

DRAFT REMEDIAL ACTION PLAN

**Walnut Cove Dump
Middleton Loop Road
Walnut Cove, Stokes County, North Carolina
NONCD0000577
State Contract No: N10004S
Task Order: 577RA-1**

July 3, 2015



DRAFT REMEDIAL ACTION PLAN
WALNUT COVE DUMP, MIDDLETON LOOP ROAD
WALNUT COVE, STOKES COUNTY, NORTH CAROLINA
ID # NONCD0000577
State of North Carolina Contract No. N10004S
NCDENR Task Order 577RA-1

Prepared for:
North Carolina Department of Environment and Natural Resources (NCDENR)
Superfund Section
Pre-Regulatory Landfill Unit
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Raleigh, North Carolina 27699-1646

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July 3, 2015

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Figure 1: Site Map

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1.0 INTRODUCTION

This Draft Remedial Action Plan presents the engineering design and specifications for the remedy for the Walnut Cove Dump (Site) in Walnut Cove, Stokes County, North Carolina. The Site is located behind 1184 Old Plantation Road, off of Martin Luther King Jr. Road approximately 3.2 miles from the intersection with State Road 65. The Site includes parcels numbers 698200065073 and 698200035785.

Figure 1 shows the waste disposal is located in two areas. One area consists of both buried and partially buried waste, and the other area contains only surficial waste. The Site is covered with pine trees and deciduous trees ranging from a few inches to two feet in diameter. The entire waste disposal area is 0.44 acres, wooded, and is zoned residential-agricultural. Surface water flows northwest across the three areas of surface waste and east/northeast across the larger waste area from a topographic ridge located between the areas.

2.0 HISTORICAL OPERATIONS

The municipal landfill began operation about 1967 and the Town of Walnut Cove closed operation about 1973. While in operation, waste was pushed down the slope into gullies.

3.0 SENSITIVE ENVIRONMENTS

No documented sensitive environments were reported within 500 feet of the waste disposal area.

4.0 WASTE DISPOSAL AREA

An electromagnetic induction survey indicated that subsurface waste was present on Site that extends onto the adjacent southern parcel.

4.1 Delineation Borings

Borings were advanced to define the waste disposal boundaries. The confirmed smaller waste areas include only surficial waste. The borings advanced on the northern and southern parts of the larger waste disposal area showed the presence of buried and partially buried waste. Borings advanced on the southern part of the larger waste disposal area confirmed that waste extended onto the southern adjacent property. Surface debris totals approximately 125 cubic yards, while partially buried and buried waste total approximately 4,000 cubic yards.

4.2 Waste

The three small areas of surficial waste contain aluminum, glass, plastic and household materials. The larger waste disposal area contains both buried and partially buried waste from two to three feet thick near the waste boundary to eight feet thick in the central part of the waste disposal area. Waste types observed include glass, plastic, metal, newspaper, cloth, and metal cans. Gullies containing surficial and partially buried waste are located on the northern and southern parts of the larger waste disposal area. Waste including tires, glass, 55-gallon drums, and white goods are present on the surface and metal, auto parts, plastic, and glass were observed as partially buried.

5.0 MEDIA CHARACTERIZATION

5.1 Soil

Six soil borings were advanced within the waste and fourteen borings advanced near the waste disposal perimeter and analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), heavy metals, nitrate and sulfate. Detected concentrations were compared to the North Carolina Department of Environment and Natural Resources, Inactive Hazardous Sites Branch (IHSB) Preliminary Soil Remediation Goals (PSRGs). If PSRGs are exceeded, the data is provided to the IHSB Superfund Section's Toxicologist for determination of risk. If concentrations are determined to be hazardous, Soil Remedial Goals (SRGs) are established. Arsenic, iron, and lead were detected above SRGs.

The Residential SRG for arsenic is 4.875 parts per million (ppm). Arsenic was detected at an average concentration of 15.11 ppm in soil samples collected from 0-5' feet below ground surface (bgs). Arsenic was detected at an average concentration of 14.43 ppm in soil samples collected from 5-10 feet bgs.

The Residential SRG for iron is 11,000 ppm. Iron was detected at an average concentration of 33,178 ppm in soil samples collected from 0-5' feet bgs. Iron was detected at an average concentration of 28,700 ppm in soil samples collected from 5-10 feet bgs.

The Residential SRG for lead is 400ppm. Lead was detected at an average concentration of 180.9 ppm in soil samples collected from 0-5 feet bgs, but was detected at an average concentration of 603.4 ppm in soil samples collected from 5-10' feet bgs.

Three soil samples were collected from a dry stream bed located downgradient of the waste disposal area. Iron and manganese were detected above Protection of Groundwater SRGs. The Protection of Groundwater SRG for iron is 150 ppm and the Protection of Groundwater SRG for manganese is 65 ppm. Iron was detected at concentrations ranging from 8,980 to 12,100 ppm and manganese was detected at concentrations ranging from 125 ppm to 405 ppm.

5.2 Groundwater

Groundwater was not encountered to a depth of 36 feet at bedrock refusal. Due to a lack of on-site groundwater, soil samples were collected at depths below the bottom of the waste to evaluate potential leaching of compounds at hazardous concentrations using the toxicity characteristic leaching procedure (TCLP). Results did not exceed Protection of Groundwater Soil Remediation Goals. Based on site topography, groundwater is inferred to flow in a northeasterly direction.

One water supply well (1184 Old Plantation Road) is located within 500 feet of the waste disposal area perimeter on an adjacent parcel (Pin: 6972-00-94-8482). This well was sampled three times in 2013 to confirm the presence of arsenic, which was detected at concentrations ranging from 11 to 18.7 parts per billion (ppb). This concentration exceeds the Environmental Protection Agency (EPA) Maximum Contaminant Level (MCL) of 10 ppb. TCLP analysis indicated that arsenic does not leach from the on-site waste. Based on the well location being topographically upgradient of the waste disposal area and the TCLP analysis, the arsenic detected in the water supply well is not associated with the landfill.

5.3 Surface Water

A surface water sample was collected near the pond located approximately 300 feet downgradient of the Site. Iron, manganese, and silver were detected above the North Carolina Title 15A Subchapter 2B Surface Water Quality Standards. Iron and manganese are naturally occurring in this area. Detected concentrations are a reflection of natural background concentrations (Connell, 1999).

5.4 Landfill Gas

Landfill gas surveys were not conducted due to the landfill size and minimal waste thickness.

6.0 DRAFT REMEDIAL ACTION PLAN

This DRAFT Remedial Action Plan for the Walnut Cove Dump is based upon the findings of the previous remedial investigations and presents a comparison of consolidation and capping of waste onsite to total removal of waste. Based on this comparison a conceptual design is presented that includes excavation of surface and subsurface waste from the four identified waste disposal areas and off-site disposal at a permitted facility.

7.0 COMPARISON OF REMEDIATION ALTERNATIVES

Remedial strategies considered for the Walnut Cove Dump are the following:

7.1 Surface Debris Removal, Stabilization, Installation of Soil Cover, and Land Use Restrictions

- Prepare and implement an Erosion and Sediment Control Plan for a 25 year storm event,
- Clear the waste disposal area of all woody vegetative material (including roots),
- Collect and manage surface debris for off-site disposal,
- Excavate portions of buried waste on steep slopes and place this material on more stable areas within the waste disposal area,
- Identify and sample a viable off-site cover material borrow source that has a current NCDENR Land Quality approved Erosion and Sediment Control Plan,
- Cover the waste disposal area with 12 inches of structural fill and 6 inches of top soil engineered to ensure positive surface-water runoff from the landfill,
- Stabilize the area of disturbance with a climate appropriate vegetative cover to comply with erosion and sedimentation control standards,
- Perform annual monitoring of the nearby water supply well and surface water body, and
- Prepare a survey plat for recordation of a notice of an inactive hazardous substance or waste disposal site and a declaration of perpetual land use restrictions to be recorded with property deed. The landowner will then maintain the cover soil in agreement with the perpetual land use restrictions. In an extreme weather event the state will review site conditions.

The approximate total cost is \$564,000. The approximate time to construct the remedy is 41 work days.

Approximately 4,000 cubic yards of buried waste will remain on site. The site will require application of perpetual land use restrictions and perpetual periodic site inspections to ensure that the soil cover is maintained. The State would be responsible to address any exposure issues created by unusual

and damaging atmospheric or terrestrial events. Additional grading and tree removal is required to stabilize the slopes surrounding the waste. The use of the property will be limited to the property owner as the contamination/waste will remain at the Site. The property value will be depressed relative to adjacent property. Nearby potable water sources could eventually be affected by the waste left in place.

7.2 Surface Debris Removal, Buried Waste Removal and Site Restoration

- Prepare and implement an Erosion and Sediment Control Plan for a 10 year storm event,
- Collect surface debris, treat a 5' x 5' x 6' deep square centered around SB-4, and excavate approximately 4,000 cubic yards of buried waste for transport to an approved facility,
- To treat the area around SB-4 mix 850 pounds of triple superphosphate to stabilize the lead making it safe for disposal.
- Collect post excavation confirmation soil samples at the base of the excavation and collect confirmation soil samples from areas containing surface debris.
- Grade the disturbed area to promote positive storm water runoff and comply with erosion and sedimentation control standards, and
- Complete removal of on-site waste and impacted soil is technically and logistically feasible. This remedy will fully restore the Site with no depressed property values, and eliminates the need to impose perpetual land use restrictions.

The approximate total cost is \$639,000. The approximate time to remove the waste is 39 work days.

Following a post-construction erosion and sediment control monitoring period of approximately six months, the site will require no further monitoring because the waste will be removed. The Site will be free of perpetual land use restrictions and/or notice on the deed. Perpetual oversight would no longer be needed and the State would not be responsible to address exposure issues created by highly unusual and damaging weather or terrestrial events. Less grading and tree removal is required to remove the waste. Removal of the waste fully restores the site resulting in unrestricted site use and no depressed property value. Nearby potable water sources would no longer be at risk.

The state proposes to implement this option as the best approach for the Site.

8.0 REMEDY

8.1 Erosion and Sedimentation Control

The erosion and sedimentation control measures for the project include a gravel construction entrance, rip rap aprons, check dams, and silt fencing designed for the proposed denuded area. During all construction, disturbed areas with the potential for erosion will be covered at the end of each work day with plastic sheeting until the site has been seeded for permanent stabilization.

8.2 Waste Removal

It is estimated that up to 4,000 cubic yards of surface and subsurface waste will be excavated in the large waste disposal area. The surface waste in the three smaller areas in the western portion of the site will also be collected and disposed. It is estimated that up to 125 cubic yards of surface debris will be collected from these three areas. All excavated waste will be disposed at an off-site approved facility.

8.3 Waste Removal Confirmation

Once all the waste has been removed confirmation soil samples will be collected from the base of each area. Composite soil samples will be collected from 0-3 inch depths using a 50 feet sampling grid spacing. Samples from up to four adjacent grid nodes may be composited into a single sample. One duplicate soil sample and one equipment blank will also be collected. The samples will be submitted to a North Carolina certified laboratory and analyzed for VOCs, SVOCs, heavy metals, mercury, ammonia, nitrate and sulfate. The confirmation soil sample locations and the former waste disposal area perimeter will be surveyed using a Global Positioning System (GPS) and North American Datum 1983 (NAD83) format.

8.4 Stabilization

Following waste removal confirmation, the areas of excavation will be graded into the surrounding topography while maintaining a stable slope and promoting appropriate drainage with no ponding. All disturbed areas will be provided with a permanent vegetation cover. All slopes at or steeper than 2.5H:1V will be stabilized with anchored erosion control matting.

9.0 SCHEDULE

The remedy construction schedule is presented below.

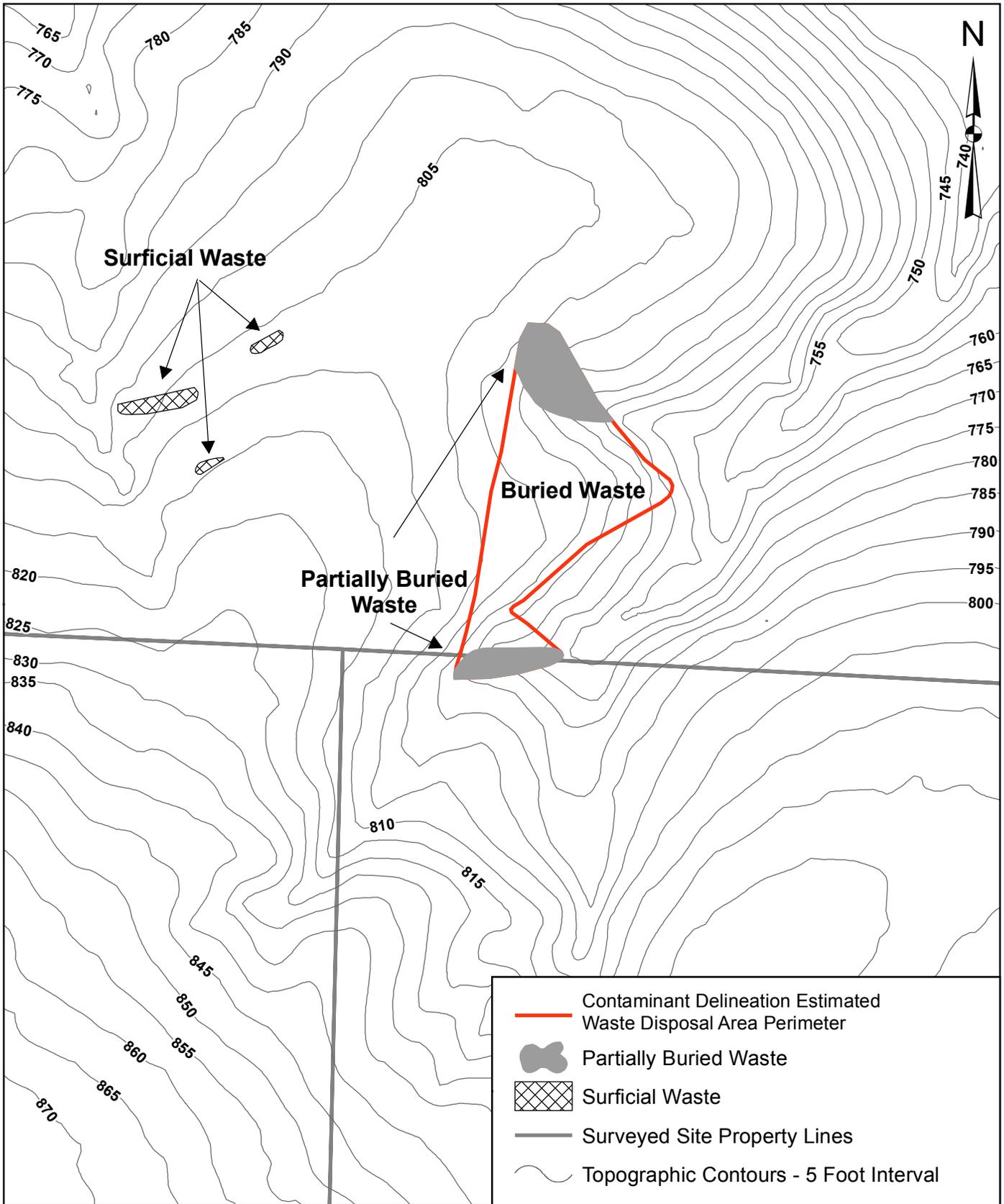
Task	Schedule
Obtain and Review Bids, Contractor Procurement, and Secure Contract	5 Weeks
Construction Implementation, Confirmation Sampling, and Construction Completion	7 Weeks
Final Erosion and Sediment Control Feature Removal	8 Weeks

10.0 BUDGET ESTIMATE

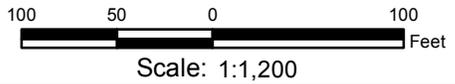
The estimated remedy construction cost is \$639,000.

11.0 SOLE USE STATEMENT

This report was prepared specifically for the use of the Pre-Regulatory Landfill Unit, Inactive Hazardous Sites Branch under our contract dated October 27, 2009 as defined in the scope of work for Task Order 577RA-1. Use of this document for other purposes or by other parties is at the sole risk of the user.



Source: Josephy Stutts, PLLC Survey
 NCDOT Contours, <https://connect.ncdot.gov/resources/gis/Pages/GIS-Data-Layers.aspx>



- Contaminant Delineation Estimated Waste Disposal Area Perimeter
- Partially Buried Waste
- Surficial Waste
- Surveyed Site Property Lines
- Topographic Contours - 5 Foot Interval



WALNUT COVE DUMP
 NONCD0000577
 STOKES COUNTY, NC
 TASK ORDER: 577SUM

Site Map
 FIGURE 1

APPENDIX 1

REFERENCES

- Connell, K., 1999, Concentrations of Metals in Soil, NCDENR, Groundwater in North Carolina.
- Marshall Miller and Associates, July 2006, Walnut Cove Dump, Stokes County, North Carolina, Site Summary Report
- Schnabel Engineering, January 2013, Walnut Cove Dump, Remedial Investigation – First Phase Report
- Schnabel Engineering, July 2013, Walnut Cove Dump, Remedial Investigation – Waste Disposal Area Delineation Report
- Schnabel Engineering, November 2013, Walnut Cove Dump, Remedial Investigation – Waste Characterization, Surface Water, and Sediment Sampling
- Schnabel Engineering, April 2014, Walnut Cove Dump, Remedial Investigation – TCLP Analysis
- Schnabel Engineering, January 2014, Walnut Cove Dump, Water Supply Well Sampling Report
- Schnabel Engineering, July 2014, Walnut Cove Dump, Remedial Investigation Summary Report
-

APPENDIX 2

EROSION AND SEDIMENTATION CONTROL PLAN

Sheet 1:	Cover Sheet and Vicinity Map
Sheet 2:	Existing Conditions Plan
Sheet 3:	Conceptual Erosion & Sediment Control, Excavation, and Stabilization Plan
Sheet 4:	Details
Sheet 5:	Details

SURFACE AND SUBSURFACE WASTE REMOVAL FOR WALNUT COVE DUMP STOKES COUNTY, NORTH CAROLINA FEBRUARY 12, 2015

THE CONTRACTOR SHALL CONDUCT ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND ALL LOCAL, STATE AND FEDERAL RULES AND REGULATIONS.

PROPERTY OWNER INFORMATION:

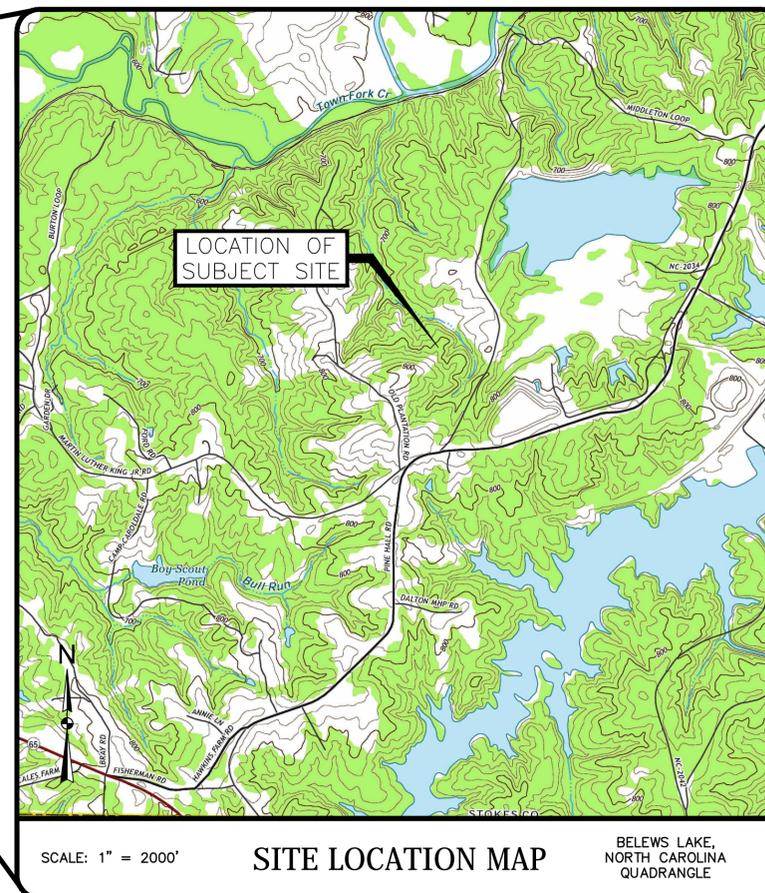
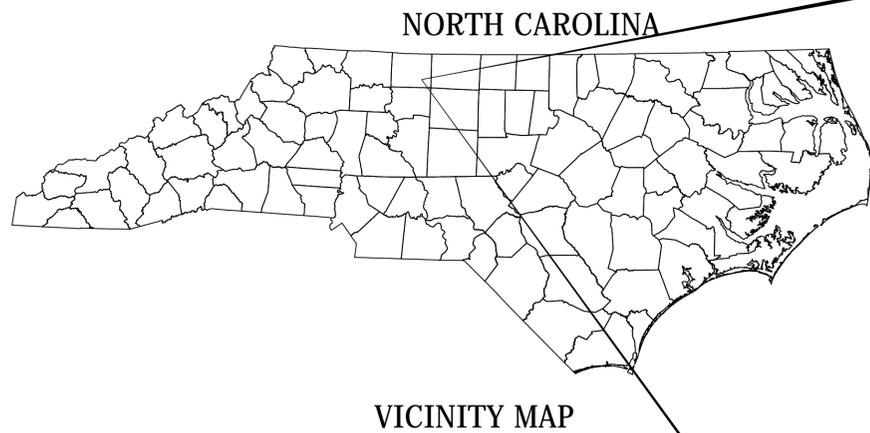
DAN T. WESTMORELAND AND
KAREN A. WESTMORELAND
1413 MIDDLETON LOOP ROAD
WALNUT COVE, NC
PARCEL ID: 6982-00-06-5073
DEED BOOK 560, PAGE 797

JAMES T. HAIRSTON AND
RUBY C. HAIRSTON
3906 PINE HALL ROAD
WALNUT COVE, NC
PARCEL ID: 6982-00-03-5785
DEED BOOK 174, PAGE 493

CURRENT ZONING:
R-A RESIDENTIAL-AGRICULTURAL DISTRICT

RIVER BASIN: ROANOKE

CUMULATIVE DISTURBED AREA: 0.80 ACRES



PAGE #	TITLE
1	COVER SHEET
2	EXISTING CONDITIONS PLAN
3	CONCEPTUAL EROSION & SEDIMENT CONTROL, EXCAVATION & STABILIZATION PLAN
4	DETAILS
5	DETAILS

GENERAL NOTES:

1. CONTRACTOR SHALL INSTALL EROSION & SEDIMENT CONTROL MEASURES AND TEMPORARY DIVERSIONS AS SHOWN ON DRAWINGS.
2. LIMIT CLEARING ONLY TO EXTENT NECESSARY FOR REMOVAL OF WASTE.
3. CONTRACTOR SHALL PREPARE AND SUBMIT DAILY FIELD REPORTS OF PROGRESS OF THE WORK.
4. INVOICES AND PAYMENTS WILL BE IN ACCORDANCE WITH CONTRACT DOCUMENTS (INCLUDING DETAILED UNITS OF WORK).

*PRELIMINARY
NOT FOR CONSTRUCTION*

DESIGNED BY: DHB	DRAWN BY: DHB	CHECKED BY: RHW	RICHARD H. WARGO, P.E. DATE: 02/12/15 NORTH CAROLINA PROFESSIONAL ENGINEER 029435		REV	DATE	DESCRIPTION
104 Corporate Blvd., Ste. 420 / West Columbia, SC 29169 Phone: 803-796-6200 / Fax: 803-796-6250 schnabel-eng.com							
SURFACE AND SUBSURFACE WASTE REMOVAL FOR WALNUT COVE DUMP STOKES COUNTY, NORTH CAROLINA				COVER SHEET			
PROJECT TASK:							
DATE: FEBRUARY 12, 2015							
SHEET							
1 OF 5							

LEGEND

- EXISTING MAJOR CONTOUR (5')
- - - EXISTING MINOR CONTOUR (1')
- ⊗ SOIL BORING LOCATION
- SURFACE WATER SAMPLING LOCATION

PROJECT CONTROL POINT #2
 CAP AND REBAR (¾")
 N: 925,920.8316' NAD83(2011)GRID
 E: 1,681,335.3135' NAD83(2011)GRID
 ELEVATION: 777.55' NAVD88
 CGF: 1.00000815

PROJECT CONTROL POINT #2
 CAP AND REBAR (¾")
 N: 925,571.0162' NAD83(2011)GRID
 E: 1,680,639.9742' NAD83(2011)GRID
 ELEVATION: 737.44' NAVD88
 CGF: 1.00000815

DAN T. WESTMORELAND
 KAREN A. WESTMORELAND
 DB 560, PG. 797
 PIN: 6982-00-06-5073

SW-3 ● SURFACE
 WATER / SEDIMENT
 LOCATIONS
 (TYP.)

DARRELL T. WESTMORELAND
 STEPHANIE C. WESTMORELAND
 DB 587, PG. 294
 PIN: 6982-00-14-2869

Schnabel
 ENGINEERING

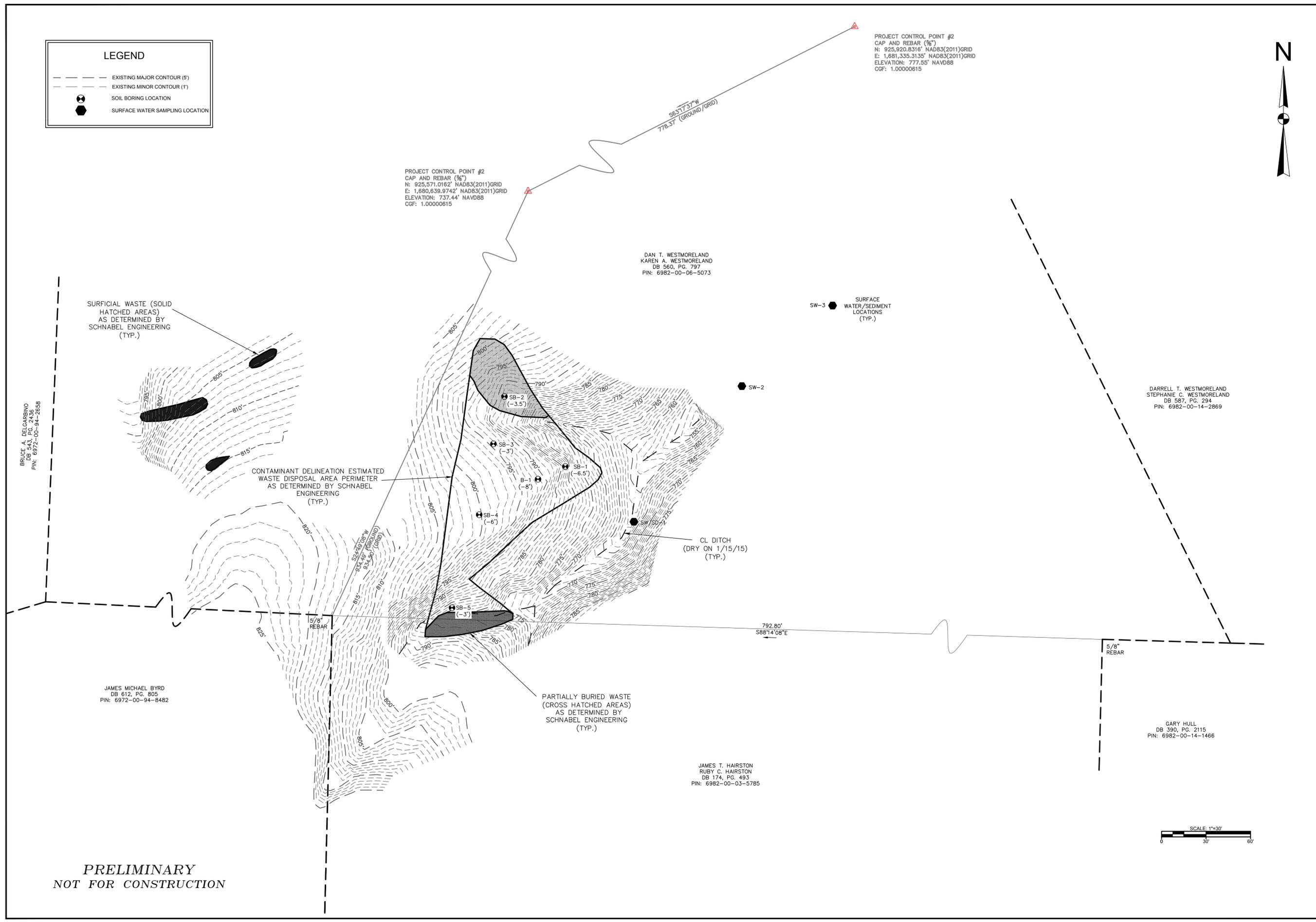
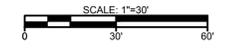
104 Corporate Blvd., Ste. 420 / West Columbia, SC 29169
 Phone: 803-796-6200 / Fax: 803-796-6250
 schnabel-eng.com

SURFACE AND SUBSURFACE WASTE REMOVAL
 FOR WALNUT COVE DUMP
 STOKES COUNTY, NORTH CAROLINA

EXISTING CONDITIONS PLAN

PROJECT TASK:
 DATE: FEBRUARY 12, 2015

SHEET
 2 OF 5



BRUCE A. DELCARRINO
 DB 543, PG. 2435
 PIN: 6972-00-94-2658

JAMES MICHAEL BYRD
 DB 612, PG. 805
 PIN: 6972-00-94-8482

JAMES T. HAIRSTON
 RUBY C. HAIRSTON
 DB 174, PG. 493
 PIN: 6982-00-03-5785

PRELIMINARY
NOT FOR CONSTRUCTION

CONSTRUCTION SEQUENCE:

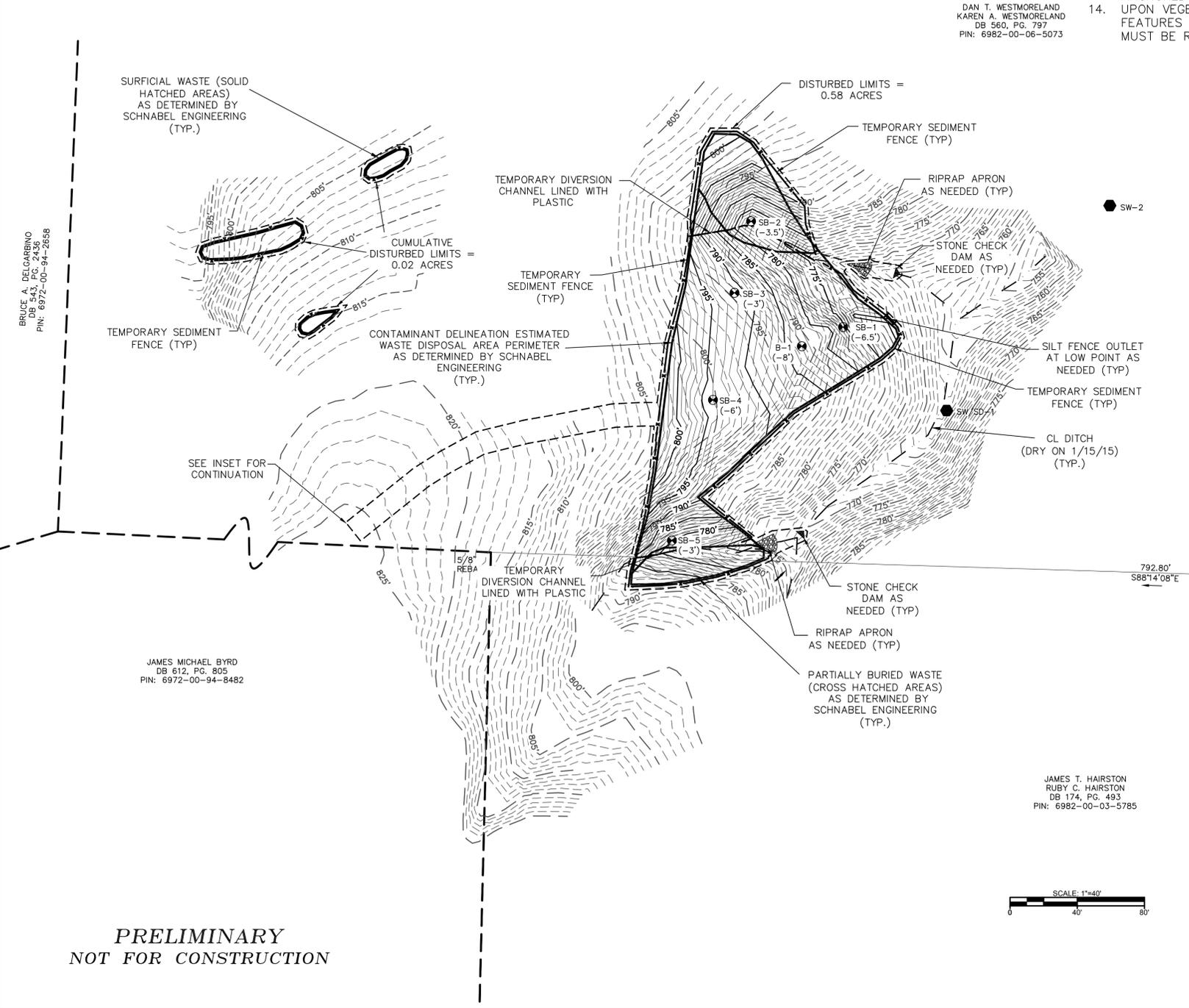
THE BELOW CONSTRUCTION SEQUENCE IS TO BE FOLLOWED DURING REMOVAL AND SITE RESTORATION:

- OBTAIN ALL APPLICABLE STATE AND FEDERAL PERMITS.
- LOCATE UTILITIES.
- PHOTOGRAPH ALL WORK AREAS BEFORE AND AFTER CONSTRUCTION.
- ALL DISTURBED AREAS INCLUDING THE ACCESS ROAD, EQUIPMENT LAYDOWN, AND TRUCK TURNAROUND MUST BE LESS THAN ONE ACRE.
- A BERM IS LOCATED ACROSS THE PROPOSED ACCESS ROAD THAT WILL BE REMOVED AND RESTORED AT THE END OF THE PROJECT.
- CLEAR ONLY AREAS NECESSARY FOR CONSTRUCTION OF EROSION AND SEDIMENT CONTROL FEATURES.
- DURING ALL CONSTRUCTION, DISTURBED AREAS WITH THE POTENTIAL FOR EROSION AND EXPOSED WASTE WILL BE COVERED AT THE END OF EACH WORK DAY WITH PLASTIC SHEETING.
- INSTALL EROSION AND SEDIMENT CONTROL FEATURES.
- PERFORM CLEARING IN AREAS NECESSARY FOR WASTE COLLECTION AND REMOVAL.
- COLLECT SURFACE DEBRIS AND EXCAVATE ALL BURIED WASTE AND DISPOSE AT PERMITTED FACILITY.
- CONFIRMATION SOIL SAMPLES WILL BE TAKEN BY THE ENGINEER FROM THE BASE OF EXCAVATION AND THE ENGINEER WILL GPS SURVEY THE FINAL EXCAVATION AREA.
- GRADE AREAS OF WASTE EXCAVATION INTO THE SURROUNDING TOPOGRAPHY WHILE MAINTAINING A STABLE SLOPE AND APPROPRIATE DRAINAGE WITH NO PONDING. IF FILL IS NEEDED TO PRODUCE A STABLE SLOPE, THE FILL SHOULD BE OBTAINED FROM THE BOTTOM OF THE EXCAVATION. ALL FILL MUST BE ADEQUATELY COMPACTED TO ACHIEVE GLOBAL STABILITY.
- STABILIZE THE SITE WITH CLIMATE APPROPRIATE VEGETATION. FOR ALL SLOPES AT OR STEEPER THAN 2.5H:1V, ANCHORED EROSION CONTROL MATTING MUST ALSO BE INSTALLED OVER SEEDED AREAS.
- UPON VEGETATION ESTABLISHMENT APPROVAL BY THE ENGINEER, ALL REMAINING EROSION AND SEDIMENT CONTROL FEATURES ARE TO BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY. THE BERM ON THE ACCESS ROAD MUST BE RESTORED. ANY DAMAGE TO THE ACCESS ROAD TO BE REPAIRED BY THE CONTRACTOR.



LEGEND

- EXISTING MAJOR CONTOUR (5')
- EXISTING MINOR CONTOUR (1')
- PROPOSED MAJOR CONTOUR (5')
- PROPOSED MINOR CONTOUR (1')
- LIMIT OF DISTURBANCE
- TEMPORARY SEDIMENT FENCE
- SOIL BORING LOCATION
- SURFACE WATER SAMPLING LOCATION



BRUCE A. DELCARRINO
DB 543, PG. 2435
PIN: 6972-00-94-2658

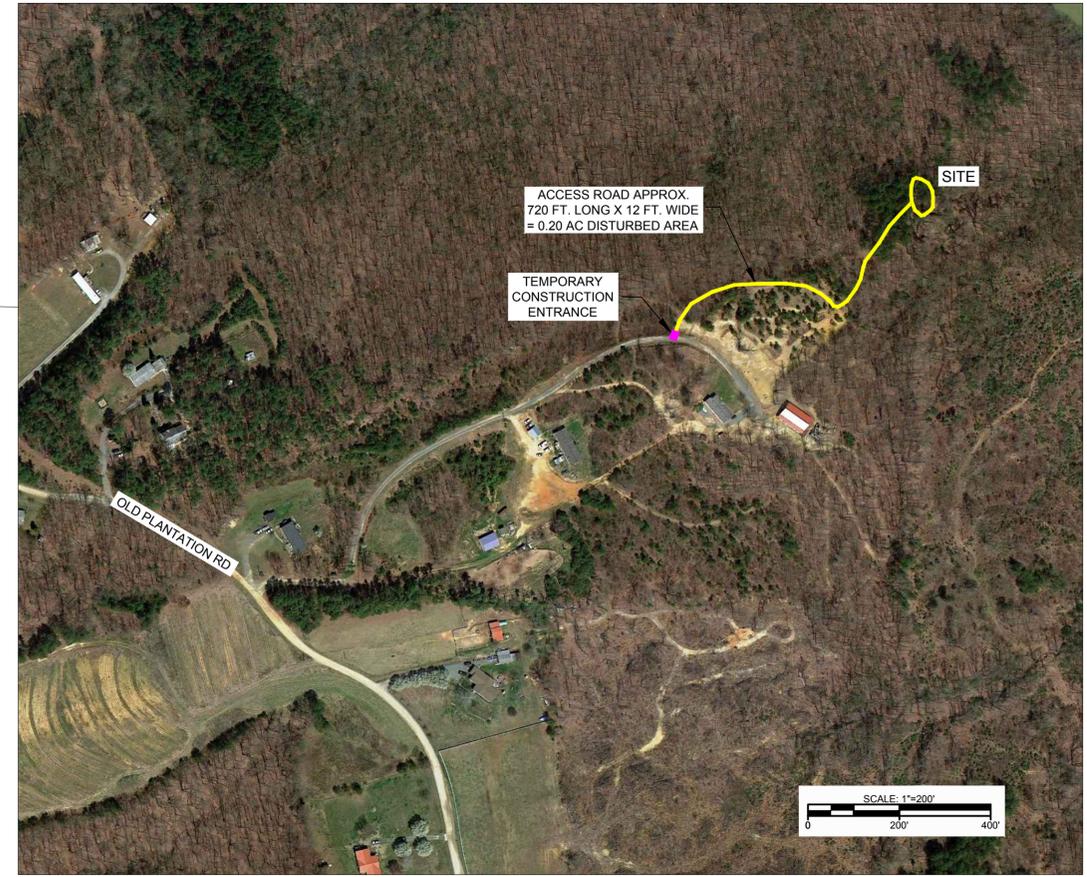
JAMES MICHAEL BYRD
DB 612, PG. 805
PIN: 6972-00-94-8482

DAN T. WESTMORELAND
KAREN A. WESTMORELAND
DB 560, PG. 797
PIN: 6982-00-06-5073

SW-3 ● SURFACE WATER / SEDIMENT LOCATIONS (TYP.)

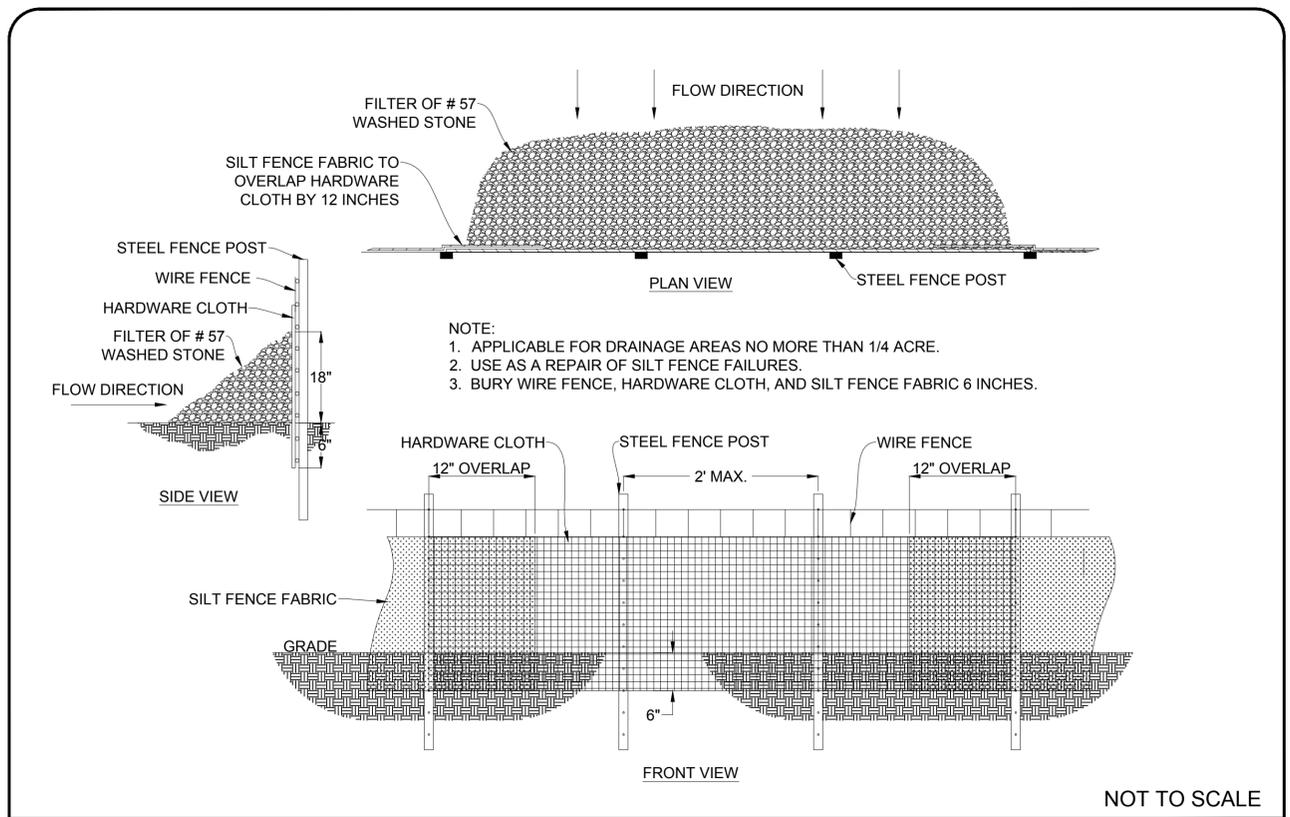
DARRELL T. WESTMORELAND
STEPHANIE C. WESTMORELAND
DB 587, PG. 294
PIN: 6982-00-14-2869

JAMES T. HAIRSTON
RUBY C. HAIRSTON
DB 174, PG. 493
PIN: 6982-00-03-5785



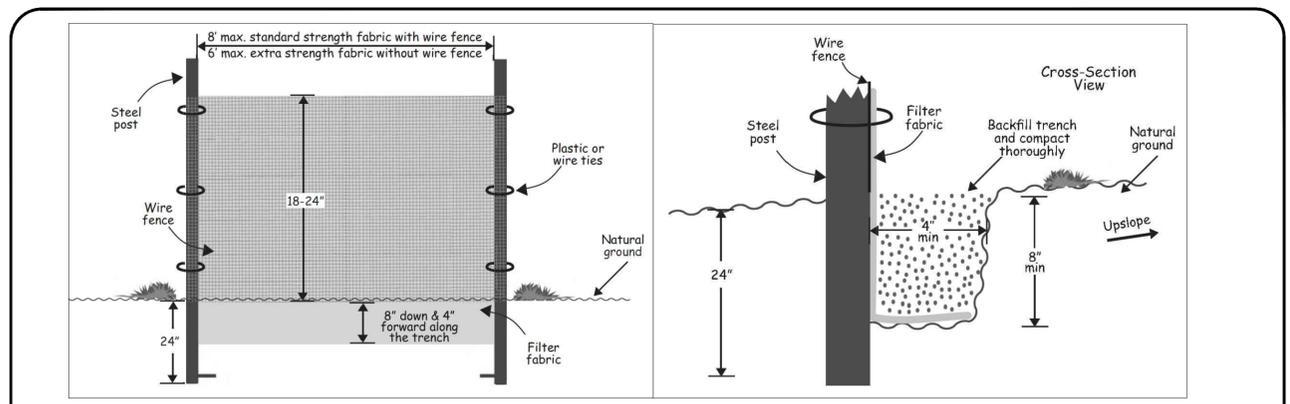
**PRELIMINARY
NOT FOR CONSTRUCTION**

DATE	
DESCRIPTION	
REV	
CHECKED BY:	RHW
DRAWN BY:	DHB
DESIGNED BY:	DHB
DATE:	02/12/15
RICHARD H. WARGO, P.E.	
NORTH CAROLINA PROFESSIONAL ENGINEER 029435	
104 Corporate Blvd., Ste. 420 / West Columbia, SC 29169 Phone: 803-796-6200 / Fax: 803-796-6250 schnabel-eng.com	
SURFACE AND SUBSURFACE WASTE REMOVAL FOR WALNUT COVE DUMP STOKES COUNTY, NORTH CAROLINA	
CONCEPTUAL EROSION & SEDIMENT CONTROL, EXCAVATION & STABILIZATION PLAN	
PROJECT TASK:	
DATE: FEBRUARY 12, 2015	
SHEET 3 OF 5	



TEMPORARY SILT FENCE OUTLET DETAIL

NOT TO SCALE



GENERAL NOTES:

- USE A SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT POLYOLEFINS OR POLYESTER WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS OF ASTM D 6481. SYNTHETIC FILTER FABRIC SHOULD CONTAIN UNTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 TO 120° F.
- ENSURE THAT POSTS FOR SILT FENCE ARE 1.25 LB/LF MINIMUM STEEL WITH A MINIMUM LENGTH OF 5 FT. MAKE SURE THAT STEEL POSTS HAVE PROJECTIONS THAT FACILITATE FASTENING THE FABRIC. WOOD POSTS SHALL NOT BE USED.
- FOR REINFORCEMENT OF STANDARD STRENGTH FILTER FABRIC, USE WIRE FENCE WITH A MINIMUM 14 GAUGE AND A MAXIMUM MESH SPACING OF 6 INCHES.
- CONSTRUCT THE SEDIMENT BARRIER OF STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS.
- ENSURE THAT THE HEIGHT OF THE SEDIMENT FENCE DOES NOT EXCEED 24 INCHES ABOVE THE GROUND SURFACE. HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.
- CONSTRUCT THE FILTER FABRIC FROM A CONTINUOUS ROLL, CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, SECURELY FASTEN THE FILTER CLOTH ONLY AT A SUPPORT POST WITH 4 FT. MINIMUM OVERLAP TO THE NEXT POST.
- SUPPORT STANDARD STRENGTH FILTER FABRIC BY WIRE MESH FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS. EXTEND THE WIRE MESH SUPPORT TO THE BOTTOM OF THE TRENCH. FASTEN THE WIRE REINFORCEMENT, THEN FABRIC ON THE UPSLOPE SIDE OF THE FENCE POST. WIRE OR PLASTIC ZIP TIES SHOULD HAVE A MINIMUM 50 LB. TENSILE STRENGTH.
- WHEN A WIRE MESH SUPPORT FENCE IS USED, SPACE POSTS A MAXIMUM OF 8 FT. APART. SUPPORT POSTS SHOULD BE DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 24 INCHES.
- EXTRA STRENGTH FILTER FABRIC WITH 6 FT. POST SPACING DOES NOT REQUIRE WIRE MESH SUPPORT FENCE. SECURELY FASTEN THE FILTER FABRIC DIRECTLY TO POSTS.
- EXCAVATE A TRENCH APPROX. 5 IN. WIDE AND 8 IN. DEEP ALONG THE PROPOSED LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
- PLACE 12 IN. OF THE FABRIC ALONG THE BOTTOM AND SIDE OF THE TRENCH.
- BACKFILL THE TRENCH WITH SOIL PLACED OVER THE FILTER FABRIC AND COMPACT. THOROUGH COMPACTION OF THE BACKFILL IS CRITICAL TO SILT FENCE PERFORMANCE.
- DO NOT ATTACH FILTER FABRIC TO EXISTING TREES.

MAINTENANCE NOTES:

- FILTER BARRIERS SHALL BE INSPECTED BY THE FINANCIALLY RESPONSIBLE PARTY OR HIS AGENT IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS NEEDED SHALL BE MADE IMMEDIATELY.
- SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
- SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH APPROX. HALF THE HEIGHT OF THE BARRIER. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS REMOVED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.
- REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

STANDARD TEMPORARY SILT FENCE DETAIL

NOT TO SCALE

NOTES:

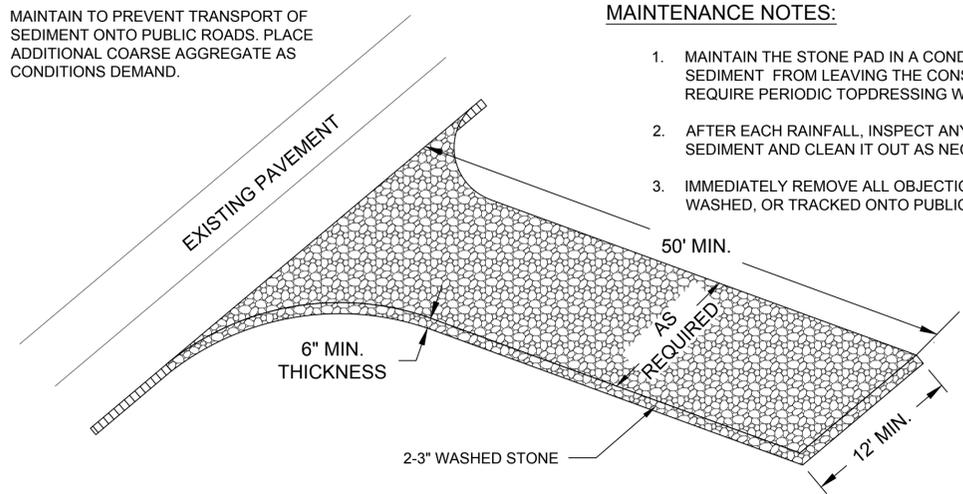
- COARSE AGGREGATE: 2-3 INCH WASHED STONE
- MINIMUM THICKNESS: 6 INCHES
- MINIMUM LENGTH: 50 FEET
- MINIMUM WIDTH: 12 FEET
- GEOTEXTILE: REQUIRED TO SEPARATE COARSE AGGREGATE FROM SUBGRADE.
- MAINTAIN TO PREVENT TRANSPORT OF SEDIMENT ONTO PUBLIC ROADS. PLACE ADDITIONAL COARSE AGGREGATE AS CONDITIONS DEMAND.

CONSTRUCTION NOTES:

- CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND GRADE PROPERLY.
- PLACE FILTER FABRIC OVER CLEARED AREA.
- PLACE WASH STONE TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS AND SMOOTH IT.
- PROVIDE DRAINAGE TO CARRY WATER TO A SUITABLE OUTLET.

MAINTENANCE NOTES:

- MAINTAIN THE STONE PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH 2-INCH STONE.
- AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY.
- IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.



TEMPORARY CONSTRUCTION ENTRANCE

NOT TO SCALE

PRELIMINARY
NOT FOR CONSTRUCTION

DATE	
DESCRIPTION	
REV	
CHECKED BY:	RHW
DRAWN BY:	DHB
DESIGNED BY:	DHB
DATE:	02/12/15
RICHARD H. WARGO, P.E. 	
NORTH CAROLINA PROFESSIONAL ENGINEER 029435	
104 Corporate Blvd., Ste. 420 / West Columbia, SC 29169 Phone: 803-796-6200 / Fax: 803-796-6250 schnabel-eng.com	
SURFACE AND SUBSURFACE WASTE REMOVAL FOR WALNUT COVE DUMP STOKES COUNTY, NORTH CAROLINA	
DETAILS	
PROJECT TASK: DATE: FEBRUARY 12, 2015	
SHEET 5 OF 5	