tannery (MARC Grant)\GIS\Maps (MXDs)\Workspace.aprx

Figure: **3**



Legend

- Former Location of Two Gasoline USTs
- Parcel Boundray
- Drum
- Aboveground Storage Tank
- Hydraulic Lift
- Existing Sub-Slab Soil Gas Sample Location
- Existing Direct Push Soil Boring Location
- Existing Hand Auger Boring Location
- Existing Soil Boring/ Permanent Well Location
- Existing Monitoring Well Location
- Soil-Gas Methane Monitoring Point
- Building 1
- Building 2
- Building 3
- Building 4
- Building 5
- Building 6
- Subject Property

N

0 20 40

Feet

1 in = 40 ft



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 Charlotte NC 28203

Note: This map is for reference only.

Title: **SAMPLE LOCATIONS**
 Former Jenkins Wholesale and Smoot Tannery
 Maple Street, North Wilkesboro, North Carolina

Date: 10/11/2024
 Project No: US-EI-6228230056

Projection: NC State Plane (NAD83, feet)
 File: T:\6228 Environmental\jobs\2023\6228-23-0056 Smoot Tannery (MARC Grant)\GIS\Maps (MXDs)\Workspace.aprx

Figure: **4**

Appendix A

Cleanup Alternative Cost Estimate

Cost Estimate: Alternative #3 - ACM Abatement and Debris Removal with Offsite Disposal

Former Jenkins Wholesale and Smoot Tannery Property

Maple Street

North Wilkesboro, North Carolina

WSP Project Number 6228-23-0056

Task	Estimated Cost
ACM and LBP Abatement, Debris Removal, and Building Demolition	
Project Design Specifications for ACM and LBP Abatement	\$6,000
Mobalization/Demobalization/Site Set Up	\$45,000
ACM & LBP Abatement (1 month)	\$500,000
ACM & LBP Debris Transportation and Disposal	\$450,000
Slab Removal and Disposal (85,000sq ft, 1' thick)	\$175,000
Hydraulic Lift Removal (3 days)	\$12,500
Fieldwork (6 weeks)	\$400,000
3rd Party Air Monitoring (5 weeks, 25 days)	\$20,000
WSP Oversight/Confirmation Survey	\$6,000
Additional Assessment	
Preparation of QAPP	\$4,000
Additional Assessment (Labor)	\$14,000
Additional Assessment (Drilling)	\$14,000
IDW Management	\$4,000
Analytical	\$14,000
Report Preparation	\$8,000
Total:	\$1,672,500