

<u>Via Email</u>

April 16, 2020

NC DOT Geotechnical Unit GeoEnvironmental Section 1589 Mail Service Center Raleigh, North Carolina 27699-1589

Attention: Mr. Gordon Box

Re: Phase II Investigation Report Davidson Asbestos Site NC DOT State Project No. U-5907 WBS Element #46452.1.1 Davidson, Mecklenburg County, North Carolina <u>H&H Job No. ROW-603</u>

Dear Gordon:

Please find the attached electronic copy of the Phase II Investigation report for the Davidson Asbestos Site located in Davidson, Mecklenburg County, North Carolina. Please return via DocuSign for final signatures. If you have any questions or need additional information, please contact us at (704) 586-0007.

Sincerely,

Hart & Hickman, PC

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David Graham, PG Senior Project Geologist

Attachment

Matthembutt

Matt Bramblett, PE Principal

Phase II Investigation Davidson Asbestos Site

Davidson, Mecklenburg County North Carolina

H&H Job No. ROW-605 State Project U-5907 WBS Element #46452.1.1 April 16, 2020





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Phase II Investigation Davidson Asbestos Site Davidson, Mecklenburg County, North Carolina <u>H&H Project ROW-605</u>

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Phase II Investigation Davidson Asbestos Site Davidson, Mecklenburg County, North Carolina <u>H&H Project ROW-605</u>

1.0 Introduction and Background

Hart & Hickman, PC (H&H) has prepared this Phase II Investigation (Phase II) report documenting assessment activities performed on multiple parcels located in Davidson, Mecklenburg County, North Carolina. The Phase II activities were conducted on multiple parcels located along Potts Street, Sloan Street, Griffith Street, and Beaty Street. This assessment was conducted on behalf of the North Carolina Department of Transportation (NC DOT) in accordance with H&H's August 30, 2019 work plan and cost estimate.

The purpose of this assessment was to collect data to evaluate the potential for asbestos in soil due to historical activities in the vicinity of proposed road and sidewalk improvement areas along Potts Street, Sloan Street, Griffith Street, and Beaty Street (State Project U-5907). The NC DOT project includes proposed road and sidewalk improvements, installation of stormwater drainage ditches and stormwater drainage piping and catch basins. The road improvements include a new road to extend Potts Street to Sloan Street plus a roundabout at the intersection of Sloan Street, Griffith Street, and Beaty Street. A project location map is included as Figure 1, and an aerial project map is presented as Figure 2. NC DOT's plan sheets depicting the proposed work areas along Potts Street, Sloan Street, Sloan Street, Sloan Street, Sloan Street, and Beaty Street are included in Appendix A.

Based on information provided by NC DOT and review of available North Carolina Department of Environmental Quality (NC DEQ) incident files, the Davidson Asbestos site is located near proposed NC DOT work areas. According to Tetra Tech's *Final Davidson Asbestos Removal Action Report* dated January 3, 2018, the Davidson Asbestos site consists of 32 parcels and a former asbestos mill located at 219 Depot Street in Davidson. The former asbestos mill (Carolina Asbestos Company) manufactured asbestos containing products from the 1930s to the 1960s. Asbestos-containing material (ACM)/waste was reportedly disposed on the mill property and throughout the nearby neighborhood. The western boundary of the former asbestos mill



property borders Sloan Street, and the mill property was on the opposite side of the street from the NC DOT sidewalk project.

Previous assessments by others have been conducted to determine the potential for asbestos impacts at the former asbestos mill site and in the community surrounding the former mill. Analytical results of soil samples associated with a Brownfields assessment at the former asbestos mill site indicated the presence of chrysotile asbestos at 1 percent or greater. The ACM-impacted soil ranged from a depth of 1 ft to 10 ft below ground surface (bgs) at the site. In 2016, the US Environmental Protection Agency (EPA) assessed the neighborhoods adjacent to the former mill site. Over 300 soil samples were collected on 93 parcels. Analytical results for 39 of those parcels indicated asbestos at "Trace" amounts in 50 of the samples and at 0.25 percent to 1.0 percent in 18 of the samples. EPA determined the samples with trace asbestos results did not pose a risk to warrant removal.

In 2017, ACM and asbestos impacted soils were removed at a depth up to 1 ft bgs (or until ACM was no longer visible up to a maximum depth of 3 ft) on 32 parcels near the former mill site. Post excavation composite soil samples were collected from each parcel to document potential asbestos impacts at the base of the excavation areas. Asbestos impacted soil was detected in several of the post excavation composite soil samples. Prior to backfilling the excavation areas, orange snow fencing was placed at the base of the excavations to demark the extent the EPA removal activities and the potential for asbestos impacts. Potential ACM and impacted soil was not removed beneath hardscape areas such as driveways, sidewalks, roads, etc. Removed ACM and asbestos-impacted soil were properly disposed in a permitted landfill.

As part of the asbestos removal activities, ACM and/or asbestos impacted soils were removed from 347 Griffith Street, 325 Sloan Street, 241 Eden Street, 235 Eden Street, 233 Eden Street, 229 Eden Street, 107 Potts Street, and 110 Potts Street. These properties are located within or near proposed NC DOT work areas. A brief description of removal activities for each of these properties is described below.



<u>347 Griffith Street</u> - ACM and soil were excavated to a depth of one ft bgs at 347 Griffith Street near the intersection of Sloan Street (NC DOT Parcels 33 and 35) within proposed NC DOT work areas. No asbestos was detected in a post excavation composite sample collected from the excavation area. Orange snow fencing was placed at the base of the excavation to demark the extent of excavation activities.

<u>325 Sloan Street</u> - ACM and soil were excavated to a depth of one ft bgs at 325 Sloan Street just south of proposed NC DOT work areas. No asbestos was detected in a post excavation composite sample collected from the excavation area. Orange snow fencing was placed at the base of the excavation to demark the extent of excavation activities.

229, 233, 235, and 241 Eden Street - ACM and soil were excavated up to depths of three ft bgs at 229, 233, 235, and 241 Eden Street (located on NC DOT Parcels 23, 24, 25, and 29) and within proposed NC DOT work areas. Visible ACM was not removed near the driveway, street and beyond the property line on 241 Eden Street (NC DOT Parcel 29). In addition, ACM was not removed beneath the foundation of the shed on the southern portion of 241 and 235 Eden Street which is located near proposed NC DOT work areas. Trace chrysotile asbestos (<1%) was detected in the post excavation composite samples collected at 241 and 233 Eden Street and 0.75 % chrysotile asbestos was detected in the post excavation composite sample collected from 229 Eden Street. No asbestos was detected in the post excavation areas to demark the extent of excavation activities on each of these properties.

<u>107 Potts Street</u> - ACM and soil were excavated up to a depth of two ft bgs at 107 Potts Street (NC DOT Parcel 21) and within proposed NC DOT work areas. Visible ACM was not removed beneath Potts Street and near a water line running to 110 Potts Street (NC DOT Parcel 20). Trace chrysotile asbestos (<1%) was detected in the post excavation composite sample collected at 107 Potts Street. Orange snow fencing was placed at the base of the excavation to demark the extent of excavation activities.



<u>110 Potts Street</u> - ACM and soil were excavated up to a depth of one ft bgs at 110 Potts Street (NC DOT Parcel 20) and within proposed NC DOT work areas. No asbestos was detected in the post excavation composite sample collected from 110 Potts Street. Orange snow fencing was placed at the base of the excavation area to demark the extent of excavation activities. Pertinent information and details for removal actions for the above-mentioned properties from Tetra Tech's *Final Davidson Asbestos Removal Action Report* are included in Appendix B.

At NC DOT's request, H&H conducted Phase II sampling activities to determine the potential for ACM and asbestos impacted soil in proposed NC DOT work areas along Potts Street, Sloan Street, Griffith Street, and Beaty Street in the vicinity of the former mill site. Because the Phase II sampling activities were conducted on multiple parcels, NC DOT provided public outreach notification prior to our sampling activities. The public outreach notification is included in Appendix C.

On October 17, 2019, NC DOT provided H&H's asbestos assessment work plan to Mr. Jeffery Dellinger Industrial Hygiene Consultant Supervisor with the North Carolina Department of Health and Human Services (NCDHHS). Mr. Dellinger provided comments regarding the assessment work plan, investigative derived waste disposal, reporting, etc. in a letter to H&H dated November 4, 2019. Prior to implementing the work plan, H&H addressed these comments in a letter to Mr. Dellinger dated November 18, 2019. Copies of the NCDHHS and H&H letters are included in Appendix C. The Phase II investigation activities are described below.

2.0 Soil Assessment

2.1 Soil Sampling

H&H mobilized to the site on December 2 through December 6, 2019 to advance soil borings in proposed NC DOT work areas. Prior to conducting soil borings, underground utilities were marked by the NC 811 public utility locator and by Probe Utility Locating, LLC for private underground utilities. H&H contracted with South Atlantic Environmental Drilling and Construction Co., Inc. (SAEDACCO) of Fort Mill, South Carolina to assist with soil boring installation activities using a



concrete coring machine. The concrete coring machine was used for soil borings that were advanced in sidewalks or other hardscape areas. Water was used during coring of asphalt or concrete to prevent fugitive dust emissions.

H&H trained/licensed asbestos inspectors conducted the soil sampling activities. H&H field sampling personnel donned Level C personal protection equipment (PPE) including Tyvek coveralls and half-faced respirators during sampling activities. Prior to sampling, an exclusion zone (using caution tape, cones, etc.) was set up at each soil boring location to prevent the public from entering the sampling area. Soil borings were advanced by H&H personnel using a dutch hand auger for shallow soil borings and a conventional hand auger for deeper boring locations. The hand augers were decontaminated using an alconox and water rinse solution between each boring. During the sampling, utilization of wet methods (primarily amended with soap) were used as needed to mitigate potential asbestos fiber release. Plastic sheeting was used around the sample areas to collect soil and potential asbestos fibers.

H&H advanced 105 soil borings in proposed sidewalk and road construction areas including 23 soil borings (PTS-1 through PTS-23) along Potts Street, 16 soil borings (EXT-1 through EXT-16) in the proposed road extension between Potts Street and Sloan Street, 23 soil borings (SLN-1 through SLN-23) along Sloan Street, 33 soil borings (GRF-1 through GRF-33) along Griffith Street, and 10 soil borings (BTY-1 through BTY-10) along Beaty Street. In general, the soil borings were advanced on approximate 50 ft intervals in proposed NC DOT work areas. Due to the separation distance between Potts Street and the former mill, borings located along Potts Street were advanced at approximate 100 ft intervals.

The soil borings were advanced to depths of up to 8 ft bgs depending on the proposed cut depth in the area. Soil samples were collected continuously and visually observed for potential asbestos impacts. Potential ACM (floor tile) was identified in two soil borings: EXT-13 (0 - 3 ft) and EXT-14 (0 - 4 ft). There were no visual indications of ACM in the other soil boings advanced during sampling activities. Samples were generally collected from each soil boring as follows. For shallow soil borings (< 3 ft), soil samples were collected from each one ft interval for laboratory analysis. For deeper borings (3 ft or deeper), a shallow, middle, and deep sample were collected from each



boring location for laboratory analysis. For soil borings advanced near proposed drainage ditch areas, soil samples were collected as described above plus two additional samples were collected, one in the 2 ft interval beneath the proposed cut depth for the ditch (to determine if soil was impacted at the upper portion of the future ditch grade) and one sample in the 6-inch interval beneath the 2 ft interval noted above (to determine if this interval was impacted for later demarcation during construction activities). If soil samples above the bottom 6-inch interval were not impacted by asbestos, the bottom 6-inch interval was not analyzed by the laboratory. GPS coordinate data for the soil borings are summarized in Table 1, and sample depths are summarized in Table 2. Soil boring locations are shown on Figure 2 and Figures 3A through 3J. Soil boring logs are included in Appendix D.

H&H submitted a total of 206 soil samples from 105 soil borings advanced along Potts Street, the road extension between Potts Street and Sloan Street, Sloan Street, Griffith Street, and Beaty Street for laboratory analysis. Suspect bulk ACM (floor tile) observed in soil borings EXT-13 and EXT-14 was also collected for laboratory analysis. The soil samples and bulk ACM were collected using nitrile glove-covered hands and were placed into zip lock baggies and shipped under chain of custody protocol for laboratory analysis. The soil samples were submitted to EMSL Analytical, Inc. (EMSL) for asbestos analysis via EPA Method 600/R-93/116 using Polarized Light Microscopy (PLM) and Milling Preparation Quantitation with 400 Point Count Procedure (reporting limit <0.25%). Because the PLM method may not identify asbestos fibers that are extremely small, soil samples with non-detect values using PLM analysis were analyzed again with a qualitative asbestos analysis using Transmission Electron Microscopy (TEM) Qualitative via Filtration Prep Technique to confirm the presence or absence of asbestos. The suspect bulk ACM was analyzed by EPA Method 600/R-93/116 using PLM only. Soil sample analytical results are summarized in Table 2, and bulk ACM analytical results are summarized in Table 3. Laboratory analytical data sheets and chain-of-custody documentation are provided in Appendix E. The analytical results are discussed below.

Upon completion of soil sampling at each boring location, the sample area was promptly cleaned using a high efficiency particulate air (HEPA) filtered vacuum. Investigative derived waste including soil, water, plastic/PPE and used vacuum filters were drummed for disposal. Soil borings

were backfilled with a clayey silt fill material, and the surface was patched to match the existing ground surface.

2.2 Soil Analytical Results

Laboratory analytical results indicate that asbestos was present in 40 out of 105 soil borings conducted for this assessment (Figure 2). Chrysotile asbestos was present in five soil borings advanced along the northern portion of Potts Street, fourteen soil borings advanced along the proposed road extension between Potts Street and Sloan Street, eleven soil borings advanced along Sloan Street, nine soil borings advanced along Griffith Street, and one soil boring advanced near Beaty Street. The chrysotile type of asbestos is consistent with the type of asbestos detected at the former asbestos mill.

Chrysotile asbestos was detected at various depths in soil borings PTS-17, PTS-19, PTS-20, PTS-21, and PTS-22 advanced along Potts Street. The highest asbestos detection along Potts Street was 0.75% in sample PTS-20 (1 - 2 ft). Chrysotile asbestos was detected at various depths in borings EXT-1 through EXT-4, EXT-6 through EXT-14, and EXT-16 collected along the road extension between Potts Street and Sloan Street. The highest asbestos detection along the road extension was 0.50% in sample EXT-9 (6 - 6.5 ft). Chrysotile asbestos was detected at various depths in borings SLN-1, SLN-5, SLN-9, SLN-10, SLN-13 through SLN-17, SLN-20, and SLN-21 along Sloan Street. The highest asbestos detection along Sloan Street was 1.25% in sample SLN-5 (1 - 2 ft). Chrysotile asbestos was detected at various depths in borings GRF-28 through GRF-32 along Griffith Street. The highest asbestos detection along Griffith street was 2.25% in sample GRF-2 (0 - 1 ft). Chrysotile asbestos (<0.25%) was detected in boring BTY-1 (5 - 6 ft) along Beaty Street. Chrysotile asbestos (5%) was detected in the bulk ACM (floor tile) samples collected from soil borings EXT-13 (0 - 3 ft) and EXT-14 (0 - 4 ft).

Based on the Phase II investigation analytical results and previous EPA investigation and asbestos removal activities, widespread asbestos impacted soils are located along the northern portion of Potts Street, the road extension area between Potts Street and Sloan Street and various locations along Sloan Street, Griffith Street, and Beaty Street within proposed NC DOT work areas.



- H&H estimates that there are roughly 7,000 cubic yards (10,500 tons) of asbestos impacted soil at various depths between the surface and 8 ft bgs along the northern portion of Potts Street and the proposed road extension between Potts Street and Sloan Street. Asbestos impacted soil was identified in the upper portion of the proposed ditch grade near borings EXT-2, EXT-4 EXT-9, EXT-10, and EXT-12. As mentioned above, visible ACM was not removed beneath Potts Street and near a water line running to 110 Potts Street (NC DOT Parcel 20) from 107 Potts Street (NC DOT Parcel 21) and on portions of 241 and 235 Eden Street (NC DOT Parcel 29) during EPA asbestos impacted soil removal activities in 2017.
- There are roughly 150 cubic yards (225 tons) of asbestos impacted soil between the surface and 1 ft bgs along Sloan Street near borings SLN-9 and SLN-10, roughly 300 cubic yards (450 tons) of asbestos impacted soil between the surface and 1 ft bgs along Sloan Street near borings SLN-13 through and SLN-17, and roughly 300 cubic yards (450 tons) of asbestos impacted soil between the surface and 2 ft bgs along Sloan Street near borings SLN-20 and SLN-21.
- There are roughly 400 cubic yards (600 tons) of asbestos impacted soil between the surface and 1 ft bgs along Griffith Street near borings GRF-1 through GRF-3, roughly 750 cubic yards (1,100 tons) of asbestos impacted soil between the surface and 4 ft bgs along Griffith Street near boring GRF-24, and roughly 800 cubic yards (1,200 tons) of asbestos impacted soil between the surface and 1 ft bgs along Griffith Street near borings GRF-28 through GRF-32.
- There are roughly 350 cubic yards (530 tons) of asbestos impacted soil between 4 ft and 6 ft bgs along Beaty Street near boring BTY-1.

The amount of impacted soil that will be disturbed as part of NC DOT construction activities has not been calculated. The estimated depths of asbestos impacted soils are based on laboratory results. Impacts may extend beyond the depths indicated above. In addition, the asbestos impacted soils appear to extend outside of proposed NC DOT work areas. The approximate areas of asbestos impacted soil are shown on Figures 3A through 3J.



NC DOT plans indicate proposed cut areas for sidewalk improvements, drainage ditches and piping installations, and road construction activities along portions of Potts Street, Sloan Street, Griffith Street and Beaty Street. Asbestos impacted soil that is disturbed or removed during construction activities should be properly managed by trained personnel and disposed at a permitted facility. Asbestos impacted soil identified near the proposed grade of new ditch areas should be over excavated during construction activities. Clean fill should be placed below the proposed ditch grade in these areas. Orange snow fencing (or similar demarcation) should be placed beneath the clean fill to demark potential asbestos impacted soil beneath these ditch areas.

3.0 Investigative Derived Waste

Investigation derived waste (IDW) including decontamination water, personal protective equipment (PPE)/plastic sheeting, used vacuum filters and soil cuttings generated during the soil sampling activities were containerized in 55-gallon drums and stored on site. Based on asbestos detections in soil samples noted above the IDW drums were disposed as non-hazardous asbestos containing waste. The IDW was transported off-site by EVO Corporation of Winston-Salem, NC to ECOFLO's waste management facility in Greensboro, NC. The IDW was subsequently transported by ECOFLO and properly disposed at Waste Management's facility in Emelle, Alabama. The certificate of disposal and non-hazardous materials manifest are provided in Appendix F.

4.0 Summary and Regulatory Considerations

H&H has reviewed available NC DEQ incident files and analytical results of soil samples collected along Potts Street, Sloan Street, Griffith Street, and Beaty Street in Davidson, Mecklenburg County, North Carolina. Review of NC DEQ incident files indicate that the Davidson Asbestos site is located near proposed NC DOT work areas. The Davidson Asbestos site consists of 32 parcels and a former asbestos mill located at 219 Depot Street. The former asbestos mill (Carolina Asbestos Company) manufactured asbestos containing products from the 1930s to the 1960s. ACM/waste was reportedly disposed on the mill property and throughout the nearby neighborhood. Previous assessments by others were conducted that determined the presence of asbestos impacted soils



located at the former asbestos mill site and in the community surrounding the former mill. In 2017, EPA conducted ACM and asbestos impacted soil removal activities on 32 parcels near the former mill site including several properties near proposed NC DOT work areas. ACM and asbestos impacted soil were removed at various depths on each of these properties and properly disposed. Potential ACM and asbestos impacted soil was not removed beneath hardscape areas such as driveways, sidewalks, roads, etc. Orange snow fencing was placed at the base of impacted soil removal areas to demark the extent of excavation activities and potential asbestos impacted soil.

Analytical results of soil samples collected by H&H indicate widespread asbestos impacted soil and ACM are located within proposed NC DOT work areas. Laboratory analytical results indicate that asbestos was present in 40 out of 105 soil borings conducted for this assessment. Based on laboratory analytical results, the following estimated quantities of asbestos impacted soil are located within proposed NC DOT work areas.

- There are roughly 7,000 cubic yards (10,500 tons) of impacted soil at various depths between the surface and 8 ft bgs along the northern portion of Potts Street and the proposed road extension between Potts Street and Sloan Street.
- There are roughly 150 cubic yards (225 tons) of asbestos impacted soil between the surface and 1 ft bgs along Sloan Street near borings SLN-9 and SLN-10, roughly 300 cubic yards (450 tons) of asbestos impacted soil between the surface and 1 ft bgs along Sloan Street near borings SLN-13 through and SLN-17, and roughly 300 cubic yards (450 tons) of asbestos impacted soil between the surface and 2 ft bgs along Sloan Street near borings SLN-20 and SLN-21.
- There are roughly 400 cubic yards (600 tons) of asbestos impacted soil between the surface and 1 ft bgs along Griffith Street near borings GRF-1 through GRF-3, roughly 750 cubic yards (1,100 tons) of asbestos impacted soil between the surface and 4 ft bgs along Griffith Street near boring GRF-24, and roughly 800 cubic yards (1,200 tons) of asbestos impacted soil between the surface and 1 ft bgs along Griffith Street near borings GRF-28 through GRF-32.

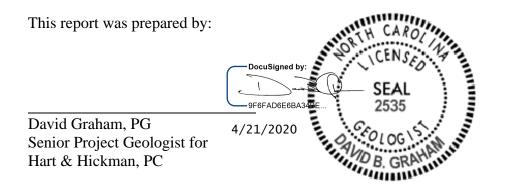


• There are roughly 350 cubic yards (530 tons) of asbestos impacted soil between 4 ft and 6 ft bgs along Beaty Street near boring BTY-1.

NC DOT plans indicate proposed cut areas for sidewalk improvements, drainage ditches and piping installations, and road construction activities along portions of Potts Street, Sloan Street, Griffith Street and Beaty Street. Appropriate precautions and procedures should be implemented for the sidewalk, road construction, and drainage/piping work within asbestos impacted soil areas. Asbestos impacted soil that is disturbed or removed during construction activities should be properly managed by trained personnel and disposed at a permitted facility. H&H will develop an asbestos impacted soil management plan for use by NC DOT's construction contractor during construction activities. The soil management plan will provide safety guidance and certain precautions and procedures to be considered by the construction contractor during construction activities near asbestos impacted soil. The soil management plan will also detail procedures for managing the removal and disposal of asbestos impacted soil.



5.0 Signature Page



This report was reviewed by:

DocuSigned by CBCA88CDF0E547B..

4/21/2020

Matt Bramblett, PE 4/2 Principal and Project Manager for Hart & Hickman, PC

Not considered final unless all signatures are completed.



Table 1 (Page 1 of 4) Summary of Soil Boring GPS Coordinate Data Davidson Asbestos Site Davidson, North Carolina <u>H&H Job No. ROW-605</u>

Sample ID	Latitude	Longitude
	Potts Street (PTS)	
PTS-1	35.494885	-80.855172
PTS-2	35.495123	-80.854976
PTS-3	35.495370	-80.854799
PTS-4	35.495565	-80.854645
PTS-5	35.495908	-80.854341
PTS-6	35.496124	-80.854128
PTS-7	35.496336	-80.853900
PTS-8	35.496474	-80.853755
PTS-9	35.496704	-80.853510
PTS-10	35.496905	-80.853290
PTS-11	35.497146	-80.853001
PTS-12	35.497387	-80.852817
PTS-13	35.497713	-80.852442
PTS-14	35.497846	-80.852334
PTS-15	35.498062	-80.852129
PTS-16	35.498317	-80.851921
PTS-17	35.498531	-80.851738
PTS-18	35.498658	-80.851476
PTS-19	35.498763	-80.851537
PTS-20	35.498798	-80.851371
PTS-21	35.498961	-80.851411
PTS-22	35.499032	-80.851298
PTS-23	35.495258	-80.854888
Extensio	n (EXT) Between Potts Street and	Sloan Street
EXT-1	35.499226	-80.851494
EXT-2	35.499404	-80.851231
EXT-3	35.499324	-80.851568
EXT-4	35.499476	-80.851294
EXT-5	35.499424	-80.851516
EXT-6	35.499581	-80.851423
EXT-7	35.499429	-80.851676

Notes:

Table 1 (Page 2 of 4) Summary of Soil Boring GPS Coordinate Data Davidson Asbestos Site Davidson, North Carolina <u>H&H Job No. ROW-605</u>

Sample ID	Latitude	Longitude
Extensio	n (EXT) Between Potts Street and	Sloan Street
EXT-8	35.499540	-80.851613
EXT-9	35.499699	-80.851566
EXT-10	35.499538	-80.851782
EXT-11	35.499650	-80.851716
EXT-12	35.499677	-80.851896
EXT-13	35.499788	-80.851833
EXT-14	35.499821	-80.851774
EXT-15	35.499220	-80.851347
EXT-16	35.499311	-80.851424
	Sloan Street (SLN)	
SLN-1	35.499747	-80.852065
SLN-2	35.499819	-80.852121
SLN-3	35.499806	-80.851953
SLN-4	35.499869	-80.852011
SLN-5	35.499950	-80.851796
SLN-6	35.500006	-80.851942
SLN-7	35.500046	-80.851854
SLN-8	35.500134	-80.851988
SLN-9	35.500271	-80.852040
SLN-10	35.500424	-80.852096
SLN-11	35.500550	-80.852140
SLN-12	35.500697	-80.852193
SLN-13	35.500863	-80.852251
SLN-14	35.501003	-80.852299
SLN-15	35.501127	-80.852339
SLN-16	35.501265	-80.852388
SLN-17	35.501410	-80.852457
SLN-18	35.501509	-80.852606
SLN-19	35.501601	-80.852740
SLN-20	35.502409	-80.852691
SLN-21	35.502413	-80.852585
SLN-22	35.502548	-80.852744
SLN-23	35.502535	-80.852609

Notes:

Table 1 (Page 3 of 4) Summary of Soil Boring GPS Coordinate Data Davidson Asbestos Site Davidson, North Carolina <u>H&H Job No. ROW-605</u>

Sample ID	Latitude	Longitude
	Griffith Street (GRF)	
GRF-1	35.502674	-80.851461
GRF-2	35.502797	-80.851447
GRF-3	35.502693	-80.851633
GRF-4	35.502815	-80.851626
GRF-5	35.502704	-80.851808
GRF-6	35.502834	-80.851823
GRF-7	35.502719	-80.851969
GRF-8	35.502883	-80.852001
GRF-9	35.502739	-80.852129
GRF-10	35.502916	-80.852154
GRF-11	35.502943	-80.852330
GRF-12	35.503042	-80.852546
GRF-13	35.502740	-80.852472
GRF-14	35.502670	-80.852607
GRF-15	35.503114	-80.852681
GRF-16	35.502983	-80.852655
GRF-17	35.502785	-80.852835
GRF-18	35.502686	-80.852847
GRF-19	35.502976	-80.853006
GRF-20	35.502752	-80.852981
GRF-21	35.502936	-80.853154
GRF-22	35.502773	-80.853153
GRF-23	35.502919	-80.853345
GRF-24	35.502773	-80.853319
GRF-25	35.502923	-80.853515
GRF-26	35.502774	-80.853475
GRF-27	35.502930	-80.853680
GRF-28	35.502783	-80.853657
GRF-29	35.502940	-80.853855
GRF-30	35.502791	-80.853842
GRF-31	35.502798	-80.854005
GRF-32	35.502816	-80.854185
GRF-33	35.502745	-80.852292

Notes:

Table 1 (Page 4 of 4) Summary of Soil Boring GPS Coordinate Data Davidson Asbestos Site Davidson, North Carolina <u>H&H Job No. ROW-605</u>

Sample ID	Latitude	Longitude
	Beaty Street (BTY)	
BTY-1	35.503143	-80.852966
BTY-2	35.503196	-80.852716
BTY-3	35.503288	-80.852880
BTY-4	35.503343	-80.852782
BTY-5	35.503461	-80.852874
BTY-6	35.503487	-80.853121
BTY-7	35.503574	-80.852984
BTY-8	35.503622	-80.853197
BTY-9	35.503669	-80.853049
BTY-10	35.503230	-80.852623

Notes:

Table 2 (Page 1 of 5)Summary of Soil Analytical ResultsDavidson Asbestos SiteDavidson, North CarolinaH&H Job No. ROW-605

Sample ID	Depth Interval (ft bgs)	Date	Polarized Light Microscopy (PLM) EPA Method	Transmission Electron Microscopy (TEM Qualitative (via Filtration Technique)
			600/R-93/116 with milling prep	Quantative (via initiation reclinique)
	1		Potts Street (PTS)	
PTS-1	0-1	12/3/19	ND	ND
PTS-2	0-1	12/3/19	ND	ND
PTS-3	0-1	12/3/19	ND	ND
PTS-4	0-1	12/3/19	ND	ND
PTS-5	0-1	12/3/19	ND	ND
PTS-6	0-1	12/3/19	ND	ND
PTS-7	0-1	12/3/19	ND	ND
PTS-8	0-1	12/3/19	ND	ND
PTS-9	1-2	12/3/19	ND	ND
PTS-10	0-1	12/3/19	ND	ND
PTS-11	0-1	12/3/19	ND	ND
PTS-12	0-1	12/3/19	ND	ND
PTS-13	0-1	12/3/19	ND	ND
PTS-14	0-1	12/3/19	ND	ND
PTS-15	0-1	12/3/19	ND	ND
PTS-16	0-1	12/3/19	ND	ND
PTS-17	0-1	12/3/19	Positive (<0.25%)	NA
	0-1	12/3/19	ND	ND
PTS-18 1-2	PTS-18 1-2	12/3/19	ND	ND
0-1	0-1	12/3/19	Positive (<0.25%)	NA
PTS-19	1-2	12/3/19	ND	ND
	0-1	12/3/19	Positive (<0.25%)	NA
PTS-20	1-2	12/3/19	Positive (0.75%)	NA
	0-1	12/3/19	ND	ND
PTS-21	1-2	12/3/19	Positive (<0.25%)	NA
	0-1	12/3/19	Positive (<0.25%)	NA
PTS-22	1-2	12/3/19	ND	Positive (Chrysotile)
PTS-23	0-1	12/3/19	ND	ND
	1	Extension (EXT) Bet	ween Potts Street and Sloan Street	L
	0-1	12/2/19	ND	Positive (Chrysotile)
	1-2	12/2/19	ND	ND
EXT-1	2-3	12/2/19	ND	ND
	3-4	12/2/19	ND	ND
	0-1	12/2/19	ND	Positive (Chrysotile)
	1-2	12/2/19	ND	Positive (Chrysotile)
EXT-2	2-3	12/2/19	Positive (<0.25%)	NA
	4-4.5	12/2/19	ND	Positive (Chrysotile)
	0-1	12/2/19	Positive (<0.25%)	NA
	1.5-2.5	12/2/19	ND	ND
EXT-3	3.5-4.5	12/2/19	ND	ND
	4.5-5.5	12/2/19	ND	ND

Notes:

ft bgs = feet below ground surface; ND = None Detected; NA = Not Analyzed

Table 2 (Page 2 of 5)Summary of Soil Analytical ResultsDavidson Asbestos SiteDavidson, North Carolina<u>H&H Job No. ROW-605</u>

Sample ID	Depth Interval (ft bgs)	Date	Polarized Light Microscopy (PLM) EPA Method 600/R-93/116 with milling prep	Transmission Electron Microscopy (TEN Qualitative (via Filtration Technique)
	0-1	12/2/19	Positive (0.25%)	NA
	2-3	12/2/19	Positive (0.25%)	NA
EXT-4	4-5	12/2/19	ND	ND
	5-6	12/2/19	Positive (0.25%)	NA
	7-7.5	12/2/19	Positive (<0.25%)	NA
	0-1	12/2/19	ND	ND
EXT-5	3-4	12/2/19	ND	ND
	7-8	12/2/19	ND	ND
	0-1	12/2/19	ND	Positive (Chrysotile)
EVT C	2.5-3.5	12/2/19	ND	ND
EXT-6	5-6	12/2/19	ND	ND
	6-7	12/2/19	ND	ND
	0-1	12/2/19	Positive (<0.25%)	NA
	1.5-2.5	12/2/19	ND	ND
EXT-7	3-4	12/2/19	ND	ND
	4-5	12/2/19	ND	ND
	0-1	12/2/19	ND	Positive (Chrysotile)
EXT-8	3-4	12/2/19	ND	ND
	6-7	12/2/19	ND	ND
	0-1	12/2/19	ND	ND
	1.5-2.5	12/2/19	Positive (0.25%)	Positive (Chrysotile)
EXT-9	3-4	12/2/19	Positive (0.25%)	NA
	4-5	12/2/19	Positive (<0.25%)	NA
	6-6.5	12/2/19	Positive (0.50%)	NA
	0-1	12/2/19	ND	Positive (Chrysotile)
	1.5-2.5	12/2/19	ND	Positive (Chrysotile)
EXT-10	3-4	12/2/19	ND	Positive (Chrysotile)
	4-5	12/2/19	ND	Positive (Chrysotile)
	6-6.5	12/2/19	ND	ND
	0-1	12/2/19	Positive (<0.25%)	NA
EXT-11	1.5-2.5	12/2/19	Positive (<0.25%)	NA
	3-4	12/2/19	Positive (<0.25%)	NA
	0-1	12/2/19	Positive (0.25%)	NA
	1-2	12/2/19	Positive (<0.25%)	NA
EXT-12	2.5-3.5	12/2/19	Positive (<0.25%)	NA
	3.5-4.5	12/2/19	Positive (<0.25%)	NA
	5.5-6	12/2/19	ND	Positive (Chrysotile)
EXT-13	0-1	12/2/19	Positive (0.25%)	NA
	1-2	12/2/19	Positive (0.25%)	NA
	2-3	12/2/19	Positive (<0.25%)	NA
	0-1	12/2/19	Positive (0.25%)	NA
EXT-14	1.5-2.5	12/2/19	Positive (<0.25%)	NA
	3-4	12/2/19	Positive (<0.25%)	NA

Notes:

ft bgs = feet below ground surface; ND = None Detected; NA = Not Analyzed

Table 2 (Page 3 of 5)Summary of Soil Analytical ResultsDavidson Asbestos SiteDavidson, North Carolina<u>H&H Job No. ROW-605</u>

Sample ID	Depth Interval (ft bgs)	Date	Polarized Light Microscopy (PLM) EPA Method 600/R-93/116 with milling prep	Transmission Electron Microscopy (TEN Qualitative (via Filtration Technique)
EXT-15	0-1	12/6/19	ND	ND
EXT-16	0-1	12/6/19	Positive (<0.25%)	NA
	- L		Sloan Street (SLN)	
	0-1	12/4/19	Positive (<0.25%)	NA
SLN-1	1-2	12/4/19	Positive (<0.25%)	NA
SLN-2	0-1	12/3/19	ND	ND
	0-1	12/4/19	ND	ND
SLN-3	2.5-3.5	12/4/19	ND	ND
	5-6	12/4/19	ND	ND
	0-1	12/3/19	ND	ND
SLN-4	3-4	12/3/19	ND	ND
	7-8	12/3/19	ND	ND
a	0-1	12/4/19	Positive (0.75%)	NA
SLN-5	1-2	12/4/19	Positive (1.25%)	NA
SLN-6	0-1	12/3/19	ND	ND
	0-1	12/4/19	ND	ND
SLN-7	1-2	12/4/19	ND	ND
SLN-8	0-1	12/3/19	ND	ND
SLN-9	0-1	12/3/19	Positive (0.75%)	NA
SLN-10	0-1	12/3/19	Positive (<0.25%)	NA
SLN-11	0-1	12/3/19	ND	ND
SLN-12	0-1	12/4/19	ND	ND
SLN-13	0-1	12/4/19	Positive (<0.25%)	NA
SLN-14	0-1	12/4/19	Positive (0.25%)	NA
SLN-15	0-1	12/4/19	Positive (0.75%)	NA
SLN-16	0-1	12/4/19	Positive (<0.25%)	NA
SLN-17	0-1	12/4/19	Positive (0.25%)	NA
SLN-18	0-1	12/4/19	ND	ND
SLN-19	0-1	12/4/19	ND	ND
	0-1	12/5/19	Positive (<0.25%)	NA
SLN-20	1-2	12/5/19	ND	ND
	0-1	12/5/19	ND	ND
SLN-21	1-2	12/5/19	Positive (<0.25%)	NA
	0-1	12/5/19	ND	ND
SLN-22	1-2	12/5/19	ND	ND
SLN-23	0-1	12/5/19	ND	ND
	1		Griffith Street (GRF)	
	0-1	12/5/19	Positive (0.50%)	NA
GRF-1	1-2	12/5/19	ND	ND
GRF-2	0-1	12/6/19	Positive (2.25%)	NA
	0-1	12/5/19	ND	Positive (Chrysotile)
GRF-3	1-2	12/5/19	ND	ND

Notes:

ft bgs = feet below ground surface; ND = None Detected; NA = Not Analyzed

Table 2 (Page 4 of 5)Summary of Soil Analytical ResultsDavidson Asbestos SiteDavidson, North CarolinaH&H Job No. ROW-605

Sample ID	Depth Interval (ft bgs)	Date	Polarized Light Microscopy (PLM) EPA Method 600/R-93/116 with milling prep	Transmission Electron Microscopy (TER Qualitative (via Filtration Technique)
GRF-4	0.1	12/6/10		ND
GKF-4	0-1	12/6/19	ND	
GRF-5	0-1	12/5/19 12/5/19	ND	ND
	1-2		ND	ND
GRF-6	0-1	12/6/19	ND	ND
GRF-7	0-1	12/5/19	ND	ND
GRF-8	0-1	12/6/19	ND	ND
005.0	1-2	12/6/19	ND	ND
GRF-9	0-1	12/5/19	ND	ND
GRF-10	0-1	12/6/19	ND	ND
	1-2	12/6/19	ND	ND
	0-1	12/6/19	ND	ND
GRF-11	1.5-2.5	12/6/19	ND	ND
	3-4	12/6/19	ND	ND
GRF-12	0-1	12/4/19	ND	ND
	1-2	12/4/19	ND	ND
	0-1	12/5/19	ND	ND
GRF-13	2-3	12/5/19	ND	ND
	4-5	12/5/19	ND	ND
GRF-14	0-1	12/5/19	ND	ND
	2-3	12/5/19	ND	ND
	4-5	12/5/19	ND	ND
	0-1	12/4/19	ND	ND
GRF-15	2-3	12/4/19	ND	ND
	3.5-4.5	12/4/19	ND	ND
CD5 16	0-1	12/4/19	ND	ND
GRF-16	1-2	12/4/19	ND	ND
005.47	0-1	12/5/19	ND	ND
GRF-17	1-2	12/5/19	ND	ND
	0-1	12/5/19	ND	ND
GRF-18	2-3	12/5/19	ND	ND
	4-5	12/5/19	ND	ND
	0-1	12/6/19	ND	ND
GRF-19	2-3	12/6/19	ND	ND
	4.5-5.5	12/6/19	ND	ND
GRF-20	0-1	12/6/19	ND	ND
	2-3	12/6/19	ND	ND
	4-5	12/6/19	ND	ND
	0-1	12/6/19	ND	ND
GRF-21	2-3	12/6/19	ND	ND
	4-5	12/6/19	ND	ND

Notes:

ft bgs = feet below ground surface; ND = None Detected; NA = Not Analyzed

Table 2 (Page 5 of 5) Summary of Soil Analytical Results Davidson Asbestos Site Davidson, North Carolina <u>H&H Job No. ROW-605</u>

Sample ID	Depth Interval (ft bgs)	Date	Polarized Light Microscopy (PLM) EPA Method 600/R-93/116 with milling prep	Transmission Electron Microscopy (TEM) Qualitative (via Filtration Technique)
	0-1	12/6/19	ND	ND
GRF-22	2-3	12/6/19	ND	ND
	3.5-4.5	12/6/19	ND	ND
	0-1	12/6/19	ND	ND
GRF-23	2-3	12/6/19	ND	ND
	4-5	12/6/19	ND	ND
	0-1	12/6/19	Positive (0.50%)	NA
GRF-24	1.5-2.5	12/6/19	Positive (0.75%)	NA
	3-4	12/6/19	Positive (<0.25%)	NA
GRF-25	0-1	12/6/19	ND	ND
	0-1	12/5/19	ND	ND
GRF-26	1.5-2.5	12/5/19	ND	ND
	3-4	12/5/19	ND	ND
GRF-27	0-1	12/6/19	ND	ND
GRF-28	0-1	12/5/19	Positive (<0.25%)	NA
GRF-29	0-1	12/6/19	Positive (<0.25%)	NA
GRF-30	0-1	12/5/19	Positive (<0.25%)	NA
GRF-31	0-1	12/5/19	Positive (<0.25%)	NA
GRF-31	0-1	12/5/19		NA
GRF-32	+ +		Positive (<0.25%)	
GRF-33	0-1	12/5/19	ND	ND
	1-2	12/5/19	ND	ND
	0-1	12/5/19	Beaty Street (BTY)	ND
BTY-1	2.5-3.5	12/5/19	ND	ND
511 1	5-6	12/5/19	Positive (<0.25%)	NA
	0-1	12/6/19	ND	ND
BTY-2	2-3	12/6/19	ND	ND
	4.5-5.5	12/6/19	ND	ND
BTY-3	0-1	12/6/19	ND	ND
	0-1	12/6/19	ND	ND
BTY-4	1-2	12/6/19	ND	ND
	0-1	12/6/19	ND	ND
BTY-5	1-2	12/6/19	ND	ND
BTY-6	0-1	12/5/19	ND	ND
	0-1	12/5/19	ND	ND
BTY-7	1-2	12/5/19	ND	ND
	2-3	12/5/19	ND	ND
BTY-8	0-1	12/5/19	ND	ND
BTY-9	0-1	12/5/19	ND	ND
5-110	1-2	12/5/19	ND	ND
	0-1	12/6/19	ND	ND
BTY-10	1-2	12/6/19	ND	ND
511 10	2.5-3.5	12/6/19	ND	ND
	3.5-4.5	12/6/19	ND	ND

Notes:

ft bgs = feet below ground surface; ND = None Detected; NA = Not Analyzed

Table 3 (Page 1 of 1)Summary of Bulk Materials Analytical ResultsDavidson Asbestos SiteDavidson, North CarolinaH&H Job No. ROW-605

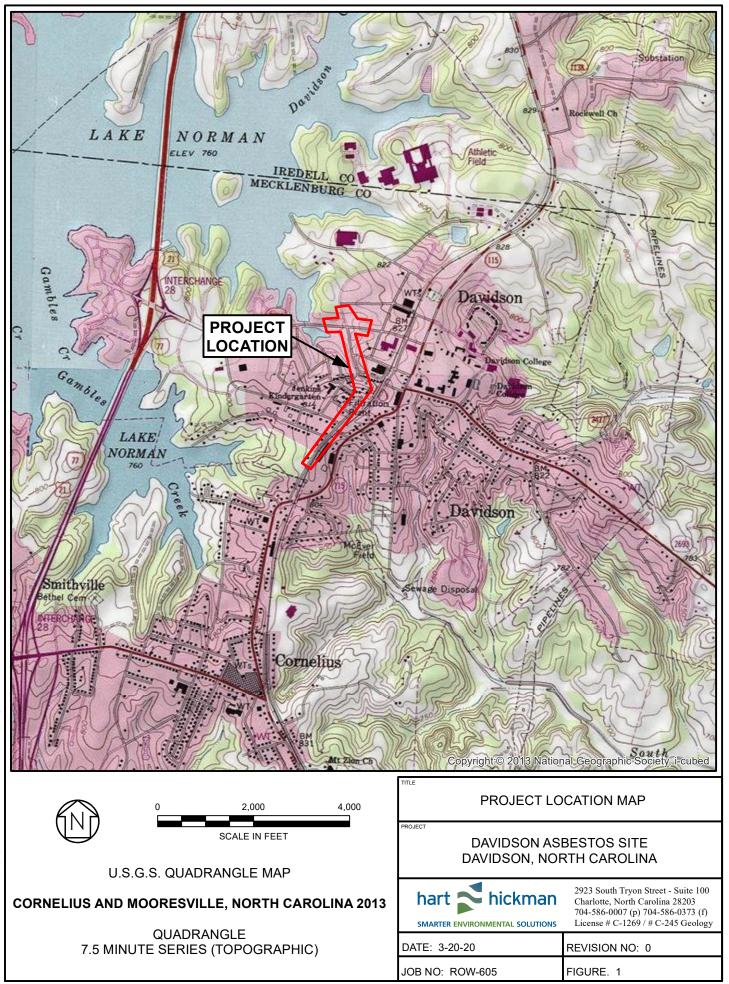
Sample ID	Soil Boring Location	Depth Interval (ft bgs)	Date	Polarized Light Microscopy (PLM) EPA Method 600/R-93/116
Extension (EXT) Between Potts Street and Sloan Street				
001*	EXT-13	0-3	12/2/19	5% Chrysotile
001*	EXT-14	0-4	12/2/19	5% Chrysotile

Notes:

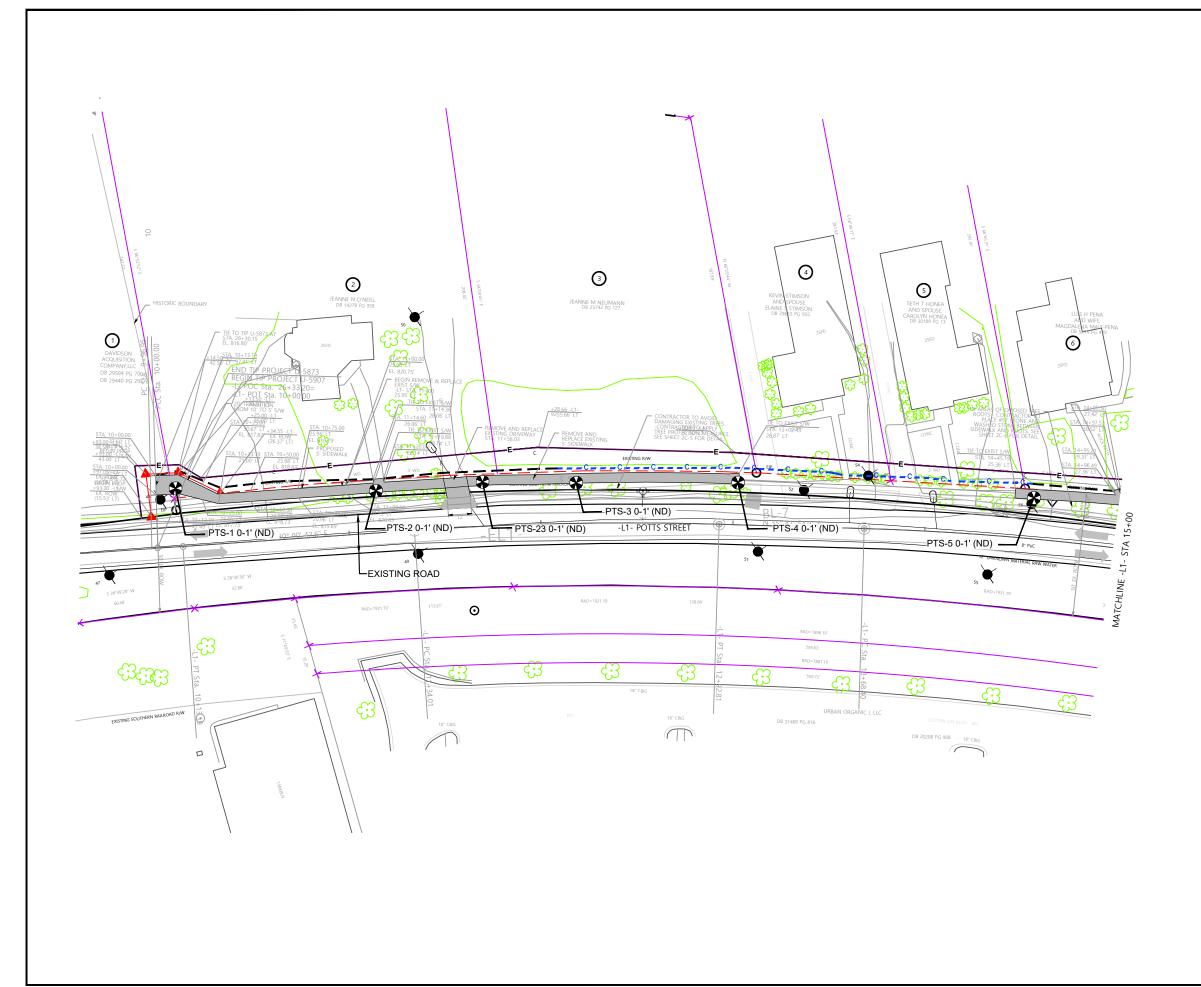
ft bgs = feet below ground surface

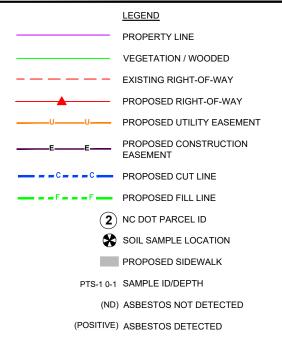
* Suspected Asbestos Containing Material (floor tile pieces) observed in soil borings EXT-13 and EXT-14. One

sample was taken to represent the observed suspected asbestos material in each of the two soil borings.

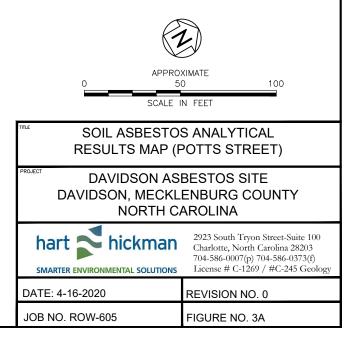


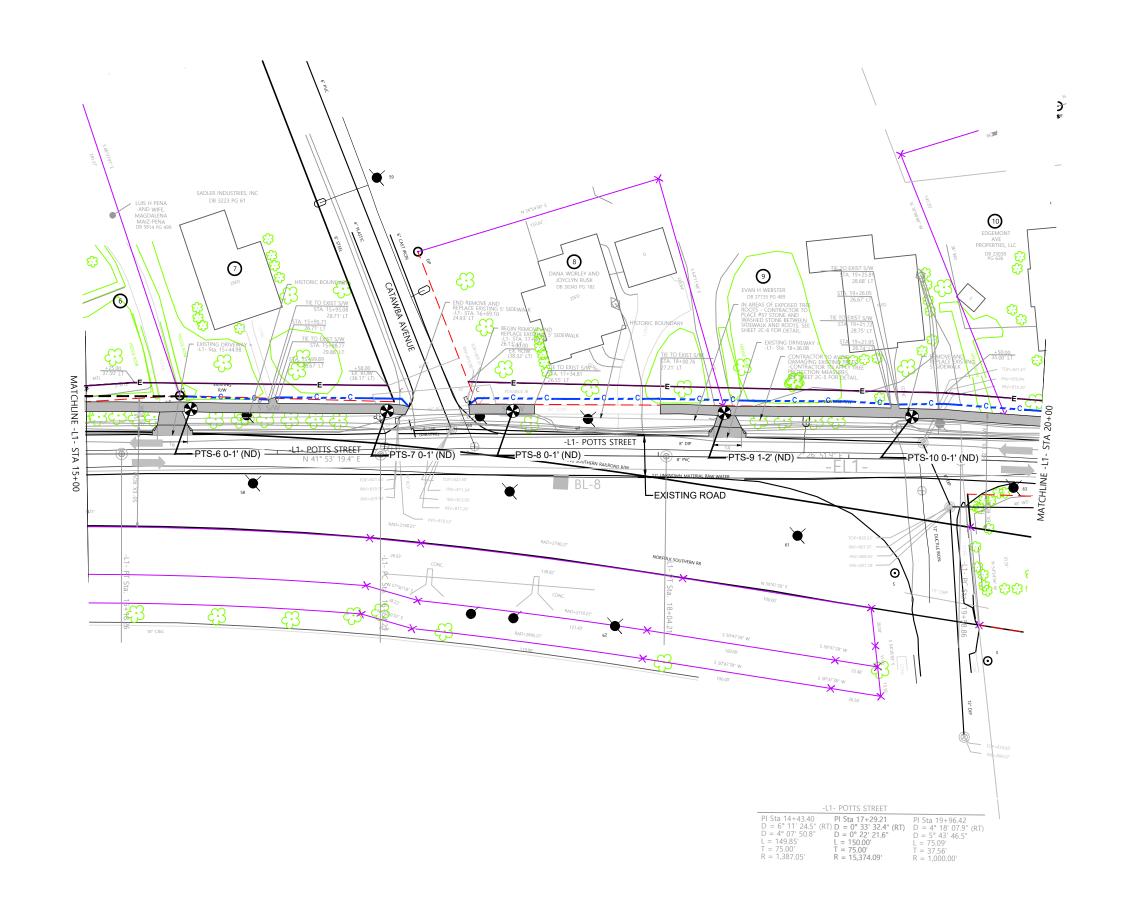


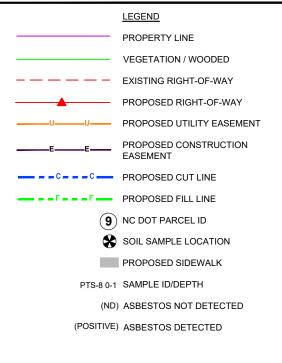




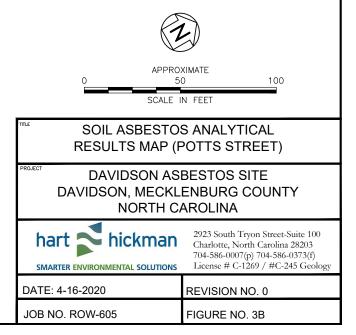
- 1. SAMPLES COLLECTED BETWEEN 12/2/19 AND 12/6/19
- 2. SEE TABLE 2 FOR ASBESTOS ANALYTICAL METHODS AND RESULTS

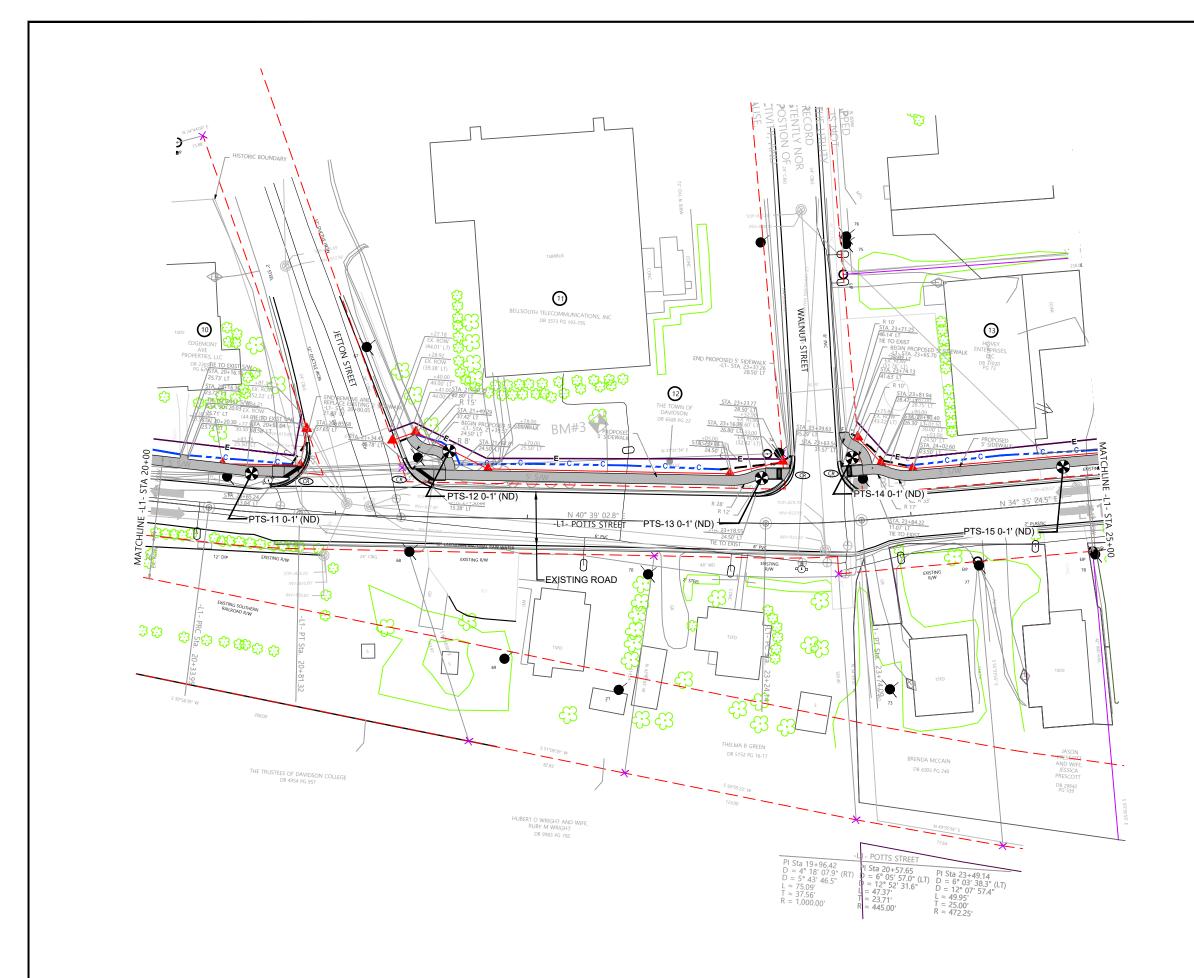


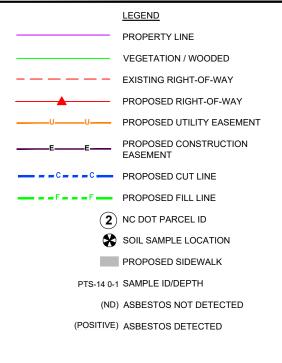




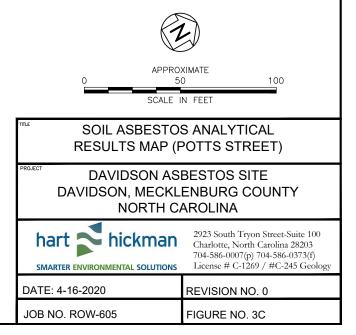
- 1. SAMPLES COLLECTED BETWEEN 12/2/19 AND 12/6/19
- 2. SEE TABLE 2 FOR ASBESTOS ANALYTICAL METHODS AND RESULTS

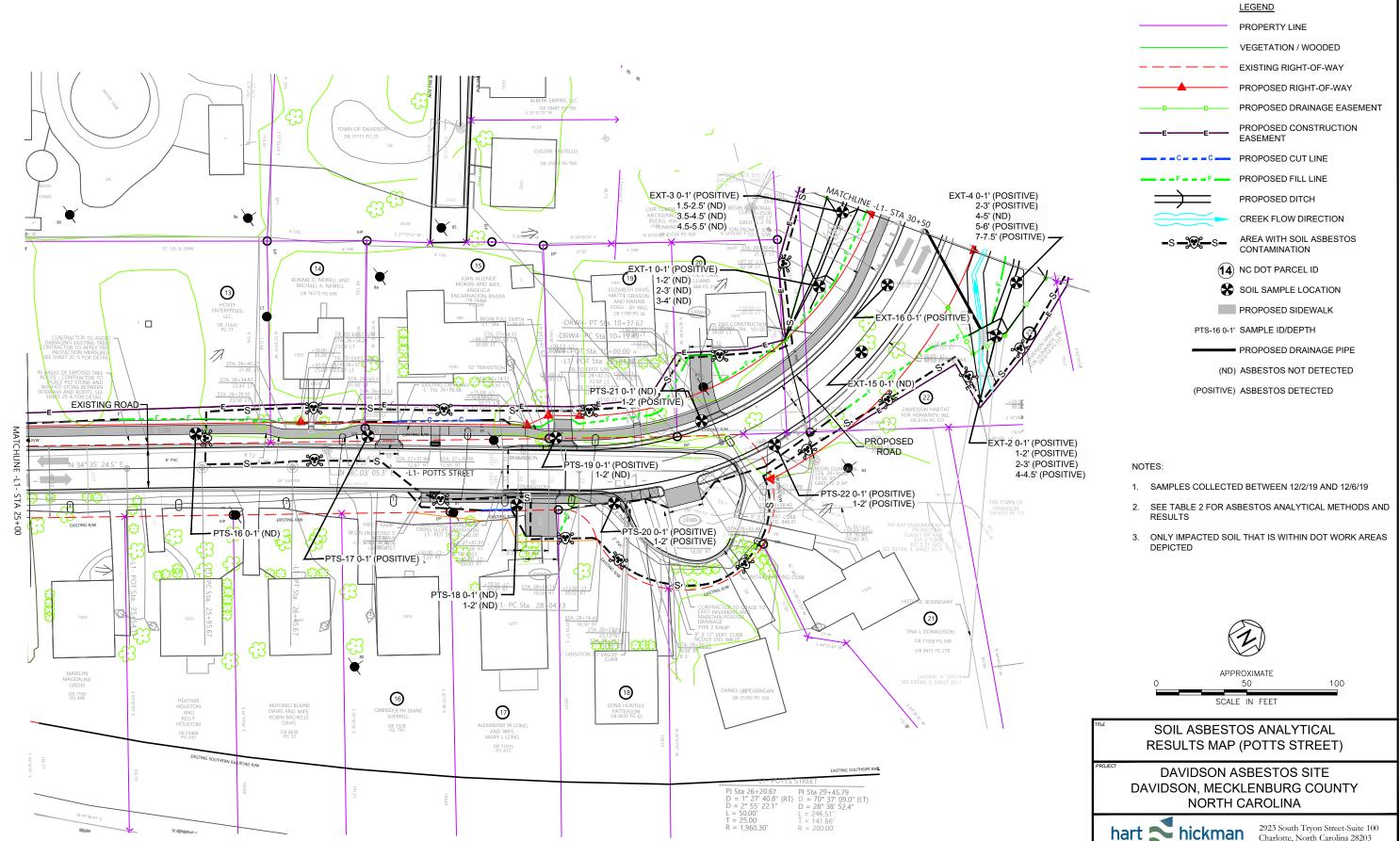




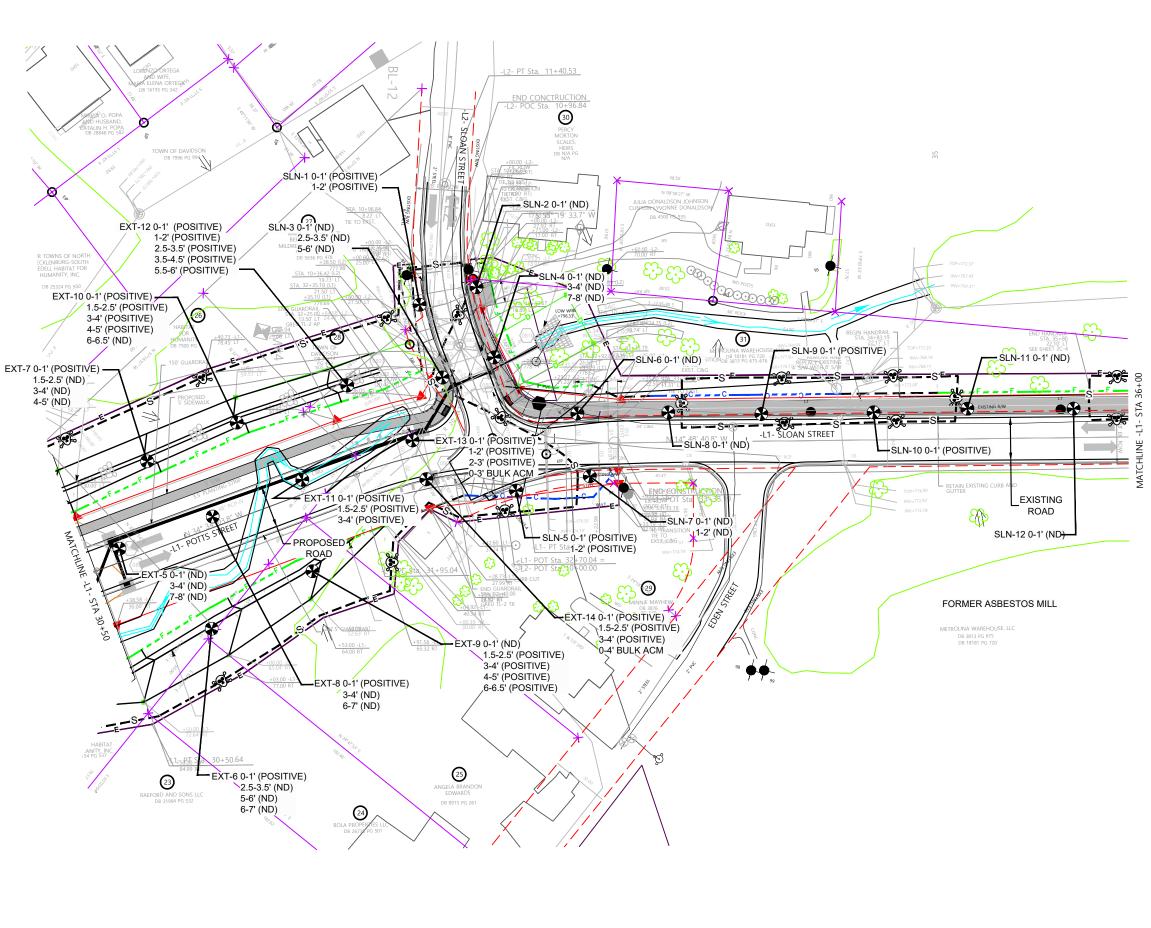


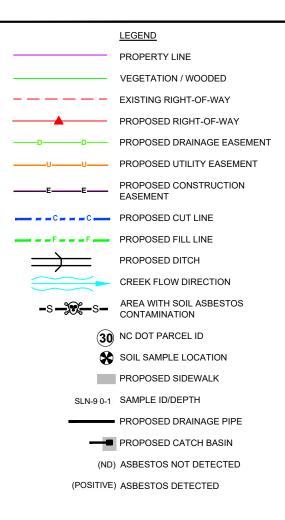
- 1. SAMPLES COLLECTED BETWEEN 12/2/19 AND 12/6/19
- 2. SEE TABLE 2 FOR ASBESTOS ANALYTICAL METHODS AND RESULTS





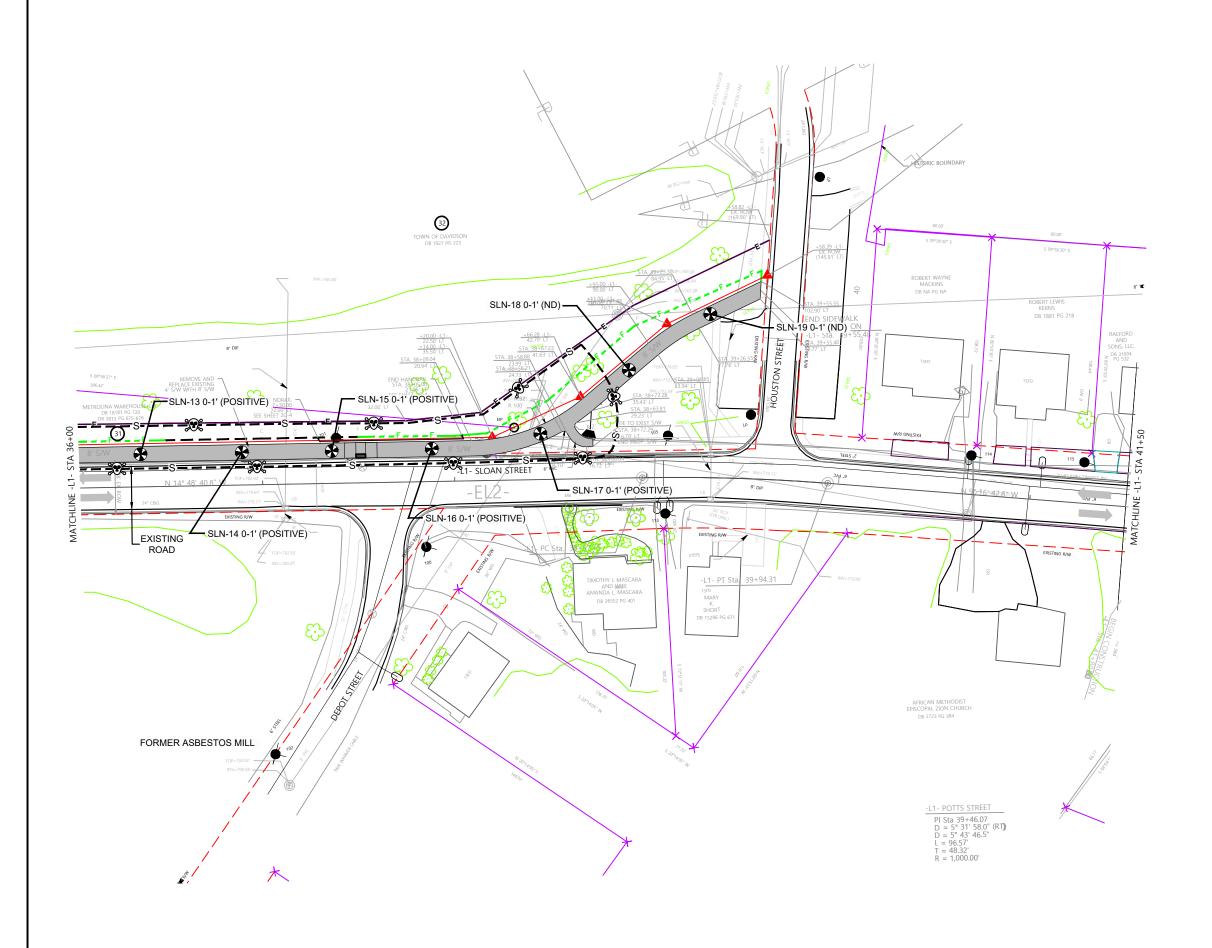
0 50 SCALE I	0 100			
™ SOIL ASBESTO RESULTS MAP (F				
DAVIDSON ASBESTOS SITE DAVIDSON, MECKLENBURG COUNTY NORTH CAROLINA				
hart hickman 2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 Charlotte, North Carolina 28203 SMARTER ENVIRONMENTAL SOLUTIONS License # C-1269 / #C-245 Geology				
DATE: 4-16-2020	REVISION NO. 0			
JOB NO. ROW-605	FIGURE NO. 3D			

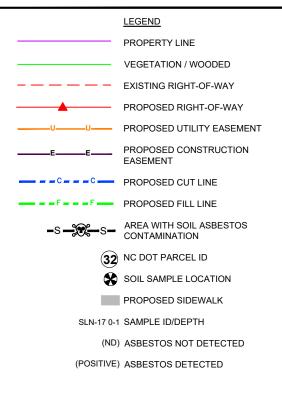




- 1. SAMPLES COLLECTED BETWEEN 12/2/19 AND 12/6/19
- 2. SEE TABLE 2 FOR ASBESTOS ANALYTICAL METHODS AND RESULTS
- 3. ACM = ASBESTOS CONTAINING MATERIAL
- 4. ONLY IMPACTED SOIL THAT IS WITHIN DOT WORK AREAS DEPICTED

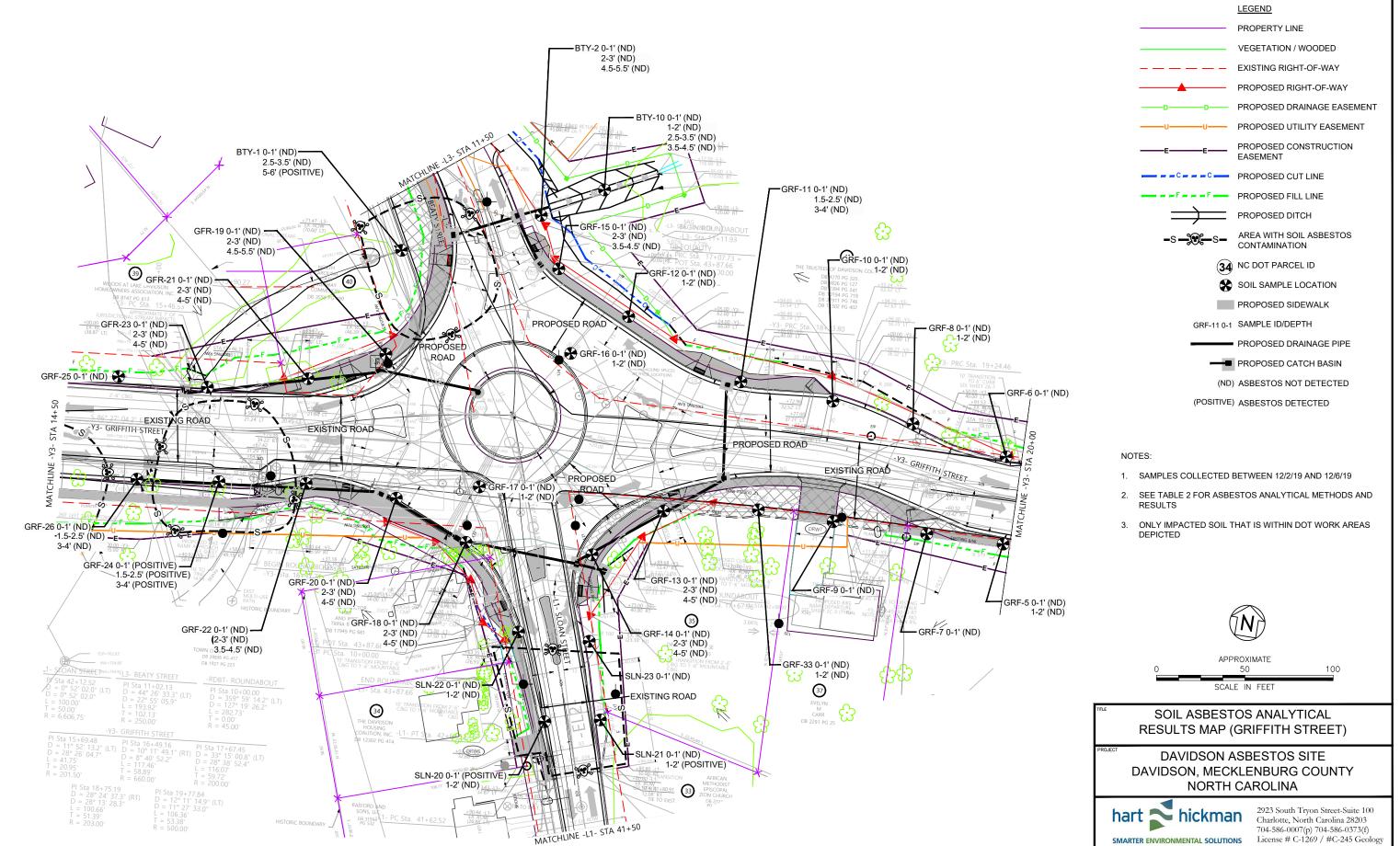
APPROXIMATE 0 50 100 SCALE IN FEET		
SOIL ASBESTOS ANALYTICAL		
RESULTS MAP (POTTS STREET EXT.)		
DAVIDSON ASBESTOS SITE DAVIDSON, MECKLENBURG COUNTY NORTH CAROLINA		
	2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology	
DATE: 4-16-2020	REVISION NO. 0	
JOB NO. ROW-605	FIGURE NO. 3E	





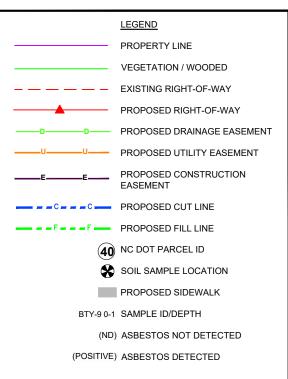
- 1. SAMPLES COLLECTED BETWEEN 12/2/19 AND 12/6/19
- 2. SEE TABLE 2 FOR ASBESTOS ANALYTICAL METHODS AND RESULTS
- 3. ONLY IMPACTED SOIL THAT IS WITHIN DOT WORK AREAS DEPICTED

APPROXIMATE 0		
SCALE IN FEET		
SOIL ASBESTOS ANALYTICAL RESULTS MAP (SLOAN STREET)		
DAVIDSON ASBESTOS SITE DAVIDSON, MECKLENBURG COUNTY NORTH CAROLINA		
hart hickman	2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology	
DATE: 4-16-2020	REVISION NO. 0	
JOB NO. ROW-605	FIGURE NO. 3F	



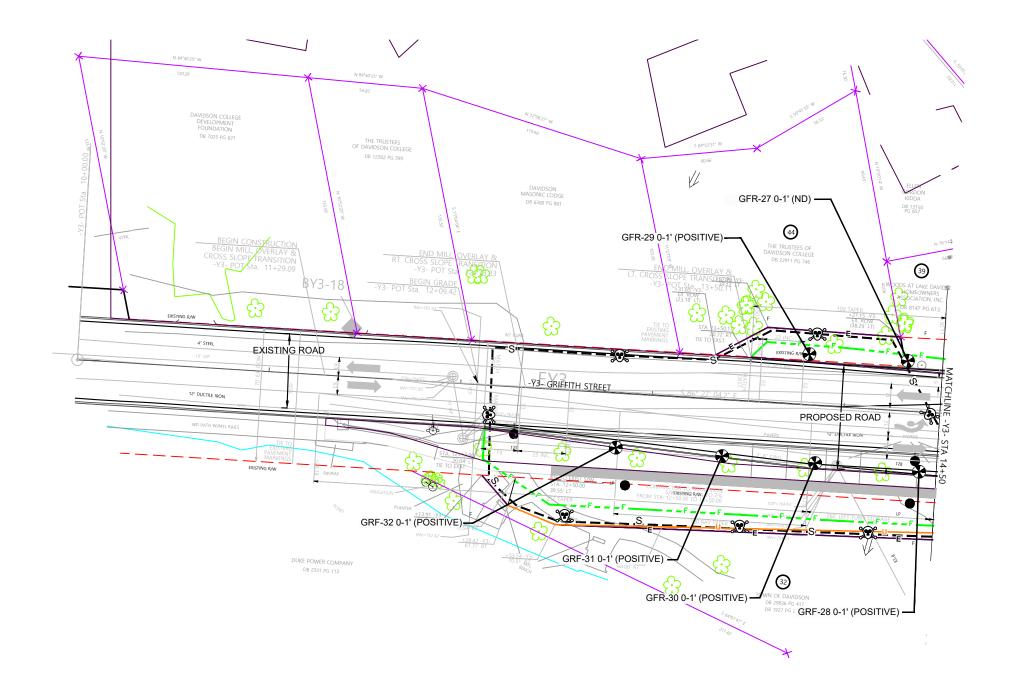
	2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology
DATE: 4-16-2020	REVISION NO. 0
JOB NO. ROW-605	FIGURE NO. 3G

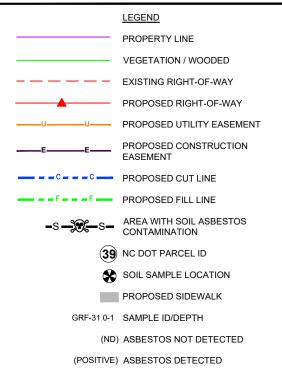




- 1. SAMPLES COLLECTED BETWEEN 12/2/19 AND 12/6/19
- 2. SEE TABLE 2 FOR ASBESTOS ANALYTICAL METHODS AND RESULTS

APPROXIMATE 0 50 100 SCALE IN FEFT		
RESULTS MAP (BEATY STREET)		
DAVIDSON ASBESTOS SITE DAVIDSON, MECKLENBURG COUNTY NORTH CAROLINA		
	2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology	
DATE: 4-16-2020	REVISION NO. 0	
JOB NO. ROW-605	FIGURE NO. 3H	





NOTES:

0

- 1. SAMPLES COLLECTED BETWEEN 12/2/19 AND 12/6/19
- 2. SEE TABLE 2 FOR ASBESTOS ANALYTICAL METHODS AND RESULTS
- 3. ONLY IMPACTED SOIL THAT IS WITHIN DOT WORK AREAS DEPICTED

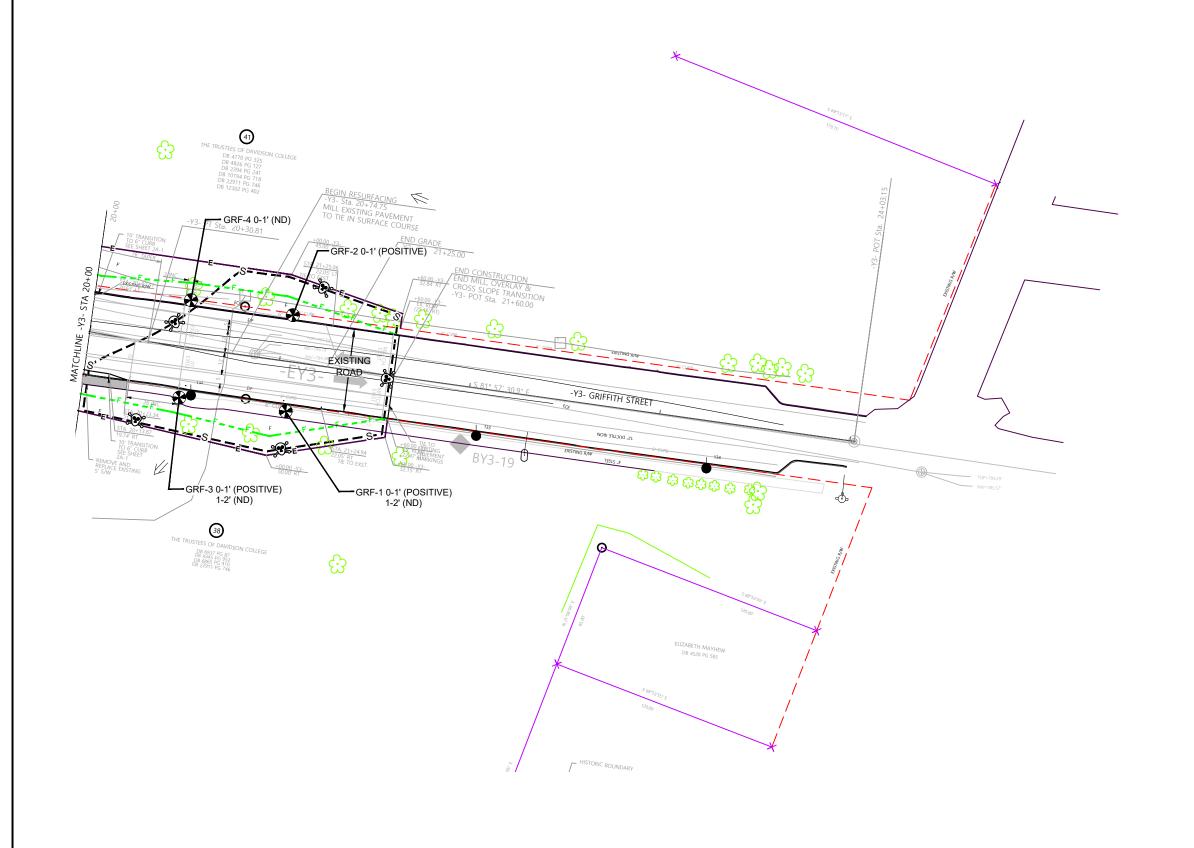


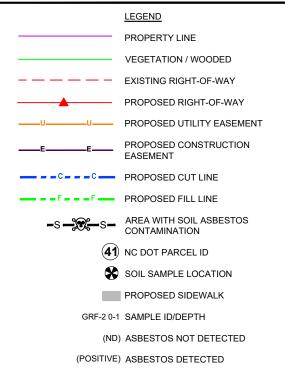
APPROXIMATE			
50	100		
SCALE IN FEET			

SOIL ASBESTOS ANALYTICAL RESULTS MAP (GRIFFITH STREET)

DAVIDSON ASBESTOS SITE DAVIDSON, MECKLENBURG COUNTY NORTH CAROLINA

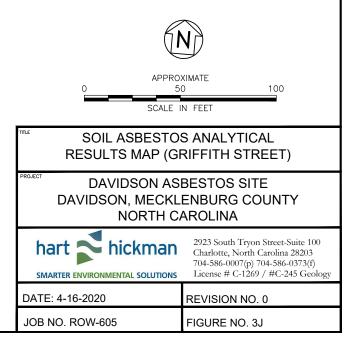
hart hickman	2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology
DATE: 4-16-2020	REVISION NO. 0
JOB NO. ROW-605	FIGURE NO. 3I





NOTES:

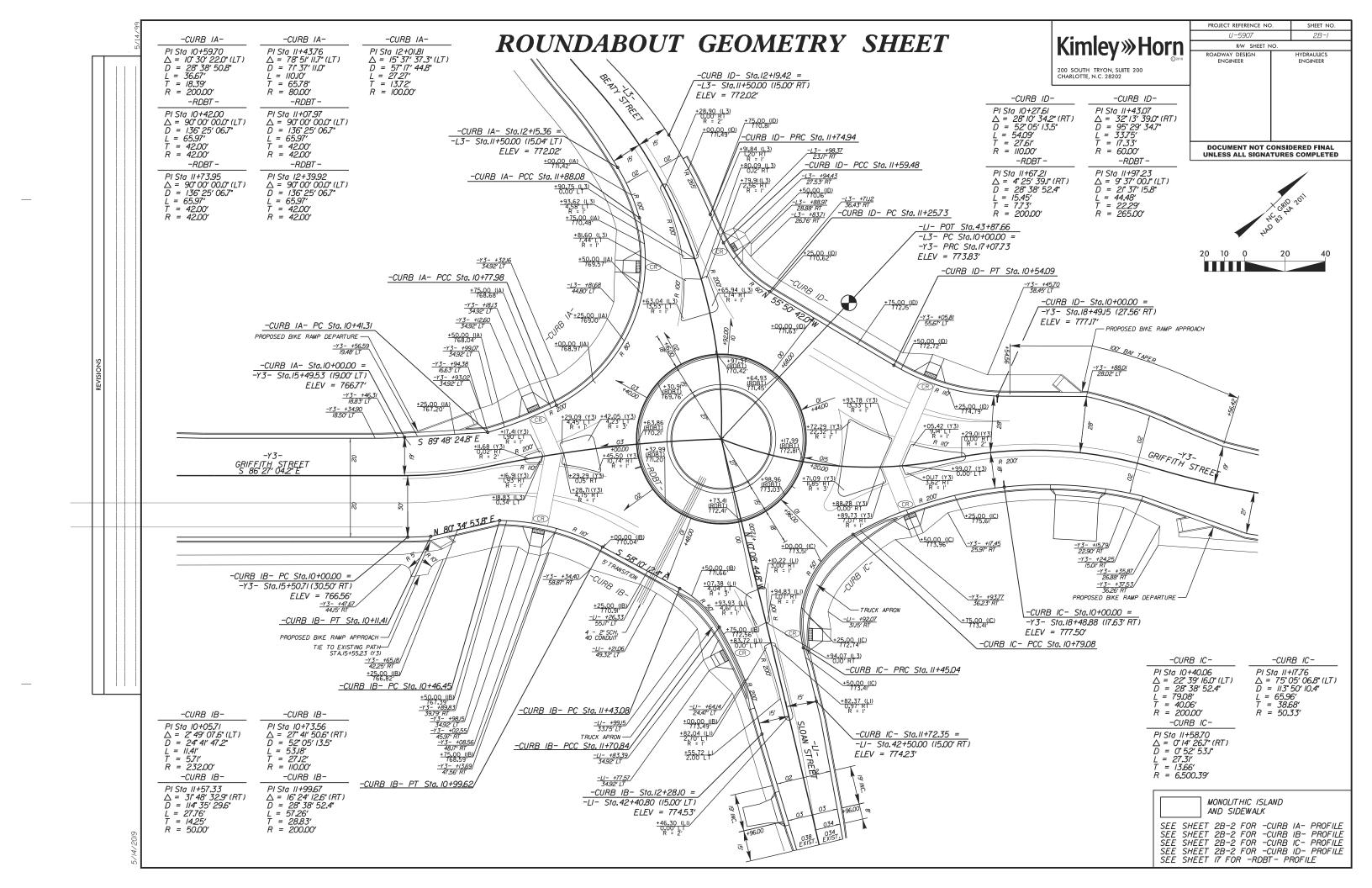
- 1. SAMPLES COLLECTED BETWEEN 12/2/19 AND 12/6/19
- 2. SEE TABLE 2 FOR ASBESTOS ANALYTICAL METHODS AND RESULTS
- 3. ONLY IMPACTED SOIL THAT IS WITHIN DOT WORK AREAS DEPICTED

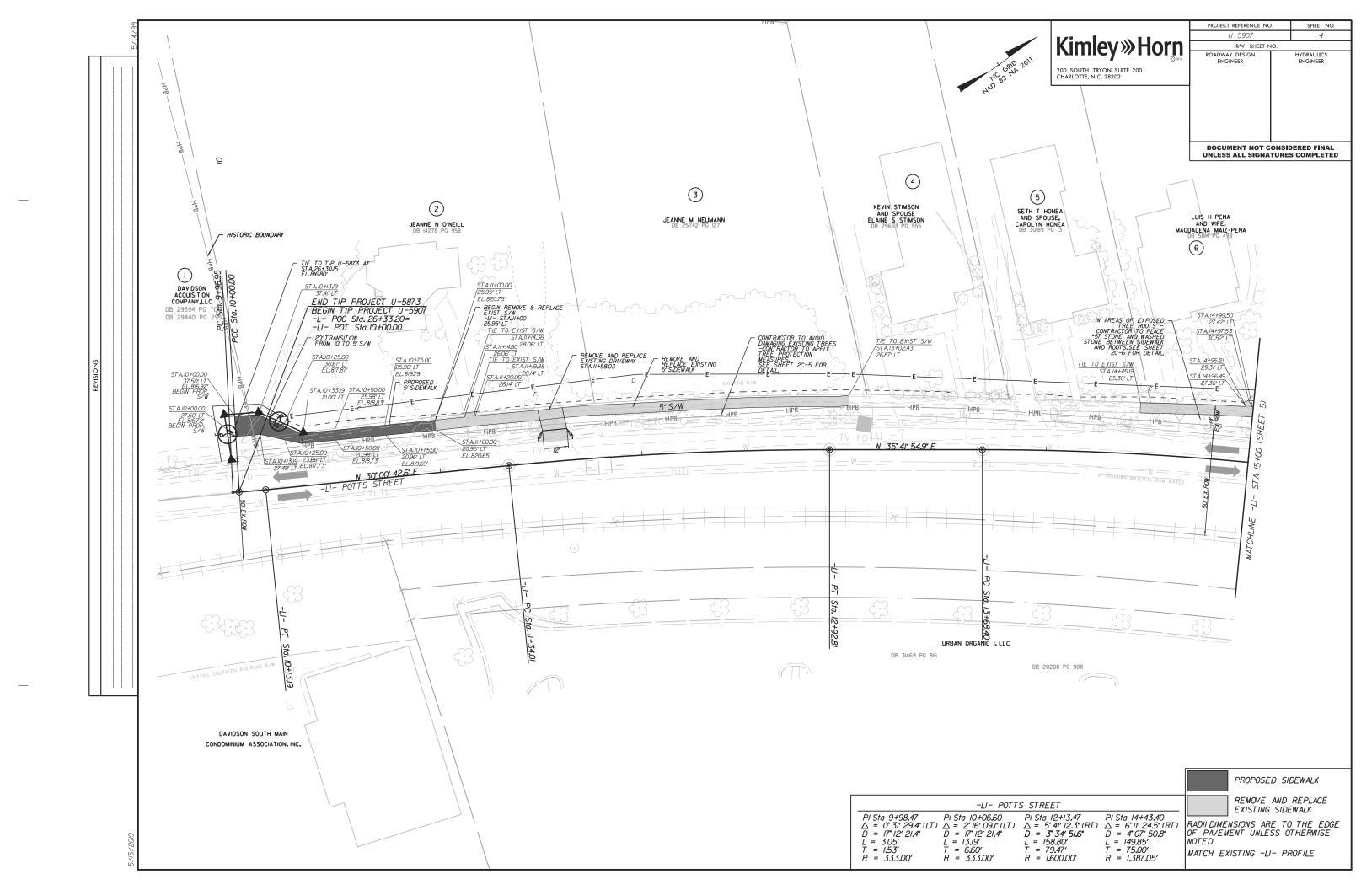


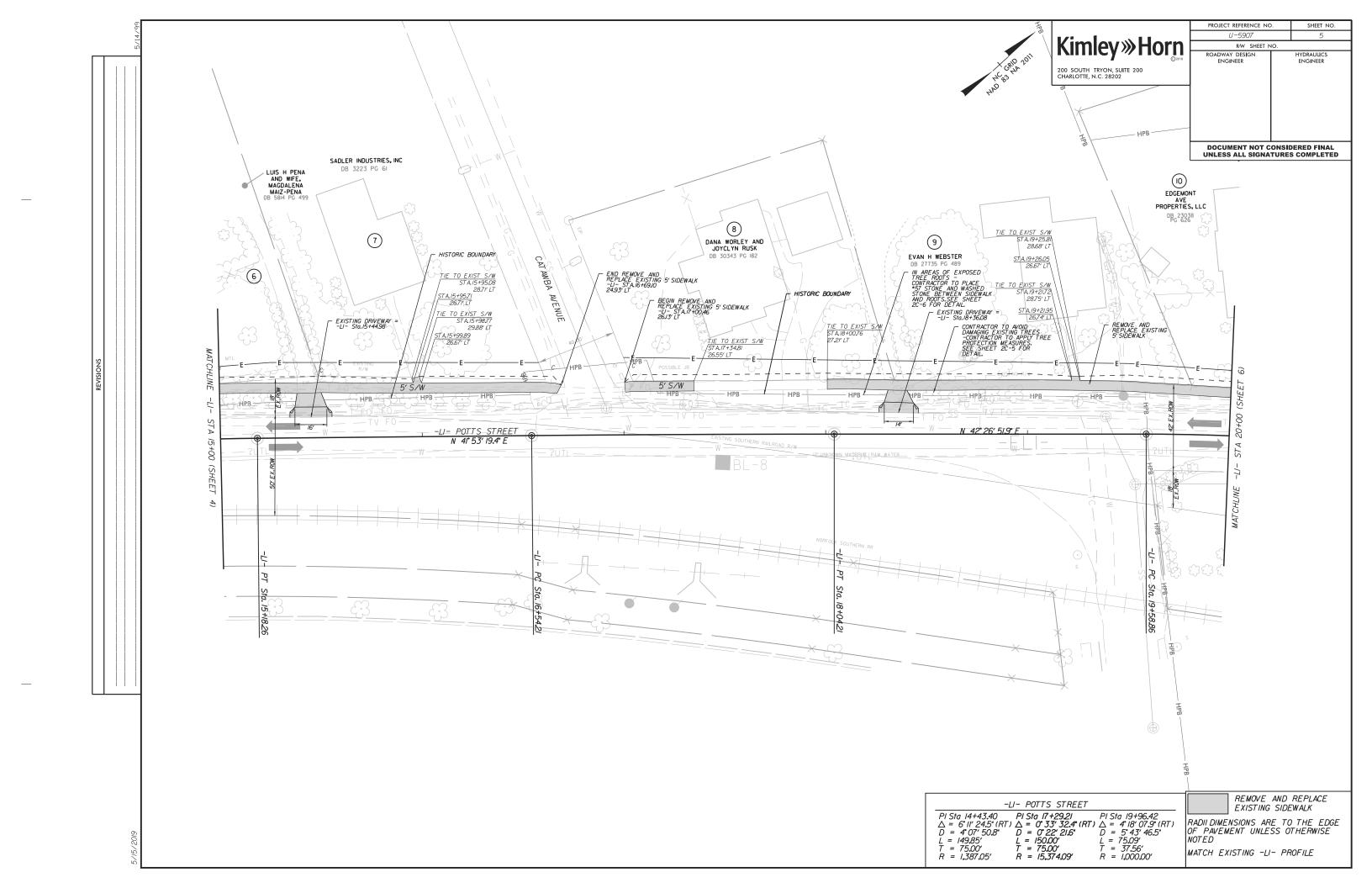
Appendix A

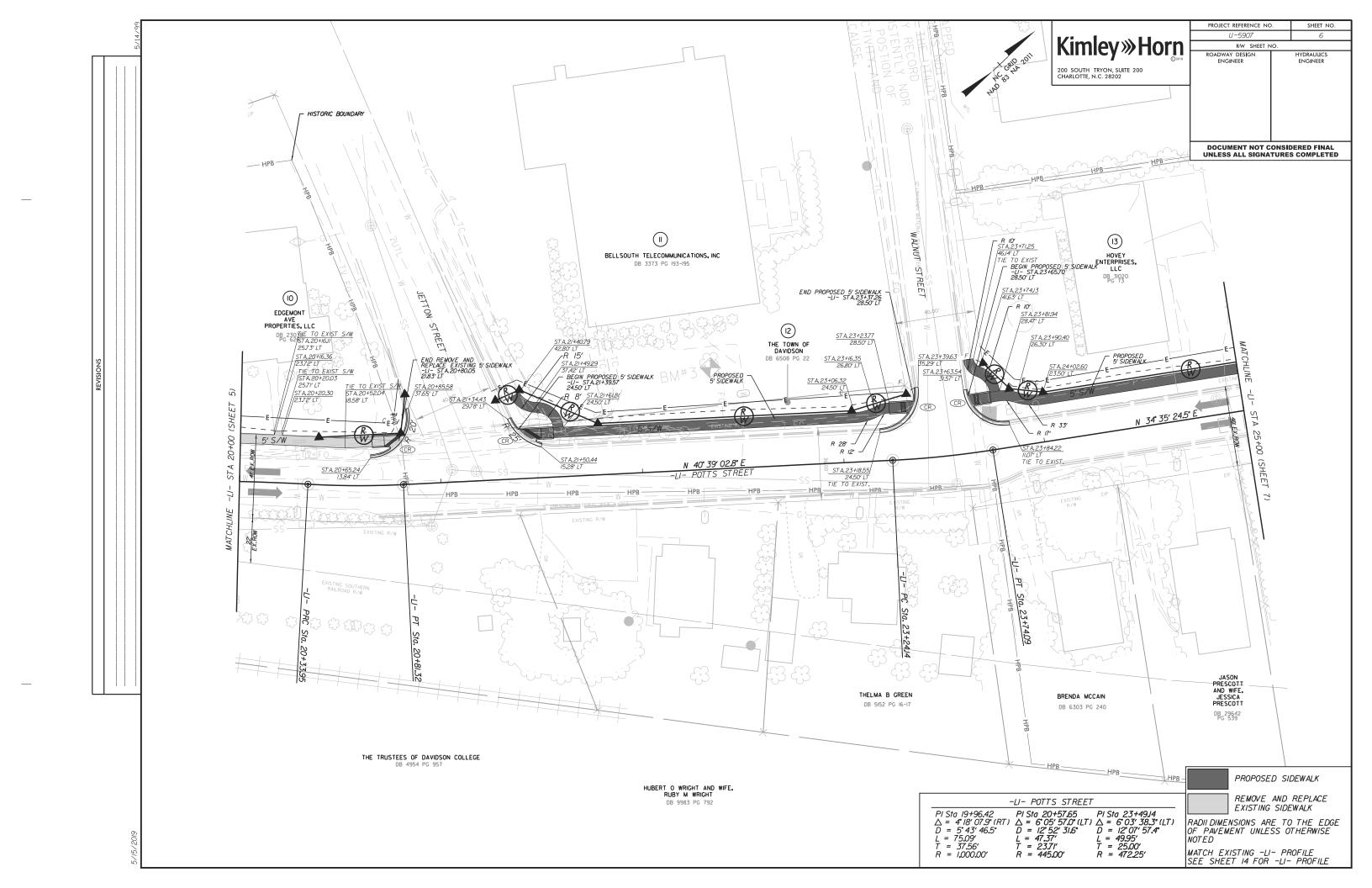
NC DOT Preliminary Plan Sheets

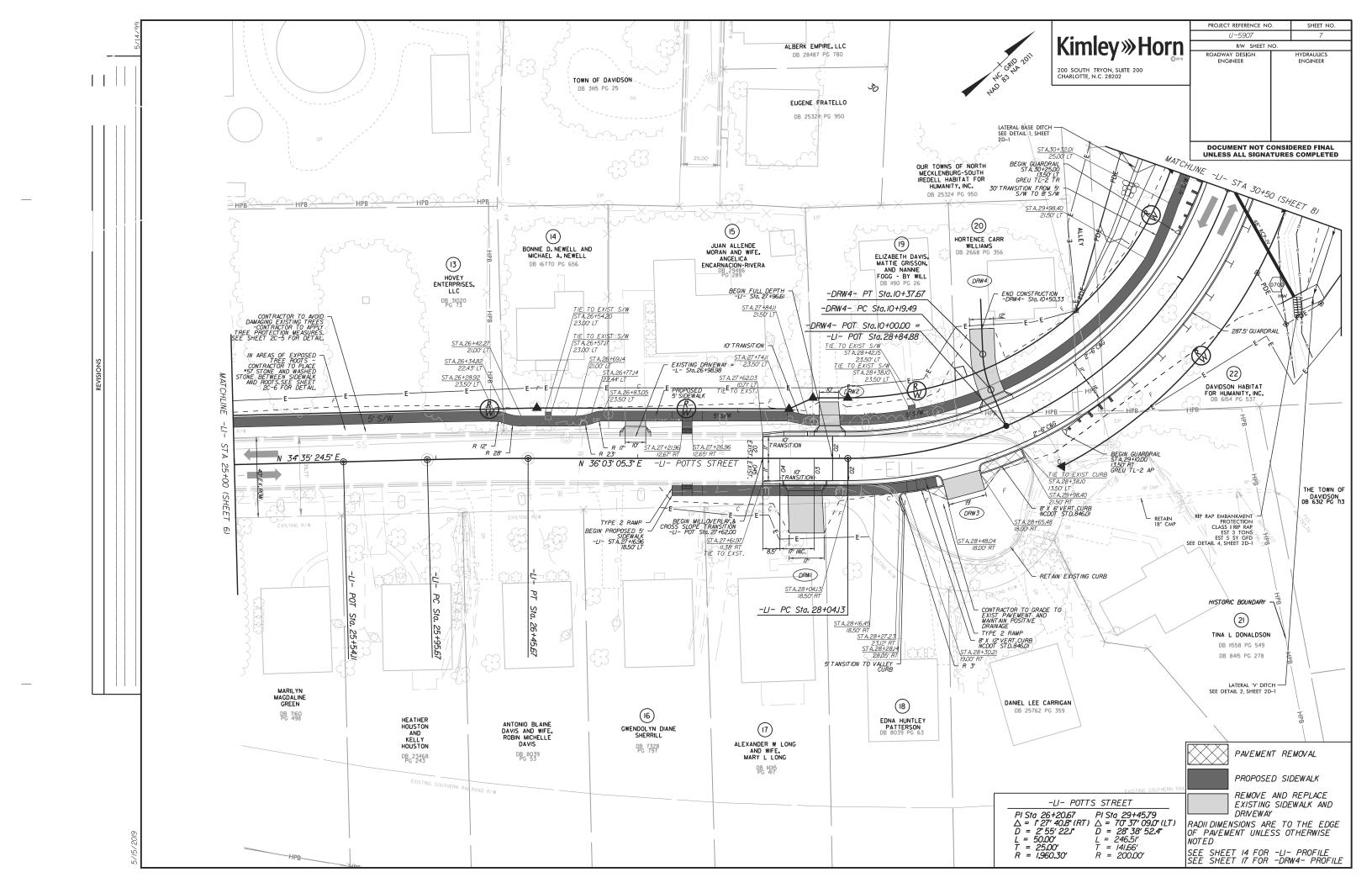


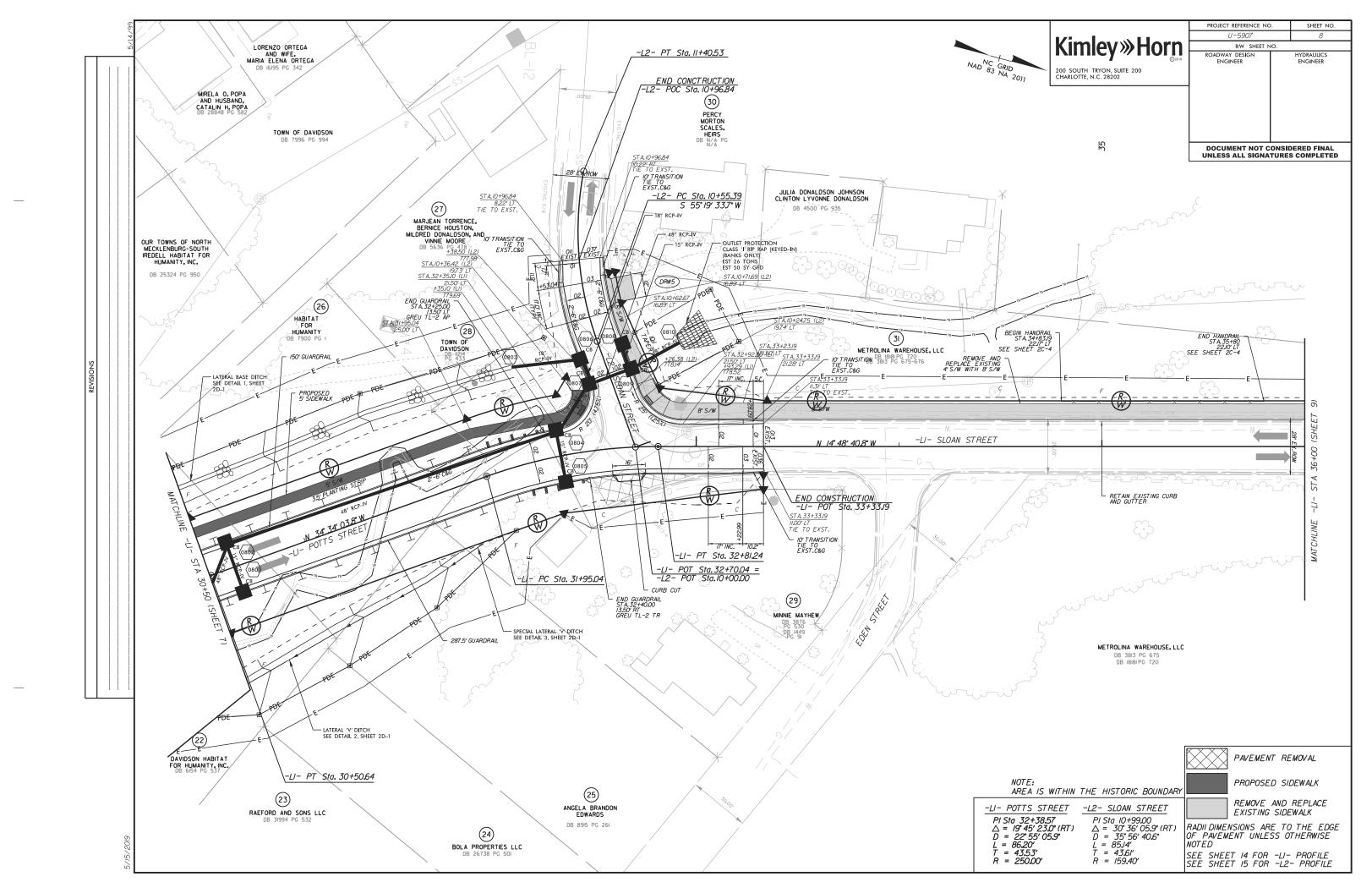


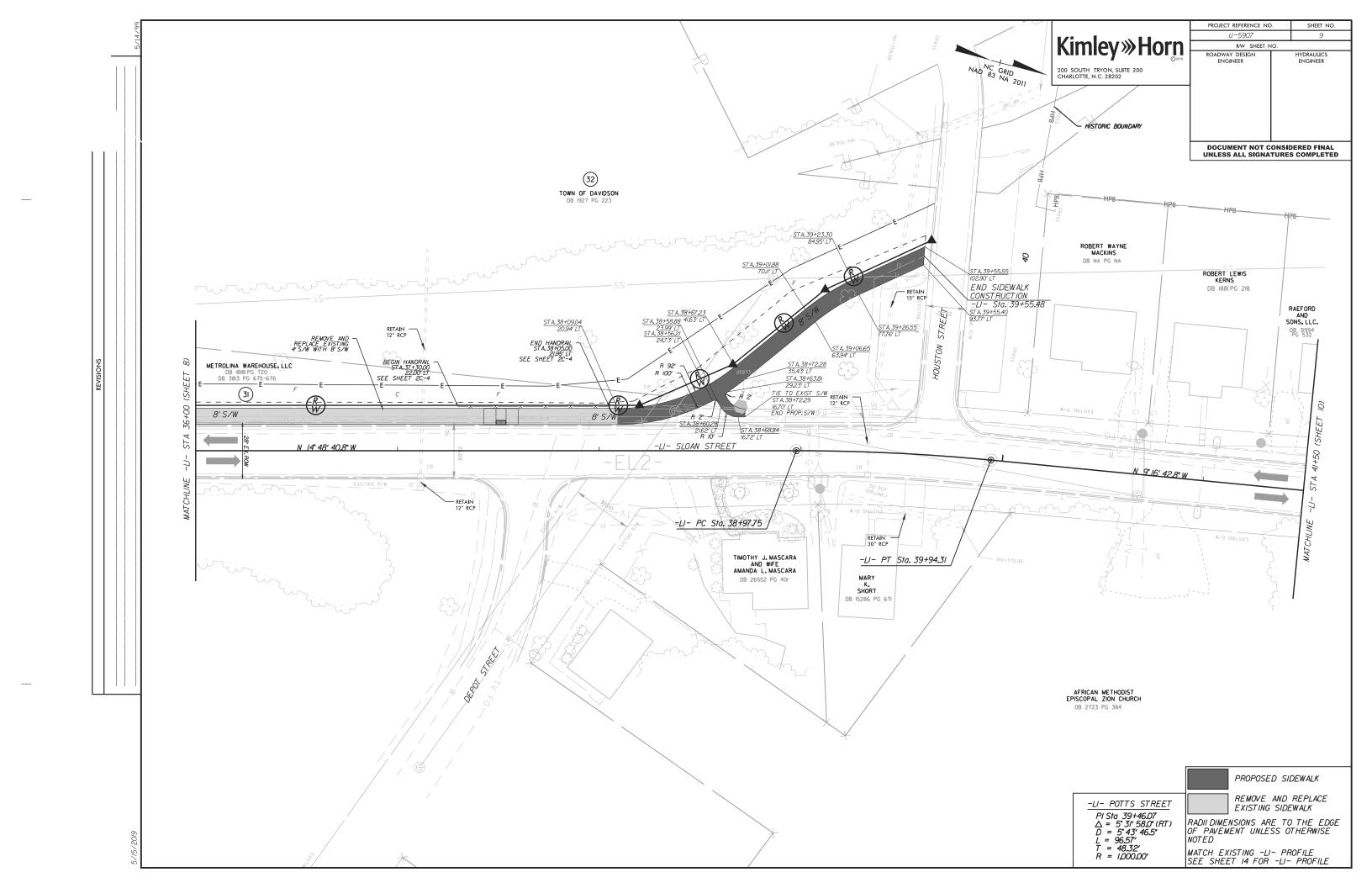


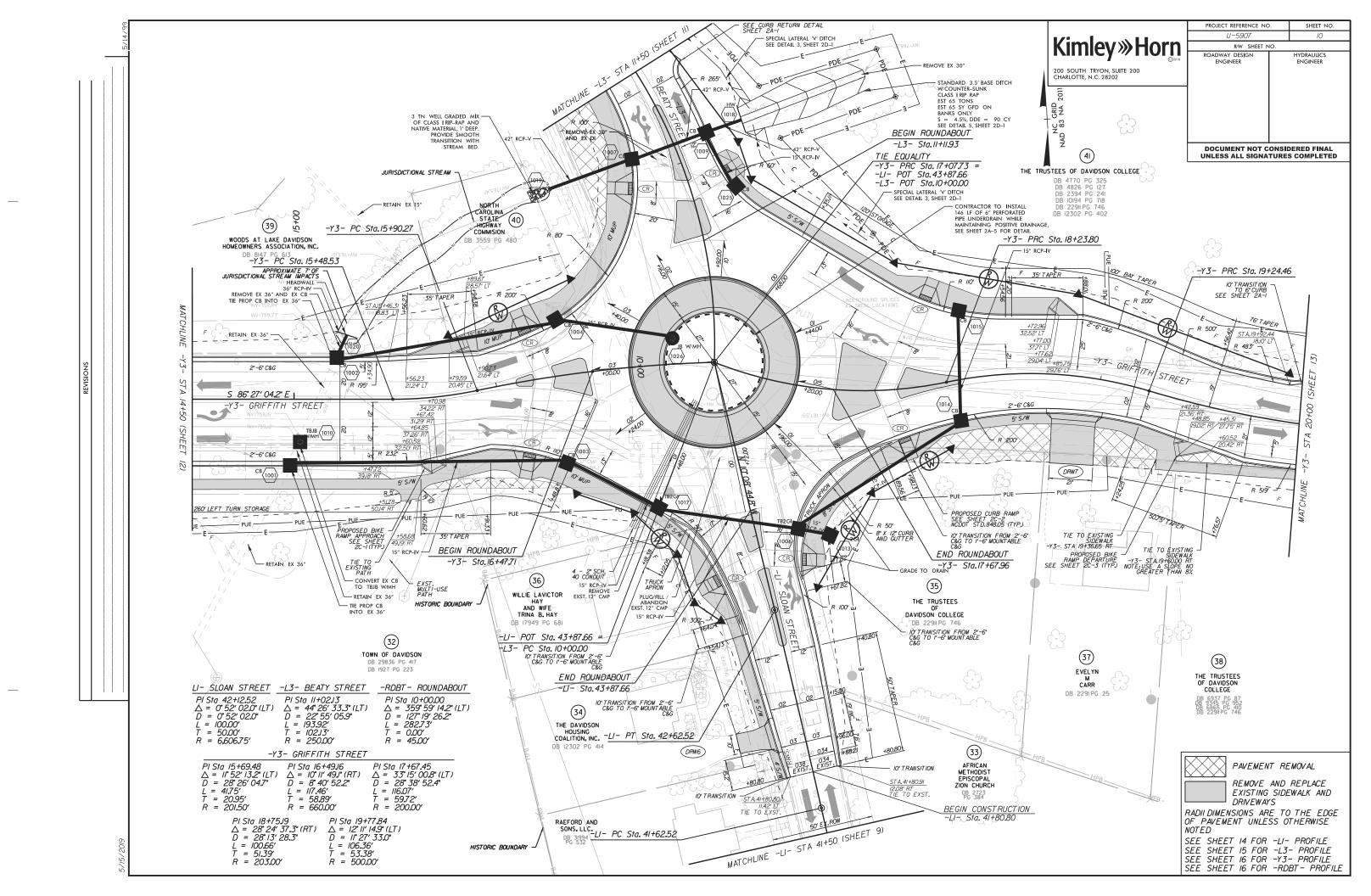


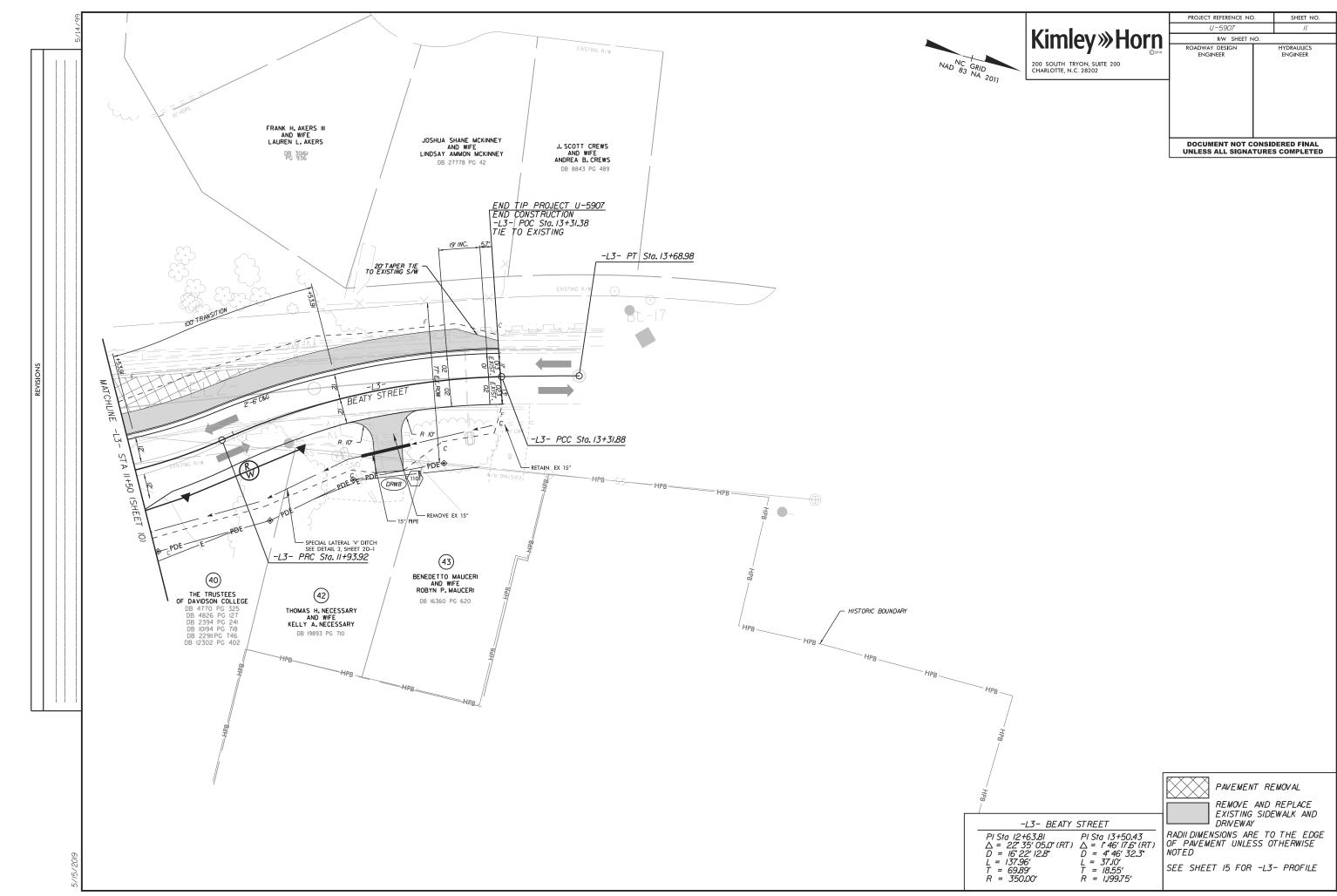






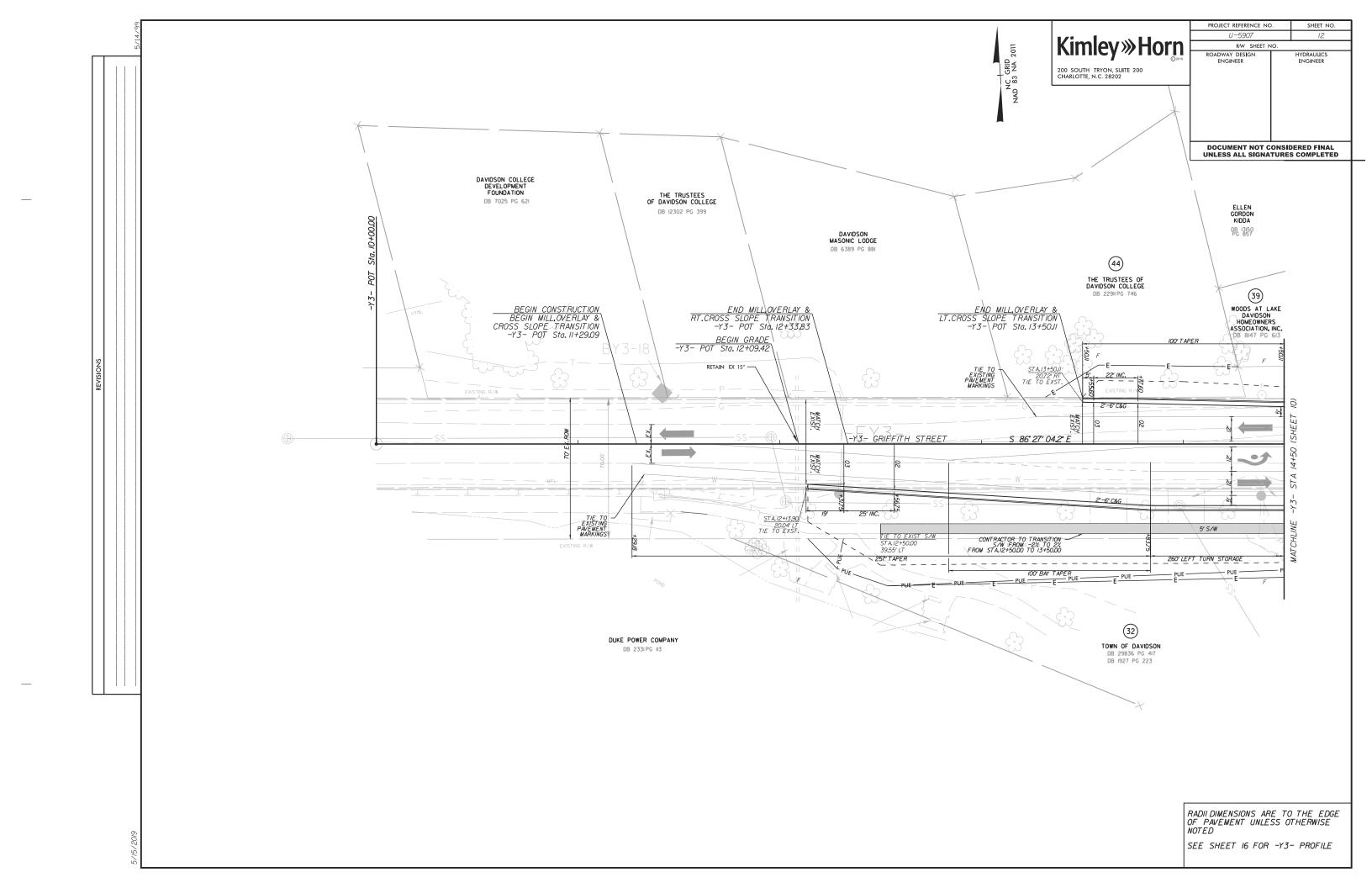


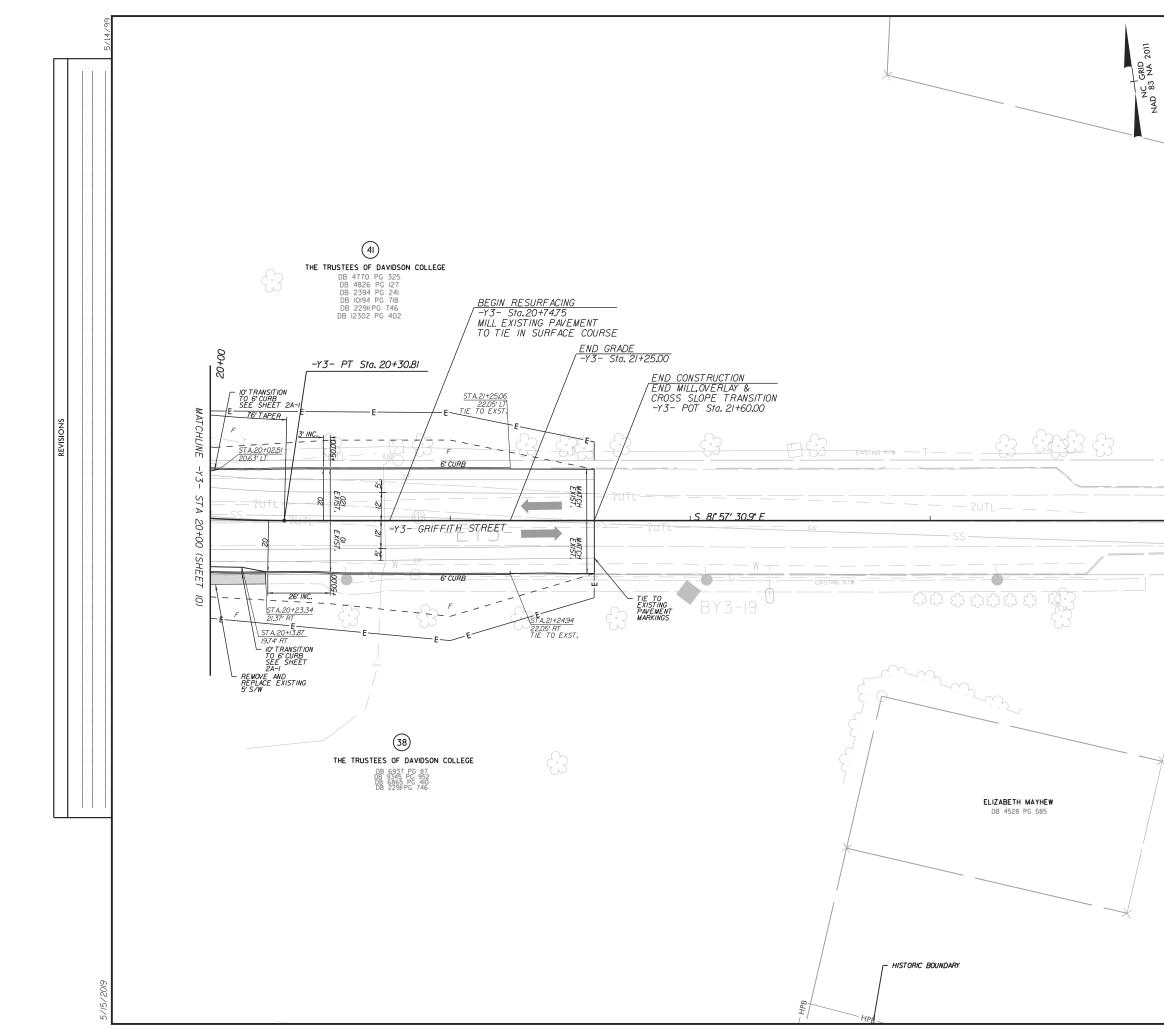




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R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



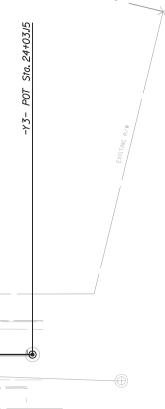




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200 SOUTH TRYON, SUITE 200 CHARLOTTE, N.C. 28202

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ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



RADII DIMENSIONS ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED

SEE SHEET 16 FOR -Y3- PROFILE

Appendix B

Historical Environmental Documents





January 3, 2018

Mr. Jordan Garrard On-Scene Coordinator U.S. Environmental Protection Agency (EPA), Region 4 61 Forsyth Street, SW, 11th Floor Atlanta, Georgia 30303

Subject:Final Davidson Asbestos Removal Action Report
Davidson, Mecklenburg County, North Carolina
EPA Contract No. EP-S4-14-03 (START IV, Region 4)
Technical Direction Document (TDD) No. TT-01-071

Dear Mr. Garrard:

The Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) submits the enclosed final removal action report for the Davidson Asbestos site in Davidson, Mecklenburg County, North Carolina. This report summarizes removal, restoration, and multimedia sampling activities conducted from May 8, 2017, through September 22, 2017.

If you have any questions about the enclosed report, please call me (Paul Prys) at (678) 775-3106 or Andrew Johnson at (678) 775-3100.

Sincerely,

Paul E. Prys II Tetra Tech START IV Project Manager

Attachments (2)

Andres Alma

Andrew F. Johnson Tetra Tech START IV Program Manager

cc: Katrina Jones, EPA Project Officer Angel Reed, Tetra Tech START IV Document Control Coordinator

FINAL DAVIDSON ASBESTOS REMOVAL ACTION REPORT

DAVIDSON ASBESTOS DAVIDSON, MECKLENBURG COUNTY, NORTH CAROLINA

Revision 0

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY Region 4, Emergency Response, Removal, and Prevention Branch 61 Forsyth Street, SW, 11th Floor Atlanta, GA 30303

Prepared by

Tetra Tech Inc. Superfund Technical Assessment and Response Team Region 4 1955 Evergreen Blvd., Building 200, Suite 300 Duluth, GA 30096



Contract No.	:	Ε
TDD No.	:	Т
Date Prepared	:	Ja
EPA OSC	:	Ν
Telephone No.	:	(4
START IV Project Manager	:	Р
Telephone No.	:	(6

EP-S4-14-03 TT-01-071 January 3, 2018 Mr. Jordan Garrard (404) 562-8642 Paul E. Prys II (678) 775-3106

Prepared by

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Paul E. Prys U Tetra Tech START IV Project Manager

Reviewed by

John Snyder Tetra Tech START IV Technical Reviewer

Approved by

Andrew F. Johnson Tetra Tech START IV Program Manager

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- A FIGURES
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- C PHOTOGRAPHIC LOG
- D LOGBOOK NOTES
- E REMOVAL ACTION STATUS REPORTS
- F ASBESTOS CERTIFICATIONS
- G MULTI-MEDIA SAMPLING SCRIBE DATABASE

ATTACHMENTS

Attachment

1 LABORATORY DATA PACKAGES

2 LABORATORY ACCREDITATION CERTIFICATES



1.0 INTRODUCTION

This report was prepared under Technical Direction Document (TDD) No. TT-01-071, which the U.S. Environmental Protection Agency (EPA), Region 4, assigned to the Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) under Contract No. EP-S4-14-03. The overall scope of this TDD, monitored by On-Scene Coordinator (OSC) Jordan Garrard, was to provide technical assistance and conduct multimedia sampling at the Davidson Asbestos site (the Site) in Davidson, Mecklenburg County, North Carolina. Additional assignments under this TDD included providing data analysis and management; project management, and preparing a final report summarizing removal, restoration, and multimedia sampling that began on May 8, 2017 and concluded on September 22, 2017.

The remainder of this report for the site is organized as follows:

- Section 2.0 presents site background information, including the site setting and history.
- Section 3.0 discusses removal action activities, including asbestos-containing materials (ACM) and associated asbestos-contaminated soil, restoration of parcels, and waste disposal.
- Section 4.0 discusses the multi-media sampling and analytical results collected from May 8 through August 22, 2017.
- Section 5.0 provides a summary for the removal action report.
- Section 6.0 provides references.
- Figures are provided in Appendix A.
- Analytical results tables for multi-media sampling are contained in Appendix B.
- The photographic log of site activities is contained in Appendix C.
- Field logbook notes are contained in Appendix D.
- Removal action status reports for each parcel are provided in Appendix E.
- The Tetra Tech asbestos training certification documentation is provided in Appendix F.
- The Scribe database containing the multi-media sampling data is provided in Appendix G.
- The laboratory data packages are provided in Attachment 1.
- The laboratory accreditation certificates are provided in Attachment 2.

2.0 SITE BACKGROUND

This section describes the site background, including its history and general setting.

2.1 SETTING

The Site is composed of 32 community and residential parcels located north, west, and south of the former asbestos mill located at 219 Depot Street in Davidson, Mecklenburg County, North Carolina. The residential parcels vary in size; the coordinates for the Site (as measured from the approximate center of



the former asbestos mill) are latitude 35.500363 degrees north and longitude 80.850329 degrees west. The former asbestos mill is surrounded by a mix of commercial and residential parcels to the north, commercial parcels to the east, and residential neighborhoods to the south and west. The nearest school, Davidson College, is located approximately 700 feet east of the Site. The nearest daycare center, Davidson-Cornelius Day Care Center, is located about 0.25 mile southwest of the Site. Figures 1 and 2 in Appendix A depict the site location and general site layout with the asbestos removal parcels identified.

2.2 SITE HISTORY

The Site was first developed around 1890 and was occupied by numerous industrial operations, including the Carolina Asbestos Company, which manufactured asbestos shingles on the Site from the 1930s to around 1960. Asbestos tailings and other asbestos-related wastes generated by the Carolina Asbestos Company reportedly were buried in a low depression (disposal area) on the western side of the Site (Ref. 1).

In February 1984, a resident found her child covered in "a whitish material" after playing in an open portion of the Site. The resident filed a complaint with the Mecklenburg County Department of Environmental Health (MCDEH). MCDEH collected 66 surface and shallow-subsurface soil samples at and in the vicinity of the Site: 62 samples on site and four samples off site. Analytical results indicated 61 of the on-site samples and all four of the off-site samples contained asbestos concentrations greater than 1 percent. MCDEH, after finding asbestos, required the then-owner to take actions to address the exposure risk associated with the Site. The parcel owner closed the disposal pond by covering it with compacted layers of soil and topped with a vegetative ground cover or capped with an asphalt parking lot. In July 1984, the MCDEH concluded that the Site complied with its requirements (Ref. 1).

In February 2002, MACTEC completed a subsurface asbestos investigation and advanced 36 borings on the Site as part of a Brownfields assessment. Based on the results of the borings, MACTEC estimated approximately 2,100 to 2,300 cubic yards of ACM were buried on the Site (Ref. 1).

In 2015, a potential developer submitted a Brownsfields Property Application and Redevelop Now application to the North Carolina Department of Environmental Quality (NCDEQ) Brownsfield Program for review, and the project was later deemed eligible. On behalf of the potential developer, Terracon collected 44 soil samples from 19 locations on the Site. Analytical results indicated that 26 of the samples contained concentrations of chrysotile asbestos at 1 percent or greater and the depth of the ACM



ranged from 1 to 10 feet below ground surface (bgs). The potential developer submitted a concept plan to NCDEQ for removing a portion of the ACM-impacted soil, installing a membrane, importing clean fill dirt, and developing the parcel (Ref. 1).

From November 1, 2016, through May 16, 2017, EPA Region 4 assessed the neighborhoods adjacent to the Site. Tetra Tech START sub-divided 93 parcels based on size, orientation, and use and collected 332 composite surface and subsurface soil samples. Analytical results for 39 of those parcels indicated asbestos at "Trace" amounts in 50 of the samples and at 0.25 percent to 1.0 percent in 18 of the samples. Soil samples reported as "Trace" indicated that the laboratory observed asbestos fibers in the sample, but at levels lower than the reporting limit of 0.25 percent asbestos. Because of the inherent uncertainty associated with the "Trace" samples, the "Trace" samples were submitted to a subcontract laboratory for fluidized bed analysis (FBA), and the results were reviewed by EPA Region 4's Scientific Support Section (SSS). Based on the FBA results, the SSS concluded that none of the areas sampled with "Trace" results presented enough risk to qualify for a removal action.

START also collected sediment samples from two locations along the waterbody receiving runoff from the former mill located on the western side of Sloan Street, and no asbestos was detected in either sample. Tetra Tech START conducted ambient air sampling around the former mill because of concerns over the possible exposure of nearby residents to airborne asbestos. No asbestos was detected in any of the samples (Ref. 1).

3.0 SITE REMOVAL AND RESTORATION ACTIVITIES

From May 8 to September 22, 2017, EPA tasked the Emergency and Rapid Response Services (ERRS) contractor, Environmental Restoration, LLC. (ER), to conduct removal and disposal of ACM and asbestos-contaminated soil and restoration of parcels that met the EPA Region 4 site-specific criteria for removal based on a recent site assessment. During this time, EPA tasked Tetra Tech START to provide personnel accredited in the State of North Carolina as asbestos inspectors, air monitors, and supervising air monitors to provide technical support, perform visual inspections during removal activities, conduct multi-media sampling, and provide photographic and logbook documentation of site conditions and removal and restoration activities. A summary of Site activities conducted during this time is discussed in the following sections; the removal action status reports for each parcel are located in Appendix E.



3.1 SITE REMOVAL ACTIVITIES

On May 8, 2017, ER began removing ACM and asbestos-contaminated soil from 32 parcels located in neighborhoods adjacent to and near the former mill site. ER used tracked excavators to remove the ACM and asbestos-contaminated soil to a depth of 1 foot bgs in the lawn of each parcel and to a depth of up to 3 inches bgs beneath the tree lines and around shrubs to minimize damage to their root systems. Hand tools were used to remove soil from around the trees and shrubs, as well as along residential drip lines, in areas not accessible to the excavators. ACM and asbestos-contaminated soil were loaded into dump trucks and transported to the staging area located at 206 Watson Street in Davidson, North Carolina, also known as the Depot Street staging area (DSSA), for future disposal. During removal activities, ER wetted the ACM and asbestos-contaminated soil with water using hoses connected to spigots located on an excavated parcel, a water buffalo, or a water truck to minimize the generation of airborne dust potentially contaminated with residual asbestos fibers.

As the areas of each parcel were excavated, a Tetra Tech START member, who is a State of North Carolina-accredited asbestos inspector and air monitor, visually inspected each excavated area. If ACM was still visible in an excavated area, ER continued removing soil until ACM was no longer visible or to a maximum depth of 3 feet bgs. ER used shovels to remove additional soil from under tree and shrub root systems and residential drip lines until ACM was no longer visible or accessible. ACM was visible under driveways and road surfaces on some parcels. ER did not remove additional soil along these areas to prevent destabilization of the footing and damaging the driveway or road. Areas where ACM was allowed to remain were documented photographically and recorded in the logbook (see Appendices C and D).

3.2 SITE RESTORATION ACTIVITIES

From May 8 through September 22, 2017, ER restored the excavated areas at each of the 32 parcels where EPA had conducted removal actions. Before the excavated areas were backfilled, ER placed orange snow fencing along the surface of the excavated areas except under the tree lines and shrubs. ER posted red "Danger Asbestos Hazard" tape over the snow fencing for those areas where ACM was still visible. The fencing and tape were placed in the excavated areas as a marker layer to inform those involved in future excavations of the depth of the EPA removal activities and potential asbestos hazards. ER used skid steers to spread backfill soil and a roller to compact the backfill. Depending on the previous surface of the excavated areas, ER installed either topsoil or rock on top of the backfill using a skid steer. Sod was



installed in the lawn and mulch was spread under the tree lines and shrubs. Crushed gravel was installed in the parking lot and driveway and compacted with a roller. ER watered the sod at each parcel for a 2week period using sprinklers attached to a spigot located at the residence, water buffalo, or water truck.

3.3 WASTE DISPOSAL ACTIVITIES

From May 15 through August 22, 2017, ER loaded the ACM and asbestos-contaminated soil from the staging area located at 206 Watson Street, also known as the DSSA, into dump trucks lined with two layers of 0.006-inch (6-mil) plastic sheeting. Prior to transport, the plastic sheeting was folded "burrito style" and sealed with spray glue. U.S. Department of Transportation (DOT) asbestos placards were affixed on the outside of each dump truck. Approximately 6,204 tons of asbestos-contaminated waste was loaded and transported to Anson County Landfill located in Polkton, North Carolina, and to Charlotte Motor Speedway Landfill located in Concord, North Carolina. Both are State of North Carolina-approved asbestos landfills.

4.0 MULTI-MEDIA SAMPLING AND ANALYTICAL RESULTS

This section discusses the multi-media sampling and analytical results obtained for perimeter air samples, post-removal soil samples, and bulk material samples collected at the Site from May 8 to August 22, 2017. The samples were collected by a Tetra Tech START member, who is a State of North Carolina-certified asbestos inspector and air sampler under the supervision of a State of North Carolina-certified supervising air monitor (SAM), accredited under 40 Code of Federal Regulations (CFR) 763 (Ref. 2) and 10A NCAC 41C .0600 (Ref. 3). All samples were analyzed by CEI Labs, Inc., located in Cary, North Carolina, using one of the following methods, as appropriate:

- National Institute of Occupational Safety and Health (NIOSH) Method 7402 (Ref. 4).
- California Environmental Protection Agency, Air Resources Board (ARB) Method 435 (CARB 435) (Ref. 5).
- EPA Method 600/R-93/116 and/or EPA Method 600/M4-82-020 (Refs. 6 and 7).

CEI Labs is accredited through the American Industrial Hygiene Association (AIHA) and the National Voluntary Laboratory Accreditation Program (NVLAP) (see Attachment 2).



4.1 SITE PERIMETER AIR SAMPLING AND ANALYTICAL RESULTS

From May 8 through August 22, 2017, Tetra Tech START conducted perimeter air sampling around each parcel during removal and disposal activities (see figures and tables in Appendix E), as weather permitted. Perimeter air sampling locations at each parcel were selected based on wind direction and removal activities. Tetra Tech START collected the perimeter air samples using Gillian AirCon 2 high volume air sampling pumps fitted with 25-millimeter (mm), 0.8-micrometer (µm) mixed cellulose ester (MCE) filter cassettes. Air samples were collected approximately 4 to 5 feet above the ground surface (to represent exposures in the breathing zone) during removal activities. Filter cassettes were placed in an approximate 45-degree downward position with the inlet caps of the filter cassettes removed (open-faced) during sampling. The air samples were collected at a flow rate resulting in collection of at least 3,850 liters of air during a work shift. (Note: Some air samples were collected at a volume of less than 3,850 liters of air during a work shift because of battery malfunctions or inclement weather, but were submitted for analysis.) The flow rates of the fully assembled air sampling trains were calibrated and recorded before and after samples were collected using a Mesa Labs Defender 510 Drycal rotameter.

The air samples were submitted to CEI Labs for Transmission Electron Microscopy (TEM) analysis using NIOSH Method 7402 (Ref. 4) in accordance with the guidelines established in 29 CFR 1926.1101 (Ref. 8). The analytical results measured the concentration of airborne asbestos fibers in the air samples, reported as a Phase Contrast Microscopy-equivalent (PCME), and used to evaluate the effectiveness of engineering and safety controls in preventing off-site migration of asbestos fibers during removal activities at each parcel and to initiate corrective actions as appropriate. EPA established the air asbestos action level for the baseline residential exposure level of 0.001 fibers per cubic centimeter (f/cc) PCME in accordance with Office of Solid Waste and Emergency Response (OSWER) Directive #9200.0-68 (Ref. 9). The TEM analytical results indicated that asbestos fiber concentrations in 175 of the 186 perimeter air samples collected were less than the limit of detection and did not exceed the air asbestos action level of 0.001 f/cc for the PCME (see Table 1 in Appendix B). The TEM analytical results also indicated that eight of the samples contained asbestos fibers and three of the samples could not be analyzed because of particulate overloading. Those analytical results are summarized as follows:

- On June 9, 2017, sample DA-DSSA-AA-L01-060917 detected 1 actinolite asbestos fiber and the PCME result below the 0.001 f/cc action level.
- On June 23, 2017, sample DA-DSSA-AA-L01-062317 detected 1 actinolite asbestos fiber and the PCME result was below the 0.001 f/cc action level.



- On July 20, 2017, sample DA-DSSA-AA-L01-072017 detected 1 chrysotile asbestos fiber and sample DA-DSSA-AA-L07-072017 detected 2 chrysotile asbestos fibers. The PCME results were 0.0025 f/cc and 0.0012 f/cc and exceeded the 0.001 f/cc action level for both samples.
- On August 4, 2017, sample DA-DSSA-AA-L01-080417 detected 1 chrysotile asbestos fiber and sample DA-DSSA-AA-L07-080417 detected 1 actinolite asbestos fiber. The PCME results were below the 0.001 f/cc action level for both samples.
- On August 18, 2017, sample DA-DSSA-AA-L06-081817 detected 1 tremolite asbestos fiber, and the PCME result was below the 0.001 f/cc action level.
- On August 22, 2017, sample DA-DSSA-AA-L01-082217 detected 1 crocidolite asbestos fiber. The PCME result was 0.0014 f/cc and exceeded the 0.001 f/cc action level.
- On July 14 and August 2, 2017, samples DA-DSSA-AA-L02-071417, DA-DSSA-AA-L02-071417, and DA-235ES-AA-L03-080217 could not be analyzed because of particulate overloading.

The EPA and ER was notified each time asbestos fibers were detected or a sample could not be analyzed. In response to these results, ER increased wetting to reduce dust levels generated during removal and disposal.

4.2 POST-REMOVAL SOIL SAMPLING AND ANALYTICAL RESULTS

From May 24 through August 22, 2017, Tetra Tech START conducted post-removal soil sampling at each of the removal parcels to document conditions at the base of the excavation prior to restoration. Tetra Tech START collected 35 composite soil samples from 32 excavated parcels, with aliquots typically collected over a period of time based on the progression of removal and restoration activities. Each sample was collected to a depth of 2 inches below the base of the excavation using a stainless steel spoon and stored in a 1-gallon resealable plastic bag. Each sample was placed in a disposable aluminum pan, thoroughly homogenized, placed into a resealable 1-quart plastic bag, and submitted to CEI Labs for analysis via CARB 435 (Ref. 9). Analytical results ranged from no asbestos detected to 0.75 percent chrysotile asbestos (see Table 2 in Appendix B).

4.3 BULK MATERIAL SAMPLING AND ANALYTICAL RESULTS

On June 6 and July 17, 2017, Tetra Tech START collected bulk material samples from two residences located near the former mill. The bulk samples were submitted to CEI Labs for analysis via polarized light microscopy (PLM) in accordance with 40 CFR 763 (Ref. 2) and EPA Test Method 600/R-93/116 or EPA Method 600/M4-82-020 (Refs. 6 and 7). Bulk material sampling and analytical results are discussed in following paragraphs.



On June 6, 2017, Tetra Tech START collected five bulk material samples from and around the exterior of the residence located at 103 Sloan Street, Davidson, North Carolina (see Figure 3 in Appendix A). The bulk material samples were composed of troweled-on white plaster material, gray exterior caulking, and white exterior caulking. Analytical results indicated no asbestos was detected in any of the bulk material samples (see Table 3 in Appendix B).

On July 17, 2017, Tetra Tech START collected one bulk material sample from a gray, clay-like, fibrous material found in the excavated area at the residence located at 201 Eden Street, Davidson, North Carolina (see Appendix E). Analytical results indicated the bulk material sample contained 65 percent chrysotile asbestos (see Table 3 in Appendix B).

5.0 SUMMARY

From May 8 to September 22, 2017, EPA and ER conducted removal and restoration at 32 parcels located in neighborhoods around the former mill site. The removal included excavation and disposal of ACM and asbestos-contaminated soil. Restoration included installation of snow fencing and asbestos hazard tape marker layer in the excavated areas and backfill, topsoil, sod, mulch, and rock, depending on the surface before excavation. Sod was watered for 2 weeks in those areas where sod was installed.

From May 8 through August 22, 2017, Tetra Tech START collected multi-media samples, including perimeter air samples, post-removal soil samples, and bulk material samples. The analytical results are summarized as follows:

- Analytical results for the 186 perimeter air samples collected indicated the following results: 175 samples had asbestos fiber concentrations less than the limit of detection and did not exceed the air asbestos action level of 0.001 f/cc; five samples showed the presence of asbestos, but the asbestos fiber concentrations did not exceed the air asbestos action level; three samples showed the presence of asbestos and exceeded the air asbestos action level; and three samples were not analyzed because of particulate overloading.
- Analytical results for the 35 post-removal soil samples collected ranged from no asbestos detected to 0.75 percent chrysotile asbestos.
- Analytical results for the six bulk material samples collected ranged from no asbestos detected to 65 percent chrysotile asbestos.

Tetra Tech START completed field activities on August 30, 2017.



6.0 **REFERENCES**

- 1. Tetra Tech, Inc. Davidson Community Asbestos Removal Assessment Letter Report, Davidson, Mecklenburg County, North Carolina. August 23, 2017.
- 2. U.S. Environmental Protection Agency (EPA). 1987. Model Accreditation Plan, 40 *Code of Federal Regulations* (CFR) 763, 40 CFR 763. December.
- 3. North Carolina Administrative Code (NCAC). 2003. Chapter 10-A, Subchapter 41C, Occupational Health, Section .0600, Asbestos Hazard Management Program. July.
- 4. National Institute for Occupational Safety and Health (NIOSH). 1994. Method 7402, Asbestos by Transmission Electron Microscopy. August.
- 5. California Environmental Protection Agency, Air Resources Board (CARB). 1991. *Method 435, Determination of Asbestos Content of Serpentine Aggregate.* Adopted June 6.
- 6. EPA. 1993. Office of Research and Development. Test Method EPA/600/R-93/116, *Method for the Determination of Asbestos in Bulk Building Materials*. July.
- 7. EPA. 1982. Office of Research and Development. Test Method 600/M4-82-020, *Interim Method for the Determination of Asbestos in Bulk Insulation Samples*. December.
- Occupational Safety and Health Administration (OSHA). 2011. Code of Federal Regulation, Title 29, Labor, Part 1926, Safety and Health Regulations for Construction, Subpart Z, Toxic and Hazardous Substances, 29 CFR 1926.1101. July.
- 9. EPA. 2008. Asbestos Committee of the Technical Review Workgroup of the Office of Solid Waste and Emergency Response (OSWER). *Framework for Investigating Asbestos-Contaminated Superfund Sites*. OSWER Directive #9200.0-68. September.



APPENDIX A

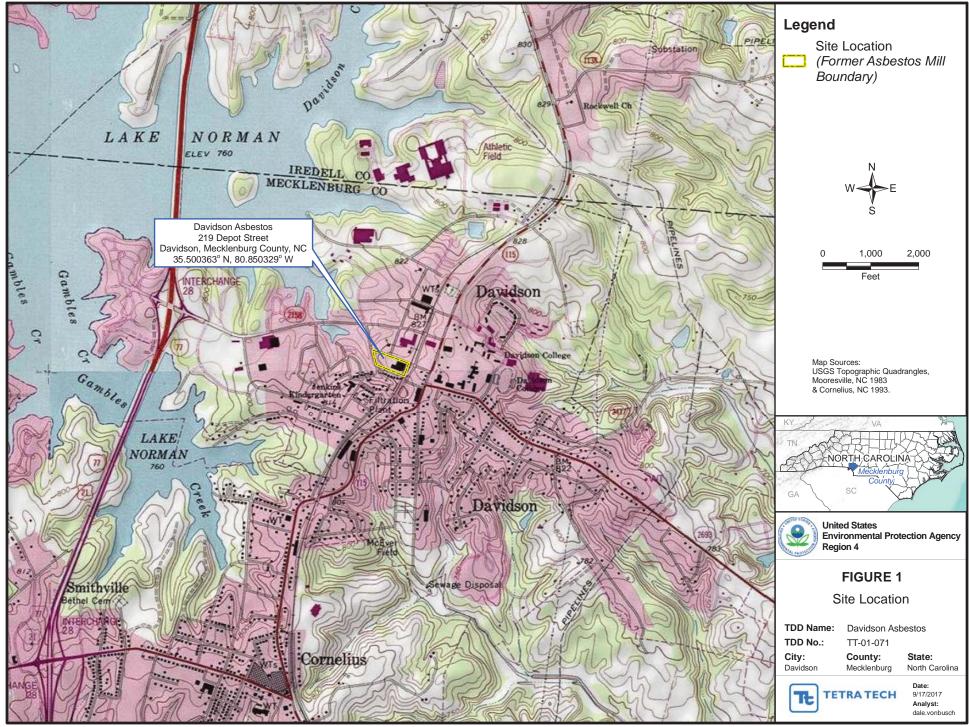
FIGURES

(Three Pages)

FIGURE

- 1 SITE LOCATION
- 2 SITE LAYOUT
- 3 BULK SAMPLING LOCATIONS 103 SLOAN STREET





File: C:\TT-01-071_Davidson_Asbestos\mxd\site_location.mxd





APPENDIX B

TABLES

(5 Pages)

TABLE

- 1 ANALYTICAL RESULTS FOR PERIMETER AIR SAMPLES
- 2 ANALYTICAL RESULTS FOR POST REMOVAL SOIL SAMPLES
- 3 ANALYTICAL RESULTS FOR BULK MATERIAL SAMPLES



TABLE 1 PERIMETER AIR SAMPLING RESULTS DAVIDSON ASBESTOS DAVIDSON, MECKLENBURG COUNTY, NORTH CAROLINA

Property Address	Property Id	PCM Results (f/cc)	Asbestos Fibers Detected	TEM Result in PCME (f/cc)
214 Depot Street	214DS	0.00052 - 0.0014	1 Tremolite asbestos fiber	<0.000052 - <0.00092
209 Watson Street	209WS	0.00061 - 0.0024	NAD	<0.000061 - <0.0024
314 Depot Street	314DS	0.00069 - 0.0021	1 Chrysotile asbestos fiber	<0.00053 - <0.0021
318 Depot Street	318DS	0.0006 - 0.0014	NAD	<0.0006 - <0.0014
302 Sloan Street	30288	0.00067 - 0.00085	NAD	<0.00019 - <0.00085
347 Griffith Street (Sloan Street - Griffith Street Intersection)	SSGS	0.0006 - 0.0013	NAD	<0.00032 - <0.0013
325 Sloan Street	32588	0.00065	NAD	<0.00016 - <0.00065
319 Sloan Street	31988	0.00059 - 0.00075	NAD	<0.00015 - <0.00066
320 Sloan Street	320SS	0.00061 - 0.0018	NAD	<0.00031 - <0.0016
218 Mock Road	218MR	0.00070	NAD	<0.00014
303 Houston Street	303HS	0.00073 - 0.00099	NAD	<0.00073 - <0.00099
132 Mock Circle	132MC	0.0013	NAD	<0.00043
115 Mock Circle	115MC	0.00065	NAD	<0.00011
215 Crane Street	215CS	0.00067 - 0.0023	NAD	<0.00067 - <0.0023
403 Potts Street	403PS	0.0013 - 0.0023	NAD	<0.0013 - <0.0023
248 Jetton Street	248JS	0.00066 - 0.0012	NAD	<0.00034 - <0.0012
110 Potts Street	110PS	0.00065 - 0.00083	NAD	<0.00065 - <0.00083
107 Potts Street	107PS	0.00064 - 0.00083	NAD	<0.00031 - <0.00065
207 Eden Street	207ES	0.00059 - 0.00086	NAD	<0.0002 - <0.00086
215 Eden Street	215ES	0.00056 - 0.00088	NAD	<0.00028 - <0.00088
201 Eden Street	201ES	0.00085 - 0.0023	NAD	<0.00028 - <0.0023
219 Eden Street	219ES	0.00066 - 0.0012	3 Chrysotile asbestos fibers	<0.00028 - 0.00072

TABLE 1 PERIMETER AIR SAMPLING RESULTS DAVIDSON ASBESTOS DAVIDSON, MECKLENBURG COUNTY, NORTH CAROLINA

Property Address	Property Id	PCM Results (f/cc)	Asbestos Fibers Detected	TEM Result in PCME (f/cc)
225 Eden Street	225ES	0.00059 - 0.0019	1 Chrysotile asbestos fiber	<0.00022 - <0.0009
229 Eden Street	229ES	0.00064 - 0.0025	NAD	<0.00032 - <0.0019
233 Eden Street	233ES	0.00066 - 0.0017	NAD	<0.00017 - <0.0017
214 Watson Street	214WS	0.0012 - 0.0019	NAD	<0.0012 - <0.0019
235 Eden Street	235ES	0.00089 - 0.0042	NAD	<0.00012 - <0.0027
206 Watson Street (Depot Street Staging Area)	DSSA	0.00053 - 0.0036	4 Chrysotile asbestos fibers,3 Actinolite asbestos fibers,1 Crocidolite asbestos fiber,1 Tremolite asbestos fiber	<0.000079 - 0.0025

Notes:

- <: Less than
- CS: Crane Street
- DA: Davidson Asbestos
- DS: Depot Street
- DSSA: Depot Street Staging Area
 - ES: Eden Street
 - f/cc: Fibers per cubic centimeter
 - HS: Houston Street
 - Id: Identification
 - JS: Jetton Street
 - MC: Mock Circle
 - MR: Mock Road
- NAD: No asbestos detected
- PCM: Phase contract microscopy
- PCME: Phase contract microscopy equivalent
 - PS: Potts Street
 - pt: Point
 - SS: Sloan Street
- TEM: Transmission electron microscopy
- WS: Watson Street

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TABLE 2 SOIL SAMPLING RESULTS DAVIDSON ASBESTOS DAVIDSON, MECKLENBURG COUNTY, NORTH CAROLINA

Sample Id	Sample Location	Date Sampled	Type of Sample	Percent Asbestos Detected By Visual Estimate	Percent Asbestos Detected By Point Count*
DA-214DS-AS-052417	214 Depot Street	5/24/2017	Composite (14 pt)	NAD	NAD
DA-209WS-AS-053117	209 Watson Street	5/31/2017	Composite (7 pt)	NAD	NAD
DA-314DS-AS-060117	314 Depot Street	6/1/2017	Composite (5 pt)	<1	Trace Chrysotile Asbestos
DA-318DS-AS-060217	318 Depot Street	6/2/2017	Composite (6 pt)	<1	Trace Chrysotile Asbestos
DA-302SS-AS-060617	302 Sloan Street	6/6/2017	Composite (12 pt)	NAD	NAD
DA-SSGS-AS-060717	347 Griffith Street (Sloan Street - Griffith Street Intersection)	6/7/2017	Composite (8 pt)	NAD	NAD
DA-325SS-AS-061217	325 Sloan Street	6/12/2017	Composite (5 pt)	NAD	NAD
DA-319SS-AS-061417	319 Sloan Street	6/14/2017	Composite (12 pt)	NAD	NAD
DA-315SS-AS-061417	315 Sloan Street	6/14/2017	Composite (5 pt)	<1	Trace Chrysotile Asbestos
DA-320SS-AS-061517	320 Sloan Street	6/15/2017	Composite (5 pt)	<1	Trace Chrysotile Asbestos
DA-218MR-AS-061917	218 Mock Road	6/19/2017	Composite (5 pt)	<1	Trace Chrysotile Asbestos
DA-303HS-AS-061917	303 Houston Street	6/19/2017	Composite (6 pt)	NAD	NAD
DA-132MC-AS-062017	132 Mock Circle	6/20/2017	Composite (6 pt)	NAD	NAD
DA-115MC-AS-062117	115 Mock Circle	6/21/2017	Composite (6 pt)	NAD	NAD
DA-226CS-AS-062117	226 Crane Street	6/21/2017	Composite (7 pt)	NAD	NAD
DA-215CS-AS-062817	215 Crane Street	6/27/2017	Composite (10 pt)	NAD	NAD
DA-403PS-AS-070617	403 Potts Street	7/6/2017	Composite (7 pt)	<1	Trace Chrysotile Asbestos
DA-248JS-AS-070817	248 Jetton Street	7/8/2017	Composite (5 pt)	NAD	NAD
DA-110PS-AS-071017	110 Potts Street	7/10/2017	Composite (10 pt)	NAD	NAD
DA-107PS-AS-071317	107 Potts Street	7/13/2017	Composite (17 pt)	<1	Trace Chrysotile Asbestos
DA-207ES-AS-071817	207 Eden Street	7/18/2017	Composite (7 pt)	<1	Trace Chrysotile Asbestos
DA-215ES-AS-071817	215 Eden Street	7/18/2017	Composite (10 pt)	NAD	NAD
DA-201ES-AS-071817	201 Eden Street	7/18/2017	Composite (7 pt)	N/A	0.25% Chrysotile Asbestos



TABLE 2 SOIL SAMPLING RESULTS DAVIDSON ASBESTOS DAVIDSON, MECKLENBURG COUNTY, NORTH CAROLINA

Sample Id	Sample Location	Date Sampled	Type of Sample	Percent Asbestos Detected By Visual Estimate	Percent Asbestos Detected By Point Count*
DA-219ES-AS-071917	219 Eden Street	7/19/2017	Composite (15 pt)	NAD	NAD
DA-225ES-AS-072617	225 Eden Street	7/26/2017	Composite (16 pt)	NAD	NAD
DA-229ES-AS-072717	229 Eden Street	7/27/2017	Composite (22 pt)	N/A	0.75% Chrysotile Asbestos
DA-233ES-AS-080417	233 Eden Street	8/4/2017	Composite (32 pt)	<1	Trace Chrysotile Asbestos
DA-303HS-AS-080717	303 Houston Street	8/7/2017	Composite (5 pt)	NAD	NAD
DA-214WS-AS-081017	214 Watson Street	8/10/2017	Composite (27 pt)	NAD	NAD
DA-235ES-AS-081517	235 Eden Street	8/15/2017	Composite (30 pt)	NAD	NAD
DA-241ES-AS-081517	241 Eden Street	8/15/2017	Composite (31 pt)	<1	Trace Chrysotile Asbestos
DA-210WSW-AS-081817	210 Wastson Street (West)	8/18/2017	Composite (28 pt)	NAD	NAD
DA-206WSW-AS-081817	206 Watson Street - West (Depot Street Staging Area)	8/18/2017	Composite (29 pt)	NAD	NAD
DA-210WSE-AS-081817	210 Wastson Street (East)	8/18/2017	Composite (16 pt)	NAD	NAD
DA-206WSE-AS-082217	206 Watson Street - East (Depot Street Staging Area)	8/22/2017	Composite (27 pt)	NAD	NAD

*Modification of the method with regards to point counting shows a results of "Trace" where asbestos is observed, but no points land on an asbestos fiber.

Notes:

<:	Less than	MC:	Mock Circle
AS:	Asbestos soil sample	MR:	Mock Road
CS:	Crane Street	NAD:	No asbestos detected
DA:	Davidson Asbestos	N/A:	Not applicable
DS:	Depot Street	PS:	Potts Street
ES:	Eden Street	pt:	Point
HS:	Houston Street	SS:	Sloan Street
Id:	Identification	WSE:	Watson Street - East side
JS:	Jetton Street	WSW:	Watson Street - West side

TABLE 3 ANALYTICAL RESULTS FOR ASBESTOS BULK SAMPLES DAVIDSON ASBESTOS DAVIDSON, MECKLENBURG COUNTY, NORTH CAROLINA

DATE SAMPLED	STREET ADDRESS	SAMPLE NUMBER	MATERIAL DESCRIPTION	ASBESTOS DETECTED BY PLM	FRIABLE	NON-ASBESTOS MATERIAL PRESENT	COMMENTS
((()))17	102 Slava Start	DA 10200 AD 01		NAD		See detailed laboratory sheet in Attachment X	103 Sloan Street - Center of south end of residence
6/6/2017	103 Sloan Street	DA-103SS-AB-01	Trowelled-On White	NAD	NA		103 Sloan Street - Southeast
6/6/2017	103 Sloan Street	DA-103SS-AB-02	Plaster Material	NAD	NA		corner of east side of residence
						See detailed laboratory	103 Sloan Street - Northeast area
6/6/2017	103 Sloan Street	DA-103SS-AB-03		NAD	NA	sheet in Attachment X	of east side of residence
6/6/2017	103 Sloan Street	DA-103SS-AB-04	Gray Exterior Caulking	NAD	NA	•	103 Sloan Street - Southwest corner of residence
6/6/2017	103 Sloan Street	DA-103SS-AB-05	White Exterior Caulking	NAD	NA	See detailed laboratory sheet in Attachment X	103 Sloan Street - Southwest corner of residence
7/17/2017	201 Eden Street	DA-201ES-AB-01	Gray Clay-like Material Fibrous Material in Soil	65% Chrysotile asbestos	NA		201 Eden Street - East side of residence

Notes:

- %: Percent
- AB: Asbestos bulk sample
- DA: Davidson Asbestos site
- ES: Eden Street
- NA: Not applicable
- NAD: No asbestos detected
- PLM: Polarized Light Microscopy
 - SS: Sloan Street

APPENDIX E

REMOVAL ACTION STATUS REPORTS

(428 Pages)

08/27/2018: Individual Property Removal Action Status Reports are uploaded individually by address to Laserfiche. JHH, DEQ Brownfields



Property Address: 347 Griffith Street, Davidson, Mecklenburg County, North Carolina

Original Asbestos Sampling Information: Surface soil samples were not collected at this property, but a visual inspection of the area verified the presence of asbestos-containing materials (ACM).

Description of Removal Action: The soil was excavated to an approximate maximum depth in the following areas: a width of 10 feet from Griffith Street to 320 Sloan Street to 12 inches; and under tree lines and around utility poles to 3 inches (see Appendix 1). Visual inspections of the excavated areas for ACM were conducted by a State of North Carolina-accredited asbestos inspector and air monitor. Additional removal was conducted in those areas where ACM were still visibly present. Once ACM was no longer visibly present, restoration of the areas was allowed to commence.

Summary of Multimedia Sampling Results: Perimeter air sampling was conducted at four stationary locations during removal activities on June 7, 2017. Air sampling locations were selected based on wind direction and removal activities. The analytical results were less than the limit of detection and ranged from less than 0.00032 fibers per cubic centimeter (f/cc) to less than 0.0013 f/cc (see Appendix 2). An eight-point composite soil sample was collected from the excavated areas before restoration began, and the analytical result indicated no asbestos detected.

Perimeter air and composite soil samples were collected by a State of North Carolina-accredited air monitor with oversight from a State of North Carolina-accredited supervising air monitor (SAM).

Restoration of Property: Restoration work included installation of snow fencing on top of the subsurface of the excavated area, backfill, topsoil, and straw or straw matting from Griffith Street to 320 Sloan Street in the excavated area, and topsoil and straw matting under tree lines and around telephone poles. All areas were restored to the original height of the surrounding grade and seeded.

Time Frame of Removal Action: Removal activities began and were completed on June 7, 2017.

- 1. Figure of removal area and air sampling locations
- 2. Table of air sampling results
- 3. Photographic log of removal activities





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TABLE 1 TRANSMISSION ELECTRON MICROSCOPY RESULTS DAVIDSON ASBESTOS DAVIDSON, MECKLENBURG COUNTY, NORTH CAROLINA

Sample Id	Location	Т	Pump	Time	Time	Total	Pump Flow Rate (lpm)			Total Sample	PCM Results	Asbestos Fibers	TEM Results in
		-	No.	Start	Stop	(Min)	Initial	Final	Average	Volume (l)	(f/cc)	Detected	PCME (f/cc)
DA-SSGS-AA-L01- 060717	Sloan Street/Griffith Street Intersection - Location 1	AA	G6	7:57	14:37	400	11.27	11.24	11.26	4502.0	0.0006	0	<0.0006
DA-SSGS-AA-L02- 060717	Sloan Street/Griffith Street Intersection - Location 2	AA	G5	7:59	14:39	400	11.19	11.20	11.20	4478.0	0.0013	0	<0.0013
DA-SSGS-AA-L03- 060717	Sloan Street/Griffith Street Intersection - Location 3	AA	G1	8:02	14:25	383	11.30	11.19	11.25	4306.8	0.00063	0	<0.00032
DA-SSGS-AA-L04- 060717	Sloan Street/Griffith Street Intersection - Location 4	AA	G4	8:04	14:04	360	11.18	11.20	11.19	4028.4	0.00073	0	< 0.00073

Notes:

<: Less than

AA: Area air sampling

DA: Davidson Asbestos

f/cc: Fibers per cubic centimeter

- Id: Identification
- l: Liters

lpm: Liters per minute

Min: Minutes

PCM: Phase contrast microscopy

PCME: Phase contrast microscopy equivalent

SSGS: Sloan Street-Griffith Street

TEM: Transmission electron microscopy

Property Address: 325 Sloan Street, Davidson, Mecklenburg County, North Carolina

Original Asbestos Sampling Information: Surface soil samples were collected at a depth of 0 to 3 inches below ground surface (bgs) and subsurface soil samples were collected at a depth of 3 to 6 inches bgs. Analytical results indicated no asbestos was detected, but a visual inspection of the driveway verified the presence of asbestos-containing materials (ACM).

		Surface Soil Results	Subsurface Soil Results
Property		(percent asbestos)	(percent asbestos)
Address	Area Sampled	0-3 inches deep	3-6 inches deep
325 Sloan Street	Around House	No Asbestos Detected	No Asbestos Detected

Description of Removal Action: The soil was excavated to an approximate maximum depth in the following areas: driveway to 12 inches; and, southern portion of front yard to 2 inches (see Appendix 1). Visual inspections of the excavated areas for ACM were conducted by a State of North Carolina-accredited asbestos inspector and air monitor. Additional removal was conducted in those areas where ACM were still visibly present. Once ACM was no longer visibly present, restoration of the excavated areas was allowed to commence.

Summary of Multimedia Sampling Results: Perimeter air sampling was conducted at two stationary locations during removal activities June 12, 2017. Air sampling locations were selected based on wind direction and removal activities. The analytical results were less than the limit of detection and ranged from less than 0.00016 fibers per cubic centimeter (f/cc) to less than 0.00065 f/cc (see Appendix 2). A five-point composite soil sample was collected from the excavated areas before restoration began, and the analytical result indicated no asbestos detected.

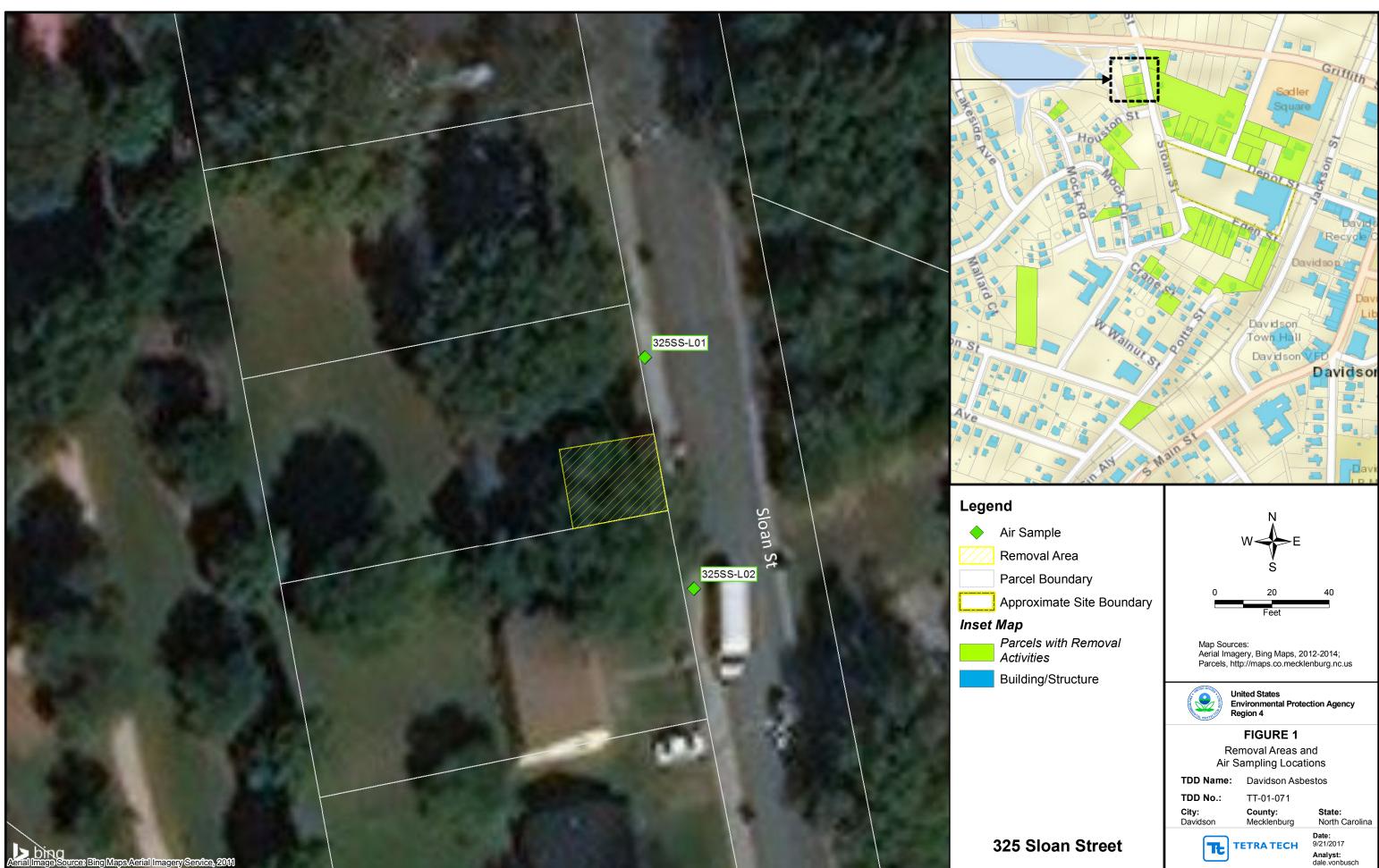
Perimeter air and composite soil samples were collected by a State of North Carolina-accredited air monitor with oversight from a State of North Carolina-accredited supervising air monitor (SAM).

Restoration of Property: Restoration work included installation of snow fencing on top of the subsurface of the area excavated, backfill and rock in the driveway, and topsoil and sod in the southern portion of the front yard. All areas were restored to the original height of the surrounding grade.

Time Frame of Removal Action: Removal activities began and were completed on June 12, 2017.

- 1. Figure of removal area and air sampling locations
- 2. Table of air sampling results
- 3. Photographic log of removal activities





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APPENDIX 2

SUMMARY TABLE OF ANALYTICAL RESULTS

(One Page)



TABLE 1 TRANSMISSION ELECTRON MICROSCOPY RESULTS DAVIDSON ASBESTOS DAVIDSON, MECKLENBURG COUNTY, NORTH CAROLINA

Sample Id	Location		Pump	Time	Time	Total (Min)	Pump Flow Rate		e (lpm)	Total Sample	PCM Results	Asbestos Fibers	TEM Results in
-			No.	Start	Stop	(Min)	Initial	Final	Average	Volume (l)	(f/cc)	Detected	PCME (f/cc)
DA-325SS-AA-L01- 061217	325 Sloan Street - Location 1	AA	G1	8:31	15:15	404	10.59	9.90	10.25	4139.0	0.00065	0	< 0.00065
DA-325SS-AA-L02- 061217	325 Sloan Street - Location 2	AA	G6	8:33	15:16	403	10.62	10.11	10.37	4177.1	0.00065	0	<0.00016

Notes:

- <: Less than
- AA: Area air sampling
- DA: Davidson Asbestos
- f/cc: Fibers per cubic centimeter
- Id: Identification
- l: Liters

lpm: Liters per minute

Min: Minutes

- PCM: Phase contrast microscopy
- PCME: Phase contrast microscopy equivalent

SS: Sloan Street

TEM: Transmission electron microscopy



Property Address: 241 Eden Street, Davidson, Mecklenburg County, North Carolina

Original Asbestos Sampling Information: Surface soil samples were not collected because asbestos-containing material (ACM) was visible at this property.

Description of Removal Action: The soil was excavated to an approximate maximum depth in the following areas: lawn to 12 inches and along the southern shed foundation; 24 inches along the southern property boundary; and the tree and shrub line areas to 3 inches (see Appendix 1). Visual inspections of the areas excavated for ACM were conducted by a State of North Carolina-accredited asbestos inspector and air monitor. Additional removal was conducted in those areas where ACM were still visibly present, except along the street and driveway and the base of the southern shed to prevent destabilization of their foundations and past the property boundary. Once ACM was no longer visibly present throughout the main portion of the excavated area, restoration was allowed to commence. The visible, remaining ACM was photographed and documented in the site logbook before restoration began.

Summary of Multimedia Sampling Results: Since removal activities at 235 and 241 Eden Street were conducted at the same time, the perimeter air sampling conducted at seven stationary locations from July 31 through August 14, 2017, encompasses both properties. Air sampling was conducted daily at one to four of those locations as weather permitted and based on wind direction and removal activities. The analytical results were less than the limit of detection and ranged from less than 0.00012 fibers per cubic centimeter (f/cc) to less than 0.0027 f/cc. Of the 13 air perimeter air samples collected, sample DA-235ES-AA-L03-080217, was not able to be analyzed because of particulate overloading (see Appendix 2). A 31-point composite soil sample was collected from the excavated areas before restoration began and the analytical result indicated no asbestos detected.

Perimeter air and composite soil samples were conducted by a State of North Carolina-accredited air monitor with oversight from a State of North Carolina-accredited supervising air monitor (SAM).

Restoration of Property: Restoration work included installation of snow fencing on top of the subsurface of the excavated lawn area, snow fencing and red "Danger Asbestos" tape near the southern shed area, backfill, topsoil, and sod in the excavated lawn areas and in portions of the southern shed area, topsoil and mulch around the tree and shrub lines, topsoil, grass seed, and straw matting along the southern hill, and snow fencing, backfill, and two types of rock in the southern shed area. All areas were restored to the original height of the surrounding grade.

Time Frame of Removal Action: Removal activities began on July 31, 2017, and were completed on August 15, 2017.

- 1. Figure of removal area and air sampling locations
- 2. Table of air sampling results
- 3. Photographic log of removal activities





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APPENDIX 2

SUMMARY TABLE OF ANALYTICAL RESULTS

(One Page)



TABLE 1 TRANSMISSION ELECTRON MICROSCOPY RESULTS DAVIDSON ASBESTOS DAVIDSON, MECKLENBURG COUNTY, NORTH CAROLINA

Sample Id	Location	Т	Pump	Time	Time	Total	Pump	Flow Rate	e (lpm)	Total Sample	PCM Results	Asbestos Fibers	TEM Results in
~~~ <b>F</b>			No.	Start	Stop	(Min)	Initial	Final	Average	Volume (l)	( <b>f/cc</b> )	Detected	PCME (f/cc)
DA-235ES-AA-L01- 073117	235 Eden Street - Location 1	AA	G6	8:33	15:26	413	10.36	10.01	10.19	4206.4	0.0037	0	< 0.00074
DA-235ES-AA-L02- 073117	235 Eden Street - Location 2	AA	G4	8:49	15:32	403	10.47	9.95	10.21	4114.6	0.0027	0	< 0.0027
DA-235ES-AA-L03- 073117	235 Eden Street - Location 3	AA	G3	8:51	15:35	404	10.55	10.29	10.42	4209.7	0.0017	0	< 0.00085
DA-235ES-AA-L02- 080117	235 Eden Street - Location 2	AA	G1	7:57	15:36	459	9.74	9.29	9.52	4367.4	0.0009	0	< 0.00015
DA-235ES-AA-L03- 080117	235 Eden Street - Location 3	AA	G3	8:00	15:39	459	9.78	9.50	9.64	4424.8	0.0021	0	< 0.0007
DA-235ES-AA-L04- 080117	235 Eden Street - Location 4	AA	G6	7:50	15:32	462	9.73	9.37	9.55	4412.1	0.00089	0	< 0.00015
DA-235ES-AA-L03- 080217	235 Eden Street - Location 3	AA	G3	8:13	15:34	441	9.68	9.73	9.71	4279.9	-	not analyze ulate overlo	
DA-235ES-AA-L05- 080217	235 Eden Street - Location 5	AA	G1	8:24	15:41	437	9.73	9.63	9.68	4230.2	0.0042	0	< 0.00053
DA-235ES-AA-L06- 080217	235 Eden Street - Location 6	AA	G6	8:41	15:51	430	10.01	10.07	10.04	4317.2	0.0033	0	< 0.00037
DA-235ES-AA-L07- 080217	235 Eden Street - Location 7	AA	G4	8:51	15:56	425	10.02	9.94	9.98	4241.5	0.0013	0	< 0.00012
DA-235ES-AA-L05- 080317	235 Eden Street - Location 5	AA	G4	7:59	15:00	421	9.64	9.72	9.68	4075.3	0.0014	0	< 0.0007
DA-235ES-AA-L02- 081417	235 Eden Street - Location 2	АА	G1	7:54	15:07	433	9.76	9.43	9.60	4154.6	0.0017	0	< 0.00043
DA-235ES-AA-L03- 081417	235 Eden Street - Location 3	AA	G3	7:56	15:05	429	9.67	9.40	9.54	4090.5	0.0019	0	< 0.00095

Notes:

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<: Less than AA: Area air sampling DA: Davidson Asbestos

ling f/cc: Fibers per cubic centimeter

Id: Identification

ES: Eden Street

l: Liters lpm: Liters per minute Min: Minutes PCM: Phase contrast microscopy

PCME: Phase contrast microscopy equivalent

TEM: Transmission electron microscopy

1 of 1

Property Address: 235 Eden Street, Davidson, Mecklenburg County, North Carolina

**Original Asbestos Sampling Information:** Surface soil samples were not collected because asbestos-containing material (ACM) was at this property.

**Description of Removal Action:** The soil was excavated to an approximate maximum depth in the following areas: lawn to 12 inches and along the residential and southern shed foundations and the tree and shrub line areas to 3 inches (see Appendix 1). Visual inspections of the areas excavated for ACM were conducted by a State of North Carolina-accredited asbestos inspector and air monitor. Additional removal was conducted in those areas where ACM were still visibly present, except along the base of the southern shed to prevent destabilization of its foundation and past the property boundary. Once ACM was no longer visibly present throughout the main portion of the excavated area, restoration was allowed to commence. The visible, remaining ACM was photographed and documented in the site logbook before restoration began.

**Summary of Multimedia Sampling Results:** Perimeter air sampling was conducted at seven stationary locations during removal activities from July 31 through August 14, 2017. Air sampling was conducted daily at one to four of those locations as weather permitted and based on wind direction and removal activities. The analytical results were less than the limit of detection and ranged from less than 0.00012 fibers per cubic centimeter (f/cc) to less than 0.0027 f/cc. Of the 13 air perimeter air samples collected, sample DA-235ES-AA-L03-080217, was not able to be analyzed because of particulate overloading (see Appendix 2). A 30-point composite soil sample was collected from the excavated areas before restoration began and the analytical result indicated no asbestos detected.

Perimeter air and composite soil samples were conducted by a State of North Carolina-accredited air monitor with oversight from a State of North Carolina-accredited supervising air monitor (SAM).

**Restoration of Property:** Restoration work included installation of snow fencing on top of the subsurface of the excavated lawn area, snow fencing and red "Danger Asbestos" tape around the southern shed area, backfill, topsoil, and sod in the excavated lawn areas and in portions of the southern shed area, topsoil and mulch around the tree and shrub lines, topsoil, grass seed, and straw matting along the southern hill, and snow fencing, backfill, and two types of rock in the in the southern shed area. All areas were restored to the original height of the surrounding grade.

**Time Frame of Removal Action:** Removal activities began on July 31, 2017, and were completed on August 15, 2017.

- 1. Figure of removal area and air sampling locations
- 2. Table of air sampling results
- 3. Photographic log of removal activities





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# **APPENDIX 2**

#### SUMMARY TABLE OF ANALYTICAL RESULTS

(One Page)



# TABLE 1 TRANSMISSION ELECTRON MICROSCOPY RESULTS DAVIDSON ASBESTOS DAVIDSON, MECKLENBURG COUNTY, NORTH CAROLINA

Sample Id	Location	Т	Pump	Time	Time	Total	Pump	Flow Rate	e (lpm)	Total Sample	PCM Results	Asbestos Fibers	TEM Results in
~~~ <b>F</b>			No.	Start	Stop	(Min)	Initial	Final	Average	Volume (l)	( <b>f/cc</b> )	Detected	PCME (f/cc)
DA-235ES-AA-L01- 073117	235 Eden Street - Location 1	AA	G6	8:33	15:26	413	10.36	10.01	10.19	4206.4	0.0037	0	< 0.00074
DA-235ES-AA-L02- 073117	235 Eden Street - Location 2	AA	G4	8:49	15:32	403	10.47	9.95	10.21	4114.6	0.0027	0	< 0.0027
DA-235ES-AA-L03- 073117	235 Eden Street - Location 3	AA	G3	8:51	15:35	404	10.55	10.29	10.42	4209.7	0.0017	0	< 0.00085
DA-235ES-AA-L02- 080117	235 Eden Street - Location 2	AA	G1	7:57	15:36	459	9.74	9.29	9.52	4367.4	0.0009	0	< 0.00015
DA-235ES-AA-L03- 080117	235 Eden Street - Location 3	AA	G3	8:00	15:39	459	9.78	9.50	9.64	4424.8	0.0021	0	< 0.0007
DA-235ES-AA-L04- 080117	235 Eden Street - Location 4	AA	G6	7:50	15:32	462	9.73	9.37	9.55	4412.1	0.00089	0	< 0.00015
DA-235ES-AA-L03- 080217	235 Eden Street - Location 3	AA	G3	8:13	15:34	441	9.68	9.73	9.71	4279.9	-	not analyze ulate overlo	
DA-235ES-AA-L05- 080217	235 Eden Street - Location 5	AA	G1	8:24	15:41	437	9.73	9.63	9.68	4230.2	0.0042	0	< 0.00053
DA-235ES-AA-L06- 080217	235 Eden Street - Location 6	AA	G6	8:41	15:51	430	10.01	10.07	10.04	4317.2	0.0033	0	< 0.00037
DA-235ES-AA-L07- 080217	235 Eden Street - Location 7	AA	G4	8:51	15:56	425	10.02	9.94	9.98	4241.5	0.0013	0	< 0.00012
DA-235ES-AA-L05- 080317	235 Eden Street - Location 5	AA	G4	7:59	15:00	421	9.64	9.72	9.68	4075.3	0.0014	0	< 0.0007
DA-235ES-AA-L02- 081417	235 Eden Street - Location 2	АА	G1	7:54	15:07	433	9.76	9.43	9.60	4154.6	0.0017	0	< 0.00043
DA-235ES-AA-L03- 081417	235 Eden Street - Location 3	AA	G3	7:56	15:05	429	9.67	9.40	9.54	4090.5	0.0019	0	< 0.00095

Notes:

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<: Less than AA: Area air sampling DA: Davidson Asbestos

ling f/cc: Fibers per cubic centimeter

Id: Identification

ES: Eden Street

l: Liters lpm: Liters per minute Min: Minutes PCM: Phase contrast microscopy

PCME: Phase contrast microscopy equivalent

TEM: Transmission electron microscopy

1 of 1

Property Address: 233 Eden Street, Davidson, Mecklenburg County, North Carolina

Original Asbestos Sampling Information: Surface soil samples were collected at a depth of 0 to 3 inches below ground surface (bgs) and subsurface soil samples were collected at a depth of 3 to 6 inches bgs. Analytical results are reported in increments of 0.25 percent asbestos.

		Surface Soil Results	Subsurface Soil Results
Property		(percent asbestos)	(percent asbestos)
Address	Area Sampled	0-3 inches deep	3-6 inches deep
233 Eden Street	Front Yard	No Asbestos Detected	0.25
255 Eden Street	Back Yard	2.0	3.75

Description of Removal Action: The soil was excavated to an approximate maximum depth in the following areas: lawn to 24 inches; northern front yard area to 6 inches; and, along the residential foundation and tree and shrub line areas to 3 inches (see Appendix 1). Visual inspections of the areas excavated for asbestos-containing materials (ACM) were conducted by a State of North Carolina-accredited asbestos inspector and air monitor. Additional soil was removed in those areas where ACM were still visibly present, except along the base of the driveway and the street to prevent destabilization of their foundations. Once ACM was no longer visibly present throughout the main portion of the excavated area, restoration was allowed to commence. The visible, remaining ACM was photographed and documented in the site logbook prior to the commencement of restoration activities. In addition, ACM and asbestos-contaminated soil was removed to a depth of 1 inch from the underneath the southern end of the residence using hand tools.

Summary of Multimedia Sampling Results: Perimeter air sampling was conducted at three stationary locations during removal activities on July 26, 2017 based on wind direction and removal activities. The analytical results were less than the limit of detection and ranged from less than 0.00017 fibers per cubic centimeter (f/cc) to less than 0.0017 f/cc (see Appendix 2). A 32-point composite soil sample was collected from the excavated areas before restoration began and the analytical result indicated a trace amount of chrysotile asbestos detected.

Perimeter air and composite soil samples were conducted by a State of North Carolina-accredited air monitor with oversight from a State of North Carolina-accredited supervising air monitor (SAM).

Restoration of Property: Restoration work included installation of snow fencing and red "Danger Asbestos" tape on top of the subsurface of the excavated area, backfill, topsoil, and sod in the excavated lawn areas, topsoil and sod in the northern front yard area, and topsoil and mulch around the tree and shrub lines. All areas were restored to the original height of the surrounding grade. Furthermore, a section of sewage pipe approximately 20 feet long was replaced in the back yard.

Time Frame of Removal Action: Removal activities began on July 25, 2017, and were completed on August 2, 2017.



- 1. Figure of removal area and air sampling locations
- 2. Table of air sampling results
- 3. Photographic log of removal activities





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APPENDIX 2

SUMMARY TABLE OF ANALYTICAL RESULTS

(One Page)



TABLE 1 TRANSMISSION ELECTRON MICROSCOPY RESULTS DAVIDSON ASBESTOS DAVIDSON, MECKLENBURG COUNTY, NORTH CAROLINA

Sample Id	Location	Т	Pump	Time	Time	Total (Min)	Pump Flow Rate (lpm)			Total Sample	PCM Results	Asbestos Fibers	TEM Results in
	-		No.	Start	Stop	(Min)	Initial	Final	Average	Volume (l)	(f/cc)	Detected	PCME (f/cc)
DA-233ES-AA-L01- 072617	233 Eden Street - Location 1	AA	G4	8:05	15:40	455	9.66	9.62	9.64	4386.2	0.001	0	< 0.00025
DA-233ES-AA-L02- 072617	233 Eden Street - Location 2	AA	G3	8:07	15:47	460	9.68	9.63	9.66	4441.3	0.00066	0	< 0.00017
DA-233ES-AA-L03- 072617	233 Eden Street - Location 3	AA	G6	8:09	15:50	461	9.63	9.67	9.65	4448.7	0.0017	0	< 0.0017

Notes:

<: Less than

AA: Area air sampling

DA: Davidson Asbestos

ES: Eden Street

f/cc: Fibers per cubic centimeter

Id: Identification

l: Liters

lpm: Liters per minute

Min: Minutes

PCM: Phase contrast microscopy

PCME: Phase contrast microscopy equivalent

TEM: Transmission electron microscopy

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Property Address: 229 Eden Street, Davidson, Mecklenburg County, North Carolina

Original Asbestos Sampling Information: Surface soil samples were collected at a depth of 0 to 3 inches below ground surface (bgs) and subsurface soil samples were collected at a depth of 3 to 6 inches bgs. Analytical results are reported in increments of 0.25 percent asbestos. Those samples with analytical results reported as "trace" (less than 0.25 percent asbestos) were further analyzed by fluidized bed analysis and reported in soil concentrations of phase contrast microcopy equivalent (PCME) structures per gram (s/g).

		Surface Soil Results	Subsurface Soil Results
Property		(percent asbestos)	(percent asbestos)
Address	Area Sampled	0-3 inches deep	3-6 inches deep
229 Eden Street	Vacant Lot	0.0 s/g	4.0

Description of Removal Action: The soil was excavated to an approximate maximum depth in the following areas: lawn to 36 inches and tree line areas to 3 inches (see Appendix 1). Visual inspections of the areas excavated for asbestos-containing materials (ACM) were conducted by a State of North Carolina-accredited asbestos inspector and air monitor. Additional removal was conducted in those areas where ACM were still visibly present, except along the base of the driveway and the street to prevent destabilization of their foundations. Once ACM was no longer visibly present throughout the main portion of the excavated area, restoration was allowed to commence. The visible, remaining ACM was photographed and documented in the site logbook before restoration began.

Summary of Multimedia Sampling Results: Perimeter air sampling was conducted at four stationary locations during removal activities from July 24 through July 25, 2017. Air sampling was conducted daily at two of those locations as weather permitted and based on wind direction and removal activities. The analytical results were less than the limit of detection and ranged from less than 0.00032 fibers per cubic centimeter (f/cc) to less than 0.0019 f/cc (See Appendix 2). A 22-point composite soil sample was collected from the excavated areas before to restoration began and the analytical result detected a soil concentration of 0.75 percent chrysotile asbestos.

Perimeter air and composite soil samples were conducted by a State of North Carolina-accredited air monitor with oversight from a State of North Carolina-accredited supervising air monitor (SAM).

Restoration of Property: Restoration work included installation of snow fencing and red "Danger Asbestos" tape on top of the subsurface of the excavated area to identify the depth of excavation and the presence of ACM, backfill, topsoil, and sod in the excavated lawn areas, and snow fencing and red "Danger Asbestos" tape around the tree line to identify the depth of removal and the presence of ACM along with breathable plastic sheeting, topsoil, and mulch. All areas were restored to the original height of the surrounding grade.



Time Frame of Removal Action: Removal activities began on July 24, 2017, and were completed on July 27, 2017.

- 1. Figure of removal area and air sampling locations
- 2. Table of air sampling results
- 3. Photographic log of removal activities





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APPENDIX 2

SUMMARY TABLE OF ANALYTICAL RESULTS

(One Page)



TABLE 1 TRANSMISSION ELECTRON MICROSCOPY RESULTS DAVIDSON ASBESTOS DAVIDSON, MECKLENBURG COUNTY, NORTH CAROLINA

Sample Id	Location	Т	Pump	Time	Time	Total	Pump Flow Rate (lpm)			Total Sample	PCM Results	Asbestos Fibers	TEM Results in
			No.	Start	Stop	(Min)	Initial	Final	Average	Volume (l)	(f/cc)	Detected	PCME (f/cc)
DA-229ES-AA-L01- 072417	229 Eden Street - Location 1	AA	G4	9:18	16:17	419	10.66	10.64	10.65	4462.4	0.0019	0	< 0.0019
DA-229ES-AA-L02- 072417	229 Eden Street - Location 2	AA	G3	9:25	16:20	415	10.73	10.58	10.66	4421.8	0.0011	0	< 0.0011
DA-229ES-AA-L03- 072517	229 Eden Street - Location 3	AA	G4	8:16	15:25	429	9.85	9.64	9.75	4180.6	0.00064	0	< 0.00032
DA-229ES-AA-L04- 072517	229 Eden Street - Location 4	AA	G6	8:18	15:29	431	9.74	9.53	9.64	4152.7	0.0025	0	< 0.00083

Notes:

- <: Less than
- AA: Area air sampling
- DA: Davidson Asbestos
- ES: Eden Street
- f/cc: Fibers per cubic centimeter
- Id: Identification

l: Liters

lpm: Liters per minute

- Min: Minutes
- PCM: Phase contrast microscopy
- PCME: Phase contrast microscopy equivalent
- TEM: Transmission electron microscopy

Property Address: 107 Potts Street, Davidson, Mecklenburg County, North Carolina

Original Asbestos Sampling Information: Surface soil samples were collected at a depth of 0 to 3 inches below ground surface (bgs) and subsurface soil samples were collected at a depth of 3 to 6 inches bgs. Analytical results are reported in increments of 0.25 percent asbestos. Those samples with analytical results reported as "trace" (less than 0.25 percent asbestos) were further analyzed by fluidized bed analysis and reported in soil concentrations of phase contrast microcopy equivalent (PCME) structures per gram (s/g) of soil.

		Surface Soil Results	Subsurface Soil Results
Property		(percent asbestos)	(percent asbestos)
Address	Area Sampled	0-3 inches deep	3-6 inches deep
107 Potts Street	Front Yard	0.0 s/g	0.25
107 Fous Street	Back Yard	No Asbestos Detected	No Asbestos Detected

Description of Removal Action: The soil was excavated to an approximate maximum depth in the following areas: lawn to 24 inches and areas around the residential drip line and a utility pole to 3 inches (see Appendix 1). Visual inspections of the areas excavated for asbestos-containing materials (ACM) were conducted by a State of North Carolina-accredited asbestos inspector and air monitor. Additional removal was conducted where ACM were still visibly present, except under Potts Street and under the water line leading to 110 Potts Street. Once ACM was no longer visibly present throughout the main property of 107 Potts Street, restoration of the excavated areas was allowed to commence. The visible ACM remaining under Potts Street and under the site logbook before restoration began.

Summary of Multimedia Sampling Results: Perimeter air sampling was conducted during removal activities from July 10 through July 11, 2017, at three stationary locations. Air sampling was conducted daily at those locations based on wind direction and removal activities. The analytical results were less than the limit of detection and ranged from less than 0.00031 fibers per cubic centimeter (f/cc) to less than 0.00065 f/cc (see Appendix 2). A 17-point composite soil sample was collected from the excavated areas before restoration began and the analytical result detected a trace amount of chrysotile asbestos.

Perimeter air and composite soil samples were collected by a State of North Carolina-accredited air monitor with oversight from a State of North Carolina-accredited supervising air monitor (SAM).

Restoration of Property: Restoration work included installation of snow fencing on top of the subsurface of the excavated area. Initially backfill, topsoil, and sod were installed in one-half of the property, and the other half of the property received backfill and rock. On August 8, 2017, ER removed a portion of the rock from the property and replaced it with topsoil and sod to comply with a City of Davidson ordinance. All areas were restored to the original height of the surrounding grade.



Time Frame of Removal Action: Removal activities began on July 10, 2017, and were completed on July 13, 2017.

- 1. Figure of removal area and air sampling locations
- 2. Table of air sampling results
- 3. Photographic log of removal activities





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APPENDIX 2

SUMMARY TABLE OF ANALYTICAL RESULTS

(One Page)



TABLE 1 TRANSMISSION ELECTRON MICROSCOPY RESULTS DAVIDSON ASBESTOS DAVIDSON, MECKLENBURG COUNTY, NORTH CAROLINA

Sample Id	Location	Т	Pump No.	-	Time Stop	Total (Min)	Pump	Flow Rate	e (lpm)	Total Sample Volume	PCM Results	Asbestos Fibers	TEM Results in PCME
			110.	Start	Stop	(101111)	Initial	Final	Average	(l)	(f/cc)	Detected	(f/cc)
DA-107PS-AA-L01-	107 Potts Street - Location												
071017	1	AA	G4	10:00	16:35	395	10.67	10.36	10.52	4153.4	0.00065	0	< 0.00065
DA-107PS-AA-L02-	107 Potts Street - Location												
071017	2	AA	G3	9:49	16:34	405	10.45	10.09	10.27	4159.4	0.00065	0	< 0.00065
DA-107PS-AA-L03-	107 Potts Street - Location												
071017	3	AA	G6	9:52	16:27	395	10.55	10.25	10.40	4108.0	0.00064	0	< 0.00064
DA-107PS-AA-L01-	107 Potts Street - Location												
071117	1	AA	G5	7:54	15:08	434	10.41	10.05	10.23	4439.8	0.00061	0	< 0.00031
DA-107PS-AA-L02-	107 Potts Street - Location												
071117	2	AA	G4	7:58	15:10	432	10.46	10.12	10.29	4445.3	0.00077	0	< 0.00039
DA-107PS-AA-L03-	107 Potts Street - Location												
071117	3	AA	G6	8:02	15:05	423	10.40	10.05	10.23	4325.2	0.00062	0	< 0.00062

Notes:

- <: Less than
- AA: Area air sampling
- DA: Davidson Asbestos
- f/cc: Fibers per cubic centimeter
- Id: Identification
- l: Liters

- lpm: Liters per minute
- Min: Minutes
- PCM: Phase contrast microscopy
- PCME: Phase contrast microscopy equivalent
 - PS: Potts Street
- TEM: Transmission electron microscopy

Property Address: 110 Potts Street, Davidson, Mecklenburg County, North Carolina

Original Asbestos Sampling Information: Surface soil samples were collected at a depth of 0 to 3 inches below ground surface (bgs) and subsurface soil samples were collected at a depth of 3 to 6 inches bgs. Analytical results are reported in increments of 0.25 percent asbestos. No asbestos was detected in analytical samples collected at the property; however, suspected asbestos-containing material (ACM) was observed in the footpath to the front door.

		Surface Soil Results	Subsurface Soil Results
Property		(percent asbestos)	(percent asbestos)
Address	Area Sampled	0-3 inches deep	3-6 inches deep
110 Potts Street	Front Yard	No Asbestos Detected	No Asbestos Detected
	Back Yard	No Asbestos Detected	No Asbestos Detected

Description of Removal Action: The soil was excavated to an approximate maximum depth of 12 inches in the lawn 2 inches around the tree and shrub line areas (see Appendix 1). Visual inspections of the areas excavated for ACM were conducted by a State of North Carolina-accredited asbestos inspector and air monitor. Additional removal was conducted in those areas where ACM were still visibly present. Once ACM was no longer visibly present, restoration of the excavated areas was allowed to commence.

Summary of Multimedia Sampling Results: Perimeter air sampling was conducted at two stationary locations during removal activities on July 10, 2017. Air sampling was conducted at these locations based on wind direction and removal activities. The analytical results were less than the limit of detection and ranged from less than 0.00065 fibers per cubic centimeter (f/cc) to less than 0.00083 f/cc (see Appendix 2). A 10-point composite soil sample was collected from the excavated areas before restoration began and the analytical result indicated no asbestos detected.

Perimeter air and composite soil samples were collected by a State of North Carolina-accredited air monitor with oversight from a State of North Carolina-accredited supervising air monitor (SAM).

Restoration of Property: Restoration work included installation of snow fencing on top of the subsurface of the excavated lawn area, backfill, topsoil, and sod in the majority of excavated lawn and tree line areas, and backfill and rock on top of the excavated lawn surface to construct a driveway along the northern portion of the area. On August 8, 2017, ER removed an approximate width of 3 feet from the northern side of the driveway and replaced it with mulch to construct a public pathway. All areas were restored to the original height of the surrounding grade.

Time Frame of Removal Action: Removal activities began on and were completed on July 10, 2017.



- 1. Figure of removal area and air sampling locations
- 2. Table of air sampling results
- 3. Photographic log of removal activities





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APPENDIX 2

SUMMARY TABLE OF ANALYTICAL RESULTS

(One Page)



TABLE 1 TRANSMISSION ELECTRON MICROSCOPY RESULTS DAVIDSON ASBESTOS DAVIDSON, MECKLENBURG COUNTY, NORTH CAROLINA

Sample Id	Location	Т	Pump	Time	Time	Total	Pump	Flow Rate	e (lpm)	Total Sample	PCM Results	Asbestos Fibers	TEM Results in	
_			No.	Start Stop		(Min)	Initial	Final	Average	Volume (l)	(f/cc)	Detected	PCME (f/cc)	
DA-110PS-AA-L01-	110 Potts Street - Location													
071017	1	AA	G1	9:26	16:12	406	10.40	9.91	10.16	4122.9	0.00083	0	< 0.00083	
DA-110PS-AA-L02-	110 Potts Street - Location													
071017	2	AA	G5	9:31	16:15	404	10.44	10.17	10.31	4163.2	0.00065	0	< 0.00065	

Notes:

- <: Less than
- AA: Area air sampling
- DA: Davidson Asbestos
- f/cc: Fibers per cubic centimeter
- Id: Identification
- l: Liters

lpm: Liters per minute

Min: Minutes

- PCM: Phase contrast microscopy
- PCME: Phase contrast microscopy equivalent

PS: Potts Street

TEM: Transmission electron microscopy

TETRA TECH

Appendix C

Public Outreach Notification and NCDHHS Correspondance



Project Update

Dear Resident or Property Owner:

The N.C. Department of Transportation is preparing to extend Potts Street to Sloan Street, and to add a multiuse trail on Potts Street from N.C. 115 to Griffith Street, and a roundabout at the Sloan Street / Griffith Street intersection.(NCDOT State Transportation Improvement Project U-5907) in Davidson. NCDOT anticipates that construction activities will begin in the Summer/Fall of 2020.

The US Environmental Protection Agency (EPA) previously identified and partially removed asbestos-impacted soil and buried asbestos-containing materials (ACMs) associated with the Davidson Asbestos Site in the area. Prior to conducting the road and sidewalk improvement activities, NCDOT's environmental consultant (Hart & Hickman, PC) will be conducting assessment activities to determine if asbestos-impacted soil and ACMs are present in proposed future NCDOT work areas.

The assessment activities will be conducted within the proposed Right of Way and Construction Easement areas along Potts Street, Sloan Street, Griffith Street and Beaty Street over a two-week period December 2019 or January 2020.

During assessment activities, precautions will be implemented to protect the public including:

- assessment activities will be conducted by trained/licensed asbestos inspectors;
- engineering controls will be utilized to limit the risk for public asbestos exposure;
- soil collection will be conducted using hand tools, etc. to minimize soil disturbance; and
- an exclusion zone will be set up at each sample location to secure the area and prevent public access during sampling activities.

Contact information:

If you would like further information about the proposed project, associated assessment activities, or the contaminants being addressed, please contact:

Sean Epperson, PE, NCDOT Division Project Team Lead 704-983-4400 <u>smepperson@ncdot.gov</u>



Project Update

Persons who do not speak English, or have a limited ability to read, speak or understand English, may receive interpretive services upon request by calling 1-800-481-6494. Aquellas personas que no hablan inglés, o tienen limitaciones para leer, hablar o entender inglés, podrían recibir servicios de interpretación si los solicitan llamando al 1-800-481-6494.



Attn: Sean Epperson NCDOT Highway Division 10 716 w. Main Street Albemarle, NC 28001



State Transportation Improvement Program

Project No. U-5907

Proposed extension of Potts Street to Sloan Street, including addition of a multiuse trail on Potts Street from N.C. 115 to Griffith Street, and addition of a roundabout at the Sloan Street / Griffith Street intersection.

Connecting people, products, and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina



ROY COOPER • Governor MANDY COHEN, MD, MPH • Secretary MARK T. BENTON • Assistant Secretary for Public Health, Division of Public Health

November 4, 2019

Mr. Matt Ingalls Senior Project Manager Hart Hickman, Inc. 2923 South Tryon Street Suite 100 Charlotte, NC 28203

NC DEPARTMENT OF

HEALTH AND HUMAN SERVICES

Subject: Phase II Asbestos Investigation for NC DOT Project in Davidson, North Carolina

Dear Mr. Ingalls:

On October 17, 2019 Mr. Gordon Box with NC DOT emailed me Hart Hickman's (H&H) proposal for the DOT project in Davidson, North Carolina. On October 21, 2019, I also met with you and staff from NC Brownfield and NC Superfund to discuss the developer's proposed project. Shortly after the meeting we discussed some of my comments regarding the sampling plan for the NC DOT project. As a follow up to our discussion my comments are as follows:

- 1. Under "Field Activities" you state H&H will have trained/licensed asbestos inspectors to conduct the soil sampling. To clarify H&H will need NC accredited asbestos inspectors on-site to determine sampling locations and oversee the collection of soil samples. The other individuals, drilling contractor, transporter of potential asbestos waste who will potentially disturb asbestos will need to meet OSHA's asbestos training requirements under the OSHA Asbestos Construction Standard.
- 2. Under "Field Activities" you state that a soil sample will be collected at 50 foot intervals and then at 100 foot intervals along Potts Street. Previous experience with sampling in this area shows that if asbestos materials are present the distribution of the asbestos is not uniform in either areas. When collecting soil samples directly from the soil, with no asphalt or concrete present, the NC accredited asbestos inspector will need to perform a thorough visual inspection to determine if samples of asbestos building materials are present and then collect samples of soil material to established depths to determine where the asbestos is no longer identified. This may mean keeping the 50 foot interval sampling plan may not work and adjustments may be needed.

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES • DIVISION OF PUBLIC HEALTH

LOCATION: 5505 Six Forks Road, Building 1, Raleigh, NC 27609 MAILING ADDRESS: 1912 Mail Service Center, Raleigh, NC 27699-1912 www.ncdhhs.gov • TEL: 919-707-5950 • FAX: 919-870-4808 Mr. Matt Ingalls Hart Hickman November 4, 2019 Page 2

> You have also stated that a soil sample will be collected at 100 foot intervals along Potts Street. The same consideration should be thought through when using an exact sampling scheme. Adjustments may be needed.

- 3. Under "Field Activities" you state that drums will be used to containerize soil cuttings, decontaminated water, plastic and PPE. NC Division of Solid Waste does not allow drums containing waste to enter the landfill for disposal. Disposal of asbestos waste or materials contaminated with asbestos are disposed of in asbestos labelled waste bags.
- After completion of the soil sampling a map will need to be created to document all 4. positive locations where asbestos was identified and the depth where the asbestos is no longer detected.

If you have any questions, please feel free to contact me at (919) 707-5972.

Sincerely,

tong adollingo

Jeffery W. Dellinger Industrial Hygiene Consultant Supervisor Health Hazards Control Unit

JWD/jwd

Gordon Box, NC DOT cc: Carolyn Minnich, NC Brownfields Miguel Alvalle, NC Superfund



Via Email

November 18, 2019

NC Department of Health and Human Services Health Hazards Control Unit 1912 Mail Service Center Raleigh, NC 27699-1912

Attention: Mr. Jeffery Dellinger

Re: Phase II Asbestos Investigation NC DOT State Project: U-5907 WBS Element No.: 46452.1.1 Mecklenburg County, Davidson, North Carolina <u>H&H Project No. ROW-603</u>

Dear Jeffery:

Thank you for providing comments in your letter (attached) dated November 4, 2019 for our proposed sampling plan described in Hart & Hickman's (H&H's) *Revised Technical and Cost Proposal* dated August 30, 2019. The Technical and Cost Proposal is for Phase II Investigation Activities to determine the potential for asbestos impacts in soil due to historical activities in the vicinity of proposed sidewalk and road improvement areas for NC DOT State Project U-5907 in Davidson, NC. Your comments are numbered and in italics below followed by H&H's response.

1. Under "Field Activities" you state H&H will have trained/licensed asbestos inspectors to conduct the soil sampling. To clarify H&H will need NC accredited asbestos inspectors on-site to determine sampling locations and oversee the collection of soil samples. The other individuals, drilling contractor, transporter of potential asbestos waste who will potentially disturb asbestos will need to meet OSHA's asbestos training requirements under OSHA Asbestos Construction Standard.

Based on your conversation with Matt Ingall's of H&H, other individuals including the coring contractor (referred to as drilling contractor above) will be required to have Two-hour Asbestos Awareness Training that is required by EPA and OSHA for maintenance/custodial staff involved in cleaning and minor maintenance tasks where asbestos containing material (ACM) may be accidentally disturbed.

2. Under "Field Activities" you state that a soil sample will be collected at 50 foot intervals and then 100 foot intervals along Potts Street. Previous experience with sampling in this area shows that if asbestos materials are present the distribution of the asbestos is not uniform in either areas. When collecting soil samples directly from the soil, with no asphalt or concrete present, the NC accredited asbestos inspector will need to perform a thorough visual inspection to determine if samples of asbestos building materials are present and then collect samples of soil material to established depths to determine where the asbestos is no longer identified. This may mean keeping the 50 foot interval sampling plan may not work and adjustments may be needed.

You have also stated that a soil sample will be collected at 100 foot intervals along Potts street. The same consideration should be thought through when using an exact sampling scheme. Adjustments may be needed.

For planning and cost estimating purposes, soil samples are proposed to be collected at approximate 50 ft intervals and 100 ft intervals (along Potts Street further from the source area). The H&H NC accredited asbestos inspector conducting the sampling activities will thoroughly inspect proposed sampling locations/areas and soil samples collected during sampling activities. If potential ACM is suspected, boring locations will be adjusted to sample ACM suspect areas. As mentioned in the sampling work plan, borings will be biased towards areas with the potential for asbestos impacts and additional samples may be collected to delineate identified areas of ACM or suspect ACM based on visual obseravation. In addition, additional sampling may be conducted to delineate soil that is impacted with asbestos based on laboratory analytical results. Please note soil samples will generally be collected within the proposed cut depth for DOT construction activities. No additional sampling will be conducted in soil borings to determine the vertical extent of impacted soil.

3. Under "Field Activities" you state that the drums will be used to containerize soil cuttings, decontaminated water, plastic and PPE. NC Division of Soild Waste does not allow drums containing waste to enter the landfill for disposal. Disposal of asbestos waste or materials contaminated with asbestos are disposed of in asbestos labelled waste bags.

Drums will be used to store soil, water, and PPE on site and for transporting the waste to the disposal facility. Plastic drum liners (waste bags) will be used in the soil and PPE drums. The drums will be transported to Waste Management's Disposal facility in Emelle, Alabama for proper disposal.

4. After completion of the soil sampling a map will need to be created to document all positive locations where asbestos was identified and the depth where the asbestos is no longer detected.

As mentioned in the work plan, a report (including figures documenting analytical results) will be prepared to document the sampling activities.

Also, as mentioned in our response to No.2 above, soil samples will generally be collected within the proposed cut depth for DOT construction activities. The intent of



Mr. Jeffery Dellinger November 18, 2019 Page 3

our sampling activities is to determine the potential for asbestos impacts within proposed NC DOT cut areas. With the exception of proposed drainage ditch areas, no additional sampling will be conducted in soil borings to determine the vertical extent of impacted soil. As discussed in the work plan, additional soil sampling will be conducted beneath the proposed cut depth near proposed drainage ditches (below proposed ditch grade level) to determine if soil is impacted at the future ditch grade and just below this interval for later demarcation of impacted soil (if encountered) during construction activities.

Should you have any questions or need additional information, please do not hesitate to contact us at (704) 586-0007.

Sincerely, *Hart & Hickman, PC*

David Graham, PG Senior Project Geologist

Attachment

Matt Bramblett

Matt Bramblett, PE Principal



Appendix D

Soil Boring Logs



	hart 🔁 hickman							Client:	NC DOT		I	BORING	S LOO	3		
								Project:	ROW-605		Boring No.					
	SMARTER	ENVI	IRONN	IENTA	L SOLU	TIONS		Address:	Davidson, N		Page:	1 of 1				
Drilling Drilling Drilling Drilling Driller: Logged	End Da Compa Method Equipm	te: ny: :	12/(H&I Har Har Rot	03/20 H nd Au nd Au pert S)19 uger					Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GratDTW During Drilling (ft):1DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):1						
DEPTH (ft)	гітногосу	R LEVEL	BORING COMPLETION	Type	COLL				SOIL/	ROCK VISUAL DESCRIPTION				SURE aldu	DEPTH (ft)	
DEF	ПТН	WATE	COMF	Sample Type	Time	Blow Counts	Recovery (ft)						PID (ppm)	Lab Sample	DEF	
0							[]	(0') SII T with a	LT with sand (ML); little medium sand, mostly silt, little clay, soft, dry, light							
								reddish-brown		eulum sanu, mosliy siit, iitlie day	, son, ary, iigni			PTS-1 (0-1)		
_								(1') Boring terr	ninated						_	
_															_	
															_	
_															_	
5															5	
0															0	
_															-	
															_	
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															_	
10															10	
N	IOTES:															

	hart 🚬 hickman							Client:	NC DOT		l	BORING	S LOO	3	
								Project:	ROW-605		Boring No.				
9	SMARTER	ENV	IRONN	IENTA	L SOLU	TIONS		Address:	Davidson, I		Page:	1 of 1			
Drilling Drilling Drilling Drilling Driller: Logged	End Da Compa Method Equipm	te: ny: :	12/(H&I Har Har Rot	03/20 H nd Au nd Au pert S)19 uger					Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GrailDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):					
H (ft)	OGY	-EVEL	NG ETION	be	COLL	1								SURE	H (ft)
DEPTH (ft)	ЛОПОНТІЛ	WATER I	BORING COMPLETION	Sample Type	Time	Blow Counts	Recovery (ft)		SOIL	ROCK VISUAL DESCRIPTION			(mqq) OIA	Lab Sample	DEPTH (ft)
0															0
_								(0') SILT with s reddish-brown (1') Boring tern		iedium sand, mostly silt, little clay	ι, soft, dry, light			PTS-2 (0-1)	_
5															5
-															-
10 N	IOTES:														10

hart <mark>ス</mark> hickman	Client: NC DOT	BORING LOG
	Project: ROW-605 Address: Davidson, NC	Boring No. PTS-3 Page: 1 of 1
Drilling Start Date:12/03/2019Drilling End Date:12/03/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft): 1.0 Boring Diameter (in): 2.00 Sampling Method(s): Grail DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft): Location (X,Y):	
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Sample Type Time DORING Completion C	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample DEPTH (ft)
	(0') Concrete: (3") (0.25') SILT with sand (ML); little medium sand, mostly silt, little light reddish-brown	0 PTS-3 (0-1) clay, soft, dry,
	(1') Boring terminated	
5		5
10 NOTES:		10

hart <mark>ನ</mark> hickman	Client: NC DOT	BORING	G LOG
	Project: ROW-605 Address: Davidson, NC	Boring No. PTS-4 Page: 1 of 1	
Drilling Start Date:12/03/2019Drilling End Date:12/03/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft): 1.0 Boring Diameter (in): 2.00 Sampling Method(s): Grat DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft): Location (X,Y):		
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION		PID (ppm) Lab Sample DEPTH (ft)
	(0) Concrete: (3") (0.25') SILT with sand (ML); little medium sand, mostly silt, little of light reddish-brown (1') Boring terminated	clay, soft, dry,	
10 NOTES:			10

	hart <mark>ನ</mark> hickman							Client:	NC DOT			BORING	6 LOC	3		
	SMARTER							Project: Address:	ROW-605 Davidson,	NC	Boring No. Page:	PTS-5 1 of 1				
Drilling Drilling Drilling Drilling Driller:	Logged By: Robert Sorgel									Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GradDTW During Drilling (ft):1DTW After Drilling (ft):1Ground Surface Elev. (ft):Location (X,Y):						
DEPTH (ft)	ГІТНОГОСУ	WATER LEVEL	BORING COMPLETION	Sample Type	COLI	Blow Counts	Recovery (ft)		SOI	/ROCK VISUAL DESCRIPTION			MEAS (mdd) OId	Lab Sample	DEPTH (ft)	
0							-	light reddish-bi	Concrete: (3") 5') SILT with sand (ML); little medium sand, mostly silt, little clay, soft, dry, t reddish-brown Boring terminated							
-	-							(1') Boring tern								
-															_	
5—	-														—5	
-	-														-	
-															_	
_															-	
10 N	NOTES:														10	

hart <mark>ನ</mark> hickman	Client: NC DOT BOI Project: ROW-605 Boring No. PT	
SMARTER ENVIRONMENTAL SOLUTIONS		of 1
Drilling Start Date:12/03/2019Drilling End Date:12/03/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GrabDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):	
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Sample Type Time Docums Countr	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample DEPTH (ft)
	(0') Concrete: (3") (0.25') SILT with sand (ML); little medium sand, mostly silt, little clay, soft, dry, light reddish-brown	0 (0-1) 0
	(1') Boring terminated	
5		
		_
10 NOTES:		10

bart	kickman	Client: NC DOT	BORING	LOG						
	NVIRONMENTAL SOLUTIONS	Project: ROW-605 Address: Davidson, NC	Boring No. PTS-7 Page: 1 of 1							
Drilling Start Date Drilling End Date Drilling Company Drilling Method: Drilling Equipmen Driller: Logged By:	e: 12/03/2019 y: H&H Hand Auger	Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GrabDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):								
DEPTH (ft) LITHOLOGY	WATER LEVEL BORING COMPLETION Sample Type Dime Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	-	PID (ppm) Lab Sample DEPTH (ft)						
0		light reddish-brown	5') SILT with sand (ML); little medium sand, mostly silt, little clay, soft, dry,							
_										
-				_						
5				5						
-										
-				_						
-										
10 NOTES:				10						

hart <mark>ನ</mark> hickman	Client: NC DOT	BORING	6 LOG
	Project: ROW-605 Address: Davidson, NC	Boring No. PTS-8 Page: 1 of 1	
Drilling Start Date:12/03/2019Drilling End Date:12/03/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft): 1.0 Boring Diameter (in): 2.00 Sampling Method(s): Grad DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft): Location (X,Y):		
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time D Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample DEPTH (ft)	
	(0) Concrete: (6") (0.5') SILT with sand (ML); little medium sand, mostly silt, little cla reddish-brown (1) Boring terminated	ay, soft, dry, light	
10 NOTES:			10

hart <mark>ನ</mark> hickman	Client: NC DOT	BORING	LOG					
	Project: ROW-605 Address: Davidson, NC	Boring No. PTS-9 Page: 1 of 1						
Drilling Start Date:12/03/2019Drilling End Date:12/03/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft): 2.0 Boring Diameter (in): 2.00 Sampling Method(s): Grat DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft): Location (X,Y):							
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	M SOIL/ROCK VISUAL DESCRIPTION						
	(0') Concrete: (12") (1') SILT with sand (ML); little medium sand, mostly silt, little clay reddish-brown (2') Boring terminated	, soft, dry, light	0 PTS-9 (1-2) 					

hart Nickman	Client: NC DOT Project: ROW-605	BORING Boring No. PTS-10						
SMARTER ENVIRONMENTAL SOLUTIONSDrilling Start Date:12/03/2019Drilling End Date:12/03/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Address: Davidson, NC Boring Depth (ft): 1.0 Boring Diameter (in): 2.00 Sampling Method(s): Grab DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft): Location (X,Y):							
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Ime Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	N SOIL/ROCK VISUAL DESCRIPTION						
	(0) Concrete: (4") (0.33') SILT with sand (ML); little medium sand, mostly silt, little o light reddish-brown (1') Boring terminated	clay, soft, dry,						
10 NOTES:			10					

	hart <mark>ನ</mark> hickman							Client: Project:	NC DOT ROW-605		Boring No.	BORING		3		
	SMARTER							Address:	Davidson	NC	Page:	1 of 1				
Drilling Drilling Drilling Drilling Driller:	Logged By: Robert Sorgel									Boring Diameter (in):	1.0 2.00 Srab					
DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	Sample Type	COLL	Blow Counts T.	Recovery (ft)		SO	L/ROCK VISUAL DESCRIPTIC	ŊŊ		MEAS (mdd) DIA	Lab Sample	DEPTH (ft)	
0								light reddish-bi	Concrete: (4") 3') SILT with sand (ML); little medium sand, mostly silt, little clay, soft, dry, reddish-brown Boring terminated							
-	-							(1') Boring tern								
-															_	
- 5—															— —_5	
-	-														-	
-															_	
_	-														-	
10															10	
r	NOTES:															

hart 葇 hickman	Client: NC DOT Project: ROW-605	BORING LOG	
SMARTER ENVIRONMENTAL SOLUTIONS	Project: ROW-605 Address: Davidson, NC	Boring No. PTS-12 Page: 1 of 1	
Drilling Start Date:12/03/2019Drilling End Date:12/03/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GradDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):	D	
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample	DEPTH (ft)
0	(0') SILT with sand (ML); little medium sand, mostly silt, little clay reddish-brown (1') Boring terminated	y, soft, dry, light	0 5 5

	hart			hic	:km	an		Client: Project:	NC DOT ROW-605		l Boring No.	BORING		3	
	5MARTER							Address:	Davidson, I	NC	Page:	1 of 1			
Drilling Start Date:12/03/2019Boring Depth (ft):1.0Drilling End Date:12/03/2019Boring Diameter (in):2.00Drilling Company:H&HSampling Method(s):GrabDrilling Method:Hand AugerDTW During Drilling (ft):Drilling Equipment:Hand AugerDTW After Drilling (ft):Driller:Robert SorgelGround Surface Elev. (ft):Logged By:Robert SorgelLocation (X,Y):															
DEPTH (ft)	ГІТНОГОСУ	WATER LEVEL	BORING COMPLETION	Sample Type	COLL	Blow Counts	Recovery (ft)		SOIL/ROCK VISUAL DESCRIPTION						DEPTH (ft)
0 - 5 10								(0') SILT with s reddish-brown (1') Boring term		ne-medium sand, mostly silt, little	e clay, soft, dry, lig	ht		PTS- 13 (0- 1)	0
N	IOTES:														

	Client: NC DOT Project: ROW-605 Address: Davidson, NC	BORING Boring No. PTS-14 Page: 1 of 1	
Drilling Start Date:12/03/2019Drilling End Date:12/03/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	- ugo: - ci i		
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample DEPTH (ft)	
	(0') Asphalt: (3") (0.25') SILT with sand (ML); little medium sand, mostly silt, little of light reddish-brown (1') Boring terminated	clay, soft, dry,	
NOTES:			10

hart 葇 hickman	Client: NC DOT Project: ROW-605	BORING LOG Boring No. PTS-15
SMARTER ENVIRONMENTAL SOLUTIONS	Address: Davidson, NC	Page: 1 of 1
Drilling Start Date:12/03/2019Drilling End Date:12/03/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GradDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):	
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample DEPTH (ft)
0	(0') SILT with sand (ML); little medium sand, mostly silt, little clay reddish-brown (1') Boring terminated	o soft, dry, light

	hart < hickman					20		Client:	NC DOT			BORING		6	
								Project: Address:	ROW-605 Davidson, l	NC	Boring No. Page:	PTS-16 1 of 1	i		
Drilling Start Date:12/03/2019Boring Depth (ft):1.0Drilling End Date:12/03/2019Boring Diameter (in):2.0Drilling Company:H&HSampling Method(s):GradDrilling Method:Hand AugerDTW During Drilling (ft):DTW After Drilling (ft):Drilling Equipment:Hand AugerDTW After Drilling (ft):DTW After Drilling (ft):Driller:Robert SorgelGround Surface Elev. (ft):Location (X,Y):															
DEPTH (ft)	ГІТНОГОЄУ	WATER LEVEL	BORING COMPLETION	Sample Type	COLL	Blow Counts	Recovery (ft)		SOIL/ROCK VISUAL DESCRIPTION						DEPTH (ft)
0 5 10								(0') SILT with s reddish-brown (1') Boring term		edium sand, mostly silt, little clay	, soft, dry, light			PTS- 16 (0- 1)	5
	NOTES:														

	hart			hic	lum	22		Client:	NC DOT			BORING		6	
								Project: Address:	ROW-605 Davidson, I		Boring No. Page:	PTS-17 1 of 1	,		
Drilling Start Date:12/03/2019Boring Depth (ft):1.0Drilling End Date:12/03/2019Boring Diameter (in):2.00Drilling Company:H&HSampling Method(s):GrabDrilling Method:Hand AugerDTW During Drilling (ft):Total (ft):Drilling Equipment:Hand AugerDTW After Drilling (ft):Total (ft):Driller:Robert SorgelGround Surface Elev. (ft):Location (X,Y):															
DEPTH (ft)	ГІТНОГОЄУ	WATER LEVEL	BORING COMPLETION	Sample Type	Time	Blow Counts	Recovery (ft)		SOIL/ROCK VISUAL DESCRIPTION						DEPTH (ft)
0 - - - - - - - - - - - - - - - - -	NOTES:							(0') SILT with s reddish-brown (1') Boring term		edium sand, mostly silt, little clay	r, soft, dry, light			PTS- 17 (0- 1)	5

	hart <mark>ನ</mark> hickman						Client:	NC DOT			BORING		
							Project: Address:	ROW-605 Davidson,	NC	Boring No. Page:	PTS-18 1 of 1		
Drilling Drilling Drilling Drilling Driller: Logged	End Da Compa Method Equipm	te: 1 ny: F : F ent: F	2/03/2 I&H Iand A Iand A Robert	019 luger			<u> </u>		Boring Depth (ft):2.Boring Diameter (in):2.				
DEPTH (ft)	ГІТНОГОСУ	WATER LEVEL BORING	COMPLETION Sample Type	LIOO	Blow Counts	Recovery (ft)		SOII	/ROCK VISUAL DESCRIPTIOI	J		MEASU (mdd) OId	Lab Sample ਸ਼ DEPTH (ft)
0 - - - - - - - - - - - - - - - - -							(0') SILT with s reddish-brown		nedium sand, mostly silt, little c	ay, soft, dry, light			0 PTS- 8 (0- 1) PTS- 8 (1- 2) - - - - - - - - - - - - -

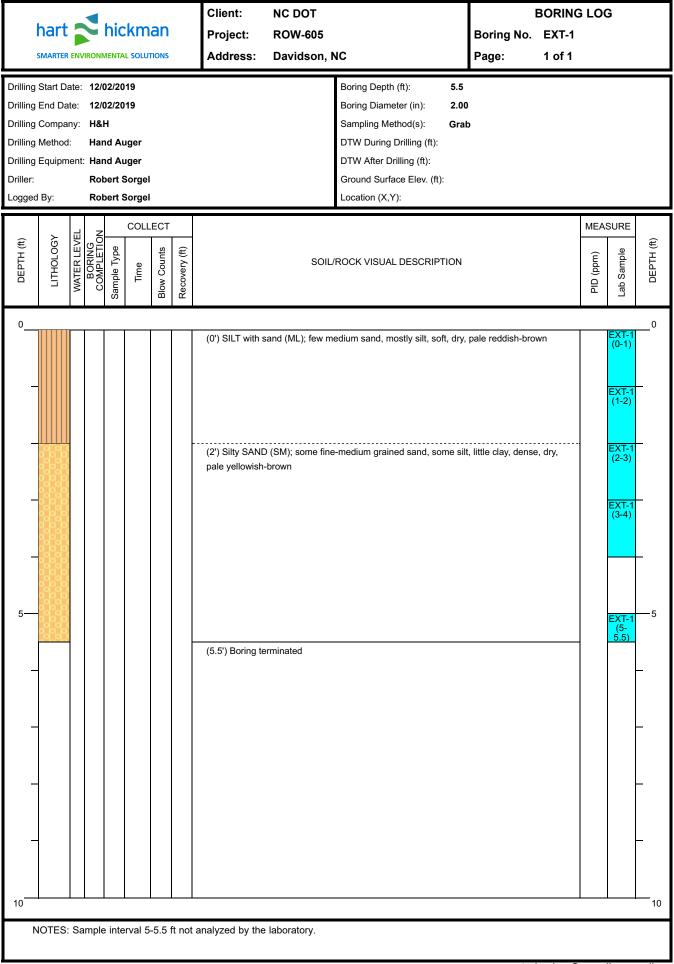
L	hart <mark>ನ</mark> hickman						Client:	NC DOT			BORING			
							Project: Address:	ROW-605 Davidson,	NC	Boring No. Page:	PTS-19 1 of 1			
Drilling S Drilling E Drilling C Drilling N Drilling E Driller: Logged I	End Da Compai Aethod Equipm	te: 1 ny: H : H ent: H R	2/03/20 &H and A and A obert)19 uger			<u> </u>		Boring Depth (ft):2Boring Diameter (in):2	.0 .00 rab				
DEPTH (ft)	LITHOLOGY	WATER LEVEL BORING	COMPLETION Sample Type	COLI	Blow Counts	Recovery (ft)		SOI	/ROCK VISUAL DESCRIPTIC	Ν		MEAS (mdd) OId		DEPTH (ft)
0	DTES:						(0') SILT with s reddish-brown		medium sand, mostly silt, little o	day, soft, dry, light			PTS- 19 (0- 1) PTS- 9 (1- 2)	_0 10

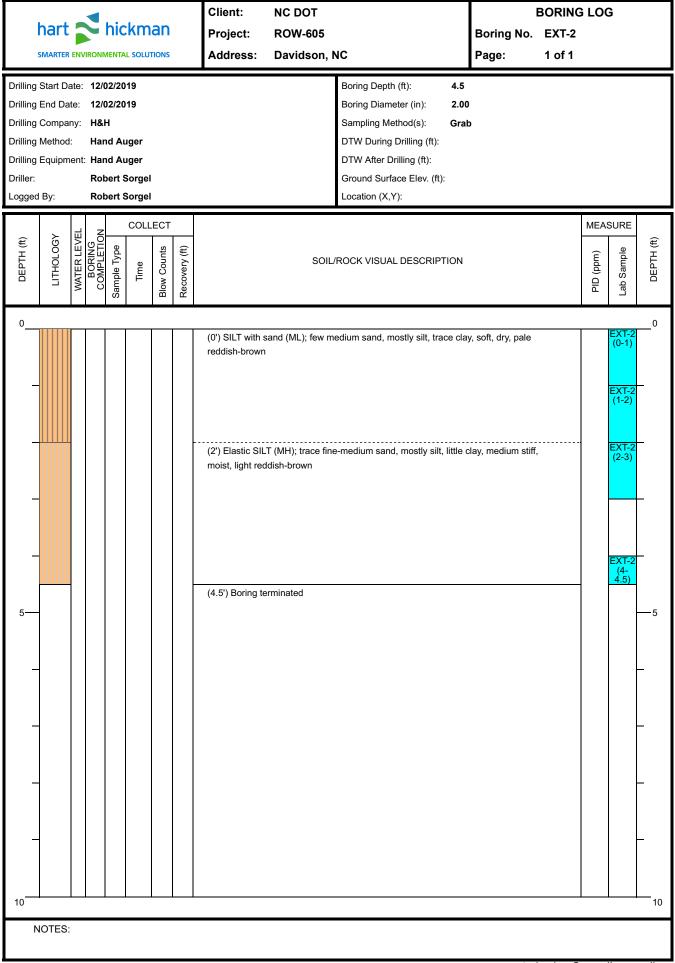
hart <mark>ನ</mark> hickman	Client: NC DOT	BORING LOG
	Project: ROW-605 Address: Davidson, NC	Boring No. PTS-20 Page: 1 of 1
Drilling Start Date:12/03/2019Drilling End Date:12/03/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft): 2.0 Boring Diameter (in): 2.00 Sampling Method(s): Grat DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft): Location (X,Y):	
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) MEVARDA
0	(0') SILT with sand (ML); little medium sand, mostly silt, little clay reddish-brown (2') Boring terminated	n, soft, dry, light 0 r, soft, dry, light 0 PTS- 20 (1- 2) 0 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5

hart <mark>ನ</mark> hickman	Client: NC DOT	BORING	
	Project: ROW-605 Address: Davidson, NC	Boring No. PTS-21 Page: 1 of 1	
Drilling Start Date:12/03/2019Drilling End Date:12/03/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft): 2.0 Boring Diameter (in): 2.00 Sampling Method(s): Grat DTW During Drilling (ft): 0 DTW After Drilling (ft): 0 Ground Surface Elev. (ft): Location (X,Y):		
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Ime Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION		PID (ppm) Lab Sample DEPTH (ft)
0	(0') SILT with sand (ML); little medium sand, mostly silt, little clay reddish-brown (2') Boring terminated	, soft, dry, light	0 PTS- 21 (0- 1) PTS- 21 (1- 2) 5 5 5

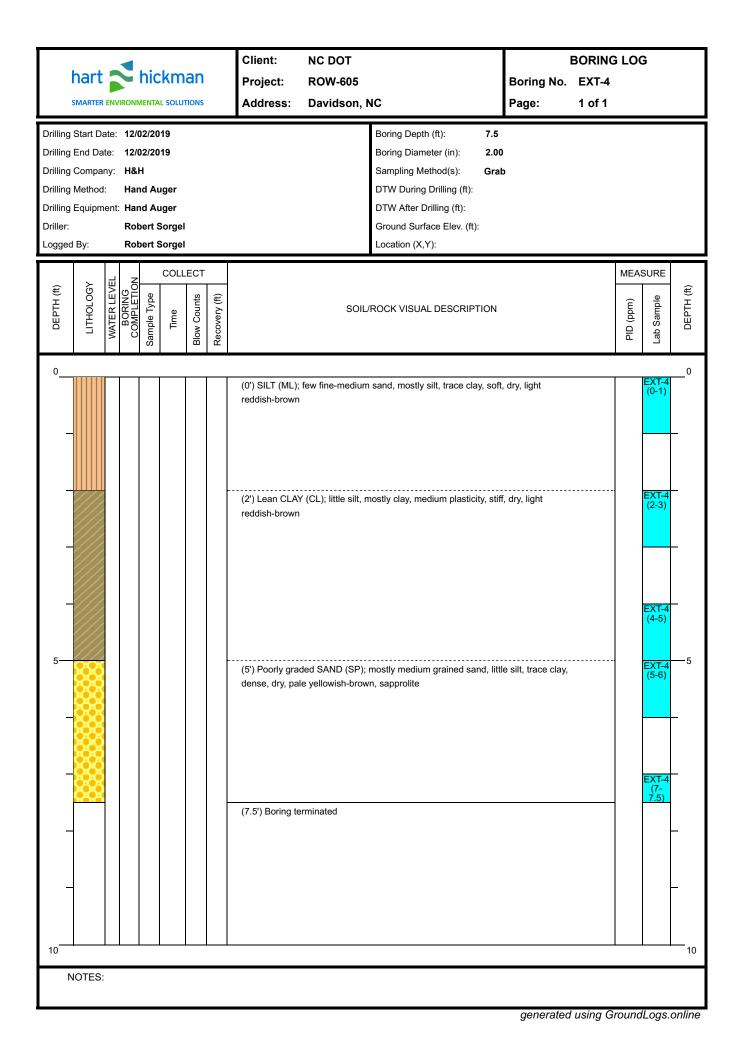
b	hart <mark>ನ</mark> hickman						Client:	NC DOT			BORING		
							Project: Address:	ROW-605 Davidson,	NC	Boring No. Page:	PTS-22 1 of 1		
Drilling Sta Drilling En Drilling Co Drilling Me Drilling Eq Driller: Logged By	nd Date: ompany: ethod: quipmen	12/0 H& Har t: Har Rol	03/20 H nd Au nd Au bert S	19 Iger					Boring Depth (ft):2.0Boring Diameter (in):2.0Sampling Diameter (in):2.0Sampling Method(s):GradDTW During Drilling (ft):5DTW After Drilling (ft):6Ground Surface Elev. (ft):1Location (X,Y):5	0	-		
DEPTH (ft)	LITHOLOGY WATER I EVEL	BORING COMPLETION	Sample Type	Time	Blow Counts T	Recovery (ft)		SOI	/ROCK VISUAL DESCRIPTION			MEASU (mdd) CId	Lab Sample N DEPTH (ft)
0	TES:						(0') SILT with s reddish-brown		nedium sand, mostly silt, little cla	y, soft, dry, light			0 2 (0- 1) 2 (1- 2) 7TS- 2 (1- 2) - - - - - - - - - - - - - - - - - -

hart <mark>ನ</mark> hickman	Client: NC DOT Project: ROW-605	BORING LOG Boring No. PTS-23						
SMARTER ENVIRONMENTAL SOLUTIONS	Address: Davidson, NC	Page: 1 of 1						
Drilling Start Date:12/03/2019Boring Depth (ft):1.0Drilling End Date:12/03/2019Boring Diameter (in):2.00Drilling Company:H&HSampling Method(s):GrabDrilling Method:Hand AugerDTW During Drilling (ft):Sampling Method(s):Drilling Equipment:Hand AugerDTW After Drilling (ft):Driller:Robert SorgelGround Surface Elev. (ft):Logged By:Robert SorgelLocation (X,Y):								
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Sample Type Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample DEPTH (ft)						
	(0') Concrete: (3") (0.3') SILT with sand (ML); little fine-medium sand, mostly silt, litt reddish-brown (1') Boring terminated							
10 NOTES:		10						

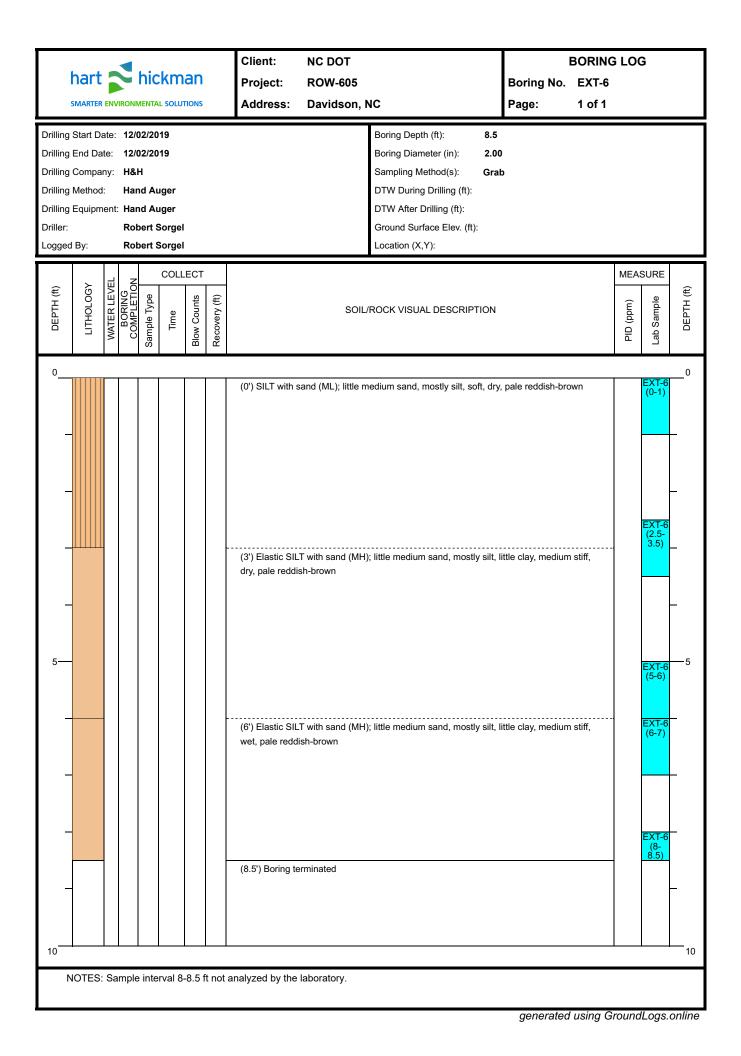




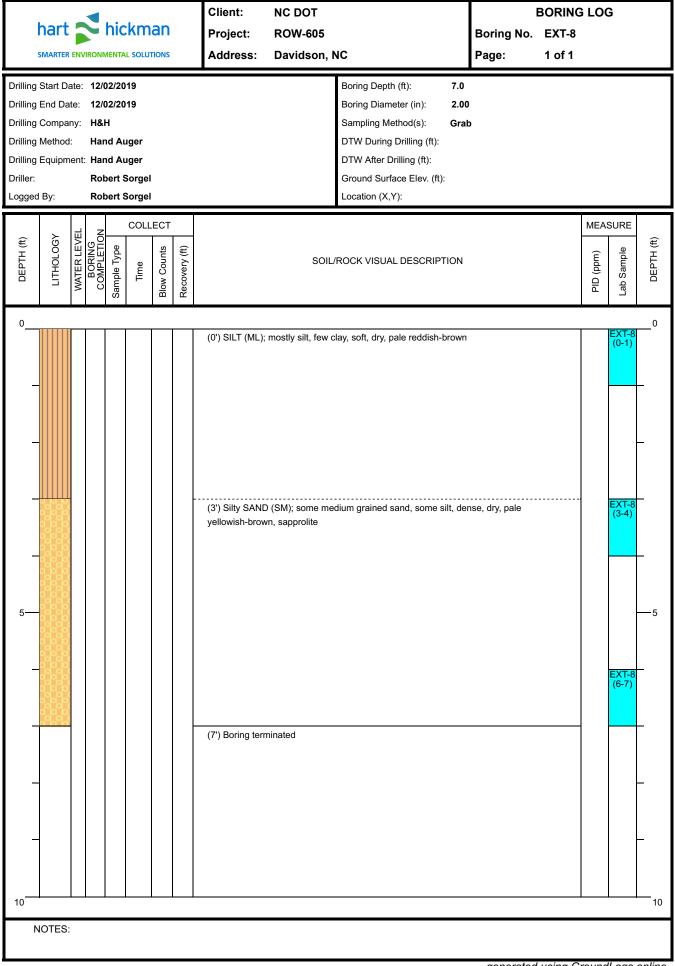
hart hickman	Client: NC DOT Project: ROW-605 Address: Davidson, NC	BORING LOG Boring No. EXT-3 Page: 1 of 1
Drilling Start Date:12/02/2019Drilling End Date:12/02/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):7.0Boring Diameter (in):2.00Sampling Method(s):GrahDTW During Drilling (ft):1DTW After Drilling (ft):1Ground Surface Elev. (ft):Location (X,Y):	
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time Blow Counts Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	MEASURE Lab Sample DEPTH (ft)
	(0') SILT (ML); few fine-medium sand, mostly silt, few clay, soft, c (2') Lean CLAY (CL); trace fine sand, few silt, mostly clay, medium pale reddish-brown (4.5') Poorly graded SAND (SP); mostly fine-medium grained san clay, very dense, dry, pale yellowish-brown, sapprolite (7') Boring terminated	EXT-3 (1.5- 2.5) m plasticity, stiff, dry, EXT-3 (3.5- 4.5)
NOTES: Sample interval 6.5-7 ft not an	nalyzed by the laboratory.	aenerated using GroundLoas.online

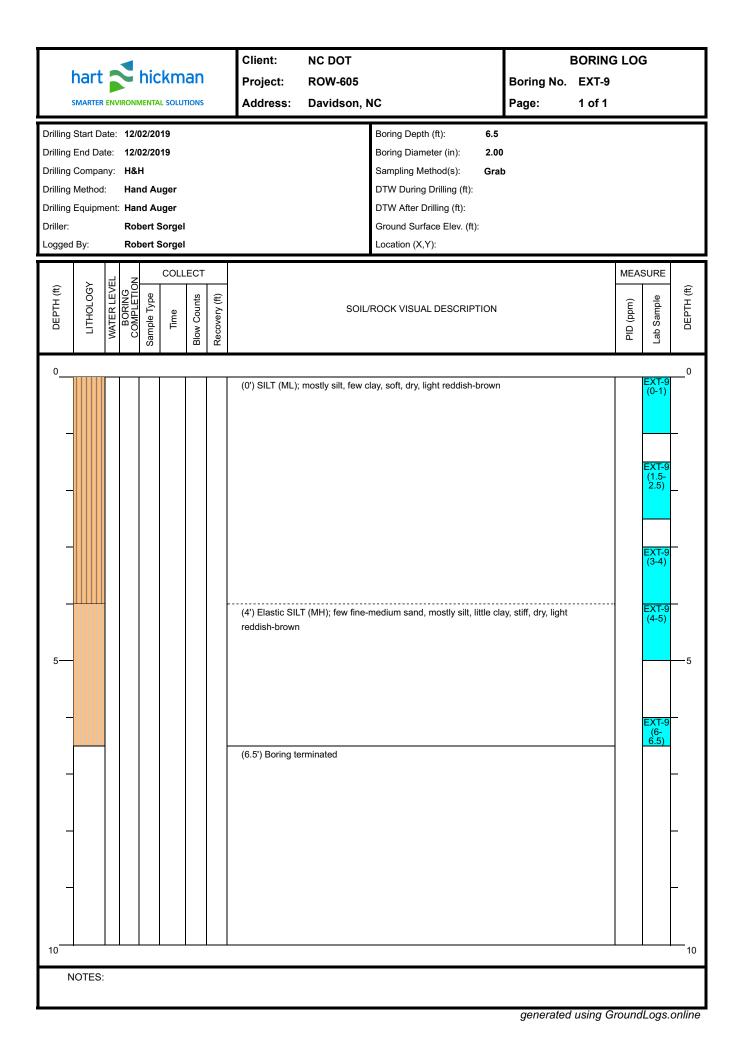


hart hickman	Client:NC DOTBORING LOGProject:ROW-605Boring No. EXT-5Address:Davidson, NCPage:1 of 1			
Drilling Start Date:12/02/2019Drilling End Date:12/02/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):8.0Boring Diameter (in):2.00Sampling Method(s):GrabDTW During Drilling (ft):1DTW After Drilling (ft):5Ground Surface Elev. (ft):Location (X,Y):			
DEPTH (ft) LITHOLOGY WATER LEVEL COMPURING COMPLETION Sample Type Sample Type DO Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample DEPTH (ft)		
	 (0') SILT (ML); mostly silt, little clay, soft, dry, pale reddish-brown (2.5') SILT (ML); little fine-medium sand, mostly silt, few clay, med reddish-brown (4') Poorly graded SAND (SP); mostly medium grained sand, little dry, pale yellowish-brown, sapprolite (7') Poorly graded SAND (SP); mostly medium grained sand, few dense, dry, pale yellowish-brown, sapprolite (8') Boring terminated 	dium stiff, dry, pale		
10 NOTES:		10		



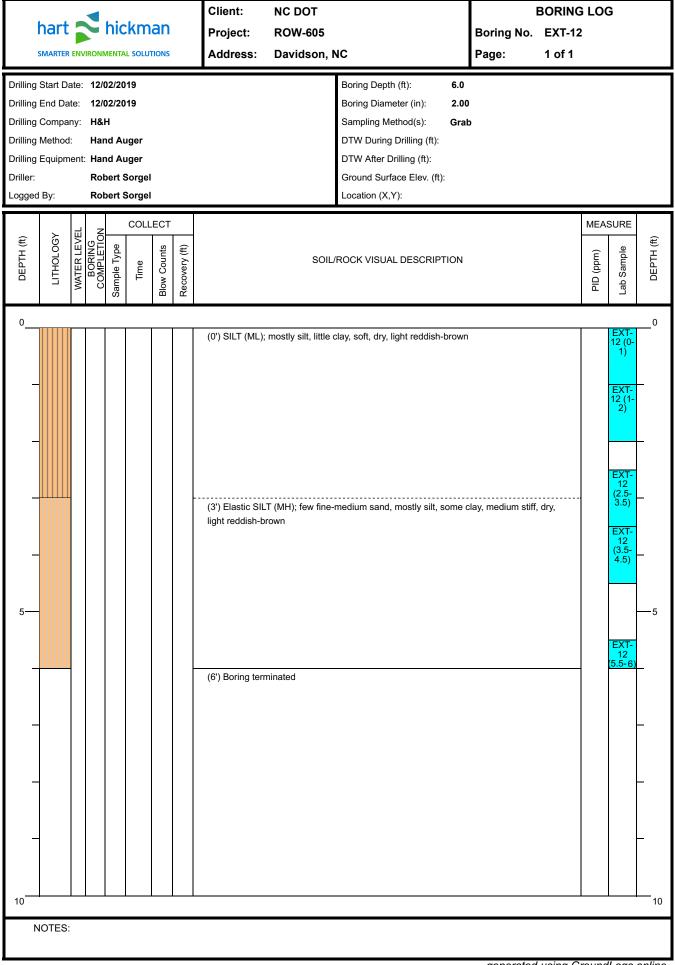
hart hickman	Client:NC DOTBORING LOGProject:ROW-605Boring No. EXT-7Address:Davidson, NCPage:1 of 1				
Drilling Start Date:12/02/2019Drilling End Date:12/02/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):6.5Boring Diameter (in):2.00Sampling Method(s):GraitDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):				
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time Diamona Completion Sample Type Blow Counts Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) MEVADA Lab Sample DEPTH (ft)			
	 (0') SILT (ML); trace fine-medium sand, mostly silt, few clay, soft reddish-brown (1') Sandy SILT (ML); some medium sand, mostly silt, stiff, dry, p (2.5') Silty SAND (SM); mostly medium grained sand, little silt, dry yellowish-brown, sapprolite (4.5') Poorly graded SAND with silt (SP-SM); mostly medium gradense, dry, pale yellowish-brown, sapprolite (6.5') Boring terminated 	ense, dry, pale EXT-7 (3-4) EXT-7 (3-4) EXT-7 (4-5)			
10 NOTES: Sample interval 6-6.5 ft not ar	nalyzed by the laboratory.	10 generated using GroundLogs.online			



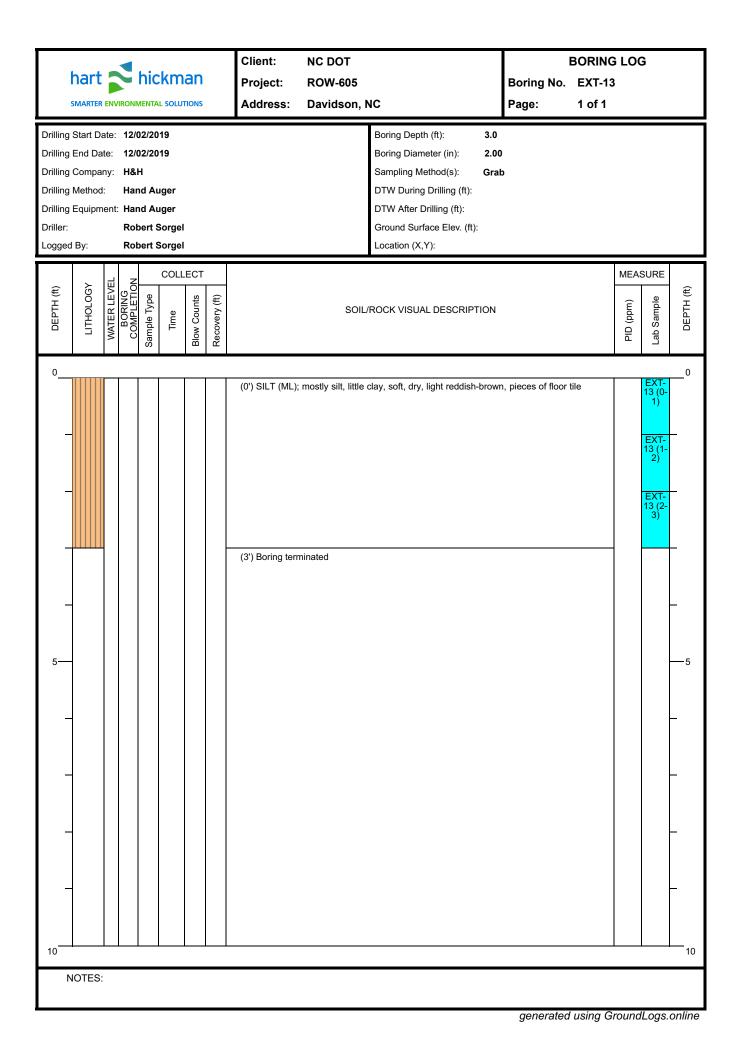


hart hickman	Client:NC DOTBORIProject:ROW-605Boring No.EXTAddress:Davidson, NCPage:1 of	
Drilling Start Date:12/02/2019Drilling End Date:12/02/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):6.5Boring Diameter (in):2.00Sampling Method(s):GrabDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):	
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample DEPTH (ft)
	 (0') SILT (ML); few fine-medium sand, mostly silt, few clay, soft, moist, light reddish-brown (3') Fat CLAY (CH); few fine-medium sand, some silt, mostly clay, high plasticity, very stiff, wet, light yellowish-brown (5') Silty SAND (SM); mostly medium grained sand, little silt, little clay, very dense, moist, light yellowish-brown 	EXT- 10 (0- 1) EXT- 10 (1.5- 2.5) EXT- 10 (3- 4) EXT- 10 (4- 5) 5
	(6.5') Boring terminated	EXT- 10 (6- 6.5)

hart hickman	Project:ROW-605Boring No.EXAddress:Davidson, NCPage:1 c	RING LOG T-11 of 1
Drilling Start Date:12/02/2019Drilling End Date:12/02/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):4.0Boring Diameter (in):2.00Sampling Method(s):GrabDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):	
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample DEPTH (ft)
	 (0') SILT (ML); mostly silt, few clay, soft, dry, light reddish-brown (1.5') Lean CLAY (CL); few fine-medium sand, some silt, mostly clay, medium plasticity stiff, moist, light reddish-brown (3') Lean CLAY (CL); little silt, mostly clay, medium plasticity, very stiff, wet, light reddish-brown (4') Boring terminated 	0 EXT- 11 (0- 1) EXT- 11. (1.5- 2.5) EXT- 11 (3- 4) 5



generated using GroundLogs.online



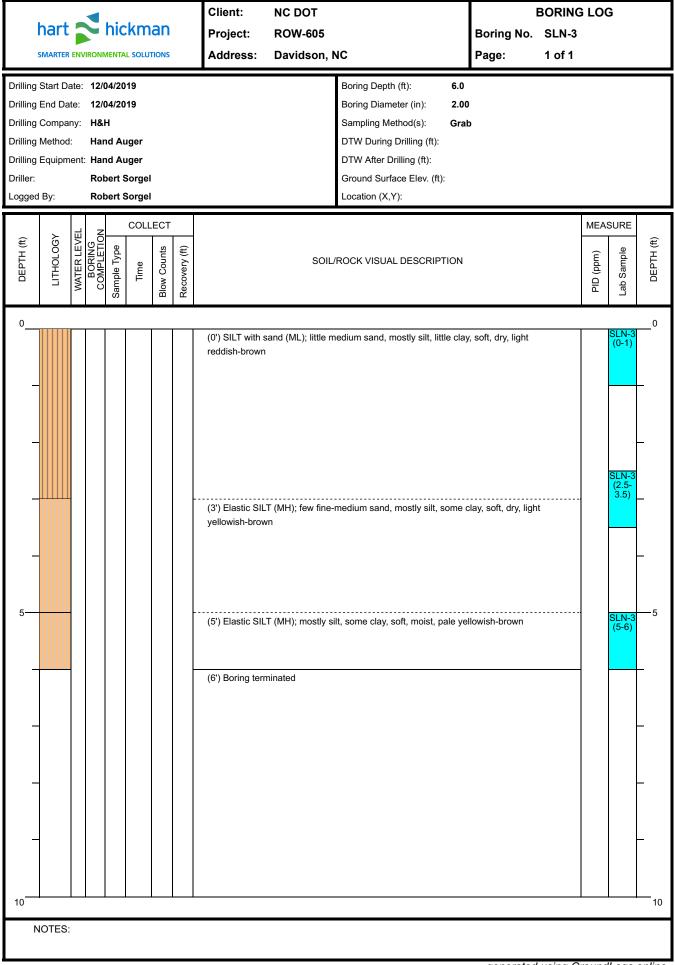
hart hickman	Client:NC DOTProject:ROW-605Address:Davidson, NC	BORING LOG Boring No. EXT-14 Page: 1 of 1
Drilling Start Date:12/02/2019Drilling End Date:12/02/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):4.0Boring Diameter (in):2.00Sampling Method(s):GratDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):	
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time Diamona Diamon Sample Type Time Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) MEVARAMPIE Lab Sample DEPTH (ft)
	(0') SILT (ML); few fine-medium sand, mostly silt, few clay, soft, light reddish-brown, pieces of floor tile (2.5') Elastic SILT (MH); few fine-medium sand, mostly silt, some dry, light reddish-brown, pieces of floor tile (4') Boring terminated	0 dry, EXT- 14 (0- 1) EXT- 14 (1.5- 2.5)
NOTES:		generated using GroundLogs.online

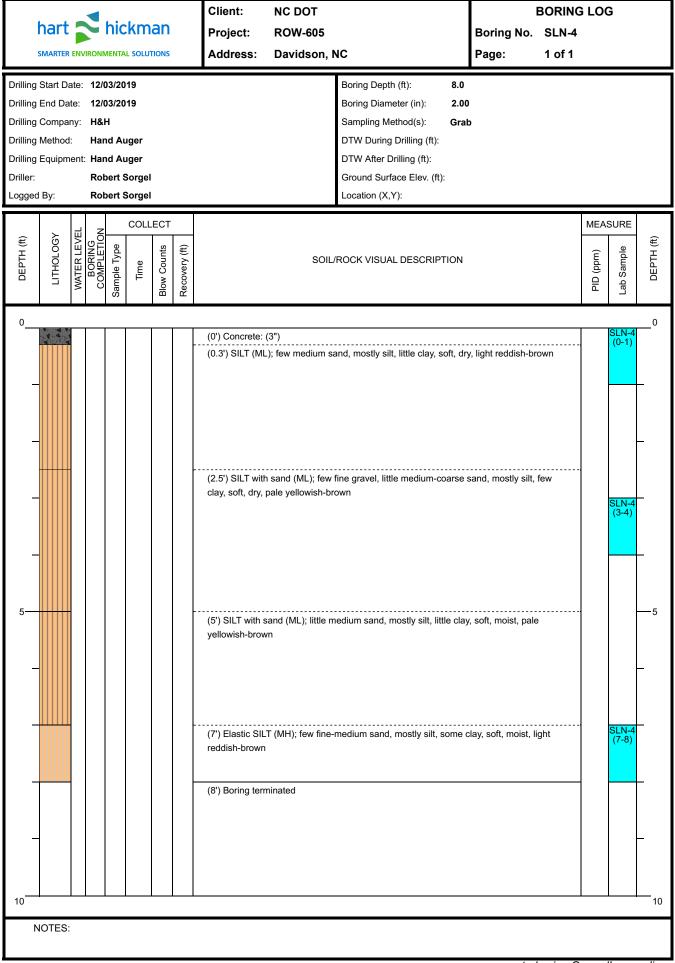
hart <mark>ನ</mark> hickman						an		Client:	NC DOT					3	
SMARTER ENVIRONMENTAL SOLUTIONS								Project: Address:	ROW-605 Davidson, I	NC	Boring No. Page:	1 of 1	1		
Drilling Start Date:12/06/2019Drilling End Date:12/06/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel											0 00 rab				
DEPTH (ft)	ГІТНОГОСУ	WATER LEVEL	BORING COMPLETION	Sample Type	COLL	Blow Counts	Recovery (ft)		SOIL	ROCK VISUAL DESCRIPTIO	N		MEAS (mdd) OIA	Lab Sample	DEPTH (ft)
0 - 5 - 10								(0') SILT with s reddish-brown (1') Boring term	· · · ·	ne-medium sand, mostly silt, fr	ew clay, soft, dry, lig	ht		EXT- 15 (0- 1)	0 5 5
N	IOTES:														

hart <mark>ನ</mark> hickman						an		Client:	NC DOT			BORING		3	
SMARTER ENVIRONMENTAL SOLUTIONS								Project: Address:	ROW-605 Davidson, I	IC	Boring No. Page:	1 of 1			
Drilling Start Date:12/06/2019Drilling End Date:12/06/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel								•		Boring Diameter (in): 2	0 .00 rab				
DEPTH (ft)	ГІТНОГОСУ	WATER LEVEL	BORING COMPLETION	Sample Type	COLL	Blow Counts	Recovery (ft)		SOIL	ROCK VISUAL DESCRIPTIO	N		MEAS (mdd) OIA	Lab Sample	DEPTH (ft)
0 5 10								(0') SILT with s reddish-brown (1') Boring term		ne-medium sand, mostly silt, f	ew clay, soft, dry, lig	ht		EXT- 16 (0- 1)	0 5 5
N	IOTES:														

h and this	Client:	NC DOT	BORING	G LOG
hart 🔁 hic			Boring No. SLN-1	
SMARTER ENVIRONMENTAL	L SOLUTIONS Addres	s: Davidson, NC	Page: 1 of 1	
Drilling Start Date:12/04/20'Drilling End Date:12/04/20'Drilling Company:H&HDrilling Method:Hand AuDrilling Equipment:Hand AuDriller:Robert SLogged By:Robert S	19 Iger Sorgel	Boring Depth (ft): Boring Diameter (in): Sampling Method(s): DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft) Location (X,Y):	2.0 2.00 Grab	
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type	Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPT	ION	PID (ppm) Eab Sample DEPTH (ft)
0		rith sand (ML); trace fine gravel, little medium sa ght reddish-brown	nd, mostly silt, little clay,	0 SLN-1 (0-1)
	(21) Boring	terminated		SLN-1 (1-2)
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				-
5				5
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-				_
10				10
NOTES:				

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	ENVIRONMENT		Address:	Davidson, N	IC	Page:	1 of 1			
Drilling Start Da Drilling End Da Drilling Compa Drilling Method Drilling Equipm Driller: Logged By:	te: 12/03/2 ny: H&H : Hand A	019 uger uger Sorgel			Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GradDTW During Drilling (ft):1DTW After Drilling (ft):1Ground Surface Elev. (ft):Location (X,Y):					
DEPTH (ft) LITHOLOGY	WATER LEVEL BORING COMPLETION Sample Type	Dime Elow Counts		SOIL/	ROCK VISUAL DESCRIPTION			MEAS (mdd) OIA	Lab Sample	DEPTH (ft)
0			 (0') Concrete: ((0.3') SILT (ML reddish-brown		m sand, mostly silt, little clay, sofi	t, dry, light			SLN-2 (0-1)	0
			(1') Boring term	ninated						_
_										_
5										
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										_
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10										10
NOTES										





have history							Client:	NC DOT			BORING	S LOC	3	
hart hickman							Project:	ROW-605		Boring No.				
SMARTER ENVIRONMENTAL SOLUTIONS							Address:	Davidson	NC	Page:	1 of 1			
Drilling Start Date:12/04/2019Drilling End Date:12/04/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel									Boring Depth (ft): Boring Diameter (in): Sampling Method(s): DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft): Location (X,Y):	2.0 2.00 Grab				
DEPTH (ft)	LITHOLOGY	WATER LEVEL BORING	Sample Type	COLL	Blow Counts	Recovery (ft)		SO	L/ROCK VISUAL DESCRIPTI	ION		MEAS (mdd) OIA	Lab Sample	DEPTH (ft)
0								and (ML). little	medium sand mostly sitt little	a clay soft dry light			SLN-5	0
							(0') SILT with s reddish-brown (2') Boring term		medium sand, mostly silt, little	e clay, soft, dry, light			(0-1) SLN-5 (1-2)	5
	TES:													-

hart < hickman							Client:	NC DOT			BORING	6 LOC	3	
SMARTER ENVIRONMENTAL SOLUTIONS							Project: Address:	ROW-605 Davidson, N	NC	Boring No. Page:	SLN-6 1 of 1			
Drilling Start Date:12/03/2019Drilling End Date:12/03/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel									Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GradDTW During Drilling (ft):DTW After Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):Contemport					
DEPTH (ft)	ГІТНОГОСУ	WATER LEVEL BORING	COMPLETION Sample Type	COLL	Blow Counts	Recovery (ft)		SOIL	ROCK VISUAL DESCRIPTION			MEA: (mdd) OId	Lab Sample	DEPTH (ft)
							(0') Concrete: (0.3') SILT (ML (1') Boring term	_); few medium sa	and, mostly silt, little clay, soft, dry	, light reddish-br	own		SLN-6 (0-1)	0 5 5
NO	TES:													

Drive ROW-605 (drive Boring No. 5LN-7 (Page: 1 of 1 Drimg Gutorie: 2042019 (2042019) Boring Date fifti 2.0 (3000) Boring Date fifti 2.0 (3000) Drimg Gutorie: Rand Auge: The Row-fire Gutorie: Boring Date fifti 2.0 (3000) Boring No. 5LN-7 (7000) Drimg Gutorie: Rand Auge: The Row-fire Gutorie: Boring Date fifti 2.0 (3000) Boring No. 5LN-7 (7000) Drimg Gutorie: Rand Auge: The Row-fire Gutorie: Boring No. 5LN-7 (7000) Boring No. 5LN-7 (7000) Drimg Gutorie: Rand Auge: The Row-fire Gutorie: Boring No. 5LN-7 (7000) Boring No. 5LN-7 (7000) Drimg Gutorie: Row-fire Gutorie: Drimg Date fiftin: 2.0 (7000) Drimg Gutorie: Row-for Surge: Drimg Gutorie: Drimg Date fiftin: 2.0 (7000) Drimg Gutorie: Row-for Surge: Drimg Gutorie: Collector Drimg Mathematication (NC) Dring Gutorie: Collector Gutorie: Gutorie: Gutorie: Dring Gutorie: Collector Soll-ROCK VISUAL DESCRIPTION Mathematication (NC) Dring Gutorie: Collector Collector Collector Collector Dring Gutorie: Collector Collector Collector Collector Dring Gutorie: Collector Collector Collector Collector Dri				I			Client:	NC DOT			BORING		;	
Diffing Start Date: 1204/2019 Diffing End Date: 1204/2019 Diffing End Date: 1204/2019 Diffing Chorpeny: HAH Diffing Chorpeny: HAH Diffing Chorpeny: HAH Diffing Chorpeny: HAH Diffing Chorpeny: HAH Auger Diffing Chorpeny: Hand Auger Diffing Chorpeny: Collector Collector Soll/HOCK VISUAL DESCRIPTION Up of the final of the f														
Defining Enderity into 240219 Boring Damater (int: int 2.00 Defining Concentring IRAH Sampling Mathods(int: Grade Defining Equipments Hand Auger Defining Equipments Robert Stragel Defining Equipments Robert Stragel Defining Methods		SMARTER	ENVIRO	DNMENT	AL SOLU	TIONS	Address:	Davidson,	NC	Page:	1 of 1			
u u	Drilling Drilling Drilling Drilling Driller:	End Da Compa Method Equipm	te: 1 ny: F : F ent: F	2/04/2 I&H Iand A Iand A Robert	019 uger uger Sorge				Boring Diameter (in):2.00Sampling Method(s):GraDTW During Drilling (ft):DTW After Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):					
Image: sector of the sector	DEPTH (ft)	LITHOLOGY	WATER LEVEL BORING	COMPLETION Sample Type				SOIL/ROCK VISUAL DESCRIPTION						DEPTH (ft)
NOTES:	5						reddish-brown		nedium sand, mostly silt, little clay	γ, soft, dry, light				5
	N	IOTES:												

hart <mark>ನ</mark> hickman	Client: NC DOT	BORING LOG										
SMARTER ENVIRONMENTAL SOLUTIONS	Project: ROW-605 Address: Davidson, NC	Boring No. SLN-8 Page: 1 of 1										
Drilling Start Date:12/03/2019Drilling End Date:12/03/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GrailDTW During Drilling (ft):DTW After Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):Location (X,Y):											
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time DIamon Counts Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample DEPTH (ft)										
0												
	(1') Boring terminated											
5		5										
10 NOTES:		10										

hart <mark>ನ</mark> hickman	Client: NC DOT	BORING	6 LOG									
SMARTER ENVIRONMENTAL SOLUTIONS	Project: ROW-605 Address: Davidson, NC	Boring No. SLN-9 Page: 1 of 1										
Drilling Start Date:12/03/2019Drilling End Date:12/03/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft): 1.0 Boring Diameter (in): 2.00 Sampling Method(s): Grau DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft): Location (X,Y):											
DEPTH (ft) LITHOLOGY WATER LEVEL COMPLETION Sample Type Sample Type Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION		PID (ppm) Lab Sample DEPTH (ft)									
0												
	(1') Boring terminated) Boring terminated										
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10 NOTES:			10									

hart <mark>S</mark> hickman	Client: NC DOT Project: ROW-605	BORING Boring No. SLN-10										
SMARTER ENVIRONMENTAL SOLUTIONS	Address: Davidson, NC	Page: 1 of 1										
Drilling Start Date:12/03/2019Drilling End Date:12/03/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GradDTW During Drilling (ft):DTW After Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):Location (X,Y):											
DEPTH (ft) LITTHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time DI Blow Counts Recovery (ft)												
0												
	(1') Boring terminated) Boring terminated										
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NOTES:												

hart <mark>ನ</mark> hickman	Client: NC DOT Project: ROW-605	BORING Boring No. SLN-11								
SMARTER ENVIRONMENTAL SOLUTIONS	Address: Davidson, NC	Page: 1 of 1								
Drilling Start Date:12/03/2019Drilling End Date:12/03/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GrateDTW During Drilling (ft):DTW After Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):Location (X,Y):									
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Sample Type Dime Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	SOIL/ROCK VISUAL DESCRIPTION								
o (0) (0) (0) (0) (0) Concrete: (6') (0)										
10 NOTES:			10							

hart <mark>ನ</mark> hickman	Client: NC DOT Project: ROW-605	BORING LOG Boring No. SLN-12								
SMARTER ENVIRONMENTAL SOLUTIONS	Address: Davidson, NC	Page: 1 of 1								
Drilling Start Date:12/04/2019Drilling End Date:12/04/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GrabDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):									
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Sample Type Inme Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample DEPTH (ft)								
0 (0) Concrete: (6") (0.5) SILT (ML), trace fine-medium sand, mostly silt, little clay, soft, dry, light reddish-brown (1') Boring terminated - - - - - - - - - - - - -										
10 NOTES:		10								

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	SMARTER							Address:	Davidson,	NC	Page:	1 of 1	•			
Drilling Drilling Drilling		te: ny: :	12/0 H&H Han Han Rot)4/20 H Id Au Id Au Dert S	19 Iger					Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GratDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):						
DEPTH (ft)	ГІТНОГОСУ	WATER LEVEL	BORING COMPLETION	Sample Type	COLL	Blow Counts	Recovery (ft)		NOIL/ROCK VISUAL DESCRIPTION							
0 5 	0 (0) Concrete: (4") - (0.3') SILT (ML); few fine-medium sand, mostly silt, little clay, soft, dry, light reddish-brown - (1') Boring terminated											SLN- 13(0- 1)	5			
10 N	NOTES:														10	
1																

	hart		h	ickr	man	I	Client: Project:	NC DOT ROW-605		Boring No.	BORING SLN-14		3		
	SMARTER	ENVIR	ONMEN	ital so	UTIONS		Address:	Davidson, I	NC	Page:	1 of 1				
Drilling Drilling Drilling		te: ' ny: : ent:	12/04/ H&H Hand Hand Rober	2019 Auge	r gel				Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GratDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):						
DEPTH (ft)	ГІТНОГОСУ	WATER LEVEL	COMPLETION		Blow Counts	1		SOIL/ROCK VISUAL DESCRIPTION							
0	(0') Concrete: (4") (0.3') SILT with sand (ML); little medium sand, mostly silt, few clay, soft, dry, light reddish-brown													0	
_	-						(1') Boring terr) Boring terminated							
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٢	NOTES:														

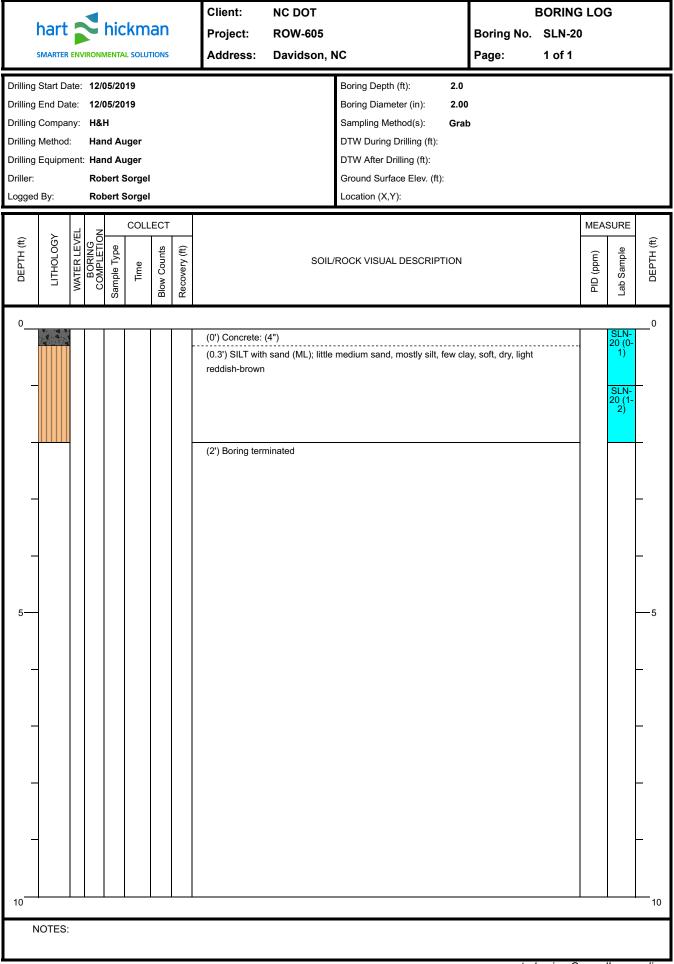
hart <mark>ನ</mark> hickman	Client: NC DOT Project: ROW-605	BORING LOG Boring No. SLN-15							
SMARTER ENVIRONMENTAL SOLUTIONS	Address: Davidson, NC	Page: 1 of 1							
Drilling Start Date:12/04/2019Drilling End Date:12/04/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GratDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):								
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Sample Type Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample DEPTH (ft)							
0 (0) Concrete: (4") 0.3) SLT. (ML), few fine-medium sand, mostly silt, ittle clay, soft, dry, light reddish-brown 1 (0.3) SLT. (ML), few fine-medium sand, mostly silt, ittle clay, soft, dry, light - (1) Boring terminated - (1) Boring terminated									
10 NOTES:		10							

hart <mark>ठ</mark> hi	ickman	Client: NC DOT Project: ROW-605		BORING Boring No. SLN-16						
	2019 2019 Auger	Boring I Samplir DTW Di DTW Af	Depth (ft): 1.0 Diameter (in): 2.00 g Method(s): Grab uring Drilling (ft): ter Drilling (ft): Surface Elev. (ft):	Page: 1 of 1						
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Samole Tvoe	COLLECT WATER LEVEL WATER LEVEL COBORING Sample Type Sample Type Recovery (ft) Recovery (ft)									
0 (0) Concrete: (4) (0.3) SILT with sand (ML); little fine-medium sand, mostly silt, few clay, soft, dry, light reddish-brown (1) Boring terminated 										
NOTES:										

	hart 🔁 hickman							Client:	NC DOT			BORING		3	
								Project: Address:	ROW-605 Davidson, I		Boring No. Page:	SLN-17 1 of 1	7		
Drilling Drilling Drilling Drilling	Start Da End Da Compar Method Equipm	ate: te: ny: : ent:	12/0 12/0 H&F Han Han Rob	94/20 94/20 H Id Au Id Au Dert S	19 19 ıger	1				Boring Depth (ft): 1.0 Boring Diameter (in): 2.00 Sampling Method(s): Gra DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft): Location (X,Y):)				
DEPTH (ft)	LITHOLOGY WATER LEVEL WATER LEVEL BORING COMPLETION Recovery (ft) Time										MEAS (mdd) OIA	Lab Sample	DEPTH (ft)		
0 (0) SILT with sand (ML); little medium sand, mostly silt, few clay, soft, dry, light 1 (1) Boring terminated 1 (1) Boring terminated 5 (1) 1 (1)												SLN- 17 (0- 1)	0 5 5 		

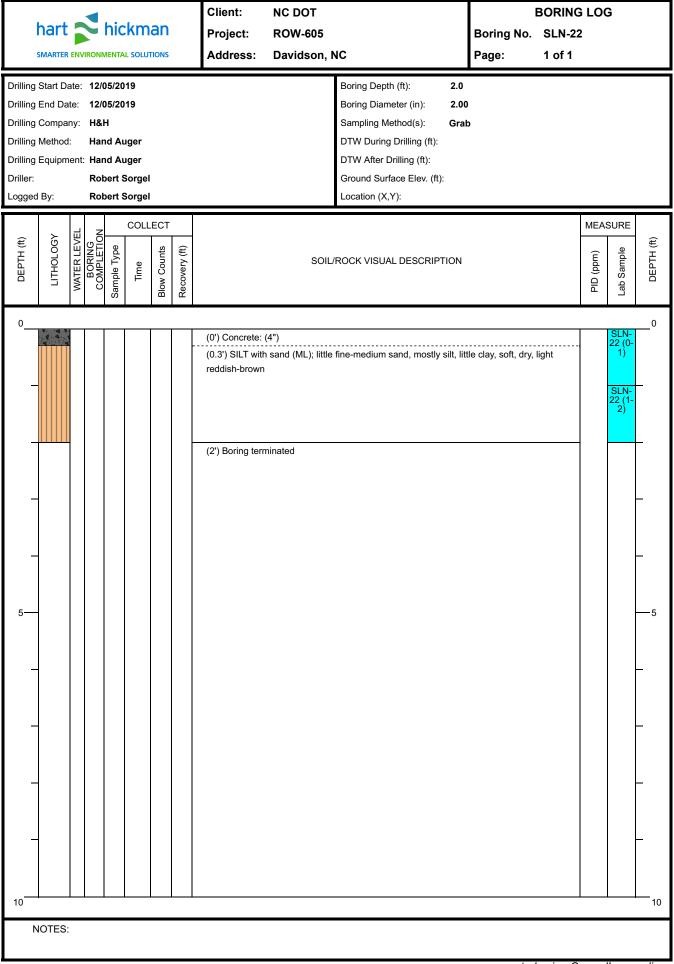
	hart 葇 hickman							Client: Project:	NC DOT ROW-605		Boring No.			3			
	MARTER							Address:	Davidson,	NC	Page:	1 of 1					
Drilling Drilling Drilling Drilling Drilling Driller: Logged	End Da Compa Method Equipm	te: ny: :	12/(H&I Har Har Rot	04/20 H nd Au nd Au pert S)19 uger					Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GraDTW During Drilling (ft):DTW After Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):Value (ft):							
DEPTH (ft)												MEAS (mdd) OIA	Lab Sample	DEPTH (ft)			
													SLN- 18 (0- 1)	0			
-								light reddish-br	Elastic SILT with sand (MH); little fine-medium sand, mostly silt, little clay, soft, dry, reddish-brown Boring terminated								
_																	
															5		
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_																	
_																	
10															10		
N	OTES:																

hart Nickman						20		Client:	BORING LOG						
								Project:	ROW-605	NC	Boring No.	SLN-19)		
SMARTER ENVIRONMENTAL SOLUTIONS Address: Davidson, NC Page: 1 of 1 Drilling Start Dat: 12/04/2019 Boring Depth (ft): 1.0 Image: Image: Image: 1 of 1 Drilling End Date: 12/04/2019 Boring Depth (ft): 1.0 Image: Image:															
DEPTH (ft)	ГІТНОГОЄУ	WATER LEVEL	BORING COMPLETION	Sample Type	COLL	Blow Counts	Recovery (ft)		SOIL	ROCK VISUAL DESCRIPTION			MEA: (mdd) OIA	Lab Sample	DEPTH (ft)
0 5								(0') Elastic SIL reddish-brown (1') Boring term		medium sand, mostly silt, little cl	ay, soft, dry, light			SLN- 19 (0- 1)	0 5 5
	OTES:														10



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hart hickman	Client: NC DOT	BORING LOG					
hart hickman	Project: ROW-605 Address: Davidson, NC	Boring No. SLN-21 Page: 1 of 1					
Drilling Start Date:12/05/2019Drilling End Date:12/05/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft): 2.0 Boring Diameter (in): 2.00 Sampling Method(s): Grat DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft): Location (X,Y):						
DEPTH (ft) LITHOLOGY WATER LEVEL WATER LEVEL BORING COMPLETION Sample Type Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample DEPTH (ft)					
0 - - - - - - - - - - - - -	(0') SILT with sand (ML); little medium sand, mostly silt, few clay, reddish-brown (2') Boring terminated	soft, dry, light 21 (0- 1) SLN- 21 (1- 2) 					



generated using GroundLogs.online

	hart			hic	km	20		Client:	NC DOT			BORING		3	
								Project: Address:	ROW-605 Davidson,	NC	Boring No. Page:	SLN-23	3		
Drilling Drilling Drilling Drilling Drilling Driller: Logged	End Da Compa Method Equipm	te: ny: : ent:	12/0 H&H Han Han Rob	5/20 I d Au d Au ert S	19 Iger					Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GraDTW During Drilling (ft):DTW After Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):Kater State					
DEPTH (ft)	ГІТНОГОСУ	WATER LEVEL	BORING COMPLETION	Sample Type	COLL	Blow Counts	Recovery (ft)		SOIL	/ROCK VISUAL DESCRIPTION			MEAS (mdd) OIA	Lab Sample	DEPTH (ft)
0 - - - - - - - - - - - - - - - - -								(0') SILT (ML); reddish-brown (1') Boring terr		n sand, mostly silt, little clay, soft,	dry, light			SLN- 23 (0- 1)	0 5 5
	IOTES:														

hart <mark>ス</mark> hickman	Client: NC DOT		G LOG
SMARTER ENVIRONMENTAL SOLUTIONS	Project: ROW-605 Address: Davidson, NC	Boring No. GRF-1 Page: 1 of 1	
Drilling Start Date:12/05/2019Drilling End Date:12/05/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):2.0Boring Diameter (in):2.00Sampling Method(s):GrailDTW During Drilling (ft):DTW After Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):Location (X,Y):		
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Sample Type Time Diverse of the Counts Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION		PID (ppm) Lab Sample DEPTH (ft)
	(0') Elastic SILT with sand (MH); little fine-medium sand, mostly s light reddish-brown (2') Boring terminated	silt, little clay, soft, dry,	0 GRF- 1 (0- 1) GRF- 1 (1- 2) - - - - - - - - - - - - -
10 NOTES:			10

	nart			hic	km	an		Client:	NC DOT			BORING	6 LOC	3		
								Project: Address:	ROW-605 Davidson,	NC	Boring No. Page:	GRF-2 1 of 1				
Drilling Drilling Drilling Drilling Drilling Driller: Logged	End Da Compa Method Equipm	te: ny: :	12/(H&I Har Har Rot	06/20 H nd Au nd Au pert S)19 uger					Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GraitDTW During Drilling (ft):1DTW After Drilling (ft):1Ground Surface Elev. (ft):1Location (X,Y):1)					
DEPTH (ft)	ПТНОГОСУ	WATER LEVEL	BORING COMPLETION	Sample Type	LINO	Blow Counts	Recovery (ft)		SOI	/ROCK VISUAL DESCRIPTION			MEAS (mdd) OIA	Lab Sample	DEPTH (ft)	
0					I	1								CDE	0	
_								(0') Elastic SIL reddish-brown (1') Boring tern		I); little medium sand, mostly silt, t	ew clay, soft, dry	, light		GRF- 2 (0- 1)	_	
_															_	
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5															—5	
_															_	
_															_	
_															_	
10																
	OTES:															

	hart		hi	ckm	an		Client: Project:	NC DOT ROW-605			Boring No.		LOC	3	
	SMARTER						Address:	Davidson,	NC		Page:	1 of 1			
Drilling Drilling Drilling	Start Da End Da Compa Method Equipm	te: 1 ny: I : I ent: I	I2/05/2 H&H Hand <i>A</i> Hand <i>A</i> Robert	019 Auger					Boring Depth (ft): Boring Diameter (in): Sampling Method(s): DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft): Location (X,Y):	2.0 2.00 Grab					
DEPTH (ft)	ГІТНОГОСУ	WATER LEVEL BORING	COMPLETION Sample Type		Blow Counts	Recovery (ft)		SOIL	/ROCK VISUAL DESCRIPT	ΓΙΟΝ			MEAS (mdd) OIA	Lab Sample	DEPTH (ft)
0 - - - - - - - - - - - - - - - - -							(0') SILT (ML);		n sand, mostly silt, few clay,	. soft, d	ry, light reddish-	brown		GRF- 3 (0- 1) GRF- 3 (1- 2)	5
r	NOTES:														

	nart			hic	lam	20		Client:	NC DOT					BORING	6 LOC	3	
								Project: Address:	ROW-60 Davidso		C		Boring No Page:	. GRF-4 1 of 1			
Drilling Drilling Drilling Drilling Drilling Driller: Logged	Start Da End Da Compai Method Equipm	ate: te: ny: :	12/0 12/0 H&I Har Har	06/20 06/20 H nd Au nd Au)19)19 uger	1					Boring Depth (ft): Boring Diameter (in): Sampling Method(s): DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft): Location (X,Y):	1.0 2.00 Grab					
DEPTH (ft)	ГІТНОГОЄУ	WATER LEVEL	BORING COMPLETION	Sample Type	COLL	Blow Counts	Recovery (ft)		S	SOIL/F	ROCK VISUAL DESCRIPT	ION			MEA: (mdd) OId	Lab Sample	DEPTH (ft)
0						1			.	(h. d	P/01 P			11 1 4	[GRE	0
								(0') Elastic SIL reddish-brown (1') Boring tern		(MH); 	little medium sand, mostly	' silt, lif	ttle clay, soft, d	ry, light		GRF- 4 (0- 1)	
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_												_					
5																	5
-																	_
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_																	_
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10 N	OTES:																10

have history	Client: NC DOT	BORING	
hart 💦 hickman	Project: ROW-605	Boring No. GRF-5	
SMARTER ENVIRONMENTAL SOLUTIONS	Address: Davidson, NC	Page: 1 of 1	
Drilling Start Date:12/05/2019Drilling End Date:12/05/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):2.0Boring Diameter (in):2.00Sampling Method(s):GratDTW During Drilling (ft):1DTW After Drilling (ft):1Ground Surface Elev. (ft):Location (X,Y):		
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION		PID (ppm) Lab Sample DEPTH (ft)
0			0
	(0') SILT with sand (ML); little medium sand, mostly silt, trace cla reddish-brown (2') Boring terminated	y, soft, dry, light	GRF- 5 (0- 1) GRF- 2)
10			10
NOTES:			

	hart			hic	km	an		Client:	NC DOT			BORING	i LOC	3	
								Project: Address:	ROW-605 Davidson, I	١C	Boring No. Page:	GRF-6 1 of 1			
Drilling Drilling Drilling Drilling Drilling Driller: Logged	End Da Compa Method Equipm	te: ny: :	12/0 H&H Han Han Rob)6/20 H Id Au Id Au Dert S	19 Jger					Boring Depth (ft):1.0Boring Diameter (in):2.0Sampling Method(s):GraDTW During Drilling (ft):The second sec	0				
DEPTH (ft)	ГІТНОГОСУ	WATER LEVEL	BORING COMPLETION	Sample Type	COLL	Blow Counts	Recovery (ft)		SOIL	ROCK VISUAL DESCRIPTION			MEAS (mdd) DIA	Lab Sample	DEPTH (ft)
								(0') SILT with s reddish-brown (1') Boring term		ne-medium sand, mostly silt, fev	v clay, soft, dry, lig	ht		GRF- 6 (0- 1)	0 5 5 5
N	IOTES:														

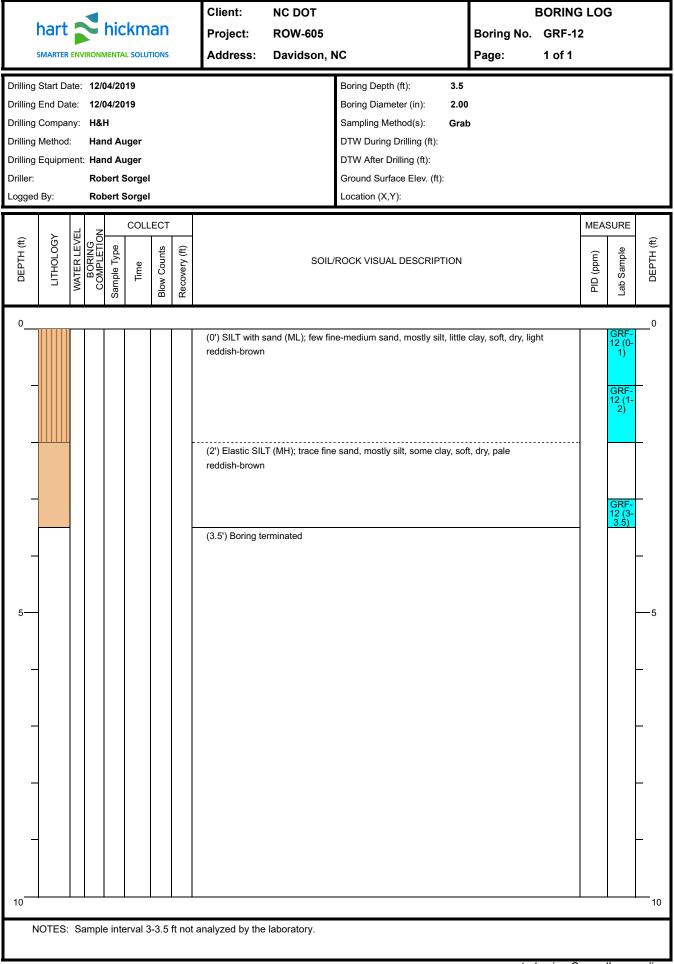
	nart			hic	·km	an		Client:	NC DOT			BORIN		3			
	SMARTER							Project: Address:	ROW-605 Davidson	NC	Boring Page:	No. GRF-7 1 of 1					
Drilling Drilling Drilling Drilling Drilling Driller: Logged	End Da Compa Method Equipm	te: ny: :	12/(H&I Har Har Rot)5/20 H nd Au nd Au pert S)19 uger					Boring Diameter (in):	1.0 2.00 Grab						
DEPTH (ft)	ГІТНОГОЄУ	WATER LEVEL	BORING COMPLETION	Sample Type	LINO	Blow Counts	Recovery (ft)		SO	L/ROCK VISUAL DESCRIPTI	ON		MEA: (mdd) OId	Lab Sample	DEPTH (ft)		
0					ſ	1							1		0		
_							-	reddish-brown		ne-medium sand, mostly silt, s	ome clay, soft,	dry, light	-	GRF- 7 (0- 1)	_		
_								(1') Boring tern	(1') Boring terminated								
_																	
5															5		
_															_		
															_		
_															-		
10															10		
	OTES:																

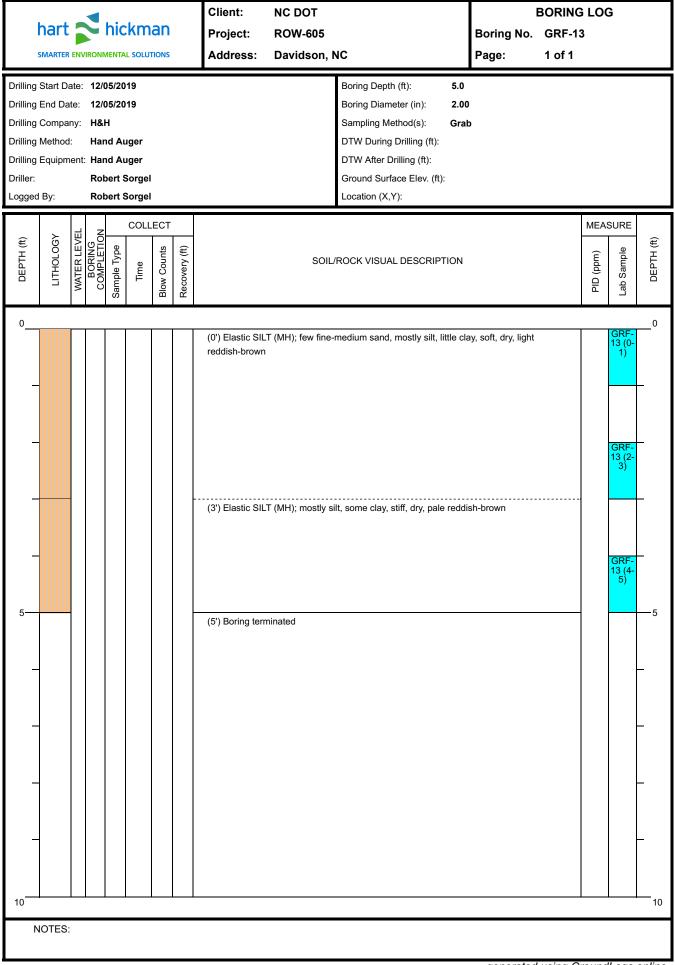
SMARTER ENVIRONMENTAL SOLUTIONS Address: Davidson, NC Page: 1 of 1 Drilling Start Date: 12/06/2019 Drilling End Date: 12/06/2019 Drilling Company: H&H Drilling Method: Hand Auger Drilling Equipment: Hand Auger Drilling: Robert Sorgel Logged By: Robert Sorgel COLLECT MEASURE	BORING LOG oring No. GRF-8	Client: NC DOT Project: ROW-605	hickman	hart <mark>ನ</mark> hickmar								
Drilling End Date: 12/06/2019 Boring Diameter (in): 2.00 Drilling Company: H&H Sampling Method(s): Grab Drilling Method: Hand Auger DTW During Drilling (ft): Drilling Equipment: Hand Auger DTW After Drilling (ft): Driller: Robert Sorgel Ground Surface Elev. (ft): Logged By: Robert Sorgel Location (X,Y):												
(t) NO Image: Second state of the second st		Boring Diameter (in): 2.0 Sampling Method(s): Gra DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft):	/06/2019 .H nd Auger nd Auger bert Sorgel	Drilling End Date: 12/06/2 Drilling Company: H&H Drilling Method: Hand A Drilling Equipment: Hand A Driller: Robert								
(0') SILT with sand (ML); little fine-medium sand, mostly silt, trace clay, soft, dry, light reddish-brown		SOIL/ROCK VISUAL DESCRIPTION		DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type								
Image: Second		reddish-brown										

				b: c	lan			Client:	NC DOT			BORING	6 LOC	3		
	nart MARTER							Project: Address:	ROW-605 Davidson,		Boring No. Page:	GRF-9 1 of 1				
Drilling Drilling Drilling Drilling Drilling Drilling Driller: Logged	Start Da End Da Compa Method Equipm	ate: te: ny:	12/0 12/0 H&I Har Har	05/20 05/20 H nd Au nd Au pert S)19)19 uger	1		Address	Davidson,	Boring Depth (ft): 1.0 Boring Diameter (in): 2.00 Sampling Method(s): Grat DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft): Location (X,Y):						
DEPTH (ft)	ГІТНОГОЄУ	WATER LEVEL	BORING COMPLETION	Sample Type	Time	Blow Counts	Recovery (ft)		SOIL	/ROCK VISUAL DESCRIPTION			MEAS (mdd) OIA	Lab Sample	DEPTH (ft)	
0						1			-	e sand, mostly silt, some clay, sof				GRF-	0	
_								(1') Boring tern			, . , , , . ,			GRF- 9 (0- 1)	_	
_																
5															5	
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10 N	OTES:														10	

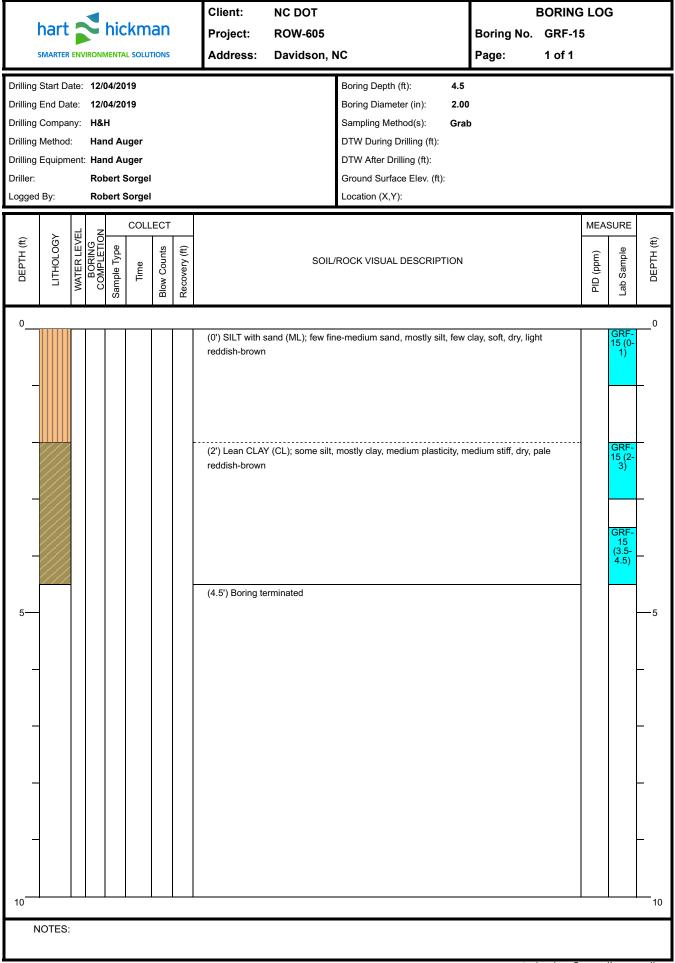
L.					1			Client:	NC DO					BORING		3	
	hart							Project:	ROW-				Boring No.)		
S	MARTER	ENVIR	ONM	ENTAI	L SOLU	TIONS		Address:	David	son, N	IC		Page:	1 of 1			
Drilling S Drilling I Drilling I Drilling I Driller: Logged	End Da Compa Method Equipm	te: ny: : ient:	12/06 H&H Hand Hand Robe	6/20 ⁻ d Au d Au ert S	19 Iger						Boring Diameter (in):	2.0 2.00 Grab					
DEPTH (ft)	ПТНОГОGY	WATER LEVEL	COMPLETION	Sample Type	COLL	Blow Counts T	Recovery (ft)			SOIL/I	ROCK VISUAL DESCRIPTIO	ION			MEA: (mdd) OIA	Lab Sample	DEPTH (ft)
0																	0
5								(0') Elastic SIL reddish-brown (2') Boring term		ew fine-r	nedium sand, mostly silt, litt	ile clay,	, soft, dry, light			GRF- 10 (0- 1) GRF- 10 (1- 2)	5
10																	10
N	OTES																

hart hickman SMARTER ENVIRONMENTAL SOLUTIONS Drilling Start Date: 12/06/2019 Drilling End Date: 12/06/2019	Client: NC DOT Project: ROW-605 Address: Davidson, NC Boring Depth (ft): 4.0 Boring Diameter (in): 2.00	BORING LOG Boring No. GRF-11 Page: 1 of 1
Drilling Company: H&H Drilling Method: Hand Auger Drilling Equipment: Hand Auger Driller: Robert Sorgel Logged By: Robert Sorgel	Sampling Method(s): Grat DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft): Location (X,Y):	
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample DEPTH (ft)
	(0') Elastic SILT (MH); few fine-medium sand, mostly silt, little cla reddish-brown (2.5') Elastic SILT (MH); trace fine sand, mostly silt, some clay, m reddish-brown	GRF- 11 (1.5- 2.5)
	(4') Boring terminated	
NOTES:		generated using GroundLogs.online





hart hickman		BORING LOG Boring No. GRF-14 Page: 1 of 1
Drilling Start Date:12/05/2019Drilling End Date:12/05/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):5.0Boring Diameter (in):2.00Sampling Method(s):GrabDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):	
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample DEPTH (ft)
	(0') SILT with sand (ML); little medium sand, mostly silt, few clay, s reddish-brown	oft, dry, light
	(2.5') Elastic SILT (MH); trace fine sand, mostly silt, some clay, stiff reddish-brown	GRF- 14 (2- 3) f, dry, pale
5	(4') Lean CLAY (CL); few silt, mostly clay, medium plasticity, very s yellowish-brown (5') Boring terminated	Stiff, dry, pale
10 NOTES:		10

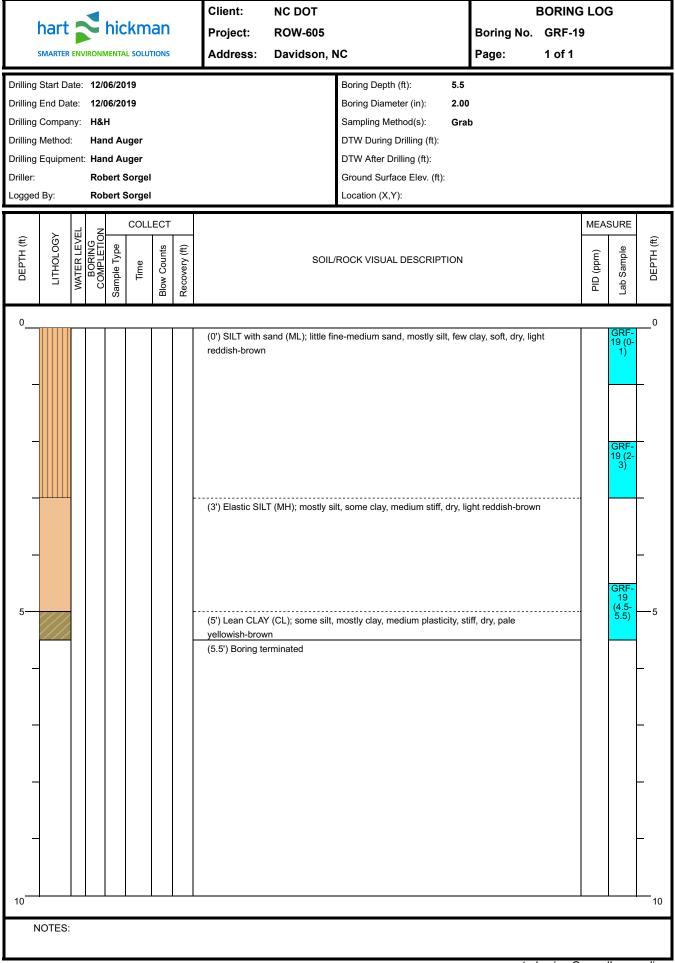


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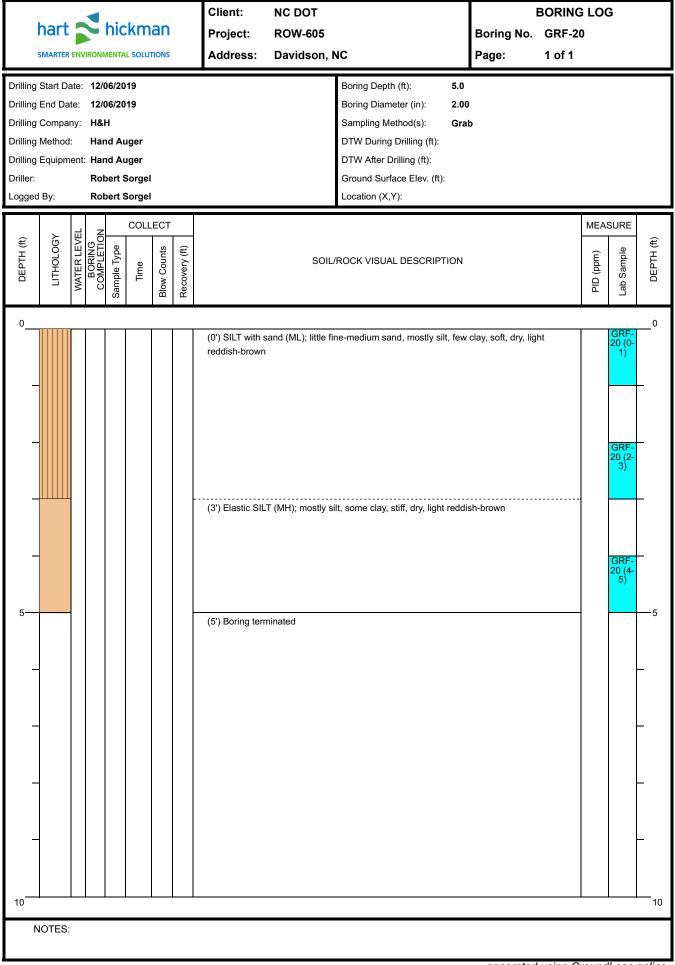
	hart		hi	ckm	an		Client: Project:	NC DOT ROW-605			Boring No.	BORING GRF-1		3	
	SMARTER	ENVIR	ONMEN	al solu	TIONS		Address:	Davidson,	NC		Page:	1 of 1			
Drilling Drilling Drilling	Start Da End Da Compa Method Equipm	te: / ny: I : I ient: I	12/04/2 H&H Hand <i>A</i> Hand <i>A</i> Robert	019 Juger					Boring Depth (ft): Boring Diameter (in): Sampling Method(s): DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft): Location (X,Y):	2.0 2.00 Grab					
DEPTH (ff)	LITHOLOGY	WATER LEVEL BORING	COMPLETION Sample Type	Lime	Blow Counts	Recovery (ft)		SOIL	/ROCK VISUAL DESCRIPT	ΓΙΟΝ			MEAS (mdd) OIA	Lab Sample	DEPTH (ft)
0 - - - - - - - - - - - - - - - - -	NOTES:						(0') SILT (ML);		n sand, mostly silt, few clay,	soft, dr	y, light reddish	brown		GRF- 16 (0- 1) GRF- 16 (1- 2)	5

	hart		l bi	akm	20		Client:	NC DO					BORING		3	
	hart SMARTER						Project: Address:	ROW- David		IC		Boring No. Page:	GRF-1 1 of 1	7		
Drilling Drilling	End Da Compa Methoo Equipm	te: 1 ny: F : F ent: F	2/05/2 I&H Iand A	019 uger uger Sorgel						Boring Depth (ft): Boring Diameter (in):	2.0 2.00 Grab					
DEPTH (ft)	ГІТНОГОСУ	WATER LEVEL BORING	COMPLETION Sample Type	COLL	Blow Counts	Recovery (ft)			SOIL/	ROCK VISUAL DESCRIPTI	ION			MEAS (mqq) OIA	Lab Sample BC	DEPTH (ft)
0 - - - - - - - - - - - - - - - - -							(0') Elastic SIL light reddish-br	rown	nd (MH);	; little fine-medium sand, mo	ostly sil	t, little clay, so	ft, dry,		GRF- 17 (0- 1) GRF- 17 (1- 2)	0
	NOTES															

hart hickman	Client: NC DOT Project: ROW-605 Address: Davidson, NC	BORING LOG Boring No. GRF-18 Page: 1 of 1
Drilling Start Date:12/05/2019Drilling End Date:12/05/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):5.0Boring Diameter (in):2.00Sampling Method(s):GraitDTW During Drilling (ft):1DTW After Drilling (ft):5Ground Surface Elev. (ft):5Location (X,Y):5	
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time Dame Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample DEPTH (ft)
	(0') SILT with sand (ML); little fine-medium sand, mostly silt, few reddish-brown	0 clay, soft, dry, light
	(2') Elastic SILT (MH); mostly silt, some clay, medium stiff, dry, lig	ght reddish-brown
5	(4') Lean CLAY (CL); little silt, mostly clay, medium plasticity, stiff reddish-brown (5') Boring terminated	GRF- 18 (4- 5) 5
10 NOTES:		10 generated using GroundLogs.online



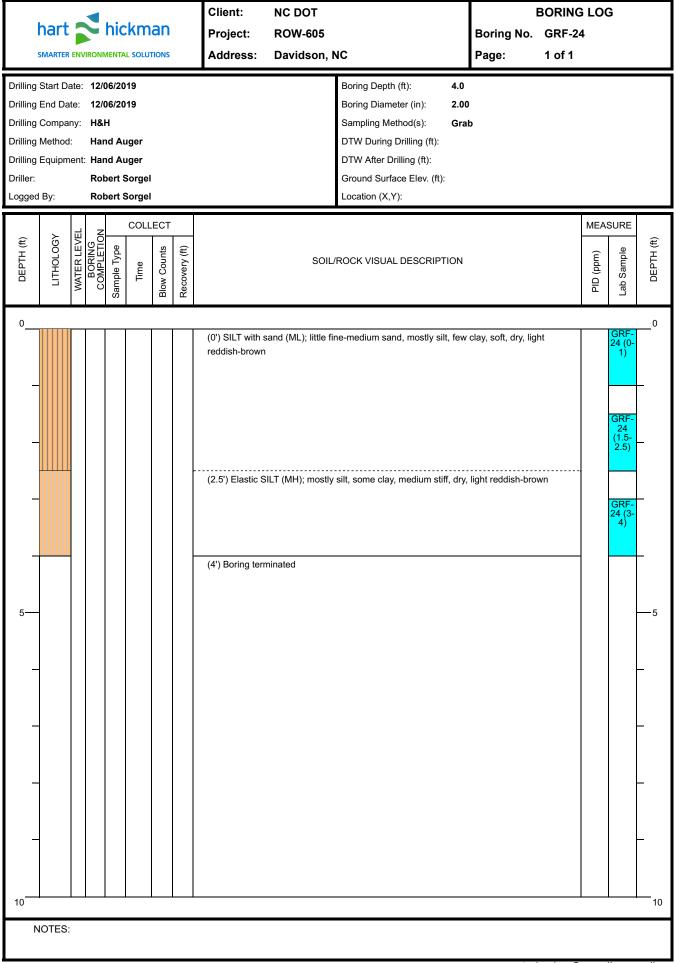
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hart hickma		Client: NC DOT Project: ROW-605 Address: Davidson, NC	BORING LOG Boring No. GRF-21 Page: 1 of 1			
Drilling Start Date:12/06/2019Drilling End Date:12/06/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel		Boring Depth (ft):5.0Boring Diameter (in):2.00Sampling Method(s):GrabDTW During Drilling (ft):DTW After Drilling (ft):DTW After Drilling (ft):Location (X,Y):				
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type	Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTIO	PID (ppm) Lab Sample DEPTH (ft)			
		(0') SILT with sand (ML); little fine-medium sand, mostly silt, for reddish-brown (2') Elastic SILT (MH); mostly silt, some clay, medium stiff, dry	light reddish-brown			
		(4') Lean CLAY (CL); some silt, mostly clay, medium plasticity, yellowish-brown (5') Boring terminated	stiff, dry, pale			

hart hickman		BORING LOG Boring No. GRF-22 Page: 1 of 1
Drilling Start Date:12/06/2019Drilling End Date:12/06/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):4.5Boring Diameter (in):2.00Sampling Method(s):GrabDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):	
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Sample Type Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) MEV Lab Sample DEPTH (ft)
	(0') Elastic SILT with sand (MH); little fine-medium sand, mostly silt, light reddish-brown (1') Elastic SILT (MH); trace fine sand, mostly silt, some clay, mediu	
	reddish-brown	GRF- 22 (2- 3)
	(3') Lean CLAY (CL); some silt, mostly clay, medium plasticity, stiff, yellowish-brown	dry, pale GRF- 22 (3.5- 4.5)
5	(4.5') Boring terminated	5
10 NOTES:		10

hart hickman	Client: NC DOT Project: ROW-605 Address: Davidson, NC	BORING LOG Boring No. GRF-23 Page: 1 of 1		
Drilling Start Date:12/06/2019Boring Depth (ft):5.0Drilling End Date:12/06/2019Boring Diameter (in):2.00Drilling Company:H&HSampling Method(s):GrabDrilling Method:Hand AugerDTW During Drilling (ft):DTW During Drilling (ft):Driller:Robert SorgelGround Surface Elev. (ft):Location (X,Y):				
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Sample Type Diow Counts Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	MEASURE elite DEPTH (ft) DEPTH (ft)		
	(0') SILT with sand (ML); little fine-medium sand, mostly silt, few or reddish-brown (2') Elastic SILT (MH); mostly silt, some clay, medium stiff, dry, lig (4.5') Lean CLAY (CL); some silt, mostly clay, medium plasticity, s yellowish-brown (5') Boring terminated	23 (0- 1) 1) 1) 1) 1) 1) 1) 1) 1) 1)		
NOTES:		generated using GroundLogs.online		



generated using GroundLogs.online

	hart			hic	km	an		Client:	NC DOT					6	
	SMARTER							Project: Address:	ROW-605 Davidson, I	١C	Boring No. Page:	GRF-2:)		
Drilling Drilling Drilling Drilling Drilling Driller: Logged	End Da Compa Method Equipm	te: ny: : ent:	12/0 H&H Han Han Rob	96/20 H Id Au Id Au Dert S	19 Iger					Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GraDTW During Drilling (ft):DTW After Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):Value (ft):					
DEPTH (ft)	ГІТНОГОСУ	WATER LEVEL	BORING COMPLETION	Sample Type	COLL	Blow Counts	Recovery (ft)		SOIL	ROCK VISUAL DESCRIPTION			MEAS (mdd) OIA	Lab Sample	DEPTH (ft)
0 5 10								(0') SILT with s reddish-brown (1') Boring term		ne-medium sand, mostly silt, few	clay, soft, dry, lig	ht		GRF- 25 (0- 1)	0
N	IOTES:														

hart hickman	Client: NC DOT Project: ROW-605 Address: Davidson, NC	BORING LOG Boring No. GRF-26 Page: 1 of 1
Drilling Start Date:12/05/2019Drilling End Date:12/05/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):4.0Boring Diameter (in):2.00Sampling Method(s):GrateDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):	
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	DEPTH (ft)
	(0') SILT with sand (ML); little fine-medium sand, mostly silt, few reddish-brown (2') Elastic SILT (MH); mostly silt, little clay, medium stiff, dry, ligh	GRF- 26 (1.5- 2.5)
5	(4') Boring terminated	GRF- 26 (3- 4) 5
10 NOTES:		10 generated using GroundLogs.online

hart 🔁 hickman	Client: NC DOT Project: ROW-605	BORING LOG Boring No. GRF-27		
SMARTER ENVIRONMENTAL SOLUTIONS	Address: Davidson, NC	Page: 1 of 1		
Drilling Start Date:12/06/2019Boring Depth (ft):1.0Drilling End Date:12/06/2019Boring Diameter (in):2.00Drilling Company:H&HSampling Method(s):GrabDrilling Method:Hand AugerDTW During Drilling (ft):-Drilling Equipmet:Hand AugerDTW After Drilling (ft):-Driller:Robert SorgelGround Surface Elev. (ft):-Logged By:Robert SorgelLocation (X,Y):-				
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time DORING COMPLETION Sample Type Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Hab Sample DEPTH (ft)		
	(0') SILT with sand (ML); little fine-medium sand, mostly silt, few reddish-brown (1') Boring terminated	0 clay, soft, dry, light GRF- 27 (0- 1)		
10 NOTES: .		10		

hart <mark>ス</mark> hickman	Client: NC DOT Project: ROW-605	BORING LOG Boring No. GRF-28
SMARTER ENVIRONMENTAL SOLUTIONS	Address: Davidson, NC	Page: 1 of 1
Drilling Start Date:12/05/2019Drilling End Date:12/05/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GrabDTW During Drilling (ft):10DTW After Drilling (ft):10Ground Surface Elev. (ft):Location (X,Y):	
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Sample Type Sample Type Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Lab Sample DEPTH (ft)
	(0) SILT with sand (ML); little fine-medium sand, mostly silt, few or reddish-brown (1) Boring terminated	Clay, soft, dry, light 0
NOTES: .		

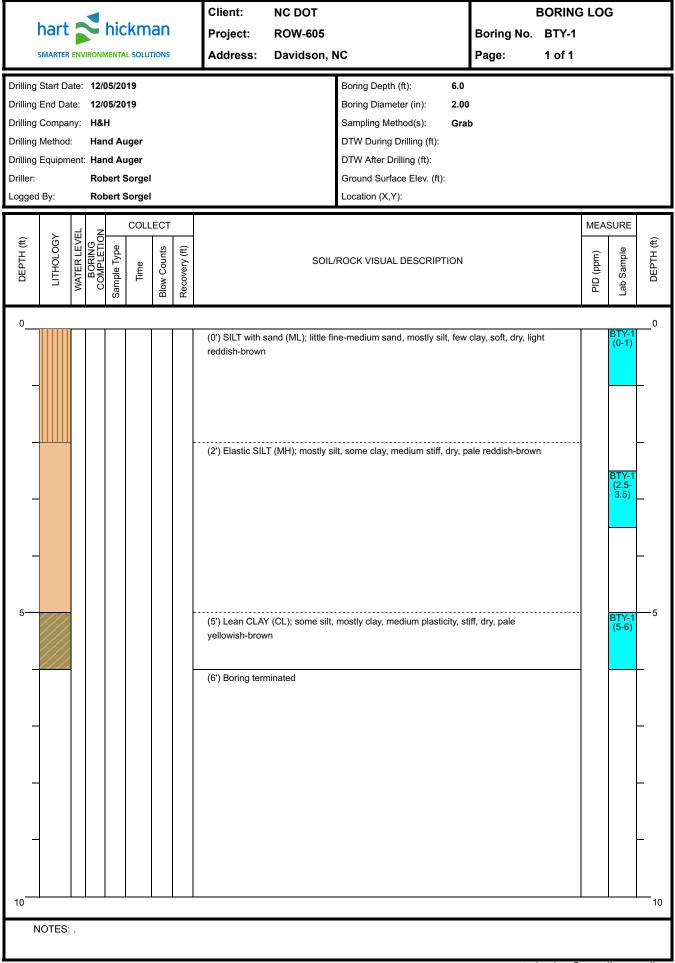
SMARTER ENVIRONMENTAL SOLUTIONS Address: Davidson, NC Page: 1 of 1 Drilling Start Date: 12/06/2019 Boring Depth (ft): 1.0 Drilling Company: H&H Boring Diameter (in): 2.00 Drilling Method: Hand Auger DTW During Drilling (ft):	hauf history	ent: NC DOT bject: ROW-605	BORING LOG Boring No. GRF-29
Drilling End Date:12/06/2019Boring Diameter (in):2.00Drilling Company:H&HSampling Method(s):GrabDrilling Method:Hand AugerDTW During Drilling (ft):Drilling Equipment:Hand AugerDTW After Drilling (ft):Driller:Robert SorgelGround Surface Elev. (ft):			
	ing End Date: 12/06/2019 ing Company: H&H ing Method: Hand Auger ing Equipment: Hand Auger ler: Robert Sorgel	Boring Diameter (in):2.0Sampling Method(s):GraDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Ground Surface Elev. (ft):	0
Image: Collect (t) Metric (t) Image: Collect (t) Nates Level (t) Image: Collect (t) Sample Type Image: Collect (t) Sample Type		SOIL/ROCK VISUAL DESCRIPTION	E E
- (1) SiLT with sand (ML); little fine-medium sand, mostly silt, few clay, soft, dry, light - - (1) Boring terminated - - (1) Boring terminated - 5 - - - - - - - -	(0') SI reddis (1') Bo	dish-brown	v clay, soft, dry, light v clay, soft, dry, light

hart hickman Project: ROW-605 Boring No. GRI SMARTER ENVIRONMENTAL SOLUTIONS Address: Davidson, NC Page: 1 of Drilling Start Date: 12/05/2019 Boring Depth (ft): 1.0	
Drilling Start Date: 12/05/2019 Boring Depth (ft): 1.0	
Drilling End Date:12/05/2019Boring Diameter (in):2.00Drilling Company:H&HSampling Method(s):GrabDrilling Method:Hand AugerDTW During Drilling (ft):DTW After Drilling (ft):Driller:Hand AugerDTW After Drilling (ft):Cound Surface Elev. (ft):Driller:Robert SorgelGround Surface Elev. (ft):Location (X,Y):	
DEPTH (ft) LLTHOLOGY NATER LEVEL BIOW Counts Recovery (ft) Recovery (ft) Re	PID (ppm) Lab Sample DEPTH (ft)
0 (0) SLT with sand (ML); little fine-medium sand, mostly silt, few clay, soft, dry, light reddish-brown (1') Boring terminated (1') Bori	

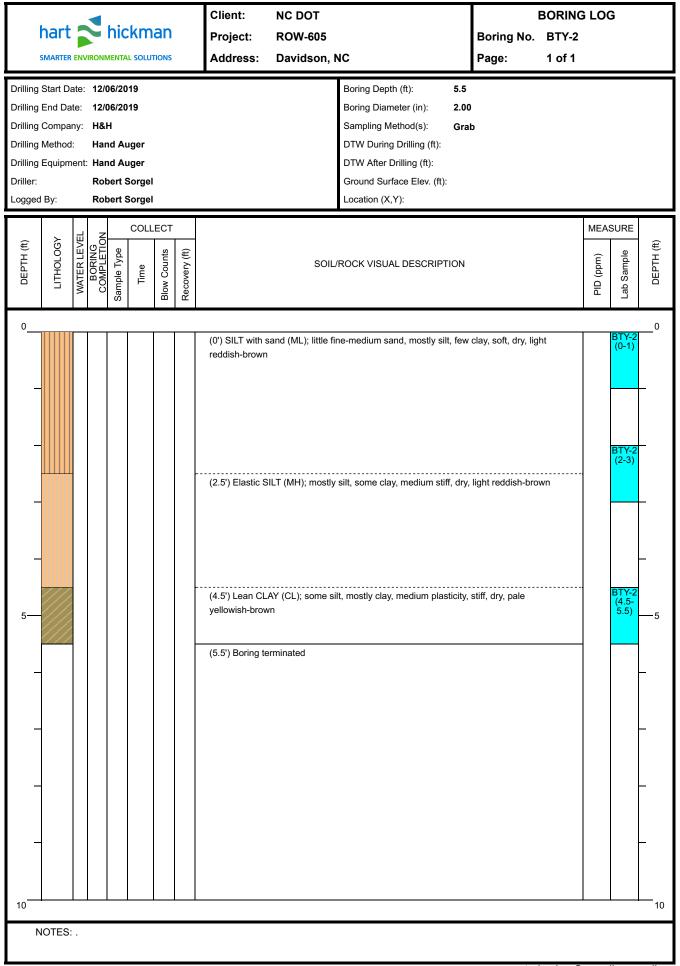
hart <mark>ನ</mark> hickman	Client: NC DOT Project: ROW-605	BORING LOG Boring No. GRF-31
SMARTER ENVIRONMENTAL SOLUTIONS	Address: Davidson, NC	Page: 1 of 1
Drilling Start Date:12/05/2019Drilling End Date:12/05/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GrateDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):	
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Sample Type Blow Counts Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	PID (ppm) Hab Sample DEPTH (ft)
	(0') SILT with sand (ML); little fine-medium sand, mostly silt, few or reddish-brown (1') Boring terminated	clay, soft, dry, light GRF- 31 (0- 1) I I </td
NOTES: .		10

hart 🔁 hickman					an		Client:	NC DOT					3				
SMARTER ENVIRONMENTAL SOLUTIONS								Project: Address:	ROW-605 Davidson, N	IC	Boring No. Page:	1 of 1	2				
Drilling S Drilling I Drilling I Drilling I Drilling I Driller: Logged	End Da Compa Method Equipm	te: ny: : ent:	12/0 H&F Han Han Rob	5/20 I d Au d Au ert S	19 ıger					Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GratDTW During Drilling (ft):DTW After Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):Image: State Stat							
DEPTH (ft)	LITHOLOGY	WATER LEVEL	BORING COMPLETION	Sample Type	COLL	Blow Counts 123	Recovery (ft)		SOIL/ROCK VISUAL DESCRIPTION								
0														0			
-							-) Elastic SILT with sand (MH); little fine-medium sand, mostly silt, little clay, soft, dry, ht reddish-brown								
_															_		
_															_		
_															_		
5															—5		
_															-		
															_		
_															_		
10 N	OTES:														10		

hart <mark>ನ</mark> hickman							Client: Project:	NC DO ROW-6			Boring No.	BORING GRF-3		3	
	MARTER						Address:	Davids		C	Page:	1 of 1			
Drilling S Drilling C Drilling C Drilling N Drilling E Driller: Logged	End Da Compar Method Equipm	te: 1 ny: H : H ent: H	2/05/20 &H and A and A obert)19 uger						Boring Depth (ft):2.Boring Diameter (in):2.Sampling Method(s):GDTW During Drilling (ft):FDTW After Drilling (ft):FGround Surface Elev. (ft):Location (X,Y):					
DEPTH (ft)	LITHOLOGY	WATER LEVEL BORING	COMPLETION Sample Type	COLI	Blow Counts	Recovery (ft)			SOIL/F	ROCK VISUAL DESCRIPTION	1		MEAS (mdd) DIA	Lab Sample	DEPTH (ft)
	DTES:						(0') SILT with s reddish-brown (2') Boring term		little fin	e-medium sand, mostly silt, fe	w clay, soft, dry, lig	ght		GRF- 33 (0- 1) GRF- 33 (1- 2)	5

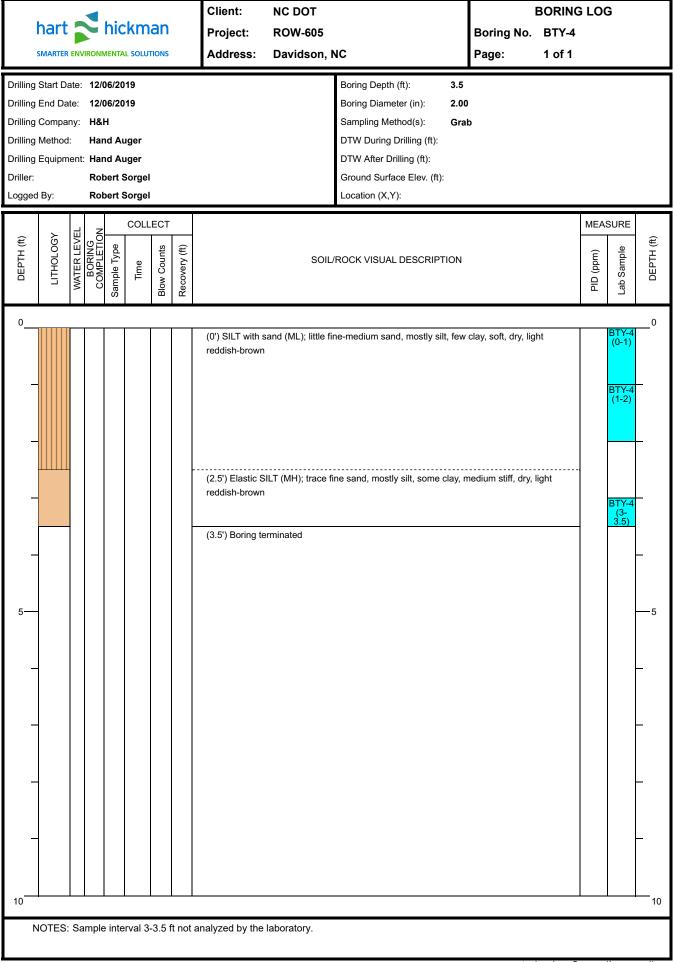


generated using GroundLogs.online



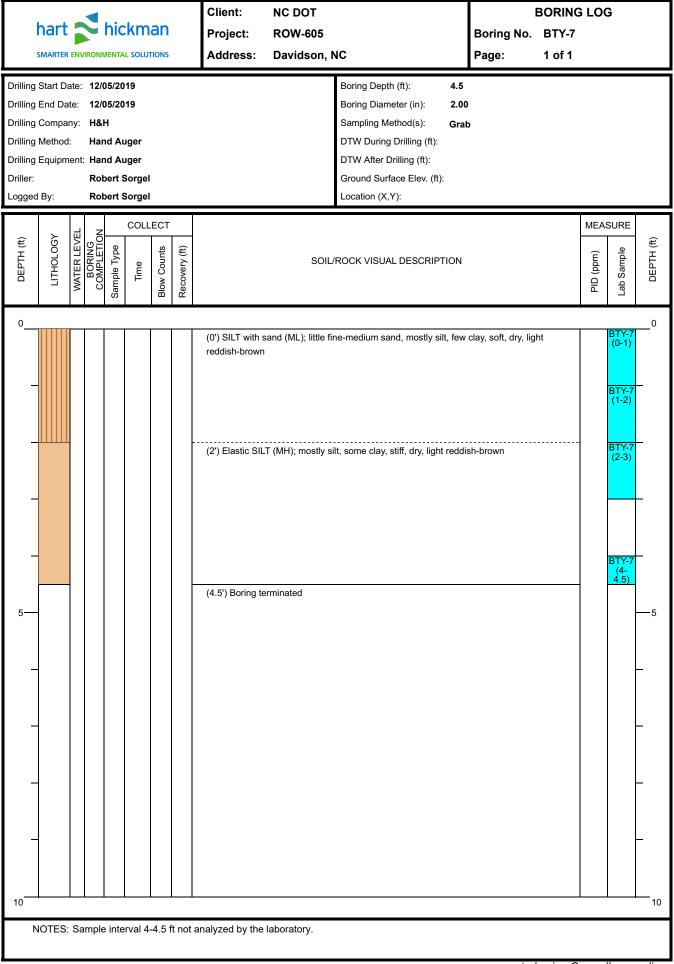
generated using GroundLogs.online

hart hickman Project: ROW-605 Boring No. BTY-3 SMARTER ENVIRONMENTAL SOLUTIONS Address: Davidson, NC Page: 1 of 1 Drilling Start Date: 12/06/2019 Boring Depth (ft): 1.0 Drilling End Date: 12/06/2019 Boring Diameter (in): 2.00 Drilling Company: H&H Sampling Method(s): Grab	
Drilling End Date: 12/06/2019 Boring Diameter (in): 2.00	
Drilling Method:Hand AugerDTW During Drilling (ft):Drilling Equipment:Hand AugerDTW After Drilling (ft):Driller:Robert SorgelGround Surface Elev. (ft):Logged By:Robert SorgelLocation (X,Y):	
LithoLogy Measure Nater Level Measure Nater Level Measure Image: Solitype Sample Type Image: Solitype Recovery (ft) PiD (pm) Recovery (ft)	DEPTH (ft)
0 (1) SLT with sand (ML): little fine-medium sand, mostly silt, few clay, soft, dry, light (1) Suff with sand (ML): little fine-medium sand, mostly silt, few clay, soft, dry, light 1 (1) Boring terminated (1) 5 (1) (1) 5 (1) (1) 1 (1) (1) 5 (1) (1) 1 (1) (1) 5 (1) (1) 1 (1) (1) 1 (1) (1) 1 (1) (1) 1 (1) (1) 1 (1) (1) 1 (1) (1) 1 (1) (1) 1 (1) (1) 1 (1) (1) 1 (1) (1) 1 (1) (1) 1 (1) (1) 1 (1) (1) 1 (1) (1) 1 (1) (1) 1 (1) (1) 1 (1) (1) <	0

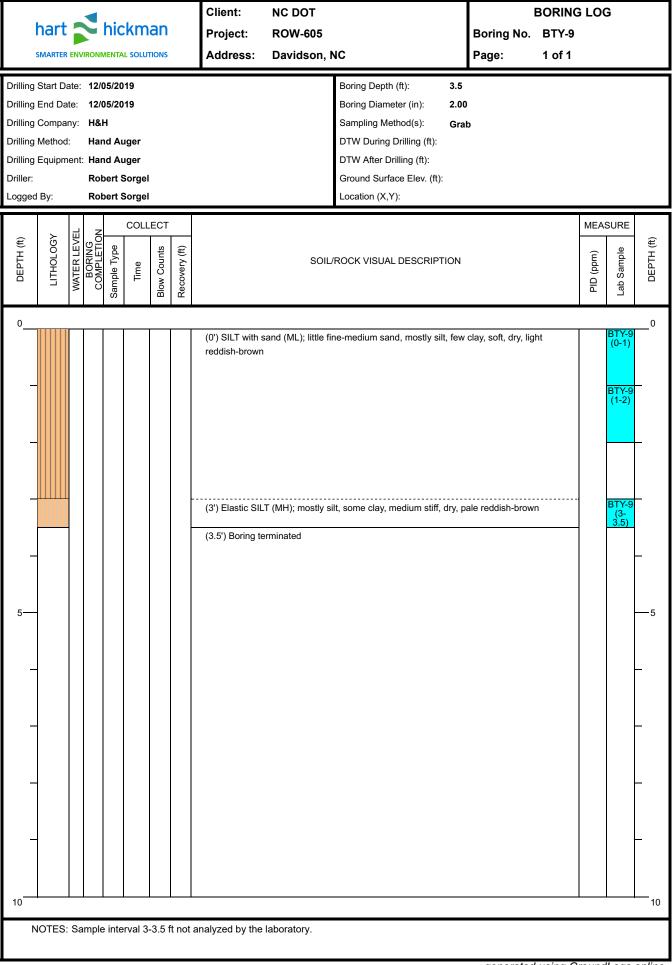


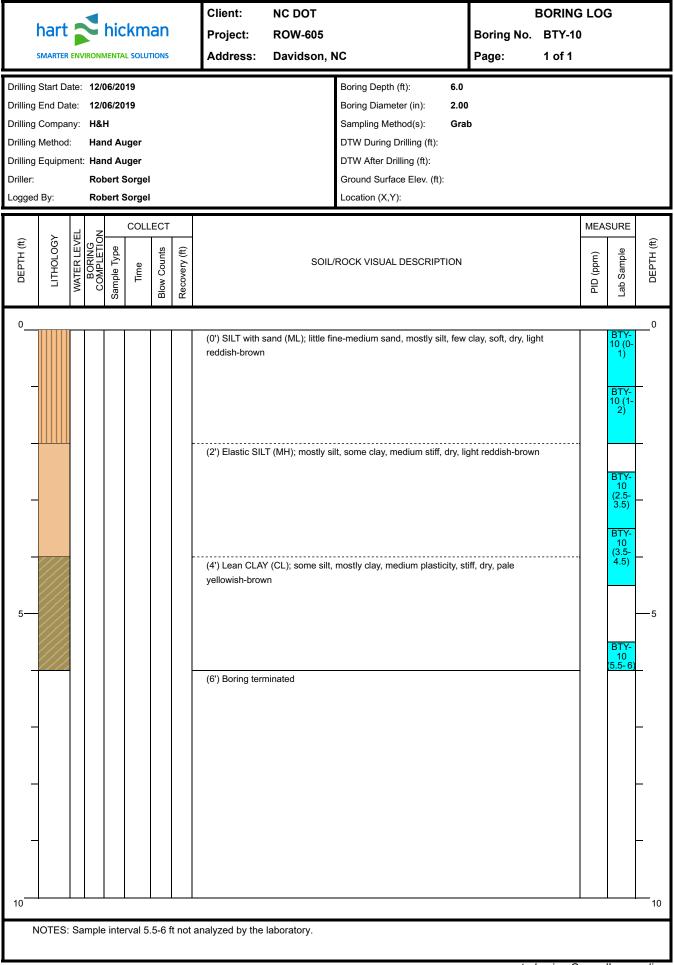
Drilling Start Date: 12/06/2019 Drilling Gunpany: HBH Dri	hart hickman	Client: NC DOT Project: ROW-605 Address: Davidson, NC	BORING LOG Boring No. BTY-5 Page: 1 of 1
(i) Hdag (ii) iii) iiii) iii) iii)	Drilling End Date:12/06/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert Sorgel	Boring Depth (ft): 3.5 Boring Diameter (in): 2.00 Sampling Method(s): Gra DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft):	
(0') Elastic SILT with sand (MH); little fine-medium sand, mostly silt, little clay, soft, dry, light reddish-brown BTY-5 (0-1) (2') Elastic SILT (MH); trace fine-medium sand, mostly silt, little clay, medium stiff, dry, light reddish-brown BTY-5 (1-2) (2') Elastic SILT (MH); trace fine-medium sand, mostly silt, little clay, medium stiff, dry, light reddish-brown BTY-5 (3-3) (3.5') Boring terminated (3.5') Boring terminated Etriptic clay		SOIL/ROCK VISUAL DESCRIPTION	€ E
Image: state of the state o		(2) Elastic SILT (MH); trace fine-medium sand, mostly silt, little o light reddish-brown (3.5') Boring terminated	silt, little clay, soft, dry, BTY-5 (0-1) BTY-5 (1-2) Jay, medium stiff, dry, BTY-5 (1-2) Jay, medium stiff, dry, BTY-5 (1-2)

SMARTER ENVIRONMENTAL SOLUTIONS Add	Project: ROW-605 Address: Davidson, NC Boring Depth (ft): 1.0 Boring Diameter (in): 2.00	Boring No. BTY-6 Page: 1 of 1		
Drilling Start Date: 12/05/2019	Boring Depth (ft): 1.0	raye. Torr		
Drilling End Date:12/05/2019Drilling Company:H&HDrilling Method:Hand AugerDrilling Equipment:Hand AugerDriller:Robert SorgelLogged By:Robert Sorgel	Sampling Method(s): Gra DTW During Drilling (ft): DTW After Drilling (ft): Ground Surface Elev. (ft): Location (X,Y):			
DEPTH (ft) LITHOLOGY WATER LEVEL BORING COMPLETION Sample Type Time Blow Counts Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION		MEASI (mdd) OId	Lab Sample H
(0.3 red	0') Concrete: (4") 0.3') SILT with sand (ML); little medium sand, mostly silt, few cla eddish-brown 1') Boring terminated	ay, soft, dry, light		0 3TY-6 (0-1) - - - - - - - - -
10 NOTES: .				10



h	art		l h	icl	km	an		Client: Project:	NC DOT ROW-605		BORI Boring No. BTY	NG LO	G	
	WARTER							Address:	Davidson,	NC	Page: 1 of			
Drilling S Drilling C Drilling M Drilling M Drilling E Driller: Logged B	End Da Compai Aethod Equipm	te: ny: : ent:	12/05 H&H Hand	/201 Aug Aug rt So	9 ger ger orgel					Boring Depth (ft):1.0Boring Diameter (in):2.00Sampling Method(s):GradDTW During Drilling (ft):DTW After Drilling (ft):Ground Surface Elev. (ft):Location (X,Y):				
DEPTH (ft)	ГІТНОГОСУ	WATER LEVEL		Sample Type	EOLL But T	Blow Counts T	Recovery (ft)		SOIL	/ROCK VISUAL DESCRIPTION		MEA (wdd) Old	Lab Sample	DEPTH (ft)
0								(0') Concrete: (0.3') SILT wit reddish-browr (1') Boring ter	h sand (ML); little า	fine-medium sand, mostly silt, fe	w clay, soft, dry, light		BTY-8 (0-1)	0
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_														_
5														5
_														_
_														_
_														_
10 NC	DTES:		•											10





Appendix E

Laboratory Analytical Reports





Attention: David Graham	Phone:	(704) 586-0007
Hart & Hickman	Fax:	
2923 S. Tryon Street	Received:	12/11/2019 11:15 AM
Charlotte, NC 28203	Analysis Date:	12/27/2019 - 02/17/2020
	Collected:	12/03/2019

Project: ROW-605

Test Report: Asbestos Analysis of Soils via EPA 600/R-93/116 Method using PLM and Milling Prep. Quantitation using 400 Point Count Procedure

			<u>Non-Asbestos</u>			
Sample	Description Appearance		ce % Fibrous % Non-Fibr		on-Fibrous % Type	
PTS-1 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0001		Non-Fibrous				
		Homogeneous				
PTS-2 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0002		Non-Fibrous				
		Homogeneous				
PTS-3 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0003		Non-Fibrous				
		Homogeneous				
PTS-4 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0004		Non-Fibrous				
		Homogeneous				
PTS-5 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0005		Non-Fibrous				
		Homogeneous				
PTS-6 (0-1)	Soil	Red		100.0% Non-fibrous (Other)	None Detected	
041935338-0006		Non-Fibrous				
		Homogeneous				
PTS-7 (0-1)	Soil	Red		100.0% Non-fibrous (Other)	None Detected	
041935338-0007		Non-Fibrous				
		Homogeneous				
PTS-8 (0-1)	Soil	Red		100.0% Non-fibrous (Other)	None Detected	
041935338-0008		Non-Fibrous				
		Homogeneous				
PTS-9 (1-2)	Soil	Red		100.0% Non-fibrous (Other)	None Detected	
041935338-0009		Non-Fibrous				
		Homogeneous				
PTS-10 (0-1)	Soil	Red		100.0% Non-fibrous (Other)	None Detected	
041935338-0010		Non-Fibrous				
		Homogeneous				

Disclaimer:Some samples may contain asbestos fibers present in dimensions below PLM resolution limits. The limit of detection as stated in the method is 0.25%. EMSL Analytical Inc suggests that samples reported as <0.25% or none detected undergo additional analysis via TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval of EMSL Analytical Inc. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the United States Government. EMSL Analytical Inc., bears no responsibility for sample collection activities, analytical method limitations, or the accuracy of results when requested to separate layered samples. EMSL Analytical Inc., liability is limited to the cost of sample analysis. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036, PA ID# 68-00367



Attention:	David Graham	Phone:	(704) 586-0007
	Hart & Hickman	Fax:	
	2923 S. Tryon Street	Received:	12/11/2019 11:15 AM
	Charlotte, NC 28203	Analysis Date:	12/27/2019 - 02/17/2020
		Collected:	12/03/2019
Project:	ROW-605		

			<u>Non-Asbestos</u>			
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре	
PTS-11 (0-1)	Soil	Red		100.0% Non-fibrous (Other)	None Detected	
041935338-0011		Non-Fibrous				
		Homogeneous				
PTS-12 (0-1)	Soil	Red		100.0% Non-fibrous (Other)	None Detected	
041935338-0012		Non-Fibrous				
		Homogeneous				
PTS-13 (0-1)	Soil	Red		100.0% Non-fibrous (Other)	None Detected	
041935338-0013		Non-Fibrous				
		Homogeneous				
PTS-14 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0014		Non-Fibrous				
		Homogeneous				
PTS-15 (0-1)	Soil	Red		100.0% Non-fibrous (Other)	None Detected	
041935338-0015		Non-Fibrous				
		Homogeneous				
PTS-16 (0-1)	Soil	Red		100.0% Non-fibrous (Other)	None Detected	
041935338-0016		Non-Fibrous				
		Homogeneous				
PTS-17 (0-1)	Soil	Red		100.0% Non-fibrous (Other)	<0.25%Chrysotile	
041935338-0017		Non-Fibrous				
		Homogeneous				
PTS-18 (0-1)	Soil	Red		100.0% Non-fibrous (Other)	None Detected	
041935338-0018		Non-Fibrous				
		Homogeneous				
PTS-18 (1-2)	Soil	Red		100.0% Non-fibrous (Other)	None Detected	
041935338-0019		Non-Fibrous				
		Homogeneous				
PTS-19 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	<0.25%Chrysotile	
041935338-0020		Non-Fibrous				
		Homogeneous				

Disclaimer:Some samples may contain asbestos fibers present in dimensions below PLM resolution limits. The limit of detection as stated in the method is 0.25%. EMSL Analytical Inc suggests that samples reported as <0.25% or none detected undergo additional analysis via TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval of EMSL Analytical Inc. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the United States Government. EMSL Analytical Inc., bears no responsibility for sample collection activities, analytical method limitations, or the accuracy of results when requested to separate layered samples. EMSL Analytical Inc., liability is limited to the cost of sample analysis. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036, PA ID# 68-00367



Attention:	David Graham	Phone:	(704) 586-0007
	Hart & Hickman	Fax:	
	2923 S. Tryon Street	Received:	12/11/2019 11:15 AM
	Charlotte, NC 28203	Analysis Date:	12/27/2019 - 02/17/2020
		Collected:	12/03/2019
Project:	ROW-605		

			Asbestos			
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре	
PTS-19 (1-2)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0021		Non-Fibrous				
		Homogeneous				
PTS-20 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	<0.25%Chrysotile	
041935338-0022		Non-Fibrous				
		Homogeneous				
PTS-20 (1-2)	Soil	Tan		99.25% Non-fibrous (Other)	0.75%Chrysotile	
041935338-0023		Fibrous				
		Homogeneous				
PTS-21 (0-1)	Soil	Red		100.0% Non-fibrous (Other)	None Detected	
041935338-0024		Non-Fibrous				
		Homogeneous				
PTS-21 (1-2)	Soil	Red		100.0% Non-fibrous (Other)	<0.25%Chrysotile	
041935338-0025		Non-Fibrous				
		Homogeneous				
PTS-22 (0-1)	Soil	Red		100.0% Non-fibrous (Other)	<0.25%Chrysotile	
041935338-0026		Non-Fibrous				
		Homogeneous				
PTS-22 (1-2)	Soil	Red		100.0% Non-fibrous (Other)	None Detected	
041935338-0027		Non-Fibrous				
		Homogeneous				
PTS-23 (0-1)	Soil	Red		100.0% Non-fibrous (Other)	None Detected	
041935338-0028		Non-Fibrous				
		Homogeneous				
EXT-1 (0-1)	Soil	Gray		100.0% Non-fibrous (Other)	None Detected	
041935338-0029		Non-Fibrous				
		Homogeneous				
EXT-1 (1-2)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0030		Non-Fibrous				
		Homogeneous				

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036, PA ID# 68-00367



Attention:	David Graham	Phone:	(704) 586-0007
	Hart & Hickman	Fax:	
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	Charlotte, NC 28203	Analysis Date:	12/27/2019 - 02/17/2020
		Collected:	12/03/2019
Project:	ROW-605		

			<u>Non-</u>	Non-Asbestos		
Sample	Description	Appearance	% Fibrous	% Туре		
EXT-1 (2-3)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0031		Non-Fibrous				
		Homogeneous				
EXT-1 (3-4)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0032		Non-Fibrous				
		Homogeneous				
EXT-2 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0034		Non-Fibrous				
		Homogeneous				
EXT-2 (1-2)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0035		Non-Fibrous				
		Homogeneous				
EXT-2 (2-3)	Soil	Brown		100.0% Non-fibrous (Other)	<0.25%Chrysotile	
041935338-0036		Non-Fibrous			· · · · ·	
		Homogeneous				
EXT-2 (4-4.5)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0037		Non-Fibrous				
		Homogeneous				
EXT-3 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	<0.25%Chrysotile	
041935338-0038		Non-Fibrous				
		Homogeneous				
EXT-3 (1.5-2.5)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0039		Non-Fibrous				
		Homogeneous				
EXT-3 (3.5-4.5)	Soil	White		100.0% Non-fibrous (Other)	None Detected	
041935338-0040		Non-Fibrous		. ,		
		Homogeneous				
EXT-3 (4.5-5.5)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0041		Non-Fibrous				
		Homogeneous				

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	Collected:	12/03/2019

Project: ROW-605

Test Report: Asbestos Analysis of Soils via EPA 600/R-93/116 Method using PLM and Milling Prep. Quantitation using 400 Point Count Procedure

			Non	<u>Non-Asbestos</u>	
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
EXT-4 (0-1)	Soil	Brown		99.75% Non-fibrous (Other)	0.25% Chrysotile
041935338-0043		Fibrous			
		Homogeneous			
EXT-4 (2-3)	Soil	Brown		99.75% Non-fibrous (Other)	0.25%Chrysotile
041935338-0044		Fibrous			
		Homogeneous			
EXT-4 (4-5)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0045		Non-Fibrous			
		Homogeneous			
EXT-4 (5-6)	Soil	Tan		99.75% Non-fibrous (Other)	0.25%Chrysotile
041935338-0046		Fibrous			
		Homogeneous			
EXT-4 (7-7.5)	Soil	Brown		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0047		Non-Fibrous			
		Homogeneous			
EXT-5 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0048		Non-Fibrous			
		Homogeneous			
EXT-5 (3-4)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0049		Non-Fibrous			
		Homogeneous			
EXT-5 (7-8)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0050		Non-Fibrous			
		Homogeneous			
EXT-6 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0051		Non-Fibrous			
		Homogeneous			
EXT-6 (2.5-3.5)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0052		Non-Fibrous			
		Homogeneous			

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 12/27/2019 - 02/17/2020
 12/03/2019

Project: ROW-605

Test Report: Asbestos Analysis of Soils via EPA 600/R-93/116 Method using PLM and Milling Prep. Quantitation using 400 Point Count Procedure

			<u>Non-</u>	Asbestos	<u>Asbestos</u>
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
EXT-6 (5-6) 041935338-0053	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
EXT-6 (6-7) 041935338-0054	Soil	Brown Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
EXT-7 (0-1) 041935338-0056	Soil	Brown Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	<0.25%Chrysotile
EXT-7 (1.5-2.5) 041935338-0057	Soil	Brown Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
EXT-7 (3-4) 041935338-0058	Soil	White Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
EXT-7 (4-5) 041935338-0059	Soil	Beige Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
EXT-8 (0-1) 041935338-0061	Soil	Brown Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
EXT-8 (3-4) 041935338-0062	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
EXT-8 (6-7) 041935338-0063	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
EXT-9 (0-1) 041935338-0064	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected

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Project: ROW-605		

			Non	-Asbestos	<u>Asbestos</u>
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
EXT-9 (1.5-2.5)	Soil	Tan		99.75% Non-fibrous (Other)	0.25%Chrysotile
041935338-0065		Fibrous			
		Homogeneous			
EXT-9 (3-4)	Soil	Tan		99.75% Non-fibrous (Other)	0.25%Chrysotile
041935338-0066		Non-Fibrous			
		Homogeneous			
EXT-9 (4-5)	Soil	Tan		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0067		Fibrous			
		Homogeneous			
EXT-9 (6-6.5)	Soil	Brown		99.50% Non-fibrous (Other)	0.50%Chrysotile
041935338-0068		Non-Fibrous			
		Homogeneous			
EXT-10 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0069		Non-Fibrous			
		Homogeneous			
EXT-10 (1.5-2.5)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0070		Non-Fibrous			
		Homogeneous			
EXT-10 (3-4)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0071		Non-Fibrous			
		Homogeneous			
EXT-10 (4-5)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0072		Non-Fibrous			
		Homogeneous			
EXT-10 (6-6.5)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0073		Non-Fibrous			
		Homogeneous			
EXT-11 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0074		Fibrous		· · · ·	
		Homogeneous			

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Project: ROW-605

Test Report: Asbestos Analysis of Soils via EPA 600/R-93/116 Method using PLM and Milling Prep. Quantitation using 400 Point Count Procedure

			<u>Non-</u>	-Asbestos	<u>Asbestos</u>
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
EXT-11 (1.5-2.5)	Soil	Tan		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0075		Fibrous			
		Homogeneous			
EXT-11 (3-4)	Soil	Brown		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0076		Non-Fibrous			
		Homogeneous			
EXT-12 (0-1)	Soil	Tan		99.75% Non-fibrous (Other)	0.25%Chrysotile
041935338-0077		Fibrous			
		Homogeneous			
EXT-12 (1-2)	Soil	Tan		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0078		Fibrous			
		Homogeneous			
EXT-12 (2.5-3.5)	Soil	Brown		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0079		Non-Fibrous			
		Homogeneous			
EXT-12 (3.5-4.5)	Soil	Brown		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0080		Non-Fibrous			
		Homogeneous			
EXT-12 (5.5-6)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected
041935338-0081		Non-Fibrous			
		Homogeneous			
EXT-13 (0-1)	Soil	Brown		99.75% Non-fibrous (Other)	0.25%Chrysotile
041935338-0082		Non-Fibrous			
		Homogeneous			
EXT-13 (1-2)	Soil	Tan		99.75% Non-fibrous (Other)	0.25%Chrysotile
041935338-0083		Fibrous			
		Homogeneous			
EXT-13 (2-3)	Soil	Tan		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0084		Fibrous			
		Homogeneous			

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			<u>Non-Asbestos</u>		<u>Asbestos</u>
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
EXT-14 (0-1)	Soil	Tan		99.75% Non-fibrous (Other)	0.25%Chrysotile
041935338-0085		Fibrous			
		Homogeneous			
EXT-14 (1.5-2.5)	Soil	Tan		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0086		Fibrous			
		Homogeneous			
EXT-14 (3-4)	Soil	Brown		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0087		Non-Fibrous			
		Homogeneous			
SLN-1 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0088		Non-Fibrous			
		Homogeneous			
SLN-1 (1-2)	Soil	Tan		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0089		Fibrous			
		Homogeneous			
SLN-2 (0-1)	Soil	Beige		100.0% Non-fibrous (Other)	None Detected
041935338-0090		Non-Fibrous			
		Homogeneous			
SLN-3 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected
041935338-0091		Non-Fibrous			
		Homogeneous			
SLN-3 (2.5-3.5)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected
041935338-0092		Non-Fibrous			
		Homogeneous			
SLN-3 (5-6)	Soil	Beige		100.0% Non-fibrous (Other)	None Detected
041935338-0093		Non-Fibrous			
		Homogeneous			
SLN-4 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected
041935338-0094		Non-Fibrous			
		Homogeneous			

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Project:	ROW-605		

			<u>Non-Asbestos</u>				
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре		
SLN-4 (3-4)	Soil	Beige		100.0% Non-fibrous (Other)	None Detected		
041935338-0095		Non-Fibrous					
		Homogeneous					
SLN-4 (7-8)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected		
041935338-0096		Non-Fibrous					
		Homogeneous					
SLN-5 (0-1)	Soil	Brown		99.25% Non-fibrous (Other)	0.75%Chrysotile		
041935338-0097		Fibrous					
		Homogeneous					
SLN-5 (1-2)	Soil	Brown		98.8% Non-fibrous (Other)	1.25%Chrysotile		
041935338-0098		Fibrous					
		Homogeneous					
SLN-6 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected		
041935338-0099		Non-Fibrous					
		Homogeneous					
SLN-7 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected		
041935338-0100		Non-Fibrous					
		Homogeneous					
SLN-7 (1-2)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected		
041935338-0101		Non-Fibrous					
		Homogeneous					
SLN-8 (0-01)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected		
041935338-0102		Non-Fibrous					
		Homogeneous					
SLN-9 (0-01)	Soil	Brown		99.25% Non-fibrous (Other)	0.75%Chrysotile		
041935338-0103		Non-Fibrous					
		Homogeneous					
SLN-10 (0-01)	Soil	Brown		100.0% Non-fibrous (Other)	<0.25%Chrysotile		
041935338-0104		Non-Fibrous					
		Homogeneous					

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		<u>Non-Asbestos</u>			<u>Asbestos</u>
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
SLN-11 (0-01)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected
041935338-0105		Non-Fibrous			
		Homogeneous			
SLN-12 (0-01)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected
041935338-0106		Non-Fibrous			
		Homogeneous			
SLN-13 (0-01)	Soil	Brown		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0107		Non-Fibrous			
		Homogeneous			
SLN-14 (0-01)	Soil	Brown		99.75% Non-fibrous (Other)	0.25%Chrysotile
041935338-0108		Non-Fibrous			
		Homogeneous			
SLN-15 (0-01)	Soil	Brown		99.25% Non-fibrous (Other)	0.75%Chrysotile
041935338-0109		Fibrous			
		Homogeneous			
SLN-16 (0-01)	Soil	Brown		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0110		Non-Fibrous			
		Homogeneous			
SLN-17 (0-01)	Soil	Brown		99.75% Non-fibrous (Other)	0.25%Chrysotile
041935338-0111		Non-Fibrous			
		Homogeneous			
SLN-18 (0-01)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0112		Non-Fibrous			
		Homogeneous			
SLN-19 (0-01)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0113		Non-Fibrous			
		Homogeneous			
SLN-20 (0-01)	Soil	Tan		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0114		Non-Fibrous			
		Homogeneous			

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036, PA ID# 68-00367



Attention:	David Graham	Phone:	(704) 586-0007
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	Charlotte, NC 28203	Analysis Date:	12/27/2019 - 02/17/2020
		Collected:	12/03/2019
Project:	ROW-605		

		Non-Asbestos			<u>Asbestos</u>
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
SLN-20 (1-2) 041935338-0115	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
SLN-21 (0-1) 041935338-0116	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
SLN-21 (1-2) 041935338-0117	Soil	Tan Fibrous Homogeneous		100.0% Non-fibrous (Other)	<0.25%Chrysotile
SLN-22 (0-1) 041935338-0118	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
SLN-22 (1-2) 041935338-0119	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
SLN-23 (0-1) 041935338-0120	Soil	Gray Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
GRF-1 (0-1) 041935338-0121	Soil	Brown Fibrous Homogeneous		99.50% Non-fibrous (Other)	0.50%Chrysotile
GRF-1 (1-2) 041935338-0122	Soil	Brown Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
GRF-2 (0-1) 041935338-0123	Soil	Brown Fibrous Homogeneous		97.8% Non-fibrous (Other)	2.25%Chrysotile
GRF-3 (0-1) 041935338-0124	Soil	Brown Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected

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Project: ROW-605

Test Report: Asbestos Analysis of Soils via EPA 600/R-93/116 Method using PLM and Milling Prep. Quantitation using 400 Point Count Procedure

	Description	<u>Non-Asbestos</u>			<u>Asbestos</u>	
Sample		Appearance	% Fibrous	% Non-Fibrous	% Туре	
GRF-3 (1-2)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0125		Non-Fibrous				
		Homogeneous				
GRF-4 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0126		Non-Fibrous				
		Homogeneous				
GRF-5 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0127		Non-Fibrous				
		Homogeneous				
GRF-5 (1-2)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0128		Non-Fibrous				
		Homogeneous				
GRF-6 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0129		Non-Fibrous				
		Homogeneous				
GRF-7 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0130		Non-Fibrous				
		Homogeneous				
GRF-8 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0131		Non-Fibrous				
		Homogeneous				
GRF-8 (1-2)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0132		Non-Fibrous				
		Homogeneous				
GRF-9 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0133		Non-Fibrous				
		Homogeneous				
GRF-10 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0134		Non-Fibrous				
		Homogeneous				

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		<u>Non-Asbestos</u>			<u>Asbestos</u>	
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре	
GRF-10 (1-2)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0135		Non-Fibrous				
		Homogeneous				
GRF-11 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0136		Non-Fibrous				
		Homogeneous				
GRF-11 (1.5-2.5)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0137		Non-Fibrous				
		Homogeneous				
GRF-11 (3-4)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0138		Non-Fibrous				
		Homogeneous				
GRF-12 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0139		Non-Fibrous				
		Homogeneous				
GRF-12 (1-2)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0140		Non-Fibrous				
		Homogeneous				
GRF-13 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0142		Non-Fibrous				
		Homogeneous				
GRF-13 (2-3)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0143		Non-Fibrous				
		Homogeneous				
GRF-13 (4-5)	Soil	Gray		100.0% Non-fibrous (Other)	None Detected	
041935338-0144		Non-Fibrous				
		Homogeneous				
GRF-14 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0145		Non-Fibrous				
		Homogeneous				

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		<u>Non-Asbestos</u>			Asbestos	
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре	
GRF-14 (2-3) 041935338-0146	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	
GRF-14 (4-5) 041935338-0147	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	
GRF-15 (0-1) 041935338-0148	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	
GRF-15 (2-3) 041935338-0149	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	
GRF-15 (3.5-4.5) 041935338-0150	Soil	Gray Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	
GRF-16 (0-1) 041935338-0151	Soil	Brown/Red Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	
GRF-16 (1-2) 041935338-0152	Soil	Brown/Red Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	
GRF-17 (0-1) 041935338-0153	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	
GRF-17 (1-2) 041935338-0154	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	
GRF-18 (0-1) 041935338-0155	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	

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		<u>Non-Asbestos</u>			<u>Asbestos</u>	
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре	
GRF-18 (2-3) 041935338-0156	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	
GRF-18 (4-5) 041935338-0157	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	
GRF-19 (0-1) 041935338-0158	Soil	Brown Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	
GRF-19 (2-3) 041935338-0159	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	
GRF-19 (4.5-5.5) 041935338-0160	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	
GRF-20 (0-1) 041935338-0161	Soil	Brown Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	
GRF-20 (2-3) 041935338-0162	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	
GRF-20 (4-5) 041935338-0163	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	
GRF-21 (0-1) 041935338-0164	Soil	Tan Non-Fibrous Homogeneous	5% Cellulose	95.0% Non-fibrous (Other)	None Detected	
GRF-21 (2-3) 041935338-0165	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected	

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Test Report: Asbestos Analysis of Soils via EPA 600/R-93/116 Method using PLM and Milling Prep. Quantitation using 400 Point Count Procedure

	Description	<u>Non-Asbestos</u>			<u>Asbestos</u>
Sample		Appearance	% Fibrous	% Non-Fibrous	% Туре
GRF-21 (4-5) 041935338-0166	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
GRF-22 (0-1) 041935338-0167	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
GRF-22 (2-3) 041935338-0168	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
GRF-22 (3.5-4.5) 041935338-0169	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
GRF-23 (0-1) 041935338-0170	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
GRF-23 (2-3) 041935338-0171	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
GRF-23 (4-5) 041935338-0172	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	None Detected
GRF-24 (0-1) 041935338-0173	Soil	Tan Non-Fibrous Homogeneous		99.50% Non-fibrous (Other)	0.50%Chrysotile
GRF-24 (1.5-2.5) 041935338-0174	Soil	Tan Non-Fibrous Homogeneous		99.25% Non-fibrous (Other)	0.75%Chrysotile
GRF-24 (3-4) 041935338-0175	Soil	Tan Non-Fibrous Homogeneous		100.0% Non-fibrous (Other)	<0.25%Chrysotile

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Test Report: Asbestos Analysis of Soils via EPA 600/R-93/116 Method using PLM and Milling Prep. Quantitation using 400 Point Count Procedure

	Description	<u>Non-Asbestos</u>			Asbestos
Sample		Appearance	% Fibrous	% Non-Fibrous	% Туре
GRF-25 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0176		Non-Fibrous			
		Homogeneous			
GRF-26 (0-1)	Soil	Tan/Red	5% Cellulose	95.0% Non-fibrous (Other)	None Detected
041935338-0177		Fibrous			
		Homogeneous			
GRF-26 (1.5-2.5)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0178		Non-Fibrous			
		Homogeneous			
GRF-26 (3-4)	Soil	Tan	3% Cellulose	97.0% Non-fibrous (Other)	None Detected
041935338-0179		Non-Fibrous			
		Homogeneous			
GRF-27 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0180		Non-Fibrous			
		Homogeneous			
GRF-28 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0181		Non-Fibrous			
		Homogeneous			
GRF-29 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0182		Non-Fibrous			
		Homogeneous			
GRF-30 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0183		Non-Fibrous			
		Homogeneous			
GRF-31 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0184		Non-Fibrous			
		Homogeneous			
GRF-32 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0185		Non-Fibrous			
		Homogeneous			

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Sample Description			<u>Non-</u>	<u>Non-Asbestos</u>	
		Appearance	% Fibrous	% Non-Fibrous	% Туре
GRF-33 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0186		Non-Fibrous			
		Homogeneous			
GRF-33 (1-2)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0187		Non-Fibrous			
		Homogeneous			
BTY-1 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0188		Non-Fibrous			
		Homogeneous			
BTY-1 (2.5-3.5)	Soil	Gray		100.0% Non-fibrous (Other)	None Detected
041935338-0189		Non-Fibrous			
		Homogeneous			
BTY-1 (5-6)	Soil	Gray		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0190		Non-Fibrous			
		Homogeneous			
BTY-2 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0191		Non-Fibrous			
		Homogeneous			
BTY-2 (2-3)	Soil	Gray		100.0% Non-fibrous (Other)	None Detected
041935338-0192		Non-Fibrous			
		Homogeneous			
BTY-2 (4.5-5.5)	Soil	Gray		100.0% Non-fibrous (Other)	None Detected
041935338-0193		Non-Fibrous			
		Homogeneous			
BTY-3 (0-1)	Soil	Red		100.0% Non-fibrous (Other)	None Detected
041935338-0194		Non-Fibrous			
		Homogeneous			
BTY-4 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected
041935338-0195		Non-Fibrous			
		Homogeneous			

Disclaimer:Some samples may contain asbestos fibers present in dimensions below PLM resolution limits. The limit of detection as stated in the method is 0.25%. EMSL Analytical Inc suggests that samples reported as <0.25% or none detected undergo additional analysis via TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval of EMSL Analytical Inc. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the United States Government. EMSL Analytical Inc., bears no responsibility for sample collection activities, analytical method limitations, or the accuracy of results when requested to separate layered samples. EMSL Analytical Inc., liability is limited to the cost of sample analysis. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036, PA ID# 68-00367



Project: ROW-605

Attention:	David Graham	Phone:	(704) 586-0007
	Hart & Hickman	Fax:	
	2923 S. Tryon Street	Received:	12/11/2019 11:15 AM
	Charlotte, NC 28203	Analysis Date:	12/27/2019 - 02/17/2020
		Collected:	12/03/2019

Test Report: Asbestos Analysis of Soils via EPA 600/R-93/116 Method using PLM and Milling Prep. Quantitation using 400 Point Count Procedure

			<u>Non-Asbestos</u>		Asbestos	
Sample Description		Appearance	% Fibrous	% Non-Fibrous	% Туре	
BTY-4 (1-2)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0196		Non-Fibrous				
		Homogeneous				
BTY-5 (0-1)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0198		Non-Fibrous				
		Homogeneous				
BTY-5 (1-2)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0199		Non-Fibrous				
		Homogeneous				
BTY-6 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0201		Non-Fibrous				
		Homogeneous				
BTY-7 (0-1)	Soil	Brown	10% Synthetic	90.0% Non-fibrous (Other)	None Detected	
041935338-0202		Fibrous				
		Homogeneous				
BTY-7 (1-2)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0203		Non-Fibrous				
		Homogeneous				
BTY-7 (2-3)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0204		Non-Fibrous				
		Homogeneous				
BTY-8 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0206		Non-Fibrous				
		Homogeneous				
BTY-9 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected	
041935338-0207		Non-Fibrous		、 <i>,</i>		
		Homogeneous				
BTY-9 (1-2)	Soil	Tan		100.0% Non-fibrous (Other)	None Detected	
041935338-0208		Non-Fibrous		. ,		
		Homogeneous				

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036, PA ID# 68-00367



Attention: David Graham	Phone: (704) 586-0007
Hart & Hickman	Fax:
2923 S. Tryon Street	Received: 12/11/2019 11:15 AM
Charlotte, NC 28203	Analysis Date: 12/27/2019 - 02/17/2020
	Collected: 12/03/2019
Project: ROW-605	

			Non-	Non-Asbestos	
Sample Description		Appearance	% Fibrous	% Non-Fibrous	% Туре
EXT-15 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected
041935338-0210		Non-Fibrous			
		Homogeneous			
EXT-16 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	<0.25%Chrysotile
041935338-0211		Non-Fibrous			
		Homogeneous			
BTY-10 (0-1)	Soil	Brown		100.0% Non-fibrous (Other)	None Detected
041935338-0212		Non-Fibrous			
		Homogeneous			
BTY-10 (1-2)	Soil	Gray		100.0% Non-fibrous (Other)	None Detected
041935338-0213		Non-Fibrous			
		Homogeneous			
BTY-10 (2.5-3.5)	Soil	Gray		100.0% Non-fibrous (Other)	None Detected
041935338-0214		Non-Fibrous			
		Homogeneous			
BTY-10 (3.5-4.5)	Soil	Gray		100.0% Non-fibrous (Other)	None Detected
041935338-0215		Non-Fibrous			
		Homogeneous			

Analyst(s)

Andrew Burke (18) Benjamin Verghese (23) Chelsey Donnelly (6) Juli Patel (16) Nancy Stalter (38) Quynh Vu (67) Will DiBella (38)

Samantha Rimothono

Samantha Rundstrom, Laboratory Manager or other approved signatory

Disclaimer: Some samples may contain asbestos fibers present in dimensions below PLM resolution limits. The limit of detection as stated in the method is 0.25%. EMSL Analytical Inc suggests that samples reported as <0.25% or none detected undergo additional analysis via TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval of EMSL Analytical Inc. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the United States Government. EMSL Analytical Inc., bears no responsibility for sample collection activities, analytical method limitations, or the accuracy of results when requested to separate layered samples. EMSL Analytical Inc., liability is limited to the cost of sample analysis. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036, PA ID# 68-00367



Asbestos Chain of Custody EMSL Order Number (Lab Use Only):

1935338 04

PHONE: FAX:

	_						
Company Name : HAR	T & HICK	MAN, P.C.	EMSL Customer li	D:			
Street: 2923 S. TRYON S			City: CHARLOTT		State/Provi	nce: NC	
Zip/Postal Code: 28203		Country: U.S.	Telephone #: (704)586-0007 Fax #:				
Report To (Name): DAVI	D GRAHAM		Please Provide Re	esults: 🗌 Fax	Email		
Email Address: DGRAH	IAM@HAR	THICKMAN.COM	Purchase Order:				
Project Name/Number: R			EMSL Project ID (
U.S. State Samples Take		olina ill to: 🔽 Same 🚺 Different -	CT Samples: C			idential/Tax Exer	mpt
		Third Party Billing requires write	ten authorization from t	hird party	:::::5		
	Hour	Turnaround Time (TAT)	Options* – Please	Check 96 Hour	T 🗆 1 Week	2 Weel	k
*For TEM Air 3 hr through 6 hi	r, please call ah	ead to schedule.*There is a premiun	n charge for 3 Hour TEM	AHERA or EPA Le	vel II TAT. You	will be asked to sign	
authorization form t	f <u>or this service.</u> noles are				in the Analytical	Price Guide.	
from NY		<u>TEM - Air</u> 4-4.5hr TAT (AHERA only}	<u>l-Dust</u>			
NIOSH 7400		AHERA 40 CFR, Part 76		licrovac - ASTN			
w/ OSHA 8hr. TWA				Vipe - ASTM D6			
PLM - Bulk (reporting lim				Carpet Sonicatio		93/167)	
PLM EPA 600/R-93/110	5 (<1%)	ISO 10312 TEM - Bulk		Rock/Vermicu		nilling prep (<0.25	:0/.)
Point Count				'EM EPA 600/R	-93/116 with r	nilling prep (<0.25	/%) %)
400 (<0.25%) 1000	(<0.1%)	NYS NOB 198.4 (non-fria		EM Qualitative			-,
Point Count w/Gravimetric		Chatfield SOP		EM Qualitative			
☐400 (<0.25%) ☐ 1000 (TEM Mass Analysis-EPA		Sincinnati Metho BC only)	d EPA 600/R-	04/004 – PLM/TE	EM
NYS 198.1 (friable in N		<u>TEM – Water: E</u> PA 100.2					
NYS 198.6 NOB (non-f	riable-NY)	Fibers >10µm 🔲 Waste	Drinking Othe	<u>er:</u>			
		All Fiber Sizes 🔲 Waste					
NIOSH 9002 (<1%)				(
		Identify Homogenous Group	p Filter Pore S	Size (Air Samp	les): 🔲 0.8	μ <u>m </u> 0.45μm	
Samplers Name: ROE	BERT S		Samplers Signa		-6		
Sample #	-	Sample Descripti	on		e/Area (Air) # (Bulk)	Date/Time Sampled	
PTS-1 (0-1)	SOIL			- -		12/3 950	0
PTS-2(0-1)		,		-		1005	,
PTS-3(0-1)		,				1030	
PTS-4(0-1)		í			/	1410	
PTS-5(0-1)		· · ·	,			1420	_
Client Sample # (s):				Total # o	f Samples:		
Relinquished (Client):	\sim	Date:	12/9/2019		Time	:	
Received (Lab): Cha	ena	FXG-D Date:	box40f4 12/	11/19	Time	: 1115	
Comments/Special Instru		G PLM WITH MILLING PREP (400 PT COUNT), HOLD A	-	/			
		W/"#" PENDING					
					•		
# HOLD TEM	ANALYS	Page 1 of_ The PENDTM, COL	FIRMATIN	NXXX			
Controlled Document - COC-05 Asbestos	R11 - 07/22/2019					-	
		12/11/19 onl	y box 40941	recid			
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Asbestos Chain of Custody EMSL Order Number (Lab Use Only):

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Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA:# (Bulk)	Date/Time Sampled
PTS-6 (0-1)			12/3 1320
PTS-7(0-1)		~	1430
PTS-8(0-1)		-	1440
PTS-9(1-2)		_	1445
PTS-10 (0-1)		<u> </u>	1505
PTS - 11 (0-1)			1515
PTJ -12 (0-1)			1055
PTS-13 (0-1)			1110
PTS-14 (0-1)			1530
Pts-15 (0-1)			1120
PTS-16(0-1)			1130
PTS-17(0-1)			1155
PTS-19(0-1)		~	1235
PTS-18(1-2)		` ~	1235
PTS-19(0-1)		-	1215
PTS-19(1-2)			1215
PtS-20(0-1)	_	-	1245
PTS-20(1-2)		_	1245
PTS -21(0-1)			1225
PTS-21(1-2)		-	1225
PTS-22(0-1)		_	1300
PTS-22 [1-2]			1300
PTS-23(0-1)		-	1015
*Comments/Special Instruction	ns:		<u></u>
REFER to PU	r. 1		
	Page 2 of 1 pages		

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Asbestos Chain of Custody						
EMSL Order Number (Lab Use Only):						
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Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
EXT-1 (0-1)	SOIL		12/2 1649
EXT-1 (1-2)	(-	1645
EXT-1 (2-3)		~	1645
EXT-1 (3-4)			1645
EXT-1 (5-5.5) *		~	1645
EXT-1(0-1)			1125
EXT-2(1-2)			1125
Ex7-2 (2-3)			1125
EXT-2 (4-4.5) #		~	1125
EXT-3 (0-1)			1670
EXT-3 (1-5-25)			1/20
EXT-3 (3.5-4.5)		~	6520
EX7-3 (4.55.5)			1620
EXT-3 (6.5-7) *			1620
E+T-Y(0-1)			100
ExT-4 (2-3)		-	1100
Ex7-4 (4-5)			1100
Ext-4 (5-6)		<u> </u>	1100
Ex7-4 (7-7.5) #		<u> </u>	11.00
EX7-5 (0-1)			1550
EXT-5 (3-4)			1550
Ex7-5 (7-8)		-	1550
ExT-6 (0-1)	Y		V 1020
*Comments/Special Instructions: REFER to PG,	1.		
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	Page <u>3</u> of <u>11</u> pages		

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Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/ Sam	
EX+T-612-5-35)	SOIL)	12/2	1020
EXT-6 (5-6)		-	1	1020
Ext-6 (6-7)				1020
Ex1-6 (8-8.5) X.				1020
F-YT-7 (0-1)				1040
EXT-7 11.5-2.5				1040
EXT-7 (3-4)				1040
EXT-7 (4-5)		~		lori
HEXT-7 (6-6.5)K		~		IOUK
E47-8 (0-1)				1-225
EXT-8 (3-4)		_		152
EXT-8 (6-7)		-		1525
ExT-9 (0-1)		-		1150
E++9 (1.5-25)				1150
Ext-9 (3-4)		-		1150
Ext-9 (4-5)				1150
E+T-9 (6-6.5) K				1150
ExT-10 (0-1)				1458
EXT-10 (1.5-2.5)		~		1450
Ex+T-10 (3-4)				14:50
ExT-10 (4-5)		-		1480
E E-47-10 (6-65) X		_		1450
EXT-11 (0-1)	V			1425
*Comments/Special Instructions:				
REFER TO	PG. 1			
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Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
Ext- 11(1-5-2.5)	Soll	<u> </u>	12/2 1425
Ext-11 (3-4)		-	1 1425
ExT-12(0-1)		~	1400
Ext-12(1-2)			1400
Ex17-12(2.5-3.5)			. Moo
E47-12(3+5-45)			1400
ExT-Q(5.5-6)			1400
Ext-13(0-1)		~	1230
E47-13(1-2)		-	1230
Ex7-13(2-3)		~	12:30
Ex-1-14 (0-1)			(210
E47-14(1.5-2:5)		-	1519
EXT-14 (3-41)		<u> </u>	1510
PTS-1 (0-1)			
PIS-2-(0=1)			1005
P75-3 (0=1)			1030
PTS-4(0+)			140
P75-5 (0-1)			1 120
RTS_RHS			
SLN-1(0-1)		~	12/4 1115
SLN-1(1-2)		-	12/4 1610
5LN-2(0-1)			12/3 1355
SLN-3(0-1)	V		12/4 1355
*Comments/Special Instructions:	····· · ·		
REFER TO) PG.1		
-			
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Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
SLN-3(2.535)	SOIL		12/4 1355
SLN-3(5-6)			12/4 1355
Stor 3 540-4 (0-	1)	~	12/3 1620
SLN-4(3-4)		~	12/3 1630
SLN-4(7-8)			12/3 1630
SLN-5(0-1)			1214 1405
524-5(1-2)		~	1214 1405
SLN-6(0-1)			12/3 840
SLN-7(0-1)		~	1214 415
SLN-7(1-2)		~	12/4 750-14
SLN-8(0-1)			12/3 350
SLN-9(0-1)			12/3 900
SLN-10(0-1)		~	12/3 910
SLN-11(0-1)			12/3 920
5LN-12(0-1)		~	12/4 1030
SLN-13(0-1)		~	920
SLN-1910-11		-	930
SLN-15(0-1)			955
SLN-16(0-1)		~	1010
SLN-17(0-1)		~	1015
SLN-18(04)		~	1035
SLN-19(0-1)		_	¥ 1040
SLN-20(0-1)	- A	_	124 1325
*Comments/Special Inst			
KEFE	ir to PG, 1		
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Asbestos Chain of Custody EMSL Order Number (Lab Use Only): つくしつうらろろく

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Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
SLN-20(1-2)	SoIL	-	12-5 1325
SLN-21 (0-1)		\sim	1340
SLN-21 (1-2)		-	1340
SUV-22 (0-1)		~	1305
SCN-22(1-2)		-	1305
SLN-23(0-1)		~	1345
(ARF-1(0-1)		~	1040
- GRF-1(1-2)			1040
- (7RF-2(0-1)			12/6 1105
- GRF-310-1)			12/5 1020
- (JRF-3(1-2)			12/5 1020
- (JRF-4(0-1)			12/6 1110
-(7RF-5(0-1)		~	12/5 1010
- (7RF-5(1-2)		-	215 1010
-(7RF-6(0-1)		· _	12/6 1115
-(7RF-7(0-1)			12/5 950
-(1RF-8(0-1)	1	-	12/6 1120
(7RF-8(1-2)		-	12/6 1120
GRF-9(0-1)		-	1215 1000
(IRF-10(0-1)			12/6 1130
(7RF-10(1-2)		-	12/6 1130
GRF-11(0-1)			12/6 1215
(JRF-11 (15-23)			12/6 1215
*Comments/Special Instru	FER TO PG. 1		·
	Page 7 of 11 pages		

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Asbestos Chain of Custody EMSL Order Number (Lab Use Only):

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Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Buik)	Date/Time Sampled
(TRF-11(3-4)	SOIL	<u> </u>	12/6 1215
(JRF-12 (0-1)		-	1214 1605
GRF-12(1-2)		~	1214 1604
* (JRF-12 (3-3.5)	*	~	1214 1605
GRF-13 (0-1)		-	12/5 1540
- (JRF-13(2-3)		~	12/5 1540
- GRF-13(4-5)		-	12/5 1540
GRF-14(0-1)		~	12/5 1515
(7RF-14(2-3)			12/5 1515
GRF-14(4-5)			12/5 1515
GRF- (0-1)		~	12M 1530
GRF-15(2-3)			1214 1530
GRF-15 (3.5-4.5)			1214 1530
GRF-16(0-1)		-	1214 1545
(JRF-16(1-2)		\sim	1214 1545
(JRF-17(0-1)		<u> </u>	1215 1430
- GRF-17(1-2)		~	12/5 1430
GRF-17(0-1)	-	-	12/15 1420
(JRF-18(2-3)		-	1215 1420
GRF-18(4-5) (7RF-19(0-1)		-	2/5 1420
(7RF-19(0-1)		-	1216 1050
(ARF-19(2-3)			1216 1050
(7RF-14(4.5-55			1216 1050
*Comments/Special Instr RCFC	ructions: R TO PG. 1		
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Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled		
(7RF-20(0-1)	Sotl		12/6 350		
(7RF-20(2-3)			850		
17RF-20(4-5)			850		
(mr-) (0-1)		-	1025		
(7RF-21(2-3)		~	1025		
GRF-21(4-5)		~	1025		
GRF-22(0-1)		~	30		
(JRF-J2 (2-3)		~	830		
(7R.F-22(3.5-4.5)		~	830		
(7RF-33(0-1)		~	1000		
GRF-23(2-3)			1000		
GRF-23(4-5)		~	1000		
GRF-24 (0-1)		_	915		
GRF-24(1.5-2.5)			915		
(ZRF-24(3-4)		-	915		
(ARF-25(0-1)			¥ 940		
GRF-26(0-1) -		~	12/5 925		
GRF-26(1-5-2.5)		-	12/4 925		
GRF-26(3-4)		~	12/5 925		
(7RF-27(0-1)		~	12/6 935		
(7RF-28(0-1)		-	12/5 830		
GRF-29(0-1)			12/6 930		
(7RF-30(0-1)		-	12/5 840		
*Comments/Special Instructions:					
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Sample #	Sample Description	Volume/Area (Air) HA # (Buik)	Date/Time Sampled
(7RF-31(0-1)	SOIL	-	1215 850
(ARF-32 (0-1)		-	12-5 905
GRF-33(0-1)		~	12-5 1555
(ARF-33(1-2)		~	12/5 1555
BTY-1(0-1)		~	1215 1110
374-1(2.5-35)		~	1215 1110
BTY-1(5-6)		-	12/5 1110
BTY-2(0-1)		~	12/6 1335
BTY-2(2-3)		~	12/6 1335
BTY-214-5-5.5		~	12/61335
13TY-3(0-1)		<u> </u>	12/6 1345
BTY-4(0-1)		~	12/6 13:55
BTY-4(1-2)	1		1216 1355
\$ BTY-4(3-3-5)	¥t	<u> </u>	12/6 1385
BTY-5(0-1)		~	12/6 1405
1374,-5(1-2)		-	12/6 1405
# 1374-5(3-3-5)	×		12/6 1405
B-TY-6 (0-1).			12/5 1124
BTY-7(0-1)			1255 1225
BTY-7(1-2)		-	12/5 1225
BTY-7(2-3)		_	12/5 1225
\$ BTY-7(4-45)	×	-	2251 225
BTY-8(0-1)			12/5 1135
*Comments/Special Ins	tructions:	1	
	REFER TO PG-1		
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Asbestos Chain of Custody EMSL Order Number (Lab Use Only): ເງັ້ (ໄດ່ງງິຮິ ວິງປູ

PHONE: FAX:

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

	Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
	BTY-4(0-1)	SOIL	1	12/5 1200
	Bty-9(1-2)	1	~	12/5 1200
¥	B-ty-9(3-3.5)	¥	-	12/5 1200
/	EXT- 15(0-1)		-	12/6 1430
	Ex7-15(0-1)		<u> </u>	12/6 1435
	BTY-10 (0-1)		' <u></u>	12/6 1320
	Bty-10(1-2)			12/6 1320
	1374-10(2-5-35)		~	12/6 1320
	1374-10 (3-5-4	5)		1216 1320
¥	1374-10(5.5-6)			12/6 1320
.	<i>/</i>			
	· · · · ·			
				\$
		, ,		
			,	
	*Comments/Special Inst	tructions;		
		REFER TO PG. 1		
L		· · · · _ · _ · _ ·		

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Attn:	David Graham Hart & Hickman 2923 S. Tryon Street Suite 100	Phone: Fax: Received: Analysis Date: Collected:	(704) 586-0007 12/11/19 11:15 AM 3/5/2020 12/3/2019
	Charlotte, NC 28203	Collected:	12/3/2019

Sample	Description	TEM Result	Notes
PTS-1 (0-1) 041935338-0001	Soil	None Detected	
PTS-2 (0-1) 041935338-0002	Soil	None Detected	
PTS-3 (0-1) 041935338-0003	Soil	None Detected	
PTS-4 (0-1) 041935338-0004	Soil	None Detected	
PTS-5 (0-1) 041935338-0005	Soil	None Detected	
PTS-6 (0-1) 041935338-0006	Soil	None Detected	
PTS-7 (0-1) 041935338-0007	Soil	None Detected	
PTS-8 (0-1) 041935338-0008	Soil	None Detected	
PTS-9 (1-2) 041935338-0009	Soil	None Detected	
PTS-10 (0-1) 041935338-0010	Soil	None Detected	
Analyst(s)			Somantha Remations
Craig Nixon (118) Debbie Little (1)		Farland (6) Newkirk (27)	Samantha Rundstrom, Laboratory Manager or other approved signatory
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Attn:	David Graham Hart & Hickman 2923 S. Tryon Street Suite 100	Phone: Fax: Received: Analysis Date: Collected:	(704) 586-0007 12/11/19 11:15 AM 3/5/2020 12/3/2019
	Charlotte, NC 28203	Collected:	12/3/2019

Sample	Description	TEM Result	Notes
PTS-11 (0-1) 041935338-0011	Soil	None Detected	
PTS-12 (0-1) 041935338-0012	Soil	None Detected	
PTS-13 (0-1) 041935338-0013	Soil	None Detected	
PTS-14 (0-1) 041935338-0014	Soil	None Detected	
PTS-15 (0-1) 041935338-0015	Soil	None Detected	
PTS-16 (0-1) 041935338-0016	Soil	None Detected	
PTS-18 (0-1) 041935338-0018	Soil	None Detected	
PTS-18 (1-2) 041935338-0019	Soil	None Detected	
PTS-19 (1-2) 041935338-0021	Soil	None Detected	
PTS-21 (0-1) 041935338-0024	Soil	None Detected	
Analyst(s)		5 / //0	Samantha Rimphonio
Craig Nixon (118) Debbie Little (1)		cFarland (6) Newkirk (27)	Samantha Rundstrom, Laboratory Manager or other approved signatory
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Attn:	Bavia Granam	Phone: Fax:	(704) 586-0007
	Hart & Hickman 2923 S. Tryon Street Suite 100 Charlotte, NC 28203	Received: Analysis Date: Collected:	12/11/19 11:15 AM 3/5/2020 12/3/2019

Sample	Description	TEM Result	Notes
PTS-22 (1-2) 041935338-0027	Soil	Chrysotile	
PTS-23 (0-1) 041935338-0028	Soil	None Detected	
EXT-1 (0-1) 041935338-0029	Soil	Chrysotile	
EXT-1 (1-2) 041935338-0030	Soil	None Detected	
EXT-1 (2-3) 041935338-0031	Soil	None Detected	
EXT-1 (3-4) 041935338-0032	Soil	None Detected	
EXT-2 (0-1) 041935338-0034	Soil	Chrysotile	
EXT-2 (1-2) 041935338-0035	Soil	Chrysotile	<4 structures present
EXT-2 (4-4.5) 041935338-0037	Soil	Chrysotile	<4 asbestos fibers detected
EXT-3 (1.5-2.5) 041935338-0039	Soil	None Detected	
Analyst(s)			Somantha Rimophino
Craig Nixon (118) Debbie Little (1)	Mary McF Melissa N	Farland (6) ewkirk (27)	Samantha Rundstrom, Laboratory Manager or other approved signatory
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	2923 S. Tryon Street	Received:	12/11/19 11:15 AM
	Suite 100	Analysis Date:	3/5/2020
	Charlotte, NC 28203	Collected:	12/3/2019

Sample	Description	TEM Result	Notes
EXT-3 (3.5-4.5) 041935338-0040	Soil	None Detected	
EXT-3 (4.5-5.5) 041935338-0041	Soil	None Detected	
EXT-4 (4-5) 041935338-0045	Soil	None Detected	
EXT-5 (0-1) 041935338-0048	Soil	None Detected	
EXT-5 (3-4) 041935338-0049	Soil	None Detected	
EXT-5 (7-8) 041935338-0050	Soil	None Detected	
EXT-6 (0-1) 041935338-0051	Soil	Chrysotile	
EXT-6 (2.5-3.5) 041935338-0052	Soil	None Detected	
EXT-6 (5-6) 041935338-0053	Soil	None Detected	
EXT-6 (6-7) 041935338-0054	Soil	None Detected	
Analyst(s)			Somantha Remations
Craig Nixon (118) Debbie Little (1)		cFarland (6) Newkirk (27)	Samantha Rundstrom, Laboratory Manager or other approved signatory
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Attn:	 David Graham Hart & Hickman 2923 S. Tryon Street 	Phone: Fax: Received:	(704) 586-0007 12/11/19 11:15 AM 3/5/2020
	Suite 100	Analysis Date:	3/5/2020
	Charlotte, NC 28203	Collected:	12/3/2019

Sample	Description	TEM Result	Notes
EXT-7 (1.5-2.5) 041935338-0057	Soil	None Detected	
EXT-7 (3-4) 041935338-0058	Soil	None Detected	
EXT-7 (4-5) 041935338-0059	Soil	None Detected	
EXT-8 (0-1) 041935338-0061	Soil	Chrysotile	
EXT-8 (3-4) 041935338-0062	Soil	None Detected	
EXT-8 (6-7) 041935338-0063	Soil	None Detected	
EXT-9 (0-1) 041935338-0064	Soil	None Detected	
EXT-9 (1.5-2.5) 041935338-0065	Soil	Chrysotile	
EXT-10 (0-1) 041935338-0069	Soil	Chrysotile	
EXT-10 (1.5-2.5) 041935338-0070	Soil	Chrysotile	
Analyst(s)			Samantha Rimophonic
Craig Nixon (118) Debbie Little (1)	Mary McF Melissa No	arland (6) ewkirk (27)	Samantha Rundstrom, Laboratory Manager or other approved signatory
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2923 S. Tryon Street	Received:	12/11/19 11:15 AM
Suite 100	Analysis Date:	3/5/2020
Charlotte, NC 28203	Collected:	12/3/2019

Sample	Description	TEM Result	Notes
EXT-10 (3-4) 041935338-0071	Soil	Chrysotile	<4 asbestos fibers detected
EXT-10 (4-5) 041935338-0072	Soil	Chrysotile	<4 asbestos fibers detected
EXT-10 (6-6.5) 041935338-0073	Soil	None Detected	
EXT-12 (5.5-6) 041935338-0081	Soil	Chrysotile	<4 asbestos fibers detected
SLN-2 (0-1) 041935338-0090	Soil	None Detected	
SLN-3 (0-1) 041935338-0091	Soil	None Detected	
SLN-3 (2.5-3.5) 041935338-0092	Soil	None Detected	
SLN-3 (5-6) 041935338-0093	Soil	None Detected	
SLN-4 (0-1) 041935338-0094	Soil	None Detected	
SLN-4 (3-4) 041935338-0095	Soil	None Detected	
Analyst(s)			Samantha Rimophino
Craig Nixon (118) Debbie Little (1)	Mary McFa Melissa Ne		Samantha Rundstrom, Laboratory Manager or other approved signatory
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Attn:	David Graham Hart & Hickman 2923 S. Tryon Street Suite 100	Phone: Fax: Received: Analysis Date: Collected:	(704) 586-0007 12/11/19 11:15 AM 3/5/2020 12/3/2019
	Charlotte, NC 28203	Collected:	12/3/2019

Sample	Description	TEM Result	Notes
SLN-4 (7-8) 041935338-0096	Soil	None Detected	
SLN-6 (0-1) 041935338-0099	Soil	None Detected	
SLN-7 (0-1) 041935338-0100	Soil	None Detected	
SLN-7 (1-2) 041935338-0101	Soil	None Detected	
SLN-8 (0-01) 041935338-0102	Soil	None Detected	
SLN-11 (0-01) 041935338-0105	Soil	None Detected	
SLN-12 (0-01) 041935338-0106	Soil	None Detected	
SLN-18 (0-01) 041935338-0112	Soil	None Detected	
SLN-19 (0-01) 041935338-0113	Soil	None Detected	
SLN-20 (1-2) 041935338-0115	Soil	None Detected	
Analyst(s)		-	Somantha Runghtons
Craig Nixon (118) Debbie Little (1)	-	McFarland (6) a Newkirk (27)	Samantha Rundstrom, Laboratory Manager or other approved signatory
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Attn:	David Graham Hart & Hickman	Phone: Fax:	(704) 586-0007
	2923 S. Tryon Street	Received:	12/11/19 11:15 AM
	Suite 100	Analysis Date:	3/5/2020
	Charlotte, NC 28203	Collected:	12/3/2019

Sample	Description	TEM Result	Notes
SLN-21 (0-1) 041935338-0116	Soil	None Detected	
SLN-22 (0-1) 041935338-0118	Soil	None Detected	
SLN-22 (1-2) 041935338-0119	Soil	None Detected	
SLN-23 (0-1) 041935338-0120	Soil	None Detected	
GRF-1 (1-2) 041935338-0122	Soil	None Detected	
GRF-3 (0-1) 041935338-0124	Soil	Chrysotile	
GRF-3 (1-2) 041935338-0125	Soil	None Detected	
GRF-4 (0-1) 041935338-0126	Soil	None Detected	
GRF-5 (0-1) 041935338-0127	Soil	None Detected	
GRF-5 (1-2) 041935338-0128	Soil	None Detected	
Analyst(s)			Samontha Remotions
Craig Nixon (118) Debbie Little (1)		McFarland (6) a Newkirk (27)	Samantha Rundstrom, Laboratory Manager or other approved signatory
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Initial report from 02	2/05/2020 16:25:30		



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	2923 S. Tryon Street Suite 100 Charlotte, NC 28203	Analysis Date: Collected:	3/5/2020 12/3/2019

Sample	Description	TEM Result	Notes
GRF-6 (0-1) 041935338-0129	Soil	None Detected	
GRF-7 (0-1) 041935338-0130	Soil	None Detected	
GRF-8 (0-1) 041935338-0131	Soil	None Detected	
GRF-8 (1-2) 041935338-0132	Soil	None Detected	
GRF-9 (0-1) 041935338-0133	Soil	None Detected	
GRF-10 (0-1) 041935338-0134	Soil	None Detected	
GRF-10 (1-2) 041935338-0135	Soil	None Detected	
GRF-11 (0-1) 041935338-0136	Soil	None Detected	
GRF-11 (1.5-2.5) 041935338-0137	Soil	None Detected	
GRF-11 (3-4) 041935338-0138	Soil	None Detected	
Analyst(s)			Samontha Rimophonio
Craig Nixon (118) Debbie Little (1)	Mary McF Melissa No	ewkirk (27)	Samantha Rundstrom, Laboratory Manager or other approved signatory
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2923 S. Tryon Street	Received:	12/11/19 11:15 AM
Suite 100	Analysis Date:	3/5/2020
Charlotte, NC 28203	Collected:	12/3/2019

Sample	Description	TEM Result	Notes
GRF-12 (0-1) 041935338-0139	Soil	None Detected	
GRF-12 (1-2) 041935338-0140	Soil	None Detected	
GRF-13 (0-1) 041935338-0142	Soil	None Detected	
GRF-13 (2-3) 041935338-0143	Soil	None Detected	
GRF-13 (4-5) 041935338-0144	Soil	None Detected	
GRF-14 (0-1) 041935338-0145	Soil	None Detected	
GRF-14 (2-3) 041935338-0146	Soil	None Detected	
GRF-14 (4-5) 041935338-0147	Soil	None Detected	
GRF-15 (0-1) 041935338-0148	Soil	None Detected	
GRF-15 (2-3) 041935338-0149	Soil	None Detected	
Analyst(s)			Somantha Remathons
Craig Nixon (118) Debbie Little (1)		ry McFarland (6) issa Newkirk (27)	Samantha Rundstrom, Laboratory Manager or other approved signatory
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Initial report from 02	2/05/2020 16:25:30		



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2923 S. Tryon Street	Received:	12/11/19 11:15 AM
Suite 100	Analysis Date:	3/5/2020
Charlotte, NC 28203	Collected:	12/3/2019

Sample	Description	TEM Result	Notes
GRF-15 (3.5-4.5) 041935338-0150	Soil	None Detected	
GRF-16 (0-1) 041935338-0151	Soil	None Detected	
GRF-16 (1-2) 041935338-0152	Soil	None Detected	
GRF-17 (0-1) 041935338-0153	Soil	None Detected	
GRF-17 (1-2) 041935338-0154	Soil	None Detected	
GRF-18 (0-1) 041935338-0155	Soil	None Detected	
GRF-18 (2-3) 041935338-0156	Soil	None Detected	
GRF-18 (4-5) 041935338-0157	Soil	None Detected	
GRF-19 (0-1) 041935338-0158	Soil	None Detected	
GRF-19 (2-3) 041935338-0159	Soil	None Detected	
Analyst(s)		5 / //0	Somantha Runghtons
Craig Nixon (118) Debbie Little (1)	•	cFarland (6) Newkirk (27)	Samantha Rundstrom, Laboratory Manager or other approved signatory
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Initial report from 02	2/05/2020 16:25:30)



Hart & Hickman	Phone: Fax:	(704) 586-0007
2923 S. Tryon Street	Received:	12/11/19 11:15 AM
Suite 100	Analysis Date:	3/5/2020
Charlotte, NC 28203	Collected:	12/3/2019

Sample	Description	TEM Result	Notes
GRF-19 (4.5-5.5) 041935338-0160	Soil	None Detected	
GRF-20 (0-1) 041935338-0161	Soil	None Detected	
GRF-20 (2-3) 041935338-0162	Soil	None Detected	
GRF-20 (4-5) 041935338-0163	Soil	None Detected	
GRF-21 (0-1) 041935338-0164	Soil	None Detected	
GRF-21 (2-3) 041935338-0165	Soil	None Detected	
GRF-21 (4-5) 041935338-0166	Soil	None Detected	
GRF-22 (0-1) 041935338-0167	Soil	None Detected	
GRF-22 (2-3) 041935338-0168	Soil	None Detected	
GRF-22 (3.5-4.5) 041935338-0169	Soil	None Detected	
Analyst(s)		_	Somontha Rimophono
Craig Nixon (118) Debbie Little (1)	-	McFarland (6) a Newkirk (27)	Samantha Rundstrom, Laboratory Manager or other approved signatory
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Initial report from 02	2/05/2020 16:25:30		



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2923 S. Tryon Street	Received:	12/11/19 11:15 AM
Suite 100	Analysis Date:	3/5/2020
Charlotte, NC 28203	Collected:	12/3/2019

Sample	Description	TEM Result	Notes
GRF-23 (0-1) 041935338-0170	Soil	None Detected	
GRF-23 (2-3) 041935338-0171	Soil	None Detected	
GRF-23 (4-5) 041935338-0172	Soil	None Detected	
GRF-25 (0-1) 041935338-0176	Soil	None Detected	
GRF-26 (0-1) 041935338-0177	Soil	None Detected	
GRF-26 (1.5-2.5) 041935338-0178	Soil	None Detected	
GRF-26 (3-4) 041935338-0179	Soil	None Detected	
GRF-27 (0-1) 041935338-0180	Soil	None Detected	
GRF-33 (0-1) 041935338-0186	Soil	None Detected	
GRF-33 (1-2) 041935338-0187	Soil	None Detected	
Analyst(s)			Somontha Remotions
Craig Nixon (118) Debbie Little (1)		McFarland (6) a Newkirk (27)	Samantha Rundstrom, Laboratory Manager or other approved signatory
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Initial report from 02	2/05/2020 16:25:30		



Attn:	David Graham Hart & Hickman 2923 S. Tryon Street Suite 100	Phone: Fax: Received: Analysis Date: Collected:	(704) 586-0007 12/11/19 11:15 AM 3/5/2020 12/3/2019
	Charlotte, NC 28203	Collected:	12/3/2019

Sample	Description	TEM Result	Notes
BTY-1 (0-1) 041935338-0188	Soil	None Detected	
BTY-1 (2.5-3.5) 041935338-0189	Soil	None Detected	
BTY-2 (0-1) 041935338-0191	Soil	None Detected	
BTY-2 (2-3) 041935338-0192	Soil	None Detected	
BTY-2 (4.5-5.5) 041935338-0193	Soil	None Detected	
BTY-3 (0-1) 041935338-0194	Soil	None Detected	
BTY-4 (0-1) 041935338-0195	Soil	None Detected	
BTY-4 (1-2) 041935338-0196	Soil	None Detected	
BTY-5 (0-1) 041935338-0198	Soil	None Detected	
BTY-5 (1-2) 041935338-0199	Soil	None Detected	
Analyst(s)			Samontha Remotions
Craig Nixon (118) Debbie Little (1)		cFarland (6) Newkirk (27)	Samantha Rundstrom, Laboratory Manager or other approved signatory
results are the responsib reproduced, except in ful responsibility of the clien	ility of the client. This is a qualit	ative screen only. EMSL maintains liability limited to MSL. EMSL bears no responsibility for sample collect ndition unless otherwise noted.	es such as the EPA 600/R-93/116 with milling preparation. Interpretation and use of test cost of analysis. This report relates only to the samples reported above and may not be tion activities or analytical method limitations. Interpretation and use of test results are the
Initial report from 02	2/05/2020 16:25:30		



Attn:	David Graham Hart & Hickman 2923 S. Tryon Street Suite 100	Phone: Fax: Received: Analysis Date: Collected:	(704) 586-0007 12/11/19 11:15 AM 3/5/2020 12/3/2019
	Colle Colle	Collected:	12/3/2019

Sample	Description	TEM Result	Notes
BTY-6 (0-1) 041935338-0201	Soil	None Detected	
BTY-7 (0-1) 041935338-0202	Soil	None Detected	
BTY-7 (1-2) 041935338-0203	Soil	None Detected	
BTY-7 (2-3) 041935338-0204	Soil	None Detected	
BTY-8 (0-1) 041935338-0206	Soil	None Detected	
BTY-9 (0-1) 041935338-0207	Soil	None Detected	
BTY-9 (1-2) 041935338-0208	Soil	None Detected	
EXT-15 (0-1) 041935338-0210	Soil	None Detected	
BTY-10 (0-1) 041935338-0212	Soil	None Detected	
BTY-10 (1-2) 041935338-0213	Soil	None Detected	
Analyst(s)			Somontha Runghtono
Craig Nixon (118) Debbie Little (1)	-	Farland (6) Newkirk (27)	Samantha Rundstrom, Laboratory Manager or other approved signatory
results are the responsib reproduced, except in full responsibility of the clien	ility of the client. This is a qualitation	tive screen only. EMSL maintains liability limited to SL. EMSL bears no responsibility for sample collec dition unless otherwise noted.	es such as the EPA 600/R-93/116 with milling preparation. Interpretation and use of test cost of analysis. This report relates only to the samples reported above and may not be ion activities or analytical method limitations. Interpretation and use of test results are the
Initial report from 02	2/05/2020 16:25:30		



041935338
TURN51

Attn:	David Graham Hart & Hickman	Phone: Fax:	(704) 586-0007
	2923 S. Tryon Street	Received:	12/11/19 11:15 AM
	Suite 100	Analysis Date:	3/5/2020
	Charlotte, NC 28203	Collected:	12/3/2019

Test Report: Qualitative Asbestos Analysis by Transmission **Electron Microscopy (TEM) and Filtration Technique**

Sample	Description	TEM Result	Notes	
BTY-10 (2.5-3.5) 041935338-0214	Soil	None Detected		
BTY-10 (3.5-4.5) 041935338-0215	Soil	None Detected		

Analyst(s)

Craig Nixon (118) Debbie Little (1)

Mary McFarland (6) Melissa Newkirk (27)

monthe Remothen

Samantha Rundstrom, Laboratory Manager or other approved signatory

Soil is a problem matrix due to its inherent heterogeneity. EMSL recommends more specialized methodologies such as the EPA 600/R-93/116 with milling preparation. Interpretation and use of test results are the responsibility of the client. This is a qualitative screen only. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ

Initial report from 02/05/2020 16:25:30



Asbestos Chain of Custody EMSL Order Number (Lab Use Only):

1935338 04

PHONE: FAX:

	_						
Company Name : HAR	T & HICK	MAN, P.C.	EMSL Customer li	D:			
			City: CHARLOTTE State/Province: NC				
			Telephone #: (704)586-0007 Fax #:				
Report To (Name): DAVI	D GRAHAM		Please Provide Re	esults: 🗌 Fax	Email		
Email Address: DGRAH	IAM@HAR	THICKMAN.COM	Purchase Order:				
Project Name/Number: R			EMSL Project ID (
U.S. State Samples Take			CT Samples: C			idential/Tax Exer	mpt
EMSL-BIII to: Same Different - If Bill to is Different note instructions in Comments** Third Party Billing requires written authorization from third party							
	Hour	Turnaround Time (TAT)	Options* – Please	Check 96 Hour	T 🗆 1 Week	2 Weel	k
*For TEM Air 3 hr through 6 hr, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an							
authorization form t	f <u>or this service.</u> noles are				in the Analytical	Price Guide.	
from NY		<u>TEM - Air</u> 4-4.5hr TAT (AHERA only}	<u>l-Dust</u>			
NIOSH 7400		AHERA 40 CFR, Part 76		licrovac - ASTN			
w/ OSHA 8hr. TWA				Vipe - ASTM D6			
PLM - Bulk (reporting lim				Carpet Sonicatio		93/167)	
PLM EPA 600/R-93/110	5 (<1%)	ISO 10312 TEM - Bulk		Rock/Vermicu		nilling prep (<0.25	:0/.)
Point Count				'EM EPA 600/R	-93/116 with r	nilling prep (<0.25	/%) %)
400 (<0.25%) 1000	(<0.1%)	NYS NOB 198.4 (non-fria		EM Qualitative			-,
Point Count w/Gravimetric		Chatfield SOP		EM Qualitative			
☐400 (<0.25%) ☐ 1000 (TEM Mass Analysis-EPA		Sincinnati Metho BC only)	d EPA 600/R-	04/004 – PLM/TE	EM
NYS 198.1 (friable in N		<u>TEM – Water: E</u> PA 100.2					
NYS 198.6 NOB (non-f	riable-NY)	Fibers >10µm 🔲 Waste	Drinking Othe	<u>er:</u>			
		All Fiber Sizes 🔲 Waste					
NIOSH 9002 (<1%)				(
		Identify Homogenous Group	p Filter Pore S	Size (Air Samp	les): 🔲 0.8	μ <u>m </u> 0.45μm	
Samplers Name: ROE	BERT S		Samplers Signa		-6		
Sample #	-	Sample Descripti	on		e/Area (Air) # (Bulk)	Date/Time Sampled	
PTS-1 (0-1)	SOIL			- -		12/3 950	0
PTS-2(0-1)		,		-		1005	,
PTS-3(0-1)		,				1030	
PTS-4(0-1)		í			/	1410	
PTS-5(0-1)		· · ·	,			1420	_
Client Sample # (s):				Total # o	f Samples:		
Relinquished (Client): Date: 12/9/2019 Time:							
Received (Lab): Chaleria FXG-D Date: box 4054 12/11/19 Time: 1115							
Comments/Special Instructions:							
FOLLOWING ANALYSIS BY EPA METHOD BOOR-BUILTS USING PLM WITH MILLING PREP (400 PT COUNT). HOLD ALL SAMPLES. PENDING RESULTS, SAMPLES MAY BE ANALYZED BY TEM QUALITATIVE VIA FILTRATION PREP.							
·							
# HOLD TEM	Page 1 of <u>IL</u> pages + HOLD TEM ANALYS IS PENDING, CONFIRMATION XXX						
Controlled Document - CUC-05 Aspestos K11 - 0/722/2019							
		12/11/19 onl	y box 40941	recid			
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Asbestos Chain of Custody EMSL Order Number (Lab Use Only):

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Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA:# (Bulk)	Date/Time Sampled
PTS-6 (0-1)	SOIL	-	12/3 1320
PTS-7(0-1)		~	1430
PTS-8(0-1)		-	1440
PTS-9(1-2)		_	1445
PTS-10 (0-1)		<u> </u>	1505
PTS - 11 (0-1)			1515
PTJ -12 (0-1)			1055
PTS-13 (0-1)			1110
PTS-14 (0-1)			1530
Pts-15 (0-1)			1120
PTS-16(0-1)			1130
PTS-17(0-1)			1155
PTS-19(0-1)		~	1235
PTS-18(1-2)		` ~	1235
PTS-19(0-1)		-	1215
PTS-19(1-2)			1215
PtS-20(0-1)	_	-	1245
PTS-20(1-2)		_	1245
PTS -21(0-1)			1225
PTS-21(1-2)		-	1225
PTS-22(0-1)		_	1300
PTS-22 [1-2]			1300
PTS-23(0-1)		-	1015
*Comments/Special Instruction	ns:		<u></u>
REFER to PU	r. 1		
	Page 2 of 1 pages		

Page ____ of ____ pages



Asbestos Chain of Custody					
EMSL Order Number (Lab Use Only):					
0 41 1935 334					

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Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
EXT-1 (0-1)	SOIL		12/2 1649
EXT-1 (1-2)	(-	1 1645
EXT-1 (2-3)		~	1645
EXT-1 (3-4)			1645
EXT-1 (5-5.5) *		~	1645
EXT-1(0-1)			1125
EXT-2(1-2)			1125
Ex7-2 (2-3)			1125
EXT-2 (4-4.5) #		~	1125
EXT-3 (0-1)			1670
EXT-3 (1-5-25)			1/20
EXT-3 (3.5-4.5)		~	6520
EX7-3 (4.55.5)			1620
EXT-3 (6.5-7) *			1620
E+T-Y(0-1)			100
ExT-4 (2-3)		-	1100
Ex7-4 (4-5)			1100
Ext-4 (5-6)		<u> </u>	1100
Ex7-4 (7-7.5) #		<u> </u>	11.00
EX7-5 (0-1)			1550
EXT-5 (3-4)			1550
Ex7-5 (7-8)		-	1550
ExT-6 (0-1)	Y		V 1020
*Comments/Special Instructions: REFER to PG,	1.		
	-		
	Page <u>3</u> of <u>11</u> pages		



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Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/ Sam	
EX+T-612-5-35)	SOIL)	12/2	1020
EXT-6 (5-6)		-	1	1020
Ext-6 (6-7)				1020
\$ Ex1-6 (8-8.5) X.				1020
F-YT-7 (0-1)				1040
EXT-7 11.5-2.5				1040
EXT-7 (3-4)				1040
EXT-7 (4-5)		~		lori
HEXT-7 (6-6.5)K		~		IOUK
E47-8 (0-1)				1-225
EXT-8 (3-4)		_		152
EXT-8 (6-7)		-		1525
ExT-9 (0-1)		-		1150
E++9 (1.5-25)				1150
Ext-9 (3-4)		-		1150
Ext-9 (4-5)				1150
E+T-9 (6-6.5) K				1150
ExT-10 (0-1)				1458
EXT-10 (1.5-2.5)		~		1450
Ex+T-10 (3-4)				14:50
ExT-10 (4-5)		-		1480
E E-47-10 (6-65) X		_		1450
EXT-11 (0-1)	V			1425
*Comments/Special Instructions:				
REFER TO	PG. 1			
	Page <u>4</u> of <u>11</u> pages			

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Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
Ext- 11(1-5-2.5)	Soll	<u> </u>	12/2 1425
Ext-11 (3-4)		-	1 1425
ExT-12(0-1)		~	1400
Ext-12(1-2)			1400
EXT-12(2.5-3.5)			. Moo
E47-12(3+5-45)			1400
ExT-Q(5.5-6)			1400
Ext-13(0-1)		~	1230
E47-13(1-2)		-	1230
Ex7-13(2-3)		~	12:30
Ex-1-14 (0-1)			(210
E47-14(1.5-2:5)		-	1519
EXT-14 (3-41)		<u> </u>	1510
PTS=1 (0=1)			
PIS-2-(0=1)			1005
P75-3 (0=1)			1030
PTS-4(0+)			140
P75-5 (0-1)			1 120
RTS_RHS			
SLN-1(0-1)		~	12/4 1115
SLN-1(1-2)		-	12/4 1610
5LN-2(0-1)			12/3 1355
SLN-3(0-1)	V		12/4 1355
*Comments/Special Instructions:	····· · ·		
REFER TO) PG.1		
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Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
SLN-3(2.535)	SOIL		12/4 1355
SLN-3(5-6)			12/4 1355
Stor 3 540-4 (0-	1)	~	12/3 1620
SLN-4(3-4)		~	12/3 1630
SLN-4(7-8)			12/3 1630
SLN-5(0-1)			1214 1405
524-5(1-2)		~	1214 1405
SLN-6(0-1)			12/3 840
SLN-7(0-1)		~	1214 415
SLN-7(1-2)		~	12/4 750-14
SLN-8(0-1)			12/3 350
SLN-9(0-1)			12/3 900
SLN-10(0-1)		~	12/3 910
SLN-11(0-1)			12/3 920
5LN-12(0-1)		~	12/4 1030
SLN-13(0-1)		~	920
SLN-1910-11		-	930
SLN-15(0-1)			955
SLN-16(0-1)		~	1010
SLN-17(0-1)		~	1015
SLN-18(04)		~	1035
SLN-19(0-1)		_	¥ 1040
SLN-20(0-1)	- A	_	124 1325
*Comments/Special Inst			
KEFE	ir to PG, 1		
114	Page 6 of 11 pages		

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Asbestos Chain of Custody EMSL Order Number (Lab Use Only): つくしつうらろろく

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Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
SLN-20(1-2)	SoIL	-	12-5 1325
SLN-21 (0-1)		\sim	1340
SLN-21 (1-2)		-	1340
SUV-22 (0-1)		~	1305
SCN-22(1-2)		-	1305
SLN-23(0-1)		~	1345
(ARF-1(0-1)		~	1040
- GRF-1(1-2)			1040
- (7RF-2(0-1)			12/6 1105
- GRF-310-1)			12/5 1020
- (JRF-3(1-2)			12/5 1020
- (JRF-4(0-1)			12/6 1110
- (7RF-5(0-1)		~	12/5 1010
- (7RF-5(1-2)		-	215 1010
-(7RF-6(0-1)		· _	12/6 1115
-(7RF-7(0-1)			12/5 950
-(1RF-8(0-1)	1	-	12/6 1120
(7RF-8(1-2)		-	12/6 1120
GRF-9(0-1)		-	1215 1000
(IRF-10(0-1)			12/6 1130
(7RF-10(1-2)		-	12/6 1130
GRF-11(0-1)			12/6 1215
(JRF-11 (15-23)			12/6 1215
*Comments/Special Instru	FER TO PG. 1		·
	Page 7 of 11 pages		

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Page 7 Of 11



Asbestos Chain of Custody EMSL Order Number (Lab Use Only):

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Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
(TRF-11(3-4)	SOIL	<u> </u>	12/6 1215
(7RF-12(0-1)		-	1214 1605
GRF-12(1-2)		-	1214 1604
* (7RF-12 (3-3.5)	K	~	1214 1605
GRF-13 (0-1)		-	12/5 1540
- (JRF-13(2-3)		~	12/5 1540
- GRF-B(4-5)		-	12/5 1540
(7RF-14(0-1)		<u> </u>	12/5 1515
(7RF-14(2-3)			12/5 1515
(ARF-14(4-5)		-	12/5 1515
GRF- (0-1)		~	1214 1530
GRF-15(2-3)		-	1214 1530
GRF-15 (3.5-4.5)			1214 1530
GRF-16(0-1)			1214 1545
GRF-16(1-2)		~	1214 1545
GRF-17(0-1)			1215 1430
- GRF-17(1-2)		~	12/5 1430
GRF-17(0-1) -		-	1215 1420
(JRF-18(2-3)			1215 1420
GRF-12(4-5)			2/5 1420
GRF-18(4-5) (7RF-19(0-1)			12/6 1050
(ARF-19(2-3)		-	12/6 1050
(TRF-14(4.5-55		~	1216 1050
*Comments/Special Instru RCFE4	ections: 2 TO PG. 1		
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Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled		
(7RF-20(0-1)	Sotl		12/6 350		
(7RF-20(2-3)	(-	850		
17RF-20(4-5)		-	850		
(mr-) (0-1)		-	1025		
(JRF-21(2-3)		~	1025		
GRF-21(4-5)		~	1025		
GRF-22(0-1)		-	830		
(JRF-J2 (2-3)		~	830		
(7R.F-22(3.5-4.5)		~	830		
(7RF-33(0-1)		~	1000		
GRF-23(2-3)			1000		
GRF-23(4-5)		~	1000		
GRF-24 (0-1)		_	915		
GRF-24(1.5-2.5)		~	915		
(ZRF-24(3-4)		-	915		
(gRF-25(0-1))		~	¥ 940		
GRF-26(0-1) -		~	12/5 925		
(7RF-26(1-5-2.5)		-	12/4 925		
GRF-26(3-4)		~	12/5 925		
(IRF-27(0-1)		~	12/6 935		
(nF-28(0-1)		-	12/5 830		
GRF-29(0-1)		~	12/6 930		
(7RF-30(0-1)		-	12/5 840		
*Comments/Special Instructions:					
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Sample #	Sample Description	Volume/Area (Air) HA # (Buik)	Date/Time Sampled
(7RF-31(0-1)	SOIL	-	1215 850
(ARF-32 (0-1)		-	12-5 905
GRF-33(0-1)		~	12-5 1555
(ARF-33(1-2)		~	12/5 1555
BTY-1(0-1)		~	1215 1110
374-1(2.5-35)		~	1215 1110
BTY-1(5-6)		-	12/5 1110
BTY-2(0-1)		~	12/6 1335
BTY-2(2-3)		~	12/6 1335
BTY-214.5-5.5		~	12/61335
13TY-3(0-1)		<u> </u>	12/6 1345
BTY-4(0-1)		~	12/6 13:55
BTY-4(1-2)	۱		1216 1355
\$ BTY-4(3-3-5)	¥t	<u>``</u>	12/6 1385
BTY-5(0-1)		~ _	12/6 1405
1374,-5(1-2)		-	12/6 1405
# 1374-5(3-3-5)	×		12/6 1405
3-14-6 (0-1).			12/5 1125
BTY-7(0-1)			125 1225
BTY-7(1-2)		-	12/5 1225
BTY-7(2-3))	12/5 1225
\$ BTY-7(4-45)	×	-	2251 225
BTY-3(0-1)			12/5 1135
*Comments/Special Ins	tructions:	1	
	REFER TO PG-1		
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Page <u>10</u> of <u>11</u> pages



Asbestos Chain of Custody EMSL Order Number (Lab Use Only): ເງັ້ (ໄດ່ງງິຮິ ວິງປູ

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Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

	Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled		
	BTY-4(0-1)	SOIL		12/5 1200		
	Bty-9(1-2)	1	~	12/5 1200		
¥	B-ty-9(3-3.5)	¥	-	12/5 1200		
/	EXT- 15(0-1)		-	12/6 1430		
	Ex7-15(0-1)		<u> </u>	12/6 1435		
	Bty-10 (0-1)		' <u></u>	12/6 1320		
	Bty-10(1-2)			12/6 1320		
	1374-10(2-5-35)		~	12/6 1320		
	1374-10 (3-5-4	5)		1216 1320		
¥	1374-10(5.5-6)			12/6 1320		
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	· · · ·					
				\$		
		, ,				
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	*Comments/Special Instructions:					
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EMSL	EMSL Analytical, Inc. 10801 Southern Loop Blvd Pineville, NC 28134 Tel/Fax: (704) 525-2205 / (704) 525-2382 http://www.EMSL.com / charlottelab@emsl.com	EMSL Order: Customer ID: Customer PO: Project ID:	
Attention:	Robert Sorgel	Phone:	(704) 586-0007
	Hart & Hickman	Fax:	
	2923 S. Tryon Street	Received Date:	12/09/2019 5:00 PM
	Charlotte, NC 28203	Analysis Date:	12/10/2019
		Collected Date:	12/02/2019
Project:	ROW-605/ Davidson, NC		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

		Non-Asbestos		Asbestos	
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
001	EXT- 13 and EXT - 14	Brown/White		15% Ca Carbonate	5% Chrysotile
	Soil Borings (0-4') -	Fibrous		80% Non-fibrous (Other)	
411911937-0001	Floor Tile	Homogeneous			

Analyst(s)

Sarah Breneman (1)

Evan L. Plumber

Lee Plumley, Laboratory Manager or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method"), but augmented with procedures outlined in the 1993 ("final") version of the method. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. All samples received in acceptable condition unless otherwise noted. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. EMSL recommends gravimetric reduction for all non-friable organically bound materials prior to analysis. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Pineville, NC NVLAP Lab Code 200841-0, VA 3333 00312

Initial report from: 12/10/2019 15:17:57

H&H Asbestos Survey Form

Page_1_ of _1_

hart 💉 hickman SMARTER ENVIRONMENTAL SOLUTIONS

2923 S. Tryon St. Charlotte, NC 28203

Phone # 704-586-0007 Fax # 704-586-0373

2/9/19 e/In

Laboratory Signature of Receipt:

Signature of Sampler:

Project Location: Davidson, NC Inspection Date: 12/2/19

H&H Job #:

H&H Inspector: Robert Sorgel (NC Lic. #13071)

ROW-605

	PLEASE ANALYZE BY PLM ANALYSIS EPA Method 600/R-93/116 (calibrated visual estimate, reporting limit <0.1%) 48-HR TURN-AROUND TIME	ed visual estimate, reporting limit <0.1%)	1	12/9/1	٩	5:00pm	n w/
Bulk	Suspect ACBM	Location of	Estimated	TSI/	Friable	Friable NESHAP	AHERA
Sample #	Material Sampled	Suspected ACBM		Surfacing/ Misc.	(Y/N)	Category	(Y/N) Category Assessment Category **
001	Floor tile	EXT-13 and EXT-14 Soil Borings (0-4')		Misc.	No	Cat I	6

48 hr TURN-AROUND TIME; and FAX SIGNED C-O-C to (704)-586-0373 Notes: LAB - PLEASE STOP POSITIVE PER SAMPLED HOMOGENEOUS AREA: PLEASE COMPOSITE DRYWALL, TAPE, AND SPACKLE (AND REPORT LAYERS INDIVIDUALLY IF ONE LAYER POSITIVE)

* Quantity observed, more suspected

PLEASE SEND LABORATORY RESULTS TO: RSORGEL@HARTHICKMAN.COM

ACBM = asbestos containing building materials

TSI = thermal system insulation

SF/LF = square feet/linear feet

AHERA = Asbestos Hazard Emergency Response Act

** AHERA Assessment Category Codes 1) Damaged or significantly damaged TSI ACBM;

2) Damaged friable surfacing ACBM;

Significantly damaged friable surfacing ACBM;

4) Damaged or significantly damaged friable miscellaneous ACBM;

5) ACBM with potential for damage;

6) ACBM with the potential for significant damage; or

7) Any remaining friable ACBM or friable suspected ACBM.

NESHAP Catagories: Category I Non-Friable Materials (resilient flooring, asphalt roof products, packings, and gaskets)

Category II Non-Friable Materials (non-friable materials not included in Category I)

Friable Materials

Appendix F

Certificates of Disposal and Non-Hazardous Waste Manifest





1703 Vargrave Street Winston-Salem, NC 27107 ph 336-725-5844 fax 336-725-6244

CERTIFICATE OF DISPOSAL

Evo Corporation does hereby certify that 1 drum of non-hazardous plastic received on 12/11/2019 from:

Generator: North Carolina Department of Transportation

Originating at: Intersection of Sloan Street and Eden Street Davidson, NC

EC Waste ID #: 121920

has been disposed of by Evo Corporation in a manner approved by the North Carolina Department of Environmental Quality.

W. Hand

Signature

Thomas W. Hammett CEO Evo Corporation

www.evocorp.net THE NEXT LEVEL.



1703 Vargrave Street Winston-Salem, NC 27107 ph 336-725-5844 fax 336-725-6244

CERTIFICATE OF DISPOSAL

Evo Corporation does hereby certify that 1 drum of non-hazardous contaminated material received on 12/11/2019 from:

Generator:

North Carolina Department of Transportation

Originating at:

Intersection of Sloan Street and Eden Street Davidson, NC

EC Waste ID #: 121920

has been disposed of by Evo Corporation in a manner approved by the North Carolina Department of Environmental Quality.

man W. Hannet

Signature

Thomas W. Hammett CEO Evo Corporation

www.evocorp.net THE NEXT LEVEL.



1703 Vargrave Street Winston-Salem, NC 27107 ph 336-725-5844 fax 336-725-6244

CERTIFICATE OF DISPOSAL

Evo Corporation does hereby certify that 1 drum of non-hazardous contaminated water received on 12/11/2019 from:

Generator: N

North Carolina Department of Transportation

Originating at:

Intersection of Sloan Street and Eden Street Davidson, NC

EC Waste ID #: 121920

has been disposed of by Evo Corporation in a manner approved by the North Carolina Department of Environmental Quality.

Signature

Thomas W. Hammett CEO Evo Corporation

www.evocorp.net THE NEXT LEVEL.

NON-HAZARDOUS WASTE MANIFEST

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print or type (Form designed for use on elite	(12 pitch) typewriter)	······································			·		
NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID			Manifest Document No.	121920-A	2. Page 1 of	
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NC DOT 1020 Birah Ridge Dr. No	deitalo 1=	Intersection of	Alican				
4. Generator's Phone (41970) 7-1-859	271.10	STEEdenst Da	NC				
5. Transporter 1 Company Name	<u> </u>	US EPA ID Number	1.00	A. State Trans	porter's ID		
Evolor sorra tion				B. Transporter		15-524	
7. Transporter 2 Company Name	8.	US EPA ID Number		C. State Trans			
9. Designated Facility Marne and Site Address 10. US EPA ID Number				D. Transporter	2 Phone 334-72	5.5241	
	10	. US EPA ID Number		E. State Fecili	ty's ID		
Ecofly, Inc.							
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NON-HAZARDOUS WASTE



<u>Via Email</u>

May 13, 2022

NC DOT Geotechnical Engineering Unit 1020 Birch Ridge Drive Raleigh, North Carolina 27610

Attention: Mr. Gordon Box, LG

 Re: NC DOT Inspector Training Guidance Davidson Asbestos Site
 NC DOT State Project No. U-5907
 WBS Element #46452.1.1
 Davidson, Mecklenburg County, North Carolina <u>H&H Job No. ROW-605</u>

Dear Gordon:

1.0 Introduction

Hart & Hickman, PC (H&H) has prepared this letter to provide training guidance for NC DOT inspectors related to asbestos-contaminated soil (ACS) prior to a proposed sidewalk and roadway improvement project in Davidson, Mecklenburg County, North Carolina. The sidewalk and roadway improvement activities will be conducted on multiple parcels located along Potts Street, Sloan Street, Griffith Street, and Beaty Street in Davidson, NC.

The NC DOT project includes proposed roadway and sidewalk improvements, installation of stormwater drainage ditches and stormwater drainage piping and catch basins. The roadway improvements include construction of a new road that extends Potts Street to Sloan Street, which connects with a new roundabout at the intersection of Sloan Street, Griffith Street, and Beaty Street. A project location map is included as Figure 1, and an aerial project map is presented as Figure 2.

Previous assessments conducted by others verified the presence of ACS on the former asbestos mill property and in the residential neighborhood surrounding the former mill. Analytical results of soil samples collected by H&H during 2019 Phase II assessment activities indicate widespread ACS exists within proposed NC DOT project work areas. Laboratory analytical results from the Phase II activities indicate that asbestos was present in soil for 40 out of 105 soil borings conducted during this assessment. Buried asbestos containing material (ACM) was only detected in one location. For proposed NC DOT work areas, the buried ACM (asbestos-containing floor tile) was only detected near the new road extension at Sloan Street.

Appropriate safety precautions and procedures should be implemented for the sidewalk, road construction, and drainage/piping work within ACS or ACM areas. ACS that is disturbed or removed during construction activities should be properly managed by accredited personnel and disposed at a permitted facility. H&H has developed a Soil Management Plan (SMP) to assist NC DOT's construction contractor during the road and sidewalk construction activities. During construction activities, NC DOT's construction contractor will establish Regulated Areas where ACS or ACM disturbance may occur. H&H is providing this training guidance for NC DOT inspectors who will enter Regulated Areas or for NC DOT staff who visit the project area (outside of Regulated Areas) during the sidewalk and roadway improvement activities.

2.0 Training Requirements

Two NC state government agencies responsible for regulations regarding exposure to asbestos include the NC Department of Health and Human Services (DHHS) Health Hazards Control Unit (HHCU) and the North Carolina Department of Labor. The DHHS HHCU accredits individuals performing asbestos management activities such as inspection, design, and removal; approves asbestos training courses; issues permits for asbestos removal projects; issues demolition notifications; inspects asbestos removal projects; implements the management of ACMs in schools; and investigates citizen complaints. The NC Department of Labor has adopted the federal Occupational Safety and Health Administration (OSHA) *General Industry Standard*



(29 CFR 1910.1001) and the *Construction Standard* (29 CFR 1926.1101) regulations and is responsible for their enforcement of worker protection in NC.

Considering both NC HHCU and OSHA regulations, personnel who enter Regulated Areas where ACS (with any amount of asbestos detected in soil), known ACM, or suspected ACM will be disturbed must be trained and maintain accreditation by the HHCU. Based on discussions on January 7, 2022, between H&H and Mr. Jeffery Dellinger, Industrial Hygiene Consultant Supervisor with HHCU, ACS containing greater than or equal to 0.25% asbestos is considered a hazard and shall be managed by accredited personnel. In addition, because the OSHA *General Industry Standard* (29 CFR 1910.1001) and *Construction Standard* (29 CFR 1926.1101) indicate that no employee shall be exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an 8-hour time-weighted average (TWA), personnel accredited as Asbestos Supervisors and Asbestos Workers will also be required for management of ACS that is less than 0.25 % asbestos. As such, NC DOT inspectors who enter Regulated Areas where ACS or ACM is disturbed must be trained and accredited by the HHCU.

Asbestos training courses are offered in multiple disciplines: Abatement Worker, Abatement Supervisor, Inspector, Management Planner, Project Designer, etc. At a minimum, the NC DOT inspector must obtain the Asbestos Worker accreditation. Asbestos training providers and the Asbestos Accreditation Application be found the HHCU website can on (https://epi.dph.ncdhhs.gov/asbestos/ahmp.html). The Asbestos Worker accreditation training is typically covered in a 32-hour in-person training course. An HHCU-accredited Supervisor should also be present on-site during construction/excavation activities. The asbestos supervisor accreditation training is typically covered in a 40-hour training course.

During soil disturbing activities, all persons within the Regulated Areas shall utilize appropriate personal protection equipment (PPE), as identified in OSHA's general requirements for asbestos workers (29 CFR 1910.1001 and 29 CFR 1926.1101). PPE shall include appropriate respiratory protection with a minimum half-face respirator with high efficiency particulate air (HEPA) filtration required anytime active soil disturbance is occurring, protective full body



Tyvek® suit with attached hood and booties, impermeable gloves, rubber boots, and other protective wear as appropriate based on conditions (cold stress, heat stress, insects, etc.). Respirators shall be properly fitted prior to use. Personnel shall wear proper PPE at all times within the Regulated Area. When exiting the Regulated Area workers shall proceed directly to the decontamination area and conduct decontamination procedures prior to leaving the site.

NC DOT staff who are visiting the project area (but will not enter Regulated Areas) must obtain initial training in the proper handling of materials and wastes that contain asbestos in accordance with the Two-Hour Asbestos Awareness Training required by 40 CFR 763 and 29 CFR 1926.1101. Two-Hour Asbestos Awareness training providers and courses are offered online.

3.0 Summary

Previous assessment activities conducted along Potts Street, Sloan Street, Griffith Street, and Beaty Street indicate that widespread ACS and ACM in one location are located within proposed NC DOT work areas near the Davidson Asbestos site. ACS and ACM will be disturbed during proposed sidewalk and road improvement activities near the Davidson Asbestos site. Asbestos management activities are regulated by the NC DHHS HHCU and OSHA. NC DOT construction inspectors and personnel shall obtain appropriate training and/or accreditation prior to entering Regulated Areas or visiting the project area during the sidewalk and roadway improvement activities.



Should you have any questions or need additional information, please do not hesitate to call us at (704) 586-0007.

Very truly yours,

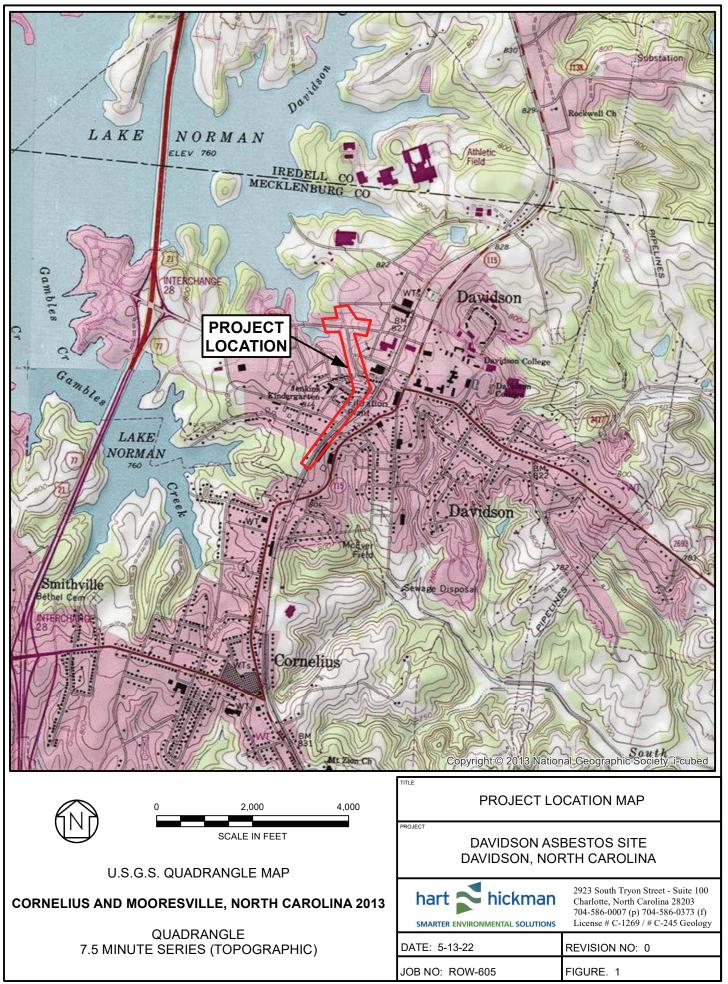
Hart & Hickman, PC

David Graham, PG Senior Project Geologist Robert Sorgel Senior Project Geologist NC-Accredited Asbestos Inspector

Matt Bramblett, PE Principal

Attachments









STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

ROY COOPER GOVERNOR

FROM:

JAMES H. TROGDON, III Secretary

October 16, 2018

MEMORANDUM TO: Sean Epperson, PE, NCDOT Division 10 Division Project Team Lead

U-5907

10

46452.1.1

Gordon Box, PG GeoEnvironmental Project Manager GeoEnvironmental Section Geotechnical Engineering Unit

MECKLENBURG

DocuSigned by 0DA1A1D2E9DB479

TIP NO: WBS: COUNTY: DIVISION DESCRIPTION:

POTTS-SLOAN-BEATTY CONNECTOR IN DAVIDSON. CONSTRUCT ROADWAY ON NEW LOCATION.

SUBJECT:

GeoEnvironmental Planning Report

The GeoEnvironmental Section of the Geotechnical Engineering Unit performed a Phase I field investigation on August 27, 2018 for the above referenced project to identify geoenvironmental sites of concern. The purpose of this report is to document sites of concern within the project study area that are or may be contaminated. These sites of concern should be included in the environmental planning document in an effort to assist the project stakeholders in reducing or avoiding impacts to these sites. Sites of concern may include, but are not limited to, underground storage tank (UST) sites, dry cleaning facilities, hazardous waste sites, regulated landfills, unregulated dumpsites, and former industrial sites such as manufactures utilizing and producing asbestos containing material (ACM).

Findings

Two sites of concern were identified in the project study area. One site of concern had an underground storage tank (UST) Incident, and a second site of concern is a former industrial site that manufactured asbestos containing material (ACM). We anticipate low to high monetary and scheduling impacts resulting from these sites, respectively. See the following table and figure for details.

Please note that discovery of additional sites not recorded by regulatory agencies and not reasonably discernible during the project reconnaissance may occur. The GeoEnvironmental Section should be notified immediately after discovery of such sites so their potential impact(s) may be assessed.

Telephone: (919) 707-6850 *Customer Service:* 1-877-368-4968 Location: 1020 BIRCH RIDGE DRIVE RALEIGH, NC 27610

Website: www.ncdot.gov

GeoEnvironmental Planning Report T.I.P.#: U-5907 Page 2 of 5 If there are questions regarding the geoenvironmental issues, please contact me, at 919 707-6859.

cc:

John Pilipchuk, LG, PE, State Geotechnical Engineer Brian Hanks, PE, State Structures Engineer Dale Burton, PE, PLS, State Locations and Surveys Engineer Carl Barclay, PE, State Utilities Manager Rick W Baucom, PE, Division Construction Engineer Kenny Hill, Division Right of Way Agent Kevin Miller, PG, Geotechnical Regional Manager Eric Williams, PE, Regional Geological Engineer Steve Grimes, ROW Unit, Negotiations, State Negotiator row-notify@ncdot.gov roadwaydesign@ncdot.gov hydraulics_notify@ncdot.gov (01) Property Name: Bellsouth 302 Potts St. AKA 150 W. Walnut St. Davidson, NC

Facility ID: NA Incident Type/Number: 27140 UST Number: MO-0226 **Property Owner:**

Bellsouth Telecommunications Inc. PO Box 7207 C/O AT&T Property Tax Bedminster, NJ 07921

UST Owner: Bellsouth Telecommunications Inc. PO Box 7207 C/O AT&T Property Tax



Anticipated Impacts: Low

This parcel is currently the site of a telecommunications facility (image view northward). The site currently has a 3,500-gallon diesel fuel above ground storage tank (AST) along the north-northeastern side of the building. NCDEQ Incident Number 27140 was assigned to this parcel with respect to an emergency generator UST Incident that was closed out c. 1998. (This site may include the following facility whose location is unclear: Southern Bell-GLC 22545, Facility Id: 0-017309, Bellsouth Telecommunications Inc. 7825 Red Top Road, Karen J Rhyne MacClenny). The current design of the project proposes to install a multiuse trail/sidewalk along the southwestern edge of the property-the proposed design does not impact the current AST.

GeoEnvironmental Planning Report T.I.P.#: U-5907 Page 4 of 5

(01) Property Name: METROLINA WAREHOUSE LLC (NPARNO 37119_00325301) 301 DEPOT ST. Davidson, NC

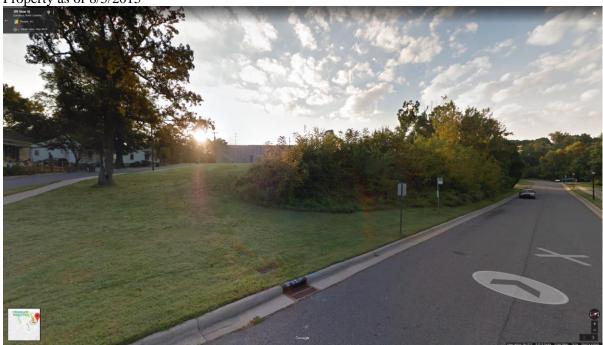
Facility ID: NA Incident Type/Number: NA UST Number: NA Brownfields Application Number: 19041-15-060 Status: Active Eligible to become Brownfields Property as of 8/5/2015

Property Owner:

METROLINA WAREHOUSE LLC 1520 18TH AV EAST Seattle, WA 98112

UST Owner:

NA



Anticipated Impacts: Low

This parcel is the former site of Metrolina Warehouse that was an asbestos product manufacturing facility (image view southeastward). It is currently used for other purposes including Crossfit, Rumor Mill Market, Sofas and Cheers, Flying Fish Seafood, and No Kidding Goat Soaps. The 4.74 acre site has a status of Active Eligible to become a Brownfields Property. The site formerly produced asbestos containing material (ACM) products utilizing asbestos and created waste containing asbestos. The current DOT design of the project proposes to install a multiuse trail/sidewalk along the western side of Sloan St., across Sloan St. from the parcel. That design does not impact the 301 Depot St. parcel boundaries, however, several neighboring parcels have reportedly been impacted by ACM that was perhaps either disposed or used as structural fill. Potentially the soil underlying existing pavement has also been impacted. The areas where soil is proposed to be disturbed by construction of the design could require testing, and/or disposal, and/or engineering controls during construction. The presence of ACM in the project area, therefore, has a moderate to high impact on the project.

Appendix A Location of GeoEnvironmental Sites of Concern

