

VERIDIAN HOMES



2017 ANNUAL REPORT



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Executive Summary

Veridian Homes has been a Dane County builder since 2003. Since that time, the economic cycles have provided both opportunities and challenges for the home building industry.

We have been a participant in the Green Tier I (G.T.) Program since its inception in 2005 and an original Charter Member in the Clear Waters Charter.

The corporate culture at Veridian is one of continual improvement. Established quality, safety and environmental procedures are part of our normal business activities. In light of established procedures, we continue to set annual objectives to achieve energy and sediment reduction. Our high rates of material reuse and recycling are achieved, and we maintain our relationship with the WDNR through regular participation in the Clear Waters Charter meetings.

Environmental Management System (EMS) Audit Reports

Internal

We completed an internal audit in 2017. The findings are summarized below:

The Internal Auditor found some opportunities for improvement, with no Major or Minor Non-Conformities. Some of those improvements included, updating position descriptions to include the Construction Coordinator in the EMS process. Adding the Construction Coordinator to the EMS program ensures that the program will continue to survive if one of the members leaves Veridian.

The Construction Coordinator and EMS Coordinator meet regularly to discuss EMS procedures and process.

External

Veridian Homes completed an external audit on September 19, 2017.



The external audit found some opportunities for improvement, with no major or minor non-conformities. The results of this audit helped us improve our overall EMS program, making it more self-sustaining.

*The results of the audit indicate that Veridian's Environmental Management System is in conformance with the requirements found in 299.83 (dg) of the Environmental Results Program and that it is operationally equivalent to the ISO 14001(2004) standard. Veridian's Environmental Management System also demonstrated performance that can be classified as "superior environmental performance". Based upon these findings, Veridian's environmental management system **has** been found to continue to meet the "Functionally Equivalent" criteria and the continual improvement requirements of the Green Tier Program.*

Description of Progress

1. At the start of our participation in G.T., we established an overall objective of building homes that demonstrate energy reduction techniques (compared to the National Reference Home). Our continual improvement in this objective is reflected in our energy reduction throughout 2017. For the purposes of this metric, we use the Focus New Homes testing, certification and reporting information. A summary report was provided by our Trade Partner. The data has been provided and verified by the Wisconsin Energy Conservation Corporation (WECC) independent of the Trade Partner or Veridian Homes. (*Exhibit 1*)
2. In 2017, we tested two new processes to help reduce erosion. The two new processes were installing 3" breaker run in the terrace as well as leaving the grade low on home sites, reducing erosion and the amount of trucking and hauling fill.
3. We completed one regulatory-driven objective in 2017. Our Trade Partner kept us informed of any changes to the FOCUS program. In 2017, WI Focus program changed the requirement for air exchange. One bath fan needed to be connected to one switch. We were efficiently able to implement this change so that no homes were kept out of the FOCUS program for not meeting this new requirement.
4. Throughout 2017, we maintained our goal of continually improving our erosion control performance. We continued the Emergency Response and Preventative Maintenance program called the 2016 Correction During Inspection Program (C@I). As in the past years, each one-inch rainfall in 2017 triggered a photo review of 2-3 neighborhoods and 30-60 lots. We continue to implement an erosion control procedure to identify trends that will help Veridian improve performance in both environmental and economic terms. Details of the C@I program are shown in Exhibit 2, below.



Exhibit 1

Performance Documentation (from Trades)

Veridian Homes

6801 South Towne Drive

Madison, WI 53713

Re: Wisconsin Focus On Energy Homes: 2017 Efficiency Analysis

Gary,

In 2017, additional changes and challenges were made to the program and the tools used to determine performance. Despite these changes, Veridian has continued to show improvement in the efficiency of the new build homes, as verified by performance testing and REMRATE v15.3.

Energy reductions relate to the amount of emissions from fuel required for these homes. High efficiency housing minimizes the environmental impact, not only for the current year, but over the life of the house.

463 Veridian homes were certified by Focus On Energy in 2017 that resulted in a REMRATE estimated total energy savings of over 1.1 Million kWh and 188,125 Therms per year. From 2016, this is an additional 138,296 kWh and 15,916 Therms saved in 2017.

Sincerely,

Kurtis Anderson

Perfect Environmental Performance

529 N. Main Street

Cottage Grove, WI 53527

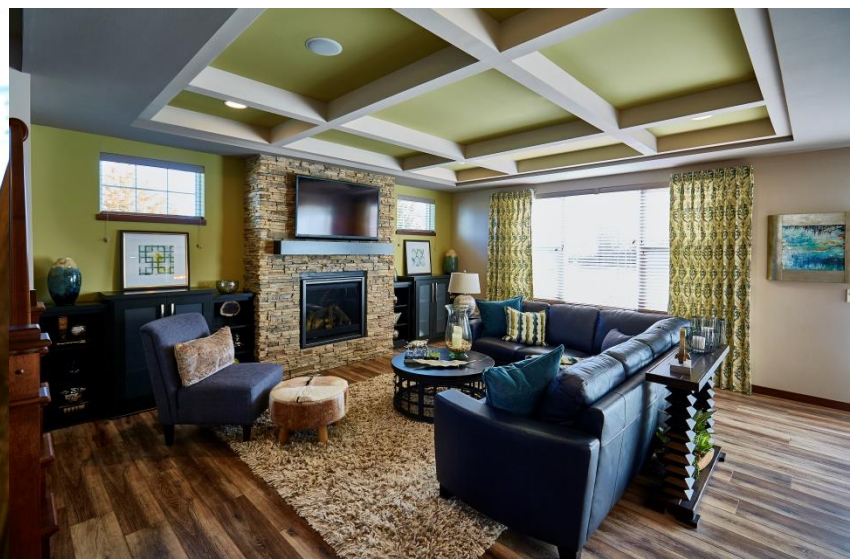


Exhibit 2

Erosion Management Report CY 2017

By: Tim Anderson-GM Perfect Environmental Performance (PEP), LLC

Significant Aspect Change-2017

The erosion control program at Veridian, initiated under the Clear Waters Initiative Charter, implemented the following change in 2017:

2017 Correction During Inspection Program (C@I)

(Resulting from the 2016 trial program)

OBJECTIVE- Implement an ongoing process with Veridian's independent trade partner to correct imminent or active erosion issues. The inspection process is continually being refined to occur during rainfall or shortly thereafter at active single-family construction sites. Active sites include those where materials are stored or soil has been disturbed.

BACKGROUND- The trial process adapted in 2016 involved the inspection trade partner carrying a supply of Soxx product in 10 foot sections. The Soxx inventory was utilized along with hand tools to reinstall effective erosion protection at small spots where a release or threat of release was present. The corrective action was taken before the trade left the neighborhood. Significant corrections were able to be done at the time of inspection. It was determined that the Soxx sections were too heavy (wet) so only three could be put into the truck and were too heavy for one person to install.

As had been the practice for several years, 1" rain inspections were performed within 24 hours of the end of a rain event. Most 2017 inspections and corrections were performed during the rain event if it happened during the daylight hours. Night and weekend events were often inspected within eight hours of the end of the event.

Objective and Targets

- The objective was to resolve or mitigate as many situations as possible during inspections, while communicating the issues to Veridian. In this way, the sediment erosion into the storm water could be eliminated or minimized. Veridian's systematic problem solving process would continue prevention of primary erosion through mitigation installers.
- Target 1-Utilizing one or more sections of the Soxx, repairs would be implemented at release or imminent release spots when observed. Each spot requiring correction was photographed to identify the nature of the problems. Before leaving the neighborhood, simple corrections were made when sufficient materials were available and hand tools could do the clean-up.
- Target 2-In 2017 modified Soxx products were delivered dry and were able to be carried by one person. The hand tools included brooms, shovels and staking materials along with, five Soxx sections could now be carried.
- Target 3-Whenever the conditions required mechanical clean-up, large Soxx installations, etc., a call was placed from the point of concern to a Production Manager at Veridian to assure they were aware of any potential urgent issues.

Perfect Environmental Performance (PEP) Process

Perfect Environmental Performance (PEP) prioritized the sites to be corrected based upon the anticipated effectiveness of Soxx and the use of hand tools as an effective solution. Situations where more than three Soxx sections were needed, significant staking, or new longer Soxx sections would be needed were communicated.

Veridian Process Change

In 2017, Veridian assigned an associate as a primary coordinating person to observe erosion protection in the neighborhoods.

Veridian kept an inventory of the new Soxx sections at their main office. PEP kept 4-5 Soxx sections in their personal vehicle to be prepared for each inspection event.

2017 CWI Statistics & Summary

Rain Events	Lots	Photos	Issues	Releases	PEP Corrections	Failures
11 (+24)	550	1576	148	61	44	21

Failure Analysis (by severity of potential or resulting release)

1. Soxx not present (not installed thoroughly or moved away by trades)-most impact-least corrected by PEP (BP-JR) Why? Complex-needed more Soxx or machinery to correct.
2. Properly placed Soxx blow-out (GR-BP) How? Usually at sloped large areas with weepers and fence already installed.
3. Soxx damaged by construction trade partners-a few chronic sites by specific trades (JR)-Why? Typically involves a Skytrack or Bobcat accessing the build site.
4. Roof gutters installed without drain tubes installed. Why? Scheduling differences.
5. Soxx out of place (moved and not placed back)-most common, but much improved from 2016. Who? Most deck builders and concrete flatwork installers. Least common, but significant were soil storage lot points accessed by dump trucks and loading equipment.

PERFORMANCE IMPROVEMENT

In total, beginning in April 2017 with the first 1" qualifying rainfall event of the season, there were 11 qualifying 1" events. In addition, PEP performed 24 site specific permit required inspections at SP124. The final inspection of the 2017 season was November 16, 2017.

Utilizing improved Soxx in roughly 10 foot sections from the Veridian based inventory along with available materials found on site and hand tools, there were 44 corrections made by PEP at inspection sites across the 16 area neighborhoods. The 44 corrections were part of the total 148 issues observed during the 2017 season. Two large events skewed the total - they were events where staked Soxx and silt fences both were blown out by the quantity and duration of the rain event. Neighborhoods hit hardest were Glacier Ridge, Birchwood Point, Cathedral Point and Chapel Green. In spite of these events, the overall number of erosion

control issues per number of active build sites continues to be significantly reduced year-over-year. From our perspective, improved Personal Builder oversight and quick correction of single potential/realized release points are the two major factors for decreased release issues (severity and frequency).

PEP Conclusion

PEP's conclusion was that the Correction During Inspection Program demonstrated an effort to make small corrections immediately which corrected a large percentage of ongoing sediment releases and prevented many that may have occurred in the observed spots. This conclusion was particularly true for weekend and holiday events and/or when a series of rain events created unstable soil conditions.

Program Limitations

1. Obviously rain events at night could not be inspected to observe real-time conditions to immediately stop releases. There were many evening/night events in 2017.
2. The pick-up truck PEP used during inspections could hold five Soxx sections along with the light clean-up tools. During the extreme rain events (3 in 2017), the new Soxx sections were used up and the limited Soxx resources found at each site were damaged or otherwise unusable for repairs.
3. The useable Soxx at the sites were too long and heavy to reposition unless a Bobcat was available. Almost always the piling of the originally deployed Soxx by construction trades rendered them useless for reinstallation.
4. Return trips to Veridian's supply during an inspection took too long to be effective unless the inspection route from neighborhood to neighborhood passed nearby the supply area. The Soxx supply at Veridian was not available to PEP during weekend inspections.
5. Correction spots chosen by PEP were spots observed to be most likely to have a release of sediment unless immediately corrected. At times it was difficult to choose which sites should receive correction first just in case a higher risk spot occurred at the next inspected neighborhood. NOTE: 4-5 neighborhoods were inspected in each 1" event period. Hand tool clean-ups were not done by PEP during heavy rainfall or when estimated to take over 15 minutes.
6. Correction spots requiring more than three sections of Soxx (or where we didn't have any more Soxx) were called in to Veridian immediately from the site to ensure the quickest alternative response time possible. Even then, weekend responses are problematic.

Opportunities for Improvement

1. More readily available Soxx inventory at the major neighborhoods, particularly those with sloped build sites.
2. A "stake" inventory for staking in Soxx at slope or high flow spots.
3. A "dry weather" inspection process should be implemented based upon any period of 2-3 weeks without a rain event. The thought here is, many of the problems occurring during a rain event show that a long period of dry weather causes complacency by the construction trades. Drive-over, removal without replacement, and failure to install often happens during these periods. For many reasons, these periods are extremely busy and the focus on the erosion protection being prepared for the next event wanders away.
4. Establish a weekend call person.

Conclusion

As in previous years, the number of neighborhoods inspected, the number of lots inspected and the frequency of the inspection far surpassed the minimum requirements of the Clear Water Charter. From PEP's perspective we have observed our customer (Veridian) continues to support and improve the higher level (superior environmental performance) of erosion protection, while incrementally seeking to improve its performance achievements.

Please let me know if you have comments or questions about this report.

Thank You,

Tim Anderson

2017 Waste Management Report (July 2003-November 2017)

Material	Nov '17 # of loads	Nov '17 Weight (tons)	Total to Date Weight (tons)	Nov '17 Volume (yd3)	Total to Date Volume (yd3)
Trash	209	83.60	7,428.32	1,672	144,074.88
Cardboard	0	0	1,144.60	0	45,756.00
Wood	146	140.16	9,454.85	876	59,483.91
Recycling	165	32.34	1,244.80	1,320	50,808.00
Vinyl	0	0	121.64	0	1,440.00
Drywall	0	0	115.68	0	930.91
Mixed C&D	0	0	599.28	0	2,397.12
Total Recycled	311	172.50	12,680.85	2,196	160,815.95
% recycled		67.36%	63.06%	56.77%	52.75%

2018 Potential Objectives and Targets

Protect city sidewalk sections in front of driveways before construction begins.

Continue to test leaving home sites low so we can use basement spoils to fill the lots versus hauling off site. Hauling off site creates extra costs, erosion in streets, and consumes energy.

Continue to test installation of stone in terrace between city sidewalk and curb.

Work with Bruce Company on setting standards on when to use erosion netting in high slope areas.

Test new bath fan that was developed to prevent back drafting air from exterior.

Air infiltration at bottom plates to deck connection.

Stakeholder Involvement

Veridian Homes

Veridian Homes includes specific environmental requirements in the Trade agreements of every Partner, of which we have more than 200. The feedback we have received indicates that the environmental practices we require are continually implemented by our Trades as “best practices” when working for other companies.

During the harsh Wisconsin winters, we strive to maintain a sufficient number of homes being built to continue employing our Trade Partners. In this effort, we hope to maintain the high quality of our builds through low trade turn-over.

Veridian also works individually with neighbors and regulators to prevent or resolve potential issues in our neighborhoods.

DNR Relationship

Our communication with our single points of contact, including Dane County, City of Madison, City of Sun Prairie, and other organizations and NGO’s has been consistent since 2008 through the Clear Waters Charter meetings. Most of the innovation, collaboration and performance improvement in erosion control has been enhanced through our participation with Clear Waters. For more information about the activities of this group, please review the minutes posted by WDNR of each meeting.

Conclusion

We care about our environment and our customers. Regardless of the challenges, we continue to succeed in both environmental improvements as well as business advances. We continue to build increasingly energy-efficient homes and continually test new technology that benefits homeowners and the environment. We improved our methods to reduce sediment release and maintain erosion minimization goals. We developed the expertise to build and deliver homes at a higher level of Energy Star standards.

We care deeply for our community. This is demonstrated by our efforts to maintain clean neighborhoods by applying our best practices, our clean-up events and erosion control efforts.



2017 Annual Spring Clean Up