

Minutes of February 6, 2019
LRPC Transportation Technical Advisory Committee (TAC) Meeting
Meredith Community Center
Meredith, NH

VOTING MEMBERS PRESENT

George Tuthill, Alexandria
David Toth, Ashland
David Kerr, Barnstead
Rick Ball, Belmont
Steve Favorite, Bristol
Jeff Haines, Center Harbor
Sheldon Morgan, Gilford - Chair
Brad Harriman, Ossipee – Vice Chair
Paul Hazelton, Hebron
Malcom “Tink” Taylor
John Edgar, Meredith
Robert Ward, Moultonborough
Robert Pollock, New Hampton
Joanne Haight, Sandwich
John Gotjen, Tamworth
Dari Sassan, Tilton
Lloyd Wood, Tuftonboro
David Ford, Wolfeboro
Brian Barry, Franklin
Joe Fagnant, Plymouth

OTHERS PRESENT

Bill Dowey, Bristol (Alt.)
Nancy Spaulding, NH DOT, District 3
Alan Hansom, NH DOT, District 3
Mike Durfor, NRRRA
Susan Slack, LRPC Principal Planner
David Jeffers, LRPC Regional Planner
Paige Wilson, LRPC Intern
Jeff Hayes, LRPC Executive Director
Mike Nork, NH DES
Jason Hayden, Gilford (Alt)
Wes Anderson, Laconia
Chris Theriault, Moultonborough (Alt)
Colleen Kenny, Plymouth (Alt)

This meeting of the Transportation Technical Advisory Committee (TAC) was held in conjunction with LRPC’s Solid Waste Roundtable to discuss glass recycling and the use of recycled crushed glass in public works projects.

Mike Durfor, executive director of Northeast Resource Recovery Association (NRRRA) in Epsom, NH, gave a presentation on NRRRA’s processed glass aggregate (PGA) program. He explained that glass recycling used to be separated by color with no contamination, including no ceramics, porcelain, window glass and other materials. NRRRA and NH Department of Environmental Services (NH DES) worked together to develop a better way to recycle glass. Beginning in 1999, NE DES viewed processed glass aggregate as a Certified Waste-Derived Product – Aggregate for Construction. It was approved for use in public works construction projects as sub-base material for roads, bedding material for pipes, and fill around walls and foundations.

Mr. Durfor explained that NRRRA’s PGA program enables NRRRA members to collect glass in one bin or pile without separating for color. The glass is stored and transported to one of five NRRRA PGA host sites. NRRRA hires a glass crusher to come to the host site to turn glass into useable material. The material is sold, or given back to NRRRA members for use locally. Most glass is crushed to 3/8th inch and can be

crushed a second time for smaller aggregate. When municipalities deliver the glass to the host site, it is weighed before being dumped. The Take Back Program allows municipalities to drop off uncrushed material at a host site and pick up PGA for the return trip. The five PGA host sites include: Wakefield, New London, Littleton and Keene, as well as Springfield in Vermont. NRRRA is interested in finding additional host sites so that hauling costs can be kept to a minimum.

Other issues covered included:

- In the past, glass had to be separated by color – unfortunately, markets are no longer there
- Zero contamination was the key then, now even more important today
- PGA meets NH DOT and NHDES standards
- PGA is more frost resistant than gravel; PGA is ideal to store outside
- 100% of the PGA analyzed met the current standards for required grain size
- Porcelain, tiles and glass can be used in PGA – issues with removing metal; cannot be used in clean class sectors because it will disrupt new glass color
- Would like to get 800 tons before crushing – final product looks like sand
- Use loader into crusher, gets processed into another pile
- Corks, headlights, bottle caps, some metal and plastics – get sorted out in sifter
- Headlights, thermometers, light bulbs, auto shield glass > problem materials
- Perception that glass will be sharp and harm cars/people – if it's small enough, it will not be an issue
- Can be easily spread and compacted with other gravel – no potential for large rocks in glass
- Can be used on trails to go around tree trunks to prevent erosion; can make “beach sand”
- New London's Glass Disposal cost \$22/ton in 2017 and they reused it
- \$65/ton in trash \$110/ton to dispose as clean glass

TAC and Roundtable members' questions included:

1. Are there any restrictions around using PGA around water sources – no setbacks set so far, because glass is like sand when crushed down enough. Certified waste derived product – not considered solid waste
2. Are there any private businesses using it? Yes, just a part of their supplies
3. How many states are still doing a returnable container? Half of the bottles in Massachusetts are not being returned that could be, so there is still a lot of glass being thrown away. NH is only state in NE without a bottle bill, but have invested in containers, signage, sites, to deal with recycled glass
4. What is the cost to add glass to operations? Need a Permit by Notification from NH DES, do not need a permit to crush glass as long as following exempt regulations – still requirements and regulated
5. Heard PGA doesn't compact like gravel, is there any scientific tests? Yes, all have passed – Springfield, MA
6. Is there any difference in the drainage efficiency of asphalt and sand? There are porosity differences, the water may take longer to get through asphalt

7. What is the cost of the crusher? \$150,000 to \$200,000, probably only need to grind it in spring and fall, can pay for a mobile one to see if you want to do the program. NRRRA can do it for 2 years to see if it is something the town wants to continue
8. Will Wakefield ever open up again? I believe so, we need to demonstrate consistent movement. Idea situation is you bring in a load of glass and take out PGA. Trying to keep it as local as possible

Dave Jeffers asked for comments from communities that have used glass or PGA in transportation projects. Brad Harriman said he uses it for all culverts in Ossipee, contemplating using it in an upcoming sidewalk project.

Dave Ford (Wolfeboro)- Used as structural fill. Used in drainage projects as well instead of stone and wrap fabric. Biggest issue is contamination and issues with people being nervous about it being mixed and when it comes up. May end up in someone's lawn or in the road shoulder. PGA came from Wakefield. QAQC needed. Didn't realize that it could be ground down to look like sand and be that fine, but it costs more to send it back through – \$35/ton to bring it in.

Marilee LaFonde, from UNH T2, said they would like to talk about using it in their program.

Mike Faller, Meredith DPW, said they use it for culvert and parking lot projects. Glass was self-generated. Meredith have a small crusher but is at the point where a new one is needed. He said it wore out often and the knives had to be changed two or three times per season (\$2,000 to change, labor not included – about \$7500 per year) and 1,000 tons ground/year.

Chris Theriault (Moultonborough) said PGA was used in the past for pipe culverts. People were upset to see the glass product on the surface.

Ed Tasker said Barnstead used in PGA for a culvert replacement last year; the town belongs to a three-town solid waste district and has an unlimited supply of crushed glass. The product is even finer than the 3/8th shown. Presentation has done a good job allaying fears and the town would like to use a lot more because it's free.

People responded positively to a question from Mr. Jeffers about whether LRPC should pursue ways in which glass recycling and the use of crushed glass in public works projects could be fostered on a regional basis.

Other Business

Next meeting is scheduled for March 6, 2019 at the Meredith Community Center

Adjourn

The meeting was adjourned at 4 pm.