

The Spicket River & Facella Lot Restoration Project / Rubchinuk (RFR BWSC 11 NRD 01)

Final Project Report

Groundwork Lawrence

10/31/2014

Funds from the Massachusetts Department of Environmental Protection's Natural Resource Damages (NRD) Program was integral to this project. Soft costs – including survey, design, permitting and project management – as well as construction costs were funded through a grant awarded by the NRD Program. By order of the Suffolk Superior Court entered on March 10, 2010, funds were transferred to the NRD Trust to support community revitalization projects lieu of conducting a project on the former Rubchinuk Landfill site on East Street in Middleton, Massachusetts, a property contaminated by the illegal landfilling of construction and demolition debris.

Introduction

Groundwork Lawrence received funding from the Massachusetts Department of Environmental Protection for the implementation of several restoration projects along the Spicket River. This report summarizes the activities undertaken to fulfill the project requirements.

The Facella Lot Restoration and Park Project created a new waterfront pocket park along the Spicket River adjacent to a prominent gateway to the city. The program for the park was determined through a two meeting community outreach process with residents and guidance from city staff. The park is an integral component to the regeneration of this part of the city.

The Spicket River Bank and Instream Restoration project was developed five years in partnership with the Commonwealth's Division of Ecological Restoration. Three sites were improved through a range of restoration projects designed to improve the habitat and accessibility along the Spicket River Corridor. These improvements are important to the wildlife living along and in the stream and provide safe locations for the community to safely access the river.

The Spicket River Crew employed six young adults over the summer of 2013 to remove solid waste from the Spicket River Corridor. The sites were identified because they have proven to be a significant challenge for Groundwork's typical volunteer cleanup events. By hiring a crew specifically trained to safely remove solid waste we were able to make a significant impact. Over the course of the project the Crew was able to fill three 30 yard dumpsters with trash, one 30 yard dumpster with tires, and half a 30 yard dumpster with salvaged steel. Countless electronics were recovered from the river as well. All waste was taken to the Lawrence DPW yard for appropriate disposal by the city.

Funds from the Massachusetts Department of Environmental Protection's Natural Resource Damages (NRD) Program was integral to this project. Soft costs – including survey, design, permitting and project management – as well as construction costs were funded through a grant awarded by the NRD Program. By order of the Suffolk Superior Court entered on March 10, 2010, funds were transferred to the NRD Trust to support community revitalization projects lieu of conducting a project on the former Rubchinuk Landfill site on East Street in Middleton, Massachusetts, a property contaminated by the illegal landfilling of construction and demolition debris.

1. The Facella Lot Restoration and Park

The Facella Lot is a 7,566 SF parcel located adjacent to the Spicket River and at the intersection of Brook and Newbury Streets. The highly visible parcel remained vacant for many years until it was used as a staging ground for the reconstruction of the historic East Haverhill Street Bridge. As a corner lot with limited area for redevelopment, the site was identified as a park opportunity during the development of the Spicket River Greenway when the City of Lawrence rezoned the parcel for open space and recreation.

For several years, open space planners had considered using the site as a community garden with public amenities along the riverfront. Upon securing funds for the restoration of the vacant lot, Groundwork Lawrence implemented two public meetings to determine the neighborhood's goals for the park. The first public meeting introduced the site's three distinct zones: the overlook, riverbank, and open area as well as precedent imagery to help residents visualize how the park's program could be realized.



Open Area (Before)



Overlook (Before)



Riverbank (Before)

After a brief presentation the thirty meeting attendees visited the site to better understand the three zones. While at the site residents were encouraged to draw the type of improvements they would like to see and they used red or green dots to identify spaces they liked or disliked. When we returned to the meeting room participants discussed their findings in small groups and then presented them to the larger audience. A lot of good ideas were presented and are summarized below:

A. Overlook

Hardscape and benches / Picnic tables / domino tables
Stage and steps to second overlook. Like an amphitheater.

B. Riverfront

Terrace down to river to protect bank from scouring
Wood and stone reinforcing
Native trees (river birch and pin oak) important to shade the river
Steps to the river (Moderate concern about safety)
Partial / controlled access
Recreation: Fishing and Kayaking
Nature Zone /Amphitheater with steps down to the water

C. Open Area

Glass building with tennis and/or volleyball court inside
Exercise Park / Health and wellness / Outdoor gym
Stage for cultural events, movies (multifunctional)
Enclosed area for kids to play while parents are at outdoor gym
Swings and slides /Place for kids to play
Garden and nature area for butterflies and birds
Picnic space with tables and garden
Needs grading to create level space
Fence-line (eastern property line) needs to be opened up for safety,
building needs to be concealed by shrubs.
Lights to make the park safe
Entrance on Brook Street



Using the ideas generated at this meeting the design team prepared three park concepts. The concepts focused on providing a diversity of options for park users; using vegetation to create a safe environment, restore the riverbank, and establish themed gardens; and using best management practices to ensure stormwater does not negatively impact the Spicket River. After the city and other stakeholders reviewed the concepts the designs were presented at a second public meeting.

The most important outcome of the second meeting was determining what type of park would be built. The three concepts presented to the community included a community garden, a passive contemplative park, and a play space for families. Because the meeting did not provide a strong mandate for each use, the team decided to try a hybrid park by incorporating elements of the three concepts, but this approach did not work due to the site's size. As the design evolved we drew on a few important themes from the second public meeting to guide the design. First, residents wanted a park in which people could gather, enjoy the view of the river—a space for adults. Second, some residents felt that using the park as a family play space duplicated the amenities already being offered by nearby

Scarito Park. Third, several groups identified an amphitheater that took advantage of the site's topography as a desirable use.



Alternative A

Groundwork Lawrence - Facella Lot Design Concepts
Lawrence, MA

Stantec Planning and Landscape Architecture
May 18, 2013



Alternative B

Groundwork Lawrence - Facella Lot Design Concepts
Lawrence, MA

Stantec Planning and Landscape Architecture
May 18, 2013



Alternative C

Groundwork Lawrence - Facella Lot Design Concepts
Lawrence, MA

Stantec Planning and Landscape Architecture
May 18, 2013

The final design of the park called for a series of terraces that stepped down to the overlook. The entry terrace is framed with a stone seat wall and leads to a large circular lawn panel with stone seat walls along the perimeter. The lower terrace is paved with two benches and a large picnic table in the overlook area. The riverbank area reused the existing stone rip rap to create rustic stone steps leading to the water's edge. This area was planted with several trees and a meadow seed mix. Between the lawn panel and east Haverhill Street is an extensive perennial garden planted by residents. Stormwater is managed by using porous pavers in the upper and lower terraces, minimizing the amount of pavement at the site and the creation of a rain garden to allow for stormwater infiltration.

The Facella Lot Park has made an immediate impact on the community. It is frequently used by young adults who walk by the park on their way home from school. It has also become a favored lunch location for the employees of Lawrence CommunityWorks, a community development corporation located near the park. Perhaps most significantly, the park provides residents with community pride. The parcel had remained fenced with barbed wire for years and was overgrown with weeds. Now it is a vibrant anchor for this gateway to Lawrence. Groundwork looks forward to integrating the site into our stewardship portfolio to ensure the space continues to thrive.

Funding from the Natural Resources Damages Trust was integral to this project. Soft costs - including survey, design, permitting, and project management as well as construction - were paid by the NRD program. Groundwork and the City of Lawrence are very appreciative of the NRD program for restoring the Facella Lot.



Facella Lot Construction 25% Complete



Facella Low Construction 75% Complete



Facella Lot Construction 95% Complete

2. Spicket River Bank and Instream Restoration

In partnership with the Commonwealth's Division of Ecological Restoration (DER) Groundwork developed a series of projects designed to improve habitat along the Spicket River corridor in Lawrence. The first step was to create a baseline report that characterized the habitat quality along the rivers reach in Lawrence and create a matrix to evaluate restoration projects. The project team identified a series of projects that would provide in stream habitat improvements and educational opportunities for the community. The locations for the improvements were based on enhancing areas with great existing habitat as well as areas where the habitat is extremely lacking in diversity.

The Spicket River Bank and Instream Restoration Project had two important goals: restoration of instream habitat and making the river accessible to pedestrians. The project consisted of three restoration sites. The first site is located at Dr. Nina Scarito Park (aka Brook Street Park), a 2.7 acre former brownfield located in a densely settled residential neighborhood. This reach of the Spicket has the best instream habitat of the entire corridor. The channel width varies from 33 to 35 feet. The left bank of the river within this reach is steep but has several large trees present. Tree species included red oak, white oak, sugar maple, box elder, white ash, American elm, and tree of heaven. To increase the vitality of the existing habitat, we constructed several river restoration elements. These include a rock vane deflector, boulder revetment, and random boulder clusters. To create educational opportunities (and minimize erosion) we installed granite steps to provide access to a sandy point bar. Installation of the restoration elements proceeded fairly well until we began construction of the boulder revetment. Significant erosion of the bank had occurred at the site shifting the shoreline by approximately eight feet. This meant the slope of the revetment would be less steep and that more plantings could be placed in the rip rap along the shoreline to soften the wall's appearance and restore the river forest buffer.

The second site is located at Immigrant Place Park, a 1.75 acre park located at gentle meander in the river. Dedicated in 1983, the park had minimal amenities for visitors. The construction of the Spicket River Greenway increased visitorship by providing a riverside walking path, overlook, and granite amphitheater. To improve the instream habitat at this location we installed instream boulders and we also installed granite steps to facilitate access to the water. These steps will be especially useful for Groundwork's education programs at the Leahy Elementary School, which is a short walk from the park.

The third site is between Immigrant Place Park and the DPW Yard. Along this reach the river is channelized in a homogeneous corridor. To increase diversity of the instream habitat, we installed random boulder clusters along the river bottom. At the DPW yard we also installed erosion control measures where a rain garden outflow pipe is located.

To ensure the instream habitat restoration features were implemented appropriately Groundwork and the Division of Ecological Restoration hired the engineering team that prepared the designs to oversee and inspect the installation of the plantings, random boulder clusters, the revetment, and the rock vane deflector.

Funding from the Natural Resources Damages Trust was integral to this project. The Trust supported completing the designs for the restoration projects and almost two thirds of the construction costs. Groundwork greatly appreciates the funding for this project.



Steps and sandy point bar at Scarito Park 100% Complete



Steps at Scarito Park 100% Complete



Steps at Immigrant Place Park 100% Complete



Erosion Control at Spicket River Greenway at DPW Yard 100% Complete



Random boulder cluster installation



Random boulder cluster installation 50% Complete

3. The Spicket River Crew

Groundwork Lawrence established the Spicket River Clean-up Crew to eliminate solid waste along the Spicket River, a 17 mile long river whose final two and a half miles weaves its way through densely populated neighborhoods before its confluence with the Merrimack River. The crew consisted of seven young Lawrence residents experienced in managing solid waste and outreach to Lawrence residents. Prior to beginning the project, the team completed training in first aid and CPR as well as received their OSHA-10 certifications. Along with the certifications, they were equipped with first aid kits, and proper safety gear such as hip waders, boots, sunscreen, and insect repellent spray to ensure a safe workplace.



Spicket River Clean-up Crew

Project Objectives

The objectives of the Spicket River Clean-up Crew were to remove the solid waste from the river banks, and to interact with as many people as possible who live along the Spicket River and in the surrounding neighborhoods with the hopes of creating a sense of community where residents maintain the cleanliness of both their private property and the river corridor. Outreach efforts encouraged residents to take ownership of their community and make them aware of the littering and dumping issues. Outreach messaging framed litter as the most often cited reason the Spicket River is perceived to be unhealthy and that we need to do a much better job of managing solid waste.

Procedures

The project had to be planned strategically in order to have a successful impact within a limited timeframe. Preliminary sites were identified by Groundwork staff. The crew was responsible for assessing each site for safety, accessibility, and logistics. Photos were taken to document the pre and post cleanup conditions. Solid waste collected by the team was transported to dumpsters located at the DPW yard and separated by trash type for appropriate disposal. The crew followed a similar protocol for all clean-up locations.

Task 1: Remove solid waste from the river banks and document the implemented strategies

- A. Stockpile and sort debris to ensure that materials end up in the proper waste/recycling streams
 - 1. plastics, glass, paper, metal, tires
 - 2. Hazardous Material (needles) will be treated with special care & equipment
- B. In groups of two, carefully transport all debris to the nearest "Stockpile-pickup" location
- C. Transport debris to DPW Yard.

Task 2: Conduct outreach with residents living in neighborhoods along the Spicket River.

- A. Ask questions regarding the people's view of the Spicket River and the city
- B. Encourage the residents to take responsibility for their trash, while also introducing the idea that they themselves are also responsible for the wellbeing of the Spicket
- C. Urge residents to share the belief that it is up to the people of Lawrence to keep the natural green spaces clean and free of harmful pollutants

Task 3: Take pre and post clean-up pictures to create a baseline for future illegal dumping enforcement actions.

Site 1: Scarito Park

Scarito Park is located at a ninety degree bend in the river in a densely populated transient neighborhood. Opposite the park is a wooded hillside with houses set back from the top of the bank. Households living on the hillside often illegally dump solid waste onto the bank and into the river. Such activities are illegal for two obvious reasons; (1) it harms the natural wild life located along and within the Spicket, while (2) also creating an unhealthy environment for all those who find residence near the Spicket River. Examples of the types of waste that have been identified along this specific location are; tires, TV's, bikes, mattresses, glass, plastics, wood panels, metal and paper. Over time incremental dumping results in large piles building up along the banks of the river. This creates a dangerous environment for all those who wish to come in contact with the river and spoils the view of the hillside from Scarito Park.

Site 2: Erving Avenue

Erving Avenue is a road along the north side of the Spicket River that connects three parks along the river from Hampshire St to Jackson St. There was a 50 foot section that was nicknamed the "Tire Graveyard" for the immense amount of tires removed from inside the river. The crew removed tires and disposed of them at the city's DPW. The 35 yard dumpster at the DPW yard overflowed with approximately 200 tires that were removed from the 50 foot section of the river. In addition to the tires the crew also focused on removing litter from the Spicket's southern bank at Mary Immaculate Health Care Services. Fencing at this section of the river limits access from the top of the bank so the team was able to remove a lot of the litter and large items that had collected on this shoreline over the years. This is important because it improves views from Hayden Schofield Playstead.

Site 3: Confluence of the Spicket River and the Merrimack River

The confluence of the Spicket and Merrimack Rivers is a location where solid waste tends to collect as a result of being carried downstream by the river currents. It is a challenging location for clean-up activities because large items tend to settle into the sand bars at the confluence making them hard to pull out of the river and water levels and currents at the confluence tend to prohibit access to the location. With a dedicated crew we were able to spend four days removing solid waste from this scenic location and priority habitat area.

Outreach

As part of our clean-up effort, we completed 30 interviews with residents around the Spicket River to learn about the perception that the community has about the river. The interviews were conducted before and after the clean-up.

Residents admitted that now both the river and its surroundings look much better. Richard Cruz, who has lived nearly 10 years in the Scarito Park neighborhood, admits that he has never seen the river as clean as now. Some people witnessed the amount of solid waste removed from the beds of the river and were amazed. They knew that the river was polluted, but did not imagine what kinds of things would be found there and the amount of those things. They feel very grateful that Groundwork Lawrence cares about the river and the neighborhood.

Residents do not exactly know the benefits that the Spicket River provides to the city. They do however realize that the river is beneficial and therefore must be looked after. They also said that parks and open spaces along the river provide certain recreation and entertainment amenities, especially for children. It is good to note here that we saw a number of people (who do not live in the area) throughout the Spicket River at different times feeding the ducks, or just walking along the Spicket River Trail at sunset. This is a destination for the entire city.

The illegal dumping in the Spicket through the years has created the perception that the river is more polluted than it really is. This perception is supported by the number of tires, metal, wood, mattresses, sofas, glass and plastic bottles, construction debris, vehicle parts and other materials that have been deposited in the Spicket. Because of this perception, people see the river as a place to illegally deposit trash or construction debris and thus continue the cycle of contamination found in the Spicket.

Illegal Dumping Prevention

Concurrent with our Natural Resources Damages Trust –funded project, Groundwork completed an EPA Healthy Community cooperative agreement project to educate the community about the damaging effects of litter and to encourage their recycling. Part of this work-scope involved using hidden cameras to capture and report illegal dumping. Several illegal dumpers have been photographed and in some cases their license plate number was recorded. Dumpers were charged a \$300 fine and their name and photograph was published in the Eagle Tribune and Rumbo newspapers. GWL's Spicket River Clean up Crew took pictures immediately after their cleanup along the Spicket River. In the following weeks, someone illegally dumped construction material there. We re-photographed the site and show the picture to the DPW who then placed one of their cameras at the site and passed on the information to the Lawrence Police Department who identified a suspect based on building permit records. GWL will continue to coordinate camera locations with DPW. To date, the DPW has issued 15 citations using the hidden cameras.

Pre – Post Conditions: Site 1, Scarito Park, Section A, Opposite the Facella Lot





Pre – Post Conditions: Site 1: Scarito Park, Section B, Prospect Street



Pre – Post Conditions: Site 2, Erving Avenue



Site 3: Pictures of clean-up at confluence of Spicket River and Merrimack River

