



Delivered by Sonoco Courier January 20, 2015

Ms. Beverly McLeod
Solid Waste Enforcement
Division of Compliance and Enforcement
Bureau of Land and Waste Management
South Carolina DHEC
2600 Bull Street
Columbia, SC 29201

RE: Consent Order 13-04-SW
Sonoco Products Company Hartsville, Darlington County
Phase 2 Remediation Proposal

Dear Ms. McLeod:

In accordance with Consent Order 13-04-SW, please find enclosed two (2) copies of our Remediation Proposal for the subject Former Solid Waste Area and the Former Black Liquor Ponds.

If you have any questions regarding these two submissions, please feel free to contact me at 843-339-6006 or by email at bryan.laney@sonoco.com or contact Larry Pattengill at 843-383-3463 or via email at larry.pattengill@sonoco.com.

Best regards

A handwritten signature in black ink, appearing to read 'Bryan Laney'.

Bryan Laney, PE
Sonoco
Sr. Environmental Engineer
Global Environmental Services

Enclosures

Cc w/enclosures

Stephen Glenn, Plant Manager, Sonoco Hartsville
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Larry Pattengill, Director, Global Environmental Services, Sonoco

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SC DHEC - Bureau of
Land & Waste Management

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Remediation Proposal Phase II Areas

Former Solid Waste Disposal Area and Former Liquor Ponds

January 20, 2015



SONOCO PRODUCTS COMPANY

1 North 2nd Street

Hartsville, SC 29550

843-383-7000



SIGNATURE PAGE

This document, entitled *Remedial Proposal, Former Solid Waste Disposal Area and Former Liquor Ponds*, has been prepared to evaluate potential remediation alternatives associated with the former Solid Waste Disposal Area and former Liquor Ponds located at Sonoco's facility adjacent to Patrick Highway in Hartsville, Darlington County, South Carolina. This report has been prepared in accordance with accepted quality control practices and has been reviewed by the undersigned.

Sonoco Products Company



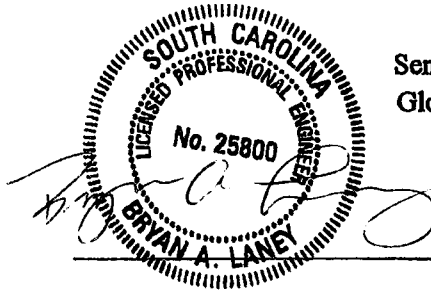
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Global Environmental Services
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1/20/2015

Date

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Executive Summary

Sonoco is presenting this report as part of the requirements under Consent Order 13-04-SW to communicate proposed remediation actions for both the former solid waste area as well as the former black liquor ponds located on Sonoco property in Hartsville, SC. As part of Consent Order 13-04-SW, Sonoco investigated all former waste areas located on the property east of Patrick highway that may not have been closed according to DHEC standards for waste disposal. The report for this investigation was submitted to DHEC October 13, 2014. These two sites were constructed and primarily used before DHEC and federal guidelines for waste disposal were promulgated. The investigation around these two disposal areas included a record review to determine locations, operation conditions and closure methods that were used. Also, the investigation collected soil and groundwater samples around the former waste disposal areas.

For the former solid waste area, Sonoco's proposed remediation plan is to remove exposed waste (exposed waste will be moved to an approved waste disposal area), apply a soil cover, and seed exposed areas. Sonoco will continue a groundwater and storm water monitoring program to document the ongoing negligible impact to the environment.

For the former black liquor ponds, Sonoco's proposed remediation plan is to cover exposed areas with a soil and bark mixture to help continue the natural attenuation process that has been occurring over the last 35 years. The area will be seeded to help prevent erosion. In conjunction with this option, Sonoco will continue a groundwater and storm water monitoring program to document the ongoing negligible impact to the environment.

Sonoco understands that there are other options for the remediation of both the former solid waste disposal area and the former liquor ponds, however, the current impacts to the surrounding ecology have been documented to be minimal, and Sonoco is concerned that the other options such as physically removing materials creates additional unwarranted risk to the immediate and surrounding areas. Additionally, Sonoco believes that the options recommended for the remediation of both the former solid waste disposal area and the former liquor ponds achieve appropriate remediation. The evaluation of each option has been based on sound environmental engineering practice.

With both recommended closure options, Sonoco intends to re-enforce security measures, including posting signs in the area to make Sonoco employees aware of past land use and continuing to assure that the site is not accessible to the public. Additionally, Sonoco will continue a groundwater and storm water monitoring program to document the ongoing negligible impact to the environment. In order to assure that the former waste areas are not inadvertently developed for other uses, Sonoco will seek deed restrictions and covenants for these areas. Sonoco appreciates SCDHEC oversight and assistance in resolving these issues and looks forward to continued assistance as these areas are formally closed.

1.0 PROPOSED REMEDIATION OF FORMER SOLID WASTE DISPOSAL AREA

The Phase II Baseline Investigation Report, Boiler Ash Stating Area, Consent Agreement 13-04-SW, as prepared by GEL Engineering, LLC, dated October 13, 2014, makes the following statements:

“... Soil Samples ... Soil sample findings indicate that the site soils do not appear to be adversely affected by site activities.”

“... Groundwater Samples ... Site activities have not significantly impacted groundwater quality down gradient from the solid waste disposal area.”

Based on the above referenced information and the current site conditions associated with the former waste disposal area, Sonoco respectfully requests that the South Carolina Department of Health and Environmental Control, SC DHEC, allow Sonoco to close the former waste disposal area in place. The technical details of the closure in place are described below.

1.1 INSTALL SOIL COVER OVER EXPOSED AREAS WITH SECURITY UPGRADES

The proposal of closing the former solid waste disposal area in place was considered based on the data that indicated the area subsurface soils and groundwater had not been significantly impacted from the former waste disposal area. Sonoco proposes to remove or cover any visibly exposed materials with a soil cover and seed any areas where cover soil is required to prevent erosion and assure the long term integrity of the cover. In addition, the power line right of way will be mowed and maintained to allow proper inspection of the area going forward, and security will be upgraded at the site to prevent unauthorized access. Also proposed would be a groundwater monitoring program to sample the downstream temporary wells annually. The former waste disposal area will be inspected annually and reseeded if necessary to assure the cover is maintaining its integrity. More detailed comments on each part of the proposal are discussed below.

1.1.1 Description former waste disposal area and proposed soil cover

Use of the former waste disposal area was discontinued in the early 1970's, at which point it was replaced by a DHEC permitted landfill, the area was covered with soil, and natural vegetation was allowed to flourish. The former waste disposal area is approximately rectangular shaped 40 feet north to south between Sonoco's access road to the waste treatment areas and black creek, and extending east to west approximately 1,800 feet. The northern boundary is in a utility right of way, approximately at the elevation of Sonoco's access road. The center of the former waste pile, extends approximately 15 feet above the elevation of the access road. The toe of the former waste disposal

area, to its south, extends into an area that is wet, and routinely completely covered by the waters of Black Creek. The elevation on the south side of the former disposal area is relatively flat at the west end, with a significant drop (more than 10 feet) in elevation on the east end and in the center of the former waste disposal area that allows the boundary to be well defined. In the investigation, the south edge of the former disposal area was surveyed to mark the edge of wetlands.

The area on the south side of the utility right of way is heavily wooded, with many trees that were growing while the former waste disposal area was still being used. Over time, this area has grown wild with lots of vines and briars, making it inaccessible most of the year without some cutting tools or mechanical clearing. This undergrowth not only makes the area an effective barrier to keep trespassers potentially coming from black creek off Sonoco's property, it also provides a natural habitat for local wildlife in the black creek area. It is Sonoco's desire to leave as much natural protection as possible, however, Sonoco recognizes that some of the waste disposed in the former waste disposal area has become exposed or may not have been completely covered at the time of disposal (exposed construction debris and equipment as well as a few old drums are pictured below). Sonoco proposes to remove the larger exposed debris. As this debris is removed, care will be necessary because as debris is removed, additional debris will be exposed. Once the larger debris is removed, and any exposed debris as a result of removing will be covered with 6 inches of local soil.



Debris on south side 1



Old wooden equipment on south side

Sonoco would install signs around the former waste disposal area, as requested by DHEC. These signs would state that access to the area is restricted to authorized personnel only. The area already has limited access as a result of the security fence around Sonoco's waste treatment area, and the area is tightly controlled and monitored with security cameras. Sonoco would take the necessary precautions to have deed restrictions placed on the area of concern to limit future use, and an inspection and sampling plan, modified from the site investigation plan will be implemented so that groundwater samples will be collected and the former waste pile cover will be inspected annually. Results from this monitoring will be maintained onsite and available for DHEC inspection.

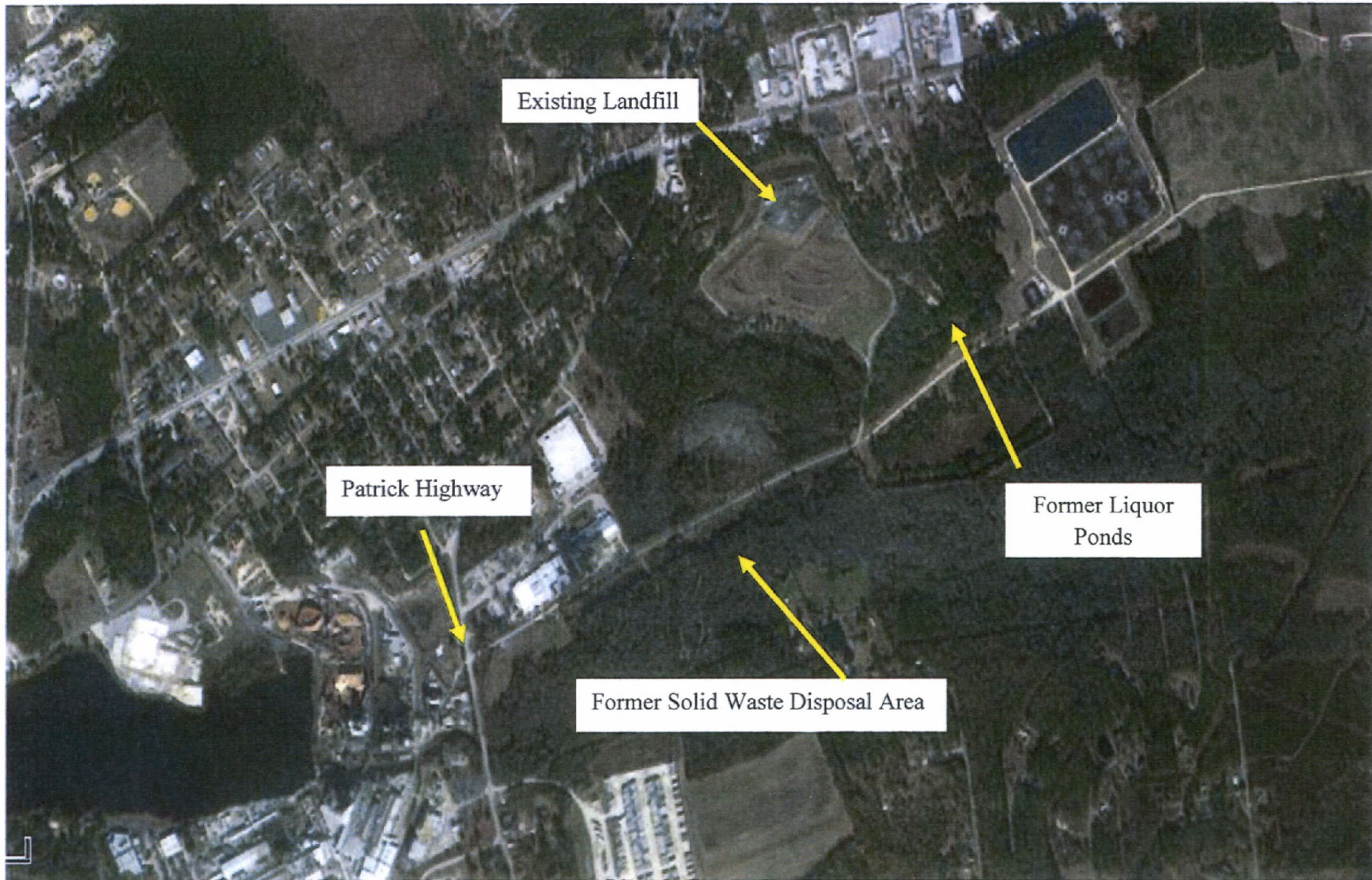
1.1.2 Time to Implement

Sonoco proposes to begin working the site in January 2016, after much of the overgrowth has died. Crews would work through the area removing all large exposed debris and covering any remaining small debris with 6 inches of soil. This is expected to take four to six weeks to complete. The sampling plan could be developed and implemented within six months of completion of debris removal and cover addition. The deed restrictions would take approximately six months to complete. Additional signs will be purchased and installed as soon as the cover was complete. The area would be seeded based on appropriate planting schedules for spring growth.

1.1.3 Overall Costs

The cover is estimated to require 50,000 cubic yards of local soil for the former waste disposal area. The largest cost will be the time and effort required to manage installing the cover without exposing additional waste. In addition to the cost associated with shaping and seeding the areas that are covered, there would also be the cost of upgraded site security, and the groundwater monitoring.

Engineering ...	\$25,000
Site development (grading and seeding) ...	\$300,000
<u>Long term (5 years) monitoring (\$8k/year x 5 years)...</u>	<u>\$40,000</u>
Total ...	\$365,000



Former solid waste disposal area and Former liquor ponds Site Overview

2.0 PROPOSED REMEDIATION OF FORMER LIQUOR PONDS

The information in section 1.0 applies to the former liquor ponds as well as the former solid waste disposal area. The liquor pond area when compared to other areas studied for these reports was described in the GEL report as follows:

“Compared to the underlying soil samples the black liquor pond fill soils generally contained higher concentrations of sulfate, sulfite, pH, aluminum, calcium, total chromium, iron, magnesium, manganese, sodium, potassium, and vanadium. However none of the concentrations of these constituents in the black liquor pond fill soils or underlying soil exceed applicable residential or industrial RSLs. Only arsenic in one black liquor pond fill soil sample and one residual soil sample exceeds the residential RSL, and these are comparable to native soils.”

Based on the above referenced information and the current site conditions associated with the former liquor ponds, Sonoco respectfully requests that the South Carolina Department of Health and Environmental Control, SC DHEC, allow Sonoco to close the former liquor ponds in place. The technical details of the closure in place are described below.

2.1 INSTALL SOIL COVER WITH SECURITY UPGRADES

The proposal of closing the former liquor ponds in place was considered based on the data that indicated the area subsurface soils and groundwater had not been significantly impacted from the former waste disposal area. Sonoco proposes to mix bark with local soil, incorporate this mixture into any existing exposed areas in the former liquor ponds (areas that are growing trees and showing no signs of residual liquor will not be covered), and seeding the area. As with the former solid waste area, security will be upgraded at the site to prevent unauthorized access. A groundwater monitoring program would also be implemented to document the ongoing negligible impact to the environment. The existing wells will be sampled and the cover will be inspected annually to assure the integrity of the cover is maintained. If the cover is not growing adequate vegetation, the exposed portions will be reseeded or fertilized to improve the appearance of the area. More detailed comments on each part of the proposal are discussed below.

2.1.1 Description of former liquor ponds and proposed soil cover

Use of the former liquor ponds was discontinued in the early 1970's. The need for the ponds was no longer necessary once Sonoco installed its Recovery Area within the mill process, and changing environmental regulations made the treatment method associated with the liquor ponds impractical. The liquor ponds (there were three ponds) were rectangular shaped on the north side of Sonoco's access road that goes out to the current wastewater treatment area. There are shown on the map on page 5.

The proposed cover, over areas that currently show signs of stressed vegetation, would be composed primarily of soil from other locations on Sonoco's property. Sonoco is proposing to place 6 inches of soil over the exposed areas. Sonoco proposes to mix the soil with bark to provide supplemental organic matter to complete the biological degradation that has been occurring in the few remaining pockets of liquor near the surface of the existing sand cover. Areas where the cover is applied will be seeded to prevent erosion, with the goal of cultivating this entire area to become naturally forested.

Also included in this proposal, as requested by DHEC, Sonoco would provide signs around the former liquor ponds. These signs would state the area is restricted to authorized personnel only. The area already has limited access due to the security fence around Sonoco's waste treatment area with access to this area being controlled and monitored with security cameras. Sonoco would take the necessary precautions to have deed restrictions placed on the area of concern. A sampling plan, modified from the site investigation plan will be implemented so that annual groundwater samples will be collected and the former liquor pond cover will be inspected. If the liquor pond inspection shows that vegetation is not growing well on the cover, then additional soil, seeds and fertilizer will be added to the cover. Results from this monitoring and the inspection will be maintained onsite available for DHEC inspection.

2.1.2 Time to Implement

This work could be completed relatively quickly once the soil became available. Due to the innocuous nature of the former liquor ponds, there is no need to do this cover in an expedited fashion. The proposal is to begin working the site early next fall. This is expected to take four to eight weeks to complete. The site actions required would be to secure the site from unauthorized access and implement some grading and seeding to prevent erosion. This could be accomplished in 12 to 18 months from authorization to proceed. The sampling plan could be developed and implemented in six months. The deed restrictions would take approximately six months to complete. Additional signs could be purchased and installed as soon as the cover is complete. The area would be seeded based on appropriate planting schedules for spring growth.

2.1.3 Overall Costs

A simple cost estimate is included with this proposal. In addition to the cost associated with shaping and seeding the new cover, there would also be the cost of upgraded site security, and continued groundwater monitoring.

Engineering ...	\$25,000
Site development (grading and seeding) ...	\$250,000
<u>Long term (5 years) monitoring (\$5k/year x 5 years)...</u>	<u>\$25,000</u>
Total ...	\$300,000