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5. 208  
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1. Whereas the State of Vermont has enacted Act 148 "Universal Recycling of Solid Waste" whose intent in part is to divert waste from disposal by recycling the material into new products with a focus on curbside recyclables and organics;
2. Whereas Act 148, begins the phase in of statewide bans for recyclable material in 2015;
3. Whereas amended section §6604 Solid Waste Management Plan calls for "an assessment of the feasibility and cost of diverting each waste category from disposal" including (iv) Construction and Demolition Materials (C & D);
4. Whereas the Vermont Department of Environmental Conservation hired consultants to Analyze the Impact of Act 148 on Solid Waste Management in Vermont and that the final report (10/21/2013) indicated:
  - a) that 70,000 tons per year of wood products within the C&D category are disposed in Vermont that could be recycled, (table 18, page 37)
  - b) that 7,500 tons per year of clean gypsum board within the C&D category are disposed in Vermont that could be recycled, (table 18, page 37)
  - c) that 35,000 tons per year of roofing materials within the C&D category are disposed in Vermont that most of which can be recycled, (table 18, page 37)
  - d) that the capital cost of implementing Scenario 3 of Universal Single Stream and maintaining the current bottle bill would be on the order of \$42 million (table 54, page 121) - AND this does not include addressing the C&D waste stream;
5. Whereas much testimony during the passage of Act 148 centered on the concept of private investment needed within Vermont for improving the solid waste diversion infrastructure;
6. Whereas Myers Containers has recently permitted, constructed and begun operation of a C&D recycling/processing facility in Chittenden County and whereas TAM Inc has begun permitting a similar facility in Bennington County;
7. Whereas gypsum board is made of calcium sulfate and is known to cause odor problems in landfills, and that strong markets exist for clean gypsum board, and markets are developing for painted gypsum board;
8. Whereas the current draft of Vermont's Material Management Plan (12/28/2013) states that "up to 25% of the total waste landfilled nationally is C&D materials" and the State's desire to overcome obstacles relative to recycling C&D materials,
9. Whereas the current draft of Vermont's Material Management Plan (12/28/2013) indicates the need to "work with the Vermont Agency of Transportation (AOT) implement the inclusion of recycled asphalt shingles into bituminous concrete specifications;

Now therefore Sec. 2. 10 V.S.A. §6621 should be amended to ban certain C&D materials from Landfill Disposal:

- a) Wood such as pallets, crates, clean dimensional lumber, clean oriented strand board, plywood and painted/stained wood.
- b) Gypsum Board/wall board/sheet rock – virgin or painted with non-toxic paints
- c) Metal roofing and studs

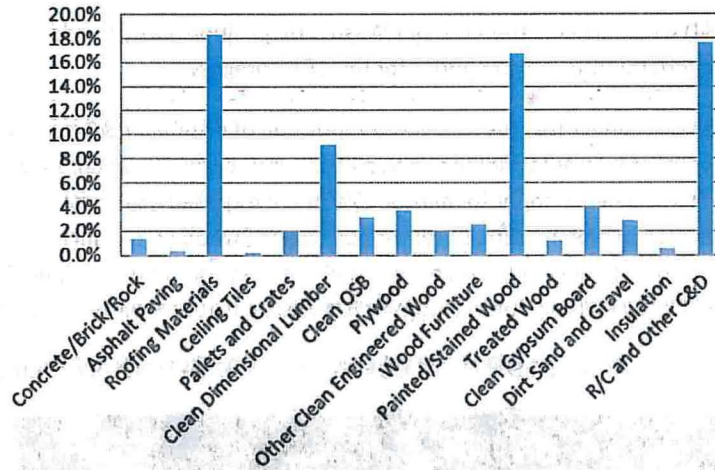
And only if the following conditions are met:

1. A project generates more than 20 cubic yards of C&D material,
2. There is a C&D processing center capable of recovering the banned material within 30 miles of the project,
3. The C&D processing facility charges no more than 110% of the tipping fee for trash in that region,
4. The Secretary determines that sufficient markets exist for the banned products.
5. The local Solid Waste District is capable and willing to provide enforcement oversight.

Further, to request that the Secretary of Transportation develop a specification to include recycled asphalt shingles and glass cullet into bituminous concrete by 10/1/14.

This composition data for the C&D fraction is presented graphically in Figure 7.

**FIGURE 7: COMPOSITION OF C&D DEBRIS FRACTION**



Based on the detailed composition described above applied to the estimated 192,750 tons of C&D generated in Vermont, Table 19 presents estimated tonnages of C&D materials generated in Vermont.

**TABLE 19. VERMONT C&D WASTE COMPOSITION (MATERIAL TONNAGES)**

Group	Category	Tonnage
<b>Paper</b>		<b>3,277</b>
<b>Plastic</b>		<b>2,120</b>
<b>Glass</b>		<b>1,349</b>
<b>Organics</b>		<b>3,277</b>
<b>C&amp;D</b>		<b>164,416</b>
	Concrete/Brick/Rock	2,506
	Asphalt Paving	771
	Roofing Materials	35,273
	Ceiling Tiles	386
	Pallets and Crates	3,662
	Clean Dimensional Lumber	17,733
	Clean Oriented Strand Board	5,975
	Plywood	7,132
	Other Clean Engineered Wood	3,855
	Wood Furniture	4,819
	Painted/Stained Wood	32,189
	Treated Wood	2,313
	Clean Gypsum Board	7,517
	Dirt Sand and Gravel	5,590
	Insulation	964
	R/C and Other C&D	33,924
<b>Metal</b>		<b>9,059</b>
<b>Special</b>		<b>4,819</b>
<b>MSW</b>		<b>5,204</b>
<b>Total</b>		<b>192,750</b>

clean wood. Clean wood accounts for an estimated 4,354 tons of the residential waste disposed, and an estimated 11,289 tons of the ICI disposed waste.

For the C&D waste stream, the Vermont Waste Composition Study provides a detailed breakdown comprising 8 major categories and 16 subcategories for the C&D category.

Table 18 below summarizes the detailed composition of disposed C&D by weight. As indicated, there are small amounts of other wastes including paper, plastic, glass, organics, metal, special wastes, and mixed MSW found in C&D, which combined account for almost 15% of the disposed C&D waste stream. Of the remaining 85% that is C&D, the most common materials are: various types of wood (37.2% including painted/stained wood at 16.7%, and clean dimensional lumber at 9.2%), roofing materials (18.3%), and remainder/composite and other C&D (17.6%). These would likely be the priority materials to focus on in future programs to increase the diversion of C&D waste.

**TABLE 18. VERMONT C&D WASTE COMPOSITION (PERCENT, BY WEIGHT)<sup>44</sup>**

Group	Category	Average % by Weight
<b>Paper</b>		<b>1.70%</b>
<b>Plastic</b>		<b>1.10%</b>
<b>Glass</b>		<b>0.70%</b>
<b>Organics</b>		<b>1.40%</b>
<b>C&amp;D</b>		<b>85.30%</b>
	Concrete/Brick/Rock	1.30%
	Asphalt Paving	0.40%
	Roofing Materials	18.30%
	Ceiling Tiles	0.20%
	Pallets and Crates	1.90%
	Clean Dimensional Lumber	9.20%
	Clean Oriented Strand Board	3.10%
	Plywood	3.70%
	Other Clean Engineered Wood	2.00%
	Woof Furniture	2.50%
	Painted/Stained Wood	16.70%
	Treated Wood	1.20%
	Clean Gypsum Board	3.90%
	Dirt Sand and Gravel	2.90%
	Insulation	0.50%
	R/C and Other C&D	17.60%
<b>Metal</b>		<b>4.70%</b>
<b>Special</b>		<b>2.50%</b>
<b>Mixed MSW</b>		<b>2.70%</b>
<b>Total</b>		<b>100.00%</b>

<sup>44</sup> From State of Vermont Waste Composition Study, Final Report, Table 10, p. 22.