

King County LinkUp Shingles in Paving Demonstration Project

Summary of Advisory Group Meeting #4, Thursday, December 3, 2009

These notes summarize the fourth and final meeting of the Advisory Group for the King County LinkUp Shingles in Paving Demonstration Project. The meeting was held on Thursday, December 3, 2009 at the King Street Center in Seattle, WA.

The following Advisory Group members participated:

- *Joe DeVol, WSDOT*
- *Paul Moore, KCDOT*
- *Hope Perkins, American Roofing Recyclers*
- *Al Corwin, KCDOT*
- *Preston Horne-Brine, Fluxion Enterprises*
- *Frank Overton, KCDOT*
- *Kevin Kelsey, KCDOT*
- *Gabriella Uhlar-Heffner, SPU*
- *David McAuley, CEMEX*
- *Jim Eagan, KCDOT*
- *John Grisham, Woodworth & Co.*
- *Rick Stewart, Stewart Roofing*
- *Steven Read, SDOT*
- *Jim Weston, WSDOT*
- *John Yeasting, Glacier Recycle*

The following project staff participated:

- *Kris Beatty, LinkUp, King County Solid Waste Division (KCSWD)*
- *Julie Colehour, King County LinkUp Consultant Support (Colehour+Cohen)*
- *Michelle Caulfield, Katie Kennedy, King County LinkUp Consultant Support (Cascadia Consulting Group)*
- *Dan Krivit, King County LinkUp Consultant Support (Foth Infrastructure & Environment) (via phone)*

The following Advisory Group members were absent but were given the opportunity to provide input and feedback on the draft meeting notes:

- *Ben Hansen, SDOT*
- *Bill Brickey, Granite Northwest*
- *Dick Lilly, SPU*
- *Jeff Uhlmeyer, WSDOT*
- *Rick Hess, PSCAA*
- *Victor Woo, KCDOT*

Meeting Objectives

- Provide project update; celebrate accomplishments
- Gather input for 2010 work plan
- Discuss strategies for documenting and communicating results

Key Outcomes

- Several ideas emerged as possible ways to further develop the market for shingles in paving as well as address concerns over using this material.

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- Members generated a significant list of organizations, including some where they are members, to reach out to with presentations on the project.
- SPU and SDOT are interested in working with LinkUp to reach out to roofing contractors and may consider a paving pilot.

Agenda item #1: Welcome and Thank You

Photo slideshow of demonstration project phases. Kris Beatty presented tokens of appreciation to the group as well as the core project team.

Agenda item #2: Paving Accomplished!

Video and PowerPoint presentation including overview of project progress since the last advisory group meeting, materials and paving testing, and preliminary findings. Powerpoint and video will both be available on the King County LinkUp website.

Michelle Caulfield provided a project overview (Powerpoint); Kevin Kelsey and Joe DeVol summarized testing and findings.

- Pre-construction documentation included
 - walking the entire roadway to determine existing crack patterns and other deficiencies,
 - further documenting the surface using the WSDOT data distress collection van,
 - retrieving asphalt core samples to determine existing pavement structure, subsurface borings to determine subsurface conditions, and
 - Collecting deflectometer readings to provide additional structural testing.
- Preliminary materials testing of mix design was completed to effectively assess the impact of adding RAS to the mix. *Result tables are presented in the Powerpoint.*
- Testing during paving, which occurred during the week of 9/21/09, revealed that modifications were necessary to obtain the desired content for asphalt, fines, and voids. Following modifications, testing showed that the mix was in general compliance with the mix design.
- Post-construction testing included:
 - Collecting deflectometer readings to establish a structural baseline for the newly overlaid roadways.
 - Skid resistance testing in dry weather conditions that indicated little difference between test sections. All test sections have frictional values comparable to regular pavement throughout King County.
- KCDOT anticipates conducting the following tests and reporting of results.
 - The WSDOT data distress collection van will perform a post-construction run in the near future and again in three years.
 - Skid resistance testing will be completed under wet weather conditions in the near future and testing will be repeated after three years.
 - The road will be closely monitored for the next three years.
 - Pavement condition rating will be performed on a yearly basis.
 - A post construction report will then be produced.

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John Grisham spoke to Woodworth's experience on the demonstration project.

- Woodworth sees the project as highly successful. They have been using asphalt shingles in HMA for many years, but learned a lot in working with a more stringent specification. One surprise was that double-grinding shingles appears to have resulted in a higher asphalt contribution from RAS to HMA.

Agenda item #3: Moving Forward

Current Plans & Ideas

Kris Beatty discussed immediate next steps for the project and initial ideas for 2010 activities.

- The final report will be completed in January. There will be an opportunity to review the report in early January. **Please contact Kris if you would like to review the draft report.**
- In late January, the LinkUp team will present pilot outcomes to the KCDOT Road Services management team.
- The LinkUp team will convene a broader stakeholder meeting in February to present pilot outcomes and discuss next steps. In addition, targeted outreach to specific stakeholders will occur throughout the year.
- The LinkUp team has begun talking to WSDOT about future strategies toward a provisional and/or permissive specification for using RAS in HMA.

Initial research needs to further advance the use of RAS in HMA:

- Conduct interviews to better understand how RAS is used on private roads in the Northwest.
- Investigate how much asphalt RAS is contributing to HMA. During the demonstration project, results indicated that RAS contributed a greater amount of asphalt than expected.
- Assess costs and savings from using RAS in HMA. This investigation would likely begin by working with Woodworth to collect actual cost savings incurred during the project.
- Work with national partners to develop standards for sampling and testing to determine the presence of asbestos in shingles.
- Review the RAS specification used in the demonstration project to determine what should be changed for future pilots.
- Work more directly with roofers on RAS supplies issues.

Group Discussion

The advisory group discussed ideas for 2010. The table at the end of this document summarizes key recommendations from advisory group members. Discussion highlights are presented below.

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- Tear-off roofing scrap will likely increase in the future because cedar shakes are seldom used today, making composition shingles the most common residential roofing material, (Rick Stewart).
- Successful recycling market development requires that all the pieces come together in the right order. For this reason, SPU would be interested in working with LinkUp in coordinating with roofing contractors to seek their input and prepare them to supply composition shingles for recycling (Gabriella Uhlar-Heffner).
- One barrier to further market development is that regulations and formal trainings are not material-specific. NESHAP, for example, does not provide guidance specifically on shingles (Michelle Caulfield).
- Seattle may be interested in doing a pilot paving project, although it may work better to partner with another jurisdiction in order to get enough tons (Steven Read).
- In addition to other paving trials, LinkUp could support market development in several other ways, such as by advertising the asbestos-testing results and helping to increase awareness of what types of materials actually have asbestos (e.g., shingles patching). Additionally, it would be helpful to have an investigation of how to store material for shingle recycling so that there are safe and practical expectations of processors. In general, it is important to focus the discussion on the overall goal of conserving landfill space. (John Yeasting).

There was a discussion as to what the best strategy is for market development.

- There are three ways to increase the use of shingles in paving: through a mandate, which might cause government agencies to actually lose control and could backfire; through a state agency, but then the bid price increases; and through private industry, which, if private industry sees it as a profitable venture (i.e., an “asphalt extender”), then the DOTs can function on the administrative side, testing and monitoring pavement (Joe DeVol).
- Groups like Association of General Contractors (AGC) can help push the market from the private side better than DOTs (Jim Weston).
- Private industry would benefit from a cost-benefit analysis (Kevin Kelsey).
- It might be most effective to have a compromise in these strategies, possibly including environmental groups. It is okay to pay a little bit of a premium to do the right thing (Steven Read).

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Summary of Group Discussion on 2010 Work Plan

2010 Things we should know about	How we should share results	2010 Next Steps
<ul style="list-style-type: none"> • WAPA Group Meeting (mid-year) • OR and Vancouver pilots • California testing of shingles for asbestos • Owens-Corning and Heritage Environmental partnership • Warm mix (as of 2010, all WSDOT projects can now be warm mix) 	<ul style="list-style-type: none"> • Washington Asphalt Paving Association (WAPA) • National Asphalt Paving Association (NAPA) • Washington State Department of Ecology • Asphalt Roofing Manufacturer Association • Federal Highway Transit Association • CMRA national forum (did in 2009) • Presentation at Washington State Recycling Association • Local health jurisdictions (barrier for new shingles processors will be permitting until they are more comfortable) • National Roofing Contractors' Association • WA Roofing Contractors' Association (with Rick Stewart's help) • Environmental Building News article • Asphalt Paving Association of Washington (APAW) • UW Greenroads program, Steve Muench, • AGC • Technology Transfer – WDOT Newsletter 	<ul style="list-style-type: none"> • Develop national asbestos protocols (even work with manufacturers who may be interested/able to change their product) with a focus on practical reality (sorting and testing) • Document a completed private road project with focus on cost benefit • Develop an education piece for roofers, possibly in conjunction with Jim Lindahl, MN expert who is designing training program. • Develop tip sheet that captures experience with project (for other project managers) • Steven Read will talk to Ben Hansen about a possible SDOT pilot, possibly in partnership with another jurisdiction • Look at unknowns. For instance, how well will this product being recycled in the future • Environmental story