



**Waste Reduction and Recycling Demonstration Grant
Innovative Vinyl Siding Scrap Recycling
Bielinski Homes**

FINAL REPORT

First Quarter Report

January 1, 2005 through March 31, 2005

WasteCap Wisconsin, in partnership with Recycle America Alliance, Prairie Tree Landscaping and Veridian Homes, the largest home builder in the Madison, Wisconsin area, has embarked on a program to test whether scrap vinyl siding from home construction can be recycled economically, and to determine if such a program can be self-sustaining in the future.

The design of this test program involves two large homebuilders in two different state markets using two different methods for handling and collecting the material. Hauling and marketing of the vinyl scrap is being performed Waste Management, Inc. through its Recycle America Alliance division.

If this program proves successful, WasteCap believes the program can be opened up to other builders to establish a self-sustaining long-term market for vinyl siding scrap in Wisconsin.

Prairie Tree Landscaping

Prairie Tree Landscaping provides waste handling, recycling and site cleanup services to Bielinski Builders, the largest home builder in the Milwaukee area. The waste and recycling collection method used by Prairie Tree on the Bielinski home sites uses pens to contain and collect trash. Recyclable materials wood, drywall, brick and block, and now vinyl siding scrap are separated into discrete piles alongside the trash pen. (Cardboard, another major recyclable, is collected and stored in the garage area of the home site.)

Different recycling strategies are used for the different materials. Some is ground up in a grinder and used on the home site or hauled to a different location. Other materials are collected at the home site and transported to large, centrally located rolloff containers in the development.

The latter is the strategy used for the vinyl siding scrap. Siding contractors pile the scrap on the home site, the Prairie Tree crew puts the scrap in a truck and transports it to a 30-yard rolloff container located in the development. When the container is full Waste Management, Inc., who provides the container, hauls the container to a recycling facility operated by Recycle America Alliance in Milwaukee.

Rolloff containers were placed in most Bielinski developments in late January and early February. Initially there was some confusion about how and where Waste Management would transfer possession of the vinyl scrap from its containers to Recycle America Alliance. Evidently, the plan worked out between WasteCap Wisconsin and Recycle America Alliance for this vinyl recycling program had not been communicated to the waste hauling division of Waste Management. In February, WasteCap coordinated a meeting among representatives of Prairie Tree Landscaping, Waste Management (waste hauling division) and Recycle America Alliance to work out these procedures in the Milwaukee area.

Prairie Tree Landscaping has been collecting vinyl scrap at the Bielinski home sites and placing it in the development rolloff containers since early February. No containers have been filled yet, so no collection data is yet available.

Prairie Tree Landscaping reports that some of the rolloff containers are collecting moderate amounts of trash and other contaminants from nearby homeowners. This was to be expected. It is hoped that new "Vinyl Siding Only" recycling signs, which were delivered in March, will reduce or eliminate this problem.

Second Quarter Report

April 1, 2005 through June 30, 2005

Prairie Tree Landscaping

Prairie Tree Landscaping provides waste handling, recycling and site cleanup services to Bielinski Builders, the largest home builder in the Milwaukee area. The waste and recycling collection method used by Prairie Tree on the Bielinski home sites uses pens to contain and collect trash. Recyclable materials wood, drywall, brick and block, and now vinyl siding scrap are separated into discrete piles alongside the trash pen. (Cardboard, another major recyclable, is collected and stored in the garage area of the home site.)

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When the container is full, Waste Management, Inc., who provides the container, hauls the container to a recycling facility operated by Recycle America Alliance in Milwaukee.

Prairie Tree Landscaping has been collecting vinyl scrap at the Bielinski home sites and placing it in the development rolloff containers since early February. For the first quarter no containers had been filled, so no collection data was available. Ten vinyl recycling containers were set up in 16 subdivisions. Since April, one vinyl container has been emptied at a Bielinski subdivision. Unfortunately it was emptied by mistake as trash, by Waste Management. No others to date have been completely filled nor emptied, although many are getting close.

Prairie Tree Landscaping reported that some of the rolloff containers are collecting moderate amounts of trash and other contaminants from nearby homeowners in the first quarter. This was to be expected. New "Vinyl Siding Only" recycling signs, that were delivered in March, are reducing this problem.

Mr. Peter Lindabery, Project Manager for The Vinyl Institute (a co-funder of this pilot project with the DNR) will be visiting the program next week to view the operations and discuss the program's progress to date. WasteCap feels that the timing of Mr. Lindabery's visit is fortuitous and presents a good opportunity for all the stakeholders in this effort to gather together to review operations to date and suggest improvements that will insure the success of this program in 2005 and into the future.

Third Quarter Report

July 1, 2005 to September 30, 2005

Program to Date

Vinyl siding recycling locations have been established in 23 Bielinski developments. The program has had a relatively slow start. It is taking a fairly long time to fill the 30 yard containers at each subdivision with scrap vinyl (not a lot of material is generated at one time). At the end of the third quarter just two vinyl receptacles have been emptied from two Bielinski subdivisions.

One of the initial containers collected was contaminated and had to be disposed of as trash, the other was a little shy of being filled to the preferred capacity. WasteCap met with Prairie Tree management on September 15 to discuss changes that could be made in the Vinyl program that would cut down on the contamination --such as locating the vinyl and cardboard dumpsters together and close to an existing house (where people attempting to contaminate can be seen), as well as putting a silt fence around the area with a locked chain across the entry, and emphasizing better worker education.

Vinyl Institute

WasteCap Wisconsin conducted a review of the vinyl recycling program in mid-August. We met with representatives from the Vinyl Institute, – Mr. Keith Christman, Director and Mr. Peter Lindabery, Project Manager– Recycle America Alliance, Prairie Tree Landscaping, and Ms. Candace Sovinski from the Wisconsin Department of Natural Resources (WDNR) to discuss current project results and make future plans.

The results of those discussions reveal that:

- The key to success in preventing contamination of the vinyl siding material is the design of the recycling site – with good signage, surrounded by a fence and placement of the vinyl dumpster as far as possible from sidewalks and other public access areas.

Talk and Tour

A highly successful talk and tour took place at the Bielinski Homes Heritage Hills subdivision in Waukesha on October 13th from 2-5PM. Speakers included Brett Engleking, Bielinski Homes, Jamie Stilling, Prairie Tree, Jim Birmingham, Recycle America Alliance, and Susan Buchanan, WasteCap Wisconsin. The talk and tour highlighted the vinyl recycling program and demonstrated the grinding of drywall as well. As many as 40 people from the construction industry attended.

Fourth Quarter Report

October 1, 2005 to December 30, 2005

One rolloff of vinyl was recycled during this quarter weighing 5680lbs or 2.84 tons.

Conclusions

Generally the program got off to a slow start as it took much longer to generate a significant volume of material in each subdivision than originally expected. This was most likely due to the fact that Bielinski Homes uses less vinyl material in their home designs that anticipated. At the same time, it was learned from Recycle America that it was necessary to fill the vinyl receptacles to the maximum-- in order to make the program economically viable. Therefore, it took a significant amount of time to fill the vinyl receptacle at each subdivision-- resulting in more opportunity for contamination. And due to the little volume of scrap generated, very few receptacles were full enough to empty and recycle the material, and at least one of which was contaminated. At the time of filing this final report, there are 4 receptacles remaining at 4 subdivisions of which 3 are more than 1/2 full.

Prairie Tree did not feel that contamination affected the program that much. Quantity of material needed, was the biggest factor. Hauling material to designated subdivisions was the second biggest factor. It was very time consuming and with gas prices rising—very costly to implement.

After working diligently to conduct the pilot program, Jamie Stilling, of Prairie Tree Landscaping, suggests that perhaps the best method, as a result of such little material being generated, would be to have the vinyl contractors collect the material and transport it back to their distributors where they could stockpile a significant volume of material from a number of their jobs to eventually be recycled.

Jamie discussed this issue with Peter Lindabery of the Vinyl Institute at the second quarter meeting. It was her feeling that a number of different products are manufactured from vinyl, such as windows etc. Therefore it should be more cost effective for the manufacturer of vinyl products to collect their scrap vinyl and take it back for collection. That way there would be a more centralized collection area, and the people manufacturing and using the vinyl material would be responsible for recycling. This would cut down on a third party involvement, third party transportation of material to a centralized location (user of vinyl has to pick up or have delivered new product) and the potential of excess contamination in third party collection sites. Again, it was Jamie's observation that the biggest obstacle for the program was having subcontractors work to keep product together, and the amount of time it took to dispose of material in centralized areas.