

Drowning in Demolition

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In 2008 while working in DeConstruction Services for The ReBuilding Center in Portland, Oregon I researched water usage in demolition. I was biking to work and saw the Wonder Bread Headquarters building being demolished. The building was still full of furniture and I remember seeing papers flying out of the filing cabinets. Huge hoses propelled water into the air and soaked materials as they fell off the open floors. It wasn't until later that I realized even though I talked to people every day about the benefits of deconstruction over demolition, I never said anything about water conservation.

Six years later I still do not see water conservation in the list of reasons why deconstruction is beneficial. Materials saved produce markets and economic benefits. Jobs are created and the list of environmental advantages including emissions reductions are facts that are well used. It is time to add water conservation and air quality to our curriculum.

In 2008 my research on water usage in demolition lead me to Trip Turner a Project Manager at Elder Demolition. He explained that the hoses they used to spray the water for dust suppression were one to two inches in diameter. That the water is typically stopped from going into the sewer systems by caps and then collected to be disposed of as hazardous materials. Why hazardous material? Trip explained that the water picks up benzene, a chemical in natural gas along with other particulates. He told me that to demolish a 5,000 square foot building they typically use 6,000 gallons of water. That comes out to roughly 1.2 gallons of water per square foot of building.

That is **over a gallon of clean water for every square foot of building that is being demolished** to keep air quality on a demolition site legally safe.

I contacted a company called Dust Control Technology to ask if the water used was clean tap water. They assured me that it is and let me know they that have a machine that can hold 5,000 gallons and pumps 20 gallons of water per minute through a one and a half inch hose. These are the machines that are constantly running through building demolition to keep the dust and particulates out of the air. Dust suppression guidelines are provided by the US Department of Labor under Occupational Safety and Health Administration. This is an example of Oregon's guidelines (<http://www.cbs.state.or.us/osha/pdf/pubs/3301.pdf>).

Deconstruction does not need dust suppression. Systematic dismantling or unbuilding does not produce airborne particulates on the level that jeopardizes air quality. As industry professionals we need to add this to our list of reasons why deconstruction is beneficial. More importantly, hundreds of gallons of clean water are not going into our sewers or landfilled as hazardous materials.

As building material reuse professionals we are continuously educating others about the benefits of deconstruction. Saving building materials through deconstruction instead of demolition creates jobs and produces environmental benefits by reducing the CO2 emissions created from building materials being disposed of in landfills, as well as reducing the consumption of raw goods like lumber. Water conservation and air quality must be elevated to the forefront of the reasons supporting deconstruction, especially considering the current climate change and drought conditions, making water usage in demolition a pertinent and timely topic.

As advocates for building material reuse, we must continually educate others about the multifaceted benefits of deconstruction. By expanding our perspective to include water conservation and air quality, we contribute to a more comprehensive understanding of the positive impact of deconstruction on both the environment and public health.