Site-Specific Quality Assurance Project Plan, Addendum 1 for the Brownfields Phase II Environmental Site Assessment – Revision 0

Former Kesler Mill/Fieldcrest Cannon Plant #7 Site
423 North Martin Luther King Jr. Avenue
Salisbury, Rowan County, North Carolina

United States Environment Protection Agency Brownfields Cooperative Agreement No. BF-00D26514-0

This document and work performed under this Site-specific QAPP is prepared in accordance with the EPA Region 4 Brownfields Program and the Generic QAPP document for the City of Salisbury, North Carolina, approved on March 10, 2015.

Prepared for

City of Salisbury
217 South Main Street
Salisbury, North Carolina 28144

Prepared by

7606 Whitehall Executive Center Drive, Suite 800
Charlotte, North Carolina 28273
Ph: 704-529-3200
Prepared: July 17, 2015

Approval:

Cardno Project Manager:

Signature

Joe Morici P.E. 9/24/15

Printed Name / Date

Cardno QA/QC Manager:

Signature

Christine Schaefer 9/30/15

Printed Name / Date

EPA Project Officer:

Signature

David Champagne

Printed Name / Date

EPA Designated Approving Official (DAO):

Signature

Printed Name / Date

NDENR Brownfields Project Manager:

Signature

Geoffrey Little

Printed Name / Date

City of Salisbury Planning/ Brownfield Director:

Signature

Janet Gapen 9/24/15

Printed Name / Date

Prism Laboratories Representative:

Signature

Angela Overcash 9/30/15

Printed Name / Date

Approval:

Cardno Project Manager:

Signature

Joe Morici P.E.

Printed Name / Date

Cardno QA/QC Manager:

Signature

Christine Schaefer

Printed Name / Date

EPA Project Officer:

Signature

David Champagne 10/1/15

Printed Name / Date

EPA Designated Approving Official (DAO):

Signature

10/1/15

Printed Name / Date

NDENR Brownfields Project Manager:

Signature

Bruce Nicholson

Printed Name / Date

City of Salisbury Planning/ Brownfield Director:

Signature

Janet Gapen

Printed Name / Date

Prism Laboratories Representative:

Signature

Angela Overcash

Printed Name / Date

A2. TABLE OF CONTENTS

List of Figures:

List of Tables:

List of Appendices:

A3. DISTRIBUTION LIST

The following individuals will receive copies of the approved Quality Assurance Project Plan (QAPP) and subsequent revisions:

- David Champagne, Brownfields Project Officer, United States Environmental Protection Agency (EPA) Region 4, 61 Forsyth Street S.W., Atlanta, GA 30303, Phone: (404) 562-9028, Email: champagne.david@epa.gov
- EPA DAO, EPA – Region 4, Atlanta Federal Building, 61 Forsyth Street Southwest, Atlanta, GA 30303, Phone: (800) 241-1754
- Bruce Nicholson, Brownfields Program Manager, North Carolina Department of Environment and Natural Resources (NCDENR), Division of Waste Management, 1646 Mail Service Center, Raleigh, NC 27699-1646, Phone: (919) 707-8330, Email: bruce.nicholson@ncdenr.gov
- Ms. Janet Gapen, City of Salisbury Planning/Brownfields Director, City of Salisbury, 217 S. Main Street, Salisbury, NC 28144, Phone: (704) 638-5230, Email: jgape@salisburync.gov
- Joe Morici, Cardno Brownfields Director/Project Manager, 10988 Richardson Road, Ashland, Virginia 23005, Phone: (803) 960-2069, Email: Joe.Morici@cardno.com
- Christine Schaefer, Cardno Quality Assurance/Quality Control (QA/QC) Manager, 7606 Whitehall Executive Center Drive, Ste 800, Charlotte, NC 28273, Phone: (704)529-3200, Email: Christine.Schaefer@cardno.com
- David A. Hunter, Field Team Leader, 7606 Whitehall Executive Center Drive, Ste 800, Charlotte, NC 28273, Phone: (704) 529-3200, Email: Dave.Hunter@cardno.com
- Field Team Technicians, information will be submitted in Site-specific QAPP Addendum
- Ms. Angela Overcash, Vice President/Laboratory Director, Prism Laboratories, 449 Springbrook Road, Charlotte, NC 28217, Phone: (704) 529-6364, Email: aovercash@prismlabs.com

A4. PROJECT/TASK ORGANIZATION

Cardno is responsible for conducting and overseeing the Phase II Environmental Site Assessment (ESA) funded by the brownfields project. The information presented in this

document represents the minimum standards required for the completion of the ESA under the City's brownfields program. A project organization chart is provided as **Figure 1**. The following are the individuals participating in the project and their specific roles and responsibilities:

David Champagne, EPA Region 4 Brownfields Project Officer - The EPA Project Officer is responsible for overseeing and monitoring the grant. As part of that responsibility, he ensures the processes described in the work plan are followed and the terms and conditions of the grant are met.

EPA Region 4 Brownfields Designated Approving Official – The Brownfields Region 4 Quality Assurance Manager's DAO provides technical assistance to the Region 4 Project Officer working on Brownfields sites. The DAO's role is to provide technical reviews of the Generic QAPPs and Site-specific QAPP Addenda that are generated. This includes the approval of the Generic QAPP and Site-specific QAPP Addenda and any revisions.

Bruce Nicholson, NCDENR Program Manager – This individual is involved in the review and approval of the final site assessment plan(s), Site-specific QAPP Addenda, and report(s). This individual also ensures that plans are in compliance with the current NCDENR rules and regulations. If a potential purchaser is pursuing a Brownfields Agreement with NCDENR, this individual is involved in scoping the necessary assessment and cleanup requirements to achieve the agreement.

Janet Gapen, City of Salisbury Planning/Brownfields Director – The City of Salisbury Brownfields Director (Director) is responsible for the overall strategic direction of the project. The Director ensures project activities are executed in accordance with the approved Work Plan and the Terms and Conditions of the Cooperative Agreement.

Joe Morici, Cardno Project Manager – The Cardno Project Manager will be the primary decision maker for the project and the primary user of the data to determine whether or not further action is required at the site. The Project Manager will also coordinate the project activities and will have overall responsibility of the investigation. The Project Manager's specific responsibilities are as follows:

1. Approving the QAPP and subsequent revisions;
2. Developing the Site-Specific Health and Safety Plan (HASP);
3. Ensuring project activities are conducted in accordance with the QAPP;
4. Coordinating corrective actions outside of standard operating procedures with the Field Team leader, and coordinating with the Laboratory Director to correct any corresponding problems encountered in the chemical analyses;
5. Coordinating the corrective actions for problems that may affect the established data quality objectives;
6. Developing and submitting a final assessment report, which includes descriptions of field and laboratory activities, results, and conclusions;
7. Reporting to the EPA Project Manager, NCDENR Project Manager, and City of Salisbury Brownfields Director regarding the project status; and,
8. Making final project decisions with the authority to commit the necessary resources

to conduct the project.

Christine Schaefer, Cardno QA/QC Manager – The Cardno QA/QC Manager (QA/QC Manager) provides documentation audits and technical review to assist in promoting, implementing, and documenting QA compliance. The QA/QC Manager is isolated from the implementation Project Manager. This allows lateral support as a peer to the Project Manager without introducing unintentional biases while conducting the work. The QA/QC Manager has extensive environmental and regulatory assessment experience at both the state and federal levels. The QA/QC Manager reviews the data validation for the project.

David A. Hunter, Field Team Leader –The Field Team Leader reports to the Project Manager and performs the following duties:

1. Selecting and supervising the Field Team Scientists and Technicians;
2. Distributing the approved QAPP and subsequent revisions to the members of the Field Team Technicians;
3. Conducting the field activities per the approved QAPP;
4. Reporting the status of field activities to the Project Manager;
5. Implementing corrective actions within standard operating procedures in the field, documenting corrective actions in the field logs, and providing documentation to the Project Manager; and
6. Coordinating corrective actions outside of standard operating procedures with the Project Manager, instituting corrective actions, documenting corrective actions in the field logs, and providing documentation to the Project Manager.

Field Team Scientists and Technicians – These individuals will perform the actual fieldwork per the QAPP and at the direction of the Field Team Leader. The field team typically consists of two to four people, who are selected by the Field team Leader once the field team activities are scheduled.

Laboratory Director –The Laboratory Director is responsible for the following:

1. Coordinating the analysis of the samples and selecting the analytical team.
2. Coordinating the receipt of the samples at the laboratory.
3. Ensuring internal laboratory audits are conducted per the Laboratory's Quality Assurance Manual (QAM), and distributing the applicable sections of the QAPP and subsequent revisions to members of the analytical team.
4. Instituting corrective actions for problems encountered in the chemical analyses and reporting laboratory problems affecting the project data to the Project Manager. Corrective actions for chemical analyses will be detailed in a lab report that will be provided via electronic mail.

A5. PROBLEM DEFINITION/BACKGROUND

The City of Salisbury, North Carolina, has been awarded a Brownfields Assessment Grant from the USEPA under Cooperative Agreement Number BF-00D26514-0. Funding from

this grant will be utilized to conduct a Phase II Environmental Site Assessment (ESA) at the former Kesler Mill/Fieldcrest Cannon Plant #7 Site (hereinafter referred to as the Site) located at 423 North Martin Luther King Jr. Avenue, Salisbury, Rowan County, North Carolina. The City of Salisbury is pursuing assessment of the subject property in order to determine the extent of possible contamination from identified *recognized environmental conditions (RECs)* noted in a Phase I ESA Report completed by Griffith Enterprises (Griffith) on August 14, 2013. According to the Phase I ESA and additional documents reviewed by Cardno, multiple *RECs* were identified, including gasoline and fuel oil underground storage tank (UST) releases, a fuel oil aboveground storage tank (AST) release, a soil stockpile impacted with polychlorinated biphenyls (PCBs), and historic information indicating the Site was a conditionally exempt small quantity generator of hazardous waste.

This Site-specific QAPP was developed to meet the requirements of the Brownfield Assessment Grant between the City of Salisbury and the USEPA and to address RECs identified in the Phase I ESA completed by Griffith on August 14, 2013, for potential redevelopment of the property. Specifically, this QAPP was developed to determine the potential presence and extent of soil and groundwater contamination that may require remedial actions by fully delineating areas of soil contamination in areas identified in the Phase I ESA.

A5.1 Site Location and Description

The subject property consists of six parcels totaling 13.536 acres and is located at 423 North Martin Luther King Jr. Avenue, Salisbury, Rowan County, North Carolina. A Topographic Site Location Map, consisting of the relevant portion of the United States Geological Survey (USGS) topographic map, Salisbury, N.C. quadrangle, is included for reference (**Figure 2**). The subject property is identified by Parcel Identification Number 016183 and is currently owned by the Fund for Community Support Incorporated. The subject property is located in an area of single-family residential housing. No structures are located on the Site.

A5.2 Site and Regional Characteristics

According to the Geologic Map of North Carolina, produced by the State of North Carolina in 1985, the Site lies in the Charlotte Belt of the Piedmont Physiographic Province of North Carolina. The rock type at the Site has been identified as granite. The shallow subsurface in most areas of the Piedmont contains residual soil overburden, including structure-free residuum, saprolite, and partially weathered rock (PWR) that derive from in-place weathering of the crystalline bedrock. Occasional areas containing recent deposits of alluvium in the uppermost subsurface are found near streams and rivers. Saprolite and PWR typically

contain some relict structures from the original rock material. Depth to rock ranges from ground surface at occasional outcrops to depths of greater than 100 feet in areas of easily weathered rock.

The shallow aquifer occurrence varies in depth from ground surface at springs, creeks, and rivers to as deep as 50 feet or more beneath upland surfaces in some parts of the Piedmont. Water in the alluvium or unconsolidated residual material, including saprolite and PWR, usually behaves as an unconfined, or water table, aquifer and will yield water with head elevation equivalent to the first elevation where water is encountered. Permeability varies with lithology and is typically relatively low in residual soils, with higher permeability in saprolite or PWR due to relict rock texture and variable susceptibility to weathering exhibited by different minerals in the rock. Groundwater flow in residual soils or alluvium is usually in rough concurrence with local topographic conditions and is toward local drainage features.

The bedrock fractures or other planar features generally constitute the bedrock aquifer, with the surrounding rock material being effectively impermeable. Along with fractures, contacts between rock bodies probably constitute zones of significant groundwater occurrence in the bedrock. The surrounding material and overlying residuum tend to make the bedrock aquifer a semi-confined aquifer. That is, the overlying water and soil weight normally results in pressure that causes water in a borehole which intersects a fracture or other feature to rise above the elevation of the fracture or feature. Such features may not occur on predictable trends, at the same elevations, or even be present or directly connected in separate boreholes. In areas adjacent to creeks the bedrock groundwater generally discharges to the residuum or alluvium and then into the surface water. In upland areas away from surface water drainages, the bedrock aquifer is generally recharged by downward infiltration of residuum or alluvial aquifer water at locations where fractures intersect the bedrock surface.

Groundwater in the Piedmont physiographic province is typically found in unconfined or semi-confined conditions with a flow that generally mimics the topography. The USGS Topographic Map, Salisbury Quadrangle (**Figure 2**), indicates that groundwater is expected to follow the topography by flowing east towards a tributary to Town Creek.

A5.3 Current and Historic Uses of the Subject Property

The subject property is the former location of the Kesler Manufacturing Company, which operated as a textile mill consisting of approximately 5,000 spindles. The former textile mill was then operated by J.W. Cannon which added a second mill building, office building, residential houses, and store. The mill facility was operated by Cannon Mills Company in 1928 under the name Cannon Mill Plant #7. Cannon Mills Company was purchased by

Fieldcrest Mills, Inc. in 1986, which was purchased by Pillowtex in 1997. The facility was closed in August, 2000, due to bankruptcy of Pillowtex. The former mill buildings have been razed, and no structures remain at the site.

The layout of the subject property is depicted on **Figure 3**, which includes an aerial photograph of the Site and surrounding properties.

A5.4 Previous Site Assessments

2013 Phase I ESA: Griffith completed a Phase I ESA of the subject property in August 2013. During the assessment, Griffith identified the following RECs associated with the subject property:

1) A 550-gallon gasoline UST was removed from the northern portion of the Site on September 12, 1989. A release was documented to have occurred from the UST prior to its removal. Subsequent groundwater monitoring indicated petroleum impact to groundwater above North Carolina Groundwater Standards (2L Standards; Title 15A, NCAC, Subchapter 2L, Part .0202). The NCDENR Mooresville Regional Office (MRO) issued a letter on July 15, 1992, stating that no further groundwater evaluation was required at the time. To date, a Letter of No Further Action (NFA) has not been issued for the release. The release and lack of NFA documentation constitutes a *REC*.

2) A 40,000-gallon #4 fuel oil UST and a 550-gallon #4 fuel oil day tank UST were removed from the center of the Site on June 21, 1994. Releases were documented to have occurred from the USTs and product piping. On August 12, 1994, soil was excavated along the former product piping and day tank UST. Post-excavation sampling was performed and indicated that petroleum impact remained in the subsurface soils.

   An NFA was issued for the release on July 18, 2001, and accepted proposed remediation by natural attenuation. Due to the likely remaining presence of #4 fuel oil in the subsurface, the incident constitutes a *REC*.

3) On July 12, 2007, a release of approximately 8,000 gallons of #6 fuel oil occurred from a 15,000-gallon AST due to apparent vandalism. The AST supplied fuel oil the boiler room area of the Site. According to EPA information, the release flooded the boiler room and ran across the Site into the sanitary sewer system and a tributary of Town Creek. Approximately 8,000 gallons of fuel oil were recovered from the boiler room by Shamrock Environmental on July 15 and 16, 2007. During recovery effort, fuel oil leaching to the tributary of Town Creek was also observed. Remediation of the tributary continued until August 2, 2007.

   A Notice of Violation (NOV) was issued to Southfund Properties of Atlanta, Georgia on July 27, 2007. The NOV required a written response documenting the proper disposal of impacted materials and post remediation sampling results. No response

to the NOV was identified in the NCDENR MRO files. The likelihood of remaining subsurface impact from this incident constitutes a *REC*.

4) A PCB-impacted soil stockpile was identified at the Site during the time of emergency response activities associated with the release from the 15,000-gallon AST. The origin of the PCBs was identified as an electrical transformer which was reported to have been vandalized prior to the AST release. The stockpile was reported to not have been secure and was exposed. No documentation of removal of the stockpile or post removal sampling was identified. The potential presence of PCBs in the subsurface from the stockpile represents a *REC*.

5) The Site was identified in the EDR Radius Report as a historical conditionally exempt small quantity generator of hazardous waste. Waste codes for the Site included lead, benzene, tetrachloroethylene (PCE), and trichloroethylene (TCE). The possible presence of the identified compounds in the subsurface based on historic site use over an extended period constitutes a *REC*.

In the Phase I ESA appendices, a Site Profile provided by the EPA indicates the presence of an oil-water separator associated with the 2007 release from the 15,000-gallon AST. The Site Profile indicates that the spill flooded the boiler room, which contained a floor drain that fed to an on-site oil-water separator. The oil-water separator was observed to be filled with heating oil. The oil-water separator malfunctioned due to the fact it was not designed to accommodate such a high volume from the release. Oil was observed to be seeping from the soils in proximity of the oil-water separator. Based on the information provided from the EPA, the presence and documented release from the oil-water separator constitutes a *REC.*

Former mill operations included two locations identified as mechanical shops and one location of former paint storage. The locations may have included the storage of potentially hazardous materials. The unknown nature of the locations and possible hazardous materials storage constitutes a *REC* and should be further investigated.

A5.5 Chemicals of Concern

Former Site USTs and ASTs including gasoline and diesel have been documented to have released petroleum compounds to the subsurface. Chemicals of concern related to the USTs and ASTs include volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). A former transformer sub-station is documented to have released PCBs into the subsurface of the Site, which would constitute chemicals of concern. Structural debris is reported to remain on the Site. Based on the construction date of the mill and associated buildings, it is possible that the debris may contain asbestos which should be considered a chemical of concern.

A5.6 Conceptual Site Model

Based on the results of the Phase I ESA it is likely that VOCs and SVOCs associated with mill operations and documented UST and AST releases have impacted the surface and subsurface soils at the Site. Impact by VOCs and SVOCs may also exist in groundwater throughout the subject property and surface water and sediment on the eastern part of the Site. It is also possible that historical vandalism to an on-site transformer released PCBs into the subsurface. The Phase II ESA will evaluate extents of impact and assess the subsurface conditions. Evaluation of structural debris during the Phase II ESA will also identify if asbestos is present at the Site.

A5.7 Purpose of Assessment

Fund for Community Support Incorporated has acquired the property and is considering cleanup and redevelopment activities. This QAPP has been prepared to support these cleanup and redevelopment efforts. The Phase II ESA will be performed to determine the extent of soil and/or groundwater contamination that may require remedial actions by assessing soil and groundwater in areas of potential contamination identified during the Phase I ESA and throughout the mill facility. This information will be used to determine the extent of impact that may require removal and/or if further assessment is necessary. Structural debris will be evaluated for asbestos content to assure that proper removal protocols are followed. The project-specific data quality objectives (DQOs) for the subject property are summarized in **Table 1**.

A6. PROJECT/TASK DESCRIPTION AND SCHEDULE

The basis for the work scope consists of the findings of previous assessment activities completed by Griffith. In addition to the laboratory analysis of surficial soils and subsurface soils, general observations including soil lithology will be made to aid in the decision making process. Groundwater will also be analyzed for potential impact from identified RECs.

The scope of work described in subsequent sections will be completed in two phases as follows:

1. The initial phase will include the collection of surface and subsurface soil samples, groundwater samples, surface water, and sediment samples. Identified structural debris will be analyzed for the presence of asbestos.

2. The data collected will determine the need for additional assessment or remediation. The need for additional work will be evaluated with input from all

project stakeholders as described in the Generic QAPP. Additional assessment work scopes will be detailed in revisions to this addendum. If assessment is complete, an Analysis of Brownfields Cleanup Alternatives (ABCA) may be prepared, if applicable impact is encountered.

A6.1 Sampling Plan

Soil and groundwater samples will be collected at predetermined locations based on findings of the Phase I ESA and the judgment of experienced Cardno personnel. The proposed soil boring and groundwater monitor well locations are illustrated on **Figure 4**. **Table 2** provides the analysis criteria for each sample including QA/QC samples. The field staff will be provided with a copy of this plan for reference while in the field. All drilling and sample collection activities will be conducted in accordance with the USEPA Region 4 Science and Ecosystem Support Division (SESD) Field Branches Quality System and Technical Procedures as identified in **Table 2**.

Cardno anticipates that investigation derived waste (IDW) in the form of soil cuttings from well installation and groundwater from well development and sampling will be generated during the assessment activities. Profiling of the IDW will be conducted in accordance with disposal facility permit requirements, including Toxicity Characteristic Leaching Procedure (TCLP) testing if analytical results of soil and groundwater suggest that the materials could be deemed hazardous waste. Based on profiling, the waste if impacted will be properly disposed.

In addition to the soil and groundwater samples, identified structural debris samples will be collected and analyzed by Polarized Light Microscopy (PLM) methods for the presence of asbestos. The following subsections discuss the tasks associated with assessing the various sample media at the subject property.

A6.2 Field Measurements

Soil borings will be advanced to collect soil samples for laboratory analysis. Soil collected from borings will be logged according to the Unified Soil Classification System (USCS) and for other observations and will be screened for VOCs using a Photoionization Detector (PID). The soil screening will occur for every two foot interval above the water table. During well development and purging, groundwater will be screened in general accordance with environmental consulting industry standards in North Carolina and the SESD procedures. At a minimum, water level collection will be conducted after wells have recovered from development for approximately two to four hours. Measurements with field water quality instrumentation will be collected during purging of each well, at maximum intervals of one standing well volume removal, and will include temperature, conductivity, and pH.

Additionally, final measurements before sampling will include the preceding parameters, dissolved oxygen, oxidation-reduction potential, and turbidity.

A6.3 Laboratory Testing

Based on the previously identified *RECs*, full reportable lists of compounds within the following analytical method categories have been identified for this assessment and include the following:

- VOCs by EPA Method 8260B;
- SVOCs by EPA Method 8270D;
- PCBs by EPA Method 8082;
- Total Petroleum Hydrocarbons (TPH) Gasoline Range Organics (GRO) by EPA Method 8015B;
- TPH Diesel Range Organics (DRO) by EPA Method 8015B;
- Metals by EPA Method 6010;
- Asbestos content in debris using PLM by EPA Method 600/M4-82-020.

Please note that methods at each assessment location will vary. The preceding list is the full suite of analyses for the entire site. The Listings of Accredited Analyses, detailing all analytes, are provided in Prism Laboratory, Inc.'s (Prism) QAM, which is included as **Appendix A**.

A6.4 Soil and Groundwater Samples (Critical)

Surface and subsurface soil and groundwater assessment is planned at the following locations:

Former 550-Gallon Gasoline UST

To assess soil conditions in the area of the former UST with a documented 1989 release, one soil boring will be advanced to a depth of approximately 20 feet below ground surface (ft bgs), or until groundwater is encountered. Soil samples will be collected at two foot intervals and screened for VOCs with a PID. A surficial soil sample (0-1 ft bgs) will be collected for laboratory analysis. A soil sample will also be collected for laboratory analysis from the depth with the highest screened PID, or, if no PID readings are observed, the sample collected at approximately 4-5 ft bgs will be submitted. Following advancement of the soil boring, a monitor well (GW-1) will be installed into the water table to collect a groundwater sample for analysis of VOCs and TPH GRO.

On-Site Oil-Water Separator

To assess conditions in the potential area of the former oil-water separator with a documented 2007 release, two soil borings (SB-1 and SB-2) will be advanced to the northwest and southeast of the potential area to a depth of approximately 20 ft bgs, or until groundwater is encountered. Soil samples will be collected at two foot intervals and screened for VOCs with a PID. One soil boring will also be advanced to the water table to the east (downgradient) of the oil-water separator and soils will be screened during installation. A surficial soil sample (0-1 ft bgs) will be collected for laboratory analysis from each boring. A soil sample will also be collected for laboratory analysis from the depth with the highest screened PID, or, if no PID readings are observed, the sample collected at approximately 4-5 ft bgs will be submitted. The soil samples will be analyzed for VOCs, SVOCs, PCBs, TPH DRO, and TPH GRO. Following advancement of the eastern boring location, augers will be advanced into the water table to install a groundwater monitor well (GW-5). The groundwater samples from the well will be analyzed for VOCs, SVOCs, TPH GRO, and TPH DRO.

Former Paint Storage and Mechanical Shop

To assess conditions related to the former paint storage and mechanical shop, two soil borings (SB-3 and SB-4) will be advanced. Borings will be advanced to approximately 20 ft bgs, or until groundwater is encountered. Soil samples will be collected at two foot intervals and screened for VOCs with a PID. A surficial soil sample (0-1 ft bgs) will be collected for laboratory analysis from each boring. A soil sample will also be collected for laboratory analysis from the depth with the highest screened PID, or, if no PID readings are observed, the sample collected at approximately 4-5 ft bgs will be submitted. The soil samples will be analyzed for VOCs, SVOCs, PCBs, and metals.

One soil boring will be advanced to the east of the SB-3 and SB-4 locations to the water table. Two soil samples (surficial and a sample from the depth with the highest screened PID, or, if no PID readings are observed, the sample collected at approximately 4-5 ft bgs) will be analyzed for VOCs, SVOCs, PCBs, and metals. Following soil sample collection, augers will be advanced in the same location for installation of a groundwater monitor well (GW-7). The groundwater samples from the well will be analyzed for VOCs, SVOCs, and metals.

Former Transformer Sub-Station

To assess conditions in the area of a documented PCB release from a former transformer sub-station, one soil boring will be advanced to the water table. Soil samples will be collected at two foot intervals and screened for VOCs with a PID. A

surficial soil sample (0-1 ft bgs) will be collected for laboratory analysis. A soil sample will also be collected for laboratory analysis from the depth with the highest screened PID, or, if no PID readings are observed, the sample collected at approximately 4-5 ft bgs will be submitted for laboratory analysis. The soil samples will be analyzed for VOCs, SVOCs, and PCBs. Augers will be advanced in the same location for installation of a monitor well (GW-11). The groundwater samples collected from GW-11 will be analyzed for VOCs, SVOCs, and PCBs.

Former 15,000-Gallon #6 Fuel Oil AST

To assess conditions in the area of a documented release, two soil borings (SB-5 and SB-6) will be advanced to approximately 20 ft bgs, or until groundwater is encountered, within the boundaries of the former AST. Soils will be screened in the field with a PID for VOCs. A surficial soil sample (0-1 ft bgs) will be collected for laboratory analysis from each boring. A soil sample will also be collected for laboratory analysis from the depth with the highest screened PID, or, if no PID readings are observed, the sample collected at approximately 4-5 ft bgs will be submitted. The samples will be analyzed for SVOCs, PCBs, and TPH DRO.

One soil boring will be installed to the water table to the east (downgradient) of the former AST. Two soil samples (surficial and a sample from the depth with the highest screened PID, or, if no PID readings are observed, the sample collected at approximately 4-5 ft bgs) will be analyzed for SVOCs, PCBs, and TPH DRO. Augers will then be advanced for installation of a groundwater monitor well (GW-8). Groundwater collected from GW-8 will be analyzed for SVOCs and TPH DRO.

Former Mechanical Shop

To assess conditions in the area of the northwestern former mechanical shop, one soil boring will be advanced to the water table. A surficial soil sample (0-1 ft bgs) will be collected for laboratory analysis. A soil sample will also be collected for laboratory analysis from the depth with the highest screened PID, or, if no PID readings are observed, the sample collected at approximately 4-5 ft bgs will be submitted. The soil samples will be analyzed for VOCs, SVOCs, PCBs, and metals. Augers will be advanced in the same location for installation of a groundwater monitor well (GW-4). Groundwater will be analyzed for VOCs, SVOCs, and metals.

General Site Conditions

To assess groundwater conditions on other areas of the property, six additional groundwater monitor wells (GW-2, GW-3, GW-6, GW-9, GW-10, and GW-12) will be installed throughout the Site. **Figure 4** depicts the locations of the additional wells. Soil borings will be advanced to the water table at each location. A surficial soil sample (0-1 ft bgs) will be collected for laboratory analysis from each boring. A soil

sample will also be collected for laboratory analysis from the depth with the highest screened PID, or, if no PID readings are observed, the sample collected at approximately 4-5 ft bgs will be submitted. Augers will then be advanced at each location for installation of groundwater monitor wells, and groundwater samples will be collected and submitted for analysis. Soil and groundwater samples will be analyzed for VOCs and SVOCs. Analytical methods for the samples are indicated on **Table 2**.

To assess surface water conditions in the tributary of Town Creek located towards the eastern part of the Site, four surface water samples (upstream, two midstream, and downstream) will be collected and analyzed for VOCs and SVOCs. Sediment samples will be collected from the locations near the surface water sampling points, and the sediments will be analyzed for VOCs, SVOCs, and PCBs.

Building debris has been identified on the subject property. The debris likely consists of building material from the former mill operation. Based on the construction date of the mill and associated buildings, the remaining debris may contain asbestos. Up to 20 samples of building debris will be collected for laboratory analysis.

There are no critical sampling conditions under which the data should be collected. The data will be used to determine the absence or presence of chemicals of concern at the Site and will identify the need for additional assessment and/or remediation.

A6.5 Non-Critical Determinations

Non-critical determinations made during the drilling/soil and groundwater sample collection activities will include describing soil characteristics, such as lithology, color, and grain size. This information will be used to supplement the critical data. Non-critical data would not be used to make the decision of whether or not remediation is necessary.

A6.6 Regulatory Standards

Soil data will be compared to the residential criteria for direct soil exposure and the MCL-Based SSL, as listed in the USEPA Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites (June 2015). Groundwater samples will be compared to North Carolina Groundwater Standards (2L Standards; Title 15A, NCAC, Subchapter 2L, Part .0202). Surface water samples from the Tributary of Town Creek will be compared to North Carolina Surface Water Standards (2B Standards; Title 15A, NCAC, Subchapter 2B). Other regulatory standards which may apply would include gross contamination levels (GCLs) and ten times 2B Standards for groundwater impacted by petroleum, and maximum soil contaminant concentrations (MSCCs) for soil impacted by petroleum, as regulated by the NC

UST Section. The soil remediation goals (SRGs) promulgated by the Inactive Hazardous Sites Branch (ISHB) of the North Carolina Superfund Section will apply to soils affected by hazardous waste impact. The 2L Standards will apply to hazardous groundwater impact.

A6.7 Data Use

Surface soil, subsurface soil, and groundwater samples will be collected to provide analytical data for Site characterization. The significance and nature of impacts to the areas of concern will be determined by evaluation of the analytical data. If analytes are not detected or are detected in the samples at concentrations below the applicable standards, then contaminants of concern identified on the subject property will be deemed not to pose a significant threat to human health or the environment. If analytes are found above regulatory criteria in the samples, then the degree to which these impacts affect redevelopment of the Site must be evaluated. Further assessment and/or an ABCA would then be recommended.

A6.8 Schedule

The anticipated start date for sample collection will be based on the final approval of this Site-Specific QAPP Addendum. The field activities will commence no later than 30 days of the Site-Specific QAPP Addendum approval and within 14 days if the drilling schedule allows for initiation of field activities within 14 days of approval. Sample collection and associated field work should take approximately two weeks to complete. Samples will be shipped overnight to the laboratory throughout the duration of the project. Laboratory results will be sent to the Cardno project manager within ten business days of sample receipt. The draft Phase II ESA report should be completed within 30 days after receipt of the laboratory results.

A7. SPECIAL TRAINING REQUIREMENTS/CERTIFICATION

Prism's QAM is provided as **Appendix A**. Other training requirements and certifications are provided under the Generic QAPP document.

A8. DOCUMENTS AND RECORDS

Documentation and Records requirements are provided under the Generic QAPP document.

B1. SAMPLING DESIGN PROCESS

The proposed Phase II ESA will evaluate potential environmental impacts to soil and groundwater in areas of concern identified during the Phase I ESA. Collection of samples is intended to evaluate/delineate potential releases due to specifically located activities and/or items. Proposed sampling locations may be adjusted in the field based on Site conditions and features. A proposed Sample Location Map for the subject property is included as **Figure 4**. The type and number of samples required, including the analytical methods are provided in **Table 2**. ATC's Project Manager will be responsible for discussing any out-of-the-ordinary communications/instructions that need to take place with the laboratory to address special methods, matrices or particular samples.

The following scope of work has been developed by Cardno based on the findings of the Phase I ESA conducted at the subject property.

B1.1 Soil, Groundwater, Surface Water, Sediment, and Structural Debris Sample Collection

Both surface soil and subsurface soil samples will be collected during the Phase II ESA activities. Soil samples will be collected at monitor wells and six separate locations (SB-1 through SB-6) on the subject property via a direct-push technology (DPT) rig using disposable cellulose acetate butyrate (CAB) core barrel liners or a decontaminated stainless steel hand auger. Soils will be collected from ground surface to the water table at monitor well locations and soils will be collected from ground surface to approximately 20 ft bgs, or until groundwater is encountered, at the soil boring locations. Soils will be screened for organic vapors using a PID. Soils will be submitted for laboratory analysis as described in Section A6. Proposed soil boring and well locations are indicated on **Figure 4**.

Groundwater monitor wells will be installed using a Geoprobe® fitted with augers at identified locations and constructed using two-inch diameter, polyvinyl chloride (PVC) well screen, with 0.010-inch factory-cut slots. The wells will be constructed to bracket the water column to assure representative shallow groundwater conditions. The annular space within the borings will be filled with well-graded, pre-washed silica sand from the total depth to one foot above the screen, and the sand pack will be capped by a bentonite seal. Grout will then be used to fill the remaining length of annular space. Each well will be secured with compression, locking well caps and locks. Wells will be completed above the ground surface with three foot stickup casings except in traffic areas where they will be secured at the surface with flush-mounted, 8" diameter steel, bolt-down manholes and two-foot square concrete pads. The wells will be purged and sampled using a disposable bailer. Proposed monitor well locations are indicated on **Figure 4**.

Four surface water and four sediment samples will be collected from the Tributary of Town Creek. The tributary will analyzed at four points from the section of which flows through the subject property. The section will be divided into four approximately equal sections and sampled from the center of each section. Sediment samples will be collected manually or using a decontaminated stainless steel hand auger and surface water samples will be collected directly into the laboratory-provided sample container. Proposed surface water and sediment locations are indicated on **Figure 4**.

Structural debris identified at the Site will be sampled for the presence of asbestos. Sampling will be conducted by a North Carolina-licensed asbestos inspector, who will conduct the sampling and specify analyses appropriate for potentially asbestos containing debris. The area of observed structural debris and proposed sample locations are indicated on **Figure 4**.

B1.2 Quality Assurance/Quality Control Samples

QA/QC samples to be submitted for laboratory analysis will include two field blanks, two equipment blanks, four duplicate samples, and one temperature blank per sample cooler. The blanks will be analyzed for VOCs, SVOCs, and PCBs, TPH DRO, and TPH GRO. Duplicate sample analyses will mirror the analyses specified for their respective base samples. The quality control samples will be labeled on the sample bottles and chain-of-custody forms, as appropriate.

B1.3 Authorizations, Permits, and Clearances

On-site activities associated with this project will not commence until the proper authorizations, permits, and clearances are obtained, as applicable. These may include, but are not limited to, the following items.

- Cable/Utilities Clearance: Prior to the field activities, the North Carolina 811 Call Center will be contacted to conduct a utility survey. Where possible, a hand auger or post-hole digger will be used for the first three to four feet prior to initiating drilling in order to minimize the potential for intersecting underground utilities. In addition, available site maps will be reviewed and a geophysical survey will be conducted, if necessary, to locate underground pipelines, utilities, or structures.
- Fund for Community Support Incorporated owns the property and has provided access to the City and its consultants for performance of this Phase II ESA.

- Prior to field activities, Cardno will prepare and submit an NCDENR application for a permit to construct monitoring wells.

Cardno personnel will conduct and oversee the field activities. Upon completion of the sampling and analyses, Cardno will produce a Phase II ESA report summarizing the field

activities. The report will include a narrative of the field events; copies of field forms and notes; and tables and figures summarizing the analytical data. Analytical data will be compared to the regulatory standards referenced in Section A6 to identify constituents and areas of concern, and Cardno will apply appropriate regulatory and industry standard evaluations of the data to develop appropriate conclusions and recommendations.

B2. SAMPLING AND ANALYTICAL METHODS REQUIREMENTS

To ensure that potential chemicals/contaminants of concern are identified, the soil, groundwater, and building debris samples will be analyzed for the parameters as detailed in Section B1. The proposed sample locations for the subject property are depicted on **Figure 4**. **Table 2** provides a summary of sample locations and analytical methods for the respective location. Based on conditions observed during implementation of the field activities, adjustments may be required to the sampling plan.

B3. SAMPLE HANDLING AND CUSTODY REQUIREMENTS

The laboratory QAM for Prism is provided in **Appendix A** (CD Format). All other information pertaining to sample handling and custody requirements is provided in the Generic QAPP document.

B4. ANALYTICAL METHODS AND REQUIREMENTS

Analytical methods are provided in **Table 2** and are presented in Sections A6 and B1 of this document. All other analytical information is provided in the Generic QAPP document.

B5. FIELD QUALITY CONTROL REQUIREMENTS

Quality control samples will be collected during field studies for various purposes which include the isolation of site effects (control samples) and the evaluation of field/laboratory variability (spikes and blanks, trip blanks, duplicates). Two field blanks, two equipment blanks, and four duplicate soil samples will be collected. Proposed blanks and duplicate samples are referenced in **Table 2**.

Temperature blanks will be included in each sample cooler to ensure that the samples are maintained at the appropriate temperature pending delivery to the laboratory.

All other field quality control requirements are provided in the Generic QAPP document.

B6. LABORATORY QUALITY CONTROL REQUIREMENTS

This information is provided in the Generic QAPP document. In addition, the laboratory QAM is provided in **Appendix A** (CD Format) of this document.

B7. FIELD EQUIPMENT AND CORRECTIVE ACTION

This information is provided in the Generic QAPP document.

B8. LAB EQUIPMENT AND CORRECTIVE ACTION

The laboratory QAM is provided in **Appendix A** (CD Format), and all other information is provided in the Generic QAPP document.

B9. ANALYTICAL SENSITIVITY AND PROJECT CRITERIA

Method detection limits and reporting limits for each analytical method are provided in the laboratory QAM in **Appendix A**. Additional information is provided in the Generic QAPP document.

B10. DATA MANAGEMENT AND DOCUMENTS

Prism's QAM is provided in **Appendix A** (CD Format). Additional information is provided in the Generic QAPP document.

C1. ASSESSMENT AND RESPONSE ACTIONS

Information pertaining to Assessment and Response Actions is provided in the Generic QAPP document.

C2. PROJECT REPORTS

Information pertaining to project reports is provided in the Generic QAPP document.

D1. FIELD DATA EVALUATION

Information pertaining to Field Data Evaluation is provided in the Generic QAPP document.

D2. LABORATORY DATA EVALUATION

Data qualifiers are assigned by the laboratory if necessary. Prism's data evaluation process can be found in Section 12.0 of their respective QAM provided in **Appendix A**. All other information is provided in the Generic QAPP document.

D3. DATA USABILITY AND PROJECT VERIFICATION

A Prism Analytical Technical Services Representative will review and verify the laboratory data generated for accuracy according to the Prism's QAM Section 12.2. Information on QC procedures is provided in the Prism's QAM Section 12.2. The Prism QAM is provided in **Appendix A** (CD Format). All other information is provided in the Generic QAPP document.

REFERENCES

1. U.S. EPA Region 4. *SESD, Field Branches Quality System and Technical Procedures.* February 2008.

2. U.S. EPA Regional Screening Levels Master Table. November 2012.

3. Griffith Enterprises. *Phase I Environmental Site Assessment, Former Kesler Mill/Fieldcrest Cannon Plant #7, 423 North Martin Luther King Jr. Avenue, Salisbury, Rowan County, North Carolina.* August 14, 2013.

4. U.S. EPA Region 4. *Brownfields Quality Assurance Project Plans (QAPPs) Interim Instructions Generic and Site-Specific QAPP Addendum for Brownfields Site Assessments and/or Cleanups.* July 2010.

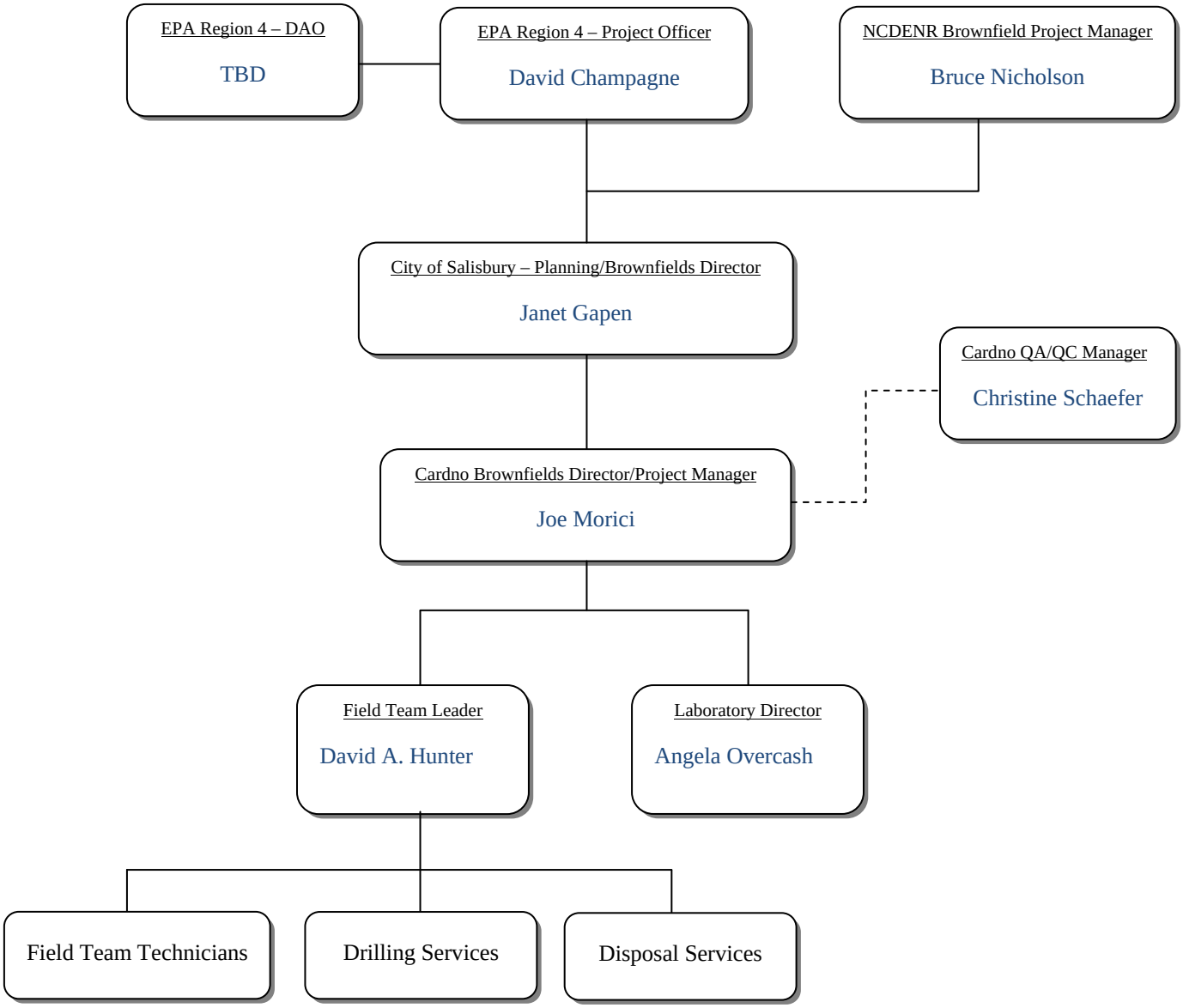
LIST OF ABBREVIATIONS

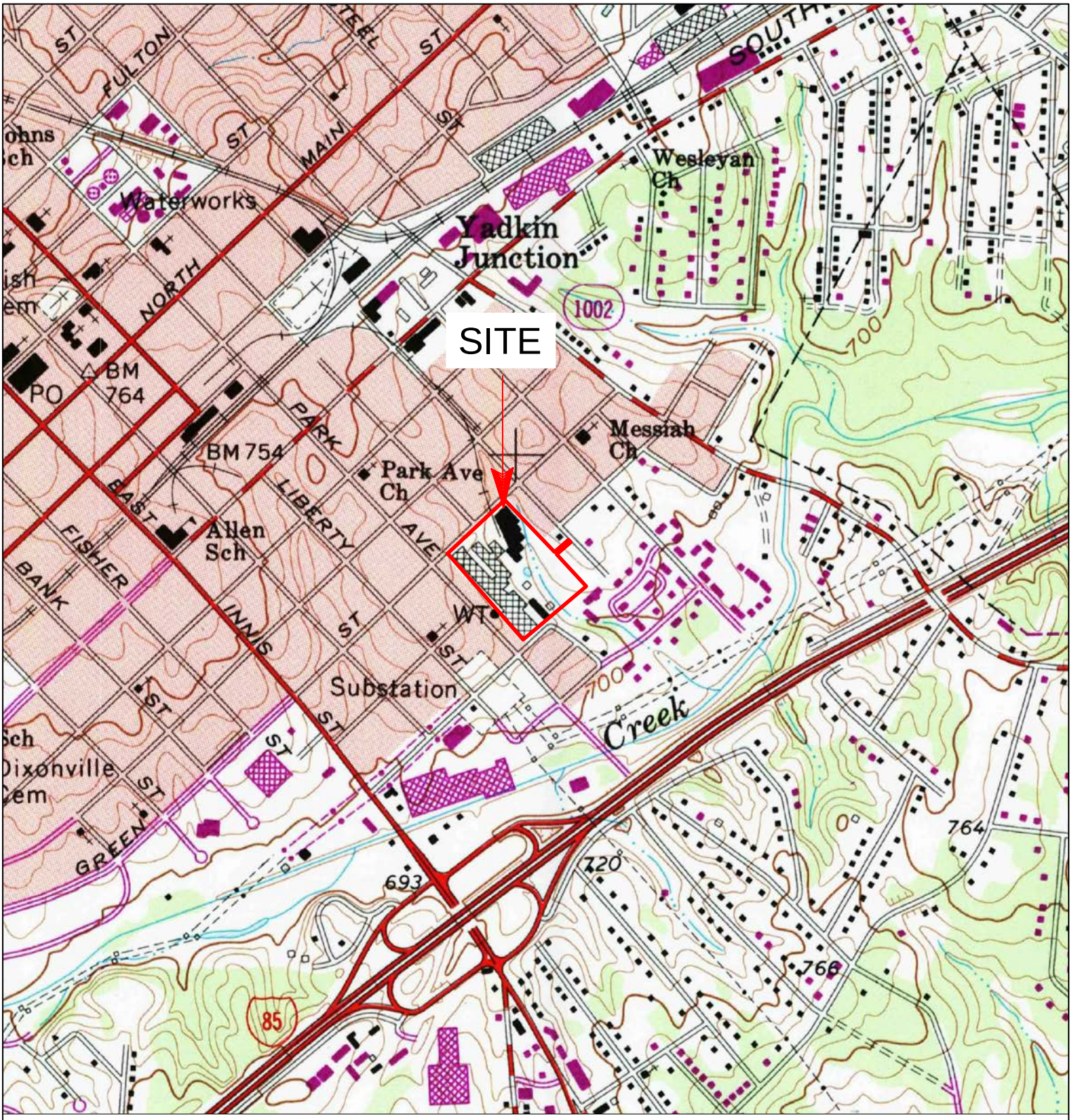
ABCA:	Analysis of Brownfields Cleanup Alternative
AST:	Aboveground Storage Tank
ASTM:	American Society for Testing and Materials
bgs:	Below Ground Surface
BTEX:	Benzene, Toluene, Ethylbenzene, Xylenes
CAB:	Cellulose Acetate Butyrate
CAP:	Corrective Action Plan
CD:	Compact Disc
cis-1,2-DCE:	cis-1,2-Dichloroethene
DAO:	Designated Approving Official
1,1-DCE:	1,1-Dichloroethene
DPT:	Direct-Push Technology
DQO:	Data Quality Objective
DRO:	Diesel Range Organics
ESA:	Environmental Site Assessment
FOI:	Freedom of Information
GRO:	Gasoline Range Organics
HASP:	Health and Safety Plan
IDW:	Investigation Derived Waste
MCLs:	Maximum Contaminant Levels
MTBE:	Methyl Tert-Butyl Ether
MSL:	Mean Sea Level
NFA:	No Further Assessment
PAH:	Polycyclic Aromatic Hydrocarbon
PCBs:	Polychlorinated Biphenyls
PCE:	Tetrachloroethene (Perchloroethene)
PID:	Photoionization Detector
PVC:	Polyvinyl Chloride
QAM:	Quality Assurance Manual
QA/QC:	Quality Assurance/Quality Control
QAPP:	Quality Assurance Project Plan
RECs:	Recognized Environmental Conditions
RSLs:	Regional Screening Levels
NCDENR:	North Carolina Department of Environment and Natural Resources
NCGS:	North Carolina Geologic Survey
SESD:	Science and Ecosystem Support Division (USEPA Region 4)
SVOCs:	Semi-Volatile Organic Compounds
TAL:	Target Analyte List
TCE:	Trichloroethene
TCL:	Target Compound List
TMS:	Tax Map Serial Number
TOC:	Top of Casing
TPH:	Total Petroleum Hydrocarbons

trans-1,2-DCE:	trans-1,2-Dichloroethene
µg/l:	Micrograms per Liter
USC:	Unified Soil Classification
USEPA:	United States Environmental Protection Agency
USGS:	United States Geological Survey
UST:	Underground Storage Tank
VOCs:	Volatile Organic Compounds

Figures

Figure 1: Project Organization Chart





0 500 1,000 2,000

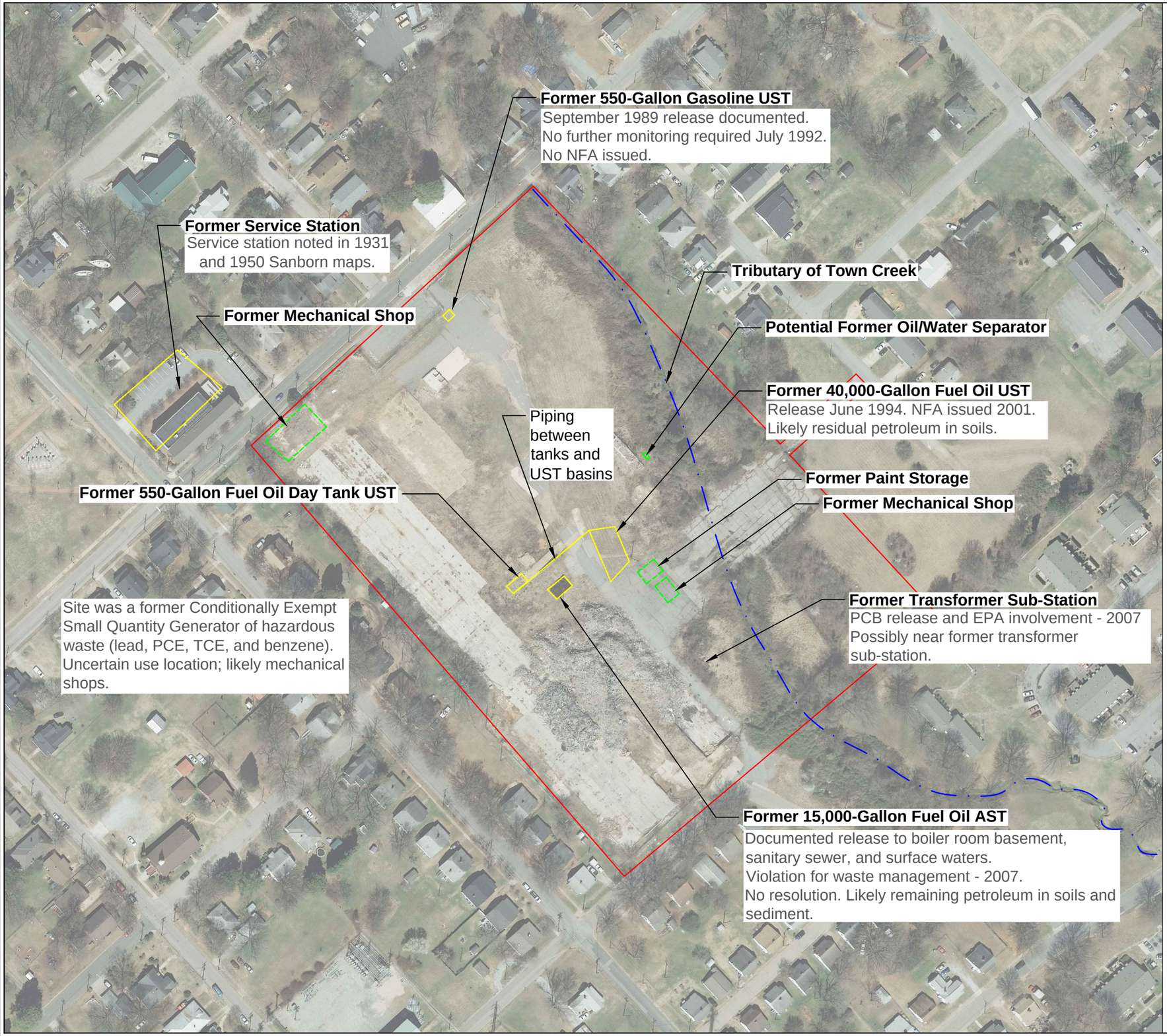
APPROXIMATE SCALE IN FEET

N

TITLE FIGURE 2
TOPOGRAPHIC SITE LOCATION
KESLER MILL
423 NORTH MARTIN LUTHER KING JR. AVENUE
SALISBURY, NORTH CAROLINA

Cardno
CHARLOTTE
7606 WHITEHALL EXECUTIVE CENTER DRIVE, CHARLOTTE, NC 28273
TEL: (704) 529 - 3200 FAX: (704) 529 - 3272 www.cardnoatc.com
ENVIRONMENTAL • GEOTECHNICAL ENGINEERS CONSTRUCTION MATERIALS TESTING

CAD FILE	TYPE CODE	PREP. BY	REV. BY	SCALE	DATE	PROJECT NO.
KESLERMILLSM		AD	DH	AS SHOWN	6.9.15	NA



EXPLANATION:

Property Boundary

Former Structures

N

Image Source: NC GeoSpatial Database

0 75 150 300

APPROXIMATE SCALE IN FEET

Cardno
CHARLOTTE
7606 WHITEHALL EXECUTIVE CENTER DRIVE, CHARLOTTE, NC 29273
TEL: (704) 529 - 3200 FAX: (704) 529 - 3272 www.cardnoatc.com
ENVIRONMENTAL • GEOTECHNICAL ENGINEERSCONSTRUCTION MATERIALS TESTING

PROJECT NO. NA

DATE 5.26.15

SCALE AS SHOWN

REV. BY DH

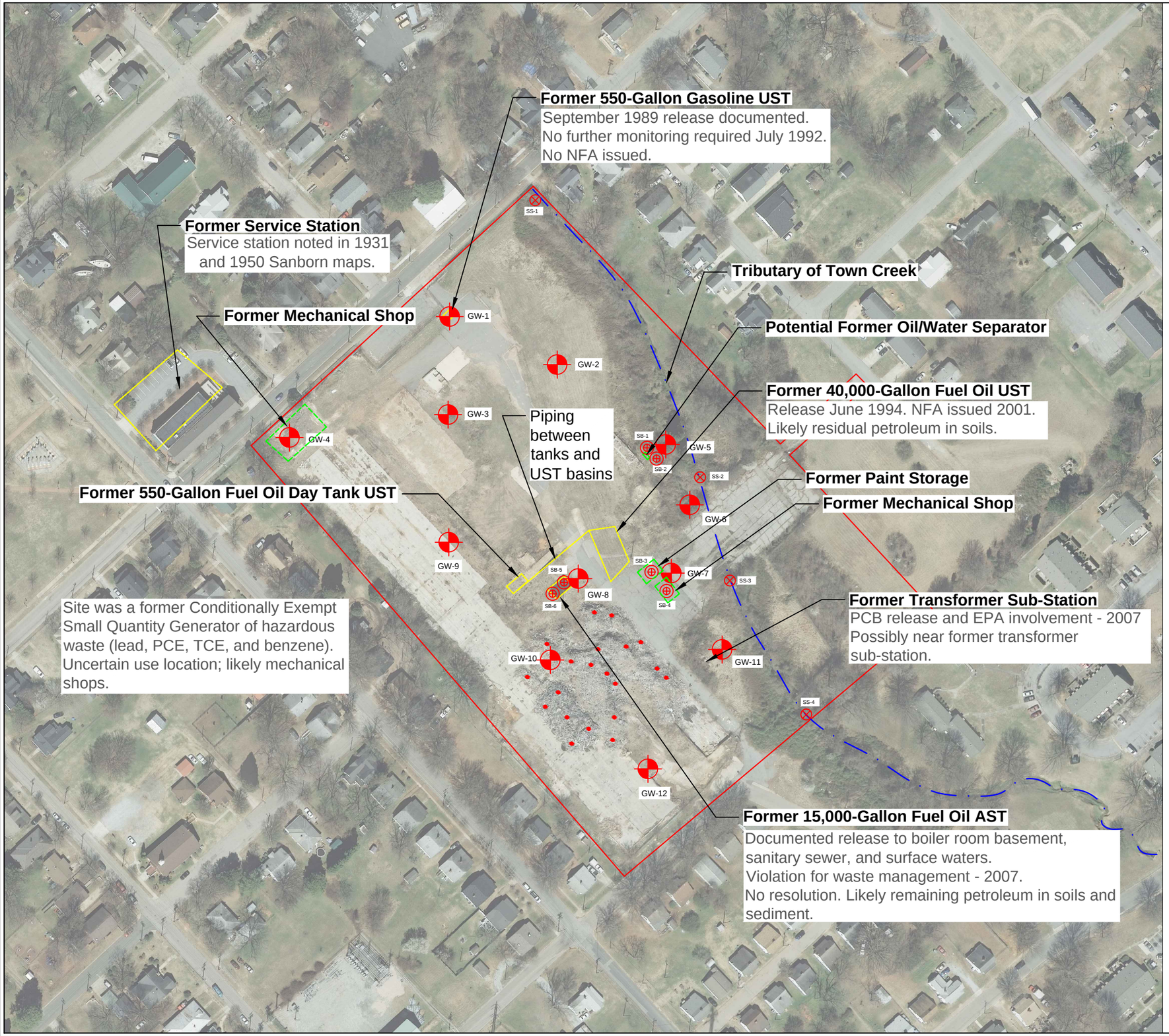
PREP. BY AD

SITE ID

CAD FILE KESLERMILLSM

TITLE FIGURE 3
AERIAL SITE MAP
KESLER MILL
423 NORTH MARTIN LUTHER KING JR. AVENUE
SALISBURY, NORTH CAROLINA

NOTES:



EXPLANATION:

- Property Boundary
- Proposed Groundwater Monitor Well Location
- Proposed Soil Boring Location
- Proposed Surface Water and Sediment Sample Location
- Proposed Asbestos Debris Sample Location
- Former Structures

N

Image Source: NC GeoSpatial Database

0 75 150 300

APPROXIMATE SCALE IN FEET

Cardno
CHARLOTTE
7606 WHITEHALL EXECUTIVE CENTER DRIVE, CHARLOTTE, NC 29273
TEL: (704) 529 - 3200 FAX: (704) 529 - 3272 www.cardnoatc.com
ENVIRONMENTAL • GEOTECHNICAL ENGINEERSCONSTRUCTION MATERIALS TESTING

PROJECT NO. NA

DATE 5.26.15

SCALE AS SHOWN

REV. BY DH

PREP. BY AD

SITE ID

CAD FILE KESLERMILLSM

TITLE FIGURE 4
PROPOSED SAMPLING LOCATIONS
KESLER MILL
423 NORTH MARTIN LUTHER KING JR. AVENUE
SALISBURY, NORTH CAROLINA

NOTES:

Tables

Table 1: Project-Specific Data Quality Objectives for Former Kesler Mill/Fieldcrest Cannon Plant #7

Data Quality Objective	Project Specific Action
State Problem	The City of Salisbury is pursuing assessment of the subject property in order to identify potential impact from *RECs* which were noted in a Phase I ESA of the subject property conducted by Griffith Enterprises in August 2013. In order to proceed with site redevelopment, the following RECs must be assessed: 1) A 550-gallon gasoline UST was removed from the northern portion of the Site on September 12, 1989. A release was documented to have occurred from the UST prior to its removal. Subsequent groundwater monitoring indicated petroleum impact to groundwater above North Carolina Groundwater Standards (2L Standards; Title 15A, NCAC, Subchapter 2L, Part .0202). The NCDENR MRO issued a letter on July 15, 1992, stating that no further groundwater evaluation was required at the time. To date, a letter of NFA has not been issued at the Site. The documented release and lack of an NFA constitutes a *REC*. 2) A 40,000-gallon #4 fuel oil UST and a 550-gallon #4 fuel oil day tank UST were removed from the center of the Site on June 21, 1994. Releases were documented to have occurred from the USTs and product piping. On August 12, 1994, soil was excavated along the product piping and day tank UST. Post excavation sampling was performed and indicated that petroleum impact remained in the subsurface soils. An NFA was issued for the release on July 18, 2001, due to the approved remediation by natural attenuation. Due to the likely remaining presence of #4 fuel oil in the subsurface, the incident constitutes a *REC*. 3) On July 12, 2007, a release of approximately 8,000 gallons of fuel oil occurred from a 15,000-gallon AST due to apparent vandalism. The AST supplied the boiler room area of the Site. According to EPA information, the release flooded the boiler room and ran across the Site into the sanitary sewer system and a tributary of Town Creek. Approximately 8,000 gallons of fuel oil were recovered from the boiler room by Shamrock Environmental on July 15 and 16, 2007. During the removal of the fuel oil, leaching fuel oil to the tributary of Town Creek was also observed. Remediation of the tributary continued until August 2, 2007. An NOV was issued to Southfund Properties of Atlanta, Georgia on July 27, 2007. The NOV required a written response documenting the proper disposal of impacted materials and post remediation sampling results. No response to the NOV was identified in the NCDENR MRO files. The likelihood of remaining subsurface impact from this incident constitutes a *REC*. 4) A PCB-impacted soil stockpile was identified at the Site during the time of emergency response activities associated with the release from the 15,000-gallon fuel oil AST. The release of PCBs was identified to have occurred from an electrical transformer which was reported to have been vandalized prior to the AST release. The stockpile was reported to

Data Quality Objective	Project Specific Action
	not have been secure and was exposed. No documentation for the removal of the stockpile or post removal sampling was identified. The potential presence of PCBs in the subsurface from the stockpile represents a *REC*. 5) The Site was identified in the EDR Radius Report as a historical conditionally exempt small quantity generator of hazardous waste. Waste codes for the Site included lead, benzene, tetrachloroethylene, and trichloroethylene. The potential presence of the identified compounds in the subsurface constitutes a *REC*.
Identify the Decision	The principal objective of this investigation is to provide analytical data to evaluate potential contaminant source areas and exposure pathways. The data and data interpretation will answer the question: "To what extent have the contaminants identified on the subject property adversely impacted soils and groundwater and what are the boundaries of the impacted soils and groundwater requiring remediation?"
Identify Inputs to the Decision	Surface soil, subsurface soil, groundwater, and structural debris samples will be collected to provide analytical data for site characterization as detailed in Sections A6 and B1. Soil samples, dependent on location, will be analyzed for VOCs by EPA Method 8260B, SVOCs by EPA Method 8270D, PCBs by EPA Method 8082, and TPH GRO and TPH DRO by EPA Method 8015B. Soil data will be compared to the residential criteria for direct soil exposure and the MCL-Based SSLs, as listed in the USEPA RSLs for Chemical Contaminants at Superfund Sites (June 2015). Groundwater samples, dependent on location, will be analyzed for VOCs by EPA Method 8260B, SVOCs by EPA Method 8270D, PCBs by EPA Method 8082, TPH GRO and TPH DRO by EPA Method 8015B. Groundwater data will be compared to North Carolina 2L Standards. Surface water and sediment samples will be analyzed for VOCs by EPA Method 8260B, SVOCs by EPA Method 8270D and PCBs by EPA Method 8082. Structural debris samples will be analyzed for asbestos content by PLM methods, and identified for asbestos content.
Define the Boundaries of the Study	Spatial Boundaries: The investigation will be confined to the subject property and will focus on areas and items of concern observed during previous assessment activities. Temporal Boundaries: This assessment must be completed prior the expiration of the City's funding on September 30, 2017. Financial Boundaries: The assessment of the subject property is being conducted under USEPA Cooperative Agreement Number BF-00D26514-0 and will share funding with other sites. Therefore, the investigative activities must be performed in as cost effective a manner as possible to ensure that adequate funding is available for thorough assessments of additional sites.

Data Quality Objective	Project Specific Action
Develop a Decision Rule	The extents of the documented soil and/or groundwater impact will be defined, presence of asbestos in building debris samples identified, and the significance and nature of impacts to the subject property will be determined by direct evaluation of the analytical data generated. Once delineated, the degree to which these impacts affect redevelopment of the site must be evaluated. If analytes are not detected or are detected in the samples at concentrations below the USEPA residential RSLs, MSCCs, and/or SRGs as appropriate (soil samples); NC 2L Standards and GCLs as appropriate (groundwater samples); or NC 2B Standards (surface water) collected during this assessment, then it can be concluded that the extents of the contamination observed on the subject property have been delineated. If analytes are detected above USEPA residential RSLs, MSCCs, and/or SRGs as appropriate (soil samples); NC 2L Standards and GCLs as appropriate (groundwater samples); or NC 2B Standards (surface water) during this assessment, then the degree to which the extent of contamination can be determined using other sampled locations will be evaluated. Further assessment and/or an Analysis of Brownfields Cleanup Alternatives (ABCA), which may evaluate remedial action, and/or institutional controls addressing the fully delineated areas of contamination, will be recommended. If asbestos is identified in the building debris samples, handling and removal procedures will be recommended.
Specify Limits on Decision Errors	Since variance of the data cannot be estimated at this time and the number of samples is restricted by financial considerations, a confidence limit of the data cannot be established. Results of the sampling data will be reviewed by Cardno to determine if additional sampling and/or remediation will likely be required by the NCDENR. Cardno will work with the NCDENR to identify any areas where data gaps may exist before it can be determined how to render the subject property suitable for re-use.
Optimize Design	The work plan is cost-effective and meets the needs of both the stakeholders and the regulatory authority. The scope of work is sufficient to determine levels of contamination present in different environmental media at the site and the receptors they may affect. The sampling is designed to assess areas of environmental concern having the highest probability of environmental impairment based on available information. Each planned data point has justifiable reason for collection. The design was optimized to collect sufficient data to characterize the areas of concern while staying within budget and time constraints.

TABLE 2
SAMPLING LOCATIONS AND ANALYSIS SUMMARY
Kesler Mill - Brownfields Site
423 North Martin Luther King Jr. Avenue
Salisbury, North Carolina

Area of Concern	Sample Schedule					
	Sample Media	Sample ID	Analyses	Rationale	Standard Operating Procedure	Sample Total
Former 550-Gallon Gasoline UST	Soil, Groundwater	GW-1	Soil VOCs EPA Method 8260B TPH GRO EPA Method 8015B Groundwater VOCs EPA Method 8260B TPH GRO EPA Method 8015B	To assess soil and groundwater conditions in the area of the former UST area with a 1989 documented release.	SESDPROC-300-R2 Soil Sampling SESDPROC-301-R3 Groundwater Sampling	2 Soil 1 Groundwater
General site conditions	Soil, Groundwater	GW-2, GW-3, GW-6, GW-9, GW-10, GW-12	Soil VOCs EPA Method 8260B SVOCs EPA Method 8270D Groundwater VOCs EPA Method 8260B SVOCs EPA Method 8270D	To assess surface and subsurface conditions from within the footprint and downgradient of former site operations	SESDPROC-300-R2 Soil Sampling SESDPROC-301-R3 Groundwater Sampling	12 Soil 6 Groundwater
Potential Former Oil/Water Separator	Soil, Groundwater	SB-1, SB-2, GW-5	Soil VOCs by EPA Method 8260B SVOCs EPA Method 8270D PCBs EPA Method 8082 TPH GRO EPA Method 8015B TPH DRO EPA Method 8015B Groundwater VOCs by EPA Method 8260B SVOCs EPA Method 8270D TPH GRO EPA Method 8015B TPH DRO EPA Method 8015B	To assess surface and subsurface conditions and possible impact from a potential oil/water separator	SESDPROC-300-R2 Soil Sampling SESDPROC-301-R3 Groundwater Sampling	6 Soil 1 Groundwater
Former Paint Storage	Soil	SB-3	VOCs by EPA Method 8260B SVOCs EPA Method 8270D PCBs EPA Method 8082 Metals EPA Method 6010	To assess possible subsurface impact from former paint storage	SESDPROC-300-R2 Soil Sampling	2 Soil

TABLE 2
SAMPLING LOCATIONS AND ANALYSIS SUMMARY
Kesler Mill - Brownfields Site
423 North Martin Luther King Jr. Avenue
Salisbury, North Carolina

Area of Concern	Sample Schedule					
	Sample Media	Sample ID	Analyses	Rationale	Standard Operating Procedure	Sample Total
Former Mechanical Shops	Soil, Groundwater	SB-4, GW-4	Soil VOCs EPA Method 8260B SVOCs EPA Method 8270D PCBs EPA Method 8082 Metals EPA Method 6010 Groundwater VOCs EPA Method 8260B SVOCs EPA Method 8270D Metals EPA Method 6010	To assess surface and subsurface conditions in the area of the former Mechanical Shops	SESDPROC-300-R2 Soil Sampling SESDPROC-301-R3 Groundwater Sampling	4 Soil 1 Groundwater
Downgradient location from former paint storage and mechanical shop	Soil, Groundwater	GW-7	Soil VOCs by EPA Method 8260B SVOCs EPA Method 8270D PCBs EPA Method 8082 Metals by EPA Method 6010 Groundwater VOCs by EPA Method 8260B SVOCs EPA Method 8270D Metals by EPA Method 6010	To assess possible surface and subsurface impact downgradient from possible contamination sources	SESDPROC-300-R2 Soil Sampling SESDPROC-301-R3 Groundwater Sampling	2 Soil 1 Groundwater
Former 15,000-Gallon #6 Fuel Oil AST	Soil, Groundwater	SB-5, SB-6, GW-8	Soil SVOCs EPA Method 8270D PCBs EPA Method 8082 TPH DRO EPA Method 8015B Groundwater SVOCs EPA Method 8270D TPH DRO EPA Method 8015B	To assess surface and subsurface impact from the area of the former AST with a documented release	SESDPROC-300-R2 Soil Sampling SESDPROC-301-R3 Groundwater Sampling	6 Soil 1 Groundwater

TABLE 2
SAMPLING LOCATIONS AND ANALYSIS SUMMARY
Kesler Mill - Brownfields Site
423 North Martin Luther King Jr. Avenue
Salisbury, North Carolina

Area of Concern	Sample Schedule					
	Sample Media	Sample ID	Analyses	Rationale	Standard Operating Procedure	Sample Total
Former Transformer Sub-Station	Soil, Groundwater	GW-11	Soil VOCs EPA Method 8260B SVOCs EPA Method 8270D PCBs EPA Method 8082 Groundwater VOCs EPA Method 8260B SVOCs EPA Method 8270D PCBs EPA Method 8082	To assess surface and subsurface conditions in the area of the former transformer sub-station with a documented 2007 release	SESDPROC-300-R2 Soil Sampling SESDPROC-301-R3 Groundwater Sampling	2 Soil 1 Groundwater
Tributary of Town Creek	Surface Water, Sediment	SS-1, SS-2, SS-3, SS-4	Surface Water VOCs EPA Method 8260B SVOCs EPA Method 8270D Sediment VOCs EPA Method 8260B SVOCs EPA Method 8270D PCBs EPA Method 8082	To assess surface water and sediment quality which is downgradient from the former mill operations	SESDPROC-201-R3 Surface Water Sampling SESDPROC-200-R3 Sediment Sampling	4 Surface Water 4 Sediment
Blanks	Aqueous	FB-1, FB-2, EB-1, EB-2	VOCs EPA Method 8260B SVOCs EPA Method 8270D PCBs EPA Method 8082 TPH GRO EPA Method 8015B TPH DRO EPA Method 8015B	Quality Assurance/Quality Control	SESDPROC-011-R4 Field Sampling Quality Control	2 Field Blanks for Water 2 Equipment Blanks for Water
Duplicates	Soil, Groundwater	Duplicate-01, Duplicate-02, Duplicate-03, Duplicate-04	Analyses will mirror base/root samples	Quality Assurance/Quality Control	SESDPROC-011-R4 Field Sampling Quality Control	2 Duplicates for Soil 2 Duplicates for Groundwater

Notes:
Soil samples will be collected based on field observations.
EPA = United States Environmental Protection Agency
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PCBs = Polychlorinated Biphenyls
TPH = Total Petroleum Hydrocarbons
GRO = Gasoline Range Organics
DRO = Diesel Range Organics
Trip Blanks for Quality Assurance/Quality Control are not included on the table.

Appendix A:
Prism Laboratories, Inc.
Quality Assurance Manual
(CD Format)