

CIVIL/SANITARY/ENVIRONMENTAL ENGINEERS

SOLID WASTE MANAGEMENT

**Municipal
Services**

SITE PLANNING/SUBDIVISIONS

**Engineering
Company, P.A.**

SUBSURFACE UTILITY ENGINEERING (SUE)

April 30, 2014

Mr. Charles Gerstell
Solid Waste Section (SWS)
Division of Waste Management
North Carolina Department of Environment and Natural Resources
610 East Center Avenue
Mooresville, NC 28115

Re: **Operation Plan for Sorting Tear-Off Asphalt Shingles for Recycling**
Alexander County Active C&D Landfill
Permit No. 0201-CDLF-1997
MESCO Project No. G14083.0

Dear Mr. Gerstell,

Alexander County, as a part of their ongoing waste management operations, hereby request approval to begin the collection of source-separated post-consumer tear-off asphalt shingles at the Alexander County C&D Landfill (CDLF). The operational procedures associated with the collection and management of the shingles will be in accordance with the Alexander County CDLF *Operation Plan for Sorting Tear-off Asphalt Shingles for Recycling (plan)* dated April 24, 2014. The *plan* was drafted in accordance with Appendix A contained in the the *Best Practices Guide for Post-Consumer Reclaimed Asphalt Shingles in Asphalt Pavement* prepared by the Carolina Asphalt Pavement Association, dated September 2011.

In order to collect and manage the shingles, the County has designated a collection area for the "clean" shingles and all other wastes will be disposed of in accordance with the facility's Operations Permit. The individual loads of source-separated shingles will be brought to this site for consolidation prior to delivery to an off-site recycler for further processing. Actual processing of the shingles will not occur at the Alexander County Landfill facility.

The facilities Solid Waste Management Operations Plan will be updated to include the *plan* associated with the shingle recycling process following approval.

MESCO, on behalf of Alexander County, appreciates your consideration of the County's request to begin the collection of source-separated tear-off asphalt shingles at the Alexander County C&D Landfill facility. Should you have any questions or require additional information, please call us at (919) 772-5393 or by email at jpfohl@mesco.com.

Permit No.	Scan Date	DIN
0201-CDLF-1997	April 30, 2014	20921

Sincerely,
MUNICIPAL ENGINEERING SERVICES CO., P.A.


Jonathan Pfohl
Environmental Specialist

Enclosures

cc: Josh Mitchell
Alexander County

RECEIVED
April 30, 2014
Solid Waste Section
Asheville Regional Office

Alexander County C&D Landfill

Permit No. 02-01-CDLF-1997

2500 Paynes Dairy Road
Taylorsville, NC 28681

Operation Plan for Sorting Tear-off Asphalt Shingles for Recycling



Prepared by:
Municipal Engineering Services Company, P.A.
P.O. Box 97
Garner, NC 27529
License No. C-0281



April 30, 2014

I. Introduction

This operation plan describes how tear-off asphalt shingles will be accepted, sorted, stored, and managed at this facility in order to provide a material that can be used into asphalt production. 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.

II. Waste Acceptance

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

Our facility requires source separation at the job site by the roofer. Materials from flat and built-up roofing systems are disposed of 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. Please see **Attachment I** for our list of acceptable and unacceptable materials for tear-off asphalt shingles.

All shingle suppliers are required to complete a supplier certification form. The handling and disposal of asbestos during demolition and renovation is regulated under the National Emissions Standards for Hazardous Air Pollution (NESHAP). NESHAP-regulated facilities are required to submit a notification of demolition and renovation prior to starting work. The notification includes an inspection by a North Carolina accredited asbestos inspector or roofing supervisor and 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 of.

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

Our supplier certification form is shown in **Attachment II** of this Plan. These practices will help ensure that only recyclable tear-off shingles are sent for asphalt production. Doing so will also reduce sorting of shingles within 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 percent asbestos, and shingles from a NESHAP-regulated facility without the proper documentation are directed to the landfill or transfer station tipping floor for disposal. Loads that were source-separated into dedicated containers are sent directly to the sorting area and unloaded. Loads that were separated into layers usually have the asphalt shingle on the bottom and other material on the top. (This allows for easy disposal) These loads are first directed to the landfill and/or transfer station floor to remove the non-shingle roofing waste and then to the sorting area for unloading the shingles. **Figure 1** shows the receiving/inspection location (SCALEHOUSE), shingle sorting and storage area (SHINGLE AREA) and disposal areas (TRANSFER STATION and C&D LANDFILL). Shingles are not to be unloaded into an area with standing water and sorted and unsorted materials are kept separate.

Source-separation by the roofer eliminates most of the unacceptable materials that cannot be used in tear-off shingle recycling. The unloaded tear-off shingles are examined for unacceptable materials and any unacceptable materials are removed. The remaining sorted shingles are accumulated in the designated area or in a roll off box or in a container until there is a sufficient amount to transport to a facility that will grind and use or sell the ground shingles for asphalt production. *(A copy of the supplier certification form accompanies each sorted load to the receiving facility.)* At least 75% of the tear-off shingles that are sorted leave the facility during the same year.

IV. Record Keeping

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

V. (Additional Operations/Requirements)

Alexander County Landfill plans to partner with a shingle recycler/asphalt producer to recycle their tear-off asphalt shingles. Asbestos sampling and testing is required prior to grinding shingles and is the responsibility of the shingle recycler/asphalt producer not Alexander County. The testing frequency and protocols are set by NCDENR-DAQ and NCDOT. The current testing requirement is to sample each 100 tons of shingles. (September 2011)

Attachment I

TEAR-OFF ASPHALT SHINGLE RECYCLING

List of **Acceptable** and **Unacceptable** Materials

“YES”

Include these items:

- Shingles
- Felt attached to shingles
- Factory attached clear plastic (polyester) film covering adhesive strip

“NO”

Do **NOT** include these items:

- Wood
- Metal flashings, gutters, etc.
- Nails (best effort)
- Rolls or 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 II
Alexander 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 for 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

Figure 1

