

LANDFILLS AND CONCRETE SHOULDN'T MIX



Concrete recycling is a natural in Houston, where natural aggregate is scarce.

Construction and demolition companies are no strangers to concrete recycling. For many of them, it's a way of doing business.

Iafrate Construction (Warren, Mich.) has been recycling concrete for more than 20 years. Its owner, Italian-born Angelo Iafrate, is known as the one of the foremost concrete recycling contractors in the country.

According to Michael Gleeson, Iafrate's manager, Angelo is from the old country, and he despises waste. "But the economics of recycling the material also appeals to him. "Natural aggregate is getting more and more scarce. And it's not like a tree. You can't just plant aggregate," Gleeson says.

When Iafrate first made the decision to reuse concrete, he bought a jaw crusher and a cone crusher from Cedarapids, Inc., an Iowa manufacturer. His brother Guido attached the machines, along with conveyors and a magnet, to a trailer.

Twenty years later, Iafrate processes 500,000 tons per year, using five different crushers that Guido put together himself. And now Cedarapids sells a whole line of portable concrete and asphalt crushers — similar to Iafrate's original contraption.

Recycled concrete may be better

Crushers built on trailers can be transported to a demolition or renovation site. Fed into a jaw crusher, large chunks of concrete are broken into 6-inch pieces, which are transported by conveyors to a cone crusher. Above the conveyors are large magnets, which attract and remove any steel (which is recycled at a local scrap yard).

Inside the cone, concrete can be crushed into two sizes.

Pieces 1 or 2 inches in diameter can be used as aggregate in sub-bases of parking lots and some roads. Smaller pieces can be used as aggregate in the top layer of concrete — even on major interstates.

Fine residue from the broken pieces can also replace sand in the top concrete layer.

According to Gleeson, roads that have used this recycled concrete have held up just as well as those made with natural aggregate. In fact, he says, recycled concrete is often a better quality material: Any soft stone in the original concrete is sifted out in the crushing process; the aggregate that comes out has a bigger surface area and binds better with cement.

Although some states used to try to keep recycled concrete out of their roads, many states, like Michigan and Texas, now mandate that a certain amount of the original material be reused in highway renovation.

Demand for recycled concrete has risen and fallen, according to Gleeson. "There have been times when we didn't have enough of the stuff," he says. But large demolition contracts can cause stockpiles as well. About five years ago, Iafrate received all the concrete rubble from an entire Dodge Motors plant demolished in Hamtramck, Mich. "We finally sold the last of it this year," Gleeson says.

Filling a market gap in Houston

Materials suppliers, have also found a niche in concrete recycling. In fact, one contractor/supplier — an old customer of Iafrate's — took the idea to Texas, where he started two companies.

Richard Bumstead moved to Houston in 1981 to take advantage of the construction boom there. In an area that has very little natural aggregate, contractors pay high prices to import it from other parts of the state. Yet no one was recycling concrete on a large scale. So Bumstead started Hous-

ton Crushed Concrete (HCC).

To keep HCC steadily supplied with concrete rubble, Sylvia Bumstead, Richard's wife, owns and operates Houston Concrete Demolition (HCD). HCD uses a Pettibone Universal "Thumper" to break down concrete at demolition sites. Hydraulic excavators remove the concrete, which is hauled to one of six HCC yards. HCC's portable crushing plants use Cedarapids jaws and Cedarapids-El Jay cones to process the large pieces from HCD.

Other, similar operations

Even smaller contractors have installed their own crushing facilities. Vollers Excavation and Construction (Branchburg, N.J.) added a portable plant to its operations in 1987.

On large excavation jobs, workers take the mobile crusher to the site to handle it there. The clean concrete can be laid right back down as a base. The company's president, Herbert Vollers, prefers the German-made Boehringer

crusher to some domestic models. He has, however, fitted it with a Caterpillar generator instead of an engine.

As of summer, 1988 (when crushing operations halted because of local zoning problems), the plant cycled about 100,000 tons of concrete. Although it uses more stone than recycled aggregate, Vollers, with the recycled concrete, and even uses his crushed cycle asphalt.

"We're tickled with the end product," he says. "It's an ideal." New Jersey's Somerset County agrees; it has made Vollers's recycling operation part of its waste management plan!

Similar commercial concrete recyclers have operations in West Babylon, N.Y., as well as on the West Coast in Santa Monica and Sunnyvale, Calif. Videotape subjects are available from Cedarapids.

— Kathi

WHO SAYS APARTMENT DWELLERS WON'T RECYCLE?

A year or two ago, those looking over the apartment house recycling scene might have concluded that those residents don't recycle. Add up the negatives: inconvenient collection locations, extra maintenance work, and renters' attitudes.

But now many tenants are recycling, more from necessity than anything else. In cities all over the country, the disposal crisis has dictated that apartment dwellers separate their newspapers, glass, and cans with the rest of the community.

Programs in New York

New York City tenants know that better than anyone. With help from the local Environmental Action Coalition (EAC), some apartments in the Big Apple have been recycling newspapers since 1984. The city's Department of Sanitation (DOS) now uses two different methods to collect newspa-

pers, glass, and metal from apartments; the EAC supplements that service with private collection.

In late 1986, the DOS started collecting from apartment buildings in Greenwich Village (a neighborhood in Manhattan) as part of a citywide curbside recycling program. Buildings with 100 units or less tie their newspapers to the curb; DOS recycling employees collect them on a day that coincides with the regular newspaper collection. Now eight of the city's 59 districts participate in the program, which includes service to more than 250,000 residential units. Parts of Brooklyn, Queens, and Staten Island have begun separating glass and metal as well.

But perhaps the more interesting arm of DOS recycling is CAHRP — the Containerized Apartment House Recycling Project. Buildings with 100 or more units use 1- or 2-cubic-yard containers. Tenants can deposit newspapers (and glass and metal in some buildings) in