DOE’s Strategic Sustainability Performance Plan outlines sustainability goals for DOE sites, including a waste diversion goal of 50 percent for construction and demolition waste. When demolition was completed, an impressive 75 percent of the material not destined for the low-level waste sites had been recycled. Filling up the large hole left after the demolition is 15,000 cubic yards of salvaged soil, enough to cover an NFL football field over 7-feet deep, including the end zones. The soil was set aside years earlier in a “borrow pit” set up at Berkeley Lab to store material excavated from construction of the LEED Gold-certified Building 67, the Molecular Foundry. This process reduced transport costs and vehicle emissions.

It’s no small thing to take down a Bevatron.

Berkeley Lab’s cavernous Building 51 housed the Bevatron, a 6-billion electron volt atom-smasher (brighter than the sun) that was the workhorse of U.S. particle physics research from 1954 until it shut down in 1993.

Four Nobel Prizes were awarded to Berkeley Lab scientists for discoveries made there. However, the aging giant had become obsolete, superseded by more powerful particle accelerators already in use or on the drawing boards. The $50 million demolition project began in August 2009.

Berkeley Lab set out to make the project a model for safe and sustainable demolition practices. Major efforts were undertaken to separate and safely store low-level radioactive waste and asbestos-containing siding. Some 3,000 tons of concrete exposed to radiation from experiments at the Bevatron were carted to low-level radiation waste storage in Nevada.

Non-hazardous waste was separated and sent to recycling and reuse facilities. All of Building 51’s structural steel girders and electric cables were hauled away for recycling. Reusable (non-radioactive) concrete shielding was transported to other DOE labs where it is being redeployed for the same use. More than 2,000 truckloads of concrete found free of radiation and chemical residue was sent to Bay Area recyclers for crushing, and much of that material will be used for roadbeds and foundations. Some of it may even find its way back to the old Bevatron site, which is being readied for new labs and a new era of scientific discovery.

Bevatron Demolition Waste Reduction