

EPA Land Revitalization Technical Assistance Project

Active and Former Sugar Beet Facilities in Colorado



EPA, the Colorado Department of Public Health and Environment (CDPHE), and the Colorado Brownfields Foundation (CBF) have been working with towns in Colorado to evaluate the challenges associated with sugar beet processing facilities and identify opportunities for potential environmental improvements and redevelopment for underutilized or abandoned properties.

Background

One of the early drivers of agro-industrial growth in the West was sugar beet planting and processing. Between the years of 1899 and the early 1920s, over 20 sugar beet processing facilities were constructed in Colorado. Given market conditions, water limitations, labor shortages, and other factors, the sugar beet processing industry declined steadily in Colorado from the 1960s to the present. Currently, only one active sugar beet processing facility remains in Fort Morgan, Colorado.

In addition to direct economic impacts such as decreased employment and tax revenues, the decline of the sugar beet processing industry left a legacy of environmental and redevelopment challenges in high plains communities. One of the challenges with site redevelopment is the presence of large amounts of sugar beet lime (SBL) waste generated as a by-product of sugar beet processing. This material was generated in large volumes and can impact the structural integrity of land, preventing its use for new purposes. Another challenge is the potential presence of asbestos in the factory buildings.

Brownfields Redevelopment Efforts

EPA Region 8 and CDPHE, working with the CBF, have undertaken a number of efforts to address the environmental and redevelopment challenges associated with sugar beet processing facilities.

- In 2009, EPA funded a CBF project including stakeholder outreach and consideration of redevelopment opportunities and challenges for the sugar beet processing facilities.
- In 2010, EPA completed a site investigation at the former sugar beet processing facility in Eaton, where drums left on site posed a potential immediate concern to human health and the environment and an impediment to reuse of the property. The Town of Eaton now owns this site and intends to redevelop it as an industrial business park with a rail-served, mini-transload facility.
- In 2010, EPA implemented a technical assistance project to identify active and former sugar beet processing facilities in the state and to collect specific information relevant to redevelopment (e.g., location, population, economic setting, utility and transportation access, waste reuse options, area industries, and other factors) for three towns with active or former facilities - Fort Morgan, Ovid and Sterling. These towns along with other communities in the state are beginning to work together to address sugar beet processing facilities in their communities.

Part of the EPA technical assistance included the development of a sugar beet facility inventory to gain a better understanding of the sugar beet facility universe in Colorado. The sugar beet inventory effort identified over 20 locations that likely had sugar beet processing facilities at one time. Available information about these sites (e.g., location, ownership, years of operation, operating capacity, current use, acreage) was compiled as a starting point for further work in this sector. Figure 1 shows the locations identified to date.

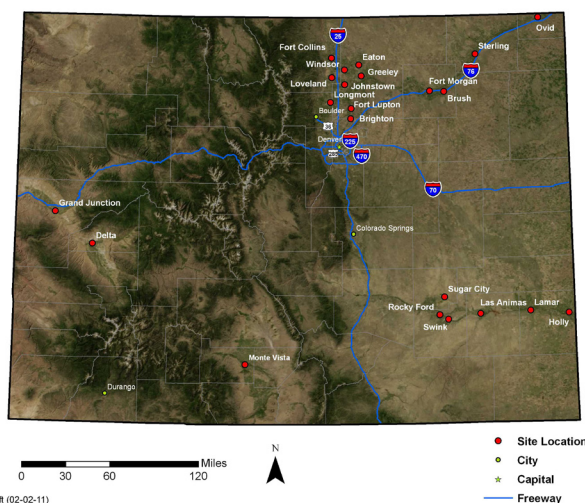


Figure 1 – Former and Active Sugar Beet Processing Facilities in Colorado

Sugar Beet Lime Waste Reuse Potential

One of the challenges associated with former sugar beet facilities is the potential presence of high volumes of SBL waste. Managing or reusing SBL waste would help support efforts to expand, attract and retain industrial operations, and would improve quality of life by helping to reduce potential environmental and nuisance issues associated with SBL waste (e.g., dust). In addition, finding a suitable reuse for SBL waste would allow land currently used for SBL waste management (e.g., piles or ponds) to be used for other productive purposes.

Research conducted through the EPA technical assistance project identified possible reuse options for SBL waste, which included:

- Agricultural soil amendment applied on soils to improve soil pH and increase crop yields
- Engineered fill or landfill daily cover applied to construction sites, roads and/or at landfills
- Recalcination to return material to calcium oxide for reuse by active sugar beet factories or paper factories
- Cement kiln feedstock as a substitute for limestone feedstock
- Ingredients for manufactured products such as paper, plastic, glass, paints, chemicals, ink, putty and food products
- Neutralizing agent in local industrial and/or remediation processes, including plating operations, power plant flues, landfill operations, acid mine drainage remediation sites, spent sandblasting media, and sewage treatment plant digesters

The two most promising reuse options for reducing SBL waste piles were identified as using the SBL waste for 1) cement kiln feedstock and 2) engineered fill or landfill daily cover. Cement kiln feedstock ranked the highest. Although, the cost to transport SBL waste to local cement kilns may be a challenge.



Fort Morgan Sugar Beet Processing Facility, the only active facility remaining in Colorado (Longmont Blogspot, 2009)

Current Status

Many of the former sugar beet processing facility sites in Colorado remain abandoned, idled or underutilized. However, a few sites have been redeveloped as recreational areas, are used as storage silos, or have been put to full or partial use for commercial, industrial or public works purposes. For example, the sugar beet factory site in Greeley, Colorado is being redeveloped as a Leprino Foods, Inc., cheese factory. The original facility was demolished in 2008 and over 700,000 cubic yards of SBL were either removed from the site or remixed with other onsite soil as fill dirt, which made it strong enough to build on. The first phase of the plant is expected to be operational in late 2011 with the full 847,000-square-foot facility expected to be completed by late 2012. The site's location in an urban renewal district, which provides property tax rebate opportunities, helped encourage Leprino Foods, Inc., to acquire and develop the property. The plant and its 500 jobs are expected to produce a major economic uplift to northern Colorado, especially to the state's dairy industry.

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