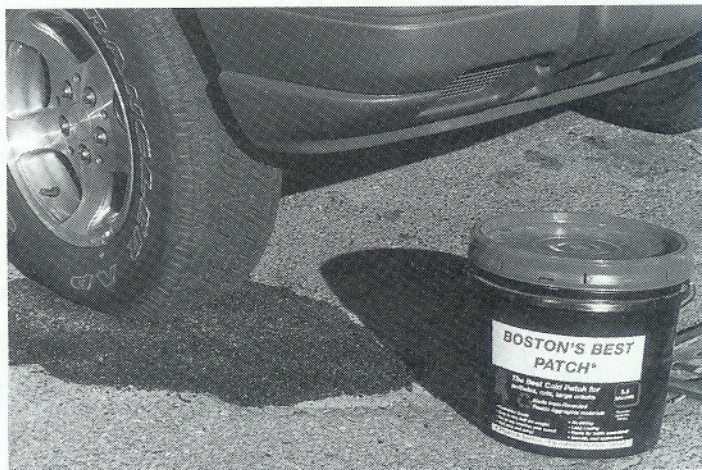


# BUSINESS TAKES RECYCLING TO THE LIMIT



Conigliaro Industries collects 80 kinds of used plastics, including computer monitors (left). Some are recycled into products like Boston's Best Patch (right), which is used to repair potholes and large cracks in pavement.

*Entrepreneur flourishes by recycling as many materials as possible for customers and turning many recyclables into products.*

**G**REG CONIGLIARO was working as a contracted consultant for the Massachusetts Department of Environmental Protection (DEP) in 1990 when his career destiny began unfolding. As part of his assignment, he reviewed a draft of the state's solid waste master plan, which indicated more bans on land-filling certain materials would be coming as Massachusetts tried to jack up its recycling rate from five to 46 percent by 2000. Soon after his work for DEP was completed, he participated in an Earth Day fair with his father, who was displaying environmental products that he sold. Serendipity put Conigliaro next to someone in the paper recycling business who enlightened him about the opportunities in that field.

"I realized that the state had this tremendous recycling goal and there was hardly anybody in place to do the work," Conigliaro recalls. "The 20th anniversary Earth Day was a big deal and the (Mobro) garbage barge was in the news. The momentum was there to start a recycling company. I dropped everything, leaving my job and founding my own paper recycling business in 1990."

What began as a one-man operation has since grown into an enterprise that has recovered over 25,000 tons of various materials, the equivalent of 10,000 filled tractor

trailers. Conigliaro Industries serves 550 accounts across New England, including 150 industrial plants, 45 schools and colleges, 40 hospitals, 25 biotechnology firms and 18 town dropoffs. The company operates a 88,000-square-foot materials recovery facility with 40 employees and a fleet of ten trucks, 50 trailers and 150 roll-off containers. Average growth is 30 percent and sales hit \$2.6 million last year.

## BOOTSTRAPPING START

This tremendous success grew from a rather fragile foundation. Without a big piggy bank or major investor, Conigliaro maxed out his personal credit cards at \$45,000 for start-up capital. "It was hairy at the beginning," he says. "I was paying my credit cards off with other credit cards. I was lucky enough to survive without trashing my personal credit...The early days were comical because I would make pick ups, jump off the truck and put on my suit for a sales call, then go back into the truck for another collection stop."

After four months, Conigliaro hired a retired executive to arrange sales appointments. "At the time, you could get access to see people very easily by telling them you had a recycling company," he notes. "Personnel all the way up to the CEO spoke with you. With the recession, people were looking

to save money, and the environment was a hot issue.”

By the end of the year, a truck driver had been hired, and the company changed its name from Conigliaro Engineering to Conigliaro Industries. Even though the business earned profits, maintaining growth proved difficult. “We had so many customers that wanted to give us business, but we couldn’t bring all of them on because we couldn’t afford the equipment,” Conigliaro explains. “It’s a very capital intensive business. Even to this day, most of the money gets pumped back into the company to keep it growing. It’s just been the last few years that we haven’t had to worry about cash flow.”

Several years after the company’s founding, Conigliaro Industries faced a challenge that threatened to ruin it. While achieving tremendous growth, the company hired many employees. Due to inaccurate projections, its insurance company demanded that a retroactive insurance premium of \$64,000 be paid in seven days. At the time, the company only generated \$9,000 in sales per week, and Conigliaro considered shutting things down. A flurry of phone calls to government representatives and insurance officials bought enough time to pay the bill. “It was one of those times when you get the most creative as your back is to the wall,”

says Conigliaro.

Issues such as this arise in discussions within the Young Entrepreneurs Organization, which has about 80 members in Boston and 3,500 around the world. Joining the group was one of the best moves he made, says Conigliaro. “You get to talk with people who have a lot of knowledge about the problems that entrepreneurs face.”

One of those ongoing challenges is finding talented employees in a state with low unemployment. “One great thing about having family involvement is that you can rely on each other and know that someone won’t move to another company,” says Conigliaro. In fact, family support has proved vital to his success. Conigliaro’s parents gave him an early loan and years later, his brother Douglas became an investor. His mother and aunt (Martha) handle bookkeeping chores. In addition to his own work, Conigliaro’s father, Anthony, used to help out at night and on some weekends. When Anthony retired from his job in the mid-1990s, he joined Conigliaro Industries as full-time director of operations and inventions.

#### **MAKING RECYCLED PRODUCTS**

As a mechanical engineer, Anthony had already developed several patents while working on products such as power equip-

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## **CHELSEA CENTER FOR RECYCLING AND ECONOMIC DEVELOPMENT**

**T**HE SUCCESS of Conigliaro Industries’ Boston’s Best Patch, a cold patch made from recycled plastics and aggregate, was helped by a \$8,000 grant from the Chelsea Center For Recycling And Economic Development, which allowed the company to determine the best formula for the product. The funding is one of many ways that the Chelsea Center has been supporting recycling and creating jobs since its founding in 1995. Staff work with manufacturers to overcome technical and business barriers to use of recyclable feedstocks, help municipalities recognize the value of their recyclable materials and turn them into new products, and educate economic developers and business organizations about the value of working with the recycling industry.

The list of last year’s accomplishments is impressive. Over 300 people participated in workshops sponsored or cosponsored by the Chelsea Center, and over ten manufacturers directly benefitted from 15 grants to develop, improve or test recycled products. Seventeen companies used 21 grants to offset the costs of marketing their products at exhibitions, and 33 municipali-

ties and other agencies received recycled products manufactured in Massachusetts through pilot purchases. The Center assisted in the entry of five new or improved recycled products into the marketplace. A Strategic Plan for Recycling Market Development for the Commonwealth was completed and is being implemented.

Five R&D projects include: Producing aggregate from mixed plastics and fly ash; Scrap rubber/thermoplastic material that makes rubber act like a thermoplastic; Use of waste shingles in hot mix asphalt; Use of scrap tires as a substitute for gravel in septic systems; and New uses of engineering thermoplastics from electronics equipment.

One of many initiatives in the past year was cosponsorship of an Organics Stakeholders Forum with the Center for Ecological Technology (CET), the state Department of Environmental Protection and the Environmental Protection Agency, Region 1. More than 100 stakeholders participated in identifying barriers to increased diversion of organics from landfills.

Another new initiative was formation of the Community Economic Develop-

ment through Recycling Program. Four proposals were chosen for funding for fiscal year 2000: Investigating the potential for remanufacturing enterprises in Boston, focusing specifically on medical equipment remanufacturing in Chinatown; Adapting fast composting technology to Chinatown’s food-related businesses, then marketing it; Identifying materials that can be exchanged among existing and new businesses in the towns of Adams and North Adams; and Assessing the potential of various manufacturing wastes as feedstocks for recycling-based manufacturing opportunities in Taunton.

“Next year we will continue these initiatives,” says Amy Perlmutter, the center’s executive director, “and we are also planning to create a network of recycled product manufacturers with support of our state office of business development.” The Chelsea Center has posted an update on its website to include 173 manufacturers, which employ 12,000 people and use close to four million tons/year of recovered materials. For more information, contact the Chelsea Center at (617) 887-2300, e-mail [info@chelseacenter.org](mailto:info@chelseacenter.org) or visit [www.chelseacenter.org](http://www.chelseacenter.org).

ment, bug zappers, log shredders, the first plastic dentures and the first large-screen TV, according to Conigliaro. His first product at Conigliaro Industries was PolyCorn packaging peanuts made from fully recycled, 92 percent postconsumer polystyrene. "We were getting foam material in like crazy, and we thought it would be neat to make a product out of it," says Conigliaro. "We sell as much as we can make. That's one problem of manufacturing from recycled material — sometimes you don't have enough." Conigliaro also makes Pink PolyCorn from fully recycled polyethylene foam, polypropylene foam and plastic #5.

In 1998, the company used a \$110,000 grant from the American Plastics Council, a \$45,000 grant from the Massachusetts Department of Environmental Protection and



**Pallets are crushed with an excavator grapple and sent to a colored mulch producer.**

a \$8,000 product development grant from the Chelsea Center for Recycling and Economic Development to develop Boston's Best Patch. The product is a cold patch made from 100 percent recycled aggregate materials to fill potholes and large cracks in pavement. The material is a mix of ground mixed plastics, including old computer housings and flower pots, liquid asphalt, and standard aggregate.

Boston's Best Patch was tested in four towns through the state's Pilot Purchase Program and worked effectively. It is sold in hardware stores in 30-lb buckets, each using 20.4 lbs of recycled plastic. This makes the product much lighter, giving it significant advantages in transport and ease of handling.

Conigliaro Industries recently started manufacturing Plas-Crete, a line of concrete products made with mixed plastics instead of stone aggregate. Using a proprietary coating system, the plastics sink in concrete rather than float, ensuring proper batching. Products will include car bumper stops, retaining wall blocks and paving blocks. Like Boston's Best Patch, the plastic aggregate results in a final product with half the weight of its mainstream counterpart. "The goal of the two lines will be to eat up all of our plastics," says Conigliaro. "Eventually, we would like to sell them at a high enough price so we won't have to charge money to collect plastic."

**Conigliaro charges a collection fee, then credits customers for 80 percent of their materials' market value, which is posted on the company website.**

The company also crushes damaged pallets with an excavator grapple and sends the wood to LandscapeXpress (See "Composters, Wood Recyclers Find Expansion Opportunities," May, 2000), which denails, shreds and colors it before returning the mulch to Conigliaro for sale. About 100 tons of wood go into mulch production each week.

#### **COMPETITIVE ADVANTAGE**

Making new products is a logical extension of the company's mission to recycle as many materials as possible. Collecting additional items set Conigliaro apart in his early paper recycling days, and taking a wide range of materials today continues to distinguish the company. Clients can fill out a form on the company's website ([www.conigliaro.com](http://www.conigliaro.com)) and send in a sample of any material to see if Conigliaro can recycle it. (The company also e-mails customers about new recycling laws and regulations that will affect them, such as the ban in April on disposal of computers in landfills.)

In some cases, it doesn't require laboratory testing or development of a new product to recycle a customer's difficult material — just finding someone to take items like building materials, foam insulation, used boxes and bubble wrap. For example, Conigliaro agreed to accept Astroturf being removed from a soccer field. Conigliaro instructed the contractor to cut the material into strips seven feet wide by 20 feet long, all of which it sold for \$4.50 each as backyard putting pads.

Conigliaro charges a collection fee, then credits customers for 80 percent of their materials' market value, which is posted on the company website. "People love to know that when the market goes high, they do better," he says. "But no matter what the market does, I'm covered since it's a percentage. Other recyclers have taken a material for free and kept all of the value, but when the market went down, they vaporized." Some Conigliaro clients have reduced their waste by 90 percent, and one customer saved \$100,000 in its waste disposal costs for the year.

For municipal recycling departments, Conigliaro Industries provides program setup, containers and equipment, hauling, processing, and sales of commodities. It helps over 40 municipalities recycle a wide range of steel, aluminum, glass, and plastic food and drink containers, other plastics, office paper, mixed residential paper, cardboard, newsprint, magazines, scrap metal, computers and electronics, mattresses and boxsprings, batteries, fluorescent bulbs and ballasts.

"We now handle 150 materials, including 80 plastics," says Conigliaro. "We have collection bins in operating rooms, cafeterias, large industrial plants — you name it. We don't chase a material — we chase a customer. There are customers putting 15 different materials on the same recycling truck. We specialize in being unspecialized." — D.B. ■