



North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

June 12, 2008

Mr. Patrick Carlton
Carlton Land Trust
P.O. Box 185
Cashiers, North Carolina 28717

Mr. Greg Ward
Trillium Links, LLC
One Trillium Center
Cashiers, North Carolina 28717

Re: Cleanup Plan per Notice of Violation 2006-214

Dear Messrs. Carlton and Ward:

I have reviewed the May 19, 2008 letter from your consultant with additional comments on the Cleanup Plan that has been submitted for the remediation of the lead contamination at your site.

The conditions for approval for this project stand as outlined my January 17 2008 and the March 18, 2008 letters to you and these will be the conditions specified in the Administrative Order on Consent.

To ensure that you have both of these letters I am attaching them in the body of this letter.

If you have any questions concerning this matter, please contact me at the number listed below.

Sincerely,

Roberta Proctor, Environmental Chemist
Hazardous Waste Section

cc: Elizabeth Cannon
Helen Cotton
Doug Roberts
Lebeed Kady
Mike Williford
Brent Burch
Central Files
Thomas Marr- LFR



North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

March 18, 2008

Mr. Patrick Carlton
Carlton Land Trust
P.O. Box 185
Cashiers, North Carolina 28717

Mr. Greg Ward
Trillium Links, LLC
One Trillium Center
Cashiers, North Carolina 28717

Re: Cleanup Plan per Notice of Violation 2006-214

Dear Messrs. Carlton and Ward:

On January 17, 2008 I sent a letter commenting on the Cleanup Plan submitted by your consultant for the remediation of the lead contamination at your site. Your consultants responded to these comments in a letter dated February 4, 2008. The approval for this clean up process will be in two separate phases. Phase I will be the residential area where vacuum excavation and phosphate treatment will be used. Phase II will be the area where pellets will be left in the soil and the soil will be phosphate-treated. Phase II will be addressed in an Administrative Order on Consent (AOC).

This letter has two purposes, 1) to approve the residential clean up (Phase I) of the clean up plan and 2) to clarify the conditions for approval for Phase II portion to be addressed by the AOC.

Conditions for Approval Phase I as agreed upon with conversations with your consultant and your consultant's February 4, 2008 letter:

1. The residential lot lines cannot be altered from those presented in this plan and the vacuum-extraction will encompass the entire area of concern within the residential lot lines.
2. Bench scale test results, methods of application, application rates and vendor product information will be submitted to the HWS and lead stabilization work will not be conducted at the site before approval of the bench scale information is approved by the HWS.
3. A total of 11 soil samples locations within the residential area will be collected. These samples must be collected from the ground surface to a depth of no more than eight inches. These samples will be analyzed for total RCRA metals. The cleanup levels are the HWS Soil Screening Levels.
4. The material that is vacuum-excavated and treated from the residential area cannot be disposed of on-site.
5. Post-treatment samples are to be analyzed using the TCLP method with the exception of one SPLP test per every five samples (at least one per area of concern) and at least one MEP test in

the material from each area of concern... This material must be safely managed on site including preventing run-on and run-off control, covers and inspections.

Conditions for Approval of Phase II (non-residential areas to be addressed in the AOC- other conditions may be specified in the AOC):

- 1) Bench scale test results, methods of application, application rates and vendor product information will be submitted to the HWS and lead stabilization work will not be conducted at the site before approval of the bench scale information is approved by the HWS.
- 2) As specified in my January 17, 2008 letter, the number of sample locations for each year of the compliance sampling will remain the same. The number proposed by your consultant is 56 sample locations, which means each year for the duration of the compliance monitoring period 56 samples will be collected and analyzed. (The Section has agreed to a reduced number of tests in that it was agreed that half of the sample locations (28) may be analyzed for total metals and the other half (28) of the samples will be analyzed using leaching tests).
- 3) For each five treatment samples (samples collected in the treated material and analyzed using the TCLP test) one sample must be analyzed using the SPLP method. In addition, each area of concern must include at least one sample analyzed using the MEP method.
- 4) Sediment and stream water sampling must be implemented at the same time as the vacuum-extraction and treatment. These sample results must be submitted to my office as soon as they are received to determine if sediment remediation is necessary and to ensure that water quality is not being adversely affected.
- 5) The additional water and sediment sample location downstream of the bridge in former trap shooting position five has been added.
- 6) Leaching samples (TCLP, SPLP and MEP) will be collected from within the treated soil depth. Total metal samples will be collected in the soil below the treated material (6-12 inches below grade).

The information has been submitted to the Raleigh office for the development of the AOC for the Phase II portion of this clean up. You may implement the bench testing and plans for the Phase I residential treatment as soon as is practical.

If you have any questions concerning this matter, please contact me at the number listed below.

Sincerely,

Roberta Proctor, Environmental Chemist
Hazardous Waste Section

cc: Mike Williford

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Brent Burch

Central Files

Thomas Marr- LFR via electronic mail



North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

January 17, 2008

Mr. Patrick Carlton
Carlton Land Trust
P.O. Box 185
Cashiers, North Carolina 28717

Mr. Greg Ward
Trillium Links, LLC
One Trillium Center
Cashiers, North Carolina 28717

Re: Cleanup Plan per Notice of Violation 2006-214

Dear Messrs. Carlton and Ward:

I have reviewed the Cleanup Plan submitted by your consultant for the remediation of the lead contamination at your site. The approval for this clean up process will be in two separate phases. Phase I will be the residential area where vacuum excavation and phosphate treatment will be used. Phase II will be the area where pellets will be left in the soil and the soil will be phosphate-treated. Phase II will be addressed in an Administrative Order on Consent (AOC). I have made comments below that must be addressed for both phases of the cleanup. The comments marked with an asterisk are those that must be addressed for Phase I approval.

Comments are as follow:

- 7) * The residential area lot lines cannot be "proposed." The lot lines may not be altered after the final approval of this clean up plan and/ or the signing of an AOC. Therefore, the lot lines must be finalized.
- 8) *The area to be vacuum-treated does not encompass the entire residential lot on the eastern side. The vacuum excavation area must include the entire Residential area in the area of concern.
- 9) *The areas of concern are not defined on the map in enough detail to determine where the actual boundaries are. A separate map for each area to be treated and/ or vacuum- excavated and treated should be developed and submitted.

- 10) *The application rates and the form of application for the vacuum treated area and the non-vacuum treated areas will be different. Your consultant mentioned in phone conversations that the supplier of the phosphate treatment product will be "shopped" to at least three suppliers and treatability studies will be conducted.
- a) Treatability studies must be conducted on both the vacuum-excavated soil and the un-excavated soil containing leaf litter, pellets, and lead shot.
 - b) The results of the treatability studies must be submitted to my office for approval prior to conducting the phosphate application.
- 11) *Compliance sampling locations and number of samples. The usual frequency for post-excavation samples is one per 400 square feet. This would equal 109 samples per acre giving approximately 1416 post-excavation or post-treatment samples. The Hazardous Waste Section agrees this excessive, however, the 23 sample locations proposed is not adequate to determine if the treatment(s) have been successful. The minimum number of samples the Hazardous Waste Section will accept is one every 100 by 100 feet and a minimum of two samples per area of concern. (The number of sample locations for the proposed five year sampling period may be reduced from this number).
- 12) *Post-treatment samples are to be analyzed using the TCLP method with the exception of one SPLP test per every five samples (at least one per area of concern) and at least one MEP per area of concern. This ratio must continue for the entire proposed 5-year sampling period
- 13) Sampling to determine if a sediment sampling must be conducted as soon as practical. The sediment and water samples must be collected as soon as this plan is approved and implemented. These sample results must be submitted to my office as soon as they are received to determine if sediment remediation is necessary and to ensure that water quality is not being adversely affected.
- 14) An additional water and sediment sample must be added in both of the in trap shooting areas five and six.
- 15) All soil samples must be collected from the soil surface to the end of the auger or other sampling device rather than at a 6 inch to 1 foot depth.
- 16) Lead-stabilized soil and debris generated during the cleanup process must be characterized and shipped off-site for disposal. Replacement of this soil on other areas at the site will not be allowed.

Please submit your response to these comments within three weeks from the receipt of this letter. If you have any questions concerning this matter, please contact me at the number listed below.

Sincerely,

Roberta Proctor, Environmental Chemist
Hazardous Waste Section

Carlton Trillium 6-12-08

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cc: Mike Williford
Brent Burch
Central Files
Thomas Marr- LFR via electronic mail