

Wayne County
Construction and Demolition Debris Landfill
Permit No. 9601-CDLF-1997

460 B S. Landfill Rd.
Dudley, NC 28333

Operation Plans for:

Sorting Tear-off Asphalt Shingles for Recycling

Passive Compositing in Borrow Pit #1

Inert Debris Storage and Processing in Borrow Pit #1

Permit No.	Date	Document ID No.
96-01	August 09, 2013	19483

DOCUMENT APPROVED

Division of Waste Management

Solid Waste Section

Received Dated: **July 22, 2013 and revised through August 06 7, 2013**

Date: **August 09, 2013** By: **Ming-Tai Chao**

Prepared by:
Wayne County Solid Waste Department
460 B S. Landfill Rd.
Dudley, NC 28333

July 2013

Sorting Tear-off Asphalt Shingles for Recycling – Operation Plan

I. Introduction

This operation plan describes how tear-off asphalt shingles will be collected, sorted, stored, and managed at this facility in order to provide a material that can be used in paving asphalt production. All tear-off shingle handling will occur within the disposal limits of the C&D landfill. Our facility uses best practices for acceptance and sorting to remove the tear-off shingles from the waste stream and divert the “clean” shingles to other facilities. Our facility will not engage in sorting, processing, or grinding of the collected recyclable asphalt shingles.

II. Waste Acceptance

Asphalt roofing shingles contain asphalt cement, mineral aggregate, and mineral filler, which are raw materials used in asphalt production. Asbestos was used in shingle manufacture until the mid-1970s and in other roofing materials such as roof felt, roof putty, surface coating, and mastic until the mid-1980s.

Our facility provides roofers with a list of acceptable and unacceptable items for tear-off shingle recycling and requires source separation at the job site by the roofer. Materials from flat and built-up roofing systems are disposed rather than accepted for recycling due to the higher use of asbestos roofing materials in those systems. Roofers are instructed to separate tear-off shingles into either a dedicated trailer or to layer their waste when loading so that the shingles can be easily separated from the unacceptable debris. Our list of acceptable and unacceptable material is shown in Attachment 1. Only tear-off shingles originating from Wayne County are accepted.

The shingle suppliers are also required to complete a supplier certification form. The handling and disposal of asbestos during demolition and renovation is regulated under the National Emission Standards for Hazardous Air Pollutants (NESHAP). Before work can be started at a NESHAP-regulated facility, a notification of demolition and renovation must be submitted. The notification includes an inspection by a North Carolina accredited inspector or roofing supervisor and an analysis for asbestos. The supplier of shingles from a NESHAP-regulated facility must present documentation that the shingles do not contain greater than 1% asbestos. The documentation is a letter from the accredited asbestos inspector or roofing supervisor that sampled the shingles and the analytical test results. A copy of the documentation is kept with the supplier certification form. Shingles from a NESHAP-regulated facility that do not have the required documentation or that are documented to contain greater than 1% asbestos are disposed.

Shingles from single-family homes or residential building containing four or fewer dwelling units are generally not regulated under NESHAP. Only the source of shingles is required for these shingles.

Our supplier certification form is shown in Attachment 2. These practices help ensure that only recyclable tear-off shingles are sent for asphalt production while reducing sorting at our facility.

III. Flow and Management of Tear-off Shingles

Loads are visually inspected when entering the facility to determine whether the shingles have been separated or if it is a mixed load. The roofer is asked to complete a supplier certification form. Mixed loads, shingles from a NESHAP-regulated facility that contain greater than 1% asbestos, and shingles from a NESHAP-regulated facility without the proper documentation are directed to the C&D landfill working face for disposal.

Source-separation by the roofer eliminates most of the unacceptable materials that cannot be used in tear-off shingle recycling. Loads that were source-separated into dedicated containers are sent directly to the stockpile area and unloaded. Loads that were separated into layers usually have the shingles on the bottom and other material on the top. These loads are first directed to the C&D landfill working face to remove the non-shingle roofing waste and then to the stockpile area for unloading the shingles. The stockpiled tear-off shingles are examined for unacceptable materials and any unacceptable materials are removed. If unacceptable C&D material is placed in the stockpile area, the landfill equipment operator immediately removes that material and disposes it in the C&D landfill working face. If other unacceptable material is discovered in the stockpile area, the material is handled in accordance with the C&D landfill's "Waste Screening Plan" (Appendix C of the Operation Plan, Doc. ID 16639, revised through May 2012). Any unacceptable waste is removed and disposed properly at the end of each working day.

No additional traffic controls are needed because the shingle stockpile area will always be located in close proximity to the C&D working face. Vehicles, regardless of whether they have C&D or source-separated shingles, are all directed to follow the signage to the C&D landfill. Signs indicate the location of the shingle stockpile area. A landfill equipment operator is always present to provide unloading instructions and traffic direction.

The remaining sorted shingles are accumulated in the stockpile area until there is a sufficient amount to transport to a facility that will grind and use or sell the ground shingles for asphalt production. At least 75% of the tear-off shingles that are stockpiled leave the facility during the same year.

IV. Stockpile Details

A sign identifies the shingle stockpile area. It is also marked by highly-visible cones. The stockpile area has dimensions of approximately 20' X 20', which is 400 square feet. A maximum of 24 tons of shingles are stockpiled at any given time. Shingles are not stockpiled in an area with standing water. The shingle stockpile area will always be located in close proximity to the C&D landfill working face. The stockpile area is close to the C&D landfill working face so that in the event the sorted material is unable to be recycled, the material can be easily pushed into the working face for disposal. The working face will move as phases of the C&D landfill are filled, and the shingle stockpile will move after each phase is filled. Due to variability of waste receipts, we are unable to provide an exact frequency at which the stockpile will be relocated. Our current estimate is that the stockpile will be relocated once or twice a year. Attachment 3: Figure 1 shows the location of the stockpile area.

V. Gas Collection System Concerns

Shingle and C&D placement activities will be conducted in accordance with Section 1.5 Landfill Gas Collection System of the Operation Plan (Doc. ID 16639, revised through May 2012). Gas collection system components are marked by high-visibility flags and protected by concrete barriers. Shingle and C&D placement will not impact the integrity of the landfill gas collection system.

VI. Recordkeeping

Records are kept of shingles entering the facility, sorted shingles leaving the facility for recycling, and waste that is disposed. These records are kept for use in the facility's monthly and annual reports. Supplier certification forms and any supporting documents are also kept.

VII. Contracting Company

Barnhill Contracting Company purchases and hauls the stockpiled shingles off-site. Our facility contacts them when the amount of stockpiled shingles reaches a sufficient load size. Our facility uses a loader or an excavator to load shingles into the contractor's hauling vehicle. Approximately 12 tons of shingles constitutes a load. The Barnhill Contracting Company and/or the facility that processes or grinds the recyclable asphalt shingles is responsible for conducting required asbestos sampling and testing prior to processing or grinding the recyclable shingles. Barnhill Contracting Company's contact information is:

Barnhill Contracting Company
PO Box 399
Kinston, NC 28502
(252) 527-8021

Passive Compositing in Borrow Pit #1 – Operation Plan

I. Introduction

This operation plan describes how passive compositing will be conducted in a designated area within Borrow Pit #1. This area is outside the disposal limits of the C&D landfill. All waste placement and management activities will be conducted by landfill employees only. The general public will not have access to this area. Material resulting from this passive compositing will only be used by the Wayne County Solid Waste Department for use as a soil amendment in daily and intermediate landfill cover. Material will not be given to or sold to the general public. Composting as it is described in and regulated by 15A NCAC 13B, Section .1400 is not conducted in this area.

II. Waste Streams

"Yard waste" and "land clearing waste" are managed in this area. "Yard waste" by definition means "Yard Trash" and "Land-clearing Debris" as defined in G.S. 130A-290, including stumps, limbs, leaves, grass, and untreated wood. "Yard trash" means solid waste resulting from landscaping and yard maintenance such as brush, grass, tree limbs, and similar vegetative material. "Land clearing debris" means solid waste which is generated solely from land clearing activities. "Land clearing waste" means solid waste which is generated solely from land clearing activities such as stumps, trees, limbs, brush, grass, and other naturally occurring vegetative material. Only material generated within Wayne County is accepted.

III. Material Management

Scales are used to weigh incoming loads of yard waste and land clearing waste. Customers deposit yard waste and land clearing waste in a roll-off container at our facility's Recycling Collection Center, which is located on the east side of the scale house as shown on Drawing No. F1/Sheet 3 of 9 in the C&D Landfill Operation Plan (Doc. ID 16639, revised through May 2012).

Landfill employees remove the roll-off container once it is full, weigh the load, and dump the material in the passive compositing area. Landfill employees then remove any solid waste or C&D that may be incidentally deposited in the area and dispose it properly by the end of each working day. If other unacceptable material is discovered in the stockpile area, the material is handled in accordance with the C&D landfill's "Waste Screening Plan" (Appendix C of the Operation Plan, Doc. ID 16639, revised through May 2012).

Landfill employees use heavy machinery to arrange the material into windrows. Green wastes (grass and leaves) and trunks/limbs/untreated wood are separately stockpiled initially. Periodically, and at least annually, the windrows will be turned

using an excavator and/or a loader. Then, it is estimated that a useable product will be produced after two years of this minimal processing.

3,500 tons of yard waste and land clearing waste will be placed in this area per year. This amount translates to 875 tons of material per quarter. Because passive composting is the only processing applied to the storage pile, we are unable to determine the amount of processed material that will be removed from the area on a quarterly basis. It is estimated that a minimum of two years of passive composting will be needed to render a usable product. Records are kept of the amount of material placed in the passive composting area and of the amount of material used for cover. These records are kept for use in the facility's monthly and annual reports.

Attachment 3: Figure 1 shows the location of the passive composting area. The area is restricted to 0.94 acres. The unit is at least 50 feet away from water bodies, the LCIDLF, and other waste management units.

Adequate erosion control measures, structures, or devices will be utilized to prevent silt from leaving the site and to prevent excessive on-site erosion. Storm water runoff is controlled by Riser Basin #1 as described in the attached Erosion and Sedimentation Control Plan (Attachment 4). Access roads to and from the unit are maintained for use in all weather conditions.

IV. Fire Prevention and Control

Our facility has a water wagon and fire extinguishers on-site. Emergency procedures and emergency responder information are located in the C&D landfill's *Operation Plan* (Doc. ID 16639, revised through May 2012) and fire emergencies in this yard waste and land clearing waste management area will be handled in accordance with that plan.

To prevent fires, the windrows will be limited to 12 feet in height and 10 feet in width. A minimum of 25 feet will be kept between windrows. Piles will be turned during periods of precipitation, which will also help with odor control and provide needed moisture to the material.

Inert Debris Storage & Processing in Borrow Pit #1 – Operation Plan

I. Introduction

This operation plan describes how inert debris will be stored and processed into usable aggregate in a designated area within Borrow Pit #1. All waste placement and management activities will be supervised and/or conducted by Wayne County Solid Waste employees. The general public will not have access to this area. Processed material will be used for road material at the Wayne County Landfill only. The storage and processing activities in this area involve neither excavation nor filling.

II. Waste Streams

Inert debris is stored and processed in this area. The material consists solely of concrete, brick, concrete block, uncontaminated soil, gravel and rock. Only material generated within Wayne County is accepted.

III. Material Management

Customers with inert debris typically notify the weigh-master that they have inert debris when they arrive on the scales. At this time the landfill operations supervisor is notified that a load of inert debris has arrived. The supervisor examines the load while it is in the hauling vehicle and determines if the material is eligible for placement in the inert debris area. The supervisor escorts the customer to the inert debris storage area and supervises unloading of the debris. Attachment 3: Figure 1 shows the location of the inert debris storage area (also known as the concrete recycling area).

The supervisor immediately removes any solid waste or C&D that may be incidentally deposited in the inert debris area and disposes it properly by the end of each working day. If other unacceptable material is discovered in the storage area, the material is handled in accordance with the C&D landfill's "Waste Screening Plan" (Appendix C of the Operation Plan, Doc. ID 16639, revised through May 2012).

Adequate erosion control measures, structures, or devices will be utilized to prevent silt from leaving the site and to prevent excessive on-site erosion. Storm water runoff is controlled by Riser Basin #1 as described in the attached Erosion and Sedimentation Control Plan (Attachment 4). Access roads to and from the unit are maintained for use in all weather conditions.

A maximum of 4,000 tons of unprocessed material is stored in this area. Records are kept on the amount of material stored and processed for use in the facility's

monthly and annual reports. The pile's area is restricted to 0.38 acres. The unit is at least 50 feet away from water bodies, the LCIDLF, and other waste management units.

IV. Contracting Company

Best Sand & Gravel Inc. is contacted when our facility determines that there is sufficient stockpiled material. Best Sand & Gravel Inc. brings a crusher and conveyor belt with a scale to the site and processes the material into aggregate. Their contact information is:

Best Sand & Gravel Inc.
2390 NC 111 South
Goldsboro, NC 27534
(919) 778-3252

Attachment 1

TEAR-OFF ASPHALT SHINGLE RECYCLING

List of Acceptable and Unacceptable Materials

"YES"

Include these items:

- Shingles
- Felt attached to shingles

"NO"

Do NOT include these items:

- Wood
- Metal flashings, gutters, etc.
- Nails (best effort)
- Rolls of sheets of felt paper
- Plastic wrap, buckets
- Paper waste
- No garbage, trash, or other waste materials
- Built-up asphalt roofing
- Asbestos-containing materials
- Shingles containing mastics

Attachment 2

Wayne County Landfill
SHINGLE SUPPLIER CERTIFICATION FORM

Supplier of Whole Tear-off Asphalt Shingles

Supplier Name: _____
Address: _____
Contact Name: _____
Phone: _____

We the undersigned certify that (check appropriate boxes):

The tear-off shingles are from a NESHAP regulated facility and documentation stating that the shingles do not contain >1% asbestos is attached. (Documentation is a letter from the North Carolina accredited asbestos inspector or roofing supervisor that collected the samples with the analytical results attached.)

The tear-off shingles are from a single family home or residential building having four or fewer dwelling units that is not regulated under NESHAP.

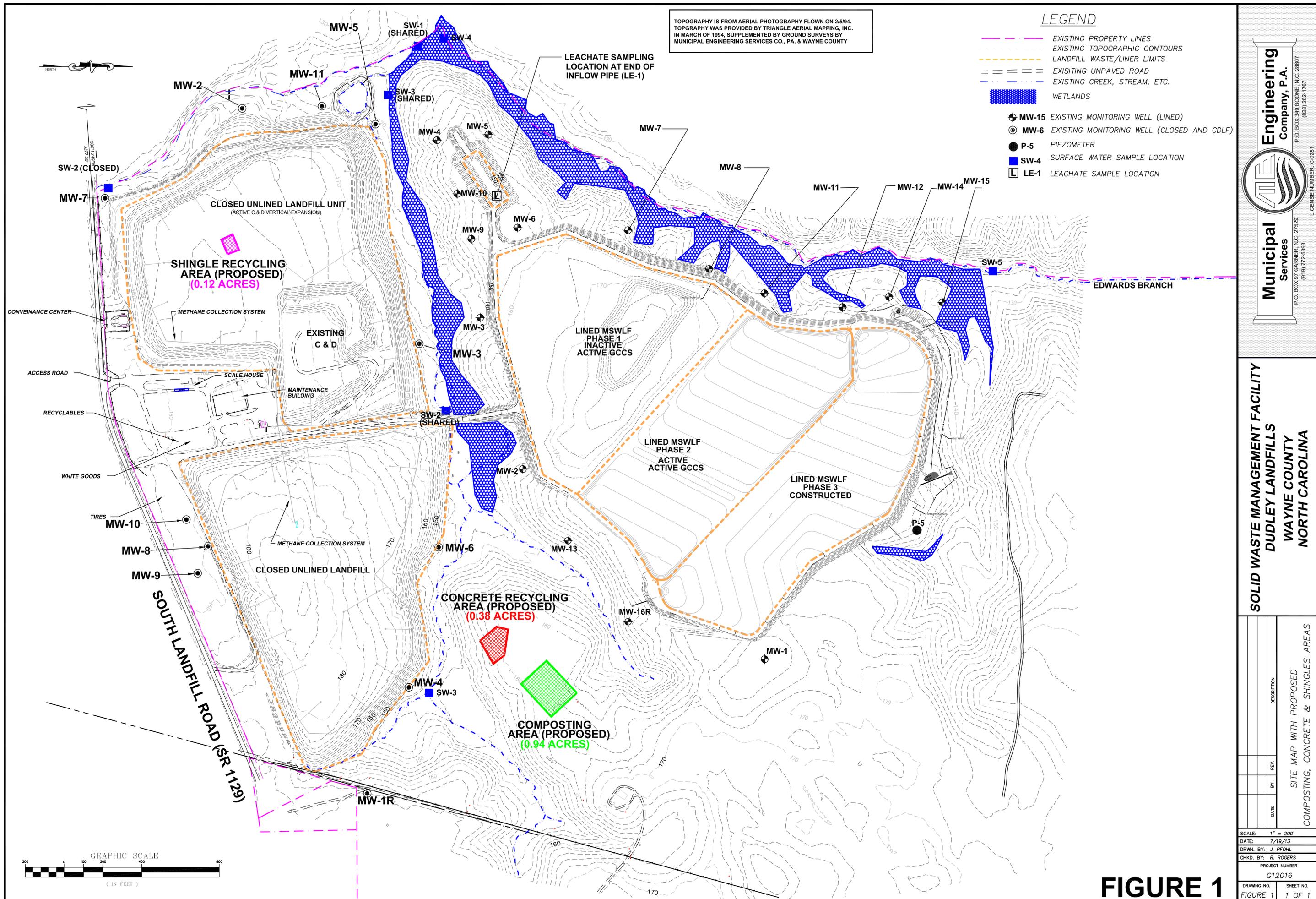
Tear-off shingles were removed from the following addresses:

(Please attach additional sheets as needed to record each building address.)

Shingle Supplier (signature)

Date

Attachment 3



Engineering Company, P.A.
 P.O. BOX 349 BOONE, N.C. 28607
 (828) 262-1767
Municipal Services
 P.O. BOX 97 GARNER, N.C. 27529
 (919) 772-5393
 LICENSE NUMBER: C-0281

**SOLID WASTE MANAGEMENT FACILITY
 DUDLEY LANDFILLS
 WAYNE COUNTY
 NORTH CAROLINA**

DATE	BY	REV.	DESCRIPTION
			SITE MAP WITH PROPOSED COMPOSTING, CONCRETE & SHINGLES AREAS

SCALE: 1" = 200'
 DATE: 7/19/13
 DRWN. BY: J. FOHL
 CHKD. BY: R. ROGERS
 PROJECT NUMBER: G12016
 DRAWING NO.: FIGURE 1
 SHEET NO.: 1 OF 1

FIGURE 1

Attachment 4



Original to Lisa Hampton
Copy to Wayne Sullivan

State of North Carolina
Department of Environment and Natural Resources
Washington Regional Office

Michael F. Easley, Governor

William G. Ross, Jr., Secretary

DIVISION OF LAND RESOURCES
LAND QUALITY SECTION

April 15, 2002

LETTER OF APPROVAL OF REVISED PLAN

County of Wayne
ATTN: Mr. W. Lee Smith, III, Manager
Post office Box 227
Goldsboro, North Carolina 27533

RE: Erosion and Sedimentation Control Plan No. Wayne-2002-041
Landfill Borrow Sites #1 & #2
SR 1129 - Wayne County
River Basin: Neuse
Date Received: April 4, 2002
Responsible Party: County of Wayne



Dear Sir:

This office has completed its review of the revised erosion and sedimentation control plan for the referenced 39.0 acre disturbance. Based on the information provided, we have determined the submitted plan for the excavation of 2 on-site borrow pits to provide material for proper operation of a solid waste landfill, if properly implemented and responsibly maintained, should meet the intent and minimum requirements of the Act. We, therefore, issue this LETTER OF APPROVAL.

In 1973, the Sedimentation Pollution Control Act (copy available upon request) was enacted. It established a performance oriented program with the OBJECTIVE of PREVENTING SEDIMENT DAMAGE to adjoining properties and/or natural resources resulting from land disturbing activities through the use of reasonable and appropriate Best Land Management Practices, based on the approved plan and changing site conditions, during the course of the project. **AS THE DECLARED RESPONSIBLE PARTY YOUR RESPONSIBILITY** is to understand the Act and comply with the following minimum requirements of the Act and the above listed modifications (if any):

- *an erosion and sedimentation control plan is only valid for 3 years following the date of initial approval, if no land-disturbing activity has been undertaken;*

- *the LATEST APPROVED soil erosion and sediment control plan will be used during inspection to determine compliance and a copy of the plan must be on file at the job site;*
- *except in the case of a storm related emergency, a revised erosion and sedimentation control plan must be submitted to and approved by this office prior to initiating any significant changes in the construction, grading or drainage plans;*
- *a buffer zone, sufficient to restrain visible sedimentation, must be provided and maintained between the land-disturbing activity and any adjacent property or watercourse;*
- *new or affected cut or filled slopes must be at an angle that can be retained by vegetative cover, AND must be provided with a ground cover sufficient to restrain erosion within the shorter of 15 working or 30 calendar days of completion of any phase (rough or final) of grading (RYE GRASS IS NOT in the APPROVED seeding specifications NOR is it an ACCEPTABLE substitute for the providing of a temporary ground cover);*
- *the CERTIFICATE OF PLAN APPROVAL must be posted at the primary entrance to the job site and remain until the site is permanently stabilized;*
- *unless a temporary, manufactured, lining material has been specified, a clean straw mulch must be applied, at the minimum rate of 2 tons/acre, to all seeded areas. The mulch must cover at least 75% of the seeded area after it is either tacked, with an acceptable tacking material, or crimped in place;*
- *in order to comply with the intent of the Act, the scheduling of the land-disturbing activities is to be such that both the area of exposure and the time between the land disturbance and the providing of a ground cover is minimized;*
- *a permanent ground cover, sufficient to restrain erosion, must be provided within the shorter of 15 working or 90 calendar days after completion of construction or development on any portion of the tract (RYE GRASS IS NOT in the APPROVED seeding specifications NOR is it an ACCEPTABLE substitute for the providing of a nurse cover for the permanent grass cover); and,*

County of Wayne
ATTN: Mr. W. Lee Smith, III, Manager
April 15, 2002
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- *this approval is based, in part, on the accuracy of the information provided in the Financial Responsibility/Ownership form submitted with the project plans. You are required to file an amended form if there is any change in the information included on the form. This approval and the financial responsibility/liability cited in it does not automatically transfer with a change in project ownership.*

Be advised that to ensure compliance with the approved plan and the program requirements, unannounced periodic inspections will be made. If it is determined that the implemented plan is inadequate, this office may require the installation of additional measures and/or that the plan be revised to comply with state law. (Note: Revisions to the scope of this project without prior approval of the plan showing the changes can be considered a violation). Failure to comply with any part of the approved plan or with any requirements of this program could result in the taking of appropriate legal action against the financially responsible party (*County of Wayne*). One option is the assessing of a civil penalty of up to \$5000 for the initial violation plus up to \$5000 per day for each day the site is out of compliance.

In recognizing the desirability of early coordination of sedimentation control, we believe it would be beneficial for you and your contractor to arrange a preconstruction conference to discuss the requirements of the approved erosion and sedimentation control plan. Prior to beginning this project, **YOU ARE REQUIRED TO** either **CONTACT THIS OFFICE TO ADVISE** Mr. Richard Peed (252-946-6481, ext. 274) **OF THE CONSTRUCTION START-UP DATE**, contractor and on-site contact person OR complete and return the attached Project Information Sheet to the above named.

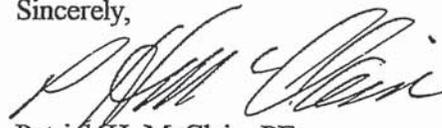
Acceptance and approval of this plan is conditioned upon your compliance with Federal and State water quality laws, regulations and rules. In addition, the land disturbing activity described in this plan may also require approval or permitting from other agencies - Federal, State or local. These could include the U.S. Army Corps of Engineers under Article 4.0.4. jurisdiction, the Division of Water Quality - Surface Water Section under stormwater regulations (contact Mr. Bill Moore, 252-946-6481, ext. 264), county, city or town agencies under other local ordinances, or other approvals that may be required. **This approval does not supersede any other approval or permit.**

Please be advised that a rule to protect and maintain existing buffers along watercourses in the Neuse River Basin became effective on July 22, 1997. The Neuse River Riparian Area Protection and Maintenance Rule (15A NCAC 2B.0233) applies to a 50 (horizontal) foot wide zone along all perennial and intermittent streams, lakes, ponds and estuaries in the Neuse River basin. In riparian areas, the rule prohibits land disturbance, new development and fertilizer use in the first 30 (horizontal) feet directly adjacent to the stream and/or coastal wetland vegetation. Clearing, seeding and a one-time fertilizer use to establish the grass is allowed within the riparian area 20 feet landward of the first 30 feet of riparian area, but new development is prohibited. For more information about the riparian area rule, please contact the Division of Water Quality's Wetland/401 Unit at 919-733-1786.

County of Wayne
ATTN: Mr. W. Lee Smith, III, Manager
April 15, 2002
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Please be advised that all land-disturbing activities affecting 5 or more acres are required to have a NPDES permit. Enclosed is the Construction Activities General NPDES Permit - NCG010000 for this project. The responsibility for understanding and complying with this permit rests with you. Contact the Division of Water Quality - Surface Water Section at (252) 946-6481 should you have any questions regarding monitoring and record keeping requirements of the permit.

Sincerely,



Patrick H. McClain, PE
Assistant Regional Engineer

:pm

enclosures

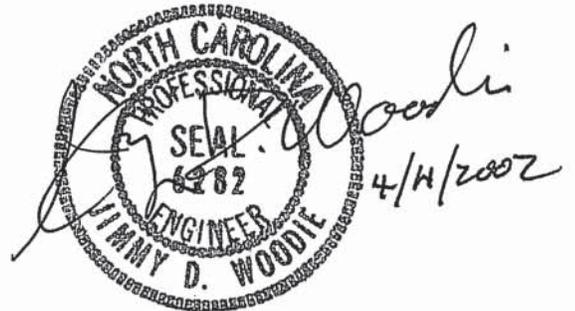
w/o enc. cc: ✓ Jimmy D Woodie, PE, Municipal Engineering
(via e-mail) Jim Mulligan, Division of Water Quality

REVISED EROSION CONTROL PLAN

FOR THE

WAYNE COUNTY MUNICIPAL SOLID WASTE LANDFILL FACILITY BORROW SITES

**PROJECT NO.
G02039**



*Rev. April 2002
February 2002*

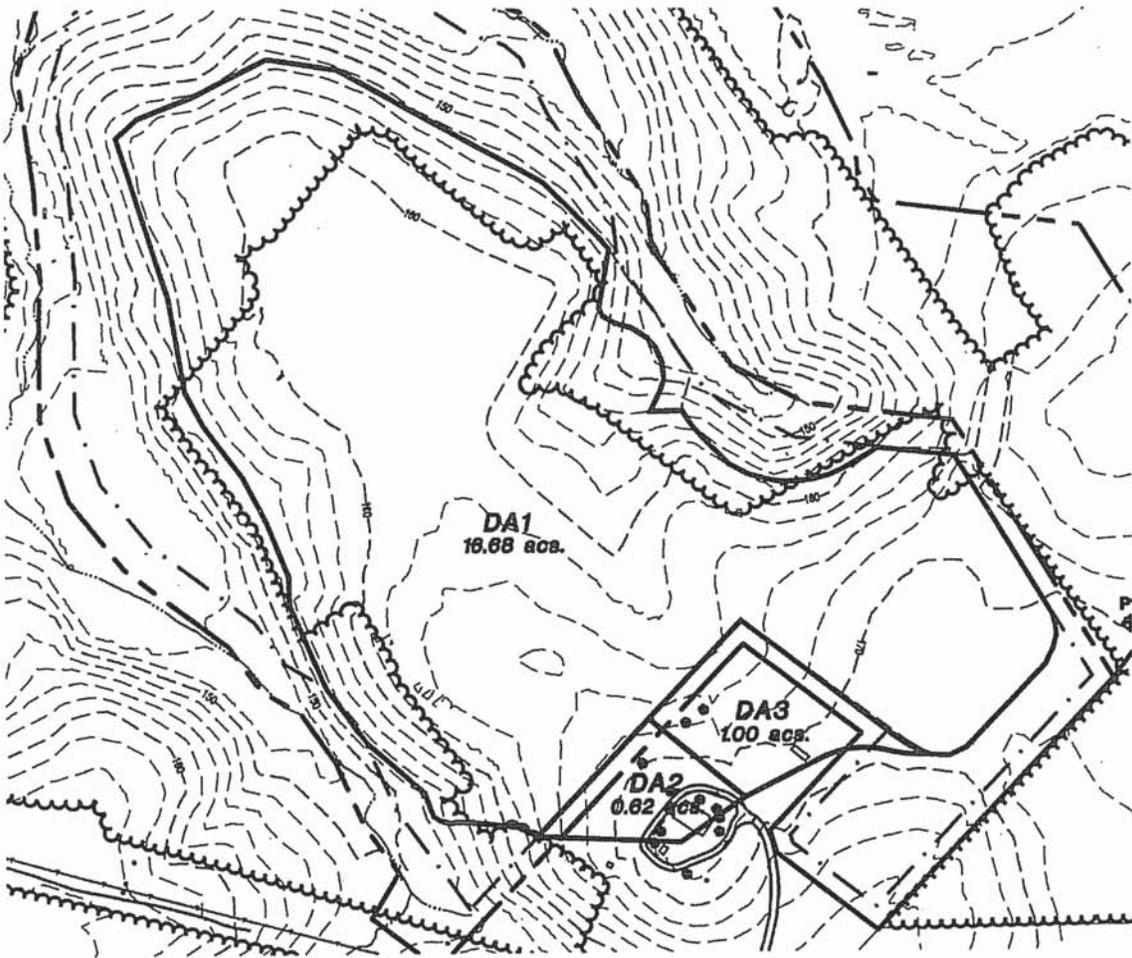
*Municipal Engineering Services Co., PA
Garner and Boone, North Carolina*

DRAINAGE AREAS BORROW SITE #1

Area Designation	Area (ac.)
DA1	16.68
DA2	0.62
DA3	1.00

Rainfall Intensity
 $i = 7.4$

Runoff Coefficient
 $C = .25$



Areas Draining Into Riser Basin #1

Area	A	I	C
DA1	=16.68 acs.	7.4 in/hr.	.25
DA2	=0.62 acs.	7.4 in/hr.	.25
DA3	=1.00 acs.	7.4 in/hr.	.25
<hr/>			
	= 18.30 acs.	7.4 in/hr.	.25

$$Q_{(10)} = CIA = (.25)(7.4)(18.30) = 33.86 \text{ cfs.}$$

DESIGN RISER BASIN #1

$$Q = 33.86 \text{ cfs}$$

$$A = 18.30 \text{ acs.}$$

Surface area of riser basin:

$$\text{Surface area } S = .01Q \quad S = (.01)(33.86) = 0.3386 \text{ acs.}$$

$$S = 0.3386 \times 43560 \text{ ft}^2 = 14,749 \text{ ft}^2$$

Depth of riser basin:

$$\text{depth} = \text{Capacity/surface area}$$

Capacity needed is 1800 ft³/acre.

$$\text{Capacity} = (1800)(18.30) = 32,940 \text{ ft}^3.$$

Due the location and the shape of the basin, the average end method of calculating the storage of the basin is as follows:

$$\text{bottom area elevation } 148 \quad = 126,708$$

$$\frac{1}{2} \text{ riser height } 150 \quad = 313,369$$

therefore:

$$126,708 + 313,369 = (440,077 \div 2) 2' = 440,077 \text{ ft}^3$$

The actual storage capacity of the basin is adequate to contain the runoff.

Principal spillway barrel size:

Use Capacity of 0.2 cfs/acre
 $Q = (18.30)(.2) = 3.66$ cfs
1.5% grade

$D = 16 (Q n \div \sqrt{s})^{.375}$ Use corrugated metal pipe

$Q = 3.66$ cfs $n = .024$ $s = .015$

$D = 16[(3.66)(.024) \div \sqrt{.015}]^{.375} = 14.12"$ Use 18" pipe diameter

Outlet Protection

$L = 24'$ $W = 25.5'$ $d_{50} = 13"$ 29.25" min. thickness

Riser pipe for Principal spillway:

1.5 times the barrel = $1.5 \times 14.12 = 21.18"$
use 30" pipe diameter

Footing for riser pipe:

Weight of water: $\pi r^2 h (62.4) = 1,960$ given: $r = 1.25'$ $h = 4'$

Concrete: 150 lbs per ft^3

13.07 ft^3 of concrete needed

use 16 ft^3 of concrete

1'x4.0'x4.0' footing.

Emergency Spillway:

$Q = C_W L H^{3/2}$ $C_W = 3.0$ $H = 1$ $Q = 33.85$

$L = Q \div (C_w)(H^{3/2}) = 33.85 \div (3)(1^{3/2}) = 11.28'$ Required

Bottom of Weir = 12'

Top of Weir = 21'

Line with 9" Rip Rap

Elevations:

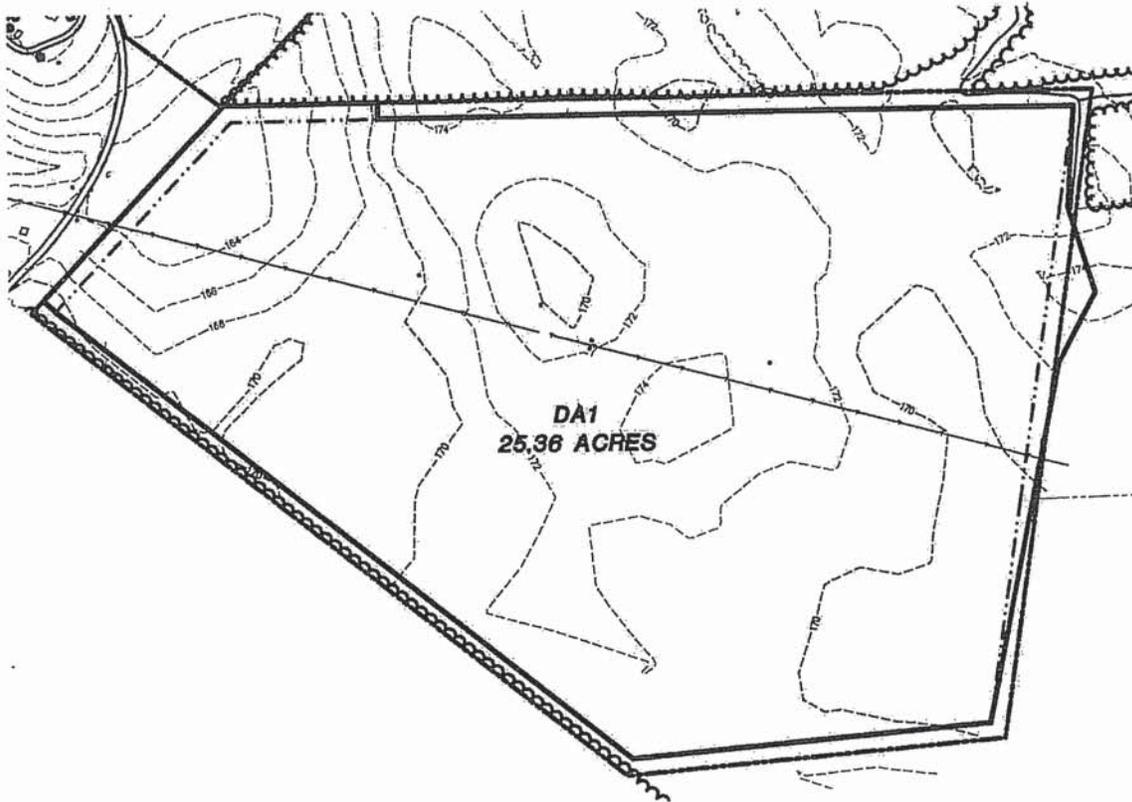
Top of Dam	154.0'
Emergency Spillway	152.5'
Riser Crest	152.0'
Conduit Inlet	148.0'
Conduit Outlet	147.5'
Bottom Elevation	148.0'

DRAINAGE AREAS BORROW SITE #2

Area Designation	Area (ac.)
DA1	25.36

Rainfall Intensity
 $i = 7.4$

Runoff Coefficient
 $C = .25$



Areas Draining Into Riser Basin #1

<u>Area</u>	<u>A</u>	<u>I</u>	<u>C</u>
DA1	=25.36 acs.	7.4 in/hr.	.25

$Q_{(10)} = CIA = (.25)(7.4)(25.36) = 46.92 \text{ cfs.}$

DESIGN RISER BASIN #1

Q = 46.92 cfs
A = 25.36 acs.

Surface area of riser basin:

$$\begin{aligned} \text{Surface area } S &= .01Q \quad S = (.01)(46.92) = 0.4692 \text{ acs.} \\ S &= 0.4692 \times 43560 \text{ ft}^2 = 20,439 \text{ ft}^2 \end{aligned}$$

Depth of riser basin:

$$\text{depth} = \text{Capacity/surface area}$$

Capacity needed is 1800 ft³/acre.

$$\text{Capacity} = (1800)(25.36) = 45,648 \text{ ft}^3.$$

Due the location and the shape of the basin, the average end method of calculating the storage of the basin is as follows:

$$\begin{array}{rcl} \text{bottom area elevation} & 164 & = 979,569 \\ \frac{1}{2} \text{ riser height} & 166 & = 995,850 \end{array}$$

therefore:

$$979,569 + 995,850 = (1,975,419 \div 2) 2' = 1,975,419 \text{ ft}^3$$

The actual storage capacity of the basin is adequate to contain the runoff.

Principal spillway barrel size:

Use Capacity of 0.2 cfs/acre
 $Q = (25.36)(.2) = 5.07$ cfs
0.5% grade

$D = 16 (Q n \div \sqrt{s})^{.375}$ Use corrugated metal pipe

$Q = 5.07$ cfs $n = .024$ $s = .005$

$D = 16[(5.07)(.024) \div \sqrt{.005}]^{.375} = 19.61$ "(required min.) Use 24" pipe diameter

Outlet Protection

$L = 24'$ $W = 26'$ $d_{50} = 11"$ 24.75" min. thickness

Riser pipe for Principal spillway:

1.5 times the required min. barrel size = $1.5(19.61") = 30"$ pipe diameter

Footing for riser pipe:

Weight of water: $\pi r^2 h(62.4) = 1,960$ given: $r = 1.25'$ $h = 4'$

Concrete: 150 lbs per ft^3

13.07 ft^3 of concrete needed

use 16 ft^3 of concrete

1'x4.0'x4.0' footing.

Emergency Spillway:

$Q = C_W L H^{3/2}$ $C_W = 3.0$ $H = 1$ $Q = 46.92$

$L = Q \div (C_w)(H^{3/2}) = 46.92 \div (3)(1^{3/2}) = 15.64'$ Required

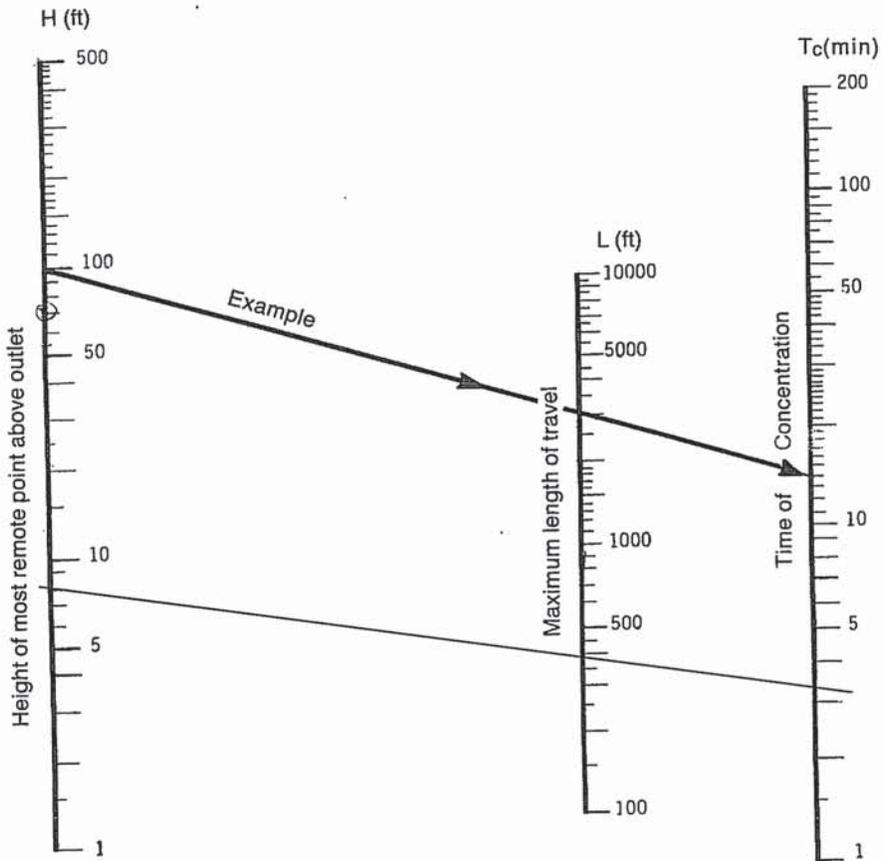
Bottom of Weir = 16'

Top of Weir = 25'

Line with 6" Rip Rap

Elevations:

Top of Dam	170.0'
Emergency Spillway	168.5'
Riser Crest	168.0'
Conduit Inlet	164.0'
Conduit Outlet	163.5'
Bottom Elevation	164.0'



Note:
 Use nomograph T_c for natural basins with well-defined channels, for overland flow on bare earth, and for mowed-grass roadside channels.

For overland flow, grassed surfaces, multiply T_c by 2.

For overland flow, concrete or asphalt surfaces, multiply T_c by 0.4.

For concrete channels, multiply T_c by 0.2.

Figure 8.03a Time of concentration of small drainage basins.

8.03.4

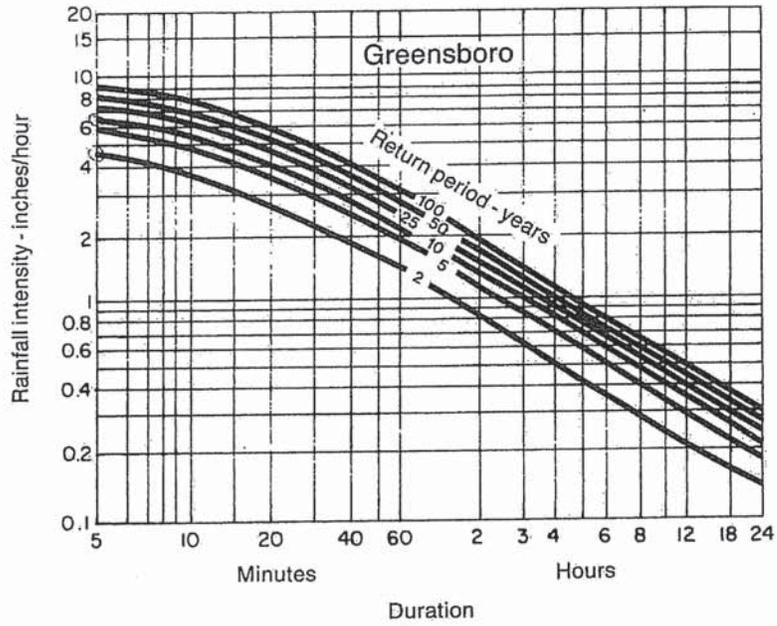


Figure 8.03d Rainfall intensity duration curves—Greensboro

USE THIS ONE

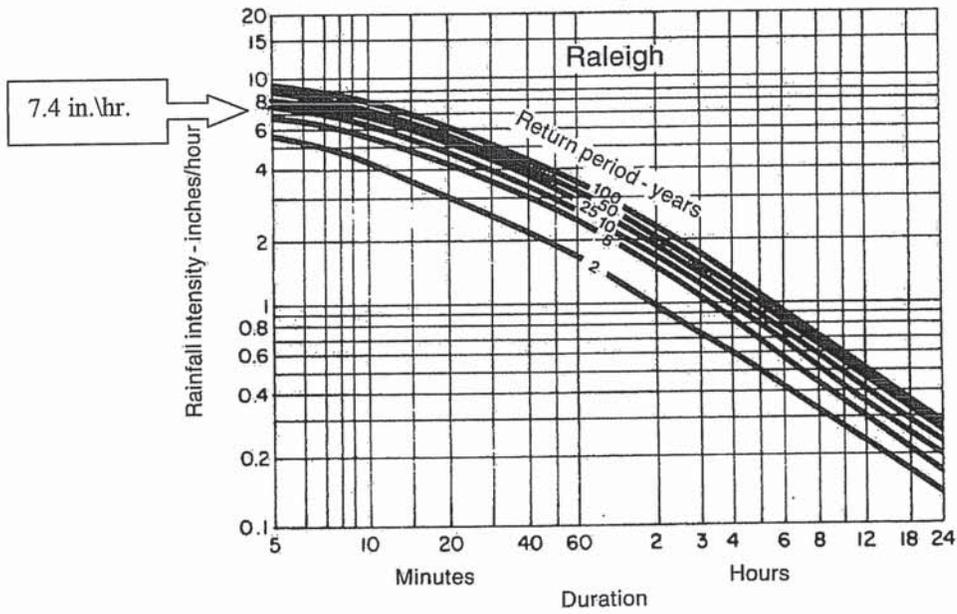
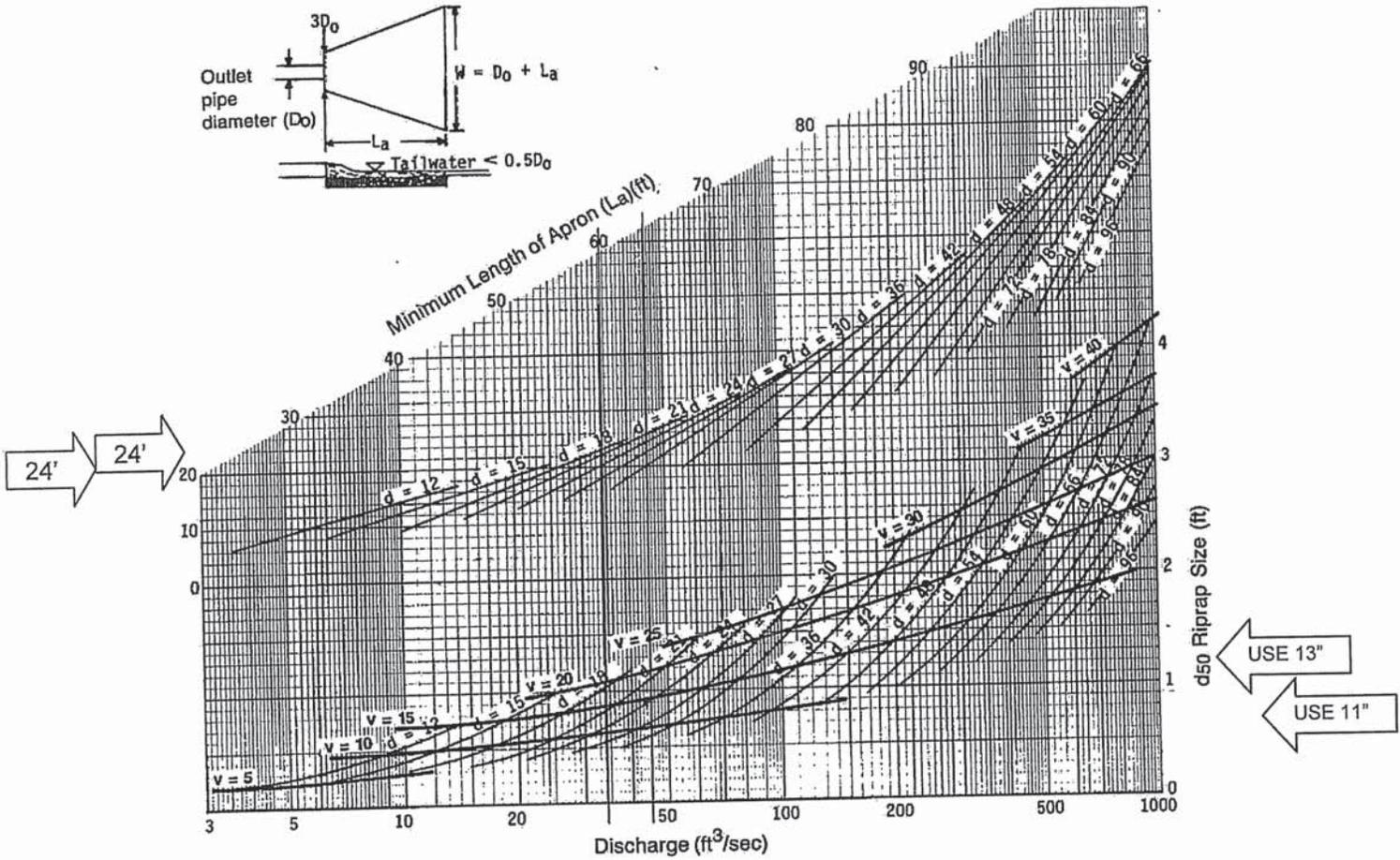


Figure 8.03e Rainfall intensity duration curves—Raleigh.

8.03.6



Curves may not be extrapolated.

Figure 8.06a Design of outlet protection from a round pipe flowing full, minimum tailwater condition ($T_w < 0.5$ diameter).

From: Chao, Ming-tai
To: ["Joan C. Snider"](#)
Cc: [Hare, Wes](#)
Subject: RE: Yard waste and shingle processing at Wayne County CDLF and MSWLF
Date: Tuesday, June 11, 2013 12:50:00 PM

Hey Joany:

I would be glad to assist you in preparing the application document and to answer you concerns (which are reiterated below in italics); and below are my responses:

-
Shingle Recycle Unit

1. For our shingle stockpiling, do we turn in a narrative plan (as described in the shingle guidance) to you and await approval?

Yes. Please download the guidance document and tailor/complete the plan by adding your site-specific conditions/information; then submit the Solid Waste Section (SWS) the plan and a revised facility plan drawing, which must show the location of shingle stockpile area/waste unload area in the recycling unit. (The unit location can be drawn by hand & scale on the existing facility plan drawing)

Additional info potentially associated with the unit operation stated below, which can be inserted to the proper location in the context of the final plan (I assume the unit will be located inside landfill property, so the buffer requirements are not concerns):

- The size (lateral extents) of the unit.
- The maximum amount (in CY or ton) of the shingle to be stockpiled at the unit at any time.
- The frequency of off-site shipment of recyclable per year or per month.
- Will there be an impermeable surface (such as concrete pad) at unloading and stockpile areas to receive the recyclable shingle? If not, you may have to address the concerns of potential soil/water contamination resulting from polycyclic aromatic hydrocarbons (PAHs) leaching out of asphalt shingle in the future.
- The service area must be consistent with the landfill service area – Wayne County only.
- The waste screening plan must be consistent with the one stated in the approved landfill operation plan, e.g. elimination of prohibit wastes for disposing of at the landfill. For the source separated loads, please describe wastes screening requirements to remove any unacceptable material out of the loads which will be unloaded at the “Tear-Off Shingle Storage Area.” Visual inspection by a scale house attendant is not the complete waste screening processes (Some wastes may co-mingle/smuggle into tear-off shingles such as lunch box, food wrapper paper & food wastes; thanks for construction workers’ support ☺). The unrecyclable wastes must be removed from the unit and disposed of properly in the end of each working day.
- Please provide the contact info of the contracting shingle recycling company (ies). If the contact info is not available at this time or revised in the future, the updated contact info must be placed in the landfill operating record.
- Other requirements - signage, road condition, trained attendant to inspecting

waste load/& managing the unit during the operation hours.

2. *Will there be some formal approval issued? Or do we need to go through the C&D permit modification process?*

Upon completion review of the application / plan, the SWS will issue the County an approval letter of operating the tear-off asphalt shingle recycling unit. There is no fee required.

Of course, you also can submit this application with the CDLF permit modification/ amendment application. You can submit the plan for operating asphalt shingle unit with yard waste unit & benefit fill unit as a whole – permit modification application and pay the fee. Or you can submit the plan for operating asphalt shingle unit with permit amendment application for a 5-yaer permit review, six months prior to the permit expiration date, if you don't expect operating this recycle unit soon. There is also permit amendment fee required by law.

Yard Waste Unit

3. *For storage of yard waste in the borrow pits, do we simply turn in the yard waste notification form each year? Some of the questions on that form seem a little silly considering we are already a permitted facility, so I want to make we fill out the right thing. As you know, we aren't really interested in officially composting the stuff.*

Your comment on the form is right on, the form is for a small & individual yard waste unit, may not be suitable for a unit located inside a permit landfill facility. The correct way to handle your case (currently enforced by the Permitting Branch) is submitting a permit modification for the CDLF and paying the permit modification fee in the amount of \$1,500.00.

In the application please provide and/or describe the following concerns:

- Figure - Show the location of the Yard Waste Unit on the facility plan drawing. (The unit location can be drawn by hand & scale on the existing facility plan drawing)
- Operations Plan which includes, but not limited to:
 - i. The footprints of the Yard Waste Unit (two (2) or more acres?) encompassing the untreated/raw stockpiles and treated/processed stockpiles inside the permitted C&DLF property boundaries. The green wastes (grass & leaves) and trunk/limbs/untreated wood must be separately stockpiled initially.
 - ii. The acceptable wastes in this unit – yard waste, yard trash, and wooden pallet not generated from C&D activities.
 - iii. The service area – Wayne County.
 - iv. The maximum amount (in CY) of the yard waste per quarter including untreated/unprocessed and chipped/grinded/processed yard wastes. The scale must be used to document the received waste amount annually.
 - v. The waste screening plan must be consistent with the approved one for the landfill operation. Any unacceptable waste must be removed and disposal of properly in the end of each working day.
 - vi. Not to operate composting activities in the Yard Waste Unit (if this not true

- please refer the Rule 15A NCAC 1400 Section for operating composting facility).
- vii. Not to give or sell the ground material to the general public (if this not true please refer the Rule 15A NCAC 1400 Section for operating composting facility).
 - viii. The best management practices (BMPs) to be installed and implemented to manage storm water and prevent the stockpiled wastes from contact run-on or run-off [if the unit is located in the limits covered by the previously approved Erosion and Sediment Control Plan (ESCP), please describe the BMP will be abided by the approved ESCP].
 - ix. Access roads to and fro the unit and landfill unit and site entrance must be maintained for all weather condition.
 - x. Signs must be posted at the entrance of the unit and provided the type of waste received and operation hours, if it is different from the landfill operation time.
 - xi. Well-trained personnel must be onsite all time when the unit is operating and oversee the waste processing, loading, and unloading.
 - xii. If processing and treating yard wastes is planned, please describe waste grinding and processing & treatment equipment & machinery, plan for processing and treatment activities conducting in a raining day and inclement weather condition.
 - xiii. Fire prevention, responses and action to be taken in the event of an accidental fire, such as monitoring temperature of waste stockpiles, limited sizes (describe the maximum height and base area) of the stockpiles, maintaining proper distances between stockpiles for inspection and firefighting (minimum 25-feet isle space between piles), and posting emergency contact info at the visible and accessible area at the unit, and the report requirements.
 - xiv. Plan for litter and dust control. Frequency of turning and odor reduction.
 - xv. Record keeping, such as daily records of waste received and diverted to this unit. Scales must be used to weigh the amount of waste received and diverted. The daily records are to be summarized into a monthly report for use in the required annual reports. Records including the approved operations plan must be placed in the facility operating record.

Because the proposed Yard Waste Unit is adjacent to the LCIDLF, I don't think buffer requirements will be issues at this time, but please confirm the new unit is at least 50 feet away from any water bodies, LCIDLF, and other waste management units.

In April 2013 audit, we observed the beneficial fill unit (concrete& dirt) that is located next to LCIDLF. Operating of this unit has not approved by the SWS yet. I think it is good time to add this unit operation to the Permit Modification Application. Please refer the rule requirements in 15A NCAC 13B .0561 and provide a chapter to describe the operating activities including, but not limited to:

- Acceptable waste streams & service area (Wayne County only).

- Lateral extents of this unit & maximum volume of stockpiles (raw material and product) at any time.
- Operating equipment and machinery.
- Contractor contact info including the company contacting for operating this unit and the company (ies) receiving the final products.
- The BMPs to be installed and implemented to manage storm water and prevent the stockpiled wastes from contact run-on or run-off [if the unit is located in the limits covered by the previously approved Erosion and Sediment Control Plan (ESCP), please describe the BMP will be abided by the approved ESCP].
- Add this unit location to the facility drawing. (The unit location can be drawn by hand & scale on the existing facility plan drawing)

Please feel free to contact me if you have any questions. Have a wonderful day.

Ming-Tai Chao, P.E.
Environmental Engineer
Permitting Branch, Solid Waste Section
Division of Waste Management
(Mailing Address)

**1646 Mail Service Center
Raleigh, NC 27699-1646**

(Street Address)
Green Square, 217 West Jones Street
Raleigh, NC 27603
Tel. 919-707-8251
ming.chao@ncdenr.gov
<http://portal.ncdenr.org/web/wm/sw>

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From: Joan C. Snider [<mailto:joan.snider@waynegov.com>]
Sent: Tuesday, June 11, 2013 8:16 AM
To: Chao, Ming-tai
Subject: RE: Yard waste and shingle processing at Wayne County CDLF and MSWLF

Hi Ming,

Hope you are having a good summer!

I've been assigned to work on the shingle recycling and yard waste paperwork so we can get the processes underway. I have some questions on the procedures we need to follow so we can get your/DENR approval.

For our shingle stockpiling, do we turn in a narrative plan (as described in the shingle guidance) to you and await approval? Will there be some formal approval issued? Or do we need to go through the C&D permit modification process?

For storage of yard waste in the borrow pits, do we simply turn in the yard waste notification form each

year? Some of the questions on that form seem a little silly considering we are already a permitted facility, so I want to make we fill out the right thing. As you know, we aren't really interested in officially composting the stuff.

Thanks for your help!

Sincerely,

~Joany Snider @ Wayne County Landfill

From: Hare, Wes [<mailto:wes.hare@ncdenr.gov>]
Sent: Tuesday, May 28, 2013 3:30 PM
To: Randy Rogers
Cc: Shackelford, Dennis; Chao, Ming-tai
Subject: Yard waste and shingle processing at Wayne County CDLF and MSWLF

Randy, as discussed today, when you call Ming regarding the shingle recycling ask him about composting yard waste in the old borrow pit area. I thought that we discussed this as one of the options versus landfilling. Below is a weblink to information regarding the Yard Waste Notification process.

<http://portal.ncdenr.org/web/wm/sw/yardwaste>

Contacts for Compost & Land Application Branch: Tony Gallagher 919-707-8280 and/or Liz Patterson 919-707-8286

Wes Hare
Environmental Senior Specialist
N.C. Department of Environment & Natural Resources
[Division of Waste Management / Solid Waste Section / Field Operations Branch - Compliance & Enforcement](#)
Wilmington Regional Office
127 Cardinal Drive Ext. Office: 910.796.7405 Fax: 910.350.2004
Wilmington, North Carolina 28405

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Please complete the DENR Customer Service Survey by May 31 to give us feedback on how we are doing and how we can improve:

<https://www.surveymonkey.com/s/2013DENRCustomerService>

Please contact eac@ncdenr.gov if you have problems accessing the survey.

From: [Joan C. Snider](#)
To: [Chao, Ming-tai](#)
Subject: RE: Wayne Co. LF - 96-01 - Plans for shingles, concrete, and yard waste
Date: Tuesday, August 06, 2013 3:34:10 PM
Attachments: [Shingles_Concrete_Yard_Waste_TRACK_CHANGES.doc](#)

Hey Ming,

Hopefully this file will open – it is the word document. Thanks!

~Joany

From: Chao, Ming-tai [<mailto:ming.chao@ncdenr.gov>]
Sent: Tuesday, August 06, 2013 2:41 PM
To: Joan C. Snider
Subject: RE: Wayne Co. LF - 96-01 - Plans for shingles, concrete, and yard waste

Hi Joany:

Could you please re-send the comment/response file. The file (pdf) can not be opened. Thanks.

Ming

From: Joan C. Snider [<mailto:joan.snider@waynegov.com>]
Sent: Tuesday, August 06, 2013 12:48 PM
To: Chao, Ming-tai
Cc: Shackelford, Dennis; Hare, Wes; Tim Rogers; Randy Rogers
Subject: RE: Wayne Co. LF - 96-01 - Plans for shingles, concrete, and yard waste

Hi Ming,

I'm finally back after vacation. Sorry for the delay!

Thank you for clarifying the temperature issue. Tim and Randy understand the fire concerns. However, we are declining to include in the plan the additional language that you suggested. With that said, I have attached our revised narrative to this email. The added language is in **blue text** and the deletions are in **redline-strike-out**.

I also attached a clean, revised version of the entire plan submittal in case it is approvable. If you need a hard copy mailed in please let me know.

Thanks so much for your help in this process!

Sincerely,

Joany Snider
Wayne County Landfill
(919) 689-2994, ex. 304

From: Chao, Ming-tai [<mailto:ming.chao@ncdenr.gov>]
Sent: Monday, July 29, 2013 8:47 AM
To: Joan C. Snider
Cc: Shackelford, Dennis; Hare, Wes; Tim Rogers; Randy Rogers
Subject: RE: Wayne Co. LF - 96-01 - Plans for shingles, concrete, and yard waste

Hey Joany:

The temperature monitoring requirement on the yard waste piles is according to the "Yard Waste Guidance." Passive Composting approaches and monitoring requirement are described on Page 3 of the "Yard Waste

Guidance.” It is not rule or statutory requirement at this time; however, I would like to point out that the elevated temperatures may be built up inside the yard waste pile (it all depend on the pile sizes and density, moisture, ambient temperature and air flow conditions) and potentially cause fire. In the past, several fire incidents occurred in stump dumps & LCIDLFs. To me, these facilities/units operate as some types of passive composting. The County has the option not to conduct the temperature monitoring for this case, but I, as a permit reviewer have to remind you any potential consequence. Have a nice day or vacation.

Ming Chao

From: Joan C. Snider [<mailto:joan.snider@waynegov.com>]
Sent: Friday, July 26, 2013 5:33 PM
To: Chao, Ming-tai
Cc: Shackelford, Dennis; Hare, Wes; Tim Rogers; Randy Rogers
Subject: RE: Wayne Co. LF - 96-01 - Plans for shingles, concrete, and yard waste

Thanks for the quick review Ming. We really appreciate it!

I have responded in **RED** text below each comment, and we plan to make many of the changes you have requested. However, on the last comment, you have left us a little confused. We were under the impression that since the mulch/compost is not going to be sold or used off-site, temperature monitoring would NOT be required. If you could provide some additional clarification we would really appreciate it.

Talk to you soon!

Sincerely,

Joany Snider @ Wayne County Landfill

P.S. – I'll be back in the office on Thursday, August 1st.

Operation Plan for Sorting Tear-off Asphalt Shingles for Recycling

-

1. (Waste Acceptance) Please add the waste service area – Wayne County only to this section.

WC – Changes made.

2. (Stockpile Details) The Operation Plan describes” the stockpile area has dimensions of approximately 20’ X 20’ X 10’, which is 4,000 square feet.” According to the described sizes, it is evidently the stockpile area is 400 square feet. Please correct the typo.

WC – Changes made.

3. (Contracting Company) To avoid any confusion, please describe that landfill facility will not engage activities of sorting, processing, or grinding the collected recyclable asphalt shingles. The off-site contractor and/or the facility that process or grind the recyclable asphalt shingles are responsible for conducting required asbestos sampling and testing prior to processing or grinding the recyclable shingles.

WC – Changes made.

4. The proposed single recycle unit will be located on the top of the closed MSWLF, which is a portion of the planned C&D waste disposal area. This Operation Plan needs to address the following issues to prevent the recycling operation from interference of the C&D waste disposal operation:
 - i. Control of traffic volume and flow direction. It is unlikely an issue right now due to business downturn and slow recovery; however, the housing and construction projects are

slowly coming back. To prevent any traffic accident at the landfill facility, it is imperative that the County plans the traffic flow pattern – egress / ingress the two adjacent units on top of the closed MSWLF. Please provide a flexible traffic control plan including a sketch to show the planned traffic flow pattern. (traffic cones and/or portable signs or flag man are good tools)

WC – Changes have been made to address some of your concerns. No additional traffic controls are needed because the shingle area is adjacent to the existing C&D working face. Vehicles, regardless of whether they have C&D or shingles, are all directed to follow the signage to the C&D landfill. We have added language specifying that signage will be placed at the shingle stockpile.

- ii. Will the shingle recycling unit be relocated to other places when the C&D waste footprints extend to the area where the shingle recycling unit is seated? If so, how often? (It is advised that the unit is seated a location w/o moving until the permit renewal cycle – 5 years or 10 years periods)

WC – Yes, the shingle stockpile area will be relocated as phases are filled. We have added additional language to clarify our intent.

- iii. The active landfill gas wells and collection piping may be located in the recycling unit; therefore, please identify if any gas well and piping (lateral and header piping) are located in or adjacent to the shingle recycling unit (a map shows the locations of gas wells and piping relative to the location of the proposed recycling unit), and provide a plan to protect the landfill gas collection system if the well and piping are existing in or adjacent to the unit.

WC – Section 1.5 was added to the C&D Landfill Operation Plan to address your concerns previously. We have referenced this plan and added additional language regarding protecting GCCS components to the shingle plan.

Operation Plan for Passive Composting in Former Borrow Pit #1

- 5. (Fire Prevention and Control) To ensure that the stockpiled material will not have excessive temperatures (>160 degrees F) which could lead to spontaneous combustion, the Solid Waste Section recommends the County conducts a regular monitoring of the passive compost piles and document the activities in the operating record. Should any excessive temperature be detected and confirmed, the County must take a necessary action such as turning or wetting the stockpile to eliminate any potential spontaneous combustion. The proceeded action(s) must be documented in the operating record. If the County agrees this recommendation, please add the above-mentioned statements to the operation plan.

WC – Questions.

Please contact me if you have any questions or require further clarification of the above-mentioned comments. Have a nice weekend.

Ming-Tai Chao, P.E.
Environmental Engineer
Permitting Branch, Solid Waste Section
Division of Waste Management
(Mailing Address)
1646 Mail Service Center
Raleigh, NC 27699-1646
(Street Address)
Green Square, 217 West Jones Street
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Tel. 919-707-8251

ming.chao@ncdenr.gov
<http://portal.ncdenr.org/web/wm/sw>

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From: Joan C. Snider [<mailto:joan.snider@waynegov.com>]
Sent: Monday, July 22, 2013 4:07 PM
To: Chao, Ming-tai
Cc: Hare, Wes
Subject: RE: Wayne Co. LF - 96-01 - Plans for shingles, concrete, and yard waste

Ouuuu thank you Ming! My bosses will be very happy with your response!

Very good – I'm glad you kept them together as one document.

Have a great day!!!!

~Joany

From: Chao, Ming-tai [<mailto:ming.chao@ncdenr.gov>]
Sent: Monday, July 22, 2013 4:05 PM
To: Joan C. Snider; Hare, Wes
Cc: Mussler, Ed; Tim Rogers
Subject: RE: Wayne Co. LF - 96-01 - Plans for shingles, concrete, and yard waste

Hey Joany:

The Solid Waste Section (SWS) received your application for operating the following miscellaneous waste management units at the Wayne County C&DLF (Permit # 96-01):

- Tear-off asphalt shingle unit.
- Passive composting unit (in Former Borrow Pit #1).
- Inert debris storage & processing unit (in Former Borrow Pit #1).

For document tracking purpose, the above-referenced documentations are combined into a single document with the assigned document tracking number (Doc ID) 19359 and will be reviewed by the SWS shortly.

The SWS will gladly assist Wayne County to obtain authorization for operating these waste management units in proper and environmental friendly manners. Additionally, to respond the County's request, the SWS waves the permit modification fee at this time (Please be advised that this is a case-by-case decision which should not be considered or construed as a precedence for future permit activities). Upon completion of the permit-reviewing processes for these proposed waste management units, the SWS will issue the County an operation authorization letter, in lieu of a permit - Permit to Operate. The approved documents must be placed in the Operating Record and incorporated into the future Permit Amendment Application.

Please contact me if you have any questions on this matter. Have a wonderful day.

Ming-Tai Chao, P.E.
Environmental Engineer
Permitting Branch, Solid Waste Section
Division of Waste Management
(Mailing Address)

**1646 Mail Service Center
Raleigh, NC 27699-1646**

(Street Address)
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ming.chao@ncdenr.gov
<http://portal.ncdenr.org/web/wm/sw>

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From: Joan C. Snider [<mailto:joan.snider@waynegov.com>]
Sent: Monday, July 22, 2013 2:04 PM
To: Chao, Ming-tai; Hare, Wes
Subject: Wayne Co. LF - 96-01 - Plans for shingles, concrete, and yard waste

Hi Ming and Wes,

I have attached a document to this email that contains the operation plans for:

- Sorting Tear-off Asphalt Shingles for Recycling
- Passive Compositing in Borrow Pit #1
- Inert Debris Storage and Processing in Borrow Pit #1

If you prefer to make comments in a Word document using the track changes tool, I can send a Word file of the plan narrative as well. Hopefully we are on the right track! As you know, we'd really rather not have to go through the permit modification process and pay the modification fee to conduct these recycling activities.

Thanks so much!

Joany Snider
Wayne County Landfill
(919) 689-2994, ex. 304

P.S. – Sorry if you got this email twice!