Public Purchasing of Product made with Recovered Fiber

October 16, 2009
12:30-2:30
Agenda

- 12:00-12:45 – Introductions
- 12:45-12:55 – CARE & Carpet Diversion Overview
- Product Presentations
  - Bob Reiss, Reliance Carpet Cushion
  - Tim Stillwell, GeoHay
  - Norn Kaswell, Kaswell FiverBlock
  - Adam Genei, I-Rock Composite
  - Frank Endrenyi, Carpet to Plastic
  - Jeremy Stroop, Other Products Available
- 1:55-2:30 – Questions & Comments
CARE

Carpet America Recovery Effort

Oct 16, 2009

Jeremy Stroop
Operations Manager
National Agreement on Recycling

An historic agreement between industry & government!

Signed January 8th 2002 in Atlanta

Signatories – carpet industry, state governments, EPA, and NGO’s
CARE MOU

• Industry led voluntary partnership
• Funded by industry
• Targets - Rates & Dates
• Visibility & Expectations

Facilitate market based solutions for landfill diversion of post consumer carpet
The Challenge

- 5 billion pounds & growing
- 13 trillion BTU’s
- Power 106K homes a year
- 108 million gallons of gas
- Enough to drive 2.7B miles
Value Pyramid

Traditional View

- Reuse
- Recycling
- Cement Kiln
- WTE

CARE’s Focus of Pyramid

- Reuse
- Recycling
- Cement Kiln
- WTE
Where are we today?
CARE Diversion Progress

Over 1.3B pounds of Post Consumer Carpet Diverted
CARE Creates Jobs

Economic Impact of Recycling
1100 Direct Jobs and 2200 Indirect Jobs reported in our Survey
Positive Environmental Impacts of CARE

- Environmental
  - Eliminated 238,000 tons of GHG Emissions
  - = to 2 MM barrels of oil NOT Burned
  - = 728,000 Pine trees grown for 10 Yr
QUESTIONS?
GeoHay

“Recycled, Green, Environmental Erosion Control Products”

Product Life Cycle and Sustainability
Background

- GeoHay was first introduced in 1999
- Manufacturing began at Mary Ann Industries in Villa Rica, Georgia
- Operations later moved to Crestview, Florida
- Manufacturing and Sales from Crestview were limited but successful
- Owner became very ill and had to sell.
- We purchased the assets in 2007
- Relocated Manufacturing to Spartanburg, SC
- Began aggressive expansion of State DOT Approvals
- Very aggressive Performance-Based Testing
- Enhanced Quality Control
GeoHay Products Are:

- Made from 100% recycled carpet fibers
- Made with pre-cut stake holes for easy installation
- Reusable and Recyclable
- Environmentally friendly
- Non-biodegradable, strong, and durable
- Patented
Products

• Bales, Filters, Wattles and Mats used for boundary control during construction.
• Storm water sewer protection.
• Gutter guards
• Subsurface water movement and control.
• Hydrocarbon spill absorption and spill control.
GeoBales

- Produced in the standard size of 45” or 90” length and 15” in diameter.
- Special lengths up to 20 ft are available via special order.
- The product of choice for Department of Transportation projects or where the drainage area could produce a high volume during intense rain.
Left front view
First Row
GeoWattles/GeoDitch

- Produced in 9” diameter rolls with lengths of 3-16 feet
- Can be made with bendable steel to shape to your contour needs
- Can also be used as Water Velocity Inhibitors, in either ditches or contour surfaces
9 Inch Inlet Filter
Easy Installation and Removal
Reusable, Leaves Area Clean
GeoFilters

- Produced in various lengths specified by the customer
- Permits double filtering of sediment and other debris, while still allowing the water to pass
- May be placed over a storm drain or grate to prevent debris from entering the storm water system
GeoDrain

- Contains a flexible or rigid perforated pipe to aid in field lines and sewage
# Flow Rates Comparisons

**GeoHay:**

<table>
<thead>
<tr>
<th>Size</th>
<th>Flow Rate (gpm/ft²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 in. Bale</td>
<td>25.000</td>
</tr>
<tr>
<td>15 in. Bale</td>
<td>30.000</td>
</tr>
<tr>
<td>12 in. Bale</td>
<td>26.300</td>
</tr>
<tr>
<td>9 in. Inlet Filter</td>
<td>29.500</td>
</tr>
<tr>
<td>9 in. (High Density)</td>
<td>26.100</td>
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</tbody>
</table>

**Competitors Products:**

<table>
<thead>
<tr>
<th>Product</th>
<th>Flow Rate (gpm/ft²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terra Tube</td>
<td>5.428</td>
</tr>
<tr>
<td>Excelsior Wattle</td>
<td>15.437</td>
</tr>
<tr>
<td>Straw Bales</td>
<td>10.505</td>
</tr>
<tr>
<td>Nonwoven Fabric Silt Fence</td>
<td>0.974</td>
</tr>
<tr>
<td>Wood Chip Wattle</td>
<td>12.252</td>
</tr>
</tbody>
</table>
Filtration & Turbidity Removal Comparisons

GeoHay vs Other Products

- 12" Bale GeoHay
- 15" Bale GeoHay
- 9" Inlet Filter GeoHay
- Silt Fence
- Straw Bales
- Wood Chip Wattle
- Excelsior Wattle

Filter Efficiency %

Turbidity Reduction %
Current State Department’s of Transportation Approved

Maryland & Virginia are approved under a private label.
Current Operations

Raw Carpet diverted from landfill

Carpet Fiber Processed & Baled

Pad Processed

Fiber Supplier

Pad Supplier

GeoHay Processed

GeoHay Mfg Co.

GeoHay Final Product Stored/Shipped
GeoHay

• www.geohay.com
• Tim Stillwell
• 770-719-2583
• tim@geohay.com
Norm Kaswell
Kaswell FiberBlock
CARE

Carpet America Recovery Effort

Procurement Meeting
Oct 16, 2009

Jeremy Stroop
Operations Manager
What can we do with this Stuff?

5 Billion Pounds per year
2008 Recycling by Fiber Type

- PP: 8%
- Pet: 8%
- Other: 4%
- Nylon 66: 36%
- Nylon 6: 44%
Carpet Industry Efforts

- Sustainable Carpet Assessment Standard
- EcoWorx & EcoSolution Q – Shaw
- Evergreen Nylon Recycling – Shaw
- InterfaceFLOR ReEntry
- Interface + Universal N66 recycled content
- Mohawk GreenWorks
- Earth Squares – Milliken
- Landfill Gas – Milliken & Interface
- More…. 
8M lb/mo PCC

CARE Recycle of the YEAR 2002
GeoHay™

Gutter Buddies®

Synthetic Hay Bales & Filters
A 12.5 foot length of Infiltrator chamber trench has more effective area than a 25 foot Length of stone & pipe trench.

Consumes 85 lbs of PP per unit!

CARE
Recycle of the YEAR
2005
Composite Railroad Ties

- Wood ties deteriorate
- Plate cuts into tie
- 810 mature oak trees used per mile of track
- 3.3 million trees harvested per year for U.S. ties

**Creosote**
- 29,000 lb/mile
- >100M lb added to the environment each year by RR crossties
- A known carcinogen
I-Rock Composites
KeLa Engineered Fuel

A coal derived fuel made up of coal fines, recycled binding materials, and renewable biomass.
KeLa Engineered Fuel

Utilizes a readily available stream of recovered, recycled, and renewable waste materials*

- Recovered Coal Fines
- Recycled Carpet
- Recycled Plastic
- Renewable Biomass

*Up to 35% Renewable/Recycled Content
Modular Carpet Recycling, LLC (MCR)

An introduction to a green, recycling, renewable resources business

Renewlon™ - recycled nylon
Renewlene™ - recycled pp from backing/carpet
Renewtex™ - recycled backing
MCR Process
Waste Carpet to Pellet (WTP)

- Mechanical Purification Process (MPP)
- Fine Chemical Purification Process (FCPP) - Patented technology
- Extrude and Pelletization Process (EPP)
Precast Concrete, Asphalt, and Plastic
Industrial Flooring
QUESTIONS?