

Brownfields Success Story

Clean Water Funds Brownfield Redevelopment - Yorklyn, Delaware

In the late 1800s, the Marshall Brothers Paper Mill opened business and developed deep roots in Yorklyn, Delaware. The mill initially produced grist, snuff, paper, and fiber. Through years of success, the mill expanded its operations and transitioned to National Fibre and Insulation Company in 1904, and to National Vulcanized Fibre (NVF) in 1922, which continued to manufacture paper products and fiber.

Over time, the heavy industrial exploitation of the Yorklyn site contaminated the soil and groundwater of the surrounding area. Large quantities of zinc, sodium hydroxide, hydrochloric acid, and mercury were deposited into the environment. As such, the USEPA began evaluating site conditions as early as 1997, and even conducted a Response Action in the oldest portion of the site in 2002. Still, NVF operated daily until 2003 when demand and production slowed.

Throughout 2008, discussions began between the Delaware Department of Natural Resources and Environmental Control (DNREC) and NVF owners about the fate of the plant and the scenic lands owned by NVF around the plant, but the national market showed signs of regression. In April 2009, the company entered into their third bankruptcy, and the plant was subsequently closed. Later in 2009, despite the high levels of pollutants from the industrial uses of the site, DNREC began development of the Auburn Valley Master Plan that showed a large majority of NVF's 119 acres being added to the 192 acre property known as the Auburn Heights Preserve and an additional 121 acres known as Oversee Farm. These two properties became the anchors for the Auburn Valley Master Plan.

Priming the Property for Redevelopment

In 2006, EPA awarded DNREC a \$1 million Brownfield Revolving Loan Fund (RLF) grant. RLF grants provide funding for a recipient to capitalize a revolving loan fund and provide subawards to perform cleanup activities at brownfield sites.

Approximately \$425K of the RLF grant was loaned to Auburn Village LLC for asbestos removal at the NVF Yorklyn site. In addition to the Brownfields RLF grant, \$3.3 million of a Clean Water State Revolving Fund (CWSRF) was loaned to DNREC to remove zinc contaminated soils and create a new wetland for flood-water storage by capping residual contaminated soil with clean fill material and appropriate landscaping. In total, over \$5 million in state funds, along with federal funding from the Federal Emergency Management Agency and EPA have been expended in cleaning up the Yorklyn site and preparing it for redevelopment.

Construction crews began the zinc source removal/wetland project in December 2016 and completed work in August 2017. During this time, approximately 170 tons of zinc were removed from the soil beneath the former NVF facility, along with 200 pounds of lead. On January 1, 2018, DNREC shut off the long-operated groundwater treatment system to evaluate the adjacent Red Clay Creek's ability to assimilate remaining dissolved zinc from groundwater. DNREC reports that as of December 2018, the groundwater treatment system is still shut down, and monthly surface water monitoring results in the creek have remained



The abandoned Former National Vulcanized Fiber facility was an eyesore and a risk to human health and the environment.

EPA Grant Recipient:
Delaware Department of Natural
Resources and Environmental Control

Grant Types:
Revolving Loan Fund

Former Uses:
Paper Mill / Industrial

Current Uses:
Mixed Use/Commercial



A rendering of potential redevelopment on the site.



DNREC receiving the PISCES (Performance and Innovation in the SRF Creating Environmental Success) award for an exceptional project.

“As a longtime resident of northern Delaware, I have seen the NVF-Yorklyn facility and the surrounding area evolve from an industrial landscape through remediation and restoration to its current status as part of Delaware’s newest state park. Through community involvement, land donations and acquisitions, unique public-private partnerships, and steadfast dedication and innovation from DNREC’s multi-Divisional project team, this area will once again be bustling with activity and economic productivity.”

Shawn M. Garvin
Secretary

Delaware Department of Natural
Resources and Environmental Control

For more information:

Visit the EPA Brownfields website at www.epa.gov/brownfields or contact Brett Gilmartin at (215) 814-3405 or gilmartin.brett@epa.gov

below applicable criteria. CWSRF and Brownfield RLF funds were utilized in distinct ways to achieve cleanup goals. Preservation of the historical legacy of the site was integral to DNREC’s master plan. Planning teams have left certain historic buildings intact, and with signage, to help tell the story of the original Marshall Brother’s Paper Mill. Additionally, an industrial history museum is planned to further explain the historical significance of the site.

The century long site activity and numerous expansions of the facility over the years provided no shortage of unique and unexpected situations. In fact, the unofficial motto for DNREC’s NVF-Yorklyn project managers is “don’t be surprised by surprises.” Some obstacles in the path towards redevelopment were unknown/forgotten underground structures, foundations, process lines, former waste disposal activities, and constant potential for flooding. Effective partnerships with public and private entities, along with support and guidance from various EPA programs, propelled the Auburn Valley Master Plan forward to overcome the obstacles of site remediation and flood mitigation.

A New Yorklyn

On November 9th, 2018 federal and state officials joined together for a ribbon-cutting of the grand opening of the Auburn Valley State Park. The state park encompasses 366 acres and includes parts of the NVF-Yorklyn site that have been remediated. New trails now run through an area that was once contaminated with zinc and lead, and that was at constant risk of flooding. The park promotes environmental stewardship and boosts the regional economy for Delawareans.

Additional economic boosts have come from private development in the area. Developers have utilized the clean land and aesthetic value of the creek and forest to stimulate business in the area. For example, the Dew Point Brewing Company is a micro-brewery that opened to the public near the state park. Restaurants and an outdoor amphitheater are expected to be opened soon.

The exceptional work completed at NVF-Yorklyn led to DNREC receiving EPA’s PISCES award in 2018. The PISCES award is given to CWSRF recipients that have improved water quality, public health, or economic benefits with a focus on sustainability and innovation. DNREC’s PISCES award recognizes the importance of the new wetland to mitigate flooding and improve water quality of nearby creeks. Furthermore, the PISCES award was given to DNREC for their innovative approach to funding the project and for improving the local economy of the district.

Down the Road

The cleanup and redevelopment of the National Vulcanized Fiber site in Yorklyn, Delaware is an exemplary model for Brownfields projects across the country. Projections from an economic analysis conducted on behalf of DNREC indicate that the NVF project has generated 323 full and part time jobs and \$33.1 million in total economic output. Additionally, the project is estimated to generate approximately \$1.5 million in state and local taxes each year.

Yorklyn Village is the first success of many to come in Yorklyn. Project managers and site developers are continuing to design the area into a reinvented hub of recreational activity with the possibility of commercial and residential development. Under their leadership and innovative approach to revitalization, the site will maintain its historic character and provide opportunities to improve the quality of life for Yorklyn’s residents and visitors.