



Calculating the Cost Effectiveness of Recycling C&D

When considering if recycling construction and demolition waste (C&D) materials from the jobsite makes financial sense, there are a few basic steps for calculating the cost of recycling and comparing that cost to the cost of C&D disposal.

Step 1. Create a waste management plan that estimates the type and quantities (tonnages) of waste materials anticipated for the jobsite.

Step 2. Determine if the recyclable materials will be source separated (separated at the jobsite and hauled in different containers) or commingled in one dumpster. Calls to the local recycling coordinator may be necessary to determine the type of C&D recycling services available in the immediate geographic area. Direct hauls to haulers will also identify the type of recycling services they provide. For a description of the advantages and disadvantages of source separation and commingling of C&D, go to www.nerc.org/documents/new_opportunities_for_haulers.pdf

Step 3. Estimate the tons of each waste material to be generated at the jobsite.

Step 4. Convert the material tonnages to volume so that an estimate of dumpster size and number of dumpsters can be estimated. Haulers/recycling companies will be able to provide the conversion rates for each material type they handle. One example: A 30 yard dumpster will be needed for cardboard at a jobsite. It is estimated that the 30 tons of cardboard to be generated will require the dumpster to be emptied 20 times.

Step 5. Calculate the cost of recycling each material type by multiplying the number of dumpsters times the hauling rate (also known as the pull rate), plus the total tons of material times the tipping fee charge per ton of material. In many communities the hauling and tipping fee for recyclables is far less than disposal and for materials like cardboard, there may be no tipping fee charged. The table below provides an example of calculating the cost for recycling cardboard.

Cardboard Recycling					
Dumpster Size	Anticipated # of Dumpsters	Pull Rate (Hauling Rate)	Tipping Fee per ton of material	Material Tons	Total Recycling Cost
30 yard	20	\$150	\$0	30 tons	\$3,000

Step 6. Compare the cost of recycling to disposal to determine the cost effectiveness of recycling each C&D material. In the example provided, the cost of disposing the cardboard is more than four times the cost of recycling it.

Cardboard Disposal					
Dumpster Size	Anticipated # of Dumpsters	Pull Rate (Hauling Rate)	Tipping Fee per ton of material	Material Tons	Total Disposal Cost
30 yard	20	\$350	\$175	30 tons	
Totals		\$7,000	\$5,250		\$12,250

Total Disposal Fee = \$12,250

Total Recycling Fee = \$3,000

By calculating the recycling cost for each waste material to be generated, contractors may save a substantial amount of money on disposal and divert a significant amount of materials to recycling.