Solid Waste Regulation

- Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended
- Michigan’s Solid Waste Management Act Administrative Rules
- Subtitle D of the federal Resource Conservation and Recovery Act of 1976, as amended
Why Recycle?

✓ Good For Economy
✓ Creates Jobs
✓ Reduces Waste
✓ Good for Environment
✓ Saves Energy
✓ Preserves Landfill Space
✓ Prevents Global Warming
✓ Reduces Water Pollution
✓ Protects Wildlife
✓ Creates New Demand
Waste Utilization

- Using waste, site or source separated materials, or other approved material for beneficial purposes
  - Reuse
  - Recycling
  - Composting
  - Energy recovery
  - Gasification
  - Anaerobic digestion
  - etc.
Where We Are Today
1999 Data Collection by Michigan Recycling Coalition

Solid Waste Stream in Michigan

- Recycling: 20%
- Incineration: 11%
- Landfill: 69%

Recycling rate includes yard clippings, and about a 95% recovery rate for beverage containers covered by the bottle deposit law.
## 2013 Industrial By-Product Reuse

<table>
<thead>
<tr>
<th>Material</th>
<th>Recycled</th>
<th>Disposed</th>
<th>Percent Recycled</th>
<th>Percent Volume Change from 2012</th>
<th>2009 Volumes</th>
<th>Percent Volume Change from 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulp/paper/wood sludge</td>
<td>121,672</td>
<td>143,312</td>
<td>46%</td>
<td>+27%</td>
<td>39,889</td>
<td>+205%</td>
</tr>
<tr>
<td>Shingles</td>
<td>31,580</td>
<td>?</td>
<td>?</td>
<td>+33%</td>
<td>19,650</td>
<td>+61%</td>
</tr>
<tr>
<td>Scrap Wood¹</td>
<td>69,020</td>
<td>?</td>
<td>?</td>
<td>-27%</td>
<td>26,432</td>
<td>+161%</td>
</tr>
<tr>
<td>CKD</td>
<td>43,114</td>
<td>239,657</td>
<td>15%</td>
<td>-22%</td>
<td>29,081</td>
<td>+48%</td>
</tr>
<tr>
<td>Foundry Sand</td>
<td>102,156</td>
<td>242,520</td>
<td>30%</td>
<td>+14%</td>
<td>66,870</td>
<td>+53%</td>
</tr>
<tr>
<td>Food Processing³</td>
<td>35,121</td>
<td>?</td>
<td>?</td>
<td>-22%</td>
<td>16,073</td>
<td>+118%</td>
</tr>
<tr>
<td>Coal Ash²</td>
<td>395,047</td>
<td>1,205,242</td>
<td>25%</td>
<td>+2%</td>
<td>174,900</td>
<td>+126%</td>
</tr>
<tr>
<td>Drywall</td>
<td>3,296</td>
<td>?</td>
<td>?</td>
<td>+3%</td>
<td>1,048</td>
<td>+208%</td>
</tr>
<tr>
<td>FGD</td>
<td>32,575</td>
<td>?</td>
<td>?</td>
<td>-6%</td>
<td>32,328</td>
<td>+1%</td>
</tr>
<tr>
<td>Wood Ash¹</td>
<td>6,983</td>
<td>120,905</td>
<td>5%</td>
<td>+113%</td>
<td>5,592¹</td>
<td>+10%</td>
</tr>
<tr>
<td>Totals³</td>
<td>847,722</td>
<td>?</td>
<td>?</td>
<td>+1%</td>
<td>411,863</td>
<td>+106%</td>
</tr>
</tbody>
</table>
Beneficial Use Regulations

- PA 178 of 2014 – amends parts 31, 85, 115, and 201
- PA 179 of 2014 – amends Part 201
- PA 180 of 2014 – amends PA 162 of 1955
Ways Materials are Exempted from Solid Waste Regulation

• Prior authorizations
  o Generic site/source separated
  o Site specific site/source separated
  o Inert (for general reuse or site specific reuse)
  o Agricultural use approvals
  o Self-declared

• Beneficial use statute
  o Beneficial use by-products
  o Listed as not a waste (Section 11506)
  o Listed as inert
  o Listed as site/source separated
Prior Authorizations

• Self-declared
  o Verso Paper
  o GM
  o Grand Haven BLP
  o USG

• Generic
  o water softening limes
  o fish waste
  o ethanol syrup

• Site specific
  o Cadillac Castings
  o Bentek
  o AUA’s
Materials defined as Beneficial Use By-Products

- **Cement Kiln Dust/Lime Kiln Dust**: Particulate matter collected in air emission control devices serving Portland cement kilns and lime kilns.
- **Coal Bottom or Wood Ash**: Ash particles from combustion of coal or any type of ash or slag resulting from wood burning.
- **Coal or Wood Ash**: Material recovered from an air pollution control system or non-combusted residue from combustion of coal, wood, or both (although only cementitious ash is suitable for use as fill).
- **Dewatered Grinding Sludge**: from public transportation agency road projects.
- **Flue Gas Desulfurization Material**: Material recovered from air pollution control systems that capture sulfur dioxide during wood, coal, or fossil fuel combustion including synthetic gypsum.
Materials defined as Beneficial By-products (continued)

- **Foundry Sand**: Silica sand used in metal casting process from ferrous or nonferrous foundries.

- **Lime Softening Residuals**: from treatment and conditioning of water for domestic use or community water supply.

- **Mixed Wood Ash**: Material recovered from air pollution control systems or non-combusted residue from combustion of wood, scrap wood, railroad ties, and tires.

- **Pulp and Paper Mill Ash**: Non-combusted residue remaining after combustion of coal, wood, pulp and paper mill material, wood or biomass pellets, rail road ties, tires, and scrap wood.
Materials defined as Beneficial By-products (continued)

- Pulp and Paper Mill Material: Materials generated at pulp and paper mills including wastewater treatment sludge; rejects from screens, cleaners, and mills; bark, wood fiber, and chips; scrap paper and causticizing residues.
- Soils Washed or Removed from Sugar Beets.
- Spent Media from sandblasting: with uncontaminated soil, newly manufactured, and unpainted steel.
- Stamp Sands: Sand remaining after stamping and processing copper bearing ores.
Specific Beneficial Uses for By-Products

• **Beneficial Use 1** means use as aggregate, road material, or building material if it will be bonded or encapsulated by cement, limes, or asphalt.

• **Beneficial Use 2** means use as construction fill, road base, soil stabilizer, or road shoulder material.

• **Beneficial Use 3** means application of material as a fertilizer, a soil conditioner under Part 85, or a liming material under 1955 PA 162.

• **Beneficial Use 4** means use to stabilize, neutralize solid, or treat waste; to treat wastewater or sludge; to stabilize hazardous substances; or to serve as landfill construction material.

• **Beneficial Use 5** means soil mixtures using foundry sand and organic material to manufacture soil.
<table>
<thead>
<tr>
<th>USE/MATERIAL</th>
<th>Bonded by lime, cement, or asphalt</th>
<th>Construction fill under impervious surface/Road shoulder</th>
<th>Land Applied Beneficial Use 3</th>
<th>Remediate/ treat waste or used as fill at landfills Beneficial Use 4</th>
<th>Soil blending Beneficial Use 5</th>
<th>Flue gas scrubbing reagent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood ash/coal bottom ash</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood ash/coal ash</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulp/paper mill ash</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed wood ash</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cement kiln dust/Lime kiln dust</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Foundry sands (ferrous/aluminum)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Stamp sands</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulp/paper mill material</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sand blasting media from new products</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dewatered concrete grinding slurry</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lime Softening residuals</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sugar beet soils</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Flue gas desulfurization sludge</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Land Application
Land Application

The land application of the following materials as a fertilizer, soil conditioner, or liming material is regulated by the Michigan Department of Agriculture and Rural Development:

- Wood ash
- Coal bottom ash
- Pulp and paper mill ash
- Cement kiln dust
- Lime kiln dust
- Foundry sands
- Pulp and paper mill material
- Dewatered concrete grinding slurry
- Lime softening residuals
- Sugar beet soils
- Flue gas desulfurization sludge
Notifications/Reporting
• **Beneficial Use 1** – generator/broker of over 1,000 cubic yards send yearly report to DEQ.

• **Beneficial Use 2**
  - Generator/broker of over 1,000 cubic yards send yearly report to DEQ;
  - Generator/broker notifies DEQ of any site receiving over 5,000 cubic yards;
  - A contractor, consultant, or agent of the owner must tell the owner that beneficial use by-products have been used for Beneficial Use 2 on the property;
  - The owner of a property must tell the future owner that beneficial use by-products have been used for Beneficial Use 2 on the property;

• **Beneficial Use 3** – Generator/broker registers/licenses with MDARD.

• **Beneficial Use 4** – Generator/broker of over 1,000 cubic yards send yearly report to DEQ.

• **Beneficial Use 5** – Generator/broker of over 1,000 cubic yards send yearly report to DEQ.
Petitioning the DEQ

The recent changes allow the DEQ to approve:

- Materials other than asphalt, concrete, or gravel to cover Beneficial Use 2 projects.
- Beneficial Use 4 materials for construction at licensed landfills.
- Additional materials as beneficial use by-products, inert material, source separated materials, or low-hazard industrial waste.
- Additional waste to the list of pulp and paper mill material.
- Approve the use of beneficial use by-products for Beneficial Use 2 at residential properties.
- Materials as a beneficial use by-product that do not meet the listed contaminant limits based on specific site conditions.
Other Exemptions Contained in the Beneficial Use Statute
Statutory Exemptions

• Ferrous or non-ferrous scrap.
• Foundry or steel mill slag.
• Garbage that is composted or land applied.*
• Coal bottom ash used as cold weather road abrasive.*
• Stamp sands used as cold weather road abrasive.*
• Non-hazardous secondary material approved for combustion under 40 CFR Part 241.*
Inert Materials

- Rocks
- Trees, stumps, and similar land clearing debris.
- Uncontaminated excavated soil or dredge material.
- Construction brick, masonry, pavement, or broken concrete.
- Asphalt pavement or concrete pavement.
Source Separated Materials

- Glass, metal, wood, paper, plastic, etc.
- Scrap wood, rail road ties, tires, or paint solids used as fuel.*
- Drywall or FGD used to produce drywall.*
- Shingles used for fuel or to produce hot mix asphalt.*
- MSW incinerator ash used for ADC.*
- Utility poles used for poles or posts.
- Rail road ties used for landscaping.
Low Hazard Industrial Waste

- Coal ash or wood ash
- Cement kiln dust
- Pulp and paper mill material
- Scrap wood
- Water treatment sludges
- Foundry sand
- Mixed wood ash
- Street cleanings
- Asphalt shingles
- New construction drywall
- Chipped or shredded tires
- Copper slag and stamp sands
Inert Criteria

- Old Criteria – Act 307 Type B criteria based on a 1 in a million risk.
- New Criteria – Part 201 generic residential criteria based on 1 in 100,000 risk.
- Background as defined by Part 201.
Storage Requirements

• Beneficial use by-products – requires no permit or license. The use or storage can’t violate a groundwater or surface water criteria.
• Source separated materials – none listed.
• Inert material – none listed.
• Low-hazard industrial waste – owners/operators of a unit must ensure no violation of Part 31 and that no contamination has resulted after closure of the storage unit.
• Other wastes – must be stored in a Rule 130 contained waste pile.
Speculative Accumulation

- Beneficial use by-products – 3 years at the site of generation or use.
- Source separated material – 1 year.
- Low-hazard industrial waste – 3 years at the site of generation and 1 year at site of use.
- Inert material – no limit.
- Yard clippings – 3 years.
Relationship of Beneficial Use Statute to Other Environmental Protection Statutes

- **Part 31** – Water Resources Protection
- **Part 201** – Environmental Remediation
- **Part 301** – Inland Lakes and Streams
- **Part 325** – Great Lakes Submerged lands
Part 31

• The storage or use of beneficial use by-products can not violate either groundwater or surface water protection criteria.

• A person does not need a Part 31 permit for the storage, placement, or use of beneficial use by-products done in compliance with Part 115.
Part 201

- A person may use background as defined in Part 201 to compare excavated soils or dredge material to determine if the material is contaminated.

- Contamination caused by the storage, placement, or use of beneficial use by-products or inert material would not create a “facility” if used in compliance with Part 115.

- The placement, storage, or use of beneficial use by-products in compliance with Part 115 is not a “release.”
Parts 301 and 325

- Recent statutory changes allow an applicant of a dredge permit the ability to use their knowledge to determine if their dredge spoils have the potential to be contaminated.
- Any project in a known or suspected location that could contain contaminated spoils will need to test in accordance with the dredge procedure unless the material is going to a licensed landfill, a Corps of Engineers confined disposal facility, or is being left upland, on-site, with clean cover and a deed restriction.
- The DEQ is in the process of amending the dredge procedure to comply with the recent changes.
Questions
For additional information contact:

Duane Roskoskey, P.E.
Department of Environmental Quality
Office of Waste Management and Radiological Protection
Phone: 517-582-3445
E-mail: roskoskeyD@Michigan.Gov
Web site: http://www.michigan.gov/deq/0,4561,7-135-3312_4123-336759--,00.html (or go to www.Michigan.Gov/DEQ, type in “Solid Waste” into the search engine, then click on “Beneficial Use Provisions”)