## ADDENDUM NUMBER TWO

## Lupton Mill Site Remediation

## FOR THE CITY OF CHATTANOOGA, TENNESSEE

## **Contract Number E-16-006**

The attached Soil Management Plan is added as a supplement to the Specifications.

The following text has been added to Section 3.1D of Section 02 41 00, Demolition:

"This is being done to provide positive drainage through the slab sections into the ground beneath the slab. The contractor shall remove a section (approximately 3' x 3') for each 1000 square feet of each individual slab to verify conditions favorable to drainage exist beneath the slab."

The entire revised Section 02 41 00 is being included with this addendum. Please replace the original version with the included Version 2.

Two wells have been added to the list of wells that need to be located on the site, for a total of 5, and the locations have been shown on the plan sheet. Please refer to Item 59 on the attached updated sheet D-2.

A map in attached to this addendum showing the location on-site to meet for the pre-bid meeting scheduled for December 18, 2018 at 10 a.m. In the event that adverse weather is a possibility, an addendum will be released by the end of the day December 14 with an alternate location and additional information.

December 3, 2018

/s/ Justin C. Holland, Administrator City of Chattanooga Department of Public Works



October 12, 2018

City of Chattanooga Department of Public Works- Engineering Division 274 East 10th Street Chattanooga, Tennessee 37402

Attention: Mr. Dennis Malone

Reference: Soil Management Plan Former Dixie Yarns Property-Old Lupton Mill (DOR 33-764) Chattanooga, Tennessee S&ME Project No. 4181-17-043

Dear Mr. Malone:

This Soil Management Plan provides site specific management practices established in order to reduce risk associated with expected environmental contaminants associated with petroleum-impacted soils and historical site operations identified during prior investigations. Our services in conjunction with development of this document were conducted at your request, in accordance with the services outlined under Task 1: Preparation of a Soil Management Plan, in S&ME Proposal No. 41-1700317CO2 dated July 27, 2018.

This document has been prepared in accordance with generally accepted practice for specific application to this project. The conclusions and recommendations contained in this report are based upon applicable standards of our practice in this geographic area at the time this report was prepared. No other warranty, expressed or implied, is made.

S&ME should be provided the opportunity to review modifications to plans and specifications in order that recommendations are properly interpreted and implemented. The recommendations in this report are contingent on S&ME's observation and monitoring of site redevelopment activities. This Plan addresses soil management practices during site redevelopment relative to environmental conditions as described in supporting documentation and is not intended to address geotechnical considerations. S&ME appreciates the opportunity to provide environmental services. Should you have any questions after reviewing this letter, please do not hesitate to contact us.

Sincerely,

S&ME, Inc.

aul Hubbard

Paul Hubbard Staff Professional

Johanna Heywood, PE, PG

Johanna Heywood, PE, PG Senior Project Manager



# Site Location and Description

The subject property is commonly known as the former Lupton City Mill which was operated by Dixie Yarns and located at 1210 Mercer Street in Chattanooga, Tennessee. The property occupies about 12 acres and is referenced as Parcel 118E E 006.03 on the Hamilton County GIS website. Figure 1, attached, depicts the approximate boundaries of the property. The property is currently vacant and contains remnants of former structures that are standing and areas where concrete slabs and flooring or subfloors from past structures remain. Numerous piles of building debris are located across the site. Surrounding properties include residential properties to the north, undeveloped wooded property to the east, and recreational land (golf course) to the south. Property to the west includes both recreational (a municipal park) and residential properties.

# Project Background

The property initially was developed in the early-1920s as a textile mill and operated as a mill until the mill closed in 2009. The Dockery Group (property owner prior to the City of Chattanooga) acquired the facility, entered the property into the VOAP based on the findings of a Limited Phase II ESA (GEOS, dated April 2014). The Dockery Group reportedly proceeded to selectively deconstruct the facility for the purpose of salvaging and selling recovered wood and brick, then abandoned the site. The City of Chattanooga has since assumed ownership of the property and entered the property into the Tennessee Department of Environment and Conservation (TDEC) Voluntary Oversight and Assistance Program (VOAP).

S&ME understands that the City and TDEC discussed the findings of the April 2014 Limited Phase II ESA in the context of an acceptable clean up approach. The outcome of the discussion was a proposed clean-up approach that generally consisted of relocating the rubble to the eastern approximately 4.6 acres of the property as fill, then capping with 2 feet of clean soil or hardscape for future use as a park. The western approximately 7.3 acres of the property would be released as a future development parcel by the City. Based on the detected concentrations of EPH and PAHs and PCBs at the former boring location B-14 identified in the 2014 Phase Limited Phase II ESA, TDEC requested additional sampling limited to the western 7.3-acre portion of the property. The requested sampling included the collection of shallow soil below the flooring on the western portion of the property to evaluate if soil underlying the flooring and sampled intervals corresponding with elevated concentrations of PAHs and EPH met unrestricted use criteria. The requested sampling also included the collection of additional samples in the vicinity of the former B-14 to better understand the vertical and lateral extent of the elevated PCB concentrations.

S&ME proposed and was authorized to conduct limited environmental sampling, specific to the objectives of the client and TDEC. The scope of the assessment included installation of fifteen soil borings across the western two-thirds of the property and collection of soil samples for laboratory analysis by extractable petroleum hydrocarbons (EPH), polynuclear aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs). Additionally, S&ME collected samples of stockpiled soils generated by clearing of debris in the vicinity of the former B-14 for analysis of PCBs. The results of the assessment, submitted to the City of Chattanooga in draft format on November 13, 2017, identified concentrations of EPH and PAHs exceeding the corresponding Regional Screening Levels (RSLs) in the western third of the project site at boring locations B1, B3, B4, B6 and B7. The observed impact was present at depths of at least five feet; however, the vertical extent has not been defined. PCBs were identified in excess of the corresponding RSLs for residential land use in the stockpile sample B8 COMP EAST (representing the top foot



of soil in the area of the former B-14), but below the TSCA self-implementing cleanup goal of 1 milligram per kilogram. Additionally, the lateral extent of impact is not well defined due to the presence of debris piles across the southern portion of the site. As such, there is potential that higher concentrations are present in other areas.

# Redevelopment Plan

In subsequent correspondence between the City of Chattanooga and S&ME on February 6, 2018, the City indicated their objective was to consolidate and spread onsite debris and to install an engineered clean soil cap across the property. Based on our recent correspondence on July 24, 2018, we understand at this time that the intended future use for the site is public greenspace. A pre-fabricated restroom structure may also be incorporated, but no occupied structures are planned. At this time, the location of a future utility trench has not been established.

As requested by the City of Chattanooga, S&ME also prepared a *Report of Limited Geotechnical Engineering Services*, dated August 14, 2018. The purpose of the report was to provide recommendations for site preparations and placement of the construction fill that are applicable to the property having the end uses as a green space. A summary of S&ME's recommendations are provided below. This summary is for convenience only and should not be relied upon without reading the full contents of the attached report.

- Demolition of existing structures including the removal of dock retaining walls, basements, crawl spaces, and elevated floor slabs over crawl spaces;
- Demolishing the basement on the east end by disassembling the walls, columns, and elevated slab individually, and breaking the material down to smaller pieces prior to placing as fill on the site;
- Rubblizing of on-site construction debris, including concrete, brick, wood, insulation, and roofing material, to a maximum particle size of 18 inches or smaller using crushing equipment;
- At-grade asphalt paving, wood flooring, and concrete slabs may be left in place provided they are broken up into approximately 3 foot square pieces to allow for drainage;
- Placement and compaction of building debris in maximum 2-foot thick lifts;
- Placement of a minimum two-foot thick soil cap comprising silt or clay with no rock fragments larger than 4 inches in diameter; and
- Installation of a 12 oz., non-woven, needle punch filter fabric over the first 6 inches of soil fill, then placing the rest of the soil cap over the filter fabric to reduce the potential for migration of the soil cap into void spaces within the rubble fill.

A copy of the Lupton Drive Mill Property Flooring / Surface Materials Exhibit drawing prepared by the City of Chattanooga Department of Public Works, Engineering Division and dated June 1, 2018 is attached.

## **Environmental Soil Management Practices**

The Environmental Soil Management Practices were developed to establish soil handling procedures during construction. Given results of prior assessment and site history, it is expected that impacted soil will be encountered. If encountered and intended to be disturbed, impacted soils shall be handled with appropriate soil management practices and, if disposed off-site, impacted soils or soil commingled with other wastes (including suspected foundry sand) shall be characterized and disposed appropriately.



The presence of impacted soils and/or building materials on a construction site corresponds with potential risks for the ingestion and dermal contact exposure pathway. At this time, site development activities present a potential exposure pathway to site workers during construction. Additionally, exposure of the impacted soil presents a potential off-site "migration" issue if proper storm water best management practices are not implemented. Because of these potential exposure pathways, certain site management practices must be implemented to be protective of potential receptors. Provided that petroleum impacted soils are placed below a minimum of 24 inches of clean fill or a sufficient impervious layer, then direct exposure to potential future receptors should be significantly reduced. Given the site history, presence of residual buildings and slabs, and that assessment activities were limited in nature, it is presumed that there are areas of the entire site will be capped with at least 2 feet of clean soil.

Within the boundaries of the planned development, it is not anticipated that soils will be excavated for offsite disposal. However, it is contemplated that soils will be relocated in the process of site grading activities to achieve desired grades and placement below sufficient soil cap thickness.

If impacted soil or building materials must be disposed offsite to meet the grading requirements, prior to transporting offsite, the media will characterized appropriately for appropriate disposal determination. Additionally, written approval by TDEC and/or the landfill, as applicable must be received prior to transporting offsite.

In the absence of additional site characterization data, at a minimum, the following soil management practices will be implemented by the property owner/developer. Proper implementation of these management practices should reduce unnecessary exposure to potential constituents of concern associated with foundry sand at the site. The site management practices consist of the following:

- Notification to TDEC-DoR prior to beginning any construction or demolition work at the site which are intrusive in nature and would potentially disturb or expose the subsurface impacted soils or building materials.
- Site workers who are reasonably expected to be exposed to impacted soil during construction or demolition activities shall be alerted to the potential constituents of concern at the site and be familiar with these site management practices prior to implementing the work.
- These workers shall be informed of the risk associated with ingestion or inhalation of soil and dust particles and shall be instructed to limit physical contact with the impacted soils. If an aspect of the work requires extensive contact with impacted soils, a task-specific safety plan shall be required which would provide additional information on associated risks, personal protective equipment, and decontamination practices. Contractor shall be responsible for ensuring site workers have met any necessary training requirements related to handling impacted soil.
- An Environmental Professional or Environmental Technician qualified to identify impacted materials will be on site during intrusive activities.
- Given the site history, it should be anticipated that areas of petroleum and chlorinated solvent-impacted soils and/or water may be encountered. If encountered, the contractor should stop work in that immediate area, and notify the site superintendent who will notify the environmental professional. The environmental



professional will review area of impact relative to existing historical assessment data and following discussion with the site superintendent and owner make recommendations for handling or containing environmental media– either to continue work, to segregate and sample, or relocate. It should be expected that segregated soils will be covered with heavy poly sheeting until characterized or determined allowable to remain onsite.

- If discolored or stained soils are observed, or unusual odors encountered, the contractor should stop work, notify the superintendent and the Environmental Professional. No soil shall leave the site prior to characterization.
- Proper sediment and erosion controls must be established prior to construction and/or demolition activities to prevent the inadvertent offsite transport of impacted soil from the site. The controls will be established in accordance with the TDEC erosion and sediment control handbook.

These controls must be periodically inspected and adequately maintained throughout the duration of the construction and/or demolition activities to prevent the offsite transport of soils from the site. Only after the site is adequately stabilized, can the sediment and erosion controls be removed.

• Sufficient dust control practices will be implemented to prevent the air-borne mobilization of soil from the site. This will generally consist of keeping exposed soils and building materials damp.

Where the site redevelopment plan will accommodate fill soil, impacted soils at the site may be relocated to any area (other than utility trench backfill) of the site, provided the location of placement also was demonstrated to have had like soils (existing impacted soil) and/or will be placed under pavement or 24 inches of clean soil cap in accordance with S&ME's geotechnical recommendations.

- Utility trenches will be backfilled with clean fill material (i.e. gravel, or soil). These "clean" utility trenches will reduce the potential that future utility workers will encounter impacted soil. The impacted soil excavated from these utility trenches may be permitted and disposed offsite as a Special Waste or relocated onsite in building debris consolidation areas such that these areas will receive a clean soil cap of adequate thickness.
- Final site conditions must provide a sufficient impervious layer (asphalt, concrete, or pavement) or a minimum 24-inch layer of amended top soil, plus sod, over areas where indications of impact are present. This may require undercutting of landscaped areas to accommodate 24 inches of "cap". The permanent soil cover must be stabilized within 15 days of being placed. All cover material, permanent soil cover or impervious layer must be permanently maintained to ensure that impacted soils and building materials are not exposed.
- An as-built drawing and close-out report shall be submitted following completion of the project to document final conditions to TDEC.

S&ME proposes to provide an environmental professional who is familiar with the findings of the previous environmental investigations, site conditions, and Soil Management Plan to provide onsite observation, consulting and support documentation during site redevelopment. S&ME environmental personnel assigned to field support for this project will have completed OSHA 1910.120 40-hour HAZWOPER training and will have experience with similar projects.



## Special Considerations Stipulated by TDEC

Based on our experience with another City-owned Brownfield site (North St. Elmo Drainage System Improvements, DoR Site: 33-613A), we understand that approximately 500 to 600 cubic yards of clayey fill soils with minor impact (generated during sewer line excavation activities) were authorized by TDEC to be relocated to the Old Lupton Mill project site in 2017 for use as fill. This measure was negotiated on behalf of the City of Chattanooga in an effort to conserve limited available space for temporary storage of impacted soils.

In an email, dated March 7, 2017, Mr. Troy Keith with TDEC-DOR indicated the following: "The results indicate concentrations from the St. Elmo soils are within naturally occurring or urban background ranges. The arsenic hit of 22.9 mg/kg is at the upper limit of acceptability, but given the constraints to be imposed on the Lupton City site, the stockpiled soils evaluated under this effort are acceptable for use at Lupton City. The constraints are as follows: Lupton City (LC) is a City owned property under DoR oversight; the LC site is already impacted with similar constituents and concentrations (or higher); the LC site will receive a Land Use Restriction; and **the material from the St. Elmo stockpiles will be used to form the bottom lift** of the two plus feet of the LC cover, with a minimum of an additional 18" of imported clean soil placed above the St. Elmo soil."

## **Groundwater Management**

Past operations at the site and in the vicinity have resulted in impacts to the groundwater on the subject property. Groundwater is not anticipated to be encountered during grading and excavation activities. In the event that groundwater or perched water is encountered in a previously-identified areas of impact and if indications of impact such as sheens or odors are identified, site work in the area should be halted by the site superintendent and the water sampled and appropriately characterized by the onsite environmental professional. Impacted water removed from excavations must be properly disposed of in accordance with applicable regulations.

# Health and Safety

S&ME will generate a Site Specific Health and Safety Plan for use by S&ME employees while on site. Please note that the Contractor and any subcontractors will be responsible for developing and implementing their own health and safety plans.

S&ME will not supervise, direct, control or have authority over or be responsible for Contractor's means, methods, techniques, sequences or procedures. As such, S&ME will not issue any "stop-work" notifications to the Contractor as S&ME is not in a position to direct or control the work of the Contractor. S&ME is not responsible for supervision of truck loading operations performed by the Contractor. The Contractor remains responsible for handling excavated material in accordance with applicable local, state, and federal regulations.

# Limitations

This document has been prepared in accordance with generally accepted practice for specific application to this project. The conclusions and recommendations contained in this report are based upon applicable standards of our practice in this geographic area at the time this report was prepared. No other warranty, expressed or implied, is made.

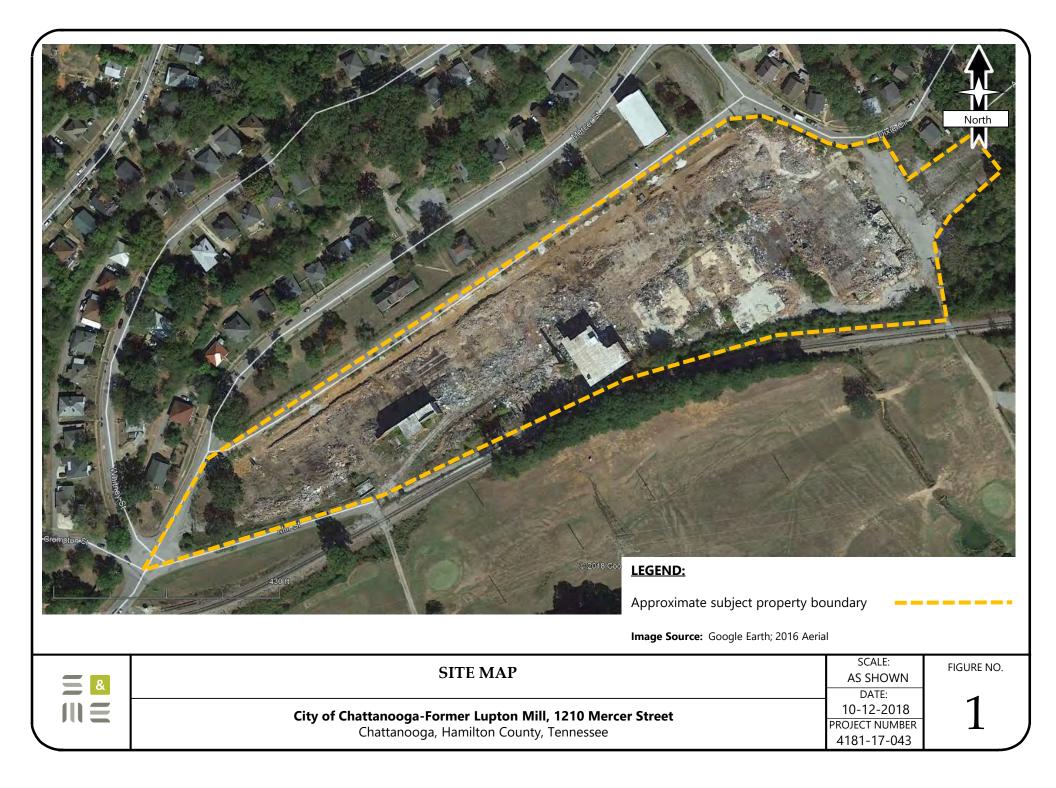


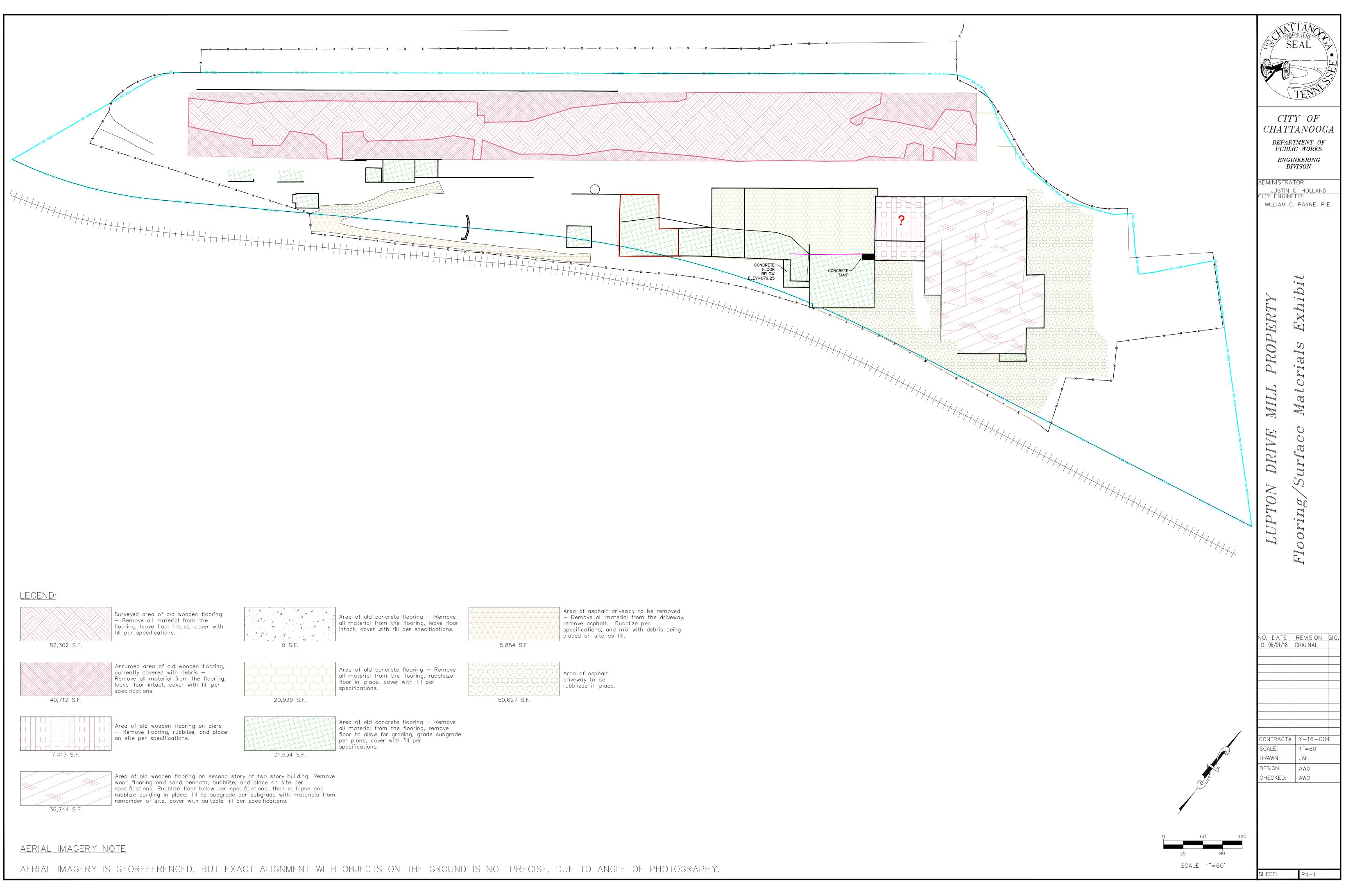
S&ME should be provided the opportunity to review the final plans and specifications in order that recommendations are properly interpreted and implemented. The recommendations in this report are contingent on S&ME's observation and monitoring of site redevelopment activities.

This Plan addresses soil management practices during site redevelopment relative to environmental conditions as described in the brownfield voluntary agreement and supporting documentation and is not intended to address geotechnical considerations. Independent geotechnical evaluation should be performed to determine the suitability of in situ or placed fill material for any planned construction.

Attachments

Attachment I – Figures







**Attachment II – Report of Limited Geotechnical Engineering Services** 



August 14, 2018

City of Chattanooga Department of Public Works – Engineering Division 274 East 10th Street Chattanooga, Tennessee 37402

Attention: Ms. Elizabeth Goss Engineering Coordinator

Reference: Report of Limited Geotechnical Engineering Services Former Dixie Yarns Property – Old Lupton Mill Chattanooga, Tennessee S&ME Project No. 4181-17-043A

Dear Ms. Goss:

S&ME, Inc. has completed the limited geotechnical services for the Former Dixie Yarns Property in Chattanooga, Tennessee. Our work was performed in general accordance with S&ME Proposal Number 411700317CO1 dated June 28, 2018. Our services were authorized by Mr. Dennis Malone of the City of Chattanooga on July 30, 2018.

The purpose of our work was to provide recommendations for site preparation and placement of the construction debris fill that are applicable to the property having an end use as a green space. This letter describes our understanding of the project, presents our observations, and provides our recommendations relative to the above considerations.

# Project Information

Project information was provided to us by Ms. Goss in the form of Lupton Drive Mill Property Flooring / Surface Materials Exhibit drawing prepared by the City of Chattanooga Department of Public Works, Engineering Division and dated June 1, 2018. We have also discussed the project with Ms. Goss and Mr. Alan Ogle of the City of Chattanooga Department of Public Works Engineering Division.

The project site is commonly known as the former Lupton City Mill which was operated by Dixie Yarns and located at 1210 Mercer Street in Chattanooga, Tennessee. Surrounding properties include residential properties to the north, undeveloped wooded property to the east, and both recreational (City-run park) and residential properties to the west. A rail line borders the property to the south. Lupton City Golf Course is located south of the rail line.

The site occupies about 12-acres and is referenced as Parcel 118E E 006.03 on the Hamilton County GIS website. A prior owner demolished the majority of the facility but abandoned much of the rubble onsite. Based on the provided project information, we understand that the city intends to leave the existing wood and concrete flooring in place, spread the piles of rubble across the site, and cap the site with clean soil. The site will then become an unlined, closed landfill converted into a green space.



Report of Limited Geotechnical Engineering Services Former Dixie Yarns Property – Old Lupton Mill Chattanooga, Tennessee S&ME Proposal No. 411700317CO1

# Observations

We visited the site to observe the site conditions to prepare our recommendations for placement of the rubble fill. Piles of construction debris / rubble were observed across the site, particularly along the northwest side. The rubble was generally a mixture concrete, brick, block, wood, insulation, roofing material, and metal (See Photos 1 & 2). Some soil had been dumped on site along the northwest edge and off of the northeast end of the site. Wood flooring still covers much of the middle portion of the site (Photo 3). Portions of the mostly demolished building were still standing along the sites southeast side (see Photos 4 & 5). There is a walkout basement on the northeast end of the building (see Photo 6). The southeast edge of the site is about 20 feet lower in elevation than the road elevation along the northwest edge of the site. To the west of the basement, is a crawlspace that the building was constructed over. A wet weather conveyance travels from northwest to southeast across the site through the crawl space. Storm water from the Lupton City residential area enters the wet weather conveyance at the north end, travels below the floor slab of the demolished building, and exits to the south at the golf course. We understand that the city plans to install a storm sewer pipe to re-route the storm water around the site.

# Recommendations

We recommend the remainder of the existing structures be demolished prior to placement of the rubble fill. This work should include the removal of dock retaining walls, basements, crawl spaces, and elevated floor slabs over crawl spaces. Further, we recommend demolishing the basement on the east end by disassembling the walls, columns, and elevated slab individually, and breaking the material down to smaller pieces prior to placing as fill on the site. We recommend that the existing basement on the east end not be imploded in on itself as that would likely create large void spaces within the rubble. Void spaces within the fill could provide an avenue for loss of material over the rubble, resulting in dropouts at the ground surface.

For placement as rubble fill, we recommend the on-site construction debris, including concrete, brick, wood, insulation, and roofing material, be broken down to a maximum particle size of 18 inches or smaller. The contractor may use whatever means they deem appropriate to break down the larger pieces of construction debris. However we expect that it will require the use of large excavators, hoe rams, and concrete crushing equipment. The at grade asphalt paving, wood flooring, and concrete slabs can be left in place provided they are broken up into approximately 3 foot square pieces to allow for drainage.

Once broken down, the fill material should be spread in lifts a maximum of 2 feet thick. The differing constituent fill material does not need to be segregated prior to placement. The fill should be compacted by making multiple passes with a Caterpillar D9 bull dozer or equivalent. The number of passes should be sufficient to demonstrate the material is densified and stable. We recommend fill slopes be constructed at 3 Horizontal to 1 Vertical (3H:1V) or flatter.

To comply with the TDEC requirements and the soil management plan, we understand a two foot thick cap of soil will be placed over the rubble fill. The fill soil should consist of silt or clay with no organic matter or debris and contain no rock fragments larger than 4 inches in any dimension.



## Report of Limited Geotechnical Engineering Services Former Dixie Yarns Property – Old Lupton Mill Chattanooga, Tennessee

S&ME Proposal No. 411700317CO1

Based on our observations, we expect there is adequate fine material mixed in the rubble fill to effectively "choke" the larger rubble pieces by filling the voids or open spaces within most of the rubble fill during the placement process. However, we also expect that some of this material will wash out of the void spaces as rainfall percolates through the rubble fill. Therefore, to prevent raveling of the soil cap into void spaces in the rubble fill, we recommend placing a 12 oz., non-woven, needle punch filter fabric over the first 6 inches of soil fill, then placing the rest of the soil cap over the filter fabric.

Soil fill should be placed in thin lifts with a maximum loose thickness of 8 inches, then compacted to a minimum of 90 percent of the standard Proctor maximum dry density, with a moisture content within 3 percent of the optimum moisture content, depending on the shape of the Proctor curve. A representative of S&ME should test the density and moisture content of each lift before placing additional lifts. Sloped areas should be sodded or seeded as soon as possible to control erosion and help prevent sloughing slope failures.

We recommend S&ME be provided the opportunity to review the final design plans and specifications in order that earthwork and other recommendations are properly interpreted and implemented. The recommendations in this report are contingent on S&ME, Inc.'s observation and monitoring of grading and construction activities.

# 🔶 Limitations

This report has been prepared in accordance with generally accepted geotechnical engineering practice for specific application to this project. The conclusions and recommendations contained in this report are based on applicable standards of our practice in this geographic area at the time this report was prepared. No other warranty, expressed or implied, is made.

The analyses and recommendations submitted herein are based on the site being used as an undeveloped green space. If the site is to be developed for buildings or roads, additional site remediation will be required in the future.

# Closure

S&ME appreciates this opportunity to be of service to you. Please call if you have questions concerning this report or any of our services.

Sincerely,

S&ME, Inc. Jonathan M. Smolen, PE

Project Engineer

Attachment: Photographs



James P. McGirl, PE

James P. McGirl, Pl Principal Engineer





**Limited Geotechnical Engineering Services Former Dixie Yarns Property – Old Lupton Mill (SR-764)** Chattanooga, Tennessee S&ME Project No. 4181-17-043A

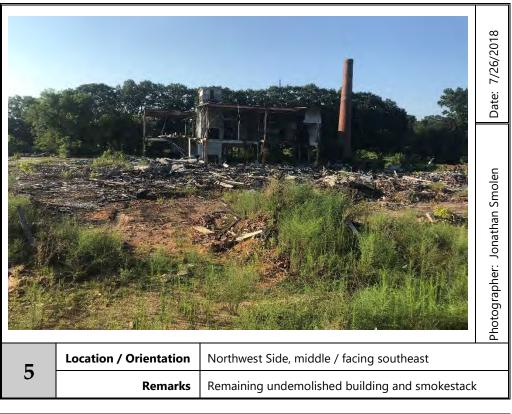






**Limited Geotechnical Engineering Services Former Dixie Yarns Property – Old Lupton Mill (SR-764)** Chattanooga, Tennessee S&ME Project No. 4181-17-043A







#### SECTION 02 41 00 DEMOLITION

#### PART 1 - GENERAL

#### **1.1 DESCRIPTION:**

A. This section specifies demolition, rubblization, removal, and relocation of buildings, portions of buildings, concrete basins, headwalls, columns, utilities, other structures, debris, and miscellaneous materials from the old Lupton Mill site.

## **1.2 RELATED WORK:**

A. Demolition and removal of roads, walks, curbs, and on-grade slabs outside buildings to be demolished: Section 02220, EARTHWORK

#### **1.3 PROTECTION:**

- A. Perform demolition in such manner as to eliminate hazards to persons and property; to minimize interference with use of adjacent areas, utilities and structures or interruption of use of such utilities; and to provide free passage to and from such adjacent areas of structures.
- B. Provide safeguards, including warning signs, barricades, temporary fences, warning lights, and other similar items that are required for protection of all personnel during demolition and removal operations.
- C. Maintain fences, barricades, lights, and other similar items around exposed excavations until such excavations have been completely filled.
- D. Prevent spread of flying particles and dust. Sprinkle rubbish and debris with water to keep dust to a minimum. Do not use water if it results in hazardous or objectionable condition such as, but not limited to; ice, flooding, or pollution. Vacuum, dust, or spray the work area daily.
- E. Wherever a cutting torch or other equipment that might cause a fire is used, provide and maintain fire extinguishers nearby ready for immediate use. Instruct all possible users in use of fire extinguishers.
- G. Before beginning any demolition work, the Contractor shall survey the site and examine the drawings and specifications to determine the extent of the work. The contractor shall take necessary precautions to avoid damages to existing items to remain in place, to be reused, or to remain the property of the City of Chattanooga; any damaged items shall be repaired or replaced as approved by the Resident Engineer. The Contractor shall coordinate the work of this section with all other work and shall construct and maintain shoring, bracing, and supports as required. The Contractor shall ensure that structural elements are not overloaded and shall be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under this contract. Do not overload structural elements. Provide new supports and reinforcement for existing construction weakened by

demolition or removal works. Repairs, reinforcement, or structural replacement must have Resident Engineer's approval.

## **1.4 UTILITY SERVICES:**

- A. Demolish and remove outside utility service lines shown to be removed.
- B. Utility service lines to be abandoned in place shall be treated as indicated on the demolition plans. If no instructions are provided, contractor shall bring that item to the attention of the Engineer before proceeding. Remove abandoned outside utility lines that would interfere with installation of new utility lines and new construction.

## PART 2 - PRODUCTS (NOT USED)

## PART 3 - EXECUTION

## 3.1 DEMOLITION:

- A. Completely or partially demolish and remove buildings and structures, including all appurtenances related or connected thereto, as noted below:
  - 1. In the area designated on the plans as outside of the "Total Demolition Line", to 12 inches below the elevation of the surrounding surface, or to full depth, whichever is less.
  - 2. In the area inside but near the "Total Demolition Line, to elevations indicated on the Typical Section diagram. Said elevation is that which is required to allow two feet of clean fill to be placed on top of the debris, and still accommodate a minimum of three to one slope toward the southern side of the project.
  - 3. In other areas of the site, as indicated on the demolition plans.
- B. Debris, including brick, concrete, stone, and similar materials shall be rubblized and disposed of on-site per the rubblization requirement listed in Section 3.2 A of this specification, and at the locations shown on Sheet "KEY" of the plans.
- C. Break up concrete slabs above and below grade that do not require removal from present location into pieces approximately 3 foot square. This is being done to provide positive drainage through the slab sections into the ground beneath the slab. The contractor shall remove a section (approximately 3' x 3') for each 1000 square feet of each individual slab to verify conditions favorable to drainage exist beneath the slab.
- D. Metal and other similar recyclable materials shall become property of Contractor and shall be recycled by him in compliance with applicable federal, state, and local laws and permit requirements. Materials that cannot be removed daily shall be stored in areas specified by the Engineer.

- E. In removing buildings and structures of more than two stories, demolish work story by story starting at highest level and progressing down to lowest floor level. Demolition of first and second stories may proceed simultaneously.
- F. The brick chimney that remains on-site shall be removed in a safe fashion that prohibits it from spreading demolition debris off-site.
- G. In the event that drums, tubes, canisters, or other containers containing unknown materials are encountered, the contractor shall segregate such material from other debris in a specified area. It is the contractor's responsibility to have such containers tested to determine the contents, and then to disposed of the container and contents in accordance with all federal, state, and local laws, ordinances, and permit requirements. Payment will be made under the Bid Items for hazardous and non-hazardous classification and disposal. Containers found on site that are readily identified shall be disposed of per these same requirements, with no payment being made for classification.
- H. Remove existing utilities as indicated or uncovered by work and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by the Engineer. When Utility lines are encountered that are not indicated on the drawings, the Engineer shall be notified prior to further work in that area.

## **3.2 RUBBLIZATION OF MATERIALS**

A. The on-site construction debris to be spread on site, including concrete, brick, wood, insulation, roofing material, and other miscellaneous material, shall be broken down to a maximum particle size of 18 inches or smaller. The contractor may use whatever means they deem appropriate to break down the larger pieces of construction debris.

Once broken down, the fill material shall be spread in lifts of a maximum of 2 feet thick. The differing constituent fill material does not need to be segregated prior to placement. The fill should be compacted by making multiple passes with a Caterpillar D9 bull dozer or equivalent. The number of passes should be sufficient to demonstrate the material is densified and stable. Fill slopes shall be constructed at 3 Horizontal to 1 Vertical (3H : 1V) or flatter.

Once material is compacted, in compliance with state requirements, a two foot thick cap of soil shall be placed over the rubble fill. The fill soil should consist of silt or clay with no organic matter or debris and contain no rock fragments larger than 4 inches in any dimension.

To prevent raveling of the soil cap into void spaces in the rubble fill, a 12 ounce non-woven, needle punch filter fabric shall be placed over the first six inches of soil sill. The remaining soil cap shall be placed above the filter fabric.

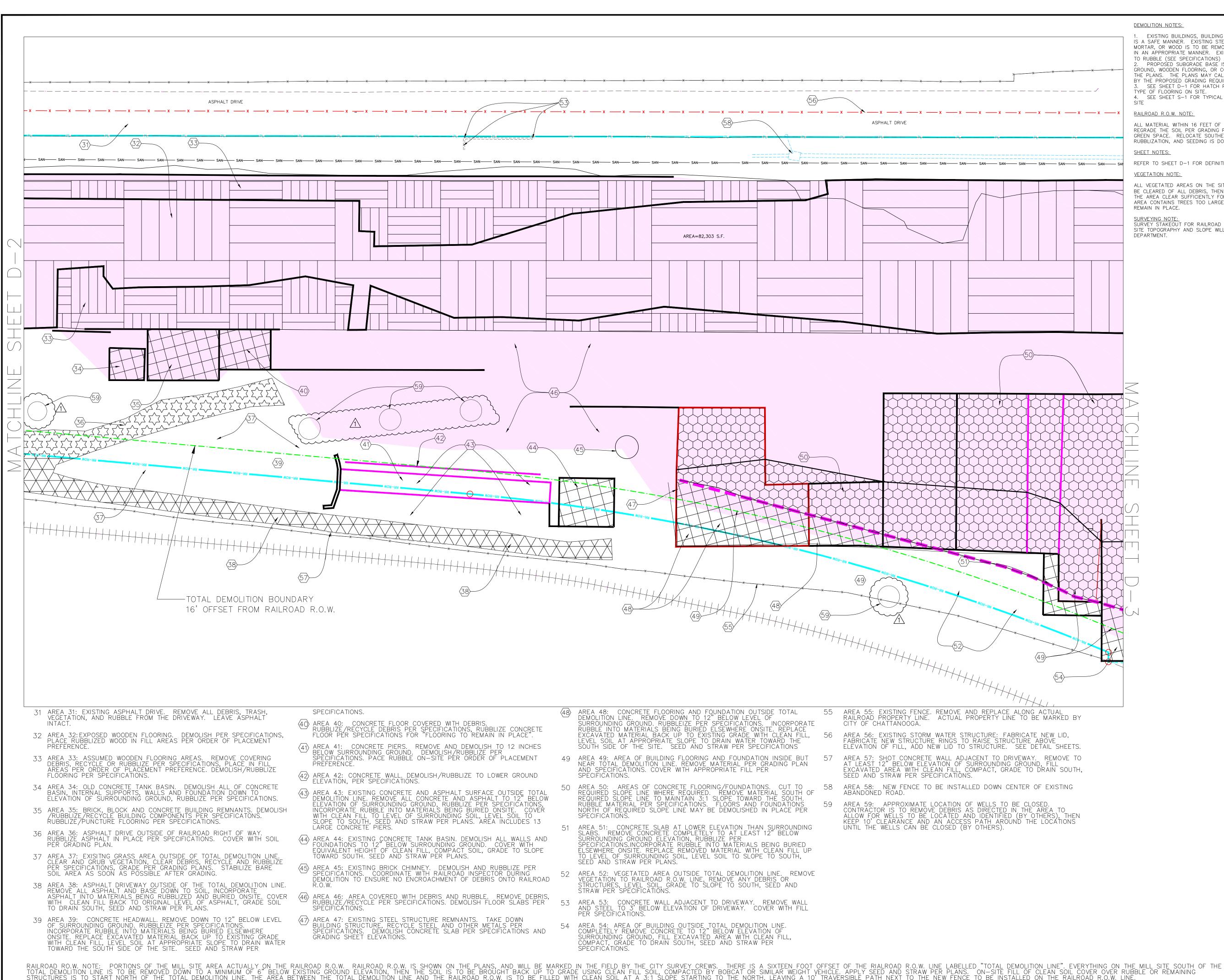
Soil fill shall be placed in thin lifts with a maximum loose thickness of 8 inches, the compacted to a minimum 0f 90 percent of the standard Proctor maximum dry density, with a moisture content

within 3 percent of the optimum moisture content, depending of the shape of the Proctor curve. A representative of a geotechnical consulting company (hired by the City of Chattanooga) shall test the density and moisture content of each lift before placing additional lifts. Sloped area should be seeded as soon as possible to control erosion and help prevent sloughing slope failures.

B. The at grade asphalt paving, wood flooring, and concrete slabs designated to be left in place shall be broken up into approximately 3 foot square pieces to allow for drainage.

## 3.3 CLEAN-UP:

On completion of work of this section and after removal of all debris, leave site in clean condition satisfactory to Engineer. Clean-up shall include off the disposal of all items and materials not required to remain property of the Government as well as all debris and rubbish resulting from demolition operations.



DEMOLITION NOTES: EXISTING BUILDINGS, BUILDING FRAMES, OR PARTIAL BUILDINGS ARE TO BE DEMOLISHED IS A SAFE MANNER. EXISTING STEEL, PLASTICS, AND OTHER MATERIAL OTHER THAN BRICK, MORTAR, OR WOOD IS TO BE REMOVED FROM THE RUBBLE AND RECYCLED OR DISPOSED OF IN AN APPROPRIATE MANNER. EXISTING BRICK, MORTAR, AND WOOD SHOULD BE REDUCED TO RUBBLE (SEE SPECIFICATIONS) AND SPREAD TO MATCH GRADING PLAN. PROPOSED SUBGRADE BASE IS TO BE THE PREDOMINATE ELEVATION OF THE EXISTING GROUND. WOODEN FLOORING. OR CONCRETE FLOORING. EXCEPT WHERE NOTED OTHERWISE ON THE PLANS. THE PLANS MAY CALL FOR THESE ELEVATIONS TO BE MODIFIED AS REQUIRED BY THE PROPOSED GRADING REQUIRED TO STABILIZE THE PROJECT SITE.

SEE SHEET D-1 FOR HATCH PATTERN KEYS, WHICH DESCRIBE HOW TO HANDLE EACH TYPE OF FLOORING ON SITE 4. SEE SHEET S-1 FOR TYPICAL GRADING SCHEME AND PROPOSED SLOPE ACROSS THE SITE

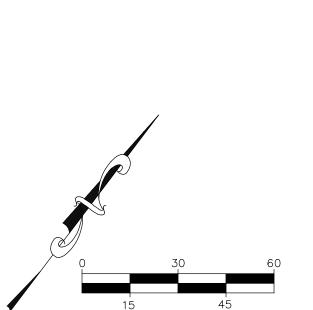
RAILROAD R.O.W. NOTE:

ALL MATERIAL WITHIN 16 FEET OF RAILROAD ROW IS TO BE COMPLETELY REMOVED. REGRADE THE SOIL PER GRADING PLAN. SEED AND STRAW TO ALLOW AREA TO RETURN TO GREEN SPACE. RELOCATE SOUTHERN FENCELINE TO MATCH ROW LINE ONCE ALL REMOVAL, RUBBLIZATION, AND SEEDING IS DONE.

SHEET NOTES: REFER TO SHEET D-1 FOR DEFINITIONS AND DESCRIPTIONS OF HATCHED AREAS. VEGETATION NOTE:

ALL VEGETATED AREAS ON THE SITE, UNLESS OTHERWISE NOTED ON THE PLANS, ARE TO BE CLEARED OF ALL DEBRIS, THEN CUT WITH A ROTARY CUTTER (I.E., BUSH HOG), LEAVING THE AREA CLEAR SUFFICIENTLY FOR PEDESTRIAN TRAFFIC TO WALK THROUGH. IF THE AREA CONTAINS TREES TOO LARGE TO BE CUT WITH A ROTARY CUTTER, THOSE TREES MAY REMAIN IN PLACE.

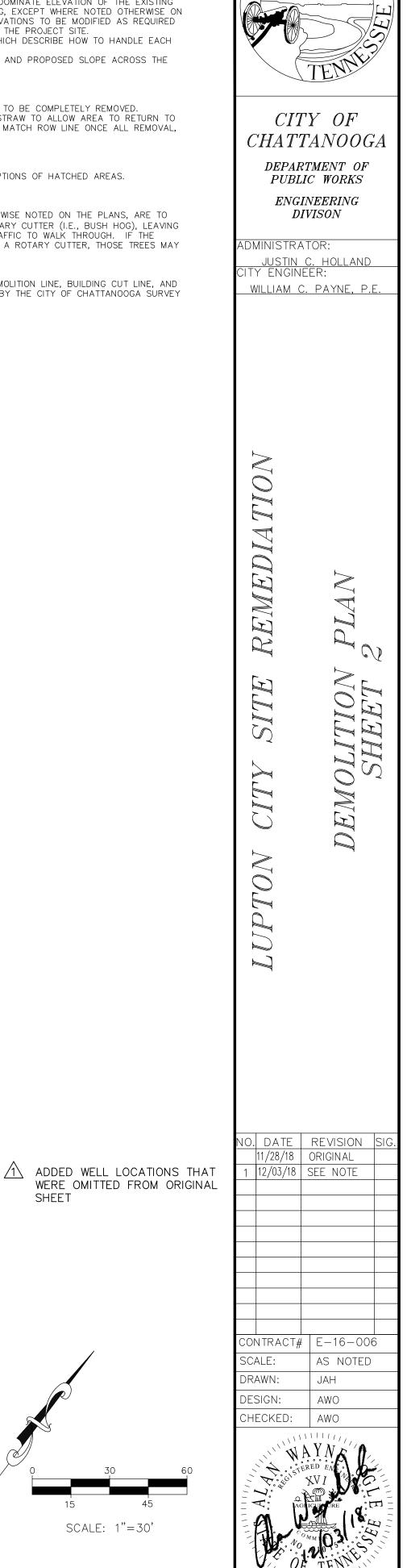
SURVEY STAKEOUT FOR RAILROAD R.O.W., TOTAL DEMOLITION LINE, BUILDING CUT LINE, AND SITE TOPOGRAPHY AND SLOPE WILL BE PERFORMED BY THE CITY OF CHATTANOOGA SURVEY DEPARTMENT.



WERE OMITTED FROM ORIGINAL

SHEET

SCALE: 1"=30'



TENNES

TN REGISTRATION NO. 110151

HEET:

-ORPORATIC

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Project E-16-006 Lupton Mill Remediation 1210 Mercer Street, Chattanooga, 37351 MEETING LOCATION FOR PRE-BID MEETING - BACK PARKING LOT ENTER FROM DIXIE CIRCLE



