January 26, 2015

Mr. John E. Murray, PE
NCDENR DWM – Solid Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

RE: Piney Hill Acres LCID Landfill / Treatment and Processing Facility / Compost Facility Operation Plan
2020 Piney Grove Road, Kernersville, North Carolina
NC Solid Waste Permit No. 34-AA

Dear Mr. Murray:

EnviroTrac Ltd. is submitting an updated Operation Plan and figures for the referenced solid waste facility. This submittal was prepared in response to your letter dated November 21, 2014 (DIN 22330) requesting additional information. The revised Operation Plan and figures are included. The objective of the submittal is to increase the extent of the existing LCID landfill along the east side to allow a more gradual transition to the existing slope and facilitate future stormwater runoff across the top of the landfill. The existing permit renewal and addition of compost activities commensurate with a large Type 1 facility are requested. No additional modifications are being requested at this time.

Should you have any questions or require clarification, please contact Chris Hay at (336)763-6025 or christopherh@envirotrac.com.

Very truly yours,
ENVIROTRAC LTD.

Annamarie Blauser
Senior Scientist

Christopher W. Hay, EI
Principal

Enclosure: Operation Plan
Cc: David Lawson w/enc.

LCID LANDFILL / TREATMENT AND PROCESSING / COMPOST FACILITY OPERATION PLAN

PINEY HILL ACRES
2020 PINEY GROVE ROAD
KERNERSVILLE, NORTH CAROLINA

EnviroTrac Ltd. PROJECT NO. 11.990016.00

January 26, 2014

Prepared for:

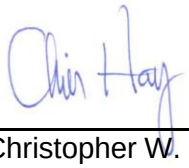
David L. Lawson, LLC
2020 Piney Grove Road
Kernersville, North Carolina 27284

LCID LANDFILL / TREATMENT AND PROCESSING / COMPOST FACILITY OPERATION PLAN
PINEY HILL ACRES
2020 PINEY GROVE ROAD
KERNERSVILLE, NORTH CAROLINA

Prepared by:

Annamarie Blauser
Senior Scientist

Reviewed by:



Christopher W. Hay, EI
Principal

EnviroTrac Ltd.
7343 West Friendly Avenue, Suite J
Greensboro, NC 27410
Phone: (336)763-6025

January 26, 2015
EnviroTrac Ltd. Project No. 11.990016.00

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FIGURES

1 GENERAL FACILITY OPERATIONS

1.1 OVERVIEW

This Operation Plan was prepared for operations of the Piney Hill Acres facility (Permit No. 34-AA) located at 2020 Piney Grove Road in Kernersville, North Carolina. This document discusses the operation of the land clearing and inert debris landfill and other solid waste management activities, including operation of the treatment and processing and compost facilities. Refer to the attached site plans for the general layout of the facility.

1.2 CONTACT INFORMATION

The individual responsible for operation and maintenance of the facility will be the property owner:

Mr. David Lee Lawson
2020 Piney Grove Road
Kernersville, North Carolina 27284
Phone: 336.996.6747

1.3 ACCESS AND SECURITY REQUIREMENTS

Access to the site is limited by a locking gate. During daytime hours, an official from the LCID landfill will be on duty to prevent dumping of unauthorized waste. During nighttime hours, access to the site is restricted by a locked gate and fence along the front of the property facing southeast. The entrance road to the landfill will be of all-weather construction and maintained in good condition.

1.4 SIGN REQUIREMENTS

A sign is posted at the facility entrance indicating the site contact and phone number in case of an emergency and landfill permit number.

1.5 SAFETY REQUIREMENTS

Open burning of solid waste will not be permitted. The Piney Grove Fire Department is located two miles south of the landfill. Fire Chief Bork and other personnel from the fire department have visited the landfill to conduct a fire protection assessment.

Arrangements have been made with the local fire protection agency to immediately provide fire-fighting services when needed. A fire that occurs will be reported to the DSWM with 24 hours and a written notification shall be submitted within 15 days. Removal of solid waste shall not occur unless the owner/operator approves and the removal is not performed on the working face.

1.6 ZONING REQUIREMENTS

Areas of the property used for the LCID, Treatment and Processing, and Composting have been zoned LI-S by the Forsyth County Board of Commissioners in response to a request to use the property as described herein.

2 EROSION AND SEDIMENTATION CONTROL

Erosion controls (sediment traps) have been designed which will minimize sediment leaving the site and to limit excessive onsite erosion. Details of the rock dam design and construction are shown on Figures 2 and 7. These erosion controls have previously been approved in prior submittals.

2.1 SEDIMENT TRAP CONSTRUCTION SPECIFICATIONS

1. Clear, grub, and strip the area under the embankment of all vegetation and root mat. Remove all surface soil containing high amounts of organic matter and stockpile or dispose of it properly. Haul all objectionable material to the designated disposal area.
2. Ensure that fill material for the embankment is free of roots, woody vegetation, organic matter, and other objectionable material. Place the fill in lifts not to exceed 8 inches and machine compact it. Over fill the embankment 6 inches to allow for settlement.
3. Construct the outlet section in the embankment. Protect the connection between the riprap and the soil by using filter fabric or a keyway cutoff trench between the riprap structure and the soil.
    - Place the filter fabric between the riprap and soil. Extend the fabric across the spillway foundation and sides to the top of the dam; or
    - Excavate a keyway trench along the centerline of the spillway foundation extending up the sides to the height of the dam. The trench should be at least 2 feet deep and 2 feet wide with 1:1 side slopes.
4. Clear the pond area below the elevation of the crest of the spillway to facilitate sediment cleanout.
5. All cut and fill slopes should be 2:1 or flatter.
6. Ensure that the stone (drainage) section of the embankment has a minimum bottom width of 3 feet and maximum side slopes of 1:1 that extend to the bottom of the spillway section.

7. Construct the minimum finished stone spillway bottom width, as shown on the plans, with 2:1 side slopes extending to the top of the over-filled embankment. Keep the thickness of the sides of the spillway outlet structure at a minimum of 21 inches. The weir must be level and constructed to grade to assure design capacity.
8. Material used in the stone section should be a well-graded mixture of stone with a size of 9 inches (class B erosion control stone is recommended) and a maximum stone size of 14 inches. The stone may be machine placed and the smaller stones worked into the voids of the larger stones. The stone should be hard, angular, and highly weather resistant.
9. Ensure that the stone spillway outlet section extends downstream past the embankment until stable conditions are reached and outlet velocity is acceptable. Keep the edges of the stone outlet several inches below the surrounding ground and shape the center to confine the outlet stream.
10. Direct emergency bypass to natural, stable areas. Locate such that flow will not damage the embankment.
11. Stabilize the embankment and all disturbed areas above the sediment and downstream from the trap immediately after construction.

2.2 SEDIMENT TRAP MAINTENANCE

Inspect temporary sediment traps after each period of significant rainfall. Remove sediment and restore the trap to its original dimensions when the sediment has accumulated to one half the design depth of the trap. Place the sediment that is removed in the designated disposal area and replace the gravel facing.

Check the structure for damage from erosion. Periodically check the depth of the spillway to ensure it is a minimum of 1.5 feet below the low point at the embankment. Immediately fill any settlement of the embankment to slightly above design grade. Any riprap displaced from the spillway must be replaced immediately.

After all the sediment-producing areas have been permanently stabilized, remove the structure and all unstable sediment. Smooth the area to blend with the adjoining areas and stabilize properly.

2.3 DRAINAGE CONTROL REQUIREMENTS

Drainage controls (temporary diversions) may be installed to minimize excess runoff entering the site and limit onsite erosion. Details of the temporary diversions construction are shown on Figure 7.

2.4 TEMPORARY DIVERSION CONSTRUCTION SPECIFICATIONS

1. Remove and properly dispose of all trees, brush, stumps, and other objectionable material.
2. Ensure that the minimum construction cross-section meets all design requirements.
3. Ensure that the top of the dike is not lower at any point than the design elevation plus the specified settlement.
4. Provide sufficient room around diversions to permit machine regrading and cleanout.
5. Vegetate the ridge immediately after construction, unless it will remain in less than 30 working days and will not be subject to erosion.

2.5 TEMPORARY DIVERSION MAINTENANCE

Inspect temporary diversions once a week and after every rainfall. Immediately remove sediment from the flow area and repair the diversion ridge. Carefully check outlets and make timely repairs as needed. When the area protected is permanently stabilized, remove the ridge and the channel to blend with the natural ground level and appropriately stabilize it.

2.6 VEGETATION REQUIREMENTS

Ground cover sufficient to prevent erosion must be established within 30 working days or 120 calendar days of completion of disposal operations. The area will be stabilized with native grasses. Temporary seeding will be utilized as necessary to stabilize the site.

2.7 DUST CONTROL

Dust control measures in the form of water sprays shall be used to suppress unwanted dust when appropriate.

3 LCID WASTE HANDLING OPERATIONS

3.1 TYPE, QUANTITY AND SOURCE OF WASTE

Mr. David Lawson intends to operate a LCID landfill which will accept waste which meets the North Carolina Division of Solid Waste Management requirements. Land clearing debris is defined in the statutes as waste that is generated solely through land clearing activities such as stumps, trees, limbs, brush, grass, and other naturally occurring vegetative matter. A LCID landfill is defined in the rules as a facility for the land disposal of land clearing waste, concrete, brick, concrete block, uncontaminated soil, gravel and rock, untreated and unpainted wood, and yard trash. Yard trash is defined as solid waste resulting from landscaping and yard maintenance such as grass, tree limbs, and similar material. No device which is capable of holding liquid will be allowed for disposal. Asphalt pavement and untreated and unpainted dimensional lumber not from demolition may also be accepted for disposal. A solid waste dumpster will be kept on-site for disposal of unacceptable materials.

3.2 GROUNDWATER PROTECTION REQUIREMENTS

Six test pits have been excavated within the footprint of the disposal area. Figure 2 shows the locations of the test pits. Soil encountered in the test pits was consistent in composition. Neither hydric soil conditions, saturated soil, nor groundwater were observed in the test pits. The approximate elevation of the bottom of the test pits ranged between 796 and 800 feet above mean sea level (MSL). The lowest elevation planned for excavation is 810 feet MSL. A separation distance of 4 feet must be maintained between the waste material and groundwater. Solid waste shall not be disposed of in water.

3.3 SPREADING AND COMPACTING REQUIREMENTS

LCID waste will be restricted to the smallest area feasible. The waste will be compacted as densely as practical. Solid wastes shall be spread and compacted not less than ten working days after being deposited into the landfill.

3.4 COVER REQUIREMENTS

If the exposed working area reaches 1 acre in size, the entire acre will be covered with 6 inches of cover soil. Adequate soil cover shall be applied monthly, if not more frequently.

A 12-inch thick intermediate soil cover shall be placed over a waste area where waste placement will be inactive for 12 months or more.

4 TREATMENT AND PROCESSING OPERATIONS

4.1 OVERVIEW

This section describes the required material handling operations for the treatment and processing portion of the facility. Organic wastes and aggregates will be processed for recycling or reuse. Recycled materials will be stored at the facility until there are sufficient quantities for pick up or delivery to various recycling contractors or end-users.

4.2 ACCEPTABLE WASTES

The following wastes may be recycled at the facility:

- Soil;
- Organic land clearing debris;
- High carbon yard waste;
- Wood (untreated and unpainted wood waste not from demolition, pallets and crating material);
- Aggregates (rock, concrete, asphalt pavement, brick, and block); and
- Other wastes as approved by the Solid Waste Section of the Division of Waste Management.

4.3 PROHIBITED WASTES

Only wastes, as defined in Section 4.2 above or approved by the DWM may be accepted for recycling. No other wastes may be accepted. A solid waste receptacle will be kept on-site for disposal of unacceptable materials.

4.4 GENERAL PROCEDURES

The facility's Treatment and Processing area (5.79 acres) will be used to store and separate recyclable materials. The treatment and processing facility shall not receive more than 6,000 cubic yards of compost material per quarter. No more than 20,000 cubic yards of compost may be stored per quarter. Grinding operations will be subcontracted. Equipment will be mobilized

to the facility for grinding when economical. The limits of the Treatment and Processing area are shown on Figure 3.

The materials to be processed will be handled as follows:

- Land clearing debris, high carbon yard waste, untreated and unpainted wood waste, and pallets and crating material may be ground into mulch or chipped into boiler fuel as markets allow.
- Land clearing debris and high carbon yard waste may be ground and composted.
- Aggregates may be crushed and subsequently stockpiled in the Treatment and Processing area until removed from the site for sale as fill, aggregate, etc. as markets allow.
- Soil may be blended with compost for use as topsoil.

4.5 MARKETS

The final destination of the recyclable materials may vary depending upon market prices for such materials. In general, materials which have valid markets will be recycled; however, markets shall fluctuate. In any case, if a viable market or beneficial use cannot be found, the materials will be used or disposed in the LCID landfill onsite.

Anticipated end markets for the recyclable materials are as follows:

WOOD	Ground or chipped for boiler fuel, as market allows. Mulch and compost will be sold for landscaping/gardening activities or may be used onsite.
AGGREGATES	Bricks may be banded and palletized for sale to landscaping contractors; concrete, asphalt, and broken brick and block will be crushed and stockpiled until it is removed from the site for sale as fill, aggregate, etc. as markets allow.
SOIL	Soil may be sold as fill material or topsoil.

5 COMPOST OPERATIONS

Activities consistent with a large Type 1 Compost Facility will be conducted within a portion of the area also approved for Treatment and Processing Operations. The compost area (3.99 acres) is outlined on Figure 3. The area meets all applicable siting/design requirements for a large Type 1 facility. Mr. Aaron King, Land Use Coordinator with Planning & Development Services for the City of Winston-Salem confirmed that a Type 1 Compost Facility would be allowed at the property under the current zoning (LI-S). The objective of the compost operation is to produce a finished product that shall have unrestricted applications and distribution. An aerial photo of the site and surrounding area is with the large-scale drawings attached.

5.1 ACCEPTABLE WASTES

Type 1 facilities may receive yard and garden waste, silviculture waste, and untreated and unpainted wood waste. Yard waste as defined by 15A NCAC 13B .0101(56) includes “yard trash” and “land clearing debris” as defined in GS 130A-290, including stumps, limbs, leaves, grass, and untreated wood. Yard trash as defined by GS 130A-290(a)(45) includes solid waste consisting solely of vegetative matter resulting from landscaping maintenance. Untreated and unpainted wood as defined by Yard Waste Management in North Carolina provided by NCDENR Composting and Land Application Branch and dated September 23, 2013 includes solid waste wood material that has not been glued, treated with preservatives, painted, stained, or varnished. Land clearing debris as defined by the same reference as above includes solid waste which is generated solely from land-clearing activities.

Large facilities are those that receive 1,000 cubic yards or more of material for composting per quarter or occupy two acres or more of land. A large Type 1 facility shall process or store more than 6,000 cubic yards of material per quarter.

Non-compostable solid waste and unacceptable compost will be disposed in the LCID landfill.

5.2 PROHIBITED WASTES

Neither household hazardous waste nor asbestos containing waste shall be accepted at a facility or processed into compost.

5.3 SITING/DESIGN REQUIREMENTS

The compost operations will not be conducted within a floodplain. A 50 foot minimum buffer will be maintained from the facility property lines. A 200 foot buffer will be maintained from residences. A 100 foot buffer from all water supply wells will be maintained. No perennial streams are located within 50 feet of the compost area. Activities within the compost facility are regulated under Section 404 of the Clean Water Act (33 U.S.C. 1344) and require a water quality certification as described in Section 401 of the Clean Water Act (33 U.S.C. 1341). The subject compost facility will require a certification of coverage under General Permit No. NCG240000.

The compost facility is not located over a closed-out disposal area. A 25 foot distance will be maintained between compost and the diversion berm located along a portion of the east side of the compost area.

Soil texture at the site is generally finer than loamy sand consisting of sandy loam in the upper six inches and clay to clay loam to depths of two to three feet in undisturbed areas. Soil is underlain by weathered rock which crushes to loam. Weathered rock at the site may be encountered at depths generally greater than three to five feet below ground surface.

Due to requirements of the LCID and Treatment and Processing Facility:

1. The compost area has restricted access as described in Section 1.3;
2. The site meets the requirements of the Sedimentation Pollution Control Law (15A NCAC 4);
3. Controls as described in Section 2.7 will be implemented, if necessary to meet requirements of the Air Pollution Coontrol Requirements (15A NCAC 2D);
4. The site has been designed to minimize odors at the property boundaries.

5.4 GENERAL PROCEDURES

The facility's Treatment and Processing and Compost Areas (5.79 acres) will be used to receive and store land clearing debris and leaves. These materials will be processed by grinding equipment and placed in piles for composting within the Compost Area (3.99 acres). The limits of the Treatment and Processing and Compost Areas are shown on Figure 3.

Following treatment and processing, materials to be composted will be placed in piles within the Compost Area. As the materials are processed and placed into piles, the carbon to nitrogen ratio, moisture content, and bulk density in the following table will be targeted. Compost piles will have the typical dimensions of windrows, approximately 12 to 15 feet in height and 20 feet at the base. The compost piles will not be covered. The compost piles will be treated with passive composting methods, unless aeration is necessary to maintain an elevated temperature or reduce odor.

Desired Characteristics for the Composting Process

Characteristic	Reasonable Range	Preferred Range
Carbon-to-nitrogen (C:N) ratio	20:1 - 40:1	25:1 - 30:1
Moisture content	40 - 65%	50 - 60%
Oxygen content	>6%	~16 - 18.5%
pH	5.5 - 9.0	6.5 - 8.5
Bulk density	<40 lbs per cubic foot	_
Temperature	110 – 140 °F	130 – 140 °F
Particle size	1/8 – 2 inches diameter	Varies*

*Depends on raw materials, pile size, and/or weather conditions.

Source: NC State University Biological & Agricultural Engineering Department, Publication AG 593, Large Scale Organic Materials Composting, March 1999.

It is not anticipated bulking agents will be necessary. Amendments will not be added to the compost. The temperature of all compost produced shall be monitored to ensure that the compost is maintained at or above 131 degrees Fahrenheit for 3 days. Nitrogen bearing wastes shall be incorporated as necessary to minimize odor and the migration of nutrients.

A composite sample of the compost produced shall be analyzed at intervals of every 20,000 tons of compost produced or every six months, whichever comes first, for the following test parameters:

- Foreign matter;
- Cadmium;
- Copper;
- Lead;
- Nickel;
- Zinc; and
- Pathogens (enteric viruses, fecal coliform, helminth ova, and salmonella).

5.5 RECORD KEEPING

The facility owner/operator shall record and maintain records for a minimum of five years. Records shall be available for inspection during normal business hours. The following records should be kept on the compost operations:

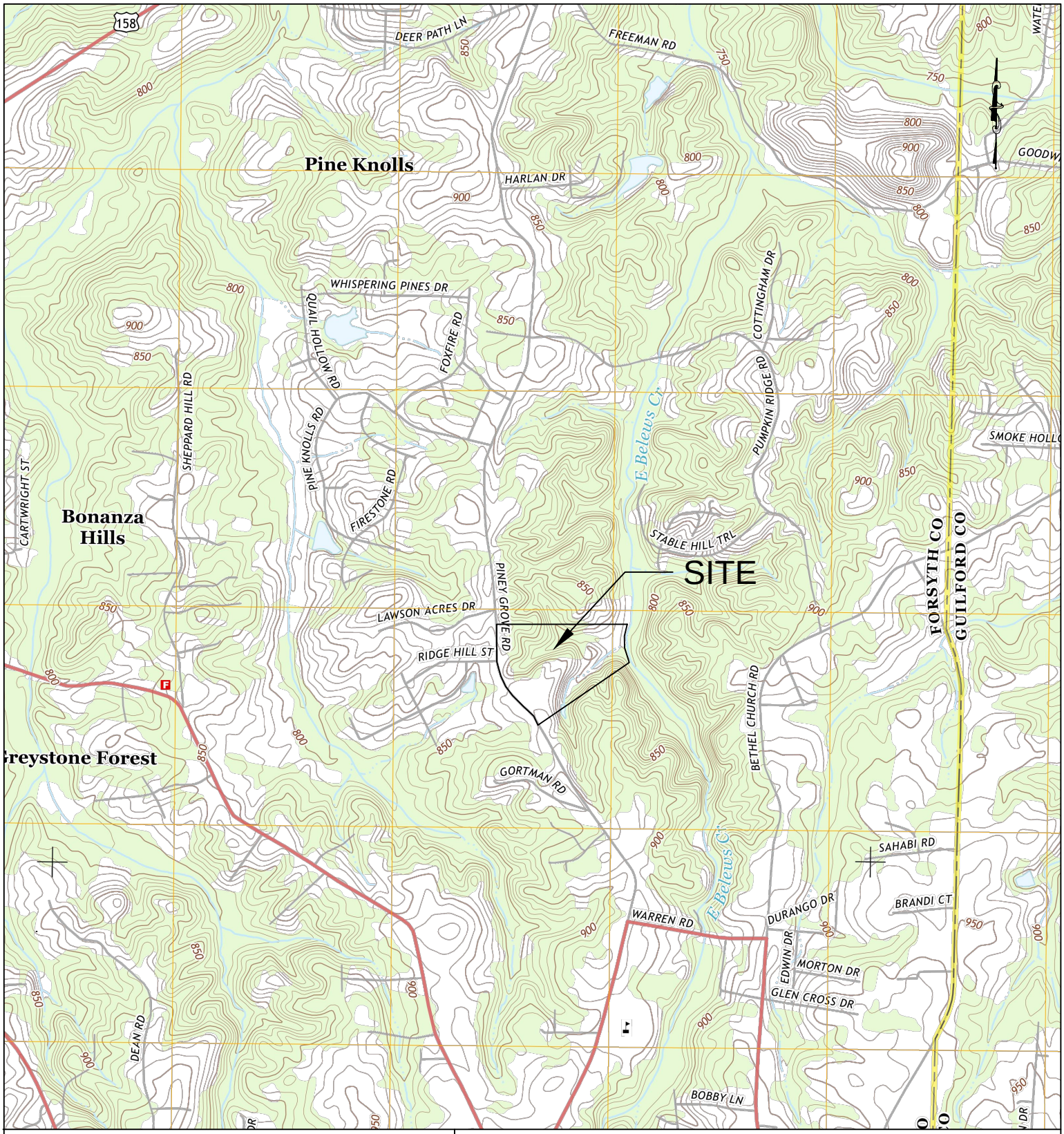
- Daily operational records of temperature over the length of the composting period and quantity of material processed;
- Analytical results of compost testing;
- The quantity, type, and source of waste received;
- The quantity and type of waste processed into compost;
- The quantity and type of compost produced by product classification; and
- The quantity and type of compost removed for use or disposal by product classification, and the market or permitted disposal facility.

5.6 ANNUAL REPORTING

An annual report for the period July 1 to June 30 shall be submitted by all facility owners/operators to the NCDENR DWM by August 1 including the following information:

- The facility name, address, and permit number;
- The total quantity in tons and type of waste received at the facility, including tons of waste received from local governments of origin;
- The total quantity in tons and type of waste processed into compost;
- The total quantity in tons and type of compost produced at the facility, by product classification;
- The total quantity in tons and type of compost removed for use or disposal from the facility, by product classification, and a general description of the market if for use;
- Monthly temperature monitoring; and
- Analytical results of testing.

Annual totals of solid waste received and composted shall be reported to the local government of origin for annual recycling reporting.



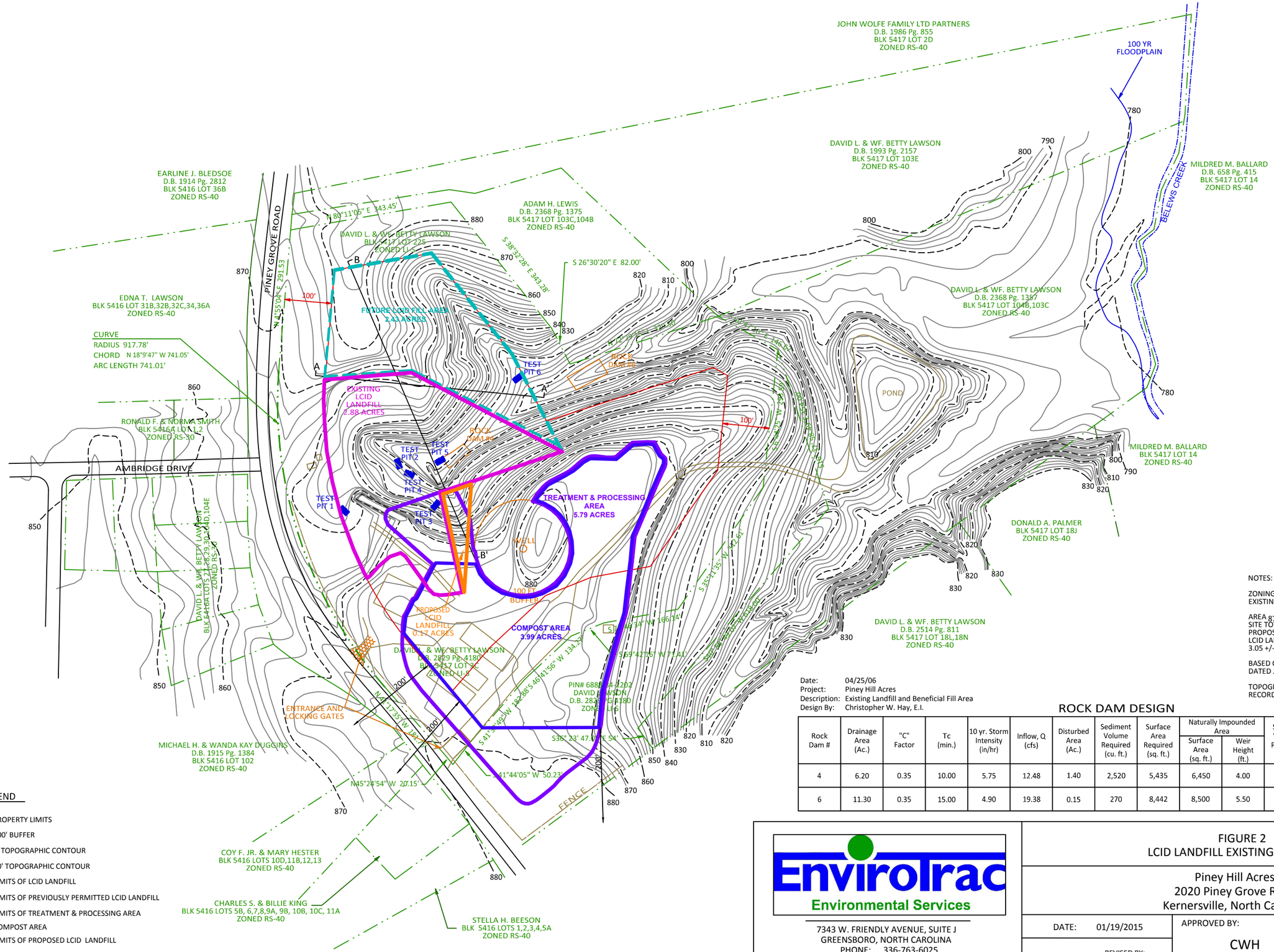
EnviroTrac
Environmental Services

7343 W. FRIENDLY AVENUE, SUITE J
GREENSBORO, NORTH CAROLINA
PHONE: 336-763-6025

FIGURE 1
SITE LOCATION MAP

Piney Hill Acres
2020 Piney Grove Road
Kernersville, North Carolina

DATE: 01/19/2015	APPROVED BY: CWH	SCALE: 1" = 2,000'
REVISED BY:		PROJECT NO: 11.990016.00



LEGEND

- PROPERTY LIMITS
- 100' BUFFER
- 2' TOPOGRAPHIC CONTOUR
- 10' TOPOGRAPHIC CONTOUR
- LIMITS OF LCID LANDFILL
- LIMITS OF PREVIOUSLY PERMITTED LCID LANDFILL
- LIMITS OF TREATMENT & PROCESSING AREA
- COMPOST AREA
- LIMITS OF PROPOSED LCID LANDFILL

NOTES:

ZONING
EXISTING ZONING: LI-S

AREA
SITE TOTAL = 23.721 +/- ACRES
PROPOSED DISTURBED AREA
LCID LANDFILL = EXISTING AND PROPOSED FILL
3.05 +/- ACRES

BASED ON SURVEY BY COE FORESTRY & SURVEYING DATED JULY 21, 2008 AND OCTOBER 27, 2011.

TOPOGRAPHIC INFORMATION BY OTHERS NOT FOR RECORDATION, SALES, OR CONVEYANCES.

Date: 04/25/06
Project: Piney Hill Acres
Description: Existing Landfill and Beneficial Fill Area
Design By: Christopher W. Hay, E.I.

ROCK DAM DESIGN

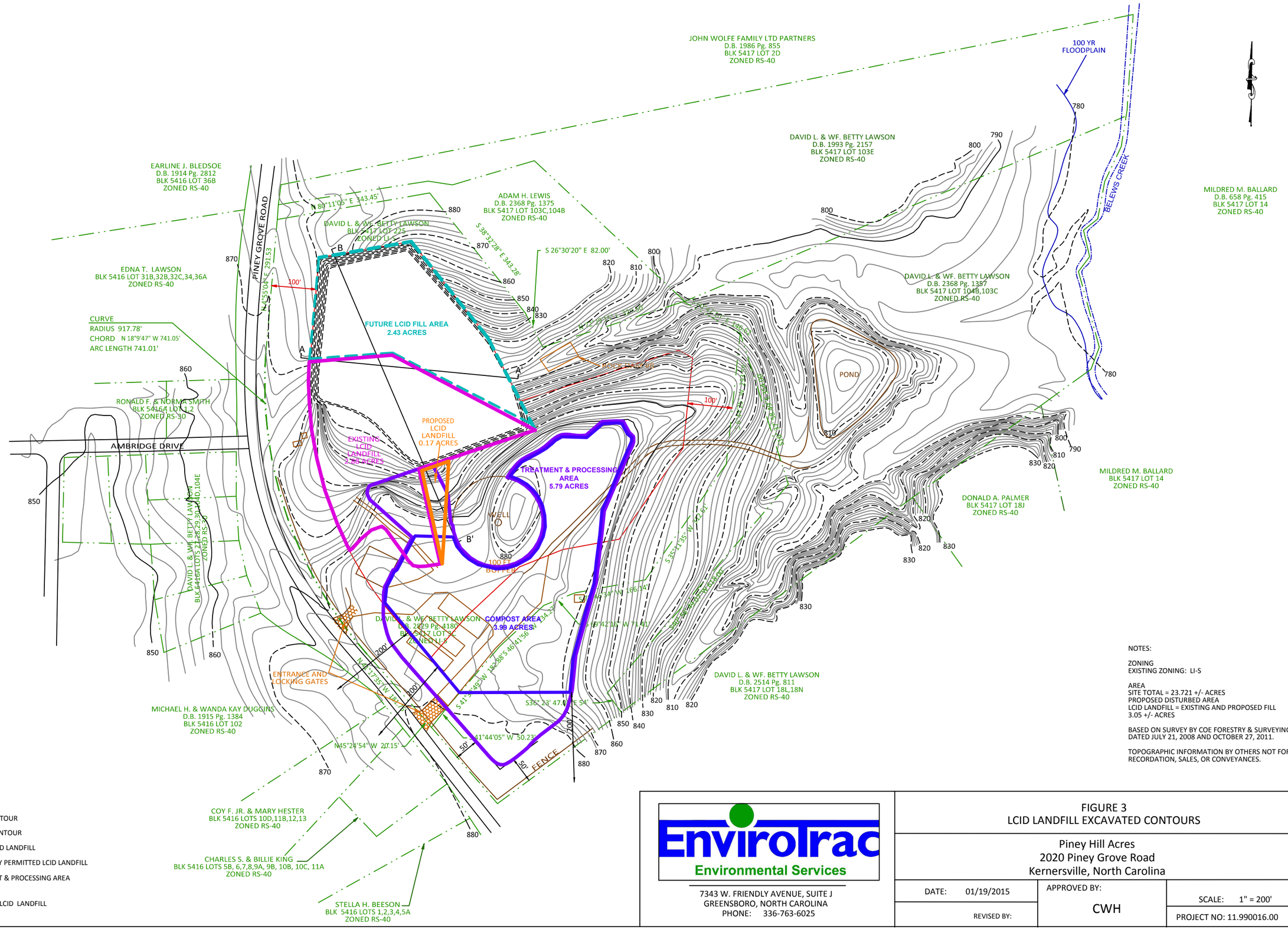
Rock Dam #	Drainage Area (Ac.)	"C" Factor	Tc (min.)	10 yr. Storm Intensity (in/hr)	Inflow, Q (cfs)	Disturbed Area (Ac.)	Sediment Volume Required (cu. ft.)	Surface Area Required (sq. ft.)	Naturally Impounded Area		Storage Volume Provided (cu. ft.)	Top of Dam Height (ft.)	Cw = 30	
									Surface Area (sq. ft.)	Weir Height (ft.)			Weir Length (ft.)	Depth of Flow (ft.)
4	6.20	0.35	10.00	5.75	12.48	1.40	2,520	5,435	6,450	4.00	10,320	6.00	22.00	0.33
6	11.30	0.35	15.00	4.90	19.38	0.15	270	8,442	8,500	5.50	18,700	7.50	25.00	0.41

EnviroTrac
Environmental Services
7343 W. FRIENDLY AVENUE, SUITE J
GREENSBORO, NORTH CAROLINA
PHONE: 336-763-6025

FIGURE 2
LCID LANDFILL EXISTING CONTOURS

Piney Hill Acres
2020 Piney Grove Road
Kernersville, North Carolina

DATE: 01/19/2015
REVISED BY:
APPROVED BY: CWH
SCALE: 1" = 200'
PROJECT NO: 11.990016.00



LEGEND

- PROPERTY LIMITS
- 100' BUFFER
- 2' TOPOGRAPHIC CONTOUR
- 870 10' TOPOGRAPHIC CONTOUR
- LIMITS OF FUTURE LCID LANDFILL
- LIMITS OF PREVIOUSLY PERMITTED LCID LANDFILL
- LIMITS OF TREATMENT & PROCESSING AREA
- COMPOST AREA
- LIMITS OF PROPOSED LCID LANDFILL

NOTES:

ZONING
EXISTING ZONING: LI-S

AREA
SITE TOTAL = 23.721 +/- ACRES
PROPOSED DISTURBED AREA
LCID LANDFILL = EXISTING AND PROPOSED FILL
3.05 +/- ACRES

BASED ON SURVEY BY COE FORESTRY & SURVEYING DATED JULY 21, 2008 AND OCTOBER 27, 2011.

TOPOGRAPHIC INFORMATION BY OTHERS NOT FOR RECORDATION, SALES, OR CONVEYANCES.

EnviroTrac
Environmental Services
7343 W. FRIENDLY AVENUE, SUITE J
GREENSBORO, NORTH CAROLINA
PHONE: 336-763-6025

FIGURE 3
LCID LANDFILL EXCAVATED CONTOURS

Piney Hill Acres
2020 Piney Grove Road
Kernersville, North Carolina

DATE: 01/19/2015	APPROVED BY: CWH	SCALE: 1" = 200'
REVISED BY:		PROJECT NO: 11.990016.00

JOHN WOLFE FAMILY LTD PARTNERS
D.B. 1986 Pg. 855
BLK 5417 LOT 2D
ZONED RS-40

100 YR FLOODPLAIN

BELEWS CREEK

DAVID L. & WF. BETTY LAWSON
D.B. 1993 Pg. 2157
BLK 5417 LOT 103E
ZONED RS-40

MILDRED M. BALLARD
D.B. 658 Pg. 415
BLK 5417 LOT 14
ZONED RS-40

EARLINE J. BLEDSOE
D.B. 1914 Pg. 2812
BLK 5416 LOT 36B
ZONED RS-40

ADAM H. LEWIS
D.B. 2368 Pg. 1375
BLK 5417 LOT 103C,104B
ZONED RS-40

DAVID L. & WF. BETTY LAWSON
BLK 5417 LOT 225
ZONED LI-S

PINEY GROVE ROAD

N 80°11'05" E 343.45'

S 38°32'28" E 343.28'

S 26°30'20" E 82.00'

N 4°55'04" E 291.53'

100'

EDNA T. LAWSON
BLK 5416 LOT 31B,32B,32C,34,36A
ZONED RS-40

DAVID L. & WF. BETTY LAWSON
D.B. 2368 Pg. 1387
BLK 5417 LOT 104B,103C
ZONED RS-40

CURVE
RADIUS 917.78'
CHORD N 18°9'47" W 741.05'
ARC LENGTH 741.01'

FUTURE LCID FILL AREA
2.43 ACRES

A

A'

ROCK DRIVE

SEDIMENT
TRAP

POND

EXISTING
LCID
LANDFILL
2.88 ACRES

RONALD F. & NORMA SMITH
BLK 5416A LOT 1,2
ZONED RS-30

AMBRIDGE DRIVE

TREATMENT & PROCESSING
AREA
5.79 ACRES

WELL

B

B'

DAVID L. & WF. BETTY LAWSON
BLK 5416A LOTS 21,28,29,30,104D,104E
ZONED RS-30

100 FT
BUFFER

PROPOSED
LCID
LANDFILL
9.17 ACRES

COMPOST AREA
3.99 ACRES

DAVID L. & WF. BETTY LAWSON
D.B. 2829 Pg. 4180
BLK 5417 LOT 3C
ZONED LI-S

CONSTRUCTION
ENTRANCE AND
LOCKING GATES

MICHAEL H. & WANDA KAY DUGGINS
D.B. 1915 Pg. 1384
BLK 5416 LOT 102
ZONED RS-40

DAVID L. & WF. BETTY LAWSON
D.B. 2514 Pg. 811
BLK 5417 LOT 18L,18N
ZONED RS-40

DONALD A. PALMER
BLK 5417 LOT 18J
ZONED RS-40

MILDRED M. BALLARD
BLK 5417 LOT 14
ZONED RS-40

FENCE

COY F. JR. & MARY HESTER
BLK 5416 LOTS 10D,11B,12,13
ZONED RS-40

CHARLES S. & BILLIE KING
BLK 5416 LOTS 5B, 6,7,8,9A, 9B, 10B, 10C, 11A
ZONED RS-40

STELLA H. BEESON
BLK 5416 LOTS 1,2,3,4,5A
ZONED RS-40

LEGEND

- PROPERTY LIMITS
- 100' BUFFER
- 2' TOPOGRAPHIC CONTOUR
- 870 10' TOPOGRAPHIC CONTOUR
- LIMITS OF FUTURE LCID LANDFILL
- LIMITS OF PREVIOUSLY PERMITTED LCID LANDFILL
- LIMITS OF TREATMENT & PROCESSING AREA
- COMPOST AREA
- LIMITS OF PROPOSED LCID LANDFILL

NOTES:

ZONING
EXISTING ZONING: LI-S

AREA
SITE TOTAL = 23.721 +/- ACRES
PROPOSED DISTURBED AREA
LCID LANDFILL = EXISTING AND PROPOSED FILL
3.05 +/- ACRES

BASED ON SURVEY BY COE FORESTRY & SURVEYING DATED JULY 21, 2008 AND OCTOBER 27, 2011.

TOPOGRAPHIC INFORMATION BY OTHERS NOT FOR RECORDATION, SALES, OR CONVEYANCES.

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FIGURE 4
LCID LANDFILL EXCAVATED CONTOURS

Piney Hill Acres
2020 Piney Grove Road
Kernersville, North Carolina

DATE: 01/19/2015	APPROVED BY: CWH	SCALE: 1" = 200'
REVISED BY:		PROJECT NO: 11.990016.00

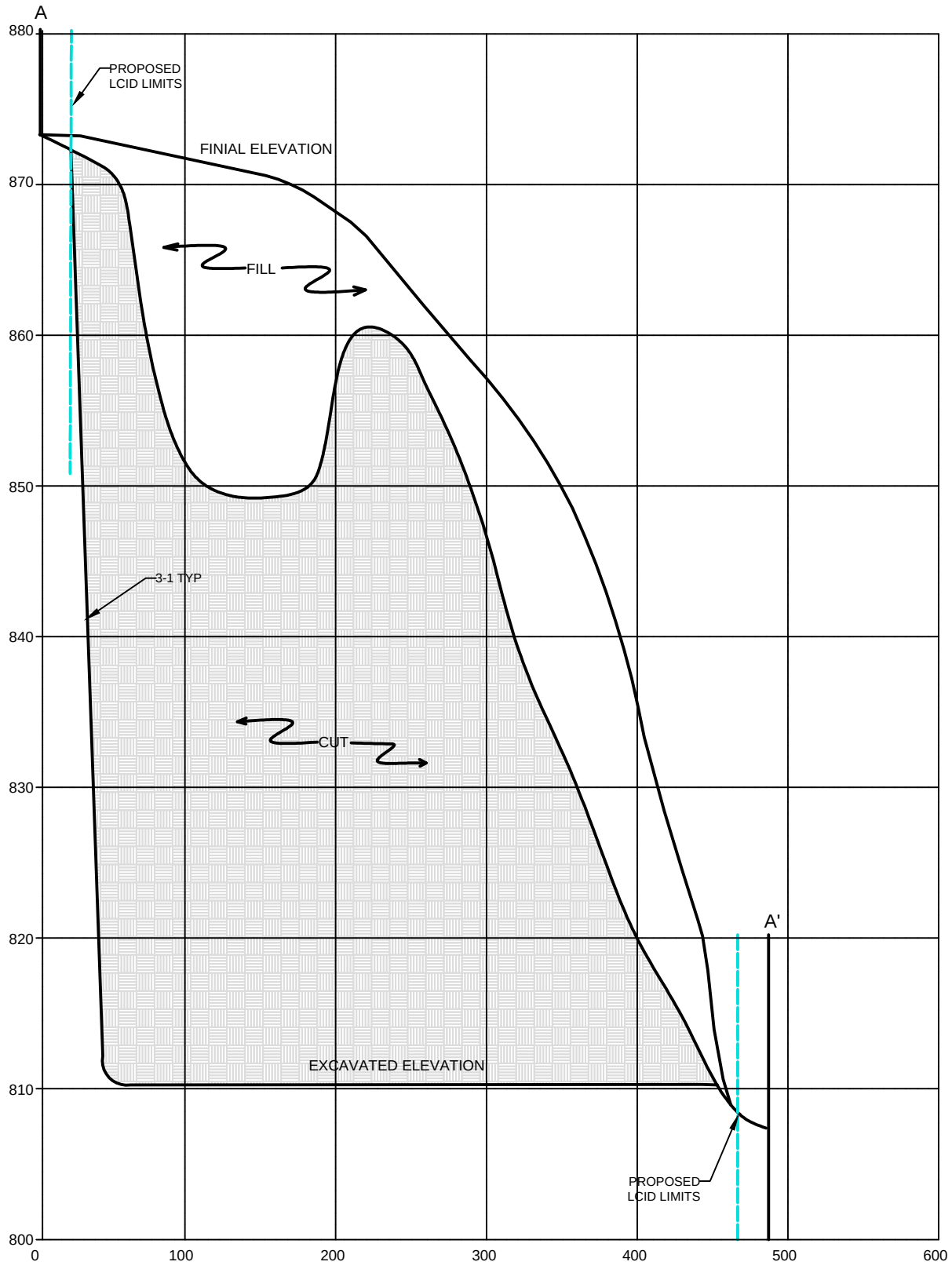

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FIGURE 5
CROSS SECTION A - A'

Piney Hill Acres
2020 Piney Grove Road
Kernersville, North Carolina

DATE: 01/19/2015	APPROVED BY: CWH	SCALE: 1" = 100' HORIZONTAL 1" = 10' VERTICAL
REVISED BY:		PROJECT NO: 11.990016.00

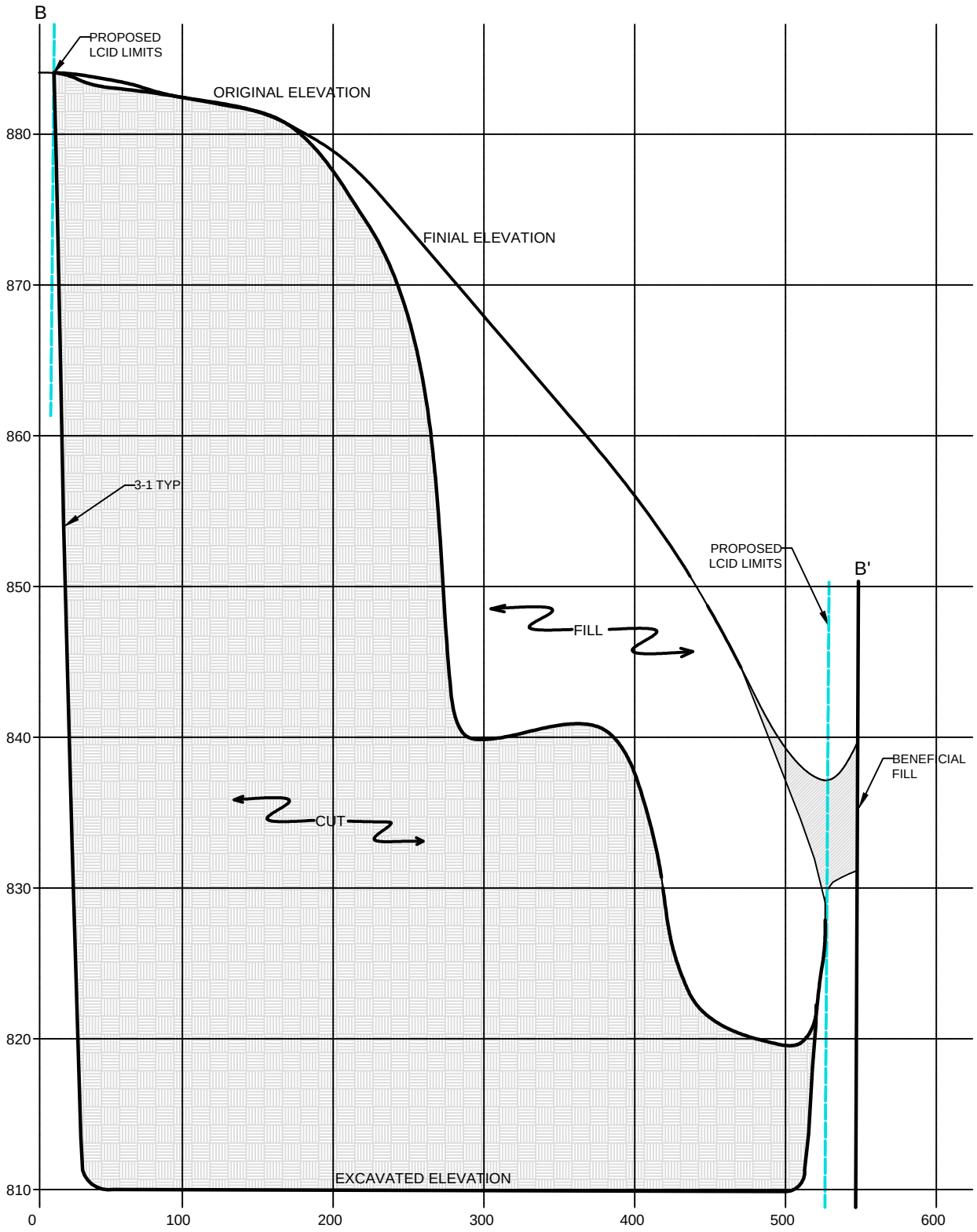

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FIGURE 6
CROSS SECTION B - B'

Piney Hill Acres
2020 Piney Grove Road
Kernersville, North Carolina

DATE: 01/19/2015	APPROVED BY: CWH	SCALE: 1" = 100' HORIZONTAL 1" = 10' VERTICAL
REVISED BY:		PROJECT NO: 11.990016.00

SEEDING NOTES

1. ALL SILT DAMS, FENCES, BASINS AND OTHER EROSION CONTROL DEVICES TO BE CONSTRUCTED ACCORDING TO CITY AND STATE STANDARDS AND KEPT IN WORKING ORDER UNTIL ALL INDICATED CONSTRUCTION ON THE DRAWINGS IS COMPLETED AND SOIL IS STABILIZED.
2. STABILIZE ALL AREAS AS THEY ARE COMPLETED WITH PERMANENT SEEDING AS SHOWN IN THE SEEDING SPECIFICATIONS. ALL AREAS MUST BE STABILIZED WITHIN 21 DAYS OF COMPLETION. SPECIAL ATTENTION SHALL BE PAID TO SLOPES TO INSURE THAT THEY WILL BE STABILIZED WITHIN 21 DAYS OF COMPLETION.
3. ALL ROCK OVER 2" DIAMETER IN SIZE SHALL BE REMOVED PRIOR TO SEEDING.
4. THE SOIL SHALL BE SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF NOT LESS THAN FIVE (5) INCHES IMMEDIATELY PRIOR TO SEEDING.
5. IN ALL CASES THE SEED USED MUST BE CERTIFIED BY THE NORTH CAROLINA DEPARTMENT OF AGRICULTURE. THE DATE OF CERTIFICATION OF ALL SEED MUST BE WITHIN EIGHT (8) MONTHS OF THE DATE OF SOWING.
6. TEMPORARY SEEDING SPECIFICATIONS MAY BE USED TO STABILIZE AREAS THAT WILL NOT BE DISTURBED AGAIN FOR AT LEAST 21 DAYS. PERMANENT SEEDING SHOULD BE USED AT COMPLETION AND FOR AREAS THAT WILL NOT BE DISTURBED FOR MORE THAN ONE GROWING SEASON.

PERMANENT SEEDING (TYPE II)

AS A MINIMUM REQUIREMENT, ALL GRADED AREAS NOT UNDER PAVEMENT AND WITHIN THE RIGHT-OF-WAY AND/OR EASEMENTS SHALL BE PREPARED, FERTILIZED AND LIMED, SEEDED, AND MULCHED IMMEDIATELY UPON COMPLETION OF CONSTRUCTION AS FOLLOWS (SPECIFICATIONS PER 1,000 SQUARE FEET):

100 LBS. OF LIME
15 LBS. OF 10-20-20 OR 15 LBS. OF 10-10-10 IN COMBINATION W/ 3 LBS. OF 0-46-0
4 LBS. OF TALL FESCUE, CONTAINING A BLEND OF 2 OR MORE TALL FESCUES
1 LB. OF SERICEA LESPEDEZA (USE UNSCARIFIED SEED AUGUST 15 TO FEBRUARY 1)
1/4 LB. OF GERMAN MILLET (MAY1 TO AUGUST 15)
1 LB. OF RYE GRAIN (PRIOR TO MAY 1 OR AFTER AUGUST 15)
USE STRAW MULCH AND ASPHALT EMULSION TACK AT A RATE OF 150 GALLONS PER ACRE TO COVER SEED UNTIL GROWTH IS ESTABLISHED.

SEEDBED PREPARATION:
1. REMOVE ANY UNDESIRABLE GROUND COVERS INCLUDING ANY TEMPORARY SEEDING.
2. RIP THE AREA TO BE SEEDED TO A MIN. DEPTH OF 4"-6."
3. REMOVE ALL LOOSE ROCKS, ROOTS, ETC. LEAVING SURFACE SMOOTH AND UNIFORM.
4. APPLY SEED, AGRICULTURAL LIME, AND FERTILIZER UNIFORMLY AND MIX WITH THE SOIL.
5. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.

TEMPORARY SEEDING

TEMPORARY SEEDING RECOMMENDATIONS:

FOR LATE WINTER/EARLY SPRING:
SEEDING MIXTURE

SPECIES:	RATE (LB/ACRE):
RYE (GRAIN)	120
ANNUAL LESPEDEZA (KOBE IN PIEDMONT & COASTAL PLAIN, KOREAN IN MOUNTAINS)	50

SEEDING DATES
MOUNTAINS--FEB. 1 - MAY 1
PIEDMONT--JAN. 1 - MAY 1
COASTAL PLAIN--DEC. 1 - APR. 15

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

MULCH
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

FOR SUMMER:
SEEDING MIXTURE

SPECIES:	RATE (LB/ACRE):
GERMAN MILLET	40

IN THE PIEDMONT AND MOUNTAINS, A SMALL-STEMMED SUDAN GRASS MAY BE SUBSTITUTED AT A RATE OF 50 LB/ACRE.

SEEDING DATES
MOUNTAINS--MAY 15 - AUG. 15
PIEDMONT--MAY 1 - AUG. 15
COASTAL PLAIN--APR. 15 - AUG. 15

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

MULCH
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. a DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

FOR FALL:
SEEDING MIXTURE

SPECIES:	RATE (LB/ACRE):
RYE (GRAIN)	120

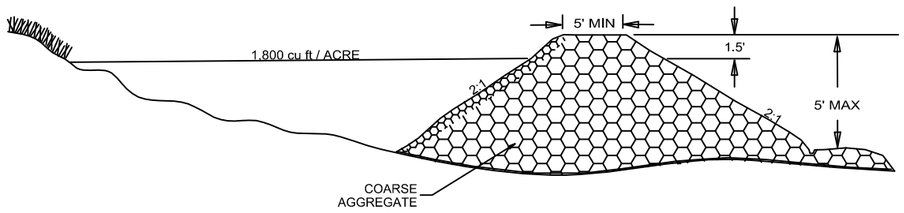
SEEDING DATES
MOUNTAINS--AUG. 15 - DEC. 15
PIEDMONT AND COASTAL PLAIN--AUG. 15 - DEC. 30

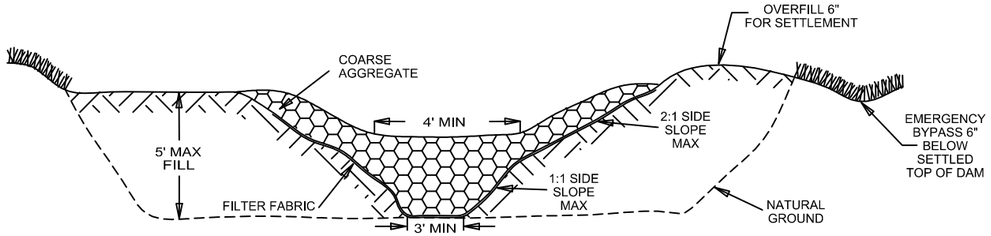
SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10-10-10 FERTILIZER.

MULCH
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

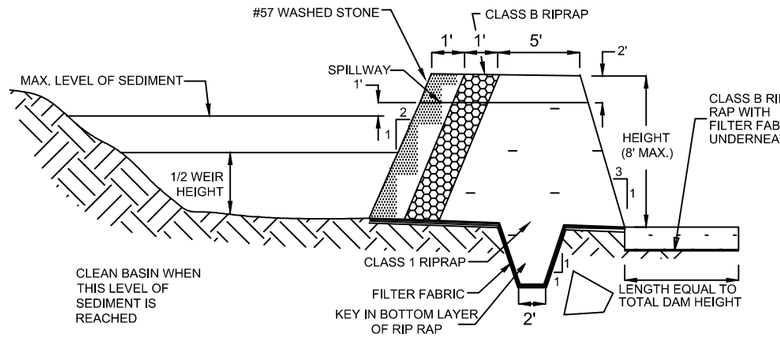
MAINTENANCE
REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY. TOPDRESS WITH 50 LB/ACRE OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/ACRE KOBE (PIEDMONT AND COASTAL PLAIN) OR KOREAN (MOUNTAINS) LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

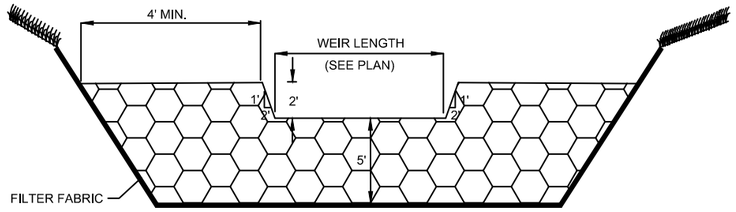
SEEDBED PREPARATION:
1. RIP AREA TO BE SEEDED TO A MINIMUM DEPTH OF 4-6 INCHES.
2. REMOVE ALL LOOSE ROCKS, ROOTS, ETC. LEAVING SURFACE SMOOTH AND UNIFORM.
3. APPLY SEED, AGRICULTURAL LIME, FERTILIZER AND SUPER PHOSPHATE UNIFORMLY AND MIX WITH THE SOIL.
4. SEED ON A FRESHLY PREPARED SEEDBED AND COVER THE SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
5. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.





SEDIMENT TRAP (10 YEAR STORM)



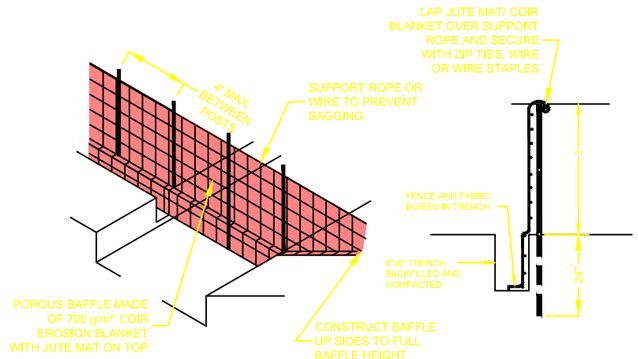


NOTES:
1. ROCK ABUTMENTS SHALL EXTEND TO AN ELEVATION AT LEAST 2 FT ABOVE THE SPILLWAY. ABUTMENTS SHALL BE A MINIMUM OF 5 FEET THICK WITH 2:1 UPSTREAM AND 3:1 DOWNSTREAM SIDE SLOPES. THE ROCK ABUTMENTS SHALL EXTEND DOWN THE DOWNSTREAM FACE OF THE DAM TO THE TOE, AT LEAST 1 FT HIGHER THAN THE REST OF THE DAM TO PROTECT THE EARTH ABUTMENTS FROM SCOUR.
2. OUTLET PROTECTION - A ROCK APRON AT LEAST 1.5 FT THICK SHALL EXTEND DOWNSTREAM FROM THE TOE OF THE DAM, ON ZERO GRADE, A SUFFICIENT DISTANCE TO PREVENT CHANNEL EROSION, OR A DISTANCE EQUAL TO THE HEIGHT OF THE DAM WHICHEVER IS GREATER.
3. ROCK FILL - ROCK SHALL BE WELL GRADED, HARD, EROSION RESISTANT STONE WITH A MINIMUM D50 SIZE OF 9 INCHES.
4. PROTECTION FROM "PIPING" - A KEYWAY LINED WITH GEOTEXTILE FILTER FABRIC SHALL BE ON THE SOIL FOUNDATION UNDER THE ROCK FILL. TO PREVENT SOIL MOVEMENT AND PIPING UNDER THE DAM, THE FILTER FABRIC MUST EXTEND FROM THE KEYWAY TO THE DOWNSTREAM EDGE OF THE APRON AND MUST RUN UNDER THE DAM'S ABUTMENTS.
5. BASIN DEWATERING - THE ENTIRE UPSTREAM FACE OF THE ROCK STRUCTURE SHALL BE COVERED WITH 1' OF CLASS "B" RIP RAP AND 1' OF FINE GRAVEL (NCDOT #57 WASHED STONE OR EQUIVALENT) TO REDUCE THE DRAINAGE RATE.

CONSTRUCTION SPECIFICATIONS
1. CLEAR THE AREAS UNDER THE EMBANKMENT AND STRIP IT OF ROOTS AND OTHER OBJECTIONABLE MATERIAL. CLEAR THE RESERVOIR AREA TO FACILITATE SEDIMENT REMOVAL.
2. EXCAVATE A CUTOFF TRENCH A MINIMUM OF 2 FT DEEP AND 2 FT WIDE WITH 1:1 SIDE SLOPES UNDER THE TOTAL LENGTH OF THE DAM AT ITS CENTERLINE. LINE THE TRENCH WITH EXTRA-STRENGTH FILTER FABRIC BEFORE BACKFILLING WITH ROCK. APPLY FILTER FABRIC UNDER THE ROCKFILL EMBANKMENT, FROM THE UPSTREAM EDGE OF THE KEYWAY TO THE DOWNSTREAM EDGE OF THE APRON. OVERLAP FILTER MATERIAL A MINIMUM OF 1 FT AT ALL JOINTS, WITH THE UPSTREAM STRIP LAID OVER THE DOWNSTREAM STRIP.
3. CONSTRUCT THE EMBANKMENT WITH WELL-GRADED ROCK AND GRAVEL TO THE SIZE AND DIMENSIONS SHOWN ON THE DRAWINGS. IT IS IMPORTANT THAT ROCK ABUTMENTS BE AT LEAST 2 FT HIGHER THAN THE SPILLWAY CREST AND AT LEAST 1 FT HIGHER THAN THE DOWNSTREAM FACE OF THE DAM, ALL THE WAY TO PREVENT SCOUR AND EROSION AT THE ABUTMENTS.
4. SEDIMENT-LADEN WATER FROM THE CONSTRUCTION SITE SHOULD BE DIVERTED INTO THE BASIN RESERVOIR AT THE FURTHEST AREA FROM THE DAM.
5. CONSTRUCT THE ROCK DAM BEFORE THE BASIN AREA IS CLEARED TO MINIMIZE SEDIMENT YIELD FROM CONSTRUCTION OF THE BASIN. STABILIZE IMMEDIATELY ALL AREAS DISTURBED DURING THE CONSTRUCTION OF THE DAM EXCEPT THE SEDIMENT POOL.

MAINTENANCE
1. CHECK SEDIMENT BASINS AFTER EACH RAINFALL. REMOVE SEDIMENT AND RESTORE ORIGINAL VOLUME WHEN SEDIMENT ACCUMULATES TO ABOUT ONE-HALF THE DESIGN VOLUME.
2. CHECK THE STRUCTURE FOR EROSION, PIPING, AND ROCK DISPLACEMENT AFTER EACH SIGNIFICANT RAINSTORM AND REPAIR IMMEDIATELY.
3. REMOVE THE STRUCTURE AND ANY UNSTABLE SEDIMENT IMMEDIATELY AFTER THE CONSTRUCTION SITE HAS BEEN PERMANENTLY STABILIZED. SMOOTH THE BASIN SITE TO BLEND WITH THE SURROUNDING AREA AND STABILIZE. ALL WATER AND SEDIMENT SHALL BE REMOVED FROM THE BASIN PRIOR TO DAM REMOVAL. SEDIMENT SHALL BE PLACED IN DESIGNATED DISPOSAL AREAS AND NOT ALLOWED TO FLOW INTO STREAMS OR DRAINAGEWAYS DURING STRUCTURE REMOVAL.

ROCK DAM SEDIMENT BASIN



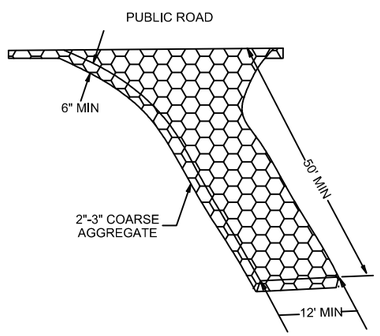
ROCK DAM BAFFLE
NOT TO SCALE

INSTALLATION NOTES:

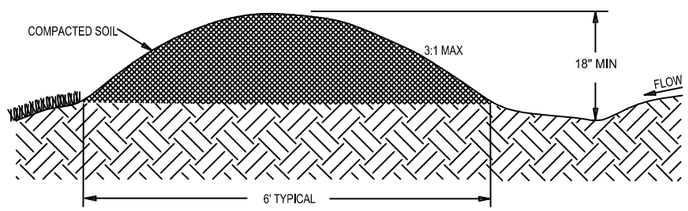
1. INSTALL POSTS THE WIDTH OF BASIN AND UP SIDES TO FULL BAFFLE HEIGHT.
2. STEEL POSTS SHOULD BE DRIVEN A MINIMUM DEPTH OF 24 INCHES AT A MAXIMUM SPACING OF 4 FEET APART.
3. TIE A 3/8" ROPE OR CABLE ACROSS TOP OF POSTS TO PREVENT BAFFLE FROM SAGGING.
4. PLACE JUTE MAT BACKED BY 700 g/m² COIR EROSION BLANKET OVER POSTS AND WIRE. MAT SHALL FACE INLET TO BASIN. JUTE MAT/COIR BLANKET SHOULD HAVE FIVE TO TEN PERCENT OPENINGS IN THE WEAVE. ATTACH FABRIC TO ROPE AND SUPPORT POSTS WITH ZIP TIES, WIRE, OR WIRE STAPLES.
5. BOTTOM AND SIDES OF JUTE MAT/COIR BLANKET TO BE ANCHORED IN TRENCH OR PINNED WITH 8-INCH WIRE STAPLES.
6. NO SPLICES SHALL BE MADE IN BAFFLES.

MAINTENANCE:

1. THE DESIGN LIFE OF THE FABRIC IS 6-12 MONTHS, BUT MAY NEED TO BE REPLACED MORE OFTEN IF DAMAGED OR CLOGGED.
2. BAFFLES SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL. REPAIRS TO BE MADE IMMEDIATELY UPON IDENTIFICATION OF DAMAGE.
3. MAINTAIN ACCESS TO BAFFLES. SHOULD BAFFLE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IMMEDIATELY.
4. REMOVE SEDIMENT WHEN DEPTH OF SEDIMENT REACHES 1/2 OF THE REQUIRED STORAGE DEPTH.
5. AFTER DRAINAGE AREA TO BASIN HAS BEEN STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO FINAL GRADE, AND STABILIZE IT.



TEMPORARY CONSTRUCTION ENTRANCE



TEMPORARY DIVERSION

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FIGURE 7
EROSION CONTROL DETAILS

Piney Hill Acres
2020 Piney Grove Road
Kernersville, North Carolina

DATE: 01/19/2015	APPROVED BY: CWH	SCALE: NA
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