

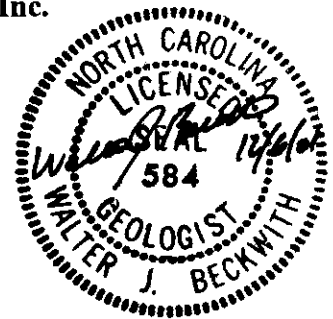
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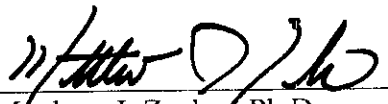
PRELIMINARY SITE ASSESSMENT  
APPROXIMATELY 4.29 ACRES ALONG  
NORFOLK SOUTHERN RAILROAD  
MECKLENBURG COUNTY, NORTH CAROLINA  
STATE PROJECT NO. 9.9081000 (P-3800)


Prepared for:  
NCDOT Geotechnical Unit  
1589 Mail Service Center  
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Prepared by:  
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Solutions Project No. 0920.01A3.NDOT



  
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## 1.0 INTRODUCTION

The North Carolina Department of Transportation (NCDOT) is preparing for the construction of the Charlotte Multi-Modal Station in Charlotte, Mecklenburg County, NC. The Multi-Modal Station will integrate the various transportation modes available to downtown Charlotte in the area centered on the Norfolk Southern Railroad corridor. While NCDOT currently owns several adjoining properties, construction of the Multi-Modal Station and the associated track improvements will require the acquisition of property currently owned by the Norfolk Southern (NS) Railroad located between West 1<sup>st</sup> and West 9<sup>th</sup> Streets.

Solutions Industrial & Environmental Services, Inc. (Solutions-IES) received a request for proposal (RFP) on October 1, 2001 to conduct a preliminary site assessment (PSA) of four parcels of land comprising approximately 4.29 acres within the NS right-of-way in downtown Charlotte, NC. Solutions-IES submitted proposal NC01901P to the NCDOT on October 12, 2001 describing the planned PSA for the four parcels. The RFP requested that the work be summarized in a single report and that field evaluations be limited to the shallow soils. An evaluation of groundwater conditions was not requested as part of the PSA. The following report discusses data obtained from a previous consultant's review of the public record for a number of adjacent and nearby sites, and our current field activities including the results of laboratory analyses performed on soil samples collected from each of the four parcels.

## 2.0 BACKGROUND

Norfolk Southern's Washington to Atlanta main line is one of the major freight lines serving the eastern United States. In the project area, the NS right-of-way is oriented in a northeast-southwest direction passing through downtown Charlotte roughly paralleling Graham Street (Figure 1). In the project area, the railroad right-of-way ranges between 125 to 600 feet in width. There are two main tracks (Number 1 and Number 2) along with a rail siding that is used for temporary railcar storage. Both main tracks are switched to allow rail traffic to flow in both directions.

For the purpose of acquiring needed property, NCDOT has divided portions of the right-of-way within the project area into seven parcels. Parcels 1, 3, and 6 occupy the west half of the right-of-way and Parcels 2, 4, 5, and 7 occupy the east half of the right-of-way.

The authorized PSA included the four parcels (2, 4, 5, and 7) located in the eastern half of the right-of-way. The original railroad was constructed at grade with numerous city street crossings. In the early 1960s, the current NS main line was relocated onto an embankment (grade-separated) between West 9<sup>th</sup> Street and West Morehead Street to mitigate its impact on highway traffic through the city. Bridges were constructed over West 6<sup>th</sup> Street, West 5<sup>th</sup> Street, West Trade Street, West 4<sup>th</sup> Street, and Morehead Street.

Land surrounding the railroad is used for a mixture of uses typical of downtown areas. Adjoining and nearby properties include commercial businesses and offices, parking, a bus station, two city cemeteries, and Ericsson Stadium and practice fields for the Carolina Panthers football team. Some adjoining and nearby areas have been cleared and are undergoing construction of new high-rise buildings. The tracks and embankments for most of the study area are enclosed within perimeter fencing that limits access by pedestrian traffic.

Figure 2 shows the location of the four parcels with respect to nearby city streets. Parcel 2 is the most southwest of the four parcels, extending from West 1<sup>st</sup> Street to West 4<sup>th</sup> Street. Parcel 4 extends from West 4<sup>th</sup> Street to West Trade Street. Parcel 5 extends from West Trade Street to West 5<sup>th</sup> Street and Parcel 7 extends from West 5<sup>th</sup> Street to West 9<sup>th</sup> Street.

### 3.0 PREVIOUS INVESTIGATIONS

Arcadis Geraghty & Miller (AGM, 2000) prepared a Limited Phase I Environmental Site Assessment Report (PESAR) for many of the properties surrounding the NS right-of-way in the project area. Figure 3 shows the property locations that were investigated during the PESAR. The cross-hatched and numbered properties shown on Figure 3 were highlighted as presenting possible environmental concern and/or posing possible environmental liability. The properties of noted concern that are adjacent to the four parcels being assessed for this PSA report are briefly described below:

#### PROPERTIES ADJACENT TO OR NEAR PARCEL 2

Parcel 2 is located near a former polychlorinated biphenyl (PCB) disposal facility that was stabilized with cement and redeveloped as practice fields for the Carolina Panthers football team. The former disposal site is not shown in Figure 3. It was located west of (across the right-of-way) Parcel 2 and is not expected to have affected environmental conditions on Parcel 2. A Duke Power substation (not numbered) is

located adjacent to the south half of Parcel 2, but most likely has not affected environmental conditions (AGM, 2000). Image Plus, a custom color printing operation (shown as 38) is located on the city block between 3<sup>rd</sup> and 4<sup>th</sup> Streets. The PESAR (AGM, 2000) does not cite instances of chemical releases, but has listed it as a potential environmental liability area because of its historical property use for automobile servicing and painting. The Charlotte Florist (number 37) is also listed as a potential environmental site because of historical property use for automobile servicing and painting.

#### PROPERTIES ADJACENT TO PARCEL 4

The Greyhound Lines, Inc., bus terminal (number 24) may represent the greatest potential for environmental liability adjacent to the study area. Parcel 4 is located along the northwest side of the terminal building. The Greyhound Lines, Inc. facility has three active diesel pumps fed by a 15,000-gallon UST. According to the PESAR, the facility had a 10,000-gallon diesel leaking UST (LUST) that was removed in 1996. The LUST was located along the northern portion of the property, approximately 25 feet from the terminal building. However, the PESAR did not include a map identifying the exact location of the former LUST.

Approximately 114 tons of soil were excavated during the tank removal. Soil borings were placed in the excavation pit and along the location of piping that supplied the fuel pumps. Total petroleum hydrocarbons (TPH) were recorded as high as 1,100 mg/kg within the excavation pit. Diesel range TPH measurements were higher (2,500 mg/kg) in soil borings emplaced along the fuel pipeline, approximately 100 feet south of the former LUST. A Comprehensive Site Assessment (CSA) has been requested for this site, but had not been completed at the time of the AGM assessment in 2000.

#### PROPERTIES ADJACENT TO PARCEL 5

Parcel 5 is located adjacent to several businesses. The Witzens Art Gallery (number 18) may represent some environmental risk because of historical property use as a machine shop. The Daily Double Sports Bar and Business Records Storage, Inc. (numbers 20 and 21) were also noted because of their historical use including coal storage, a machine shop and automotive repair shop. Paid Parking owns two gravel/asphalt parking lots (numbers 22 and 23) located adjacent to the southeast half of Parcel 5. They were noted to represent some environmental risk because of their historical use including coal storage, a machine shop, oil house, and gasoline station with three USTs. The PESAR did not list any incidences of

environmental releases for these properties, but listed these areas as potential environmental liability areas with the recommendation for further study.

#### PROPERTIES ADJACENT TO PARCEL 7

Parcel 7 is located next to an active construction site, Carolina Rim & Wheel, and a cleared gravel parking lot and grassy field. The active construction site is located between 5<sup>th</sup> and 6<sup>th</sup> Streets, and was previously described as being occupied in the past by a bakery, a single-story building, and more recently, a gravel parking lot. Carolina Rim & Wheel (number 13) is an automotive parts store and was regarded by AGM as potential environmental liability area because of the possibility of petroleum hydrocarbon releases from current/past automotive servicing. The gravel parking lot between West 6<sup>th</sup> Street and West 7<sup>th</sup> Street, and the field between West 7<sup>th</sup> Street and West 8<sup>th</sup> Street (Numbers 8 through 12 on Figure 3 were not specifically studied in the PESAR).

#### **4.0 CURRENT CONDITIONS**

Based on the scope of services defined by the RFP received from the NCDOT on October 1, 2001, Solutions-IES performed a reconnaissance of each of the parcels. The photographs in Appendix A show current site conditions.

Within Parcel 2, the main line tracks are elevated on embankment fill. The fill slopes are vegetated and the portion of the property located east of the embankment slope is at street grade (10 to 15 feet below the mainline rail elevation (Photograph 1) and covered with gravel. There is an existing spur line, identified in the Feasibility Study as the "Old Team Track", extending through the parcel. Judging from the rusty rails, the spur line appears to be rarely used (Photographs 2 and 3). Parcel 2 is the largest of the four properties evaluated and encompasses approximately 3 acres. Parcel 2 was found to contain several underground utilities, including high voltage electric, cable television, and fiber optic telephone lines.

Parcel 4 encompasses approximately 0.21 acre, extending from West 4<sup>th</sup> Street and West Trade Street. The area near the perimeter fence is at street grade. The land slopes upward along the embankment slope to the main line tracks and is covered in overgrown scrub vegetation. The Greyhound bus station is located (southeast) of the perimeter fence (Photographs 4 and 5). We noted during our reconnaissance that the existing bus station has three diesel pumps and three vehicle-washing stations located on the

northwest side of the building (closest to Parcel 4). An existing 15,000-gallon underground storage tank (UST) is currently used for fueling busses.

Parcel 5 comprises approximately 0.28 acres and extends along the east side of the main line rails from West Trade Street to West 5<sup>th</sup> Street. Most of the area east of the embankment fill is paved and is used as an alley way (Photograph 6) for the adjacent properties which include Witzens Art Gallery, Business Records Storage, Inc. warehouses, and two gravel parking lots. A solid waste container (dumpster) was observed in the alley behind the Business Records Storage, Inc. property (Photograph 7). Old, partially buried railroad tracks were observed in the alley.

Parcel 7 (0.8 acres) is located along the southeast side of the main line rails between 5<sup>th</sup> and 9<sup>th</sup> Streets. Most of the city block adjacent to this parcel between 5<sup>th</sup> and 6<sup>th</sup> Streets has been cleared and is currently undergoing construction. Photograph 8, taken near the south end of Parcel 7 shows some construction material stored in the NS right-of-way. The railroad embankment, visible in the photograph, is partially retained by concrete cribbing. The city block between 6<sup>th</sup> and 7<sup>th</sup> street is occupied by Carolina Rim & Wheel, an auto supply store (Photographs 9 and 10). A gravel parking lot is present between 7<sup>th</sup> and 8<sup>th</sup> Streets, and a grass field is located between 8<sup>th</sup> and 9<sup>th</sup> Streets where the NS main line rail alignment drops downward to street level (Photograph 11).

## 5.0 FIELD ACTIVITIES

Solutions-IES opened borings at 25 locations within Parcels 2, 4, 5 and 7. Soil samples were collected using either a Geoprobe<sup>®</sup>, or in cases where vehicle access was impossible, we entered the area on foot and used a hand auger to collect the samples. The SB-1 boring location on Parcel 2 was in a ditch adjacent to the off-site electric power sub-station. Several hand auger borings were attempted at this location but refusal was encountered approximately 1 to 2 feet below ground surface (bgs) because of gravel and cobbles. The other borings opened in Parcel 2 were opened with the Geoprobe<sup>®</sup>. In Parcel 4, all of the borings were performed using a hand auger because of access restrictions. Those in the south end of Parcel 4 (SB-8 and SB-9) and Parcel 5 (SB-14) were terminated at relatively shallow depth on gravel and cobbles. In Parcel 7 all of the borings except SB-19 were opened with the Geoprobe. The boring locations for each of the four parcels are shown in Figures 4 through 7.

Prior to beginning the assessment, Solutions-IES contacted ULOCO to verify the location of utilities located within the areas to be investigated. However, due to the presence of a large number of utilities in

the study area (electric, television, fiber optic, railroad), a private utility locator, Associated Technical Services (ATS) was contracted to verify the absence of any utilities in the immediate area proposed for the soil borings. Representatives from N&S and Qwest Communications were also present on site to locate their utilities.

Since NCDOT was primarily interested in the shallow soils, the Geoprobe<sup>®</sup> borings were advanced to a total depth of 8 feet below ground surface (bgs) and terminated. Continuous soil cores were collected from each boring using a Macro<sup>®</sup> Sampler. Upon removal from the ground, the cores were cut into 2-foot lengths. For the borings opened with a hand auger, recovered soils were screened on one-foot intervals. Soil from each interval was further split into two portions. Each portion was placed in a separate re-sealable plastic bag. One bag was placed on ice for possible laboratory analysis, while the other bag was sealed and placed at ambient temperature for field screening with an organic vapor analyzer (OVA).

The soil samples were examined for soil type and the presence or absence of petroleum staining or odor. After a period of approximately 20 minutes, which allowed for the accumulation of volatile organic compounds (VOCs) in the headspace of the bags, each sealed bag stored at ambient temperature was scanned with the OVA. A background reading was taken with the OVA prior to measuring VOC concentrations in the bags. The readings of the VOC concentrations in the headspace were then entered on the boring log, along with a soil description and any indications of petroleum staining or odor (Appendix B). Following completion of the soil sampling activities, the hand auger and Geoprobe<sup>®</sup> borings were backfilled using soil and/or sand.

At least one sample from each parcel was submitted to Prism Laboratories located in Charlotte, NC for further analysis (two samples were submitted from Parcel 7). Generally, the soil sample exhibiting the highest OVA reading was submitted to the laboratory.

Samples SB-5 (Parcel 2), SB-13 (Parcel 4), SB-15 (Parcel 5), SB-20 and SB-25 (Parcel 7) were analyzed for total petroleum hydrocarbons (TPH) as both gasoline-range organics (GRO) and diesel-range organics (DRO) using EPA SW-846 methods 5030 and 3550, respectively. The sample collected from SB-25 was also analyzed for VOCs and semi-volatile organic compounds (SVOCs) by EPA Methods 8260B and 8270C, respectively.



## 6.0 ASSESSMENT RESULTS

For a large part, VOC concentrations as measured with the OVA were at background levels of less than 5 parts per million. Table 1 summarizes the OVA readings for all of the samples collected during the PSA. While most of the borings were extended to 8 feet bgs, borings ranged from 1 foot bgs at SB-8 and SB-9 because of shallow refusal on cobbles, to 12 feet bgs at SB-6. Slightly elevated VOC concentrations of 20 and 36 parts per million (ppm) were measured with the OVA for two of the samples from SB-15 (Parcel 5) at depths of 4 to 6 feet and 6 to 8 feet, respectively. At SB-25 (Parcel 7) at 0 to 2 feet and 6 to 8 feet, OVA readings were 7.4 and 5.8 ppm. No obvious staining or noticeable petroleum odor was observed in any of the recovered samples.

The results of TPH analyses performed on the five soil samples submitted to the laboratory are summarized in Table 2. Three of the samples were collected in the top 2 feet of the near-surface soils; the other two samples were collected at a depth of 6 to 8 feet bgs. No gasoline range petroleum hydrocarbons were detected in any of the five samples. Detectable concentrations of diesel range hydrocarbons were reported in the samples collected from Parcels 2 at SB-5 and Parcel 7 at SB-20 and SB-25.

The sample collected from SB-25 (Parcel 7) at a depth of 0.0 to 2.0 feet bgs was also analyzed for VOCs and SVOCs. A single VOC, bromoform, was detected at 33  $\mu\text{g}/\text{kg}$  in this soil sample. The detection of a single VOC in a soil sample is unusual. According to Prism Laboratories, its presence is likely a laboratory artifact. No SVOCs were detected above elevated detection limits. The laboratory indicated that they performed a 5x dilution of the sample for the SVOC analysis because "of a thick brown matrix" present in the prepared sample. The complete laboratory reports are included in Appendix C.

## 7.0 DISCUSSION OF FINDINGS

This PSA was performed on four parcels of the NS property located on the east side of the main line rails between West 1<sup>st</sup> and West 9<sup>th</sup> Streets in Charlotte, NC. Most of the adjoining properties were classified by AGM as presenting some environmental risk because of their history of differing uses in the past. Our reconnaissance of the NS property did not indicate any areas of distressed vegetation and/or obvious stained areas that would present environmental concerns.

Twenty-five (25) borings were opened to depths that ranged between 1 and 12 feet, with most borings opened to a depth of 8 feet bgs to examine the shallow soils. As observed during our reconnaissance, the old at grade railroad track or the old railroad ballast present along much of the study area presented extreme difficulties in opening the hand auger samples. In many cases multiple borings were attempted in a proposed boring area before a boring could be successfully opened through the ballast to the underlying soils. The underlying soils consisted primarily of clays and silts typical of soils in the Charlotte area.

The detection of diesel-range TPH in shallow soils is presumably the result of an extended history of use of the area by the NS Railroad. A low concentration of diesel-range hydrocarbons was also detected at depth in the boring (SB-20) located next to the Carolina Rim & Wheel parking lot. Bromoform was the only VOC reported in the soil sample collected from SB-25 at 33 µg/kg. However, its detection was suggested to be anomalous, according to the laboratory report.

Figure 8 shows the outline of the proposed Multi-Modal Station that will occupy Parcel 4 and the current Greyhound bus terminal property. The figure also shows portions of the track improvements that will occupy the north half of Parcel 2, Parcels 5, and Parcel 7. According to the Draft Feasibility Study, the existing NS main line tracks will remain aligned horizontally and vertically near their present position (Gannett Fleming, et al. 2001). Additional rails, noted as "Heavy Passenger 1", "Heavy Passenger 2" and "Event Layover No.2" will be constructed along with passenger sidings on the east side of the main line rails. A single rail designated as the "Future O Line Track" will be constructed on the west side of the main line rails. In the Station area, the new rails will be aligned vertically close to the main line rails. This will require the placement of extensive new fill embankments throughout the four parcels studied. The cross streets, West 6<sup>th</sup> Street through West 9<sup>th</sup> Street will be closed and a portion of Parcel 7 will be used to construct a natural area (Linear Park). A soil berm with retaining wall extending through the park will be used to create a sound and visual buffer. Because of the extensive new fill that will be required, the project will require additional off-site soil to construct the new embankments.

According to the Volume 1 of the Groundwater Section Guidelines for the Investigation and Remediation of Soil from Sources Other Than Underground Storage Tanks (Guidelines, 2000), any detection of petroleum hydrocarbons exceeding the minimum detection limit (MDL) of the analysis would carry a reporting requirement to the Mooresville Regional Office, which has jurisdiction over the site. Petroleum releases not impacting the groundwater must be remediated to the Action Level. The TPH Action level for diesel-range hydrocarbons (EPA Method 8015/3550) is 40 mg/kg. Of the three detections noted by the lab during this assessment, only the surface detections at SB-5 and SB-25 slightly exceed the TPH Action Level of 40 mg/kg. The deeper detection from SB-25 does not exceed the Action Level.

## 8.0 RECOMMENDATIONS

Based on the Guidelines, the detection of the low concentrations of TPH requires reporting of their discovery to the Mooresville Regional Office. As such, additional remediation of the surficial soils may be required especially if these soils are excavated during construction. If these materials are undisturbed and buried within the new fill embankment it may be possible to obtain a permit from DENR to handle these materials within the embankment as is allowed for new highway construction under a provision of the Guidelines.

It has been Solutions-IES' experience with other rail sites that there can be measurable concentrations of polynuclear aromatic hydrocarbons (PAHs) in the ballast, associated with the past use of creosote-treated cross-ties. The PAHs typically have lower Soil to Groundwater MSCCs than the TPH values. Since most of these compounds are not particularly mobile, their presence would be expected to be limited to the railroad ballast and surficial soils beneath the ballast. Where the ballast materials are to be excavated, the best use of these materials may be to recycle them into ballast in areas of new track construction.

There is the possibility that other small areas of petroleum-impacted soil may be encountered during site clearing and grubbing. If areas soil contamination are discovered, Solutions-IES requests that we be notified so that we may evaluate these materials and have the opportunity to revise, modify, and/ or amend these recommendations in light of new discovery.

## 9.0 REFERENCES

ARCADIS Geraghty & Miller. (2000). *Limited Phase I Environmental Site Assessment Report. State Project No. 9.9080178 (AMTRAK). Proposed AMTRAK Rail Station. Downtown Charlotte. Charlotte, North Carolina.*

Gannett Fleming Corrdry and Carpenter, Inc. and Wagner Murray Architects, 2001 *First Draft Feasibility Study for the Charlotte Multi-Modal Station and Area Track Improvements*, prepared for the North Carolina Department of transportation, Rail Division Preliminary Study.

NCDENR. (2000). *Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater. Division of Water Quality. Groundwater Section.*

**TABLES**

**TABLE 1**  
**SUMMARY OF FIELD SCREENING RESULTS FOR SOIL**  
**NORFOLK & SOUTHERN RAILROAD**  
**MECKLENBURG COUNTY, NC**  
**STATE PROJECT NO. 9.9081000 (P-3800)**

Boring Number	Parcel Number	Sample Depth in Feet Below Ground Surface											
		0 - 2		2 - 4		4 - 6		6 - 8		8 - 10		10 - 12	
		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
SB-1	25a	1.4	1.3										
SB-2		3.9		2.4		4.6		3.6					
SB-3		2.2		3.8		3.5		3.0					
SB-4		3.0		3.0		2.8		2.7					
SB-5		3.0*		2.4		2.5		2.4					
SB-6	3c	1.0		1.0		1.4		1.3		1.2		1.8	
SB-7		1.8		2.2		2.1		1.8					
SB-8	4	1.2											
SB-9		1.2											
SB-10		1.5	1.4	1.6	1.6	1.6	1.3	1.4					
SB-11		1.7	1.3	1.5	1.3	1.2	1.2	1.3					
SB-12		2.0	1.5	1.9	1.7	2.0	2.0	2.0					
SB-13		1.3	2.0*	1.5	0.8	1.4	1.5	1.8					
SB-14		1.8											
SB-15	5	2.0		2.1		20.0		36.0*					
SB-16		2.5		3.6		1.7		2.5					
SB-17		1.5		2.0		1.9		1.5					
SB-18		1.4		1.9		2.4		2.0					
SB-19	25a		1.6	1.1	1.0	1.1	1.2						
SB-20		1.2		1.9		2.0		1.9*					
SB-21		2.5		1.9		2.2		3.0					
SB-22		2.6		3.0		3.0		5.0					
SB-23		2.5		2.3		3.8		2.5					
SB-24		2.7		2.4		2.2		2.8					
SB-25		7.4*		4.0		4.8		5.8					

Notes:

All values are in parts per million (ppm)

\* Asterisk indicates sample was submitted to the laboratory for analysis.

3c = 2 borings

22 = 6 borings

25a = 17 borings

**TABLE 2**  
**SUMMARY OF LABORATORY TPH RESULTS FOR SOIL**  
**NORFOLK & SOUTHERN RAILROAD**  
**MECKLENBURG COUNTY, NC**  
**STATE PROJECT NO. 9.9081000 (P-3800)**

SAMPLE INFORMATION			TOTAL PETROLEUM HYDROCARBONS	
PARCEL NUMBER	SAMPLE LOCATION	DEPTH (Feet BGS)	GASOLINE RANGE <sup>1</sup> (mg/kg)	DIESEL RANGE <sup>2</sup> (mg/kg)
2	[SB-5]	0.0 - 2.0	BDL <sup>3</sup>	45
4	SB-13	1.0 - 2.0	BDL	BDL
5	[SB-15]	6.0 - 8.0	BDL	BDL
7	[SB-20]	6.0 - 8.0	BDL	26
7	[SB-25]	0.0 - 2.0	BDL	67

Notes:

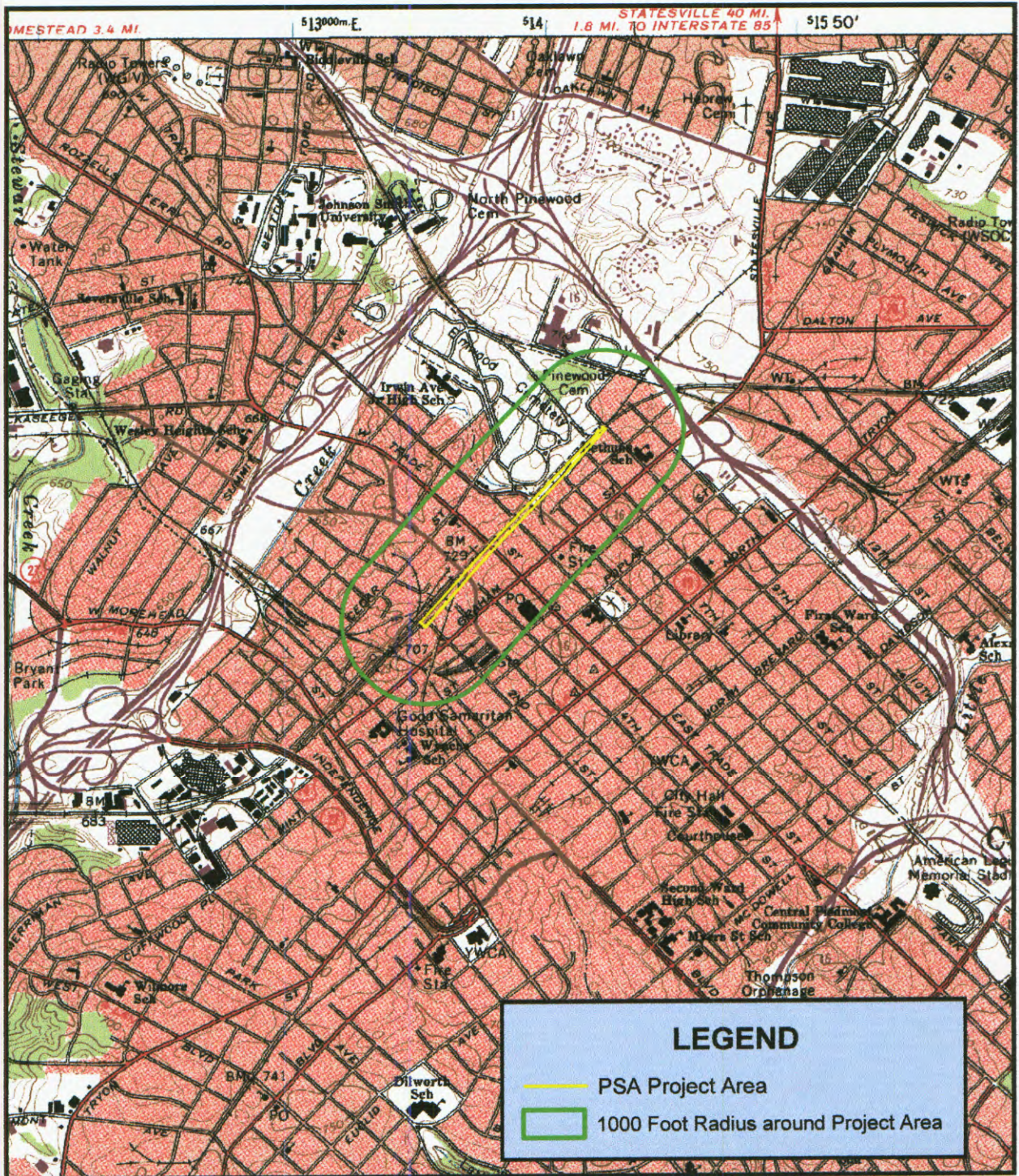
<sup>1</sup>- Total Petroleum Hydrocarbons (TPH) Method 5030 - Gasoline Range Hydrocarbons

<sup>2</sup>- Total Petroleum Hydrocarbons (TPH) Method 3550 - Diesel Range Hydrocarbons

BDL - Below Detection Limits of 10 mg/kg for Diesel Range and 1.0 mg/kg for Gasoline Range

**FIGURES**





REFERENCE:  
 Charlotte East (NC) 7.5 Minute Topographic Quadrangle,  
 Digital Raster Graphic File, U.S. Geological Survey, 1997  
 Contour Interval = 10 Feet



**PROJECT LOCATION MAP & VICINITY  
 FUTURE MULTI-MODAL STATION  
 CHARLOTTE, NORTH CAROLINA  
 STATE PROJECT NO. 9.9081000 (P-3800)**

**Solutions**  
 Industrial & Environmental Services

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CHECKED BY:		GIS Soft., Vers:	ESRI ArcView 8.1
DIRECTORY:	NCDOT/0920./ RevFig1RRStation	FIGURE	1

PROJECT NUMBER  
0920.01A3.NDOT

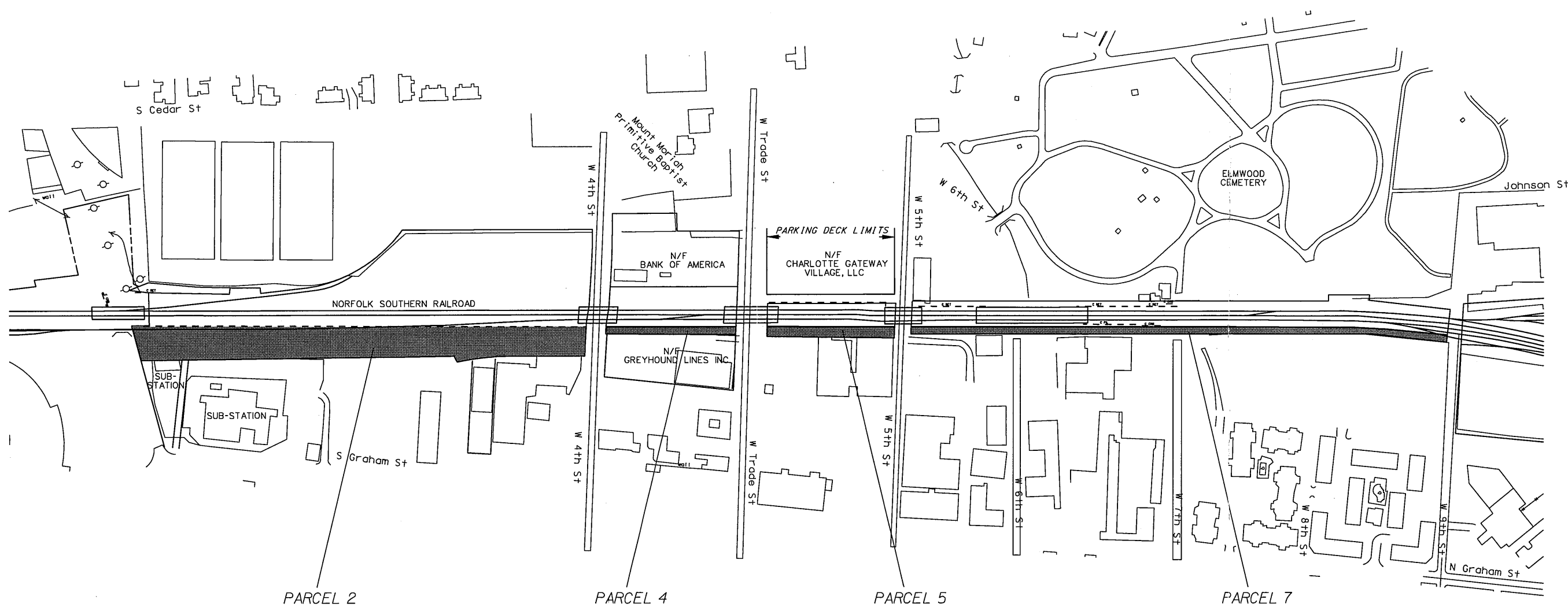
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RLT

CHECKED BY  
MJZ

PROJECT MANAGER  
WJB

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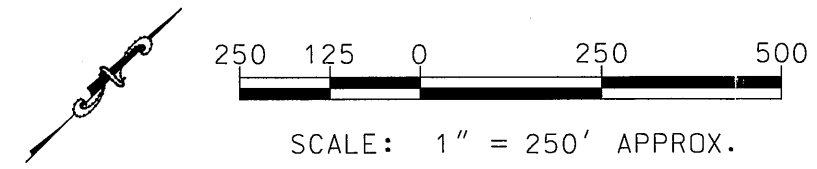
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**NOTICE**  
 THIS EXHIBIT HAS BEEN PREPARED BASED ON AERIAL MAPPING, AND IS NOT MEANT TO REPRESENT OR REPLACE A BOUNDARY SURVEY. ACCORDINGLY ALL ISSUES OF OWNERSHIP OR ACQUIREMENTS SHALL REQUIRE A METES AND BOUNDS SURVEY TO VERIFY OWNERSHIP LIMITS.

*APPROXIMATE ROW TRANSFER AREA - 4.28 ACRES*

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VICINITY MAP  
 FUTURE MULTI-MODAL STATION  
 MECKLENBURG COUNTY, NC  
 STATE PROJECT NO. 9.9081000 (P-3800)

FIGURE:  
2



**NOTICE**  
 THIS EXHIBIT HAS BEEN PREPARED BASED ON AERIAL MATRINO, AND IS NOT MEANT TO REPRESENT OR REPLACE A BOUNDARY SURVEY. ACCORDINGLY ALL ISSUES OF OWNERSHIP OR ACCURACENTS SHALL REQUIRE A METES AND BOUNDS SURVEY TO VERIFY OWNERSHIP LIMITS.

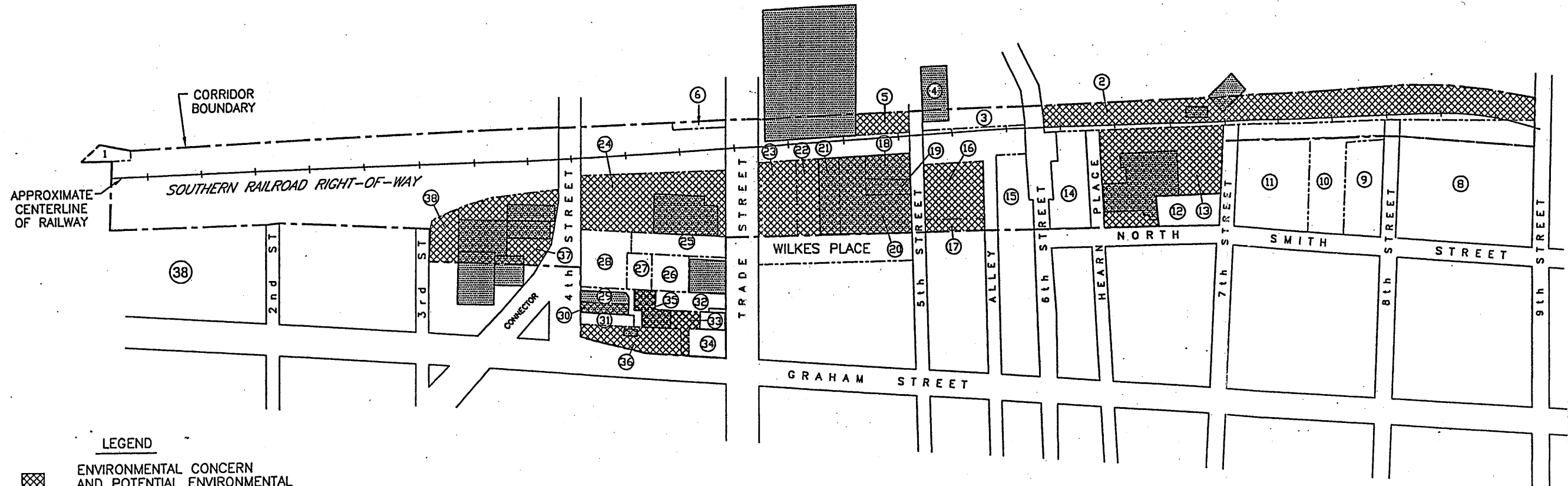
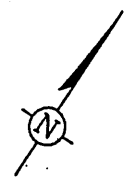
*APPROXIMATE ROW TRANSFER AREA - 4.28 ACRES*







**Solutions**  
 Industrial & Environmental Services  
 3172 BENSCH DRIVE  
 RALEIGH, NORTH CAROLINA 27609  
 TEL.: 1919 875-1000 FAX.: 1919 873-1074

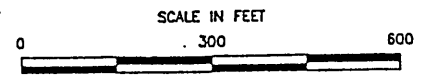


VICINITY MAP  
 FUTURE METRO-KINDAL STATION  
 MECKLENBURG COUNTY, NC  
 STAFF PROJECT NO. 9.5081000 (P-3800)

PROJECT NUMBER 0920.01A3.NDOT  
 DRAFTER RL.T  
 CHECKED BY MJ.Z  
 PROJECT MANAGER WJB  
 DATE NOVEMBER, 2001  
 FILE L:\LIABILITY.dgn



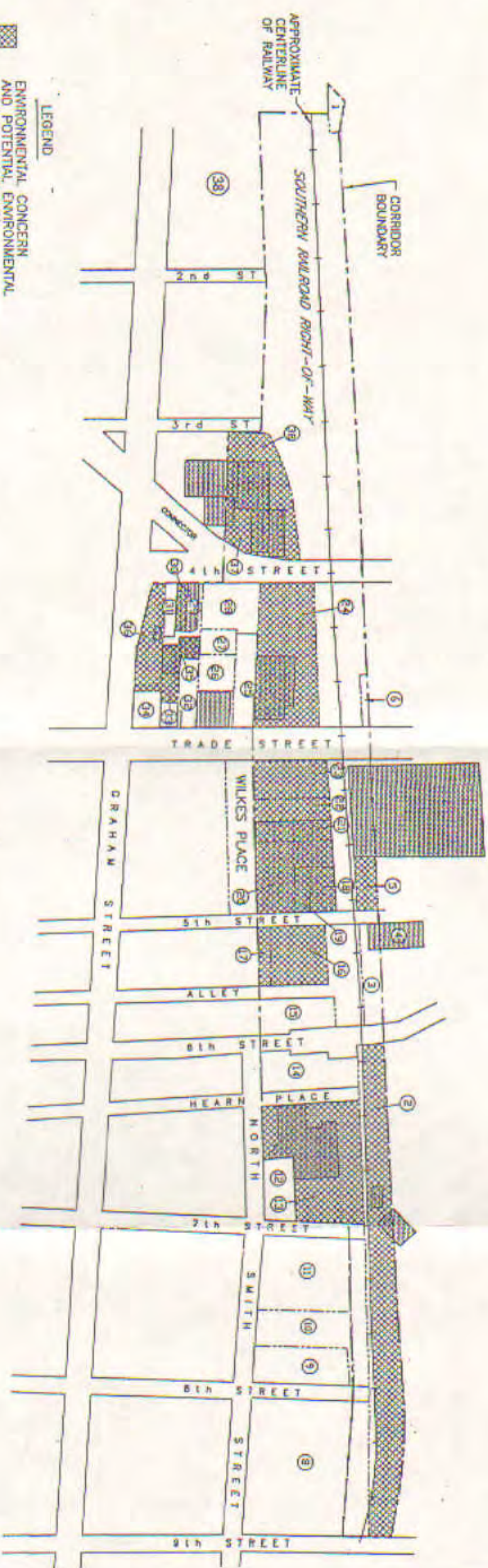
- LEGEND**
-  ENVIRONMENTAL CONCERN AND POTENTIAL ENVIRONMENTAL LIABILITY PROPERTIES
  -  NCDOT PROPERTY ACQUISITION NUMBER
  -  BUILDING
  -  PROPERTY BOUNDARY
  -  CORRIDOR BOUNDARY
  -  PARCEL NUMBER



**Solutions**  
 Industrial & Environmental Services  
 3722 BENSON DRIVE  
 RALEIGH, NORTH CAROLINA 27609  
 TEL.: (919) 873-1060 FAX.: (919) 873-1074

POTENTIAL ENVIRONMENTAL LIABILITY AREAS  
 NORFOLK SOUTHERN RAILROAD  
 SOURCE (AG&M, 2000)  
 STATE PROJECT NO. 9.9081000 (P-3800)

FIGURE:  
 3



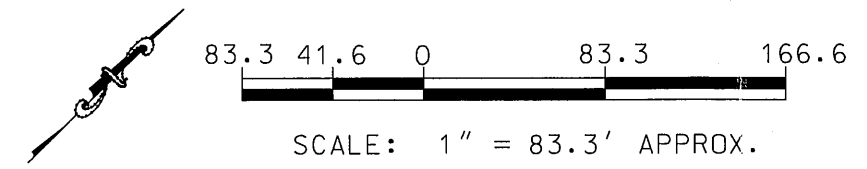
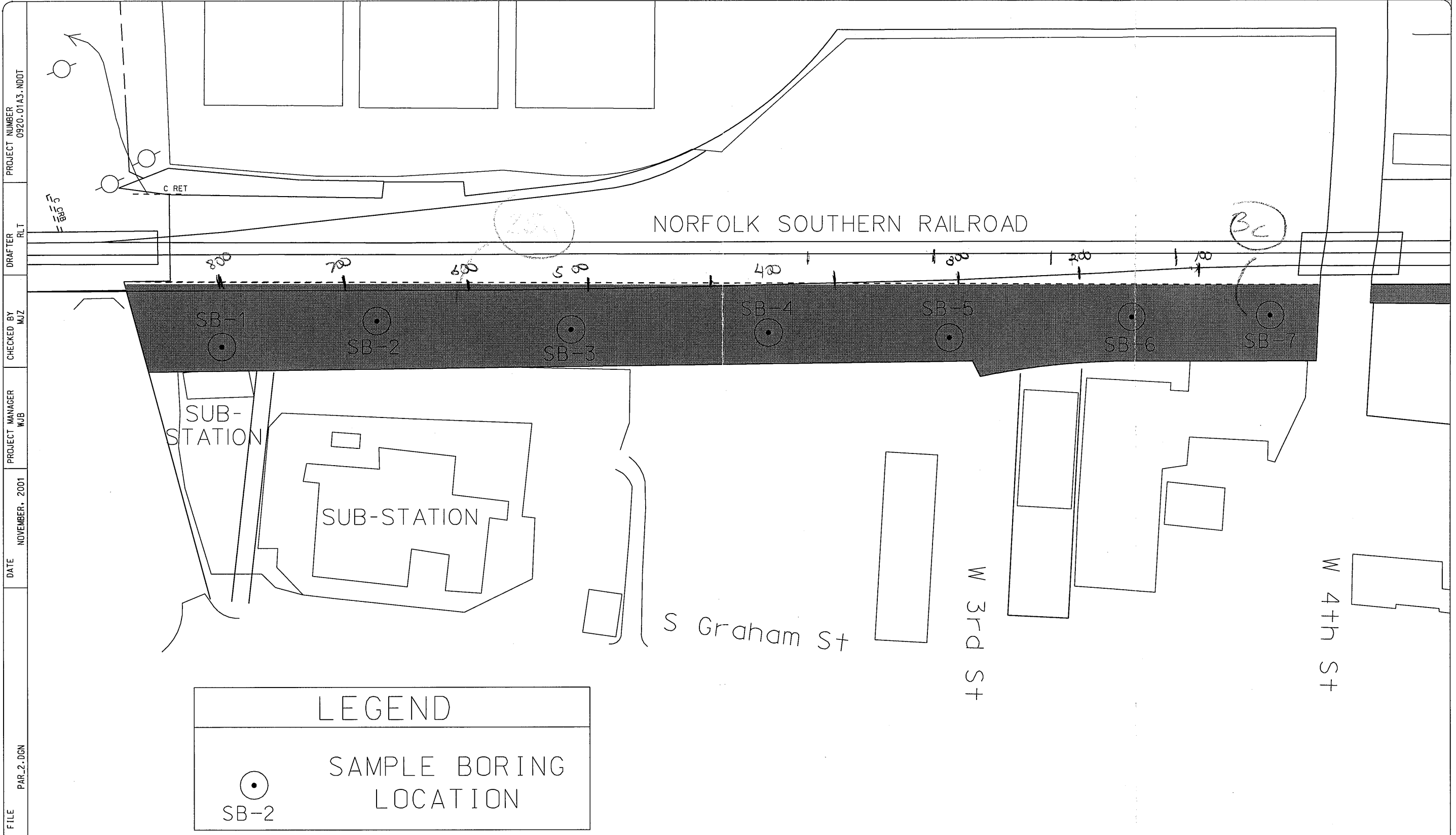
- LEGEND**
- ENVIRONMENTAL CONCERN AND POTENTIAL ENVIRONMENTAL LIABILITY PROPERTIES
  - NCDOT PROPERTY ACQUISITION NUMBER
  - BUILDING
  - PROPERTY BOUNDARY
  - CORRIDOR BOUNDARY
  - PARCEL NUMBER

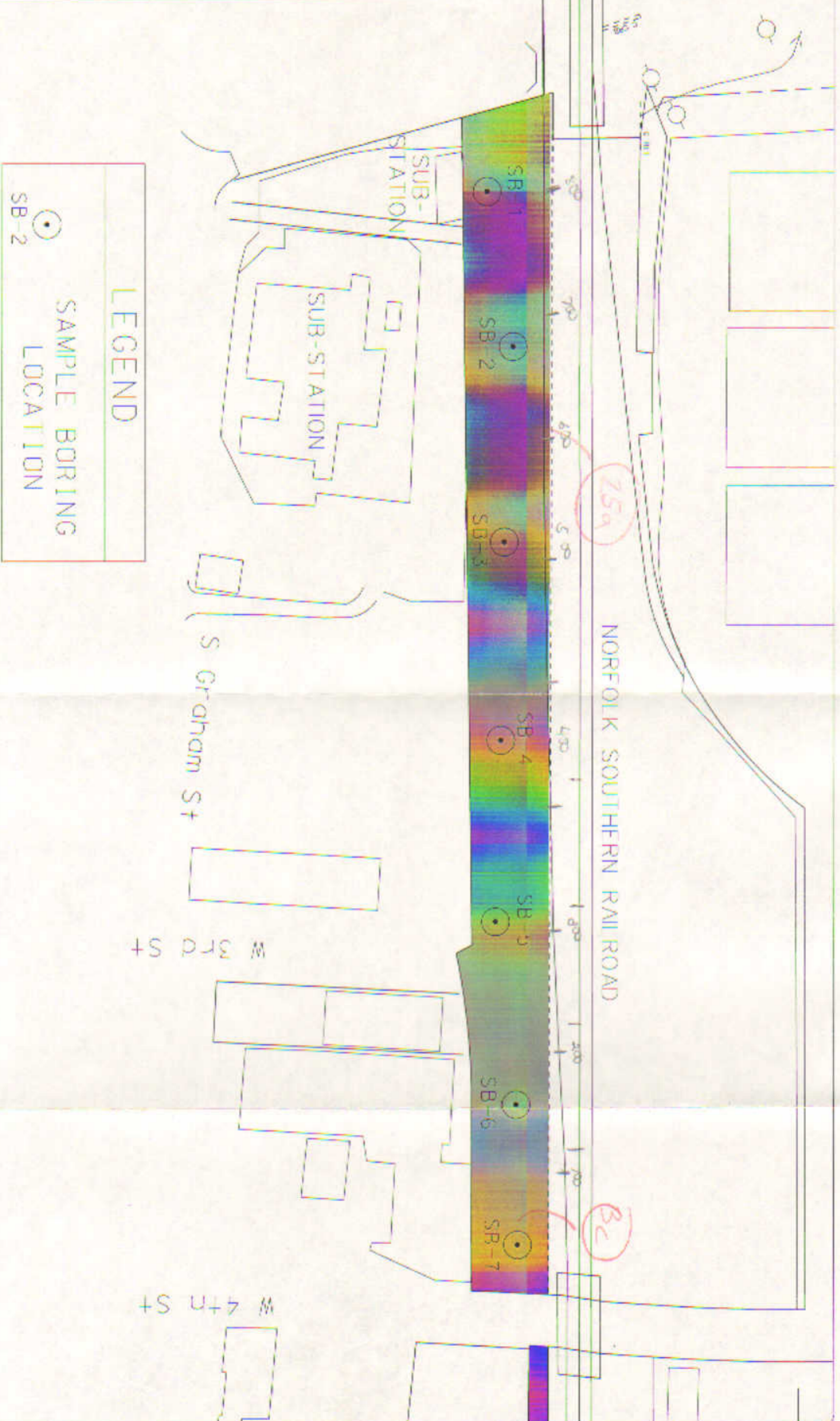


**Solutions**  
Industrial & Environmental Services

3722 BENSON DRIVE  
RALEIGH, NORTH CAROLINA 27605  
TEL.: (919) 872-1060 FAX: (919) 872-1074

POTENTIAL ENVIRONMENTAL LIABILITY AREAS  
NORFOLK SOUTHERN RAILROAD  
SOURCE (AGWA, 2000)  
STATE PROJECT NO. 9.9081000 (P-3800)





**LEGEND**

○ SAMPLE BORING

○ LOCATION

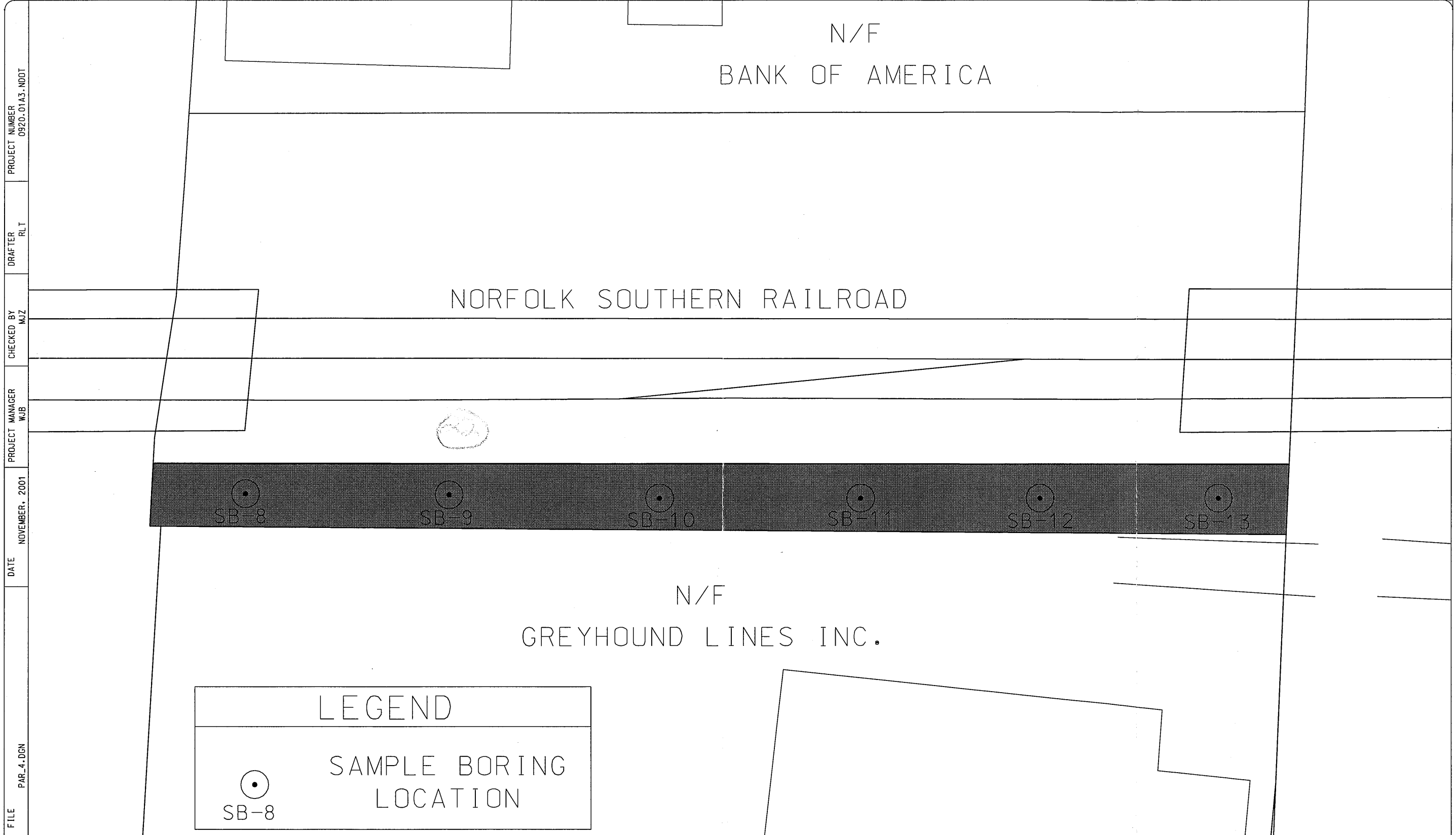
**Solutions**  
Industrial & Environmental Services

1722 BENSON DRIVE  
RALEIGH, NORTH CAROLINA 27609  
TEL: (919) 873-1060 FAX: (919) 873-1094

83.3 41.6 0 83.3 166.6

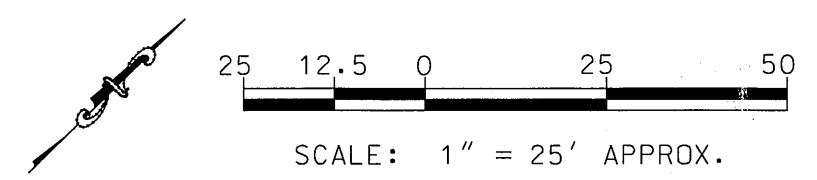
SCALE: 1" = 83.3' APPROX.

SITE AND BORING LOCATION MAP  
PARCEL 7  
NORFOLK SOUTHERN RAILROAD  
STATE PROJECT NO. 9.9081000 (P-38001)



PROJECT NUMBER 0920.01A3.NDDT  
 DRAFTER RLT  
 CHECKED BY MJZ  
 PROJECT MANAGER WJB  
 DATE NOVEMBER, 2001  
 FILE PAR-4.DGN

**Solutions**  
 Industrial & Environmental Services  
 3722 BENSON DRIVE  
 RALEIGH, NORTH CAROLINA 27609  
 TEL.: (919) 873-1060 FAX.: (919) 873-1074



SITE AND BORING LOCATION MAP  
 PARCEL 4  
 NORFOLK SOUTHERN RAILROAD  
 STATE PROJECT NO. 9.9081000 (P-3800)

FIGURE:  
 5



PROJECT NUMBER  
0520-0143-0001

DRAWN BY  
RLT

CHECKED BY  
AJZ

PROJECT MANAGER  
AJE

DATE  
NOVEMBER, 2001

FILE  
FMR\_L\_004

N/F  
BANK OF AMERICA

NORFOLK SOUTHERN RAILROAD

N/F  
GREYHOUND LINES INC.



**LEGEND**

○  
SAMPLE BORING  
LOCATION

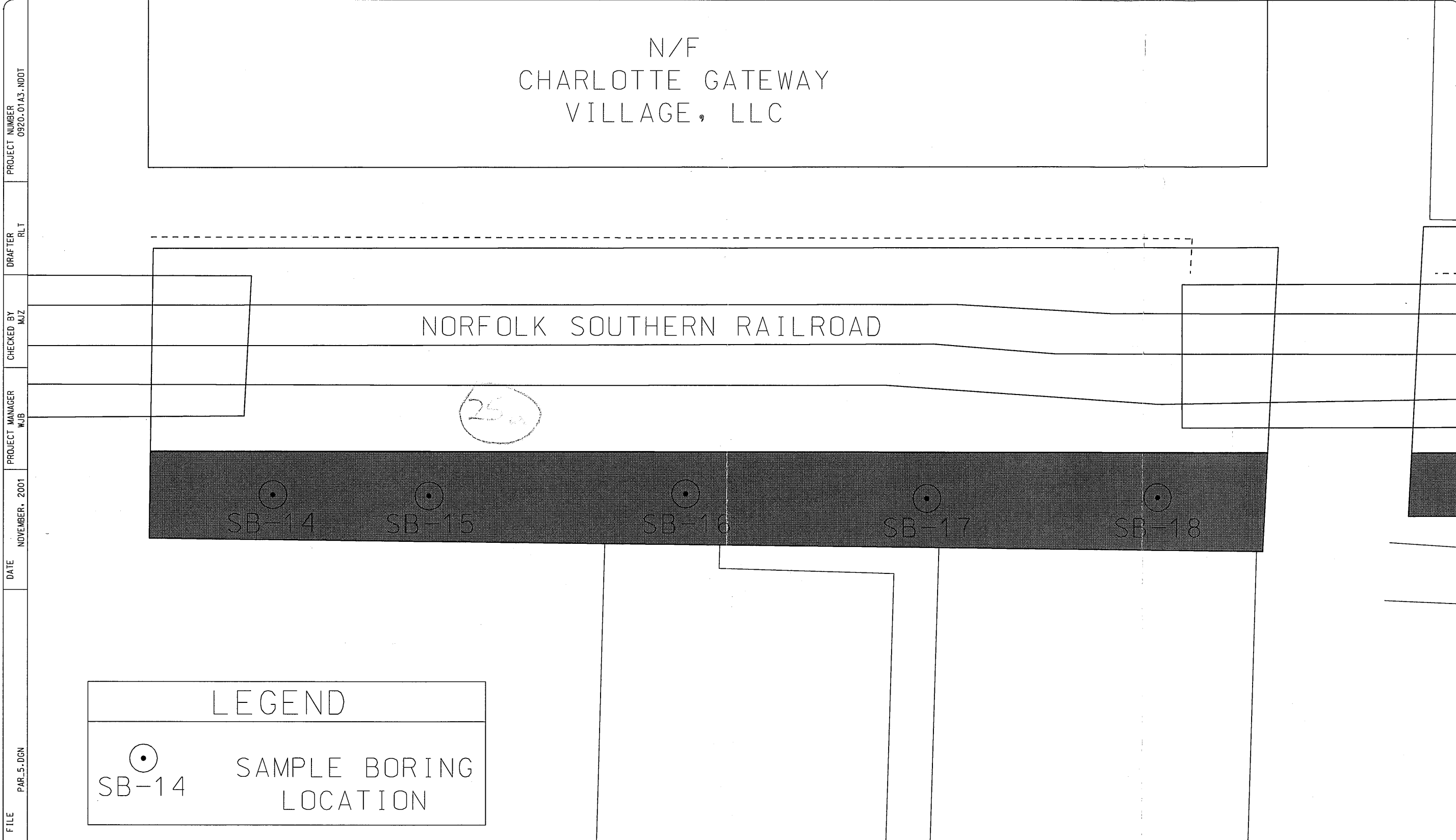
SB-8

**Solutions**  
Industrial & Environmental Services

3722 DICKSON DRIVE  
RALEIGH, NORTH CAROLINA 27609  
TEL.: (919) 873-1080 FAX: (919) 873-1014



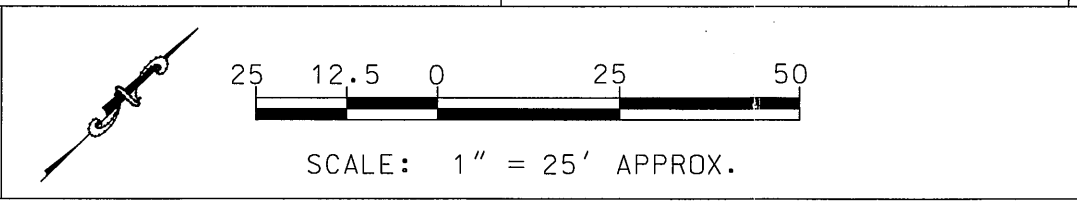
SITE AND BORING LOCATION MAP  
PARCEL 4  
NORFOLK SOUTHERN RAILROAD  
STATE PROJECT NO. 9-9081000 (P-3800)



PROJECT NUMBER 0920.01A3.NDOT  
 DRAFTER RLT  
 CHECKED BY MJZ  
 PROJECT MANAGER WJB  
 DATE NOVEMBER, 2001  
 FILE PAR\_5.DGN



3722 BENSON DRIVE  
 RALEIGH, NORTH CAROLINA 27609  
 TEL.: (919) 873-1060 FAX.: (919) 873-1074



SITE AND BORING LOCATION MAP  
 PARCEL 5  
 NORFOLK SOUTHERN RAILROAD  
 STATE PROJECT NO. 9.9081000 (P-3800)

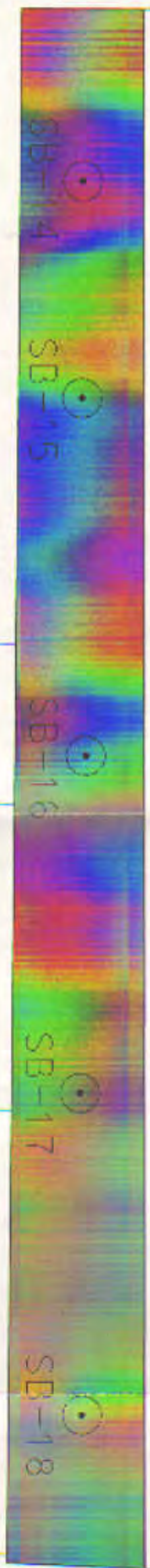
FIGURE:  
6

FILE	PAR_5.DGN	DATE	NOVEMBER, 2001	PROJECT MANAGER	WJB	CHECKED BY	MJZ	DRAFTER	RLT	PROJECT NUMBER	0920.0143.N001
------	-----------	------	----------------	-----------------	-----	------------	-----	---------	-----	----------------	----------------

N/F  
 CHARLOTTE GATEWAY  
 VILLAGE, LLC

NORFOLK SOUTHERN RAILROAD

25 Δ



**LEGEND**

○ SAMPLE BORING  
 ○ LOCATION

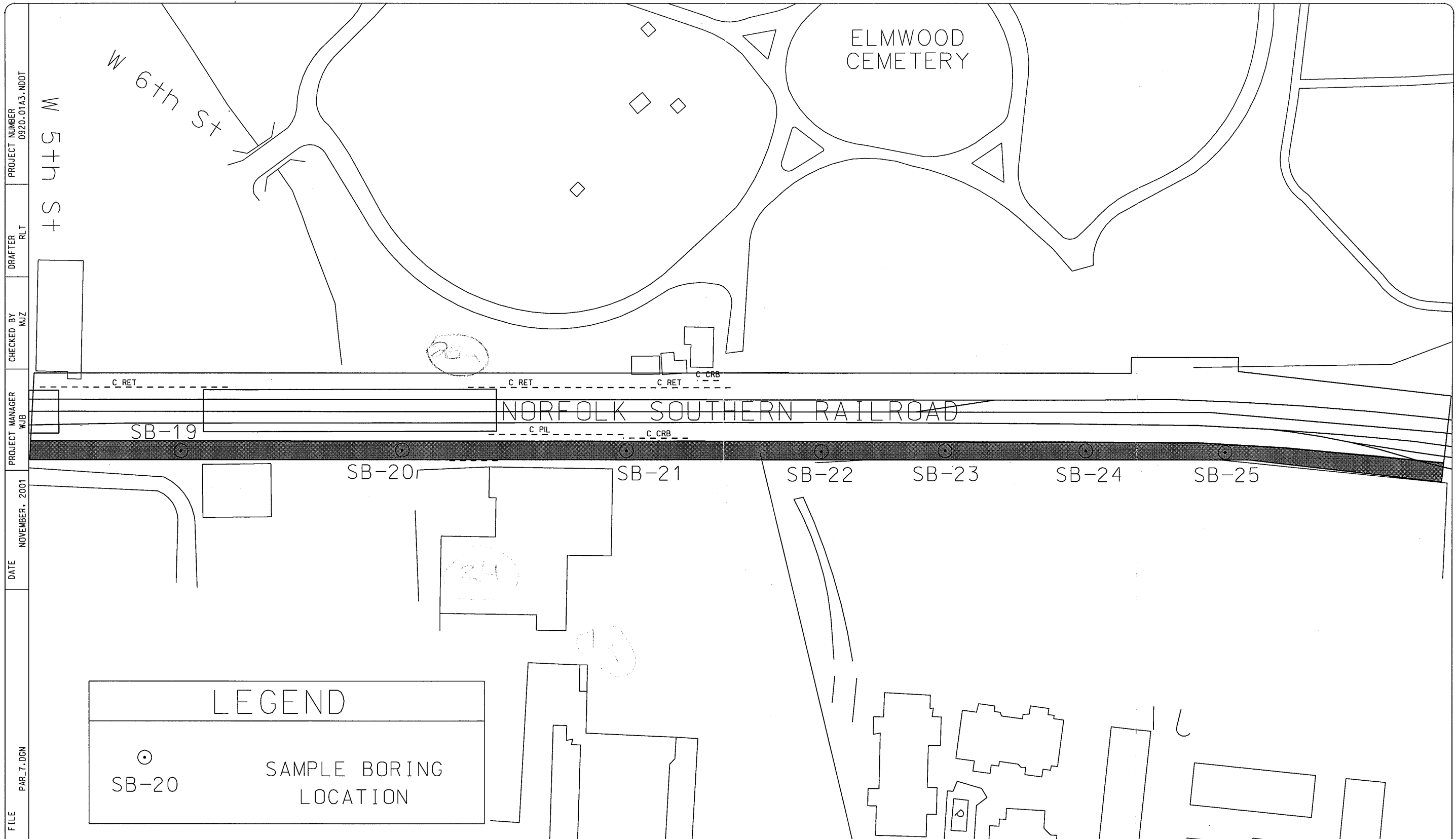
SB-14

**Environmental Solutions**  
 Industrial & Environmental Services

3729 BRUNSON DRIVE  
 WALKER, NORTH CAROLINA 27880  
 TEL: 919 875-1000 FAX: 919 875-1074



SITE AND BORING LOCATION MAP  
 PARCEL 5  
 NORFOLK SOUTHERN RAILROAD  
 STATE PROJECT NO. 9.9081000 (P. 3800)



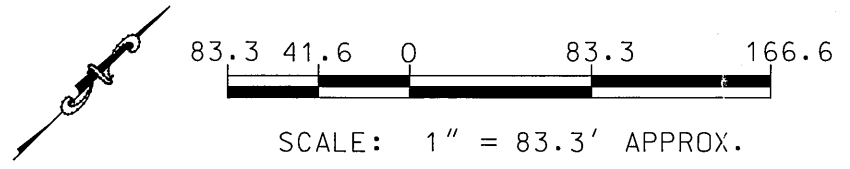
PROJECT NUMBER 0920.01A3.NDOT  
 DRAFTER RL.T  
 CHECKED BY MJZ  
 PROJECT MANAGER WJB  
 DATE NOVEMBER, 2001  
 FILE PAR\_7.dgn

LEGEND

○  
SB-20

SAMPLE BORING LOCATION

**Solutions**  
 Industrial & Environmental Services  
 3722 BENSON DRIVE  
 RALEIGH, NORTH CAROLINA 27609  
 TEL.: (919) 873-1060 FAX.: (919) 873-1074



SITE AND BORING LOCATION MAP  
 PARCEL 7  
 NORFOLK SOUTHERN RAILROAD  
 STATE PROJECT NO. 9.9081000 (P-3800)

FIGURE:  
7

PROJECT NUMBER  
0220-0-AS-4507

DRAFTER  
R.T.

CHECKED BY  
NAZ

PROJECT MANAGER  
N.S.

DATE  
NOVEMBER, 2001

FILE  
PAR\_7.DGN

W 5TH ST

W 6TH ST

ELMWOOD  
CEMETERY

NORFOLK SOUTHERN RAILROAD

SB-19

SB-20

SB-21

SB-22

SB-23

SB-24

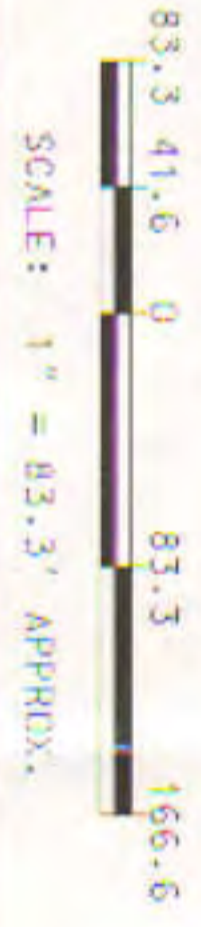
SB-25

**LEGEND**

○ SAMPLE BORING  
□ LOCATION

**Solutions**  
Industrial & Environmental Services

1722 BEASON DRIVE  
RALEIGH, NORTH CAROLINA 27609  
TEL.: (919) 873-1060 FAX: (919) 873-1074

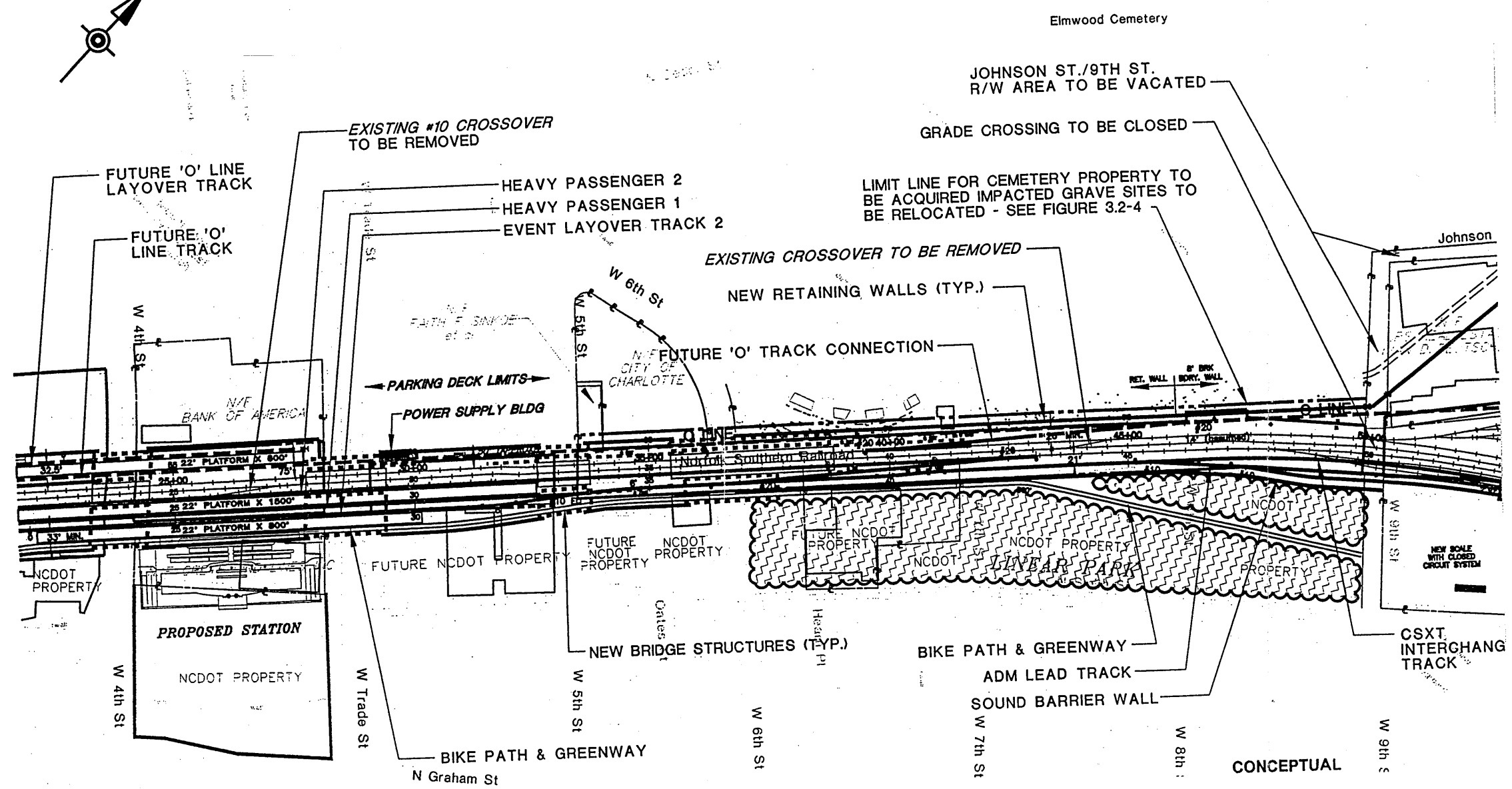


SITE AND BORING LOCATION MAP  
PARCEL 7  
NORFOLK SOUTHERN RAILROAD  
STATE PROJECT NO. 9.9081000 (P-58001)

710063

7

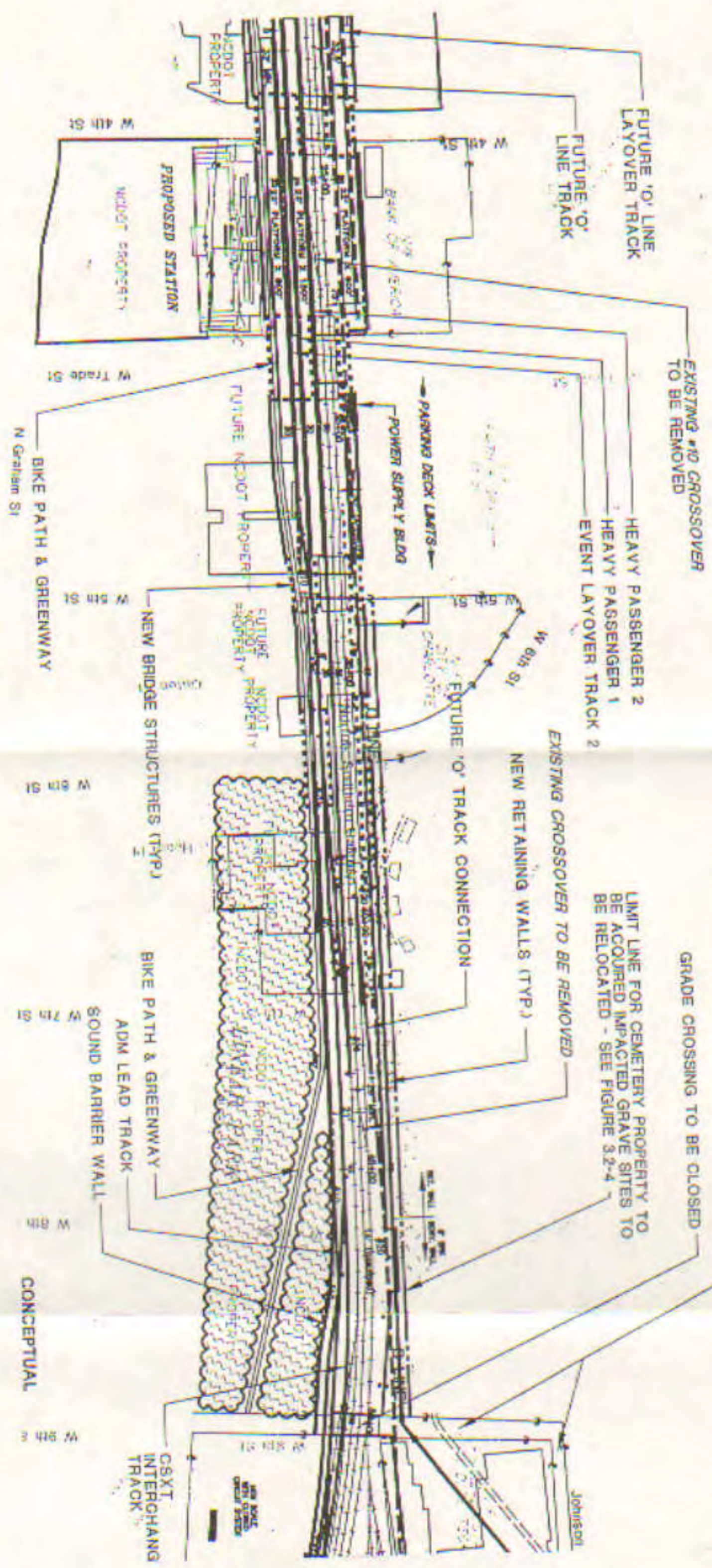
PROJECT NUMBER 0920.01A3.NDOT  
 DRAFTER RLT  
 CHECKED BY MIZ  
 PROJECT MANAGER WJB  
 DATE NOVEMBER, 2001  
 FILE



**Solutions**  
 Industrial & Environmental Services  
 3722 BENSON DRIVE  
 RALEIGH, NORTH CAROLINA 27609  
 TEL.: (919) 873-1060 FAX.: (919) 873-1074

FUTURE CONSTRUCTION  
 PROPOSED MULTI-MODAL STATION  
 SOURCE (GANNETT FLEMING, 2001)  
 STATE PROJECT NO. 9.9081000 (P-3800)

FIGURE:  
 8



**Solutions**  
Industrial & Environmental Services

3722 BENSON DRIVE  
BALTIMORE, NORTH CAROLINA 27609  
TEL.: (919) 873-1050 FAX.: (919) 973-1074

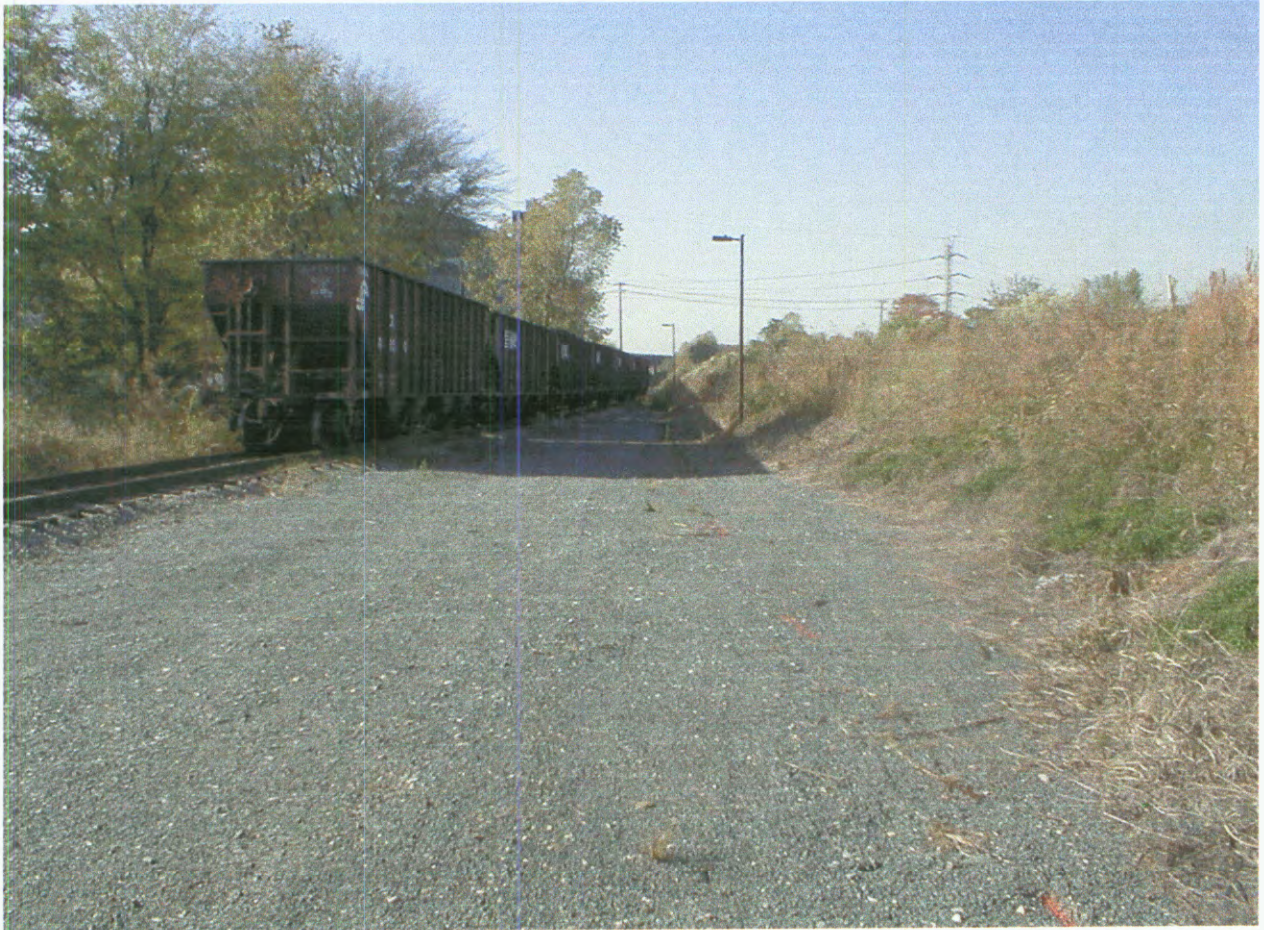
FUTURE CONSTRUCTION  
PROPOSED MULTI-MODAL STATION  
SOURCE (GANNETT FLEMING, 2001)  
STATE PROJECT NO. 9.9081000 (P-36001)

**APPENDIX A**  
**PHOTOGRAPHS**





**Photograph 1 Approximate location of SB-1**



**Photograph 2 Parcel #2 facing southwest. Active railroad lines are on right.**



**Photograph 3 Parcel #2 facing northeast.**



**Photograph 4 Parcel #4 facing northeast. Bus station is visible to the right.**



**Photograph 5 Greyhound bus station viewed from Parcel #4. Diesel pumps are visible in background.**



**Photograph 6 Gravel parking lots adjacent to Parcel #5.  
Business Storage Inc. warehouse is visible in background.**



**Photograph 7 Parcel #5.**



**Photograph 8 Location of SB-19.**





**Photograph 9 Parcel #7, Carolina Rim and Wheel property.**



**Photograph 10 Location of SB-21, located on northeastern corner of Carolina Rim and Wheel building.**



**Photograph 11 Parcel #7, along railroad tracks.**

**APPENDIX B**  
**BORING LOGS**

























































**APPENDIX C**  
**LABORATORY ANALYTICAL REPORTS**

# Lab Report



**PRISM**  
LABORATORIES, INC.

Full Service Analytical & Environmental Solutions

11/8/01

Page 1 of 10

Solutions - IES  
Attn: Walt Beckwith  
3722 Benson Dr.  
Raleigh, NC 27609

**Customer Project ID: NSRR**  
**Customer Sample ID: SB-5-0-2**  
**Prism Sample ID: AC24984**  
Login Group: AON8H5  
Sample Collection Date/Time: 10/31/01 14:25  
Lab Submittal Date/Time: 11/1/01 12:48

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

TEST PARAMETER	TEST RESULT	UNITS	REPORTING LIMIT	METHOD REFERENCE	DATE/TIME STARTED	ANALYST
TPH - DIESEL RANGE	45	mg/kg	10	8015MOD/3550	11/5/01 22:26	GRR
TPH-GASOLINE RANGE / PREP. 5030	Less than	mg/kg	1.0	8015MOD/5030	11/5/01 14:12	KC
CALCULATIONS BASED ON DRY WT.	95	% DRY WT.	0.01	SM 2540 G	11/2/01 18:15	GRR
PREP. METHOD 3550	Completed			SW846-3550	11/2/01 20:00	JLW

Sample Comments:

Angela D. Overcash, V.P. Laboratory Services

# Lab Report



**PRISM**  
LABORATORIES, INC.

Full Service Analytical & Environmental Solutions

11/8/01

Page 2 of 10

Solutions - IES  
Attn: Walt Beckwith  
3722 Benson Dr.  
Raleigh, NC 27609

**Customer Project ID: NSRR**  
**Customer Sample ID: SB-15-6-8**  
**Prism Sample ID: AC24985**  
Login Group: AON8H5  
Sample Collection Date/Time: 10/31/01 14:30  
Lab Submittal Date/Time: 11/1/01 12:48

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

TEST PARAMETER	TEST RESULT	UNITS	REPORTING LIMIT	METHOD REFERENCE	DATE/TIME STARTED	ANALYST
TPH - DIESEL RANGE	Less than	mg/kg	10	8015MOD/3550	11/5/01 11:37	GRR
TPH-GASOLINE RANGE / PREP. 5030	Less than	mg/kg	1.0	8015MOD/5030	11/5/01 16:49	KC
CALCULATIONS BASED ON DRY WT.	84	% DRY WT.	0.01	SM 2540 G	11/2/01 18:15	GRR
PREP. METHOD 3550	Completed			SW846-3550	11/2/01 20:00	JLW

Sample Comments:

Angela D. Overcash, V.P. Laboratory Services



# Lab Report



**PRISM**  
LABORATORIES, INC.

Full Service Analytical & Environmental Solutions

11/8/01

Page 3 of 10

Solutions - IES  
Attn: Walt Beckwith  
3722 Benson Dr.  
Raleigh, NC 27609

**Customer Project ID: NSRR**  
**Customer Sample ID: SB-13-1-2**  
**Prism Sample ID: AC24986**  
Login Group: AON8H5  
Sample Collection Date/Time: 10/31/01 17:10  
Lab Submittal Date/Time: 11/1/01 12:48

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

TEST PARAMETER	TEST RESULT	UNITS	REPORTING LIMIT	METHOD REFERENCE	DATE/TIME STARTED	ANALYST
TPH - DIESEL RANGE	Less than	mg/kg	10	8015MOD/3550	11/5/01 12:20	GRR
TPH-GASOLINE RANGE / PREP. 5030	Less than	mg/kg	1.0	8015MOD/5030	11/5/01 17:25	KC
CALCULATIONS BASED ON DRY WT.	84	% DRY WT.	0.01	SM 2540 G	11/2/01 18:15	GRR
PREP. METHOD 3550	Completed			SW846-3550	11/2/01 20:00	JLW

Sample Comments:

Angela D. Overcash, V.P. Laboratory Services

# Lab Report



Full Service Analytical & Environmental Solutions

11/8/01

Page 4 of 10

Solutions - IES  
Attn: Walt Beckwith  
3722 Benson Dr.  
Raleigh, NC 27609

**Customer Project ID: NSRR**  
**Customer Sample ID: SB-20-6-8**  
**Prism Sample ID: AC24987**  
Login Group: AON8H5  
Sample Collection Date/Time: 11/1/01 11:40  
Lab Submittal Date/Time: 11/1/01 12:48

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

TEST PARAMETER	TEST RESULT	UNITS	REPORTING LIMIT	METHOD REFERENCE	DATE/TIME STARTED	ANALYST
TPH - DIESEL RANGE	26	mg/kg	10	8015MOD/3550	11/5/01 20:59	GRR
TPH-GASOLINE RANGE / PREP. 5030	Less than	mg/kg	1.0	8015MOD/5030	11/5/01 18:02	KC
CALCULATIONS BASED ON DRY WT.	76	% DRY WT.	0.01	SM 2540 G	11/2/01 18:15	GRR
PREP. METHOD 3550	Completed			SW846-3550	11/2/01 20:00	JLW

Sample Comments:

Angela D. Overcash, V.P. Laboratory Services



11/8/01

Page 5 of 10

Solutions - IES  
Attn: Walt Beckwith  
3722 Benson Dr.  
Raleigh, NC 27609

**Customer Project ID: NSRR**  
**Customer Sample ID: SB-25-0-2**  
**Prism Sample ID: AC24988**  
Login Group: AON8H5  
Sample Collection Date/Time: 11/1/01 11:50  
Lab Submittal Date/Time: 11/1/01 12:48

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

TEST PARAMETER	TEST RESULT	UNITS	REPORTING LIMIT	METHOD REFERENCE	DATE/TIME STARTED	ANALYST
TPH - DIESEL RANGE	67	mg/kg	10	8015MOD/3550	11/5/01 20:16	GRR
TPH-GASOLINE RANGE / PREP. 5030	Less than	mg/kg	1.0	8015MOD/5030	11/6/01 13:32	KC
BENZENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
BROMOBENZENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
BROMOCHLOROMETHANE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
BROMODICHLOROMETHANE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
BROMOFORM	33	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
BROMOMETHANE	Not detected	ug/kg	12.0	8260B/5035	11/7/01 16:06	MP
N-BUTYLBENZENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
SEC-BUTYLBENZENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
TERT-BUTYLBENZENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
CARBON TETRACHLORIDE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
CHLOROBENZENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
CHLORODIBROMOMETHANE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
CHLOROETHANE	Not detected	ug/kg	12.0	8260B/5035	11/7/01 16:06	MP
CHLOROFORM	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
CHLOROMETHANE	Not detected	ug/kg	12.0	8260B/5035	11/7/01 16:06	MP
2-CHLOROTOLUENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
4-CHLOROTOLUENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,2-DIBROMO-3-CHLOROPROPANE	Not detected	ug/kg	12.0	8260B/5035	11/7/01 16:06	MP
1,2-DIBROMOETHANE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
DIBROMOMETHANE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,2-DICHLOROBENZENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,3-DICHLOROBENZENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,4-DICHLOROBENZENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
DICHLORODIFLUOROMETHANE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,1-DICHLOROETHANE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,2-DICHLOROETHANE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,1-DICHLOROETHENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
CIS-1,2-DICHLOROETHENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP

NC Certification No. 402 - SC Certification No. 99012 - NC Drinking Water Cert. No. 37735 - FL Certification No. E87519

# Lab Report



Full Service Analytical & Environmental Solutions

11/8/01

Page 6 of 10

Solutions - IES  
Attn: Walt Beckwith  
3722 Benson Dr.  
Raleigh, NC 27609

Customer Project ID: NSRR  
Customer Sample ID: SB-25-0-2  
Prism Sample ID: AC24988  
Login Group: AON8H5  
Sample Collection Date/Time: 11/1/01 11:50  
Lab Submittal Date/Time: 11/1/01 12:48

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

TEST PARAMETER	TEST RESULT	UNITS	REPORTING LIMIT	METHOD REFERENCE	DATE/TIME STARTED	ANALYST
TRANS-1,2-DICHLOROETHENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,2-DICHLOROPROPANE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,3-DICHLOROPROPANE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
2,2-DICHLOROPROPANE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,1-DICHLOROPROPENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
ETHYLBENZENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
HEXACHLOROBUTADIENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
ISOPROPYLBENZENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
P-ISOPROPYLTOLUENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
METHYLENE CHLORIDE	Not detected	ug/kg	120.0	8260B/5035	11/7/01 16:06	MP
NAPHTHALENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
N-PROPYLBENZENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
STYRENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,1,1,2-TETRACHLOROETHANE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,1,1,2-TETRACHLOROETHANE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
TETRACHLOROETHENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
TOLUENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,2,3-TRICHLOROBENZENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,2,4-TRICHLOROBENZENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,1,1-TRICHLOROETHANE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,1,2-TRICHLOROETHANE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
TRICHLOROETHENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
TRICHLOROFLUOROMETHANE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,2,3-TRICHLOROPROPANE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,2,4-TRIMETHYLBENZENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
1,3,5-TRIMETHYLBENZENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
VINYL CHLORIDE	Not detected	ug/kg	12.0	8260B/5035	11/7/01 16:06	MP
TOTAL XYLENES	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
2-BUTANONE (MEK)	Not detected	ug/kg	60.0	8260B/5035	11/7/01 16:06	MP
2-CHLOROETHYL VINYL ETHER	Not detected	ug/kg	12.0	8260B/5035	11/7/01 16:06	MP

NC Certification No. 402 - SC Certification No. 99012 - NC Drinking Water Cert. No. 37735 - FL Certification No. E87519

449 Springbrook Road ▲ P.O. Box 240543 ▲ Charlotte, NC 28224-0543  
Phone: 704/529-6364 ▲ Toll Free Number: 1-800/529-6364 ▲ Fax: 704/525-0409

# Lab Report



Full Service Analytical & Environmental Solutions

11/8/01

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Solutions - IES  
 Attn: Walt Beckwith  
 3722 Benson Dr.  
 Raleigh, NC 27609

**Customer Project ID: NSRR**  
**Customer Sample ID: SB-25-0-2**  
**Prism Sample ID: AC24988**  
 Login Group: AON8H5  
 Sample Collection Date/Time: 11/1/01 11:50  
 Lab Submittal Date/Time: 11/1/01 12:48

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

TEST PARAMETER	TEST RESULT	UNITS	REPORTING LIMIT	METHOD REFERENCE	DATE/TIME STARTED	ANALYST
4-METHYL-2-PENTANONE (MIBK)	Not detected	ug/kg	60.0	8260B/5035	11/7/01 16:06	MP
ACETONE	Not detected	ug/kg	120.0	8260B/5035	11/7/01 16:06	MP
CARBON DISULFIDE	Not detected	ug/kg	120.0	8260B/5035	11/7/01 16:06	MP
VINYL ACETATE	Not detected	ug/kg	60.0	8260B/5035	11/7/01 16:06	MP
CIS-1,3-DICHLOROPROPENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
TRANS-1,3-DICHLOROPROPENE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
2-HEXANONE	Not detected	ug/kg	60.0	8260B/5035	11/7/01 16:06	MP
IPE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
MTBE	Not detected	ug/kg	6.0	8260B/5035	11/7/01 16:06	MP
SURR:DIBROMOFLUOROMETHANE	94	%	80-120	8260B/5035	11/7/01 16:06	MP
SURR:TOLUENE-D8	103	%	81-117	8260B/5035	11/7/01 16:06	MP
SURR:BROMOFLUOROBENZENE	118	%	74-121	8260B/5035	11/7/01 16:06	MP
-----						
CALCULATIONS BASED ON DRY WT.	78	% DRY WT.	0.01	SM 2540 G	11/2/01 18:15	GRR
PREP. METHOD 3550	Completed			SW846-3550	11/2/01 20:00	JLW
PREP. METHOD 3550	Completed			SW846-3550B	11/6/01 09:00	JMV
ACENAPHTHENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
ACENAPHTHYLENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
ANTHRACENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
BENZO(A)ANTHRACENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
BENZO(B)FLUORANTHENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
BENZO(K)FLUORANTHENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
BENZO(A)PYRENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
BENZO(GHI)PERYLENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
BIS(2-CHLOROETHOXY)METHANE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
BIS(2-CHLOROETHYL)ETHER	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
BIS(2-CHLOROISOPROPYL)ETHER	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
BIS(2-ETHYLHEXYL)PHTHALATE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
4-BROMOPHENYL PHENYL ETHER	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
BUTYL BENZYL PHTHALATE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC

NC Certification No. 402 - SC Certification No. 99012 - NC Drinking Water Cert. No. 37735 - FL Certification No. E87519

# Lab Report

11/8/01

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Solutions - IES  
Attn: Walt Beckwith  
3722 Benson Dr.  
Raleigh, NC 27609

**Customer Project ID: NSRR**  
**Customer Sample ID: SB-25-0-2**  
**Prism Sample ID: AC24988**  
Login Group: AON8H5  
Sample Collection Date/Time: 11/1/01 11:50  
Lab Submittal Date/Time: 11/1/01 12:48

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

TEST PARAMETER	TEST RESULT	UNITS	REPORTING LIMIT	METHOD REFERENCE	DATE/TIME STARTED	ANALYST
4-CHLORO-3-METHYLPHENOL	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
2-CHLORONAPHTHALENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
2-CHLOROPHENOL	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
4-CHLOROPHENYL PHENYL ETHER	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
CHRYSENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
DIBENZO(A,H)ANTHRACENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
DIBENZOFURAN	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
DI-N-BUTYLPHTHALATE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
1,2-DICHLOROBENZENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
1,3-DICHLOROBENZENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
1,4-DICHLOROBENZENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
2,4-DICHLOROPHENOL	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
DIETHYL PHTHALATE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
2,4-DIMETHYLPHENOL	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
DIMETHYL PHTHALATE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
2,4-DINITROPHENOL	Not detected	ug/kg	11000	SW846-8270C	11/8/01 00:08	HWC
2,4-DINITROTOLUENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
2,6-DINITROTOLUENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
DI-N-OCTYLPHTHALATE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
FLUORANTHENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
FLUORENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
HEXACHLOROBENZENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
HEXACHLOROBUTADIENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
HEXACHLOROCYCLOPENTADIENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
HEXACHLOROETHANE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
INDENO(1,2,3-CD)PYRENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
ISOPHORONE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
2-METHYL-4,6-DINITROPHENOL	Not detected	ug/kg	11000	SW846-8270C	11/8/01 00:08	HWC
2-METHYL NAPHTHALENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
2-METHYL-PHENOL	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC

NC Certification No. 402 - SC Certification No. 99012 - NC Drinking Water Cert. No. 37735 - FL Certification No. E87519

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Solutions - IES  
Attn: Walt Beckwith  
3722 Benson Dr.  
Raleigh, NC 27609

**Customer Project ID: NSRR**  
**Customer Sample ID: SB-25-0-2**  
**Prism Sample ID: AC24988**  
Login Group: AON8H5  
Sample Collection Date/Time: 11/1/01 11:50  
Lab Submittal Date/Time: 11/1/01 12:48

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

TEST PARAMETER	TEST RESULT	UNITS	REPORTING LIMIT	METHOD REFERENCE	DATE/TIME STARTED	ANALYST
4-METHYL-PHENOL	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
NAPHTHALENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
NITROBENZENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
2-NITROPHENOL	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
4-NITROPHENOL	Not detected	ug/kg	11000	SW846-8270C	11/8/01 00:08	HWC
N-NITROSODIPHENYLAMINE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
N-NITROSODI-N-PROPYLAMINE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
PENTACHLOROPHENOL	Not detected	ug/kg	11000	SW846-8270C	11/8/01 00:08	HWC
PHENANTHRENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
PHENOL	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
PYRENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
1,2,4-TRICHLOROBENZENE	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
2,4,5-TRICHLOROPHENOL	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC
2,4,6-TRICHLOROPHENOL	Not detected	ug/kg	2200	SW846-8270C	11/8/01 00:08	HWC

# Lab Report



Full Service Analytical & Environmental Solutions

11/8/01

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Solutions - IES  
Attn: Walt Beckwith  
3722 Benson Dr.  
Raleigh, NC 27609

**Customer Project ID:** NSRR  
**Customer Sample ID:** SB-25-0-2  
**Prism Sample ID:** AC24988  
Login Group: AON8H5  
Sample Collection Date/Time: 11/1/01 11:50  
Lab Submittal Date/Time: 11/1/01 12:48

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

TEST PARAMETER	TEST RESULT	UNITS	REPORTING LIMIT	METHOD REFERENCE	DATE/TIME STARTED	ANALYST
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**Sample Comments:**

Note for 8260: Bromoform detected in this sample. Bromoform was not detected in the daily blank or from the medium level soil vials. Low level soil vial contamination is suspected.

Analysis note for sw846/8270: MDLs for this sample were increased due to thick brown matrix. Sample was analyzed at a (1:5) dilution; therefore MDLs were increased by a factor of 5.

Angela D. Overcash, V.P. Laboratory Services



# CHAIN OF CUSTODY RECORD

PAGE 1 OF QUOTE #

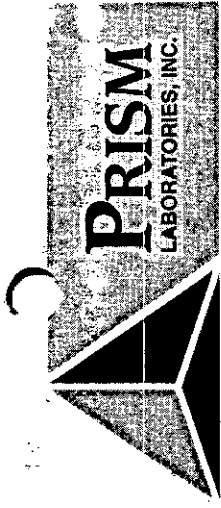
449 Springbrook Road ▲ Charlotte, NC 28217  
 P.O. Box 240543 ▲ Charlotte, NC 28224-0543  
 Phone: 704/529-6364 ▲ Fax: 704/525-0409

REPORT TO: Name 3772 Benson Dr. Raleigh, NC 27604  
 Address MC DOT - 99081000 (P-3800)  
 Name 1509 MALL DRIVE (P-3800)  
 Address RALEIGH, NC 27617-1509

BILL TO: Name MC DOT  
 Address 1509 MALL DRIVE  
 Requested Due Date  1 Day  2 Days  3 Days  4 Days  5 Days  
 6-9 Days  Standard 10 days

Samples received after 15:00 will be processed the next business day.  
 Turnaround time is based on business days, excluding weekends and holidays.

(SEE REVERSE SIDE FOR RUSH TURNAROUND FEES)



Full Service Analytical & Environmental Solutions  
 Client Solutions - IES  
 Physical Address 3772 Benson Dr. Raleigh, NC 27604  
 Phone 919 873-1060 FAX 919 873 1074  
0420 0175 MC DOT  
 P.O.#/Billing Reference MSR  
 Project Name MSR

**LAB USE ONLY**

Samples INTACT upon arrival?  YES  NO  N/A  
 Received ON WET ICE? Temp 4.9°  
 PROPER PRESERVATIVES indicated?  
 Received WITHIN HOLDING TIMES?  
 CUSTODY SEALS INTACT?  
 VOLATILES rec'd W/OUT HEADSPACE?  
 PROPER CONTAINERS used?

State Certification Requested FL  NC  SC  Other  NA  
 Water Chlorinated Yes  No  NA  
 Sample Iced Upon Collection Yes  No  NA  
 CMUD  NPDES  OTHER

**PRESS DOWN FIRMLY - 3 COPIES**

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER		PRESERVATIVES	ANALYSES REQUESTED	REMARKS	SUB LAB CERT. ID NO.	PRISM LAB ID NO.
				*TYPE SEE BELOW	NO. SIZE					
SB-5-0-2	10/31/01	1425	Soil	G	2	-	707B 707B 707B			24984
SB-15-6-8	↓	1430	↓	↓	2	-				24985
SB-13-1-2	↓	1710	↓	↓	2	-				24986
SB-20-6-8	11/1/01	1140	↓	↓	2	-				24987
SB-22-6-8	↓	1150	↓	↓	2	-				24988
SB-25-0-2	11/1/01	1150	↓	↓	65	Impervious Containment	Blank			24989

Sampler's Signature [Signature] Sampled By (Print Name) Brian Rebar / Paul Zanker Affiliation \_\_\_\_\_  
 Received By: (Signature) \_\_\_\_\_ Date \_\_\_\_\_ Military/Hours \_\_\_\_\_  
 Received By: (Signature) \_\_\_\_\_ Date \_\_\_\_\_  
 Received For Prism Laboratories By: [Signature] Date 11-1-01 Log-in (Group No.) 1248  
 Method of Shipment:  Fed Ex  UPS  Hand-delivered  Other: \_\_\_\_\_

**PRISM USE ONLY**

Site Arrival Time: \_\_\_\_\_  
 Site Departure Time: \_\_\_\_\_  
 Field Tech Fee: \_\_\_\_\_  
 Mileage: \_\_\_\_\_

Additional Comments: \_\_\_\_\_

NPDES:  NC  SC  OTHER  GROUNDWATER:  NC  SC  OTHER  DRINKING WATER:  NC  SC  OTHER  SOLID WASTE:  NC  SC  OTHER  RCRA:  NC  SC  OTHER  CERCLA:  NC  SC  OTHER  LANDFILL:  NC  SC  OTHER

\*CONTAINER TYPE CODES: A = Amber C = Clear G = Glass P = Plastic; TL = Teflon-Lined Cap VOA = Volatile Organics Analysis (Zero Head Space)

SEE REVERSE FOR TERMS & CONDITIONS

FINAL REPORT COPY



**Photograph 1** Approximate location of SB-1



**Photograph 2 Parcel #2 facing southwest. Active railroad lines are on right.**



**Photograph 3 Parcel #2 facing northeast.**



**Photograph 4 Parcel #4 facing northeast. Bus station is visible to the right.**



**Photograph 5 Greyhound bus station viewed from Parcel #4. Diesel pumps are visible in background.**



**Photograph 6 Gravel parking lots adjacent to Parcel #5.  
Business Storage Inc. warehouse is visible in background.**



**Photograph 7 Parcel #5.**





**Photograph 8 Location of SB-19.**



**Photograph 9 Parcel #7, Carolina Rim and Wheel property.**



**Photograph 10 Location of SB-21, located on northeastern corner of Carolina Rim and Wheel building.**



**Photograph 11 Parcel #7, along railroad tracks.**