Outline for NYSTDA Workshop

• Key events leading to formation of the NYSTDA Program

• NYSTDA Program Goals & Approach

• TDA in Septic: Costs, Supply, Demand & Regulatory factors
Definition of TDA

“Pieces of scrap tires that have a basic geometrical shape and are generally between 12 mm and 305 mm in size and are intended for use in civil engineering applications.”

ASTM 6270 – 08

“Standard Practice for Use of Scrap Tires in Civil Engineering Applications”
1999  Carried out nation-wide survey of states on TDA in septic - published in *Waste Age*

2000  Installation of first full-scale septic system using TDA in NYS

2001-02  Two reports released

2003  Small Flows Quarterly
New York State Tire Derived Aggregate Program

2003  NYS Waste Tire Management & Recycling Act
‘to beneficially use waste tires in an environmentally acceptable manner, including the beneficial use in civil engineering applications’

2004  NYSDEC DOW Endorsement of TDA in Septic

2005-06  Long-Term Acceptability of TDA in OWTS Study
New York State Tire Derived Aggregate Program

2006  Long-Term Monitoring

2006  NYSDOH Drafts Revisions to Appendix 75-A of Part 75 of Title 10 NYCRR (Wastewater Standard - Individual Household Systems)

2007  Formation of the NYS TDA Program
Based on the need for diverse & sustainable markets for discarded tires, the NYS TDA Program was established at the UBCIWM in 2007 to expand the beneficial use of recycled tire products in Civil Engineering applications through Education, Research and Product Development Support.

Funded by Empire State Development
Goal #1   Establish a Centralized Information Clearinghouse

http://www.tdanys.buffalo.edu
New York State Tire Derived Aggregate Program

Goal #2 Bring Together Stakeholders and Experts for Guidance

TDA Processors: Modern Corp., Seneca Meadows
Local Government: Madison County
Industry Organization: Rubber Manufacturers Assoc.
Contractors: Delaney Group
Academic Institutions: U. Maine, Clemson U.
State Agencies: Empire State Development, Departments of Environmental Conservation, Transportation, and Health
Goal #3  Advance Current Applications and Catalyze New Ideas

New York State Tire Derived Aggregate Program

Diagram:
- plywood cap
- sill plate
- precast conc. fnd. wall
- concrete slab
- cover
- CBF
- cover
- 1/2 in stone
- CBF subdrain
- floor drain
- TDA
- TDA subdrain
Approach:

Focus on Identified Barriers/Unknowns

- Technical/Environmental Performance
- Cost/Supply/Demand
- Regulatory Process
Cost Factors

✓ Volume of Aggregates is 36CY for one system
✓ TDA weighs 15T - Stone weighs 50T
✓ TDA costs $32T - Stone costs $15T
✓ 1 system of TDA delivered in 30-ft. dump trailer
✓ 1 system of stone takes 2 trailers or 3-axle dump trucks
✓ Trucking costs: $95/hour (30-ft. dump trailer)
✓ 50 Mile delivery for each
## New York State Tire Derived Aggregate Program

### Cost Comparison

<table>
<thead>
<tr>
<th></th>
<th>TDA</th>
<th>Stone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate</td>
<td>$480</td>
<td>$750</td>
</tr>
<tr>
<td>Trucking (3 hrs.)</td>
<td>$285</td>
<td>$570</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$765</strong></td>
<td><strong>$1320</strong></td>
</tr>
</tbody>
</table>
Demand Estimate for TDA in Septic

- 1 of 5 households in NYS on septic.

- Housing starts: 30,000 to 50,000 over last 10 yrs.

- Conservative estimate: 15,000 starts & 3,000 new septic systems.

- If 1 of 5 chose TDA, 600 systems would use a min. of 1M discarded tires.

- Additional demand from system re-builds.
Potential TDA Supply
New York State Tire Derived Aggregate Program

Beneficial Use Determinations for TDA in Septic
Results from Interviews with 12 County environmental health depts.

– NYSDOH approval is paramount.
– 10 counties open to TDA use.
– Some worried about stone supply issues.
– Most have some concerns on unknowns of TDA performance/supply.
REGULATORY UPDATE

Amendments to Appendix 75-A of Part 75 of Title 10 NYCRR (Wastewater Standard - Individual Household Systems) published in 2/4/09 issue of the New York State Register. When adopted will allow Tire Derived Aggregate as a replacement for stone/gravel on a 1:1 basis volumetrically.