

BROWNFIELDS CLEANUP COOPERATIVE AGREEMENT WORK PLAN

FOR
Former Sanitary Laundry and Dry Cleaning Facility
625 N. Broadway, Knoxville, Tennessee, 37917

June 30, 2016
[Approved
Via email
10/25/16
Revision
#N/A]

THE CITY OF KNOXVILLE
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Cooperative Agreement Number:
(provided by the U.S. Environmental Protection Agency)

**CLEANUP COOPERATIVE AGREEMENT WORK PLAN
TABLE OF CONTENTS**

Section	Title
1.1	PROJECT OVERVIEW
1.2	Project Description
1.3	Project Team Structure and Responsibilities
1.4	Measuring Environmental Results: Outputs and Outcomes
1.5	Budget
2.1	PROJECT TASK DESCRIPTIONS
	Task 1 Project Management and Reporting
	Task 2 Community Involvement/Engagement
	Task 3 Brownfields Cleanup Planning, Implementation and Completion
3.1	SCHEDULE

Attachments to this document

1. Budget Table for Work Plan Tasks
2. Schedule of Activities and Deliverables
3. Example Quarterly Report Template

Attachments on Compact Disc (CD) for Reference

1. Analysis of Brownfield Cleanup Alternatives Former Sanitary Laundry Site, 625 North Broadway, Knoxville, TN and BVA 47-545
2. Generic Quality Assurance Project Plan Guidance for Brownfield Site Assessments and/or Cleanups
3. Generic QAPP Addendum No. 1
4. Site Specific Quality Assurance Project Plan, Former Sanitary Laundry Property
5. Report of Limited Asbestos and Lead-Based Paint Survey
6. Report of Phase II ESA Former Sanitary Laundry Property

1.1 PROJECT OVERVIEW

The Big Picture (Targeted Community)

The City of Knoxville lies within the heart of Appalachia and is located in the eastern portion of Tennessee, in the valley between the Cumberland Mountains and the Great Smoky Mountains. Knoxville's industrial growth in the late 1800's sprang from its railroad connections – it was the region's busiest depot for freight and passenger traffic. North Knoxville, our target community and the area in which our target property is located, started to develop an industrial base around the railroad with textile mills, foundries, manufacturing and railroad maintenance facilities that provided employment to thousands. Tree-lined neighborhoods sprung up around this industrial area with a healthy mix of residents - professionals and laborers, families and transients, black and white. Business was flourishing, the social network was strong, hard work was rewarded, and life was good. The economic decline of North Knoxville started with the downturn of the Great Depression. Many of the once thriving industries became idle and abandoned. Jobs became scarce, commercial businesses had a hard time surviving, and houses fell into disrepair. Over the years, the level of poverty increased, as did crime rates and the homeless population.

In 2007, the redevelopment project was started when the mayor of Knoxville appointed a task force to study the area after allocating funding to renovate a former historic motel that had fallen into complete disrepair, into apartments for homeless individuals. The work of the task force was the foundation for the creation of the district known as Downtown North which is located just north of downtown, but has been bifurcated from downtown by the railroad and the Interstate. In addition to the task force work, several planning studies have been completed and adopted by City Council and supported by subsequent mayors. Downtown North is the gateway to the downtown and includes the I-275 Corridor which has evolved over the years into an area that has experienced environmental degradation through the loss of viable industrial and commercial businesses. As a result of the planning studies and public support, the City has embarked on a plan to renovate Downtown North into an integrated mixed use area with visual, pedestrian, vehicular and land use connections working together to capitalize on the success of the revitalization of adjacent downtown Knoxville.

Since 2007, Downtown North has identified itself as a special place with a unique character, and local business owners and residents have embraced the idea that this area can be a thriving local community once again. The City has already held more than a dozen public meetings in Downtown North to share its concept plans for the area, to gather input from the business owners and residents, and to discuss the Assessment grant from EPA. Every meeting has been well received with anywhere from 20 to 175 people in attendance. Very few negative comments have been received and the plans for redevelopment of the area have been overwhelmingly approved by the public. The EPA area wide Brownfield Assessment grant the city completed in 2014 has already set the stage for several properties to redevelop into things like a new senior housing project, new commercial uses and proposals for mixed use development.

The purpose of this Cleanup Grant is to address the property known as the Former Sanitary Laundry and Dry Cleaning Facility that was assessed under an EPA Community Wide Brownfield assessment grant and to put the property back into productive use.

Brownfield Project Overview and Task Summary (Task Descriptions)

- A. Community Outreach:** This task includes publicity, meetings, and distribution of information to the public as the project progresses. Public/neighborhood meetings will be held at the start and end of the project. We will produce a quarterly update to be included in existing community newsletters updating the cleanup's progress throughout the duration of the project. Supplies needed for public meetings might include printed handout materials, etc. and the contractor would be required to prepare visual presentations of progress reports and attend all meetings to discuss project procedures and answer technical questions.

- B. Program Development and Management:** This task includes documenting guiding principles and procedures, establishing priorities for site remedial actions, and EPA-required performance reporting - e.g. quarterly reports, MBE-WBE reports, final cleanup and closeout reports and ACRES database reporting. Travel costs in this budget task would be used for attendance at regional Brownfields grantee workshops and the National Brownfields conference.

- C. Remedial Planning and Design:** This task includes the outputs of finalizing the ABCA, coordinating with TDEC to finalize the Land Use Restrictions, Soil Management and Health & Safety Plans, inventory of the current building contents to determine if drums, containers or other materials need to be properly characterized and disposed of, and vapor mitigation system design.

- D. Cleanup Activities:** This task includes anticipated contractor costs for removal and disposal of contaminated materials, lead-based paint and asbestos, and installation of engineering controls such as caps and barriers. For preliminary budgeting purposes, application of a commercially available impervious barrier costs approximately \$7/sq. ft. (excluding engineering design and monitoring) so for the approximately 15,000 sq. ft. subject building, the cost would be approximately \$105,000. While we cannot provide a cost for handling and disposal of excavated material until we know the extent of cleanup required for the future selected cleanup alternative, we can estimate fees for excavation, transportation and disposal of special waste to a Subtitle D Landfill at approximately \$75/ton, and material classified as hazardous waste to a permitted facility at approximately \$350/ton. Also, a preliminary estimated budget in excess of \$100,000 for the lead-based paint and asbestos removal has been obtained. The City has committed to using their matching funds for this task to limit the expenditure of EPA funds for asbestos removal (federal grant funds \$25,000 – city matching funds \$40,000) but recognizes that additional City cleanup funds may be needed to complete the asbestos removal. This task also includes a final cleanup/project report and regulatory coordination regarding technical aspects of the project with TDEC and EPA throughout the cleanup effort.

1.2 Project Description

A. Description of Brownfields

Our subject property, the former Sanitary Laundry and Dry Cleaning Facility, occupies a one third-acre site in Downtown North, and includes a 15,000 square-foot vacant building formerly occupied by Sanitary Laundry and Dry Cleaning which operated on the property from 1926 until 1993. The facility employed anywhere from 100-200 people at various times and was one of the larger employers in the neighborhood. One dry cleaning solvent and two gasoline underground storage tanks (UST) utilized by the dry cleaner were located on the property or on an adjacent parcel behind the building, which was also former Sanitary Laundry property. The gasoline USTs were removed in 1993. The dry cleaning UST was emptied in 1994 but, based on

observations made during the Phase I Environmental Site Assessment (ESA) conducted in 2013, this UST remains on the property behind the building. Soil and groundwater investigations, conducted during a Phase II ESA in 2014, identified soil and groundwater contaminated with dry cleaning compounds, solvents, and petroleum products. Asbestos-containing materials and lead based paint are present in multiple areas of the building. The property was placed on the Tennessee Department of Environment and Conservation’s (TDEC’s) State Superfund List in 1994. The subject property is located close to other commercial establishments, residential housing and social services facilities, including homeless shelters and ministries, all within our target community.

The City of Knoxville recently performed an inventory of brownfield sites in our target Downtown North community which spans approximately 541 acres. The inventory shows an estimated 80 brownfield properties (including our subject property), 51 of which are suspected of being hazardous substance sites, 19 petroleum sites, and 10 hazardous and petroleum sites. These properties span 136 acres (approximately 25% of the target community), and range in size from small commercial parcels to 20-acre sites. The area is heavily populated with metals processing, textile mills, and auto repair shops, many of which have been there for decades and occupy facilities that are run down and in need of renovation.

Environmental dangers caused by site contaminants and their migration, groundwater impacts, surface runoff, or waste material dumped on sites, adversely impact the health, welfare and environment of people exposed to them through contact with soil, air and water. The inventory suggests that contaminants such as petroleum hydrocarbons including gasoline and diesel fuel, polychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons (PAHs), lead based paint, asbestos containing building materials, industrial chemicals such as chlorinated solvents, creosote, and various priority pollutant metals are likely present in our target area. The abandoned, vandalized, and derelict structures pose a safety risk, not only because of their insecure condition and potential for site contaminants, but their unrestricted access attracts vagrants with substance abuse problems, and makes them an attractive nuisance to curious children.

B. Demographic Information

Today, the North Knoxville neighborhood, known as Downtown North, is predominantly white, the minority population is less than the national level, and unemployment rates are reflective of state and national averages, but incomes are much lower and the poverty level is much higher, as is the disability rate, all of which is indicated in the following comparative data table. We used American Community Survey (ACS), 2008-2012, five year estimates, because those data drill to the census tract level and allow us to present as accurate a picture as possible.

Table 1: Relevant Demographic Data			
	Target Area	Tennessee	U.S.
Population	3,273	6,353,226	309,138,711
Minority	16.2%	21.2%	25.8%
Unemployment *	5.3%	5.7%	5.1%
Median Household Income	\$25,435	\$44,140	\$53,046

Individuals Below Poverty Level	32.5%	17.3%	14.9%
Persons with a disability	21%	15%	12%
Education level – high school grad and beyond	80.4%	83.9%	85.7%

Source: 2008-2012 American Community Survey (ACS) 5-year estimates

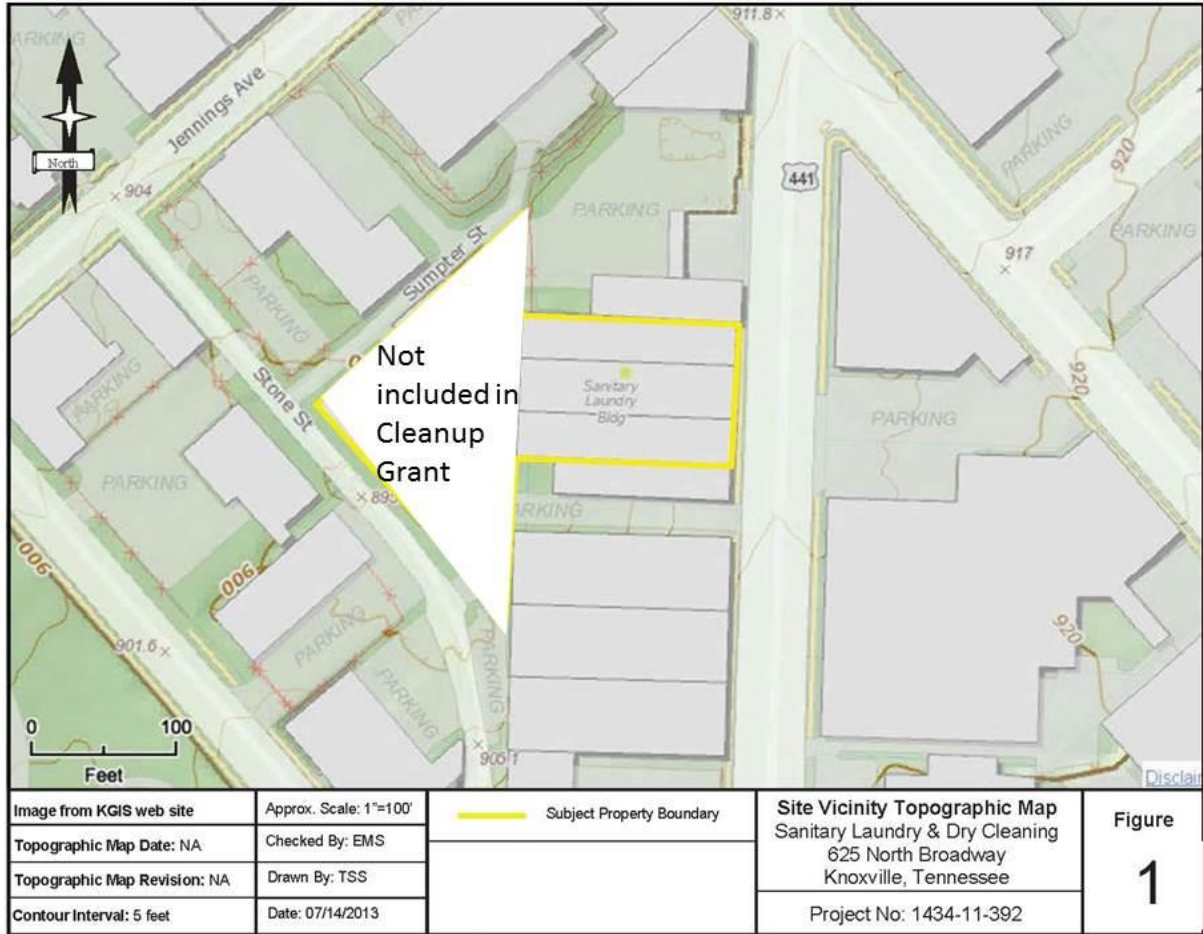
**Unemployment rate per Bureau of Labor Statistics – September, 2015 (Knoxville-Tennessee-U.S.)*

C. Project Description

The former Sanitary Laundry and Dry Cleaning facility occupied two contiguous parcels containing approximately 0.70 acres located at 625 North Broadway and 750-760 Stone Street. The Stone Street parcels have been purchased by others and are undergoing redevelopment. This cleanup grant application addresses the 1/3-acre portion of the property on North Broadway that is owned by the City of Knoxville which acquired the property through tax foreclosure. The target property is situated in the downtown North Knoxville area. The facility operated as a dry cleaner for 67 years. A 15,000 sq. ft. building that housed the laundry and dry cleaning operation remains on the property and is vacant. The building has a concrete floor, masonry walls and a basement. Metal beams and trusses support a central raised roof with clerestory windows. A portion of the building was likely used as offices. Staining of the concrete floor can be seen throughout the building. There is a loading dock on one side of the building, and a large boiler on another. There is an elevated concrete trough but its past use is unknown. Steam piping used in the dry cleaning process is throughout the building. Two gasoline USTs and one heating oil AST, plus a chlorinated solvent UST were located on the property. The gasoline USTs were removed in 1993. The dry cleaning UST was emptied in 1994 but remains onsite. Numerous 55-gallon drums of oil and dry-cleaning fluids were removed from the property in 1999. A Phase II ESA conducted in 2014 consisted of the collection and laboratory analysis of 34 passive soil vapor modules, subsurface soil samples, groundwater samples, soil gas samples and ambient air from the site. Groundwater samples were collected from two existing monitoring wells and from six piezometers installed during the Phase II ESA sampling. These investigations identified soil and groundwater contaminated with dry cleaning compounds, solvents and petroleum products. An asbestos and lead-based paint survey was conducted in 2014 and both contaminants were found in multiple rooms in the building.

Since the City of Knoxville acquired the property in January 2013, its reuse has been the subject of much discussion, both in public forums and within the City’s Office of Redevelopment. The building is potentially eligible for listing on the National Register of Historic Places and therefore, the City would prefer to preserve the basic building structure. Probable reuse scenarios are commercial, retail or residential. In August of 2015, the City in conjunction with Knoxville’s Community Development Corporation issued a Request for Proposals (RFP) in the hope that a local developer would generate a vision and reuse plan for the former laundry facility but interest was limited because of the uncertainty of the structural integrity of the building and its contamination potential. As a result the City is expending funds to perform a structural evaluation of the building and to replace the existing roof which is in critical condition. The City of Knoxville will use the \$200,000 in EPA cleanup funds to remove contaminated materials from the site, and install a vapor barrier to prevent vapor intrusion through the existing concrete slab floor. By cleaning up the former Sanitary Laundry site, along with a structural report and a stable roof, the property, which is pivotal in Downtown North’s redevelopment corridor, will be a far more palatable prospect for private investment, consistent

with ongoing projects which are currently transforming the neighborhood.



Map 1: Site location – Former Sanitary Laundry and Dry Cleaning Facility

D. Proposed Cleanup Plan

The purpose of cleaning up the former Sanitary Laundry property is to encourage private investment in a property that is centrally located in the Downtown North Redevelopment Area. Cleanup planning includes two important documents - an Analysis of Brownfields Cleanup Alternatives (ABCA, see CD Attachment 1) that outlines alternative methods under consideration, and a Brownfields Voluntary Agreement (BVA, see CD Attachment 1). The TDEC Division of Remediation (DOR) has been involved with the subject site for many years. In support of Knoxville’s redevelopment efforts, and to ensure that site redevelopment is performed in accordance with applicable regulations, TDEC prepared a BVA which will be made a condition of sale of the property. The BVA lists the conditions under which the site can be developed such that it protects public health and safety, and the environment. These conditions include a DOR-approved Soil Management Plan (SMP) for characterization, handling and disposal of excavated materials as well as future management and maintenance of any covers and caps; the installation of a vapor mitigation system plus its continued care, operation and maintenance; and a Health and Safety Plan to ensure that all remediation activities are performed with strict adherence to the health and safety of the public and the environment. In addition, the BVA requires that any land use restrictions for safe future use of the property will be filed in accordance with state statute. The BVA is included as an Appendix to the ABCA.

The ABCA provides an evaluation of cleanup alternatives for the former Sanitary Laundry site. The City and TDEC DOR assume that the site will be redeveloped for retail, commercial or residential purposes because this has been the pattern of infill redevelopment that is happening in the target area, and fits with the Downtown North vision for an integrated mixed-use area that brings community character back to this historic neighborhood. While there is not yet a specific site redevelopment plan, some general assumptions were made to complete the ABCA. Three alternatives were considered: (1) No action, (2) Redevelopment using existing foundations, and (3) Removal of some or all of the existing foundations, followed by construction of a new structure. The “no action” alternative is not considered viable because the subject property is currently in a state of disrepair and negatively impacts surrounding property values. Moreover, its condition presents a threat to public health and safety and the environment.

The second alternative - redevelopment using existing foundations - would be a viable option if the proposed use for the property would support this approach. Some demolition and removal of debris would be required, but this approach would limit subsurface disturbance to utility trenches or other limited areas where excavation would be needed to support redevelopment design. Soil removed from these areas would be screened for impacts, and based on the findings, handled in accordance with local, state and federal regulations. Any proposed site redevelopment must address the potential for subsurface vapors to migrate to ambient air thru the existing concrete slab, so site design would include a soil vapor mitigation system to protect future building occupants by breaking the exposure pathway for vapor migration. Two potential approaches for the soil vapor system include an impervious barrier, or a sub-slab depressurization system that creates a negative pressure beneath the slab and vents the vapors to the outdoor air.

Additional evaluation of the existing structural integrity of the slab, and proposed site reuse, will assist in designing the appropriate vapor mitigation system. In addition to the SMP and vapor mitigation system design, this cleanup alternative would also warrant a land use restriction to document the vapor mitigation system details, establish that groundwater usage from the subject site is prohibited, and document the protocol for monitoring and maintenance of the vapor mitigation system.

The third alternative considered is the removal of some or all of the existing foundations. Depending on the final redevelopment plan and the results of a structural evaluation, demolition followed by new construction is a possibility. Assuming that some impacted soils and/or groundwater could potentially remain beneath the building following the removal of existing foundations, this cleanup alternative would also require a vapor mitigation system, an SMP, and filing of land use restrictions for the site. Should this alternative be selected, excavated foundations and impacted sub-slab materials would be characterized and handled in accordance with local, state and federal regulations, and in accordance with the SMP. Material classified as special waste would be disposed of in a Subtitle D Landfill and, if encountered, hazardous waste would be taken to a permitted hazardous waste disposal facility, with appropriate documentation for the transportation and disposal. The ABCA, included as an Attachment to this cooperative agreement, discusses anticipated costs for each of the two action alternatives.

Given the building’s historic element, the preferred alternative (the second alternative) is

redevelopment using existing foundations; however, a final alternative will be selected based on further site evaluation and public input.

E. Impacts on Targeted Community

Although the City of Knoxville is located in a region of particular scenic beauty, it has poor air quality and serious health concerns including a high obesity rate, and a ranking of #7 in the country on the list of the most challenging places to live with asthma (Asthma and Allergy Foundation of America - 2015 report). The EPA released health risk data on the national-scale air toxics assessment (NATA) in 2005, which scales down to the census tract level. Air toxics are pollutants known or suspected of causing cancer or other serious health problems such as birth defects. The tracts that make up our target area are shown to have an elevated risk for cancer, neurological risks and respiratory disease. The EPA, Environmental Justice, EJView shows that women of child-bearing age in these same census tracts are at an elevated risk for low birth weight infants (who go on to have a lifetime of increased risk of health problems), and for increased infant mortality. Since this is a low income neighborhood with older houses, there are problems with lead-based paint, leading to an increased risk for neurological damage to resident children. ACS (2008-2012, 5- year estimates), shows 36.1% of housing in our target area is more than 65 years old compared to the rest of Tennessee at 6.7% and the national average of 13.7%. Based on a combination of age of housing and data on patients' blood lead levels over the past several years, the Knox Co. Health Dept. determined that the North Knoxville neighborhoods have the highest risk of elevated blood lead levels in Knoxville.

East Tennessee is located in the heart of Appalachia which has historically experienced a poverty rate higher than the national average and an education level lower than the national average. The demographic table shows our target neighborhood has an income level far below the state and national average. The target area has a disproportionate number of families receiving public assistance in food stamps/SNAP benefits – 23% vs. the national average of 11.4%, and while poverty and lower education levels do not create adverse health conditions, residents have limited access to preventive and pre-natal health care and medical services, in part due to limited transportation options to access these facilities. Downtown North is where most social service organizations are located and where the homeless congregate, which presents a safety concern for them and for others if they shelter in abandoned buildings that litter the neighborhood. There is far more likelihood of illegal activity, injurious trash and vandalism in these locations.

The property that will be cleaned up under this grant was first developed in the early 1900's and operated as a laundry and dry cleaning facility from 1926-1993. Its impacts on the surrounding community are many, including dry cleaning compounds and solvents detected in groundwater at concentrations that exceed USEPA primary drinking water maximum contaminant levels; evidence of one dry cleaning solvent UST on site; miscellaneous debris and containers of oil, paint and solvents that remain in the abandoned building; concentrations of volatile organic compounds (VOCs) that exceed residential and industrial regional screening levels; plus evidence of previous habitation by homeless individuals. Numerous old 55-gallon drums of oil and dry cleaning fluid were discovered by the Knoxville Fire Department in and around two of the buildings located on the site, while responding to small fires set by homeless individuals using the subject building for shelter. Several of the drums showed signs of leakage and the state contracted to have the drums removed. Since then, no further remedial activities have occurred on the subject property.

1.3 Project Team Structure and Responsibilities

Under the EPA and in close coordination with Tennessee Department of Environment and Conservation, the lead organization managing the project is the municipal government of the City of Knoxville, Tennessee, with the Office of Redevelopment functioning as Project Manager. The organizational structure and communication flow of all key entities supporting this project is shown in Figure 1, and includes all City Departments that have applicable grant managing or technical experience (Community Development, Finance, Legal, and Engineering), and our regional development agencies: Knoxville Community Development Corporation, Knox County Development Corporation, and East Tennessee Community Design Center. The role of these parties is to provide oversight and guidance to the Office of Redevelopment and the Consultant(s) as we execute the work outlined in this plan. Neighborhood representation is also included, to ensure that we remain plugged into the Community and have additional resources to spread the updates as work progresses.

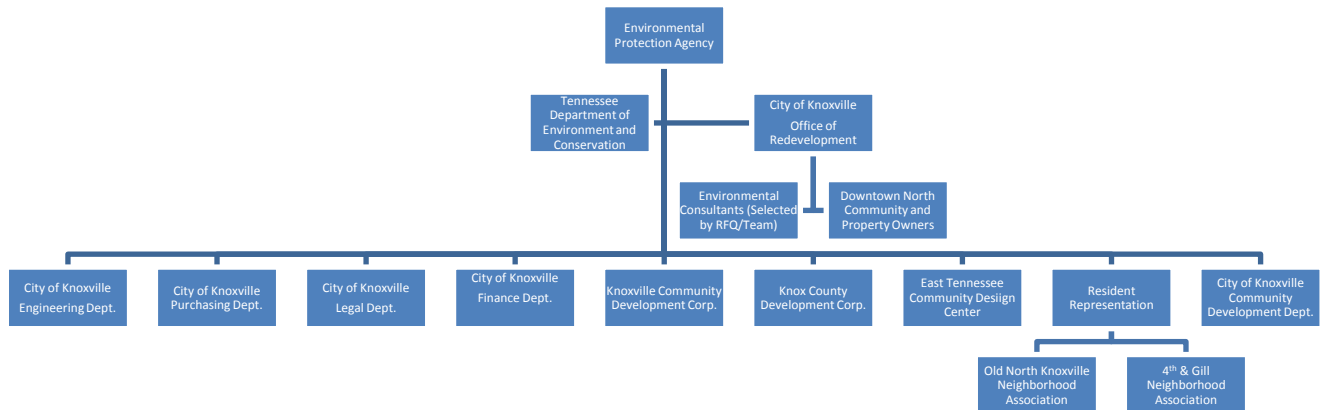


Figure 1. Knoxville Former Sanitary Laundry and Dry Cleaning Cleanup Team Organizational Chart

Communication will flow from the Office of Redevelopment to all parties throughout the Project. As the EPA provides guidance and input, the Office of Redevelopment will pass this information on the Team and Consultant(s). The Office of Redevelopment will report to the EPA in the form of quarterly reports and between reports stay in communication with the EPA project officer as questions or issues arise.

The following describes the roles and responsibilities of all key entities supporting this project. The Office of Redevelopment will be point of contact and take the lead in coordinating with all other involved parties. City Engineering, Legal, Community Development, Purchasing Department and Finance Departments will play key roles in Project technical and accounting

support. Knoxville Community Development Corporation, Knox County Development Corporation, and East Tennessee Community Design Center will provide advice and prior Brownfield management and grant experience, and Downtown North Business and Neighborhood Groups will provide insight and help the Team effectively reach the Community and individual property owners.

The Office of Redevelopment, in conjunction with the City's Purchasing Department will procure contractors in accordance with 2 CFR Parts 200 and 1500, ensuring that contractors comply with the terms of their agreements with the city.

The Office of Redevelopment, in consultation with the Project Team, will provide project updates to the State of Tennessee's Brownfields Voluntary Cleanup and Assistance Program (VOAP) designated contact on a regular basis. The City of Knoxville will make the State of Tennessee aware of all site-specific cleanup activities to be initiated and will provide the State an opportunity to review and comment on all technical reports, including Quality Assurance Project Plans (QAPPs), sampling plans, Analysis of Brownfields Cleanup Alternatives (ABCAs), cleanup plans, and other technical reports. The State of Tennessee will be specifically notified for cleanup activities. A good working relationship with Tennessee's VOAP Department was established with the South Waterfront and Downtown North Community Wide Assessment grants, and prior to that when the South Waterfront Department applied for and was admitted entry into the VOAP program for a Brownfield site that is now under construction - Suttree Landing Park and Waterfront Drive, prior to applying for this grant:

Mr. Evan Spann, Voluntary Programs Coordinator
State of Tennessee Department of Environment and Conservation
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Ave., 14th Floor
Nashville, TN 37243
Evan.W.Spann@tn.gov
615-532-0919

The Project Team described above will interact quarterly as a group, but will be called on an individual basis by the Project Manager as necessary between Team meetings. The Cooperative Agreement Terms and Conditions will be distributed to the Team prior to the first meeting via email, and will be discussed with the Project Team at the first meeting. The Team will also discuss and agree on the establishment and maintenance of necessary Cooperative Agreement records and files, financial management, and Project oversight.

1.4 Measuring Environmental Results: Outputs/Outcomes

A. Project Outputs:

1) Community Outreach

This task includes publicity, meetings, and distribution of information to the public as the project progresses. Public/neighborhood meetings will be held at the start and end of the project. We will produce a quarterly update to be included in existing community newsletters updating the cleanup's progress throughout the duration of the project. Supplies needed for public meetings might include printed handout materials, etc. and the contractor would be required to

prepare visual presentations of progress reports and attend all meetings to discuss project procedures and answer technical questions.

2) Program Development and Management

This task includes documenting guiding principles and procedures, establishing priorities for site remedial actions, and EPA-required performance reporting - e.g. quarterly reports, MBE-WBE reports, final cleanup and closeout reports and ACRES database reporting. Travel costs in this budget task would be used for attendance at regional Brownfields grantee workshops and the National Brownfields conference.

3) Remedial Planning and Design

This task includes the outputs of finalizing the ABCA, coordinating with TDEC to finalize the Land Use Restrictions, Soil Management and Health & Safety Plans, inventory of the current building contents to determine if drums, containers or other materials need to be properly characterized and disposed of, and vapor mitigation system design.

4) Cleanup Activities

This task includes anticipated contractor costs for removal and disposal of contaminated materials, lead-based paint and asbestos, and installation of engineering controls such as caps and barriers. For preliminary budgeting purposes, application of a commercially available impervious barrier costs approximately \$7/sq. ft. (excluding engineering design and monitoring) so for the approximately 15,000 sq. ft. subject building, the cost would be approximately \$105,000. While we cannot provide a cost for handling and disposal of excavated material until we know the extent of cleanup required for the future selected cleanup alternative, we can estimate fees for excavation, transportation and disposal of special waste to a Subtitle D Landfill at approximately \$75/ton, and material classified as hazardous waste to a permitted facility at approximately \$350/ton. Also, a preliminary estimated budget in excess of \$100,000 for the lead-based paint and asbestos removal has been obtained. The City has committed to using their matching funds for this task to limit the expenditure of EPA funds for asbestos removal (federal grant funds \$25,000 – city matching funds \$40,000) but recognizes that additional City cleanup funds may be needed to complete the asbestos removal. This task also includes a final cleanup/project report and regulatory coordination regarding technical aspects of the project with TDEC and EPA throughout the cleanup effort.

B) Project Outcomes: (Project Benefits)

1) Health and/or Welfare and Environmental Benefits

a) Health and/or Welfare Benefits

Pollutants from industrial waste and toxic chemicals are considered harmful to humans who are exposed to them through contact with soil, air and water. Sensitive populations such as children, pregnant women and the elderly are at particular risk as their immune systems may be less resistant. The property to be cleaned up under this grant was first developed in the early 1900's and operated as a laundry and dry cleaning facility for 67 years. The Phase II ESA identified soil and groundwater contaminated with dry cleaning compounds, solvents and petroleum products. Miscellaneous debris and small containers of oil, paint and solvents remain in the abandoned building. Concentrations of VOCs exceed residential and industrial regional screening levels as determined by ambient air sampling. Asbestos and lead-based paint are present in multiple rooms. These contaminants plus the evidence of previous habitation by

homeless individuals all combine to present a threat to the health and welfare of the neighborhood. This threat will be eliminated when the property is cleaned up, secured, and redeveloped into an asset for the community.

Debris and detritus will be removed from the site, a new roof will replace the current unsafe structure, and the property will be secured to prevent unauthorized trespass. The terms and conditions, along with Land Use Restrictions set by TDEC in the Brownfields Voluntary Agreement, will ensure that future use of the site will not pose a danger to public health, safety, and the environment. Cleanup of the property will renew interest from private developers who have already shown interest in development options, especially since several adjacent properties have been redeveloped into successful commercial enterprises. Site cleanup and redevelopment will offer employment opportunities if the end use is for retail or commercial, and the opportunity for residents to walk to the new facility, encouraging exercise to promote a healthier lifestyle.

b) Environmental Benefits

The vapor barrier proposed in the ABCA will prevent vapor intrusion from migrating into any future structure or adaptive reuse of the current structure, and monitoring and maintenance of the vapor system will continue after its installation. Surface runoff from our property most likely contains pollutants such as soil, chemicals and oil which enters storm drains, and ultimately ends up in rivers and streams and can contaminate drinking water. While surface runoff will still occur, cleaning up the site will reduce the amount of pollutants entering the storm drains. Waste material dumped on the site breaks down over a period of time and can release chemicals into the soil and air. Removing waste material will remove this threat from the environment. Site cleanup will lead to redevelopment and most likely offer employment and dining or shopping opportunities for local neighborhood residents. Potentially, this will allow some of these residents to walk to work instead of having to drive, or walk to the retail establishments which in turn, reduces vehicle emissions that contribute to unhealthy air. All of these benefits contribute to a healthier environment.

2) Environmental Benefits from Infrastructure Reuse/Sustainable Reuse

a) Policies, Planning or Other Tools

At the beginning of her administration, Knoxville's Mayor Madeline Rogero outlined four major goals: ♦Strong, safe neighborhoods; ♦Living green and working green; ♦An energized downtown; ♦Job creation and retention. These goals guide the City's budget and operations. Its Energy & Sustainability Initiative has helped make Knoxville a greener city by embedding support for low-impact design and alternative transportation options into how it designs and manages public infrastructure, and integrates sustainability principles into street design, utility infrastructure planning and maintenance. The City is implementing sustainable development strategies such as: the Solar America Cities Program; Leadership in Energy and Environmental Design (LEED) certification for the new Downtown Transit Center; energy efficient building practices for low-income housing programs, and more. Wherever possible, existing utilities serve new facilities. As derelict buildings are demolished, the practice is to recycle demolition materials whenever possible so that useable materials are recovered rather than transported to a demolition landfill. The preferred cleanup alternative calls for the existing structure of our target property to remain intact, but should demolition be necessary for redevelopment, demolition materials will be reused or recycled whenever possible, as advocated in City policy.

b) Integrating Equitable Development or Livability Principles

The City has embraced the six livability principles established by The Partnership for Sustainable Communities and set up specific programs and/or plans to further equitable development. In 2015, City officials hosted representatives from Smart Growth America to introduce concepts related to transit oriented development, which ties into the renovation of Downtown North into an integrated mixed-use area with visual, pedestrian, vehicular and land use connections working together. Connecting currently disconnected streets and enabling pedestrian, cycling, and public transit options for access to employment, schools, and shopping will decrease vehicular miles traveled, thus reduce greenhouse gas emissions and benefit health.

Knoxville's housing programs target improvement and construction of affordable housing, homebuyer assistance, and repair and rehabilitation to reduce the number of substandard rental and owner-occupied properties. Components are: Down payment Assistance Program - through federal grant funds, the City supports new construction and rehabilitation projects for affordable housing; Owner-Occupied Home Rehabilitation - funds are available for owners to rehabilitate substandard residential properties; Rental Rehabilitation Program - provides assistance to owners of substandard rental property. In return, property owners agree to long term rent and occupancy restrictions to keep the housing affordable to lower-income tenants; Blighted Property Redevelopment Program - provides short-term development and construction financing through subsidized loans to redevelop and renovate unoccupied residential dwelling units.

The City's Equal Business Opportunity Program is an outreach program aimed at increasing minority, women, and small businesses' participation in the City's procurement process for construction, goods and services. Every effort is made to encourage disadvantaged businesses to provide services on City projects.

Three Rivers Market, Knoxville's Community Food Co-op, is a customer-owned cooperative, and center of sustainable commerce that benefits members and the community by creating and nourishing a healthier environment, healthier people, and a healthier community. It strives to provide the very best local, organic, and healthy food available. The Co-op represents a three-million dollar investment in a former abandoned facility within a half-mile of our subject site and within walking distance of low income neighborhoods. In 2010, the City approved a business expansion loan under the Empowerment Zone (EZ) program worth up to \$400,000 to expand the market with 7,000 square feet of retail space and a café.

3) Economic and Community Benefits (long term benefits)

a) Economic or Other Benefits

Economic benefits are being realized from new retail and commercial establishments that have turned former underutilized properties into successful business ventures and created employment opportunities for local residents. Those benefits will increase considerably when the Sanitary Laundry facility and other brownfield sites are cleaned up and become once again productive properties. An obvious benefit is the increased tax base for the City of Knoxville. A report titled *Reclamation and Economic Regeneration of Brownfields*, by E.P. Systems Group, cites a study of brownfield project economic features which found that cleanup costs averaged only 8% of total project costs, and each \$1 of public sector financing invested leveraged an additional \$2.48 in private dollars. The Development Corporation of Knox County estimates that 5-10 new jobs are created per acre of industrial property developed. The estimated 136

acres of developable brownfield properties in Downtown North, could lead to as many as 1,000 new employment opportunities for local citizens. An increase in employment generates an increase in spending. It means houses will be maintained which leads to money spent on supplies needed to make the improvements. It means disposable income to spend in retail establishments and restaurants in the neighborhood. It leads to neighborhood stability which is desperately needed in the Downtown North neighborhoods.

b) Job Creation Potential: Partnerships with Workforce Development Programs
Knoxville-Knox County's Community Action Committee (CAC) provides job training through its Workforce Connections, which is responsible for the development and operation of a variety of programs focused on employment assistance, related training and support. Of note are two programs that focused on environmental training. Eight unemployed workers were trained for 'green' jobs as weatherization auditors to perform energy audits of homes to find and correct deficiencies, e.g. sealing leaks around windows and doors etc. Of the eight that were trained, five found permanent employment and two started their own businesses providing energy audits. The second training of note relates to the environmental cleanup of contaminated sites at the Department of Energy facilities in Oak Ridge, located 20 miles from Knoxville. Workforce Connections developed a program, conducted by the International Chemical Workers Union, to train environmental technicians in hazardous materials handling, Hazardous Waste Operator Training and Emergency Response certification, and Occupational Safety and Health Administration (OSHA) construction certification in asbestos, mold and lead. CAC is located in our target area and therefore well positioned to provide training to the underserved citizens of the Downtown North neighborhoods.

1.5 Budget

Budget Table for Work Plan Tasks

Budget Categories	Project Tasks					
	Task 1 Project Management and Reporting	Task 2 Community Involvement/Engagement	Task 3A Additional Site Characterization	Task 3B Cleanup Planning and Design	Task 3C Cleanup Implementation	Total
(Programmatic costs only)						
Personnel						
Fringe Benefits						
Travel ¹	\$3,000					
Equipment ²						
Supplies		\$300				
Contractual ³	\$2,000	\$5,000				
Other – specify						
Total EPA Funding	\$5,000	\$5,300		\$24,000	\$165,700	\$200,000
Cost Share ⁴					\$40,000	\$40,000
Total Budget	\$5,000	\$5,300	\$0	\$24,000	\$205,700	\$240,000

¹ Travel to brownfields-related training conferences is an acceptable use of these grant funds.

² EPA defines equipment as items that cost \$5,000 or more with a useful life of more than one year. Items costing less than \$5,000 are considered supplies.

³ The CAR must comply with the procurement procedures contained in 2 CFR 200 and/or 1500.

⁴ If receiving a cost share waiver this can be omitted.

2.1 PROJECT TASK DESCRIPTIONS

This section includes a summary of tasks for the City of Knoxville Former Sanitary Laundry and Dry Cleaning Facility Cleanup Grant project including required tasks described in the Cooperative Agreement Terms and Conditions. The City of Knoxville will work with the State of Tennessee Department of Environment and Conservation to consider information that would be needed if additional portions of this Project are to be considered eligible for entry into the VOAP program. To the extent applicable, the following includes what will be done to ensure State involvement within each task description.

TASK 1 PROJECT MANAGEMENT AND REPORTING

- A. Quarterly Reporting:** In accordance with EPA regulations 2 CFR Parts 200 and 1500 (specifically, 200.328 *monitoring and reporting program performance*), the City of Knoxville's Office of Redevelopment understands that quarterly progress reports will be due 30 days after the end of each federal fiscal quarter, on the schedule presented as follows:

<u>Performance Period</u>	<u>Report Due</u>
July – Sept	Oct 30
Oct – Dec	Jan 30
Jan – March	April 30
April – June	July 30

The quarterly reports will be completed in the format described in this guidance and copies will be sent to the following 2 email addresses:

1. EPA Region 4 Project Officer: Olga Oliver Perry, perry.olga@epa.gov
2. State Brownfields Coordinator: Paula Middlebrooks, paula.middlebrooks@tn.gov

B. Annual Reporting:

1. Disadvantaged Business Enterprise Reporting: Minority Business Enterprise/Women- owned Business Enterprise (MBE/WBE)

Because it is the federal government's goal to support disadvantaged business enterprises with federal funds, and State agencies work with each federal agency to establish performance targets for federal funds invested in that State, the City of Knoxville will seek opportunities to participate in this goal throughout this Project when possible. EPA Form 5700-52A will be used for reporting efforts to this end, and will be submitted annually with the quarterly reports due October 30. These reports will be sent electronically in separate attachments along with the quarterly reports to the project officer and mailed via hard copy or electronically to the EPA Grants Office annually to the following address:

EPA Region 4
Grants Management Office
61 Forsyth St., 14th Floor
Atlanta, GA 30303
Attn: Zakiya Davis
davis.zakiya@epa.gov

A link to the form is at: <https://www.epa.gov/grants/epa-grantee-forms> and will be submitted by October 30 of each project year.

2. Federal Financial Reports (FFRs):

Federal Financial Reports are due annually to EPA. The reports will be submitted by January 30 of each year. These forms will be sent electronically in separate attachments along with the quarterly reports to the project officer. The forms will also be mailed via hard copy or electronically to the EPA Grants Office annually at the following address:

EPA Region 4
Grants Management Office
61 Forsyth St., 14th Floor
Atlanta, GA 30303
Attn: Zakiya Davis
davis.zakiya@epa.gov

The forms will also be r electronically mailed to EPA's financial center in Las Vegas annually and at the close-out of the grant to the following address:

EPA Las Vegas Finance Center (LVFC)
LVFC-grants@epa.gov
Or Fax: 702-798-2423

A link to the form is at: <http://www.epa.gov/ogd/forms/adobe/SF425.pdf>

C. Final Performance Reporting: In accordance with EPA regulations 2 CFR Parts 200 and 1500 (specifically, 200.328 *monitoring and reporting program performance*), the City of Knoxville agrees to submit to the EPA Project Officer within 90 days after the expiration or termination of the approved project period a final technical report and at least one reproducible copy suitable for printing. This report should summarize the accomplishments (outcomes, outputs, and other leveraged resources) during the entire grant project period, including the last quarter. The City of Knoxville's Final Performance Report for the Former Sanitary Laundry and Dry Cleaning Facility will include:

- A summary of funds expended and work completed;
- A list of all outreach material and any other deliverables;
- Site photographs (electronic high resolution if possible); and
- Lessons learned.

D. ACRES: Property specific information, including the property address and cleanup completions, will be entered electronically in EPA's Assessment Cleanup Redevelopment Exchange System (ACRES) database <http://www.epa.gov/acres>. The information in the quarterly report will correlate

with the information in ACRES. ACRES is a national database from which site-specific accomplishments are measured by Congress and the public. ACRES relevant portions of the database will be updated for each property when the following occur:

- 30 days after award,
- Mobilization for cleanup,
- Completion of cleanup (only after consultation with the Project Officer),
- Funds are leveraged and/or jobs created (quantities)
- Completion of the Project Period (or Final Report), and
- As significant events occur at the site, but not later than the end of the quarter in which the event occurred.

E. Contractor Procurement:

Contractors will be procured in accordance with 2 CFR Parts 200 and 1500 (Uniform Administrative Requirements, Cost Principles, And Audit Requirements For Federal Awards), ensuring that contractors comply with the terms of their agreements with the City of Knoxville and will not violate Tennessee state law or City of Knoxville procurement codes, and that contractors comply with the terms and conditions of the cooperative agreement:

<https://www.gpo.gov/fdsys/granule/CFR-2014-title2-vol1/CFR-2014-title2-vol1-part200/content-detail.html>

<http://www.ecfr.gov/cgi-bin/text-idx?SID=9dad727f830d7c452669df30fc406fee&node=pt2.1.1500&rqn=div5>

<http://www.lexisnexis.com/hottopics/tncode/>

<http://www.knoxvilletn.gov/purchasing>

Procurement is an activity that is eligible as a pre-award activity.

F. Reimbursement Request: The City of Knoxville acknowledges that there are two methods for payment. EPA’s preferred method of payment for the City of Knoxville is the Automated Standard Application for Payments (ASAP). The City of Knoxville uses multiple bank accounts for EPA grants/cooperative agreements, and will enroll in ASAP for this grant. Once enrolled for this grant, the City of Knoxville can access ASAP at www.asap.gov to request payments. The ASAP payment process is designed to provide federal funds to a recipient organization within 48 hours.

The second method is to submit EPA form 190-F-04-001 via fax or email to the Las Vegas Finance Center—see contact info under Section 2.0, Task 1, B.2., above. This non-ASAP form can be found at: <https://www.epa.gov/financial/payment-request-form-grants-and-cooperative-agreements>.

G. Kick-off Meeting: Upon selection of the Contractor, the City of Knoxville’s Project Team, EPA, and State partners will have a project kick-off meeting that involves a tour of the Former Sanitary Laundry and Dry Cleaning Facility. This will serve to orient all the partners to Project

expectations. This will be utilized as a good opportunity to review Project roles, responsibilities, and schedules, and to ensure that everyone has what they need from one another to execute their roles appropriately. The City will look forward to recommendations from the EPA Project Officer regarding tools and resources that may be useful in the implementation of the grant activities.

H. Travel: EPA Region 4's Brownfields Program supports the use of grant funding for travel to local, state and national brownfields-related conferences. The City of Knoxville will identify and budget for educational/training opportunities that enhance our program development. Travel to brownfields state association meetings, conferences or workshops provide valuable opportunities for networking which can lead to capacity building. EPA is aware of the benefits of this type of outreach travel in moving sites toward and achieving the end result of revitalization. The City of Knoxville acknowledges that costs for necessary travel and transportation expenses, including local trips, are allowable programmatic costs and has incorporated travel costs into the proposed budget worksheets.

Task 1 will be primarily conducted by: the City of Knoxville's Office of Redevelopment.

TASK 2 COMMUNITY INVOLVEMENT/ ENGAGEMENT

A. Community Involvement and Engagement

The City of Knoxville makes every effort to engage local citizens in plans for projects in their neighborhoods in order to make full use of citizens' ideas and opinions in considering investment of public funds. Residents and business owners in Downtown North understand that environmental issues related to Brownfield sites, can have a detrimental effect on not only their individual health, but also on the economic health of their neighborhoods. They expressed their concerns in meetings and the City responded. The City took on the challenge of assessing the area's brownfield properties and, with the aid of EPA Brownfields grant funding, performed multiple ESAs. Throughout the assessment project, the City held quarterly public meetings to inform residents of the project's progress. Meetings were publicized on the City's website and held in a location central to the project area. The City engaged a minority firm to produce a quarterly newsletter providing details about the assessment activities which was published on the City's website, distributed to local libraries, and sent via email to interested citizens. The City will similarly involve the public, and in particular, the target neighborhood's residents, in the decision-making for the reuse of the Former Sanitary Laundry and Dry Cleaning Facility site and its appropriate cleanup.

Naturally, the area's residents will have concerns related to cleanup activities, particularly as they might affect sensitive populations. The City and its contractor will explain the measures that will be taken to provide health and safety protections to the neighborhood during cleanup and construction activities. If impacted materials or soil vapors are encountered during remedial activities, appropriate monitoring would be performed to document site conditions, and precautions taken to reduce exposure potential. The policy of the City is to ensure meaningful communication with persons that experience Limited English Proficiency. The primary language in the area is English, and the City has not been requested to communicate in another language. However, should that need arise there are available resources at the Center for International Education at the University of Tennessee, Knoxville, and also the Hispanic Chamber of Commerce, located in Knoxville.

- 1. Outreach:** The following describes how public involvement will be performed. This is consistent with the Cleanup Grant Proposal submitted, and will ensure Community concerns are considered in cleanup planning and execution, that the Public is kept informed of project progress and results, and that Community involvement in the project is encouraged.

This task includes publicity, meetings, and distribution of information to the public as the project progresses. Public/neighborhood meetings will be held at the start of the project and as the project warrants. Based on previous public/neighborhood meetings held to provide information on the redevelopment of the project area, we anticipate a significant number of attendees. Supplies would be needed, and the contractor would be required to attend to discuss project procedures and answer technical questions.

From the City of Knoxville's Office of Redevelopment, the Project Manager will be designated spokesperson. On an on-going basis, relevant documents will be placed in Reference at the main branch of the county's public library system, Lawson McGee Library, so they are available to the Public for review for a set amount of time. Each time a document is placed at the library, it will be noted on the Downtown North website (www.knoxvilletn.gov/downtownnorth) and quarterly newsletter.

The target community is already engaged in the Plan for the Downtown North Redevelopment, and channels for engaging them in the work covered in this grant are established. The first Downtown North public meetings were held in 2008. The meetings were publicized in the local newspaper, the health department, and on the City of Knoxville's website and were well attended with more than 150 people at the first meeting. Since then, more than a dozen meetings have been held to inform the public of proposed redevelopment process in the area, and to gain input from local citizens and other interested parties. Comments from the meetings have been published on the City's website and it is evident that there is overwhelming support for the efforts to enhance the quality of life in Downtown North through community improvement projects. Neighborhood organizations, business associations, citizens' groups, redevelopers, and stakeholders are treated with equality and are privy to the same information, and are in the habit of contacting staff with any questions.

The brownfield cleanup for the Former Sanitary Laundry and Dry cleaning Facility will fit in well with the community's understanding of the intent of this project because sustainable redevelopment of underutilized or blighted properties is a key element in the vision for the Downtown North. Future Downtown North spaces, many of which are currently brownfields, are being designed to work within the natural restraints and maximize the natural benefits of each site, resulting in environmentally conscious areas that will educate the community on sustainable brownfield redevelopment. A brownfields fact sheet will be prepared and distributed at the kick-off meeting and brownfield work will also be communicated quarterly in newsletters, on the website, in our community meetings, and piggy-backed onto other project updates.

- 2. Project Updates and other Public Information:** The progress of the project will continue to be communicated through the City's web site, local media, and community meetings. Brownfield cleanup updates will be shared in any Downtown North community meetings. Meetings will continue to be located in the community in easily accessible public facilities

(past locations have included accessible community buildings, the health department, churches, and businesses) and will continue to be held after working hours to accommodate community work schedules. As always, comment cards will be provided. Any feedback will be addressed individually.

Through the city's website the community is already aware of this grant application award (<http://www.knoxvilletn.gov/cms/One.aspx?portalId=109562&pageId=3951623>). Other means or activities that will be used to keep the public informed and involved include a Grant fact sheet prepared and distributed to the affected community through the Downtown North website at the beginning of the Project, and the final report distributed after the Project is complete. New developments or delays will be noted and explained in the quarterly updates. The Office of Redevelopment plans to continue its current working relationships with government agencies and community organizations.

B. Partnerships with Government Agencies

Throughout the Brownfields Assessment projects that the City of Knoxville has successfully completed, the Tennessee Department of Environment and Conservation has been a strategic partner in lockstep with the City to aid in determining the extent of contamination of selected properties targeted for assessment. Funding for both hazardous and petroleum contamination sites required working closely with several TDEC personnel in the relevant local field offices, as well as the Brownfields Program Manager in TDEC's Nashville headquarters, to make sure that all appropriate guidelines and rules were being followed. TDEC personnel attended public meetings and committee meetings and have been included in all correspondence related to the assessment projects.

The former Sanitary Laundry site was placed on the State Superfund List in 1994. TDEC initiated emergency removal actions in 1994 to address underground storage tanks and two barrels of dry-cleaning fluid, and again in 1999 to remove numerous 55-gallon drums of dry cleaning fluids and oil. TDEC has worked with the City in preparing Brownfields Voluntary Agreements for properties identified and targeted for redevelopment. The former Sanitary Laundry facility is one such property and TDEC and the City have agreed that the BVA is to be made a condition of sale of the property. The terms of the BVA basically dictate that any proposed redevelopment activity, i.e. cleanup tasks and future site use, must adhere to strict standards set by the regulatory agency that protect public safety, health and the environment.

The Knox Co. Health Dept. is physically located in the target area and provides health services to neighborhood residents. The Health Dept. hosted several public meetings to engage the community in the redevelopment planning for the target area and will be a public site for project progress bulletins.

C. Partnerships with Community Organizations

While there are several community-based organizations that support the project, there are four that have already played a noteworthy role, and have committed to continuing their active involvement.

Knoxville's Community Development Corporation (KCDC) is the housing and redevelopment agency for the City. For nearly 70 years, KCDC has enhanced the quality of life for the citizens of Knoxville by providing safe, decent and affordable housing, advancing redevelopment

initiatives, fostering self-sufficiency, and improving neighborhoods and communities. KCDC administers more than \$6 million annually in redevelopment and community and neighborhood revitalization, and is responsible for numerous neighborhood improvement projects including developing two new grocery stores, medical office complexes, and more than 100 new housing units. Working in conjunction with the Metropolitan Planning Commission, KCDC produced the Downtown North/I-275 Corridor Redevelopment and Urban Renewal Plan to address critical issues affecting Downtown North including: economic development, particularly on older, often vacant, industrial properties; conservation of historic resources, especially historic properties in the Downtown North neighborhoods; improving multi-modal transportation including a new access road along I-275, plus sidewalks and bicycle facilities; new land use opportunities on underutilized and vacant properties offering mixed-use development; and enhancement of environmental and recreational systems including the Second Creek greenway that runs through the area. KCDC will continue its role as redevelopment agency to support the implementation of the Downtown North Redevelopment Plan.

The Development Corporation of Knox County (TDC) is a non-profit organization committed to fostering the long-term, quality growth of the region's business environment. As the property owner and manager of six business parks located throughout Knox County, TDC is focused on maintaining a sufficient inventory and diversity of properties to meet the needs of new and expanding businesses. In 2004, Knox Co./TDC applied for, and received, an EPA Brownfields Assessment Grant to assess a 19.4-acre derelict property in Downtown North - the former Brookside Knitting Mill, which had become an attraction for indigent people, and presented a safety hazard in the community. EPA Brownfields funds were used to assess Brookside Mills, local government funds were used to clean up the property, and a Brownfields Voluntary Agreement with TDEC was enacted in 2007. The site was purchased and redeveloped by a local businessman and now houses the corporate offices of Holston Gases. TDC understands the role of Brownfields in industrial development and because the Downtown North area is in a major industrial corridor, TDC actively promotes job creation opportunities for the area and partners with the City and Chamber of Commerce to market industrial properties. TDC's Executive Vice President served on the Knoxville South Waterfront and Downtown North Brownfields Committees and helped guide the City in the prioritization of brownfield sites for redevelopment. It is anticipated that he will perform a similar role for the Sanitary Laundry cleanup.

East Tennessee Community Design Center (ETCDC) is a non-profit organization that facilitates positive change in economically distressed communities through the pro bono contributions of area architects, landscape architects, planners, and other professionals. This network of community volunteers donates over 2,000 volunteer hours annually which leverage five times their value in improvements and services. ETCDC provides land use planning, landscape design, blight removal, visual enhancement programs, and neighborhood stabilization projects including parks, community centers, blighted property identification, housing rehab planning, adaptive reuse of historic properties, and community input visioning. ETCDC partnered with the City in the creation of its façade improvement program to provide incentives to business owners to renovate their building facades, and on a study for the adaptive reuse of abandoned Oakwood Elementary School which had fallen into disrepair. ETCDC led a public involvement process to gather input from the neighborhood regarding the old school's future use. The school has since been redeveloped into an assisted living facility. Currently, ETCDC is partnering with the City and the Broadway Corridor Task Force to develop an Enhancement Plan to consider ways to

improve the corridor for businesses and adjacent neighborhoods in Downtown North. ETCDC hosted a design charrette in the neighborhood in November 2015 to gather input from all interested local businesses, residents and organizations, and will continue to work with the City as it moves forward with cleanup and redevelopment of blighted properties.

St. John's Lutheran Church is a historic Lutheran church located on Broadway. Individuals from the Church's Outreach Team volunteer their time to support several local programs including: Habitat for Humanity – church members provide labor and funding to build a house every other year. Family Promise of Knoxville and Knox Area Rescue Ministries - St. John's sends a team of volunteers to cook and serve meals to the poor and homeless families. The Senior Nutrition "Mobile Meals" Program - St. John's volunteers serve two of the routes within our target neighborhood and also check on the meal recipients, reporting any health or safety concerns to the Knoxville-Knox County Community Action Committee Office on Aging for follow-up. KIDS HOPE USA – trained volunteers develop mentor relationships with at-risk public school children spending one hour a week with carefully matched students at an elementary school in the target neighborhood. St. John's Lutheran Church provided meeting space at no charge to the City of Knoxville for quarterly public meetings held throughout the duration of the Downtown North Brownfields Assessment and will make its facility similarly available throughout the site cleanup project.

Task 2 will primarily be conducted by: the City of Knoxville's Office of Redevelopment.

TASK 3 BROWNFIELDS CLEANUP PLANNING, IMPLEMENTATION AND COMPLETION

This section describes the activities needed to clean up the Former Sanitary Laundry and Dry Cleaning Facility at 625 N. Broadway. The City of Knoxville notes that the Programmatic Terms & Conditions attached to this grant highlight 35% of funds must be expended by 18 months.

A. Site Characterization

The City of Knoxville has conducted a Phase II Environmental Site Assessment including a survey of asbestos containing material and lead-based paint sampling for the Former Sanitary Laundry and Dry Cleaning Facility, a copy of that report is provided on CD as an attachment to this document (see CD Attachments 5 and 6).

1. **Quality Assurance Project Plans (QAPPs):** The City of Knoxville has an approved QAPP consistent with EPA Region 4's *Interim Generic & Site Specific Quality Assurance Project Plan Guidance for Brownfield Site Assessments and/or Cleanups*. A copy of the General QAPP is provided on CD as an attachment to this document (see CD Attachments 2 and 3). Additionally a Site Specific Quality Assurance Project Plan (SSQAPP) was prepared and approved by EPA as part of the Assessment Grant process, a copy of that document is provided on CD as an attachment to this document (see CD Attachment 4). The City of Knoxville understands that costs incurred for sampling performed without an approved QAPP are not eligible for reimbursement. The City also notes that different requirements apply for lead based paint and asbestos assessment and have addressed those requirements in the attached Report of Asbestos and Lead-Based Paint Survey(see CD Attachment 5). Any additional sampling needed for further site characterization or aid in remedy selection will meet the requirements of the QAPP.

2. **Health & Safety Plans:** The City, in conjunction with the Consultant(s), will also prepare and follow an OSHA-compliant Health and Safety Plan (HASP), and a copy will be in the Cooperative Agreement file. These will also be submitted to the EPA and the State for the Project file. EPA approval of the HASP is not required.

B. Cleanup Planning

The City of Knoxville will conduct cleanup planning activities to evaluate and select appropriate remediation strategies. The City of Knoxville has prepared a draft ABCA for the Former Sanitary Laundry and Dry Cleaning Facility – a copy of that report is included on CD as an attachment to this document (see CD Attachment 1). The ABCA was presented to the public as part of the grant application process and highlighted three alternatives discussed in Section 1.2 Project Description, subset D. Proposed Cleanup (above), as noted above the State VCP project manager has reviewed and provided a draft Brownfield Voluntary Agreement as an attachment to this document. A copy of this document is provided on CD as an attachment to this document. The City acknowledges all draft ABCAs submitted in draft form as part of the cleanup grant proposal must be made final. It is EPA's intent that documents generated to meet the state's VCP requirements can serve to meet EPA's needs provided they cover the same elements and include the necessary information below.

The final ABCA or its equivalent will include:

1. Information about the site and contamination issues (i.e. exposure pathways, identification of contaminants, contaminant levels and contaminant sources, source volume or other estimates as needed to compare relative costs between remedies);
2. Identification of the contaminants of concern;
3. A summary of cleanup/protectiveness standards, applicable laws and regulations;
4. A description of the alternatives considered;
5. Assessment of the effectiveness, implementability, and the cost of each alternative. As part of the evaluation of effectiveness, discuss whether/how each alternative would achieve cleanup standards, would comply with applicable laws and regulations, and the resilience of each alternative considering reasonably foreseeable changing climate conditions (e.g., sea level rise, increased frequency and intensity of flooding and/or extreme weather events, etc.);
6. A comparative analysis of the alternatives, including no action. For cleanup of brownfield petroleum-only sites, an analysis of cleanup alternatives must consider a range of proven cleanup methods;
7. A consideration of each alternative's ability to reduce greenhouse gas discharges, reduce energy use or employ alternative energy sources, reduce volume of wastewater generated/disposed, reduce volume of materials taken to landfills, and recycle and re-use materials generated during the cleanup process to the maximum extent practicable; and,
8. The selected or proposed alternative.

Institutional controls (ICs) are administrative or legal mechanisms that help minimize the potential for human exposure to contamination or protect the integrity of a remedy.

While it is EPA's desire to see every site cleaned up to a level that requires no further action, for

some sites it may not be practical. Several layers of mechanisms are often needed to achieve an institutional control objective. Zoning changes, easements, deed restrictions, etc. generally require both State and local mechanisms and approvals. Property transfers and/or property development often cannot occur until these controls are in place. The City of Knoxville will work closely with the State for the approvals.

C. Implementation of Cleanup Activities

The City of Knoxville and its contractor plan to implement the select alternative of redevelopment using the existing foundations of the Former Sanitary Laundry and Dry Cleaning Facility by hiring a qualified firm to remove and dispose of the contaminated materials, lead-based paint and asbestos and install engineering controls such as caps and barriers. Some demolition and removal of debris would be required, but this approach would limit subsurface disturbance to utility trenches or other limited areas where excavation would be needed to support redevelopment design. Soil removed from these areas would be screened for impacts, and based on the findings, handled in accordance with local, state and federal regulations. Any proposed site redevelopment must address the potential for subsurface vapors to migrate to ambient air through the existing concrete slab, so site design would include a soil vapor mitigation system to protect future building occupants by breaking the exposure pathway for vapor migration. Two potential approaches for the soil vapor system include an impervious barrier, or a sub-slab depressurization system that creates a negative pressure beneath the slab and vents the vapors to the outdoor air. The City of Knoxville will protect all nearby populations, including sensitive populations in the targeted community from contaminants during the cleanup work through this grant; implementing procedures necessary to mitigate any potential exposure from the contamination.

1. Federal Cross-Cutting Requirements

The City of Knoxville will comply with Federal cross-cutting requirements. These requirements include but are not limited to OSHA Worker Health & Safety Standard 29 CFR 1910.120; National Historic Preservation Act; Endangered Species Act; and Permits required by Section 404 of the Clean Water Act; Executive Order 11246, Equal Employment Opportunity, and implementing regulations at 41 CFR 60-4; Contract Work Hours and Safety Standards Act, as amended (40 USC § 327-333) the Anti-Kickback Act (40 USC § 276c) and Section 504 of the Rehabilitation Act of 1973 as implemented by Executive Orders 11914 and 11250.

2. Other Applicable Federal and State Laws

The City of Knoxville acknowledges cleanups performed in whole or in part with EPA funds must also comply with all applicable federal and state laws, including the Davis-Bacon Act which requires payment of the prevailing wage rate for construction projects, including cleanup activities. The Davis-Bacon Act also requires reporting, self-monitoring by the City of Knoxville, and other requirements. The Davis-Bacon Act applies to all construction, alteration, and repair contracts and sub-contracts awarded with EPA grant funds. Recent and applicable wage rates from the U.S. Department of Labor must be incorporated into construction, alteration, and repair solicitation and contracts.

The City of Knoxville will consult the U.S. Department of Labor website to ensure all responsibilities are understood: <https://www.dol.gov/whd/programs/dbra/>.

3. Greener Cleanups

The City of Knoxville and its contractor will work to ensure a greener cleanup. As noted, assessing and cleaning up contaminated lands protects human health and the environment and enables communities to pursue future beneficial reuse of these properties. Cleaning up sites can be viewed as “green” from the perspective of the cleanup improving environmental and public health conditions. The City acknowledges that cleanup activities use energy, water and other resources to achieve cleanup objectives and will work to alleviate the environmental footprint of cleanup actions. The City and its contractor will utilize the resource at <https://www.epa.gov/greenercleanups> for greener cleanup recommendations.

4. Completion of Cleanup Activities

The City of Knoxville will ensure that the successful completion of the cleanup is properly documented. This must be done through a final report or letter from a qualified environmental professional, or other documentation provided by a state or tribe that shows the cleanup is complete. This documentation will be included as part of the administrative record. In the event of an incomplete cleanup, the City of Knoxville shall ensure that the site is secure and notify the appropriate state agency and the EPA Project Officer to ensure an orderly transition should additional activities become necessary.

Task 3 will primarily be conducted by: The City of Knoxville’s Office of Redevelopment in conjunction with the selected, qualified contractor.

Modify with other eligible work plan tasks as needed, especially those identified in your cleanup grant proposal.

3.1 SCHEDULE

Attachment 2 in this document provides a detailed Project Schedule. Many tasks run concurrently. For that reason, a Gantt chart will be created by the City in consultation with the Consultant(s) to help steer the project. Sufficient time for management or governing board approvals that may be necessary at critical points in the project is included in the schedule. Schedule development will be discussed with the EPA Project Officer.

Attachment 1 Budget Table for Work Plan Tasks

Budget Categories	Project Tasks					
	Task 1 Project Management and Reporting	Task 2 Community Involvement/Engagement	Task 3A Additional Site Characterization	Task 3B Cleanup Planning and Design	Task 3C Cleanup Implementation	Total
(Programmatic costs only)						
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Fringe Benefits						
Travel ¹	\$3,000					
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Other – specify						
Total EPA Funding	\$5,000	\$5,300		\$24,000	\$165,700	\$200,000
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¹ Travel to brownfields-related training conferences is an acceptable use of these grant funds.

² EPA defines equipment as items that cost \$5,000 or more with a useful life of more than one year. Items costing less than \$5,000 are considered supplies.

³ The CAR must comply with the procurement procedures contained in 2 CFR 200 and/or 1500.

⁴ If receiving a cost share waiver this can be omitted.

Attachment 2 Schedule of Activities and Deliverables

The City of Knoxville will use this format for planning grant activities, but will modifications as needed appropriate for the project. The City will consider starting procurement early and conducting community engagement activities throughout the three years. The City acknowledges that projects with at least 35% of the funds expended on eligible tasks after 18 months are well positioned to spend all funds by the end of the project period.

Time and Actions from Notice of Selection		
Pre-Award	0 month	Notice of Selection: May 2016; Application Webinar held June 15 & 16, 2016 Grant Application submitted with Draft Work Plan and detailed schedule June 30,2016
	0-3 months	City of Knoxville completes required grant award documents and submits to EPA EPA works with City of Knoxville to finalize draft work plan (by July 2016)
	2-4 months	City of Knoxville may conduct pre-award activities such as drafting the Community Engagement Plan and issuing consultant RFP
	3-4 months	EPA executes grant award, October 1, 2016. New Grantee Workshop in Jacksonville, FL
Time and Actions from Award/Project Start		
Year 1	0 months	Grant award
	0-3 months	RFP for contractor procurement is finalized ACRES Training
	1-4 months	Consultant contract executed and contractor on-board Kick-off meeting held with Contractor, EPA, State and others on the Project Team Complete Community Engagement Plan Plan First Public Meeting ACRES Entry
	4 months	Quarterly Report 1 is due 30 days after 1 st quarter ends Reimbursement Request Submitted
	4 – 8 months	Develop QAPP and submit to EPA/State for approval Conduct Limited Site Characterization Host Public Meeting
	7 – 8 months	Finalize ABCA Provide Public with Opportunity to Review ABCA
	7 months	Quarterly Report 2 is due 30 days after 2 nd quarter ends Reimbursement Request Submitted
	10 months	Quarterly Report 3 is due 30 days after 3 rd quarter ends Reimbursement Request Submitted.
	8-12 months	Initiate Cleanup
	12 months	Submit Federal Financial Report (SF425)
	Year 2	13 months
16 months		Quarterly Report 5 is due 30 days after 5 th quarter ends Reimbursement Request Submitted
18 months		Half of 3 year grant is complete. Check-in with EPA/State for any modifications to work plan budget or scope of work. Make sure accomplishments to date are in ACRES. 35% of funds should be expended by this time.
19 months		Quarterly Report 6 is due 30 days after 6 th quarter ends Reimbursement Request Submitted DBE due with this quarterly report

	22 months	Quarterly Report 7 is due 30 days after 7 th quarter ends Reimbursement Request Submitted
Ongoing		Participate in regularly scheduled planning/status calls with Project Team Conduct and build on Community Engagement activities Identify financial commitments, developers, etc. Continue to leverage dollars
Year 3 and closeout	25 months	Quarterly Report 8 is due 30 days after 8 th quarter ends Reimbursement Request Submitted. DBE due with this quarterly report
	28 months	Quarterly Report 9 is due 30 days after 9 th quarter ends Reimbursement Request Submitted
	30 months	6 months remain on the grant; Start winding down activities in preparation for grant closing
	31 months	Quarterly Report 10 is due 30 days after 10 th quarter ends Reimbursement Request Submitted.
	34 months	Quarterly Report 11 is due 30 days after 11 th quarter ends Reimbursement Request Submitted
	Prior to close-out	Make sure all work has been entered in ACRES; Prepare and Submit final Cleanup Report. Enter cleanup completion in ACRES if an NFA letter or equivalent has been issued.
	35 month	Reconcile accounts; collect remaining invoices for submission; gather deliverables for final close-out report
	36 months	Grant project/budget period closes; no further costs can be incurred after final date
	37 months	Quarterly Report 12 is due 30 days after 12 th quarter ends; May serve as Final Close-out Report if all project documentation is complete and ready. If so, then it is due 90 days after project period ends. DBE report due with this quarterly report.
	37 – 39 months	Submit final request for reimbursement with Final FFR (Standard Form 425) All Close-out documentation and final deliverables due within 90 days project end date.

- Quarterly reports are due 30 days after the end of each quarter: Jan 30, April 30, July 30 and Oct 30.
- ACRES data should be entered with each project phase and after significant work completion.
- Draw down expended funds at least quarterly or more frequently as expenditures warrant

Attachment 3 Example Quarterly Report Template

The City of Knoxville will use this format to provide the EPA Project Officer with quarterly reports. The City will include property names and other details in the appropriate task description of accomplishments. The City will be descriptive with grant reporting.

CAR Name: City of Knoxville Cooperative Agreement Number: TBD Date Quarterly Report Submitted: Month 30 Quarterly Report Number: TBD			
Task 1: Project Management and Reporting			
Subtask / Activity	Deliverable/ Outputs / Milestone	Target Date ^a	Lead Party
A. Assemble internal team, including technical, financial, managerial. Establish project schedule.	Team established, agreement written. Schedule developed.	Qtr. 1	PM, team
B. Prepare bid documents for procuring contractor support.	Bid package complete.	Qtr. 1	City Engineer
C. Select contractor.	Contractor selected	Qtr. 2	PM
D. Kick-off meeting held.	Kick-off meeting complete	Qtr. 2	Team
E. Grant Project Reporting	Quarterly Progress Reports (10 days after end of qtr.)		PM
a. Quarterly Progress Reports to EPA & State	Final Report (90 days after grant)		PM, team
b. Final Grant Reporting			PM
F. Attend New Grantee Workshop			
G. Attend Local, State and National Brownfields Conferences			
Cost Estimates for Task 1:			
Actual Accomplishments and Progress Reporting for <i>(fill in the blank)</i> Reporting Period: <i>Use this area to provide a description of the progress made during the reporting period for this task. Be detailed and descriptive.</i>			
Task 2: Community Involvement/Engagement			
Subtask / Activity	Deliverable/ Outputs / Milestone	Target Date	Lead Party
A. Setup Information Repository for Public Information	Files made publicly available.	Qtr. 1	PM, team
B. Community Engagement Plan Developed	Assessment complete, part of Plan.	Qtr. 1	Team
C. Media, Electronic & Social Networking Systems Updated	Plan complete.	Qtr. 1	Contractor

<p>D. Meetings to describe project/schedule and/or updates Kick-off meeting Update after final Phase II ESA Draft and Final ABCA Mobilization</p>	<p>Radio, TV, flyers newspaper, etc. Meetings conducted.</p>	<p>Every Qtr. Qtrs.: 2, 4, 8, 10</p>	<p>Team PM, Team</p>
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Cost Estimates for Task 2: (include cost estimates here)

Actual Accomplishments and Progress Reporting for *(fill in the blank)* period: *Use this area to provide a description of the progress made during the reporting period for this task. Be detailed and descriptive.*

Task 3A: Additional Site Characterization

Subtask / Activity	Deliverable/ Outputs / Milestone	Target Date	Lead Party
<p>A. Final Phase II ESA Generic QAPP Site Specific QAPPs</p>			

Cost Estimates for Task 3: (include cost estimates here)

Actual Accomplishments and Progress Reporting for *(fill in the blank)* period: *Use this area to provide a description of the progress made during the reporting period for this task. Be detailed and descriptive.*

Task 3B: Cleanup Planning

Subtask / Activity	Deliverable/ Output s / Milestone	Target Date	Lead Party
<p>A. Finalize ABCA</p>			

Cost Estimates for Task 4: (include cost estimates here)

Actual Accomplishments and Progress Reporting for *(fill in the blank)* period: *Use this area to provide a description of the progress made during the reporting period for this task. Be detailed and descriptive.*

Task 3C: Cleanup Implementation			
Subtask / Activity	Deliverable/ Outputs / Milestone	Target Date	Lead Party
A. Mobilization B. Conduct Cleanup C. Prepare final Cleanup Report			
Cost Estimates for Task 4: (include cost estimates here)			
Actual Accomplishments and Progress Reporting for <i>(fill in the blank)</i> period: Use this area to provide a description of the progress made during the reporting period for this task. Be detailed and descriptive.			

Quarterly Expenditure Reporting

Budget Categories	Costs Incurred This Quarter						
	Task 1	Task 2	Task 3A	Task 3B	Task 3C		
	Project Management and Reporting	Community Involvement/ Engagement	Additional Site Characterization	Cleanup Planning	Cleanup Implementation	Total Spent this Quarter	Remaining Budget
Personnel							
Fringe Benefits							
Travel							
Equipment							
Supplies							
Contractual							
Other (describe in Report)							
Total Federal Funding							
Cost Share							
Total							