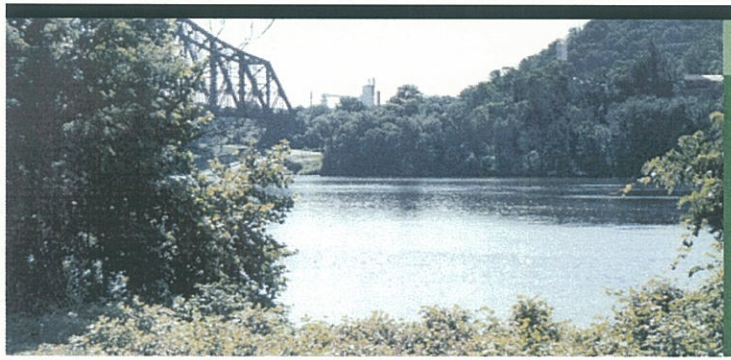

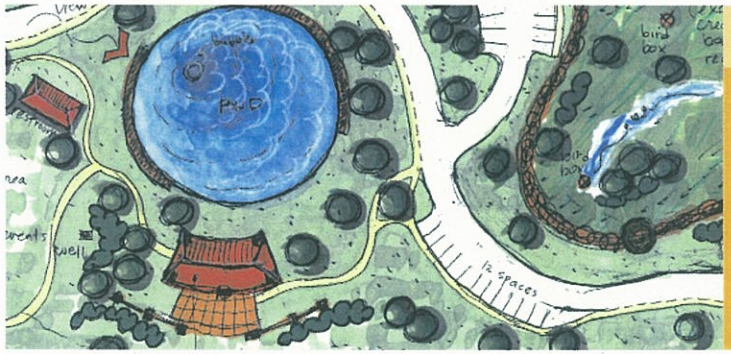

BEAVER

Borough of Beaver

Master Site Development Plan

BEAVER BOROUGH RIVERFRONT PARK

December 2001

This project was financed in part by a Keystone Recreation, Park and Conservation Fund Grant Program, from the Pennsylvania Department of Conservation and Natural Resources, Bureau of Recreation and Conservation.

PASHEK ASSOCIATES
a pennsylvania corporation

Borough of Beaver

Riverfront Park Master Site Development Plan

Pashek Associates acknowledges the contributions of the following groups:

- The project study committee provided invaluable energy, dedication, and hard work.
- The citizens of Beaver contributed essential input and support.
- Beaver High School Student Council gave enthusiasm and candid input.

Study Committee Members

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Tom Hamilton (Council - Riverfront Development Committee)
Fred Weigle (Council - Chairman of Recreation Committee)
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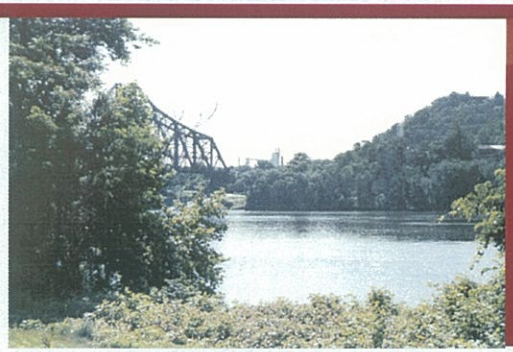
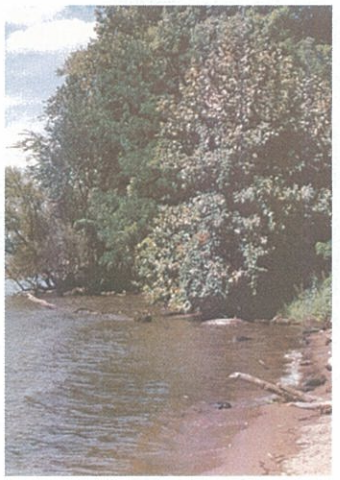


Executive Summary

Community Background

On the National Register of Historic Places, the Borough of Beaver exemplifies the ideal small town community. Numerous churches, thriving businesses, a well-respected school district, a mix of housing types, beautiful parks, and an array of community events contribute to a favorable quality of life.

The Ohio and Beaver rivers are a valuable resource to residents of Beaver and adjacent communities. Riverfront parks, in municipalities under the Beaver County Riverfront Development Program, provide a variety of services and recreational opportunities. This Master Plan concerns a twelve-acre parcel of riverfront land in Beaver Borough. The goal is to provide a unique park to serve residents and complement existing and proposed riverfront parks.



Site Analysis

The site's natural features make it ideal for use as a park. The parcel of land is level and accessible to the waters of the Ohio River, offering wonderful views. Its riparian environment and the presence of wildlife make it distinct from other Beaver parks.

The majority of the site is within the Beaver Historic District. While the Ohio River defines the southern border of the parcel, the floodway is basically confined to the bank of the river. The site is within the one hundred year flood plain.

Access to the Site occurs at two locations: in Beaver from River Road at Beaver Street (over a public railroad crossing) and through Bridgewater Crossing in Bridgewater. The site is comprised of open space, Borough maintenance facilities, a water treatment plant and water wells. A wastewater treatment plant, in Bridgewater Borough, borders the northeastern side of the site. Norfolk Southern Corporation's railroad tracks border the northern side.

Park Master Plan Process

Pashek Associates designed a process to ensure the final plan would be professionally sound and fully supported by local administrators and community members. The public input process included working sessions with a project study committee, three public meetings, a student representative meeting, and key person interviews.

Efforts of the study committee were critical to the development of the final plan. The committee included the Borough manager, the school district recreation director, and representatives from the Borough Council, public works, planning and zoning, public safety, and Beaver residents. This committee acted as a sounding board at public meetings, provided feedback on design alternatives, and reviewed recommendations.

Many individuals participated in public meetings. Through a structured process, attendees provided input about the site, desired facilities and programs, and other issues and concerns. Pashek Associates used this input to develop design alternatives and a preliminary suggested design. The public responded to these designs.

Individuals holding key positions in the community, identified by the study committee, were interviewed by phone. In this way, community leaders gave responses to a standard set of questions and had the opportunity to voice their concerns.

Pashek Associates grouped ideas or 'visions' consistently mentioned in the public process and utilized this information to form a vision statement for the future of the park.

Vision for the Riverfront Park

•Design a simple park with flexible passive recreation space offering amenities for all ages, while respecting the natural environment and maintaining access to existing Borough facilities.

• Create a park that serves as a natural destination for wildlife and human life communities, providing a haven where birds and mammals are supported and observed as they establish or pass through.

• Provide a gathering place for conversation, with areas for passive recreation, as a place people can go to be revitalized by the calming river environment. Establish a park that will serve as a restorative place for relaxing and reconnecting with the natural world. Encourage an educational experience gained through personal exploration.

• Create this park using natural materials and a simple, flood-resistant, and easy-to-maintain design.

Recommendations

The features of the new riverfront park flow from a balance of several key elements. The design of the park provides open lawn and trail space for recreation while expanding and enhancing the site's natural habitat. It celebrates the historical and natural features of Beaver Borough while complementing other parks within the Beaver County area. Finally, the design balances these elements in a simple, flood-resistant, and low maintenance park.

Highlights of the new park include the following improvements and additions:

Open Lawn Area

A large open area for pick-up games, community events and other gatherings will be created. A continuous stone sitting wall, bordered by a path, will define this area, and serve as a phyusical barrier from the park road.

Natural Habitat Area

An enlargement of the existing natural depression will provide a haven for wildlife and a viewing area for visitors. This area, with irregular edges and varying sloped banks, will support a diverse range of wildlife and vegetation species. It will also provide a means to filter stormwater and improve its quality before entering the river.

Rounded River Stone Wall

A natural, curving wall, made of local stone apparently deposited in the area during the Ice Age, will separate the natural habitat area. Educational signs will be inscribed in the wall.

Wildlife Attraction

Numerous birds and mammals will be attracted to the natural area. Bird nesting boxes and viewing posts will be added. School environmental clubs can be involved in constructing and maintaining these elements.

Community Pavilion

A large pavilion will be constructed to provide shade and winter shelter, and facilitate community gatherings. Its design will accommodate a variety of other uses as well. Electrical outlets, emergency phone, lighting and water will be provided here. A restroom will be built near enough to the pavilion for easy access but far enough away to reduce aesthetic problems. Natural material will be used in the construction of the pavilion and restroom.

Trails and Connections

Pedestrian trails will accommodate walking, biking, and roller-blading. At two points, trails of this park will connect to adjacent Bridgewater Crossing. One of these points will eventually join the existing (and future proposed) boardwalk at Bridgewater's Bicentennial Park.

Pond/Water Feature

A shallow 165' diameter pond will provide a focal point for the park as well as a place for summer wading and winter skating. A fountain or spray feature may be included.

River Access

Seated viewing areas and a "river walk" will be created along the riverfront, with precautions taken to protect the walkway from flood damage. Tie-up locations will allow boaters access to the park. Boaters and other visitors will enjoy a sandy beach constructed to require limited maintenance in case of flooding. A fishing platform will be added at the river's edge.

Art

Incorporation of art will contribute to a unique sense of place. Art can serve as focal points, such as a lighthouse or wildlife sculpture. Design competitions can be initiated to elicit creative solutions and encourage public participation in the park design.

Plantings

Large trees for shade and wildlife shelter will be planted at the edge of the natural habitat area, more closely where needed to screen the sewage treatment plant. A mixture of native plants will enhance beauty and provide food and shelter for wildlife. Community garden plots for vegetables and flowers will be incorporated into the natural habitat area. In some areas, underbrush and lesser trees will be removed to open views to the river.

Maintenance Facilities and Access

For the near future, most facilities will remain at their current location. The salt storage shed will be replaced and relocated. Current structures will be painted a neutral color to blend with the park environment.

Parking and Paving

Existing park entrance, exit, and one-lane roads will be enhanced. The public railroad track crossing will be upgraded for safety. A new access road will curve through the site, allowing views of the river. Convenient parking will be located near each activity area.

Implementation

A detailed cost estimate was prepared. Park improvements were divided into seven distinct phases to reflect a logical progression of construction. Per the requirements of the DCNR, the total estimated phase costs reflect prices as if each phase was a contracted project. With volunteer labor and donated materials, costs may be less than estimated.

The seven project phases are as follows:

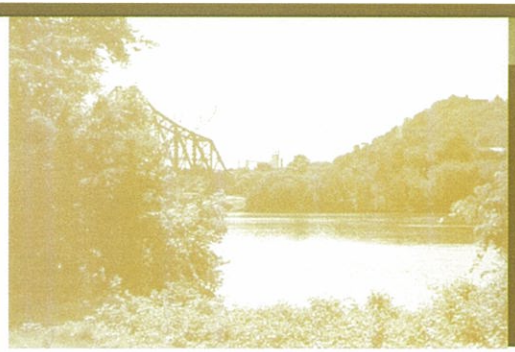
Safe Site Access $504,400
Site Preparation $540,675
Initial Site Improvements $724,000
River's Edge Improvements and Natural Habitat $732,350
Restroom $280,975
Community Pavilion $505,750
Pond/Water Feature $279,975

Total Cost $3,568,125

The final chapter of the report contains potential funding sources for proposed park improvements.

Recommended Plan

Introduction



Introduction

The Borough of Beaver, in its efforts to expand recreational opportunities for its residents and their families, has undertaken a master planning process for its only parcel of land accessible to the waters of the Ohio River. Improvements to this parcel are intended to be a valuable asset to the community and to provide families with a place to enjoy the river environment.

In June 2001, Beaver Borough received a grant through DCNR's Keystone Recreation, Park, and Conservation Fund grant program to fund a Master Site Development Plan for a twelve-acre parcel of land along the Ohio River. Subsequently, Pashek Associates, Ltd., a firm of landscape architects, and recreation and community planners, was retained to assist the Borough and the community in preparing the plan. The Beaver County Corporation for Economic Development (BCCED) managed the project, ensuring the Plan was complimentary to the vision of the Beaver County Riverfront Development Plan prepared in 1993.

The purpose of this Master Site Development Plan for the Beaver Borough Riverfront Park is to provide ideas on how the land should be developed consistent with its natural context, and in a way that will provide enjoyment to its users. The Plan forms a foundation to guide decision making for the park's future development. The vision and recommended design developed in this Plan will serve as a basis for the next step in the design process, to prepare construction documents for the park and to obtain funding for its development.

As the project gains momentum, this Plan will provide the Borough with the tool to respond to various organizations and individuals who may express an interest in contributing to the development of the site. Following the recommendations developed in this planning process will ensure the park meets the needs and desires expressed by the Beaver Borough community.

Parks and recreation play a critical role in providing a high quality of life to communities.

Process

The master planning process involved an analysis of the site's natural and cultural resources, generation of possible ideas for its development, and an estimate of construction costs. A series of input meetings were held with the community and the study committee to ensure the public's voice was heard. Through this input process, a vision was identified and the Master Site Development Plan for the Beaver Borough Riverfront Park was developed. It represents a culmination of the desires of those involved in the master planning process.

The Benefits of Parks and Recreation

Parks and recreation play a critical role in providing a high quality of life to communities. Environmental benefits include preserving habitat and wildlife, protecting ecosystems, and reducing pollutants. Community benefits include providing places to relax and engage in community gatherings, and providing residents of all ages the opportunity to enjoy nature. Economic benefits include attracting businesses and their employees to the area, increasing land and property values, and boosting tourism.

With Beaver County reporting a decrease in population in the latest census, offering an opportunity to enhance quality of life is key. A recent article in the local paper further supported the importance of recreation, as County Commissioner Charlie Camp recognized: "It's part of the complete package that we have to offer to be competitive (in attracting businesses and residents). Recreation can't just be an afterthought anymore.....Whether it's green space in a business park or housing plan, or a trail, or a rock-climbing wall, it's the kind of thing we need to be able to sell Beaver County." The County's residents agreed, prioritizing riverfront districts and the development of walking and biking trails.

The Beaver County Corporation for Economic Development has been leading the way in Riverfront development over the last decade. With the initiation of the Beaver County Riverfront Development Program in 1993 (in which Beaver is among nine other participating municipalities), the Corporation's goal is to provide economic and recreational benefits to both participating and neighboring communities. Each community's riverfront land, whether along the Ohio River, Beaver River, or one of its tributaries, presents a variety of opportunities. The goal is to develop each to be complimentary, providing the most variety of facilities and recreation to area residents.

The Riverfront Development Plan included the following recommendations for the site under this study: "Much of this land is undeveloped, however the limited access to this area ad the nature of the

Environmental Benefits

- Preserves habitat and wildlife
- Protects ecosystems
- Reduces pollutants

Economic Benefits

- Attracts businesses and their employees
- Increases land and property values
- Boosts tourism

BENEFITS OF RECREATION, PARKS & OPEN SPACE

Community Benefits

- Provides spaces for community gatherings
- Provides residents a place to enjoy nature

Personal Benefits

- Creates a balance between work and play
- Reduces stress
- Eliminates boredom and loneliness

exiting public uses would begin to suggest that any further development of this site be limited to passive recreation or other low impact uses which preserve beneficial floodplain values."

The future development of the Beaver Borough Riverfront Park will benefit the community and the area by contributing to the recreation opportunities available to residents, and be consistent with the goals identified in the Beaver County Riverfront Development Program. The park will be developed in a passive manner which will allow recreational opportunities to coexist with the protected riparian ecosystem.

Document Organization

The content of this Plan conforms to the requirements for a Master Site Development Plan as defined by DCNR's Bureau of Conservation and Recreation. The Plan is organized in the following manner:

Executive Summary

Introduction

Chapter 1: Inventory and Analysis

This chapter briefly describes Beaver Borough's history, culture, recreation, and people. It also describes an analysis of the opportunities and constraints of the site for use as a park. This information provides a context from which this Park Master Plan was based.

Chapter 2: Public Participation

Public input was a key component in the development of the Plan. This chapter describes the public participation process and summary results from each venue of participation. The input culminates in the identification of vision elements and the development of a Vision for the park.

Chapter 3: Schematic Design Alternatives

This portion of the document presents schematic design ideas generated, including the Preliminary Design for the park.

Chapter 4: Recommended Design

This chapter describes the Recommended Design elements for inclusion in the Beaver Borough Riverfront Park Master Site Development Plan.

Chapter 5: Implementation

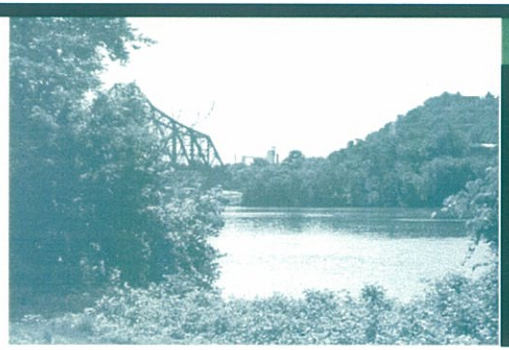
The final chapter presents estimated development costs for each anticipated phase of construction and suggests possible funding sources for development.

Appendix

Included in the Appendix are supporting reference materials for use in the implementation of Plan recommendations. This document is under separate cover.

Chapter 1

Inventory and Analysis



Chapter 1

Inventory and Analysis

Introduction to the Community

Geographic Location

The Borough of Beaver, Pennsylvania, is located in Beaver County approximately thirty miles northwest of the City of Pittsburgh, along the northern bank of the Ohio River where it makes its juncture with the Beaver River. The County is bordered by Lawrence County to the north, Allegheny and Washington Counties to the south, and Butler County to the east. Its western side is bordered by the States of Ohio and West Virginia.

The Borough's residents enjoy the benefits of small-town living, with easy access to the City of Pittsburgh.

The existing highway network provides residents with easy access within Western Pennsylvania and into Ohio. State Route 60 is located just west of the Borough and provides direct access to Pittsburgh and its International Airport, along with large regional shopping and employment destinations in North Fayette, Moon, and Robinson Townships. Route 60 also provides access to the Pennsylvania and Ohio turnpikes.

State Routes 65 and 51 are located just east of the Borough and also provide connections to downtown Pittsburgh and the regional interstate system. State Route 68 is a main east-west corridor, joining many surrounding routes and bisecting the central business district in Beaver Borough.

The Borough's residents enjoy the benefits of small-town living, with easy access to the City of Pittsburgh. The City offers residents nationally recognized cultural and sporting events, first-class healthcare and educational facilities, and recreational opportunities.

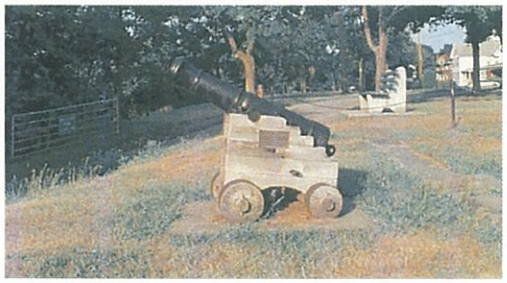
Community History

Beaver is one of Western Pennsylvania's most historic and culturally rich communities.

Its location on the river as well as on the route of the Great Trail (a main westward path) encouraged settlement. Fort McIntosh was established by General Lachlan McIntosh (appointed by General George Washington) in his efforts to defend the western frontier. Later, this Fort became the first home of the United States Army.

The original town built by the French during the French and Indian War was named King Beaver's Town in honor of a Delaware Indian leader. The town was laid out on a grid system, with four quadrants dedicated to public parks in the center, along with one at each of the four corners of town. In the late 1700's, this new town on the Beaver Plateau, then called Beavertown, was created. In 1802, Beaver was incorporated as a municipal Borough.

The 1800's brought many changes to Beaver, including the construction of the town's third Court House, the formation of the Beaver College and Musical Institute for Women, and the construction of the Beaver County Jail. Operation of the Pittsburgh and Lake Erie Railroad provided connections to Pittsburgh, establishing Beaver as a desirable bedroom community.



The original eight parks within the town were named after prominent figures in Beaver's history:

1. **Agnew Square,** Judge Daniel Agnew, Chief Justice of the Pennsylvania Supreme Court.
2. **Boquet Park,** Colonel Henry Boquet, British Army officer who freed captive settlers.
3. **Clark Park,** Colonel George Rogers Clark, negotiated the Treaty of Fort McIntosh in 1785.
4. **Irvine Square,** across from Quay Square, was named in honor of General William Irvine who commanded the Western Department, which administered Fort McIntosh. A memorial was placed here to honor veterans of World War II.
5. **McIntosh Square,** General Lachlan McIntosh, appointed by General George Washington, established Fort McIntosh in an effort to defend the western frontier.
6. **Quay Square,** Matthew Stanley Quay, 1887 United States Senator and head of the Republican Party.
7. **Wayne Park,** General Anthony Wayne, brought peace to the area by defeating the Indians in the Battle of Fallen Timbers.
8. **Linn Park,** Mayor Robert P. Linn, current Beaver Mayor spanning a half century of service.

Today, Beaver is a quaint residential village known for its Borough parks, tree-lined streets, and architecturally significant homes. Its thriving retail business district and numerous community events establish Beaver as an attraction within central Beaver County. In addition, it is home to County government offices.

Population and Size

Beaver Borough has a current resident population of 4,775. Since 1990, the Borough experienced a five percent decrease in population; however, with the Borough encompassing approximately one square mile, it remains the densest municipality in the region.

Age distribution of Borough residents reveals:

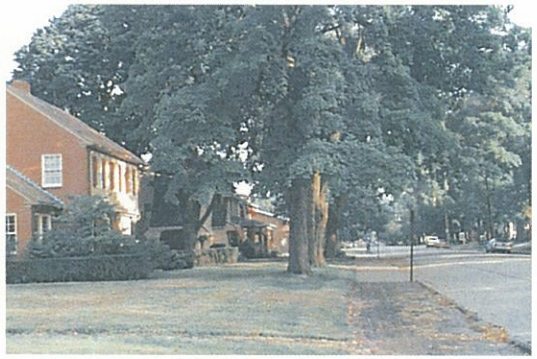
- 1018 youth 19 and under (21.32 percent);
- 222 between the ages of 20-24 (4.65 percent);
- 1275 between the ages of 25 and 44 (26.70 percent);
- 1206 between the ages of 45 and 54 (25.26 percent);
- 1054 over 65 (22.07 percent).

Land Use

The predominant use of land in Beaver is residential, including single and multi-family, offering housing choices to many people regardless of age, income, or family size. The balance of the land is used by offices, commercial, and neighborhood retail establishments. These are generally concentrated along or adjacent to the central Third Street corridor, a traditional Main Street.

This main street and its immediate environs are a tremendous resource to the community. They provide access to local goods and services, and define a community core area and sense of place. The Beaver County Courthouse is situated in the center of town, on one of the original quadrant squares.

All of the original town, and most portions of the present Borough were designated the Beaver Historic District. The majority of land area of the Riverfront site in which this study encompasses is included within this District. Beaver's 317-acre historic district was listed on the National Register of Historic Places in the fall of 1996. The National Register recognizes places that have made a significant contribution to our country's heritage.



Beaver Borough Park System

Recreation and open space is at the core of Borough history. In addition to the many Borough parks, wide street rights-of way contribute to the abundance of public green space. Mature shade trees line many of these rights-of-way.

The Beaver municipal park system includes twelve parks totaling approximately 44.5 acres of public land. This acreage falls within the recommended acreage per resident population and is located within the proper spatial distribution, as represented in the National Recreation and Parks Association (NRPA) guidelines.

Recreation and open space facilities in each of the Borough's parks include the following:

Center Quadrant Parks:

(each is two and one-half acres in size)

QUAY SQUARE
(bounded by Third, Market, Turnpike, and Insurance Streets)
Contains a monument honoring local service personnel serving in Vietnam, and a stage for concerts and events.

IRVINE SQUARE
(across Third Street from Quay Square)

A memorial was placed to honor veterans of World War II. The square was named in honor of General William Irvine who commanded the Western Department, which administered Fort McIntosh. A large gazebo graces the center of this park, and is used for weddings and other such events.

MCINTOSH SQUARE
(across Third Street from Agnew Square)

A tall soldier's monument was erected in the center of this park to honor those who died in the Civil War. Walkways and lawn areas with mature trees complete this park.

AGNEW SQUARE
(bounded by Turnpike, Third, Commerce, and Market Streets)

Although one of the original four center quadrant parks, the Beaver County Courthouse is located here.

Perimeter Quadrant Parks:

(each is two and one-half acres in size)

BOQUET PARK
(Beaver Street and Fifth Street)

Playground includes equipment and an open space lawn area for pick-up games. The perimeter of the park is graced with large shade trees.

CLARK PARK CEMETERY
(Buffalo Street and Fifth Street)

A monument acknowledging burial grounds stands in the center of this park. Tree-lined walkways and open space lawn area completes this park.

WAYNE PARK
(River Road and Beaver Street)

Offers views of the Ohio River and is very picturesque, as its edges are defined by large shade trees and stately homes. A large open lawn area for pick-up games, a small sledding hill, and playground equipment are located in this park.

LINN PARK
(on River Road at Buffalo Street)

Features include playground equipment and an open lawn area with shade trees.

Remaining Parks

ROOSEVELT PARK
(across Fifth Street from Boquet Park)

Referred to the Water Lot, the land was designated a park to protect a spring originally used as a water source for the community. This two and one-half acre parcel, named after Theodore Roosevelt, is undeveloped but for the remnants of an arched roof sandstone structure shielding the spring. A small wooded area and stream occur above the structure. The site serves as a popular sledding hill.

GYPSY GLEN PARK
(along Gypsy Glen Road at the northwest corner of the Borough)

The Senior High School and the Middle School are located adjacent to this four-acre parcel. Classified as a community park, the site contains tennis courts, a pavilion, a multi-use field, and the swimming pool and bathhouse. Gypsy Glen Park is the site of the annual Beaver Borough Community Picnic.

RIVERVIEW PARK
(along the length of River Road)

The six acre linear park, which includes the Fort McIntosh Historic Site, extends the entire length of the Borough. The passive park includes open lawn and shaded areas as well as benches from which visitors enjoy panoramic views of the Ohio River. Numerous privately maintained flowerbeds and many flowering ornamental trees add to its beauty.

RIVERFRONT OPEN SPACE AREA
(at the southeast corner of the Borough)

The twelve acre parcel covered in this study.

Other Riverfront Recreation Opportunities

The Ohio and Beaver Rivers provide numerous recreation opportunities for area residents. Popular activities include recreational boating and other water activities, fishing, entertainment and river viewing. The Beaver County Flag Plaza was erected along the banks of the Beaver River in Rochester's Riverfront Park. The plaza was built in association with Flags Across America, a national non-profit organization. A County Riverfest and other river-related public events are also held annually.

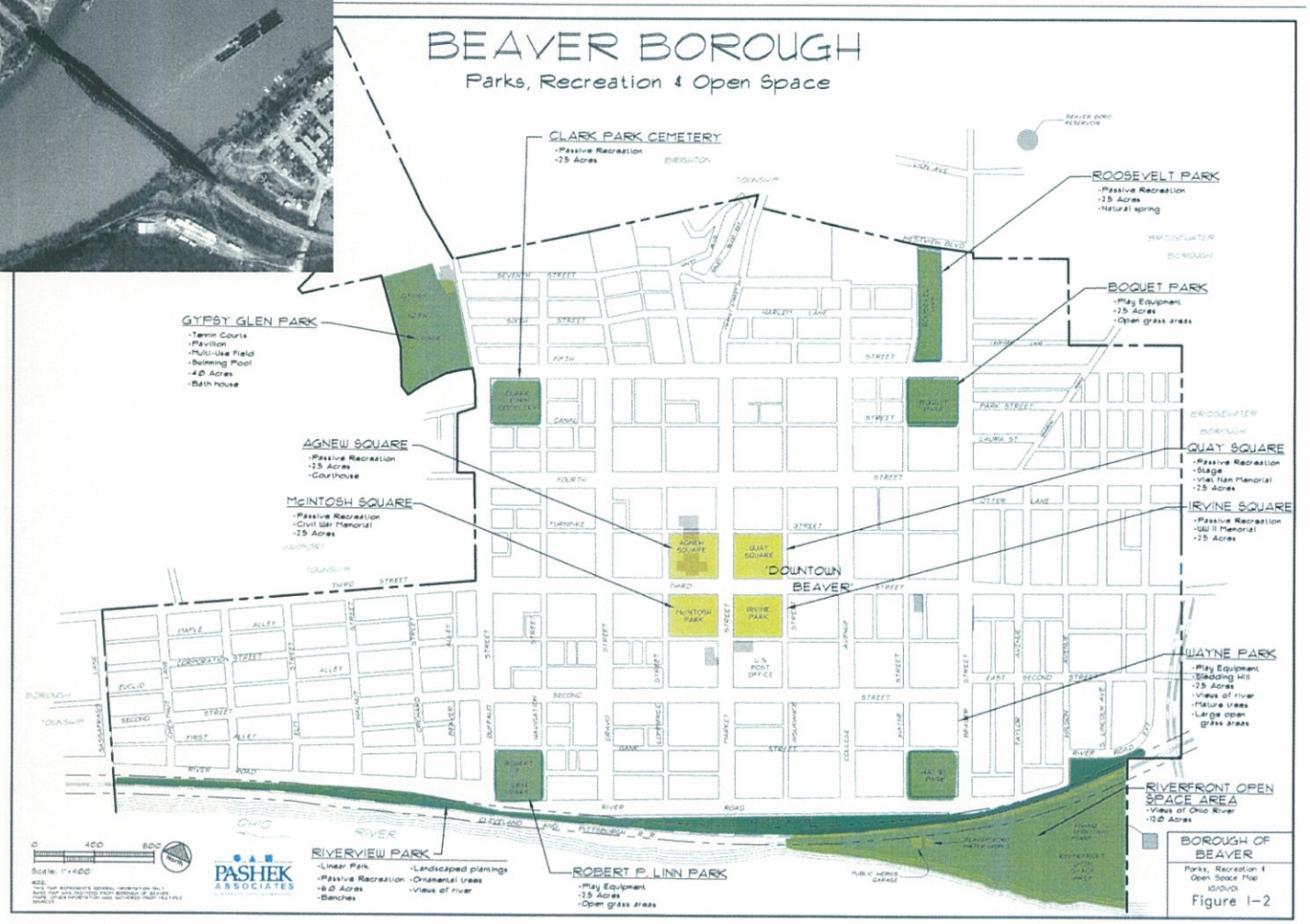
Riverfront parks in municipalities under the Beaver County Riverfront Development Program, as well as other riverfront communities, provide the following existing and proposed recreational opportunities:

Bridgewater Borough Riverfront on the Beaver River offers marinas, restaurants, and courtesy docks. Its Bicentennial Park contains a boardwalk for walking and fishing, an extended walkway with benches, an amphitheater, and an observation deck. Access to Bridgewater Borough from Beaver is accomplished via a pedestrian trail which traverses under a railroad bridge near the Beaver Area Historical Museum.

Center Township is proposing a scenic overlook attraction at the Wagner Road area, to capitalize on panoramic vistas of the Ohio River Valley from this bluff high above the river.

Park Location

Beaver Borough Park System



Bridgewater Crossing (former Crain Brothers site) at the point of the Beaver and Ohio Rivers is being proposed. This regional attraction will be both a public park and a mixed use development.

Fallston is the home of the Beaver Valley Yacht Club on the Beaver River, which provides marina services for its members and limited restaurant services to the public.

Freedom Point Park has open space for picnics, and fishing access on the Ohio River.

Greene Township is proposing a rustic riverfront park on the Ohio River connecting into a 56 acre recreational park in the Township.

Monaca's riverfront along the Ohio River offers a public boat launch and river-viewing areas. The proposed rehabilitation of the Water Works public park site will provide playground equipment and proposed trail linkages to the community and to historic sites.

New Brighton Borough riverfront along the Beaver River offers marinas, a public boat launch, Big Rock Park, river access for fishing and viewing, and park benches. The New Brighton Water Works site is also proposed for a passive-use public fishing park.

Patterson Township has the potential to create a scenic overlook of the Beaver River Valley.

Rochester Borough riverfronts along the Beaver and Ohio Rivers contain a Riverfront Park, public playground, riverfront walkway, picnic shelters, boat launch and wharf, and the County's Flag Plaza. This regional attraction will be enhanced with proposed mixed use development. Recreational excursion vessels such as the Gateway Clipper and vessels housing cultural exhibits are accessed from the wharf.

Rochester Township riverfront along the Beaver River is proposing a riverwalk, and a (limited) river access area north of McKinley Run.

Site Analysis

Utilizing a detailed topographic and boundary survey, an analysis was conducted of the site for the proposed Beaver Borough Riverfront Park. This analysis, as it relates to the suitability for the park's intended recreational use, is summarized below.

Location and Size

The site is located in the southeastern corner of the town of Beaver, along the Ohio River just west of the juncture with the Beaver River. Approximately twelve acres in size, the pie shaped parcel is zoned P-1, Public, in the Zoning Ordinance of the Borough of Beaver. The purpose of this district is to preserve and protect land for open space and public recreation. Municipal parks, facilities, and services are permitted in this district.

Adjacent Land Uses

Riverview Park, also zoned P-1, borders the length of River Road above the site. Wayne Park is located opposite the site entrance at Beaver Street. Single-family residential (R-1) borders the remaining portion of River Road. The Ohio River borders the entire southern side, with the wastewater treatment plant to the east (across the Bridgewater-Beaver Borough boundary). Norfolk Southern Corporation's railroad tracks border the Northern side.

Adjacent to the wastewater treatment plant is a massive railroad bridge, which forms a physical and visual separation between the site and the parcel of land at the juncture of the Ohio and Beaver Rivers. This parcel was formerly home to the barge repair and dredging operation of Crain Brothers, Incorporated. In September of 1999, the Beaver County Corporation for Economic Development acquired the property. The parcel is now referred to as Bridgewater Crossing.

Site Ownership and Boundary

The site parcel is owned by the Beaver Borough Municipal Authority. The adjacent parcel in Bridgewater Borough, in which the wastewater treatment plant is located, is also owned by the Municipal Authority. The Municipal Authority, appointed by Beaver Borough Council, agreed to cooperate with the Borough toward the development of the site based upon the Master Plan.

A 33'-0 unopened lane, or paper street, bisects the site. This was vacated by the Borough at the turn of the century, and is now also owned by the Authority. Norfolk Southern Corporation owns the land occupied by its railroad tracks (approximately a one-hundred foot right-of-way), which forms the northern border.

The site is comprised of three parcels, two of which are adjoining, and the third of which is bisected by the 33'-0 paper street. Deed information for each of the three parcels, plus the paper street, was obtained from Deed Book Volume 1230, page 557, 10-9-1984.

The southern boundary at the Ohio River is the fluctuating normal (low) pool elevation at 682'-0. For all intents and purposes, this represents the waterline wherever it may be at any given moment. The area between the low and high water marks are subject to easement in favor of the public, except as required for transportation or channel improvement.

Topography and Vegetation

The majority of this riparian land is relatively flat (less than five percent slopes), with open, mowed field areas. A steep bank with grades greater than 25% separates the tracks from the town of Beaver, to the north, above. The water treatment plant is situated in fill areas with side slopes in excess of 25%. A sizeable depression occurs towards the eastern side of the site. This is where the majority of wildlife are present on the site including rabbit, pheasant, groundhog, deer, turkey, and numerous birds. Banks of varying grades, formed by wave action, line the river's edge.

Mature trees, representing species such as sycamore, box elder, willow, locust, and silver maple are thriving at the river's edge. A narrow wooded area, consisting mainly of box elder, separates the site's level portion from the railroad tracks. Brush vegetation of native and non-native field grasses and shrubs are understory to these vegetated areas.

Water Features

The Ohio River was formed by the confluence of the Allegheny and Monongahela rivers. Being over nine hundred miles long, it is a major tributary of the Mississippi River, and supplies more water than does the Missouri River. The Ohio River basin, in which the Riverfront park site is situated, covers over two hundred thousand square miles.

The site is located between river mile 26 and 27 along the Ohio River. The survey, benchmark from which topographic elevations are referenced, was obtained from Benchmark RM 2 on the Flood Insurance Rate Map.

The majority of the site is within the one hundred year flood plain, at or below elevation 703.00 feet. Normal (low) pool elevation is 682 feet, and defines the boundaries of land ownership for the parcel. High flood water elevation is 696.50 feet at 10 year, 701.50 feet at 50 year, and 708.00 feet at 500 year, with the floodway confined basically to the bank of the River. The sizeable depression on the site appears to drain freely after a storm event, resulting in little or no residual ponding of water.

Soils

Based on the Soil Survey for Beaver and Lawrence Counties, completed in 1977, the site soil is Philo Silt Loam. The survey also depicts a small water area in the northeast corner, which may have represented the frog pond fondly referred to by older residents. This water does not exist today. Although a wetland delineation was not performed under this study, a naturalist reviewed the area. Other than at the edge of the river, the site did not appear to contain jurisdictional wetlands.

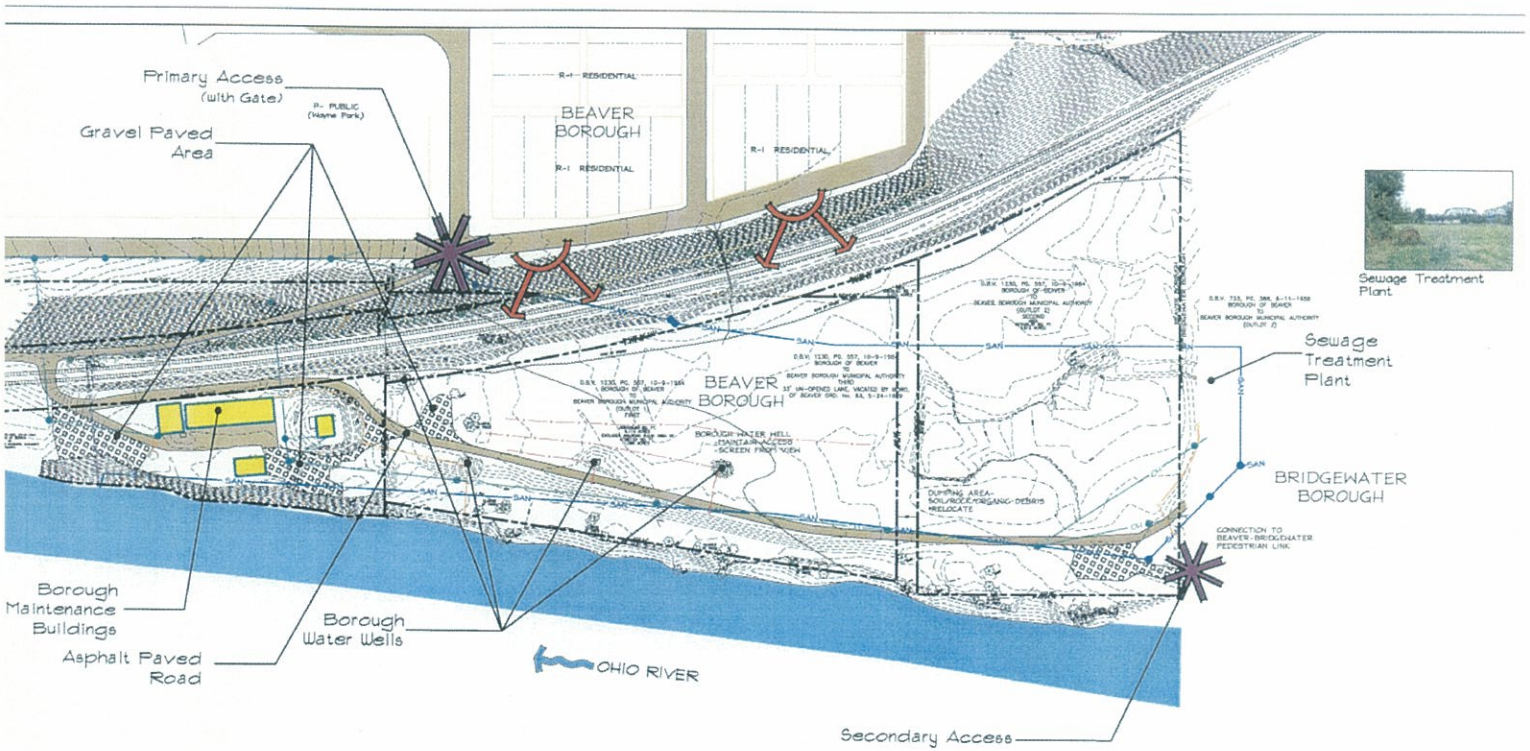
Deposits of soil and fills of varying sources have been placed on the site over the years. The water treatment plant appears to be situated on fill soils, above flood elevation.

Philo Silt Loam is characterized by deep, moderately drained silt loam soils with a moderate permeability (drainability of the soil), high available water capacity (water available to plants), and a seasonal high water table. These soils are generally found on bottomlands. Philo Silt Loam qualifies as prime farmland, making it suitable for trees and other plantings tolerant of wet conditions.

Philo soil is listed as a mapping unit with inclusions of hydric components (Atkins and Holly). Hydric soils are one of three factors of

Site Analysis of Man-made Features

*Refer to attached large scale drawing for additional information



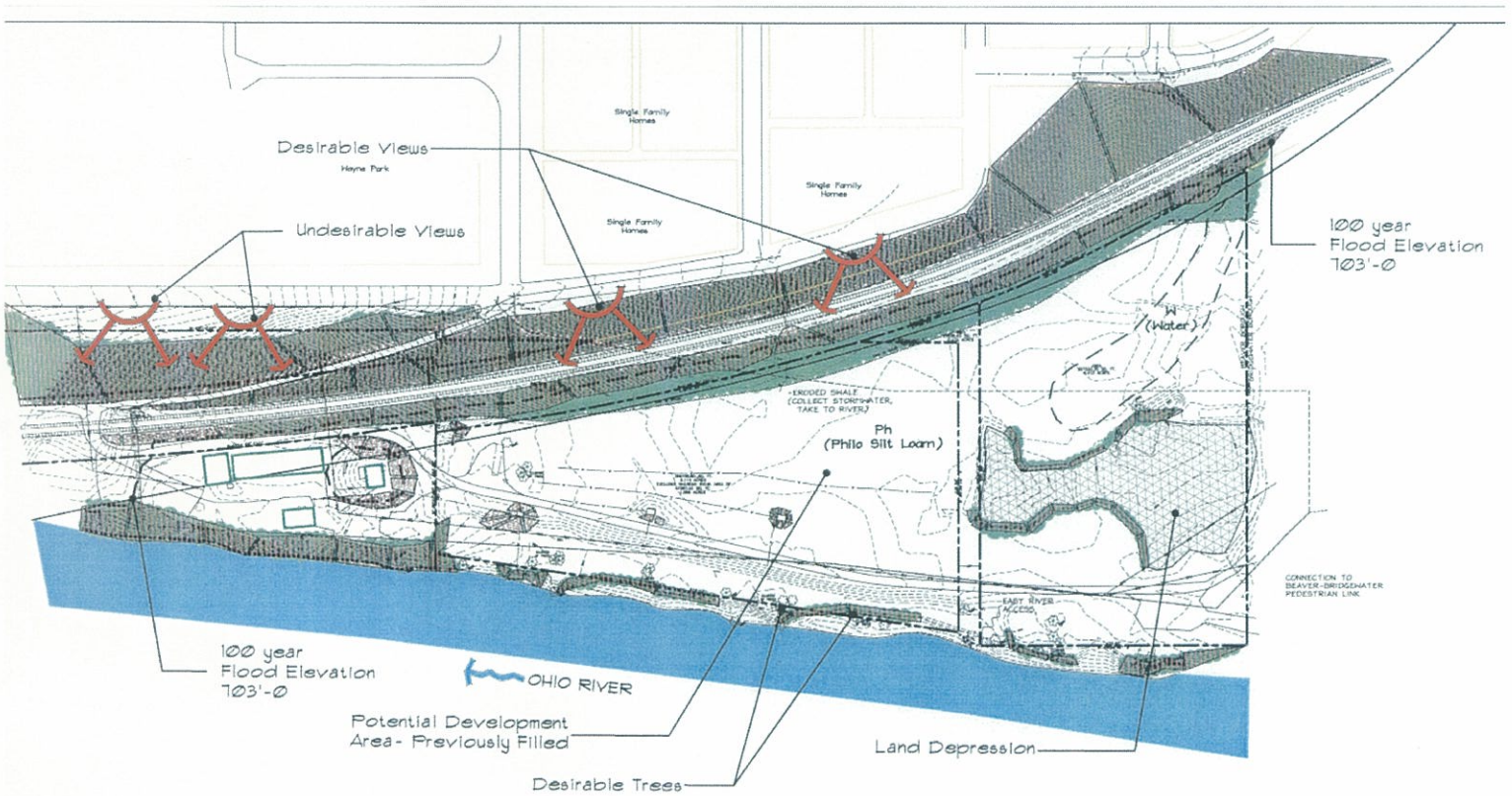
Water Treatment Plant **Maintenance Building**

Not to Scale

Gravel Storage **Railroad Crossing** **Water Well** **Water Supply Area** **Vehicular Access** **Maintenance Facilities**

Site Analysis of Natural Features

*Refer to attached large scale drawing for additional information



View of River | Distant Views

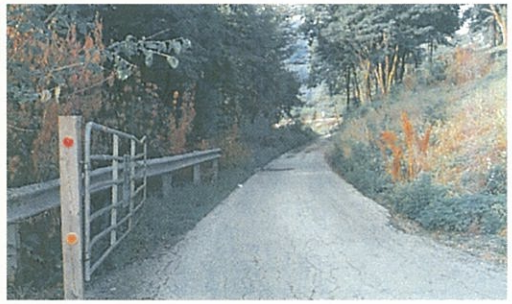
Not to Scale

Distant Views | Developable Area | Trees at River Edge | Water Supply Area | Grade Down To River

jurisdictional wetlands, with the other two being hydrophytic vegetation and hydrology.

Buildings

Borough maintenance facilities on the site include two storage sheds, one salt storage shed, and laydown space for equipment and gravel. A small water treatment plant, utilized primarily for water testing, is located near the storage sheds. A chain-link fence encloses a portion of these maintenance facilities.



Roads

Site access is accomplished via one-way, asphalt paved service roads from River Road and from adjacent properties in Bridgewater Borough. From Beaver Borough, the entering one-way road intersects River Road at Beaver Street, while the exiting one-way road intersects River Road at Market Street. Site access is restricted between the hours of 8:30 p.m. and 7:00 a.m, mainly to curb nighttime dumping.

At the downhill convergence of these one-way roads is a public road crossing of Norfolk Southern Corporation's railroad tracks. Current usage averages four to five trains per day which stop, on occasion, while cuing into Conway Yards. This results in the public crossing being blocked periodically.

An awkward left turn is required after crossing the tracks. The paved road then continues past the maintenance facilities, across the site, and accesses the wastewater treatment plant and the Borough's resident yard waste area. The road then passes under a railroad bridge, connecting the site to Bridgewater Borough.

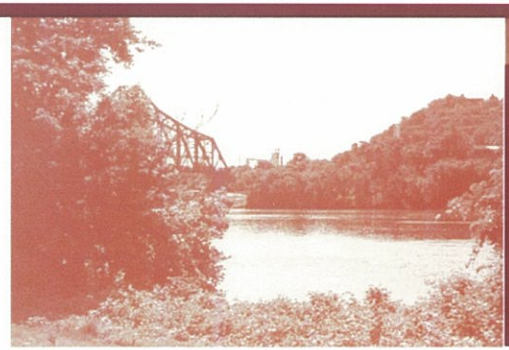
Utilities

Four active water wells exist in random locations on the site, with subsurface water lines of varying capacities. The well pumps access an Artesian water source well below the bed of the Ohio River. At each well site, soil is mounded up to the top of the well cover, allowing ease of service access. In addition, a water supply area is utilized for sale of water. Subsurface sanitary sewer lines occur, which connect the town's sanitary lines to the treatment plant and back to the outflow point on the riverbank.

Overhead electric lines follow the one-way service roads, crossing the tracks and connecting to the maintenance facilities. The overhead lines also traverse the site access road, serving the wastewater treatment plant. Portions of abandoned overhead lines remain along the railroad tracks. Utilities with lines at or serving the site include Dominion Peoples (gas); Columbia Gas of Pennsylvania, Incorporated (gas); Qwest Communications Corporation (communications); Verizon Pennsylvania Company (communications); and Beaver Borough Municipal Authority (water and sanitary sewer). Adelphia Cable and Duquesne Light Company have no utilities within the site. Addresses for the utility companies can be found in the Report Reference List.

Chapter 2

Public Participation



Chapter 2

Public Participation

This chapter describes the public participation process and summarizes results from each venue of participation. The input culminates in the identification of vision elements, leading to a "vision" for development of the Beaver Borough Riverfront Park.

The public input process included public meetings, working sessions with the project study committee, key person interviews, and meetings with student representatives of the Beaver Area School District.

To maximize attendance at public meetings, flyers were delivered to each address in Beaver and posted in prominent locations throughout the town. The meetings were also mentioned in the community newsletter and in the Beaver County Times. In addition, other agencies notified included the Beaver Area Chamber of Commerce, the Beaver Business District Authority, the Beaver County Riverfront Advisory Committee, the Beaver Initiative for Growth Recreation Committee, and the Beaver Rails to Trails Association.

Public Meetings

Three public meetings were held over the course of the study. The intent was to gather input and support, ensuring the recommended park improvements were consistent with the needs of the community. Minutes of each public meeting can be found in the Appendix.

Public Meeting #1

Sixty-two people attended the initial public meeting at the Beaver Area High School on November 8, 2000. A tailored input process was utilized to elicit ideas. Three questions were posed, and attendees were asked to write down their answers or comments:

1. What would you like us to know about the site?
2. What types of facilities or programs would you like to see incorporated in the design, serving what age groups?
3. What other issues, ideas or opportunities do you see for the park?

The public input process was a key component in the development of recommendations for the park.

In consecutive order of seating, each attendee expressed only one idea at a time. This method assured all attendees had the opportunity to speak. After all ideas were recorded and posted, attendees prioritized five elements or ideas most important to them.

Slides of the site were shown at the first two public meetings. This reminded attendees of the character and the context of the site for which they were expressing ideas.

Key Issues Prioritized at Public Meeting #1

- Youth recreation area. Address skateboarding and rollerblading.
- Safe access. Consider pedestrian access over tracks and secondary access from Bridgewater.

- Wildlife habitat. Respect bird nesting and migration and create wildflower areas.
- Trails. Provide walking and biking trails for exercise, with fitness stations.
- Simple design. Provide access to river, such as a boardwalk, fishing platform, sandy beach, boat access, and sitting areas.
- Yard waste area. Maintain resident yard waste area.
- Ice skating. Provide area for winter use.
- Picnic tables and shelters. Provide a place to picnic.
- Gardens. Plant ornamental flowers and provide areas for community gardens
- Cultural attraction. Consider a cultural areas and activities.
- Limited car access. Minimize impact of cars.
- Connectivity. Connect park trails into regional trail system.

Support facilities identified were drinking fountains, emergency phones, first aid and life preservers, trash receptacles, and a restroom.

Public Meeting #2

Seventy-one people attended the second public meeting held at the Beaver Area High School on April 18, 2001. Three schematic design alternatives were discussed and opportunities and constraints identified. Elements in the design were based on input received from the public input process performed to date. Main differences in the alternative schematics pertained to site access, as the status of the railroad crossing was unknown at the time they were developed.

Next, the preliminary design was discussed. The design incorporated positive elements from each of the three schematic designs. Main site access would remain over the existing track crossing, verified by Norfolk Southern Corporation as being a public crossing.

A lively discussion ensued. Comments were collected and discussed at the next study committee meeting.

Public Meeting #3

Thirty-seven people attended the third and final public meeting held at the Beaver Borough community room on October 30, 2001. A brief summary of teh mast planning process was reviewed. The recommended Design was explained in detail, including estimated costs, phasing, and funding opportunities.

The plan was well-received by the meeting attendees.

Student Meetings

An input meeting was held with members of the Beaver Area High School student council to gather ideas for the park. Note: the key issues summarized herein were not prioritized by the students.

Prior to the meeting, the recreation director for the school district conducted an independent recreation survey with school students to determine their needs and desires. The results of this survey can be found in the Appendix.

Key Elements Identified By Student Council

- Gathering spot. A place to meet with friends to talk and play music; an outdoor amphitheater (for bands to play and students to perform) or a big movie screen with the river as the backdrop; an indoor hang-out facility with recreation, refreshments, and climbing wall; a space for community gatherings; a bonfire area.
- Capture natural beauty. The former frog pond recreated.
- Recreation for all ages. Skateboard area; ice skating rink that can be converted for rollerblading; sand volleyball courts; river swimming (is water clean enough?); High school age challenge equipment or playground structure.
- Focal point. Monument or peaceful and serene water element.
- Access. Pedestrian and boater access. A spot for fishing.
- Trails. Walking, running and bicycle trails.
- Themed restaurant. Accessed from boats (maybe on a floating barge), or a snack bar in a lighthouse.
- Picnic areas.
- Flower gardens. A place to plant and enjoy the beauty.

Students expressed concern over the potential smell from the wastewater treatment plant. More importantly, they were adamant about limiting emphasis on environmental education. They felt there was too much "schooling" during the week.

Key Person Interviews

Key persons, identified by the study committee, were interviewed via phone to gather input for the project. The purpose of key person interviews was to give community leaders (beyond the elected officials) an opportunity to voice their concerns and be engaged in the planning process.

Key Issues Identified Through Key Person Interviews

1. What recreation opportunities would you like to see along the Beaver riverfront?

   - Park-like atmosphere
   - Multi-use space, with active and passive recreation
   - Walking access to Beaver Area Historical Museum

2. What key issues are facing the Borough in providing recreation opportunities for Beaver Borough residents?

   - Flooding
   - Access and parking
   - Railroad crossing safety
   - Hillside erosion
   - Funding
   - Vandalism
   - Sharing recreation resources (with neighboring communities)

3. What age groups appear to be the least / best served in Beaver Borough?

   - Best served: younger children (K-9); middle-aged (30-35); seniors
   - Least served: high school (no recreation opportunities unless school related); junior high (pre-teens to teens); middle aged; young adult (early 20's to 30's).

4. What kind of special events / programs would you like to see occur at the riverfront?

   - River regattas, water sports, fishing derbies, and events (jet skis, crew racing)
   - Outdoor music events and amphitheater
     - Community and civic events
     - Ecological activities
     - Rock climbing programs
     - Community gardens
     - Historical programs (related to Fort McIntosh)
     - Nature trails and programs

Study Committee Working Sessions

A ten-member study committee was instrumental in developing the Beaver Borough Riverfront Park Master Site Development Plan. The committee included representatives from Beaver Borough Council, public works, planning and zoning, public safety, and the Borough manager, as well as the School District recreation director, and Beaver residents. Minutes from the three meetings held with the study committee can be found in the Appendix.

The role of the study committee was to:

a. Act as a sounding board for ideas generated through the public input process.
b. Provide feedback on design alternatives.
c. Comment on recommendations.

Key Elements Identified by the Study Committee

- Sports fields
- Boardwalk
- Amphitheater
- Unique feature or attraction (lighthouse)
- Bicycle and walking trails (connections to Bridgewater)
- Ecological development, with natural theme
- Environmental education (with School District)
- Beach
- Water feature
- Boat access
- Playground for all ages
- Ice rink
- Family picnic areas
- Fitness trail with stations
- Fishing

Other issues identified as important:

- Emphasize year-round use, acknowledging 100 year flood elevations.
- Provide boater access, with tie-up points (rather than boat docking).
- Lower top elevations of

existing sanitary sewer manholes to accommodate improvements. Current top elevations are not above 100 year flood elevation.
- Gate park access points to curb nighttime dumping.
- Address, on a County-wide basis, active recreational uses requiring parking and lighting, such as ballfields, and skate parks.
- Address concern over potential vandalism given the site's location. Frequency of visitors on a random basis will help curb vandalism.
- Determine cone of depression around each well source, per the Source Water Protection Program (as recommended by PADEP).
- Maintain current location of Borough maintenance facilities. Relocation of these facilities is beyond the scope of this study, however, the salt storage shed can be moved.
- Maintain access to Borough wells (for large crane truck), water treatment plant (plan for future expansion), and maintenance facilities.
- Maintain access to Borough dumping facility and resident yard waste area (consider off-site location).
- Include area for future expansion or modification of water treatment plant per anticipated future requirements of the Pennsylvania Department of Environmental Protection (PADEP).

Creating a Vision for the Future

How do residents of Beaver see their park years from now? To arrive at a "vision narrative" for the park, the consultant summarized the common ideas elicited from the public participation process.

Ideas, or "visions", consistently mentioned were grouped into vision elements and utilized to form the vision statement. The vision fulfills the desires of the community and illustrates the essence of how their park should appear sometime in the future. It provides a mental image which generates support for the project, and forms a basis for all future park development.

More active recreational facilities, such as ballfields and a skateboard park, were not included in the design for this site. After review by the study committee, with input from the consultant and the CED, these facilities were not considered compatible with a riparian environment. Ballfields would require more frequent fertilization. A skateboard park would require more extensive paved areas, and greater surveillance.

Concurrently, a feasibility study is being conducted to determine the support and need for a recreation center serving Beaver and its surrounding municipalities (Bridgewater, Vanport, and Brighton Township). In addition, a comprehensive park, recreation, and open space plan is being undertaken by Beaver County. Active recreation facilities will be considered with these studies to meet the needs of area residents on a regional basis.

VISION STATEMENT

• Design a simple park with flexible passive recreation space offering amenities for all ages, while respecting the natural environment and maintaining access to existing Borough facilities.

• Create a park which serves as a natural destination for wildlife and human life communities, providing a haven where birds and animals are welcomed and observed as they establish or simply pass through.

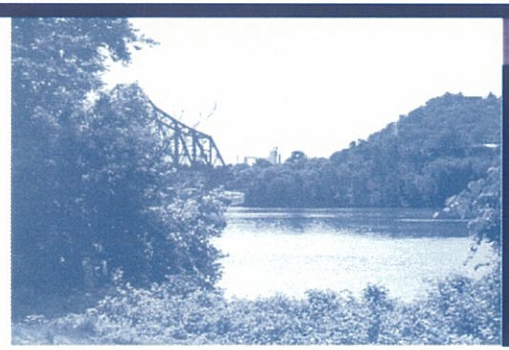
• Provide a gathering place for conversation and a place people can go to be revitalized by the calming river environment.

• Establish a park which will serve as a restorative place for relaxing and reconnecting with the natural world. Encourage an educational experience gained through personal exploration.

• Create this park using natural materials and a simple flood resistant, and easy to maintain design.

Chapter 3

Schematic Design Alternatives



Chapter 3

Schematic Design Alternatives

Schematic design alternatives were prepared for presentation at the second public input meeting. The design elements shown reflected thoughts and desires elicited from the first public meeting, with professional input from the consultant. They were prepared to express ideas, not a final design.

The Schematic Design Alternatives are briefly outlined below. Their opportunities are described by the elements included in each design. Constraints are listed at the end of each description. The concept for each was similar:

To create varying experiences for park visitors, a balance of open lawn area to accommodate pick-up games and community events, along with the extension of a natural habitat area, were designed. The features of the park will center around these two distinct areas.

Opportunities from each Schematic Design Alternative were incorporated in the Preliminary Design of the Beaver Borough Riverfront Master Site Development Plan.

Design Alternative #1
(access from River Road)

A large open lawn area was defined to accommodate pick-up games and community events. An irregular-shaped pond for ice skating was shown. Along side this open space, a continuous stone sitting wall with an adjacent path (rather than individual benches along a trail), would provide seating and a barrier from the railroad tracks. A wall would create a simple line, better withstand flooding, and require minimal maintenance.

An expansion of wildlife habitat was included to support a broader range of flora and fauna. Channeling of stormwater runoff through the habitat and providing nesting boxes would provide further support. Incorporating boulders and fence posts would facilitate wildlife viewing, and log benches would provide seating. A natural, curving wall made of local stone, apparently deposited during the Ice Age, would separate the natural habitat area. Educational signs would be inscribed in the wall.

An expansion of wildlife habitat was included to support a broader range of flora and fauna.

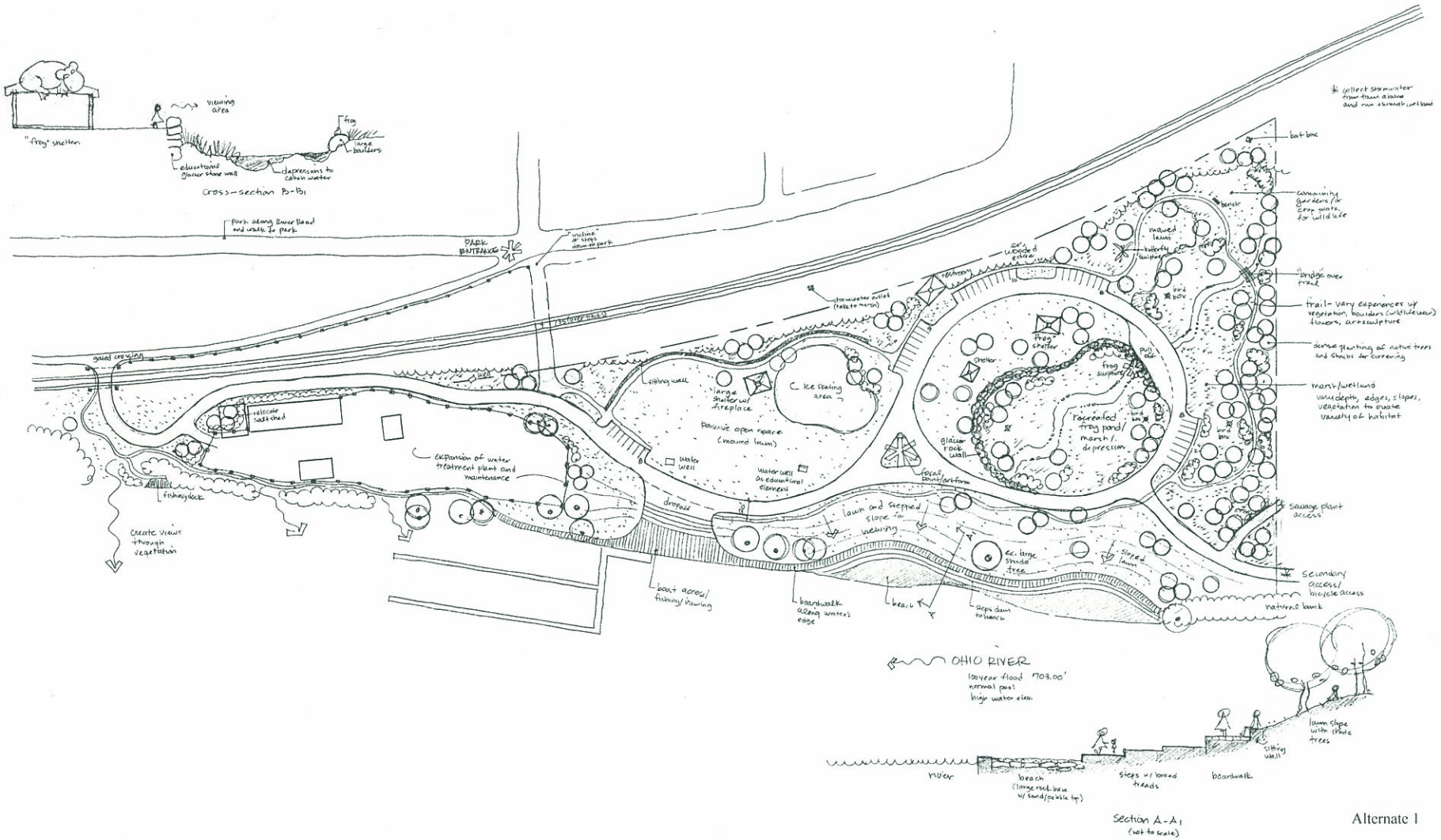
Picnic shelters were placed in lawn areas along the natural habitat area. They would be themed to acknowledge the site's former frog pond.

Multi-use trails were shown for walking and biking, with adjacent fitness stations. Nature trails located at the edges of the habitat area would reduce impact on wildlife.

Art sculptures, appropriate to the natural setting, were located within park. The community would be instrumental in their design and construction.

Community garden plots for vegetables and flowers were located within the natural habitat, to blend should their appearance become unkempt.

Design Alternative #1



Alternate 1

Riverfront viewing and sitting areas were created by terraced stone or concrete steps, along with extensive sloped mowed lawn areas. A boardwalk or river walk, located above the high water level to curb flood damage, would connect to Bridgewater Crossing. A concrete or stone edge along the river would be constructed for reduced susceptibility to water erosion. A sandy beach using a base of larger rock choked with a finer sand or pebbles would be constructed, also for reduced maintenance. Courtesy docking along the river's edge was shown to provide boater access

Storm water management from proposed improvements, and from the town of Beaver above, would be handled by on-site swales, allowing further filtering before entering the river.

Park signs of natural materials and colors would be limited in number, and include park entrance sign(s), accessible parking, park rules, and educational signage. One-way roads would be avoided to reduce sign clutter.

Pending a verification of a public track crossing, the existing park entrance, exit, and one-lane access roads would be enhanced with stone walls, entrance signs and gates, and attractive plantings. Safety would be improved through the installation of wooden guide rails.

The salt storage shed would be relocated to allow a safer road alignment, and a more aesthetic entrance. The site access road would loop, connecting to Bridgewater and maintaining access to the Borough's yard waste area. A focal point, such as a lighthouse, would announce the park to both land and water users. Reduced pavement widths would be utilized to minimize visual impact and reduce stormwater runoff. Forty-five parking spaces would serve picnic shelters, ice skating pond, and general park use.

Access to Borough water wells would be maintained, and consideration given to acknowledging the wells as public education tool describing the origination of resident's water. To reduce visual clutter, the overhead electric lines would be relocated to along the railraod tracks, or buried.

Native plantings (avoiding invasive species) for shade, and wildlife food and shelter, would be planted in random fashion, and clustered more closely along the edge to effectively screen the sewage treatment plant.

Alternate pedestrian access (steps or incline) was considered to avoid an at-grade crossing of the railroad tracks. It would not be feasible to meet ADA guidelines given the significant change in grade.

CONSTRAINTS

- Park road interrupts natural habitat area.
- More hard edges at riverbank.
- Multiple shelters shown but not desired.
- Boat docking facilities shown but not desired.

Design Alternative #2
(access from River Road)

A central plaza forms the main core of this alternative. Concentric "rings" emanating from this arrival space would take the form of sitting walls near the center, and become stone bands further out. These flush stone bands would cross lawn areas, trails, and roads. In the natural habitat, they would become rows of trees and remnants of fence posts.

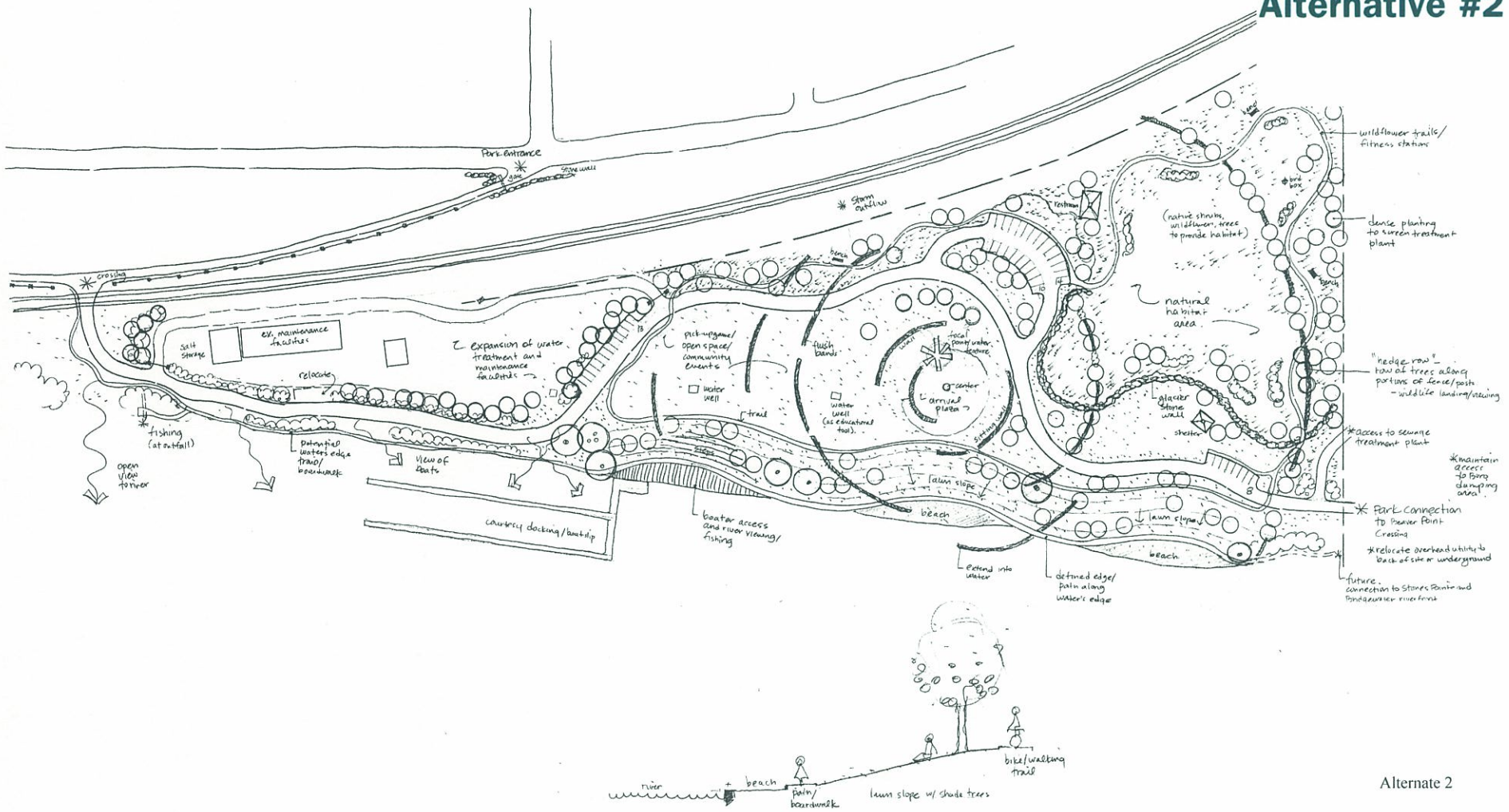
The main parking area was also curved to acknowledge the concentric theme. A picnic shelter would overlook the habitat, adjacent to a curving river stone wall.

Main park access would be from River Road, pending an approved track crossing from Norfolk Southern Corporation. The park road would then traverse along the riverbank, between the maintenance facilities and the top of the riverbank, requiring relocation of a maintenance shed. Forty-five parking spaces would serve picnic shelters, ice skating pond, and general park use.

CONSTRAINTS

- More hard edges at riverbank.
- Multiple shelters not desired.
- No looped road or turnaround provided in park, other than through parking area.
- Relocation of maintenance shed required to accommodate park road along river.
- Boat docking facilities shown but not desired.

Design Alternative #2



Alternate 2

Design Alternative #3
(access from Bridgewater Borough)

The third alternative was developed with the main park access from Bridgewater, assuming a public track crossing would not be granted from the railroad.

The natural habitat area would be located near the maintenance facilities, rather than adjacent to the wastewater treatment plant. A small water feature would be located. A more natural treatment along the riverbank was designed, and would consist of walking trails and native vegetation to further support wildlife.

The park access road would form a loop, with a central arrival plaza and a focal point. Picnic shelters would be located in an open lawn area, with lawn access to the river's edge. Thirty parking spaces would be constructed to serve picnic shelters and general park use.

CONSTRAINTS

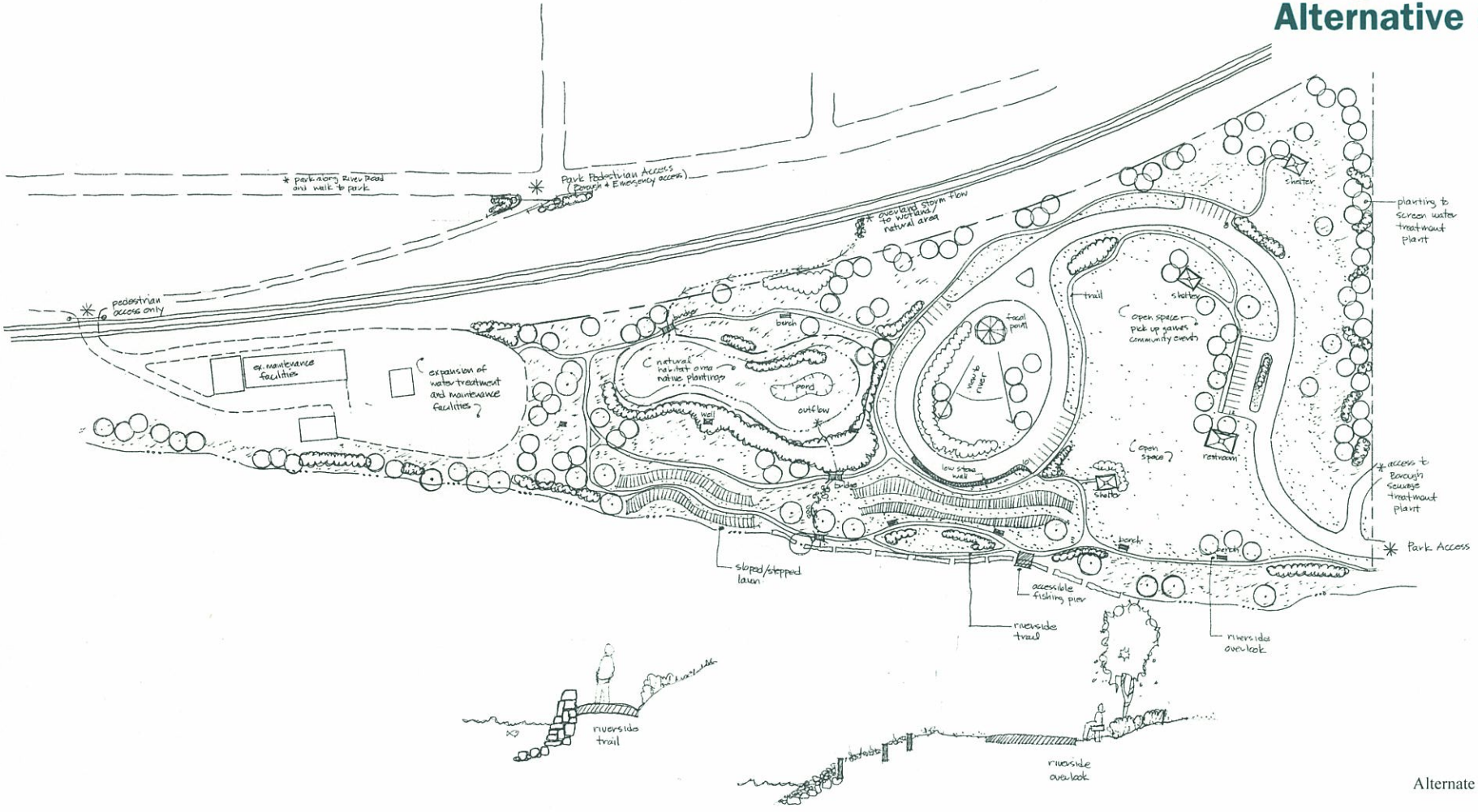
- Main park access from Bridgewater, not Beaver.
- Restroom not central to main activity areas.
- Multiple shelters shown but not desired.
- Natural habitat not contiguous with undeveloped area behind wastewater treatment plant.
- Less accessibility to riverbank for human visitors.
- No vehicular connection from park access road to Borough maintenance facilities.

Preliminary Design

The study group considered the schematic design alternatives, and discussed which elements should be included in the design of the Preliminary Master Site Development Plan for the Beaver Borough Riverfront Park. The group agreed that Design Alternative #1, with modifications, will best meet the community's needs. The following modifications were proposed:

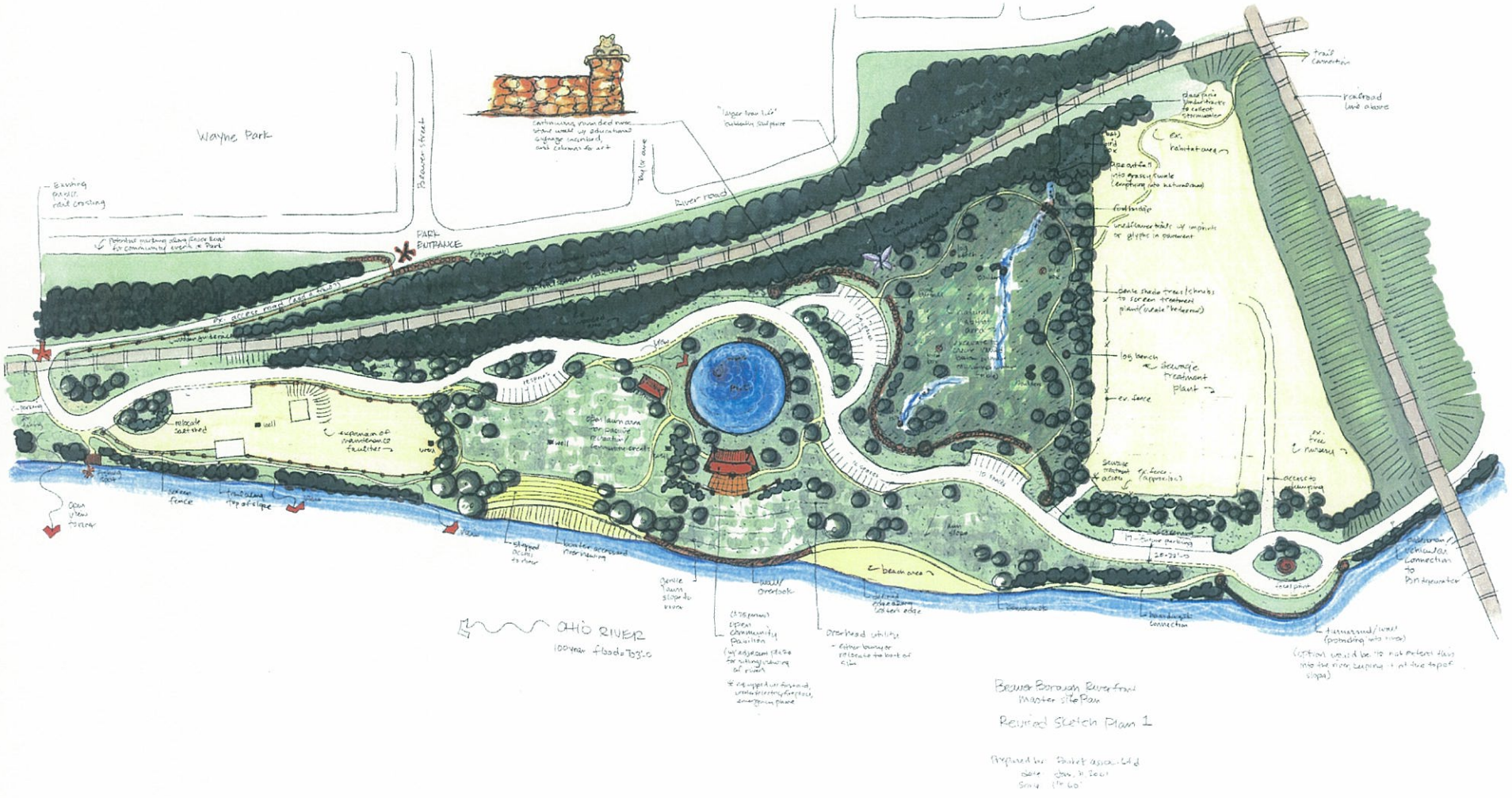
- Maintain vehicular access to site via River Road (pending railroad company determination of public track crossing). Improve safety of track crossing by re-paving surface, installing cross-arms and signage, and other as coordinated with Norfolk Southern Corporation.
- Include an ice skating pond as a year-round, shallow pond, with a concrete base and possibly a fountain for circulation. Consider placing water lilies for summer interest, since cleaning and draining of the pond will be necessary prior to freezing for ice skating.
- Maintain evening gated access to site to curb illegal dumping. Borough may consider alternate yard waste removal for residents, rather than at the riverfront site.
- Create one large pavilion near the pond, with restrooms, fireplace, drinking fountain, and other amenities. Costs can be put into one, rather than several structures, allowing better construction materials (stone base and columns, with wood detailing and shingled roof overhead (above flood elevation to minimize damage). Locate shelter closer to river for greater use flexibility.
- Provide access to the shoreline for boaters, rather than courtesy docks.
- Designate a sizeable natural habitat area to allow diverse range of habitat, with natural stormwater drainage flowing through.

Design Alternative #3



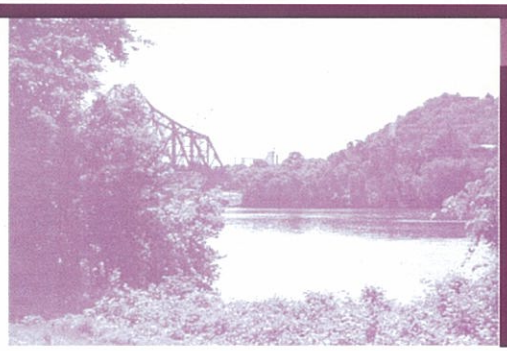
Alternate 3

Preliminary Design



Chapter 4

Recommended Design



Chapter 4

Recommended Design

The Beaver Borough Riverfront Park was designed to acknowledge and enhance the nature of the river's riparian environment. In addition, the design is unique to this specific site on the Ohio River. Interpretive elements such as text inscriptions in a river stone wall speak of the story of this local environment's geology and evolution.

The adage, "variety is the spice of life" holds true in the design of recreation facilities. The original goal, to provide recreation opportunities for users of all ages, was clarified and developed by the responses gathered through the public input process. Opportunities for activities such as walking, bicycling, roller-blading, observing nature, viewing the river, playing a pick-up game, or absorbing the calming inspiration of the river are presented in the design.

To successfully integrate the park facilities into the natural environment, an atmosphere was created to encourage recreation, rather than a series of organized recreation elements or objects. A simple park design requiring low maintenance was accomplished by several methods as described in the following paragraphs.

The recommended natural concept and passive recreation design elements for the park will complement other riverfront developments planned for neighboring communities (consistent with the mission of the Beaver County Riverfront Development Plan).

The Riverfront Park will differ from the existing parks in Beaver by offering natural habitat areas in addition to passive open space. To accomplish diversity in experience, a balance of open lawn area to accommodate pick-up games and community events, along with the extension of a natural habitat area was designed. The features of the park center around these two distinct areas.

Community Open Space

Open Lawn Area

A large open lawn area for pick-up games, community events, and other gatherings will be included, rather than structured sports fields. Bordering the open space area, continuous stone sitting walls will be created, with a path along side, rather than individual benches along a trail. Walls create a simple line, withstand flooding, and require minimal maintenance. These walls will also provide a physical barrier for safety, separating the open space activity area from the park access road.

An expansion of wildlife habitat was included to support a broader range of flora and fauna.

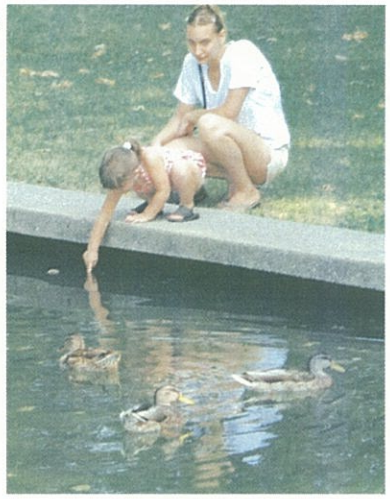
Pond/Water Feature

A water element will be constructed to allow additional recreational opportunities. Such a feature will provide a focal point for the park, allow water access for younger children, provide a place for remote controlled boats, and provide a means for summer wading and winter ice skating.

The 165'-0 diameter pond will be constructed with a concrete bottom. It will be relatively shallow, at 6"-8" in depth, and slightly deeper in the center. It's size was determined by the amount of area available and its proposed use. It was not sized to be a regulation hockey rink, although it can be utilized for recreational hockey pick-up games.

The pond will have a concrete edge and be bordered with stone sitting walls, providing a spot to lace up skates or to dangle feet in the water.

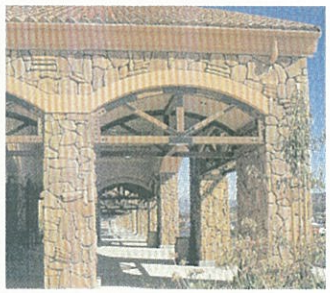
A fountain or spray feature as a focal point and means of water circulation can be included. Water lilies or other vegetation can be placed in the water, in pots, for added summer interest. However, the addition of plants may increase maintenance.



Community Pavilion

A pavilion will be constructed to provide shade, facilitate community gatherings, and serve as a shelter for winter use of the park. It will be architecturally designed and divided to serve large or small gatherings, or a single person relaxing and enjoying the river view. While the shape will most likely be irregular to accommodate these varying uses, it will average 3,600 square feet.

The components of the pavilion will include natural materials, such as stone pillars and a wood shingle roof. Wood detailing accentuating the roof structure, and on other portions of the pavilion above flood elevation, will be included. A durable hardwood should be used (type as suggested in the Appendix). The floor slab will be constructed of exposed aggregate concrete, with a stone terrace adjoining the river side of the pavilion. The pavilion should be designed to discourage bird roosting and nesting opportunities, which creates additional maintenance.



Electrical outlets, an emergency phone, lighting, and water will be included in the pavilion. The structure will be equipped with an integral fireplace and grill, and a water fountain. Lighting around the pavilion will provide flexibility for scheduled evening events.

Restroom

A restroom facility of approximately 25'-0 by 45'-0 will be constructed to serve the users of the park. It will be located central to the main activity areas of the park but be of sufficient distance from the pavilion to minimize notice of odor. The facility will be served by existing utilities (sanitary and water). Underground electric will be installed to the restroom from the relocated overhead lines along the railroad tracks. A water fountain outside the restroom will be included also.

Natural Habitat Area

A sizeable portion of the site will be reserved for the creation and enhancement of natural habitat. An enlargement of the existing natural depression will create the natural area and attract a broader range of fauna. For optimum habitat creation, the area will:

- Be of sufficient size to support wildlife (the proposed habitat area is just under three and one-half acres).
- Have irregular edges with varying sloped grades and banks.
- Have variable, irregular depths to provide seasonal collection of water pockets, with a defined stream channel during wet periods.
- Offer a diverse range of vegetation species, of varying heights and density (Refer to the appendix for suggested grass mixture).
- Provide a buffer around the natural habitat area, providing tree cover.
- Allow surface stormwater to flow through overland swales to filter contaminants and improve water quality.

In addition, large boulders or remnants of old fence posts will be added for wildlife viewing. A curving but continuous rounded river stone wall will provide separation and acknowledge the abundant rounded stone present throughout the Borough. This stone was apparently deposited in the area during the Ice Age, and could possibly have originated from land as far north as the middle of Canada. Educational signage indicating this phenomenon will be inscribed in the stone wall.

The Borough should retain stone uncovered, and stockpile on-site for future use in construction of tab wall. In addition, a community evening or gathering could be assembled to collect stone from residents for future use.

Bird nesting boxes will be placed throughout the natural area to attract a variety of birds. Attracting species such as purple martins and bats will help keep mosquitoes at bay. These birds are attracted to open field areas adjacent to woodlots, with a nearby water source. School environmental clubs can construct the boxes and be responsible for monitoring and maintaining them.

To further set the naturalistic tone, art sculpture will be incorporated at the natural habitat trail entrance. Suggestions for art sculpture include a larger-than-life replica of a butterfly, a sculpture of a frog sitting on a rock, a turtle, or other appropriate wildlife.

Wildlife Attraction

Through careful planning and incorporation of habitat, wildlife should be attracted to the natural habitat area. Species may include many types of birds, such as killdeer, American robin, American kestrel (falcon), mallard, common nighthawk, purple martins, evening grosbeak, Canada goose, little brown bat, ring-necked pheasant, orioles, juncos, downy woodpecker, cardinal, yellow-bellied sapsucker, thrush, bluejay, warbler, titmice, nuthatch, rufous-sided towhee, screech owl, great blue heron, red-winged blackbird, ruby-throated hummingbird, wild turkey, black-capped chickadee, starling, eastern bluebird, and red-tailed hawk. Many of these species will also help to keep pesky insects at bay.

Mammals attracted may include white-tailed deer, eastern chipmunk, woodchuck, short-tailed shrew, muskrat, meadow vole, long-tailed weasel, deer mouse, gray squirrel, beaver, opossum, striped skunk, eastern cottontail rabbit, river otter, and racoon. Proximity to a water source will also be an attracting element, luring frogs, turtles, and snakes as well.

Once established, the natural habitat area may encourage more unusual species such as osprey. The Fish and Game Commission can advise on this possibility. Attracting more unusual species will further the unique character of the site, facilitating its seasonal use as a migration and nesting site.

Community Gardens

Community garden plots for vegetables and flowers will be incorporated into the natural habitat area. Should the gardens become weedy and unkempt, they will blend more readily if surrounded by natural wildflower fields. Crop species should be restricted to annuals, to avoid potential invasive oerennials (i.e., mint) overtaking the native species.

In addition, low, inconspicuous black fencing can be erected to keep ground animals from eating the harvest during the growing season. Once harvesting is complete, a portion of the fence will be temporarily removed to allow wildlife to feast on the remaining food, including vegetables and seeds from flowers.

River's Edge

River Access and Edge Treatment

Along the riverfront, viewing and sitting areas will be created by terracing stone or concrete steps with wide treads, alongside extensive sloped mowed lawn areas. A concrete or stone edge will define a portion of the edge of river to reduce susceptibility to water erosion. In addition, vegetative river bank stabilization will occur along the portion of the river (adjacent to the maintenance facilities), furthering the natural habitat.

A "river walk" will be created along the riverfront, located above the high water level, to help reduce flood damage to the walkway. The walk will be constructed of exposed aggregate concrete or a dense, durable hardwood (refer to the appendix for a suggested material). In some areas due to grade, it may be elevated or stepped with short walls or steps. It will run parallel with the river, acknowledging the contours of the riverbank and being ADA accessible affording visitors views of the river. The walk will proceed up-river, connecting to Bridgewater Crossing, and ultimately linking with the existing (and future proposed) boardwalk at Bridgewater's Bicentennial Park.

A combination of hard edges and green edges are suggested for the river's edge. Hard edges will help curb soil erosion at the riverbank, while green edges will encourage wildlife habitats on both land and water. This combination will promote the health of the river environment. It will also sense to recognize and accept the natural conditions and seasonal cycles of flooding that characterize any river environment.

Boater Access

Boater access to the site will be limited to tie-up locations along the overlook wall, rather than boat docking facilities. This will allow pick-up and drop-off of boaters, and allow boaters access to the park for their enjoyment. In addition, a boater access platform will be constructed near the tie-up spots, with stepped access. This platform can be constructed of concrete or stone, or of a durable hardwood (type as suggested in the appendix), elevated approximately two feet above the water level.

Beach

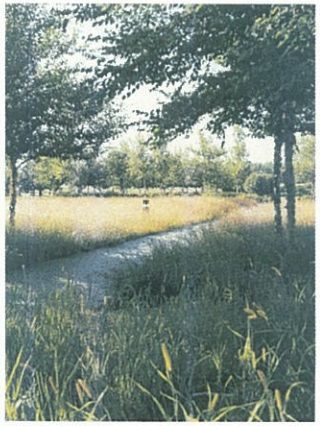
A sandy beach along a section of shoreline will be constructed, using a base of larger rock choked with a finer sand or pebble. Should the finer pebble be washed away with flooding, the larger stone base will remain, thus reducing maintenance.

To further reduce maintenance frequency, the beach areas should be constructed above the normal pool elevation. A concrete edge will be constructed to contain the beach, holding it above this normal pool elevation.

Fishing Platform

An accessible platform for fishing will be constructed near the existing sewer outfall along the riverbank. Sightings of great blue heron tell us fish are attracted here. The platform will be constructed of a durable hardwood and be of size to accommodate up to five persons. An accessible trail will join the adjacent parking area with the fishing platform.

Connecting Elements



Trails

Pedestrian trails will be constructed parallel to the access road, to accommodate walking, biking, and roller-blading through the site and to adjoining areas. Constructed of bituminous pavement, these ten foot wide multi-use trails will be separated from the road by a lawn strip of varying width. Walking trails will be accessible, with slopes less than five percent, to meet the Americans with Disabilities Act (ADA) guidelines.

Physical connections of this park to the adjacent Bridgewater Crossing will occur at two additional locations: via the arched stone railroad tunnel off the trail in the natural habitat area, and along the water's edge via a river walk. This latter connection will eventually join the existing (and future proposed) boardwalk at Bridgewater's Bicentennial Park.

Pedestrian trails through the natural habitat area will be restricted to walking, and located at the edges to reduce impact on wildlife. Constructed of crushed stone to encourage a slower pace, these accessible trails will be five feet in width. They will be a natural stone with glyphs or imprints of wildlife footprints in the surface. Occasional sitting areas will be provided and constructed of large logs, rather than benches, in keeping with the natural theme. Trails through the natural habitat area will allow the visitor enjoyment of wildlife viewing and the opportunity to spot native wildflowers.

Visual Connections

Enhancing visual connectivity will be accomplished through further opening views to the river and elements beyond, such as the architecturally significant railroad bridge. This can occur at the river's edge by selective removal of lesser trees and underbrush, rather than healthy, mature specimen trees. Invasive species, such as Japanese Knotweed, will be effectively removed by excavation of its roots, and repeated until complete removal is accomplished.

Views to the park from River Road can be enhanced in similar ways. Maintaining selective clearing of trees and underbrush on the slope separating the site from the town of Beaver, as well as performing selective clearing of trees between the railroad tracks and the site, will allow more open views to the park, the river, and those elements beyond.

Art in Design

The incorporation of art into the design of the park will also contribute to a unique sense of place. Design competitions can be initiated, whether at the professional, amateur, or student level to elicit creative solutions and encourage public participation in the park design.

Different forms of artistic expression can be incorporated, such as sculpture, earthen forms, or display gardens. Art can be incorporated into the design of the community pavilion. One suggestion involves a frog on the roof, with a leg or two hanging down over the edge. Art sculpture can also be incorporated into the natural habitat area, as described previously.

A focal point or other feature such as a light house at the park road turn-around can be an artistic expression which identifies Beaver to those utilizing the river. The art should enhance the overall vision of the park and provide visitors with a means to relate to the environment

Educational Opportunities

The Beaver Riverfront Park will support environmental education activities such as habitat creation, nesting monitoring, and water quality studies. Opportunities exist for access to educational programs, such as "River-Ventures" through the Pittsburgh Voyager. Voyager is a non-profit river-based organization that provides high quality environmental science, river ecology, and mathematics education to students in Western Pennsylvania.

The construction of bird nesting boxes, butterfly nesting boxes, bat boxes, and other shelters can be completed through school programs.

Birding is a popular recreational and educational activity which will be afforded in the natural habitat areas of the park, as well as along the riverfront. Numerous birds of various species currently frequent the site, and more are anticipated with the enhanced habitat.

Plantings

Plantings for the site should be native to the riverfront area, where feasible, or to the state of Pennsylvania. This will avoid competition with introduced species, which usually offer less of a food source for wildlife. A native plant can be defined as a plant occurring naturally in a region, ecosystem or habitat. These plants help promote regional identity, and enhance bio-diversity.

Large trees for shade and wildlife shelter will be planted in random fashion through the park and natural habitat area. They will be clustered more closely, in a natural pattern along the Beaver/Bridgewater property line, to effectively screen the sewage treatment plant. A mixture of understory flowering trees, shrubs, and field grasses, with wildflowers, will be added to enhance the beauty and wildlife habitat, providing appropriate food and shelter.

Shrub species such as gray or silky dogwood, hawthorn, alder, and willow enhance wildlife cover. Alder and legume species of grasses have the added benefit of increasing earthworm production and soil fertility through nitrogen fixation.

Specific plantings to attract and sustain various forms of wildlife should be targeted for planting. Those plantings which offer fruit, nuts, and sufficient cover are most important. Seasonal crops can be planted, or be left over from community gardens to supplement food sources.

Native non-mowed grass species (a combination of warm season and cool season grasses) will comprise the base of the natural habitat area. Native perennials will then be planted in random fashion. These grassy herbaceous fields will be mowed only annually, avoiding late spring or early summer since this represents the nesting period for grassland birds. Similarly, fall mowing of fields should be avoided, as the grasses provide food for such species as the monarch butterfly. Migrating butterflies feed in the larva stage, then go into a period of change while still using the plant on which they fed. Mowing early in the fall will destroy these larva and interrupt the cycle of the butterfly.

The river stone wall provides a physical reminder of the limits of the natural habitat area, and its reduced mowing requirement. Regularly mowed lawn areas will be reserved for the open space area, and the lawn slopes along the river for sun bathing or viewing. In addition, a mowed lawn strip will occur between a trail where it occurs along the road and the natural habitat area.

Infrastructure

Park Entrance

At the park entrance on River Road (at Beaver Street) and at the park exit (at Market Street), stone walls with a park sign and wood swing gate will be constructed on either side of the road. Attractive entrance plantings will also be added to announce the park.

Vehicular Access

Main vehicular and pedestrian access to the site will occur via the current park entrance on River Road at Beaver Street. The one-lane access roads leading to and from the public railroad crossing will be upgraded to improve safety, and will include raising storm inlets to be flush with the road surface. These road services will be overlayed or re-paved with bituminous. Along each one-way access road a wooden guide rail (PennDot approved) will be placed along the downslope edge, for safety. Where feasible and slope allows, a walking lane will be created along each edge.

Roadways within the park are proposed with a drive aisle width of twenty-two feet, at ten miles per hour. Reduced pavement widths will minimize visual impact of paved areas and reduce stormwater runoff. Two-way roads are suggested, mainly to avoid traffic control signs cluttering the site.

To improve safety at the track crossing, the access road will be aligned to a more straight position on the river side of the tracks. This will provide better sight distance and access and take advantage of the river view. The salt storage shed will need to be relocated to accommodate this realignment.

The road will curve back to traverse between the maintenance buildings and the track (following the existing road), and proceed straight past the water treatment plant, eliminating the curve and poor sight distance of the existing road in this area. The road will then continue along the back side of the tracks before turning towards the river.

The site access road will end beyond the site boundary, on the river side of the wastewater treatment plant. This termination will be a circular roadway turn-around, projected out into the river to maximize views of this area. The design includes a large focal point at the center of this turn-around, visible to both land and water visitors. The focal point will be an art sculpture, monument, or lighthouse created by the community.

A road connection from the turn-around will proceed under the railroad bridge, to the future Bridgewater Crossing. Access to the sewage treatment plant and Borough yard waste and dumping facility will also be maintained in this area.

Railroad Track Crossing

At the convergence of the two site access lanes exists a public railroad crossing. This crossing has been verified to be a public crossing (refer to the appendix for verification from Norfolk Southern Corporation). The crossing will be upgraded by re-paving the surface, and installing cross-arms and signage (as coordinated with Norfolk Southern Corporation).

Parking

Approximately 64 parking spaces are initially proposed to support park facilities. These will be constructed in locations about the site so they are effectively utilized and to minimize parking in non-designated areas. The parking areas will be constructed of bituminous paving, and will be 9'-0 feet wide by 18'-0 feet long. For large community events, overflow parking can occur off-site along River Road, where current parking is allowable. Future parking to accommodate 17 spaces is allocated near the park access road turn-around, and will only be constructed if necessary.

Parking Analysis

FACILITY	Capacity (in persons)	Parking Required
Community Pavilion	100	50
Pond	25	15
Habitat Area	15	8
Fishing Pier	8	5
Peak Use Totals	148	78
Daily Use Neet (60% of peak)	47	
Spaced Provided	64	
Future Parking Spaces	17	
Total Spaces Available	81	

Stormwater Management

The handling of stormwater generated from new site improvements, as well as existing runoff entering from the town of Beaver, is proposed to be handled through on-site measures. The surface stormwater discharge opposite Taylor Avenue on River Road collects surface water from a portion of the town of Beaver, and currently exits into the site. In addition, stormwater collecting on the north side of the tracks (below Wilson and Lincoln Avenues) can be routed under the tracks (through a pipe) and to the site.

Each of these outlet points will be collected via surface swales, or underground piping, then routed through the natural habitat area. This will allow further filtering of the runoff before it enters the river. Another benefit to handling surface stormwater in this fashion will be a greater range of habitat and attraction of wildlife to the natural habitat area, through the addition of this water. The number of stormwater inlets on the site will be minimized, where feasible.

The implementation of these stormwater management concepts are consistent with the Best Management Practices supported by the PADEP, and with Growing Greener Bio-Engineering Solutions.

Maintenance Facilities and Access

For the near future Borough maintenance facilities will remain in their current location. The salt storage shed will be replaced, and relocated (preferably off-site) to allow better entrance circulation and to avoid having to relocate salt piles to higher ground prior to anticipated flooding. Eventually, the Borough should pursue off-site relocation of all maintenance facilities (sheds, laydown areas, etc.) to restore the site to its original state and to allow more recreational opportunities at the river's edge. The site should be reserved for public recreational use.

A fence enclosing the maintenance facilities will be constructed to offer separation and discourage entry into this area. The fence will be constructed of materials to withstand occasional flooding, such as steel posts and mesh, rather than wood. Planting can be incorporated to provide additional visual screening. It is also recommended the structures within the maintenance facilities be painted a neutral color to blend more readily with the surrounding environment.

Access to the resident yard waste area, behind the wastewater treatment plant, will be maintained via the park access road. The Borough may pursue an alternate, off-site location.

Signage

Limited signage will be designed and constructed of natural materials and subdued colors, in keeping with a natural theme of materials for hardscape elements. Required signage might include park entrance sign(s), accessible parking, park rules, and educational signage.

Utilities

The overhead electric utility line (running along the existing site road) will be either relocated underground, or be routed along the railroad tracks. This will help to reduce visual disruption of river views.

The depths of the remaining underground utilities within the site will need to be determined prior to setting proposed grades. Connections to these utilities, including sanitary and water, will provide service to the proposed facilities.

Lighting is proposed to aid in surveillance and to provide illumination for night-time scheduled events. Lighting will be concentrated along the park access road, and in the area of the community pavilion and pond. Lighting should be designed to illuminate the park without inducing glare beyond the activity area. Glare should be directed away from the residential district above the site, and not spill over onto the river corridor.

Remaining Items

Naming of the Park

Consideration should be given to naming the park to further the sense of place, making it unique to this site and community. Ideas are as follows:

- Great Path Park (acknowledging The Great Path, the main westward migration mode)
- Old Town River Park or Beavertown Park (acknowledging the former name of the town of Beaver)
- Shingas Park (acknowledging the Indian leader Shingas)

Vandalism

Vandalism concerns will be reduced with an increase in visitor frequency. By providing a variety of activities, the park will be utilized at random times of the day. Provision of many outdoor activities, such as walking and biking trails, and access to the water for fishing, also contributes to expanding lifestyle choices for current and new residents in the area.

Existing Water Wells

There is some concern regarding the construction of park improvements on a site which contains the Borough's water wells. Discussions were held with the study committee and representatives of the Borough. The following is a summary of issues identified:

1. Location of proposed improvements may need to avoid the cone of depression around each well source. A cone of depression study will need to be completed to determine if this is a limiting factor.

2. Large truck or crane access should be provided to each well source for periodic monitoring and maintenance.

3. Consider construction of a removable covering over the wells to disguise their views. The wells can be equipped with an alarm system, connected to the police station.

4. Drilling of future new wells should occur in locations beyond proposed improvements, when feasible.

In addition, the consultant posted a query on the National Recreation and Parks Society Association (NRPA) website to obtain practical information from other municipalities around the country regarding this issue. A summary of these responses can be found in the appendix.

Acceptable Facility Standards

The design of the Beaver Borough Riverfront Park incorporates acceptable facility standards as defined by the following organizations:

- Americans with Disabilities Act, Title II, Requirements for Public Facilities; requires public facilities be accessible to the physically challenged. Includes proposed structures, trails (preferably all, or a portion thereof), parking, and access to the river.

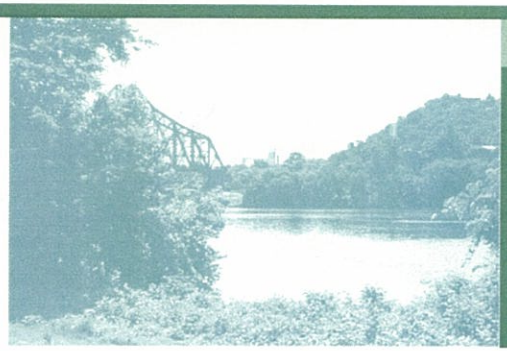
- National Park and Recreation Association's Facility Development Standards; for general facility construction.

- American Association of Highway and Transportation Officials Guide for the Development of Bicycle Facilities; for bicycle trails.

Recommended Plan

Chapter 5

Implementation



Chapter 5

Implementation

Estimate of Development Costs

An estimate of costs was prepared for the recommended design of the Beaver Borough Riverfront Park. This estimate was based on the assumption that implementation of park development will occur through a public bidding process. Costs reflect year 2001 wage rates. In Pennsylvania, all projects over $25,000 are required to use the State's Prevailing Wage Rates for construction. To budget for inflation of costs for phases beyond Phase 1, include a four percent annual adjustment.

With volunteer labor and donated materials, the costs associated with these park improvements may be less than estimated. Additionally, alternate sources of funding, including grant opportunities as described herein, may help defray direct development costs.

Permitting and Approvals

Given the presence of hydric soils, a delineation and determination of potential jurisdictional wetlands will be required prior to implementation of site improvements. Should wetlands be identified, they will require protection or replacement.

Other necessary permitting may involve the Pennsylvania Department of Environmental Projection (for erosion and sedimentation controls), the Pennsylvania Fish and Boat Commission, and the Corps of Engineers. Coordination with Norfolk Southern Corporation will need to occur regarding upgrade of the public track crossing, with approval for proposed work shown within a portion of their property. It should be noted that portions of the existing site road is within railroad property.

Construction Projects

The future development of the park may involve various types of construction projects, which may impact the material or labor cost of improvements in each phase. The following is a brief summary of the suggested types of construction projects that may be undertaken:

Contracted Projects

Beach
Entrance/exit walls, gates, and signage
Fence installation
Lighting
Overhead electric relocation
Pavilion and terrace
Pond with walls
Restroom
River access (river walk, steps, and walls)
Road and parking bituminous paving
Site preparation and grading
Wood guiderails

Public Works Projects

Fence
Fishing platform
Manhole and inlet elevation adjustment
Road bed and parking lot base
Salt storage shed relocation
Sanitary sewer lines
Stormwater lines
Trails
Water lines; fire hydrant

An expansion of wildlife habitat was included to support a broader range of flora and fauna.

Service Projects

Art sculpture and focal points
Boulders in habitat area
Community gardens
Crushed stone trails
Footbridge
Lawn and field seeding
Log Benches
Nesting boxes and bird houses
Planting

Phased Capital Improvement Plan

Given the estimated total cost, park improvements have been phased to reflect an anticipated and logical progression of construction. A description of these anticipated phases and their associated costs are described herein. Per the requirements of DCNR, the total estimated costs reflect prices as if each phase was a contracted project.

Phase I: Safe Site Access ($504,400)

The first phase of park development will be the upgrade of the existing one-lane access roads serving the site, to include the installation of wood guide rails and overlaying the bituminous surface. To provide an uninterrupted surface, the existing stormwater inlets along these roads should be raised flush with the new overlay surface. In addition, upgrade of the public railroad crossing is recommended via crossing arms, signage, and re-surfacing. These improvements will serve to provide safe access prior to promoting the site for public recreational use.

Phase II: Site Preparation ($540,675)

The second phase of park development will include preparing the site to receive proposed design elements. This will include brush hogging and selective tree removal, pruning of trees to remain (at riverbank), existing asphalt road removal, relocation of the overhead electric line, lowering sanitary manhole top elevations, overall site grading, storm water drainage (collection and redirection of Taylor Avenue drainage), and site stabilization through the seeding of lawn, and of field grasses in the habitat area.

Phase III: Initial Site Improvements ($724,000)

The third phase will include construction of initial site improvements, such as site access roads and parking, the turnaround with focal point (and wall projected into river), associated lighting, and directional signage. A multi-purpose trail will be constructed parallel to the road. The salt storage shed will be replaced (preferably at an off-site location, or temporarily behind the wastewater treatment plant) to allow a safer alignment of the access road in this area. Construction of the fence enclosing the existing maintenance area will occur at this time, providing separation and discouraging trespass. Trash receptacles will be provided to discourage littering.

In addition, the park entrance and exit features, including stone walls, entrance gates, signage, and planting will occur in this phase. A fire hydrant will also be installed.

Phase IV: River's Edge Improvements and Natural Habitat ($732,350)

The fourth phase will include the river's edge improvements. The boater access and river viewing platform, the stepped access, the stone river overlook wall and columns, the river walk, walking trails (to the overlook wall and stepped access areas), and the beach will be included. Trees will also be planted in this area for shade and scale.

In addition, this phase will include the completion of the natural habitat area, with the defining river stone wall with educational inscriptions, nesting boxes, art sculpture, boulders, log benches, crushed (natural stone) walking trail, and footbridge. This phase will also include the optional collection and direction of off-site stormwater from Lincoln Avenue, under the railroad tracks, into the natural habitat area.

To effectively drain the habitat area, an outlet structure connected to a storm pipe will be installed, outletting to the river through the overlook wall. A flap will be installed at this pipe end to prevent back flow of river water into the pipe during high water fluctuations.

Phase V: Restroom ($280,975)

The fifth phase will include construction of the restroom building and associated utilities. In addition, the stone sitting walls at the open space lawn area will be built. In this phase, the existing maintenance buildings

will be painted a subdued color to blend more readily. A trail (for biking and walking) will be constructed at the top of the riverbank, connecting the fishing platform to the main park area.

Phase VI: Community Pavilion ($505,750)

The sixth phase will include construction of the community pavilion and associated utilities. The stone patio terrace and flanking stone walls will be constructed, with associated site lighting. A walking trail connecting the pavilion to the parking area will be constructed. Trees and shrubs will be planted for shade and color.

Phase VII: Pond / Water Feature ($279,975)

The seventh phase will include construction of the pond/water feature, spray/bubbler, lights, adjacent stone sitting walls, and associated utilities. Trees and shrubs will also be planted.

Funding Sources for Proposed Park Improvements

Many agencies provide grants to assist in providing financial resources to implement the design and construction of parks and recreation facilities. Some offer grants to implement educational programs in concert with these facilities. Still others support the planning and implementation of projects which preserve habitat and improve watersheds. Assistance can also take the form of technical help, information exchange, and training.

Strategies

Submission of a thorough application may result in award of monies, given the competition for grant funding. Strategies for improving the chances of receiving a grant include:

- Being well-prepared by knowing the funding agency (contact persons, addresses, phone numbers); ensuring your municipality and the project are eligible; and submitting a complete and accurate application ahead of the deadline.
- Clearly indicating the Park's Vision and Plans in the application, to portray where your project fits into the community. Describe how matching funds such as local taxes, private contributions, and other grants will leverage the funding. Describe how maintenance of the park will be accomplished, to help justify the request for the grant. Show past successes with Borough and recreation being funded and built, and how this project impacts those successes.
- Contacting the funding agencies by personally meeting with them to show your commitment to the project.

Additional strategies for successfully obtaining grant monies is included in the appendix.

Funding Opportunities

The Appendix holds a multitude of sources for obtaining potential grants to fund park improvements. These sources are described in detail, including contract information. Below are those which hold the most likelihood of success:

Community Conservation Partnerships Program - Acquisition and Development Grants - Community Grants Program

Through the Pennsylvania Department of Conservation and Natural Resources (DCNR), this grant program supports land acquisition, and park rehabilitation and development for small communities.

Single Application Grants

Through Pennsylvania's Center for Local Government Services, Department of Community and Economic Development, funding can be obtained for a wide variety of municipal projects, including recreational facility improvements and development.

Community Conservation Partnerships Program - Pennsylvania Recreational Trails

Through DCNR, in consultation with the Pennsylvania Recreational Trails Advisory Board, this program provides funds to develop and maintain recreational trails.

Pennsylvania Conservation Corps

Through the Pennsylvania Department of Labor and Industry, this program provides work experience, job training, and educational opportunities to young adults while accomplishing work on public lands.

Surface Transportation Program (STP) Funds

Through the Federal Highway Administration of the Department of Transportation, available funding can be used for bicycle and pedestrian facility construction or for brochures and route maps. May include funds for upgrades of railroad crossings.

Transportation Equity Act for the 21st Century (TEA21)

Provides the primary source of federal funding for greenways and trails through the Transportation Equity Act of 1998.

Report Reference List

Information on "other riverfront recreation opportunities" can be obtained from the:

1.) Beaver County Riverfront Development Plan, prepared for the Beaver County Corporation for Economic Development, by Mullin and Lonergan Associates, Inc., in conjunction with Pashek Associates, March, 1993.

2.) Historical information obtained from "A Window on the Past: The Beaver Area, From 1700 to 1950," by the Beaver Area Heritage Foundation.

3.) Soils information obtained from Soil Survey of Beaver and Lawrence Counties, Pennsylvania, published by the United States Department of Agriculture, 1977.

4.) Demographic information obtained from the United States Census Bureau, 2000 Census, and the Pennsylvania State Data Center.

5.) Information on flood and normal pool elevations obtained from the Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM) panel, dated September 5, 1979, for the Borough of Beaver, PA; Floodway Flood Boundary and Floodway Map, Community-Panel No. 420104 0001 B, produced by the U.S. Department of Housing and Urban Development, Federal Insurance Administration.

6.) Ohio River information obtained from Encyclopedia.com.

7.) Further information about the Ohio River can be obtained from Tracy Robinson; Environmental Planner, Ohio / Great Lakes / Genessee River Basin Coordinator, 1405 State Office Building, 300 Liberty Avenue, Pittsburgh, PA 15222; Phone: 412-880-0486, E-mail: trobinson@dcnr.state.pa.us.

8.) Information on Pittsburgh Voyager River-Ventures can be found at www.pittsburghvoyager.org.

9.) Information on habitat creation obtained from "Wetlands and Wildlife", prepared by the Penn State College of Agricultural Sciences, School of Forest Resources, in Cooperation with the Pennsylvania Department of Environmental Resources and the Pennsylvania Game Commission, August, 1993.

10.) Bird and mammal species, and graphics, obtained from the Pennsylvania Game Commission website at http://www.pgc.state.pa.us. Additional information from this website can be obtained on osprey nesting sites, nesting box design and construction, habitat enhancement, bird watching, and wildlife.

11.) Utility Company Information:
- Qwest Communications Corporation (1-800-244-1111)
- Dominion Peoples, CNG Tower, 625 Liberty Avenue, Pittsburgh, PA 15222-3199, (412) 471-5100
- Verizon Pennsylvania Company (1-800-242-1776)
- Beaver Borough Municipal Authority, Municipal Building, 469 Third Street, Beaver, Pennsylvania 15009; 724-773-6700
- Columbia Gas of Pennsylvania, Incorporated (1-888-460-4332)

Appendix

Supplementary information can be found in the Plan's appendix. This information, bound separately from the main body of the document, includes reference materials for use as the plan's recommendations are implemented.