Lower Big Creek Study

Land Use, Environmental and Transportation Conditions in the Lower Big Creek Area of Cleveland, Ohio: An Assessment and Strategy for Future Action

Phase 1 Report

FINAL

December 2002

NOACA
Planning For Greater Cleveland

Northeast Ohio Areawide Coordinating Agency
1299 Superior Ave., Cleveland, Ohio 44114

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Principal Author: John Beeker, Ph.D.

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The Northeast Ohio Areawide Coordinating Agency (NOACA) is a public Organization serving the counties of and municipalities & townships within Cuyahoga, Geauga, Lake, Lorain and Medina (covering an area with 2.1 million people). NOACA is the agency designated or recognized to perform the following functions:

- **Serve as the Metropolitan Planning Organization (MPO), with responsibility for comprehensive cooperative and continuous planning for highways, public transit, and bikeways, as defined in the Transportation Equity Act for the 21st Century.**
- **Perform continuous water quality, transportation-related air quality and other environmental planning functions.**
- **Administer the area clearinghouse function, which includes providing local government with the opportunity to review a wide variety of local or state applications for federal funds.**
- **Conduct transportation and environmental planning and related demographic, economic and land use research.**
- **Serve as an information center for transportation and environmental and related planning.**
- **At NOACA Governing Board direction, provide transportation and environmental planning assistance to the 172 units of local, general purpose government.**

The NOACA Governing Board is composed of 38 local public officials. The Board convenes monthly to provide a forum for members to present, discuss and develop solutions to local and areawide issues and make recommendations regarding implementation strategies. As the area clearinghouse for the region, the Board makes comments and recommendations on applications for state and federal grants, with the purpose of enhancing the region's social, physical, environmental and land use/transportation fabric. NOACA invites you to take part in its planning process. Feel free to participate, to ask questions and to learn more about areawide planning. For more information, call:

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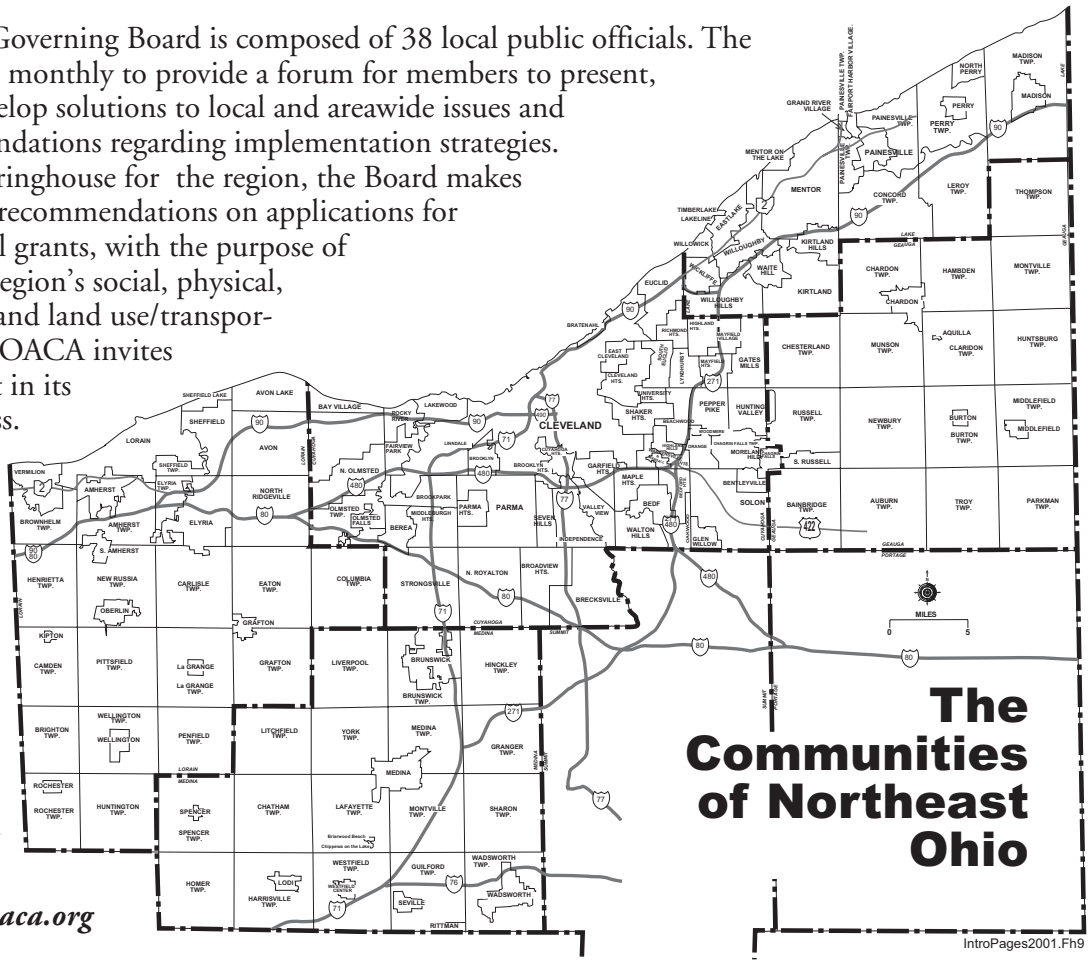

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Special appreciation is extended to the City of Cleveland's Ward 15 Councilwoman, Merle Gordon, who inspired this project and provided funding for it.

This report is the result of a collaboration between NOACA and the City of Cleveland with additional assistance from the Cuyahoga County Planning Commission.

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Photos courtesy of George Cantor and John Beeker

Executive Summary

Introduction

The Northeast Ohio Areawide Coordinating Agency received a grant from the Ohio Coastal Management Grant program to undertake an assessment of the land use, transportation and environmental problems in the Lower Big Creek area, to prioritize problems, and to formulate a strategy for addressing these problems.

An overall goal of the project is to plan for and implement long and short-term actions and policies to stabilize and improve physically and environmentally sensitive natural areas in the study area with the intention of eventually connecting the Cleveland Metroparks Zoo with the Canal Towpath which now features a trailhead at Harvard Rd. just east of the study area, and the planned northern terminus at Jennings and Harvard Roads for the Cuyahoga Valley Scenic Railroad. The project has been coordinated with the City of Cleveland's comprehensive approach to neighborhood revitalization planning in the Old Brooklyn and Brooklyn Centre neighborhoods.

NOACA undertook this study in partnership with the City of Cleveland which committed both staff from the Departments of Community Development and the City Planning Commission, and funding provided through City Councilwoman Merle Gordon.

NOACA also received funding for this project from the Ohio and Erie Canal Association, and provided local match funds from its own resources.

NOACA organized a project advisory team to assist in refining study issues, identifying public stakeholders for input in the planning process, and reviewing and commenting on study reports. The Team consisted of representatives from the City of Cleveland Planning Commission, the City of Cleveland Department of Community Development, the Cleveland Law Department, Cleveland Ward 15 City Councilwoman Merle Gordon, Cleveland Metro Parks, the Cuyahoga County Planning Commission, the Cuyahoga River RAP, Northeast Ohio Regional Sewer District (NEORSD), the Ohio Environmental Protection Agency, Ohio Canal Corridor, Inc., the National Park Service, the Ohio Coastal Management Program, the Old Brooklyn Community Development Corporation, and the West Side Industrial Retention and Expansion Network (WIRE-Net). The Team met every one or two months throughout the eighteen months of the study.

The project advisory team has formulated a concept for future planning of the Lower Big Creek study area that embraces the concept of a mixed industrial, recreational and open space use of the valley floor, preserves and expands greenspace along the valley floor and hillsides, integrates and links neighborhood open space with recreational trails, connects the Metroparks Zoo with the Ohio Canal Reservation with a valley floor trail, and enhances the economic relationship between upland retails and valley floor recreational users.

The project study area included the area bounded on the north by I-71, on the west by Ridge Road and the Cleveland City limits, on the south by the Cleveland City limits, and on the east by the Cuyahoga River. The focal point of the study was the Lower Big Creek valley area from Fulton Rd. east to the Cuyahoga River and south along the west side of the Cuyahoga River to the City of Cleveland municipal boundary. See Figure 1.

The study was organized and proceeded as follows:

- NOACA's Environmental Planning Division conceptualized the study, secured the necessary funding, and provided overall coordination and direction for it in consultation with staff from the City Planning Commission and the Department of Community Development; NOACA's Transportation Planning Division undertook an assessment of transportation issues.

- NOACA contracted with the Cuyahoga County Planning Commission to undertake a land use and environmental assessment, and research land use policy options protective of the natural resources in the study area that might be pursued in phase two of the study.

- NOACA also contracted with Cannata Communications to assist with the design and implementation of a public stakeholders meeting to engage neighborhood residents in a discussion of study issues and preliminary findings. A public meeting was held on January 24, 2002.

Special effort was made to outreach to the business community. An introductory meeting was held with representatives of the business community on December 16, 2001 to provide an overview of the study and to listen to business concerns. A decision was made to undertake a survey of businesses in the study area to develop more systematic information about business conditions and concerns.

With input from the Cleveland Planning Commission staff and the Cleveland Department of Community Development staff, NOACA designed and administered a survey to 47 local businesses during March and April of 2002. NOACA was aided in this effort by staff from the West Side Industrial Retention and Expansion Network (WIRE-Net) who assisted by making personal contacts with businesses to encourage them to respond to the survey.

The Lower Big Creek Study benefited from several important planning initiatives underway Citywide, Countywide and within the Cuyahoga River Valley. These include the City of Cleveland's Connecting Cleveland 2020 Citywide Plan, the National Heritage Corridor Management Plan, Cuyahoga County Planning Commission's Towpath Trail Plan and Greenspace Plan and the Cleveland Metroparks plans for the Canal Reservation and the Metroparks Zoo. These various plans provide a context for this study in terms of overall community goals, and help to shape a concept for future action within the Lower Big Creek area.

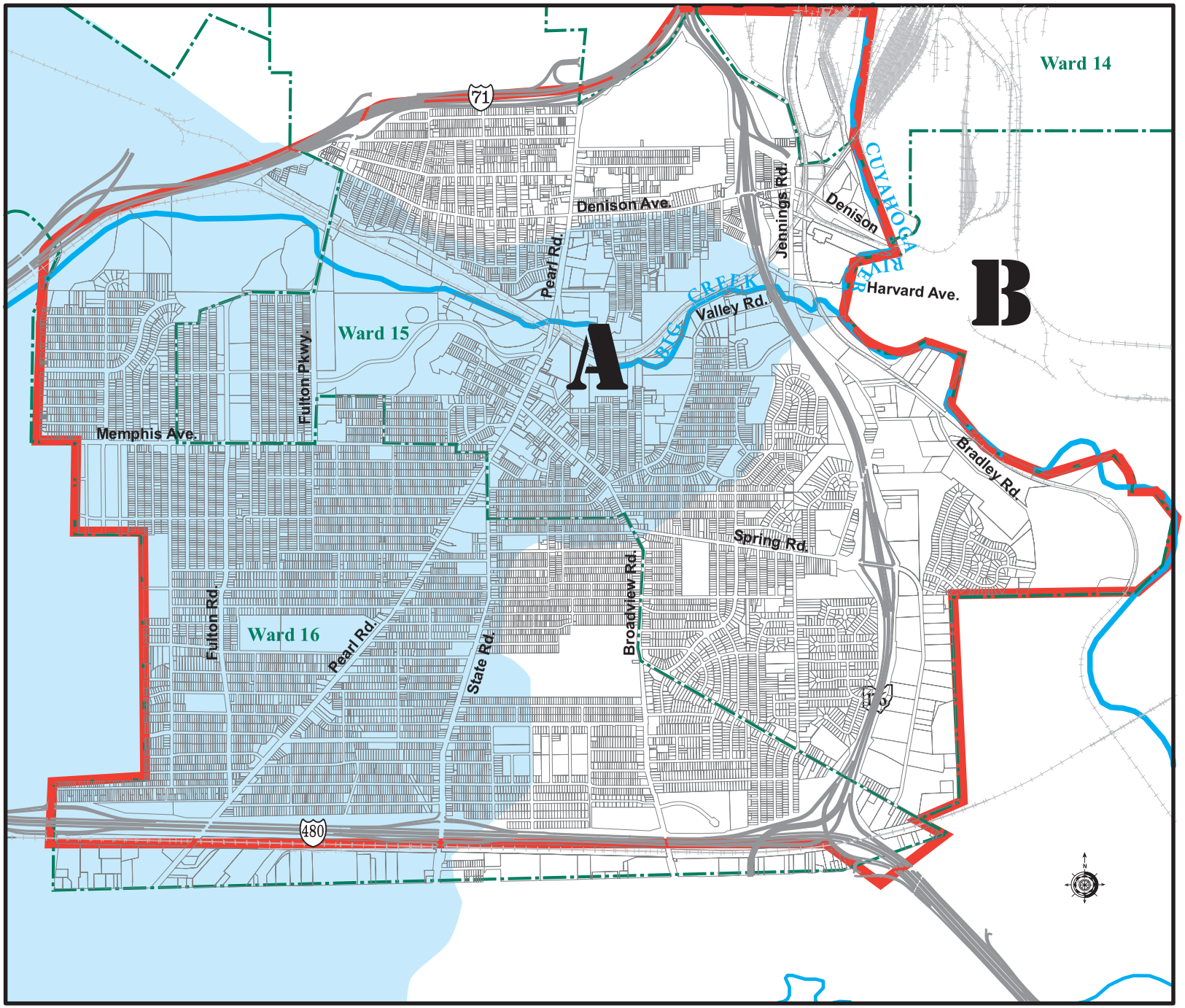

Figure 1

Lower Big Creek Study: Phase 1 Study Area

Lower Big Creek Basin

Study Area Boundary

Ward Boundary

A. Cleveland Metroparks Zoo

B. Canal Towpath Trailhead at Harvard Road

Prepared by

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Key Findings

A major objective in this phase of the project was to assess conditions, and prioritize issues. Toward this end a number of Key Findings have been formulated which will help guide more detailed planning in phase two of the study. Key Findings address several major issues including (a) Stream Impairments, (b) Land Use Conditions, (c) Land Impairment Assessment Issues, (d) Transportation Infrastructure Issues, (e) Business Survey Results and (f) General Public Concerns.

Stream Impairments

- The Lower Big Creek original drainage patterns and riparian zone have been severely altered and fragmented as a result of channelization, spillway structures, culverting, and land use encroachment of the stream. This has increased flow volumes, decreased diversity and livability of habitat and limited the potential for stream recovery.

- The floodplain and floodway has been severely encroached upon by railroad rights of way, landfill operations, and industrial land uses. This has limited floodplain and stream capacity and increased the frequency and scale of flooding of properties, and restricted floodplain and riparian habitat diversity.

- Water quality of the Lower Big Creek is degraded, limiting the useability of this stream for recreational purposes. Bacteria levels frequently exceed water quality standards. Ecological water quality conditions are typical of those within an urban area with fish habitat in the fair range, fish communities poor but improving and macro-invertebrate communities poor but improved from grossly polluted conditions of twenty years ago. The degraded water quality is a result of the presence of combined sewer overflows (CSOs), urban runoff and alteration and encroachment onto the stream.

- The biological resources are severely limited within the valley due to land use practices and stream alteration, as well as a proliferation of invasive species. Pockets of historical plant communities still remain. These provide the potential to protect the remaining areas and restore other areas that can help bring an active plant and animal community back to the valley.

- The topography of the valley, with its steep slopes, is a defining feature of the landscape, but is being severely threatened by widespread instances of hillside subsidence.

See Figure 2 Ecosystem Remnants in Lower Big Creek.

Figure 2 Ecosystem Remnants in Lower Big Creek

Pockets of Forested Hillside Remain

Steep Shale Cliffs are a Significant Feature

Areas of Intact Riparian Vegetation Remain

Excellent Riparian Cover is Abundant Near the Mouth of Big Creek

Land Use Conditions

- The Lower Big Creek area has an abundance of historical and cultural resources that includes Brookside Park, Wade Park Zoo Barn, Jeremiah Gates Home, Old Pearl Road Bridge, the Brooklyn Center Historical District, and inclusion in the Ohio & Erie Canal National Heritage Corridor, the National Scenic Byways District and the American Heritage Rivers Designation.

- The Lower Big Creek Valley has been identified as a trail connector to the Towpath Trail as well as the city and regional trail systems in various planning efforts. The natural and cultural features within the valley make it a valuable piece for integration into the trail network.

- The urban land use has an existing mixed use layout that creates conflict and incompatibility on adjacent land uses. Its diversity of uses can also provide an opportunity to create a unique urban area that can expand the economic, recreational, and quality of life benefits for the community.

- The study area has some parks, an abundance of open space and access to regional recreational facilities, but there is a lack of connection to open space and trail opportunities within the valley from the neighborhood block to the regional system.

- Protection of the few remaining undeveloped land parcels is critical to any future open landscape in the valley and study area.

- Major infrastructure elements such as railroads, highways and drainage systems exist within the study area and pose limitations for valley restoration efforts.

- Industrial use is pre-dominant in the lower valley and along the Cuyahoga River, and is a vibrant hub for industrial activity for the City. Pre-dominant industrial uses include truck terminals, manufacturing, and contract and construction services.

- Current zoning in much of the study area is unrestrictive and does not provide for protection of critical resources or dedication of areas to consider additional design guidelines that could assist in the reclamation and sustainability of the valley.

- The environmental and recreational resources of the Cuyahoga Valley and its tributaries are emerging as an important community asset for the region. This is a departure from old ways of valuing the river valley lands and landcapes and is transforming public expectations about future land uses and industrial practices. Work is underway locally to develop new land use standards.

Land Use Assessment Issues

- Business activity in the Lower Big Creek area remains active with few (4) fully unoccupied or vacated buildings and sites within the study area.

- A significant percentage of land in the valley floor (69 parcels, or 36% of the industrial/commercial valley) is either undeveloped, vacant, or underutilized. In particular, a number of key properties directly adjacent to the Lower Big Creek below and east of Pearl Rd. (US 42) represent marginal or underutilized land uses. These include an auto salvage yard, construction demolition operations, a container storage facility, a closed C& DD landfill, and a large road salt storage site, among others. These uses pose a barrier to recreational improvements and represent an ongoing threat to environmental quality. However, opportunities may exist for re-use of landfill and underutilized sites, and this could be the impetus for long term regeneration of the valley.

- Public roads, curbs and sidewalks in the valley floor are in a poor condition that includes the absence of curbs and storm sewers. Some roads are covered with dust and debris. In addition, there is a drainage problem in the vicinity of Jennings and Bradley Rd. such that surface water flowing in sheets across the Bradley Rd. Peninsula to the Cuyahoga River can sometimes be observed. This impairs the potential of some business activity as well as the aesthetic appearance of the district.

- Hillside subsidence is an extensive and multifaceted problem. Issues include threatened structures, temporary and inappropriate stabilization measures, natural erosion, and building practices that pose limitations in regards to safety of property and protection of resources.

- The outdoor storage of bulk materials is a predominant feature within the valley that contributes to aesthetic and water quality issues that limit the valley's scenic potential and stream vibrancy.

- Parking areas accessory to businesses along the valley floor area are largely unpaved and not properly drained which combine to have a detrimental effect on water quality of Big Creek, the Cuyahoga River, and nearby groundwater resources.

- The operating Construction & Debris landfill at Bradley Rd. poses a challenge to assure that rules are being complied with, especially with respect to grading, encroachment on stream beds and maintenance of an adequate buffer from adjacent land uses.

- Limitations on past assessment of closed landfill facilities in the area will pose a challenge to determining constraints on their reuse, but there remains an opportunity for reclamation of land and reuse for the community

- Exterior building facades are generally in good condition and are being maintained. However, there is a lack of cohesion in architectural styles and site design in new and old structures. All of this contributes to a lack of definition to the valley industrial zone. This is largely attributable to an absence of design guidelines for industrial buildings, the lack of a design review mechanism, and the piecemeal nature of development within the valley.

See Figure 3 Streamside Land Uses in Lower Big Creek and Figure 4 Transportation Issues in Lower Big Creek.

Transportation Findings

General Findings

- Transportation improvements in the valley should strengthen and support existing industrial base while safely making room for emerging uses;
- Transportation system findings must be tied to relevant watershed findings to provide recommendations that reflect integrated planning.

Specific Findings

- There are infrastructure problems in the valley and in the neighborhoods that should be addressed with respect to both condition and design to better accommodate different modes and remediate existing watershed problems;
- Freight access should be improved for viable businesses in locations that do not create significant watershed problems and compatibility issues with emerging economic uses;
- Businesses that do create significant watershed problems and are situated in close proximity to emerging uses should be provided relocation assistance to areas in the valley or City that have more direct freeway access and less exposure to waterways and related uses;
- The extension of the Towpath Trail from Harvard Road to the Flats will provide the last link in a project that offers Northeast Ohio an opportunity to re-discover its natural beauty and begin to shape a new economy, one that is in harmony rather than at war with nature;
- Bicycle and pedestrian pathways and connections between neighborhoods and existing and planned valley destinations should be established.

Business Survey Results

- Businesses surveyed in the Lower Big Creek Valley area are a diverse lot and remarkably well established. A number have made recent improvements to their operations, but most have no plans to expand. None has plans to relocate at this time.

Figure 3 Streamside Land Uses in Lower Big Creek

Henninger Land Fill

Brookside Auto Salvage Yard

Norfolk Southern and CSX Railroads Rights of Way Parallel the Creek

Industrial Facility below US-42

Figure 3 Streamside Land Uses in Lower Big Creek continued

Aluminatech Dross Pile at Cuyahoga River's Edge

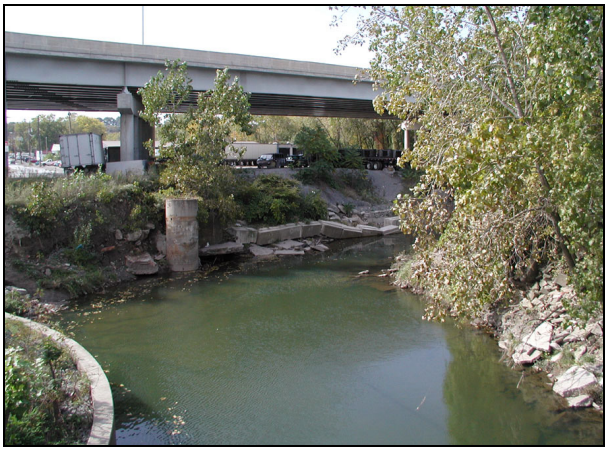
Road Salt Storage Site lies to north of Stream

Debris Dumping on Valley Floor

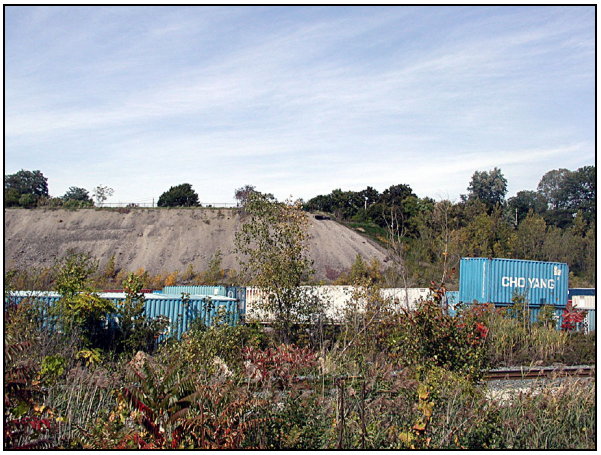
Storage of Construction Material Adjacent to Stream

Figure 4 Transportation Issues in Lower Big Creek Area

West 14th Street is in poor condition for vehicular traffic



Parking of Truck Rigs under Jennings Freeway



Truck Container Storage Site on Valley Floor

- Most businesses express optimism about their economic future. The impact of LTV's closing appears to be limited. Businesses have relatively strong connections to the City and neighborhood in terms of customer base and employment.

- Good freeway access is a key factor in businesses locating in the area. At the same time, roadway conditions are problematic. In fact, there are widespread concerns about deficient infrastructure including concerns about drainage and flooding, sewers, lack of sidewalks and curbs, bad railroad crossings, but most especially poor roadway conditions. Many businesses have specific suggestions about making infrastructure improvements.

- Most businesses are satisfied with City services, with the exception of streets maintenance which is seen as deplorable.

- Although a few businesses are supportive of recreational trails, most are not enthusiastic unless attention is also paid to basic infrastructure problems. A frequently made comment is that recreational trails are the wrong priority when infrastructure issues are not getting the attention they deserve.

- Since business response was voluntary, the effects of self selection cannot be discounted. This factor would most likely bias the results in favor of more established and economically viable businesses. However, survey results are more useful, in fact, if they represent well established businesses because these are the economic anchor for the area and have a greater stake in the future of the area.

Public Concerns

- There is a marked difference in neighborhood perspectives about the past, present and future. Thinking about the past brings wonderful memories of baseball diamonds, supermarkets, theaters, local drug stores, wild turkeys, deer, and kids playing in the woods at Calgary Park. The present conjures up images of junkyards, truck depots, air and land pollution, poor schools, unsightly housing, a lack of amenities, and a continuous battle to clean up the area regularly surfaced.

- Stories about the Lower Big Creek Valley of the past abound. They include trips on the train that went to "Dollyland," the Civil War encampment under the Pearl Rd. Bridge, steam trains, ponds for ice-skating, the colors of the Big Creek (blue-green-yellow) from the Phoenix Dye Co., men cutting down trees along the Big Creek and children walking through the wallpaper factory.

- Two themes underlie neighborhood resident concerns today: the revitalization of the housing stock and general condition of the neighborhoods, and the re-establishment of business and industry in the Valley. Erosion of home values,

safety issues, loss of private property, lack of services and amenities are mentioned among residents concerns.

- In addition, residents want to attract more people to the area, develop a higher scale of retail with more local restaurant options, convert land parcels to green space, and develop a bike trail.

- In regards to business and industry, the residents would like to maintain current establishments and add new businesses and industry to the Valley. They would also like business and industry to play a greater role in the maintenance and vitality of the Valley. The residents feel that businesses should be a cooperative partner with the neighborhoods and residents to make the Valley an attractive place where people would like to live, work and play. The attendees often referred to Ohio City and the Tremont area as examples of what they would like to see for the Lower Big Creek area.

- Many residents currently interact with the Lower Big Creek Valley by visiting the Cleveland Metroparks Zoo, by going for bike rides or strolls on the towpath, or by simply traversing the neighborhood streets. Many work in the neighborhood and some own businesses.

- Residents thoughts on what they would like to see happen in the Lower Big Creek Valley include a clean up of the Valley both aesthetic and environmentally, better lighting of the neighborhoods, rezoning to eliminate many of the bars on Denison and Fulton, refurbished infrastructure, a clean-up of the junkyards and recycling facilities, improved retail with storefront renovation, removal of truck traffic on residential streets, additions of hotels and bed and breakfasts, and a historic preservation movement.

- Residents wish lists include a city golf course in the Valley, an incline trolley ride similar to ones in Pittsburgh and Niagara Falls to get out of the Valley up to neighborhoods and retail, a bike lane added to Denison and Fulton Roads, the bike trail connected to the Towpath and Zoo, and the purchase of a riparian corridor in Lower Big Creek by the Metroparks Zoo to enhance the recreational amenities of the neighborhood.

Overall Assessment of Existing Conditions

An overall assessment of existing conditions includes the following observations.

- There is no central focus on the Big Creek as a resource for management and protection through land use planning and urban design strategies.

- Parklands in the study area are isolated, both within upland areas and between the upland and the valley floor. Existing trails are unconnected to each other.

- Pockets of forested open space exist in the areas connecting the valley floor to upland neighborhoods, but these are unprotected from future development.

- There are important concentrations of business and industry in the valley floor area east of Jennings Avenue below Harvard Avenue, along Valley Road west of Jennings Road, and along Bradley Road adjacent to the Cuyahoga River, east of Jennings. There are also a few isolated industries below the Brooklyn-Brighton Bridge, on which Pearl Road (US 42) crosses Big Creek.

- Land adjacent to the Lower Big Creek is generally vacant or underutilized, and existing uses restrict stream recovery and floodplain function.

- Upland neighborhoods are isolated from the valley floor by topography, economics, land use practices and transportation system design.

- Major transportation corridors-railroads and highways-traverse the study area and contribute to the isolation of the valley floor to upland neighborhoods.

- Landfill practices impact on the quality of life of neighborhoods and contribute to their isolation from natural areas in the valley floor and hillside.

Figure 5 illustrates the Overall Assessment of Existing Conditions.

A Concept for Future Planning of the Valley

As noted above, in response to this assessment**, t**he project advisory team has formulated a concept for future planning of the Lower Big Creek study area that

- embraces the concept of a mixed industrial, recreational and open space use of the valley floor,
- encourages policies fostering development and retention of compatible industrial uses, and supporting retail,
- preserves and expands greenspace along the valley floor and hillsides,
- integrates and links neighborhood open space with recreational trails,
- connects the Metroparks Zoo with the Ohio Canal Reservation with a valley floor trail, and
- enhances the economic relationship between upland retail and valley floor recreational users.

This concept has been formulated within the context of city, county and regional plans, approved or underway, that address future land use concerns. These have helped to frame discussions about the future of the Lower Big Creek valley.

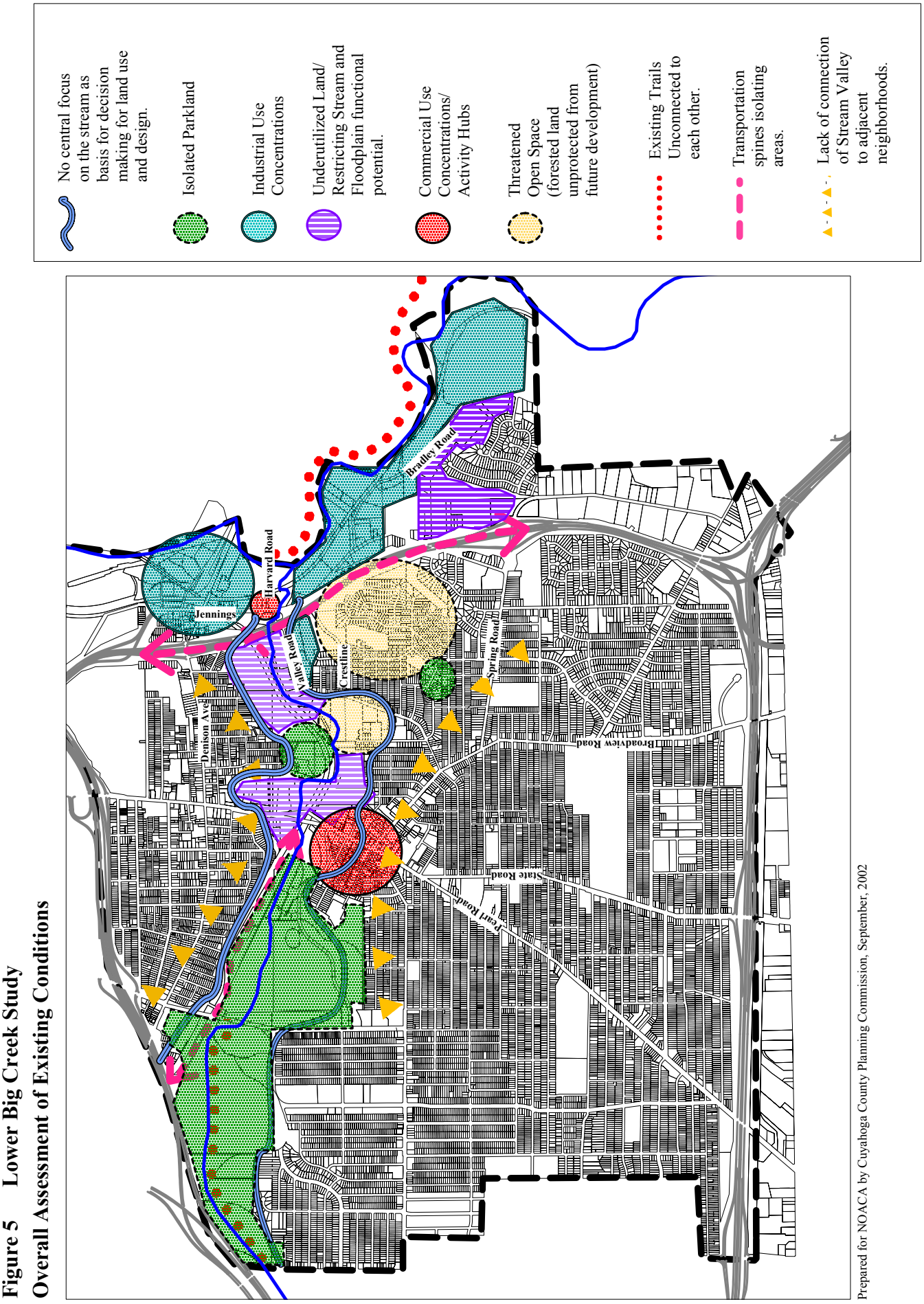


Figure 5 Lower Big Creek Study
Overall Assessment of Existing Conditions

Prepared for NOACA by Cuyahoga County Planning Commission, September, 2002

Figure 6 illustrates a Concept for Future Planning of the Valley.

Land Use Policy Development

There is a large gap between current land use policies available to City decision makers and policies that would enable pursuit of the vision for the Lower Big Creek area presented above. In order to begin to address this gap, NOACA, in consultation with the City of Cleveland Planning Commission and the City of Cleveland Community Development Department, contracted with the Cuyahoga County Planning Commission to undertake an investigation of land use policy options that should be considered by the City of Cleveland for future implementation.

Investigation of a number of land use policy concepts was undertaken by CPC staff and reviewed and refined by NOACA and City of Cleveland staff. These included concepts such as:

- Hillside Stabilization Zoning,
- Open Space Zoning,
- Guidelines for Re-Use of Landfill Sites,
- Aesthetic Design Guidelines for Industrial Uses,
- Outdoor Storage Licensing,
- Principles for Trail Feasibility Analysis,
- Conservation Easement Guidelines,
- Historic/Cultural Resource Protection and Interpretive Planning Guidelines,
- Scenic Viewshed Protection,
- Riparian & Hillside Protection,
- Wildlife Restoration,
- Plant Restoration Guidelines and
- Eco-Industrial Guidelines.

This report discusses an implementation strategy for followup on these land use policy concepts.

Strategy for Phase 2 of the Lower Big Creek Project

This section outlines a strategic plan for Phase 2 that includes both shorter term and longer term action elements.

Problems in the Lower Big Creek Study area are multifaceted and in some cases verge on the intractable. An effective approach for confronting these is to pursue a multifaceted plan of action with sustained involvement by the institutional stakeholders with interests in the Lower Big Creek area. Actions to be undertaken in Phase 2, whether direct project implementation or targeted studies aimed at Phase 3 implementation, are recommended on the basis of issue priority. Direct project implementation is recommended on the basis of immediate practical logic and feasibility. Continuation of the Project Advisory Team concept into Phase 2 is a key element in this approach.
Figure 5

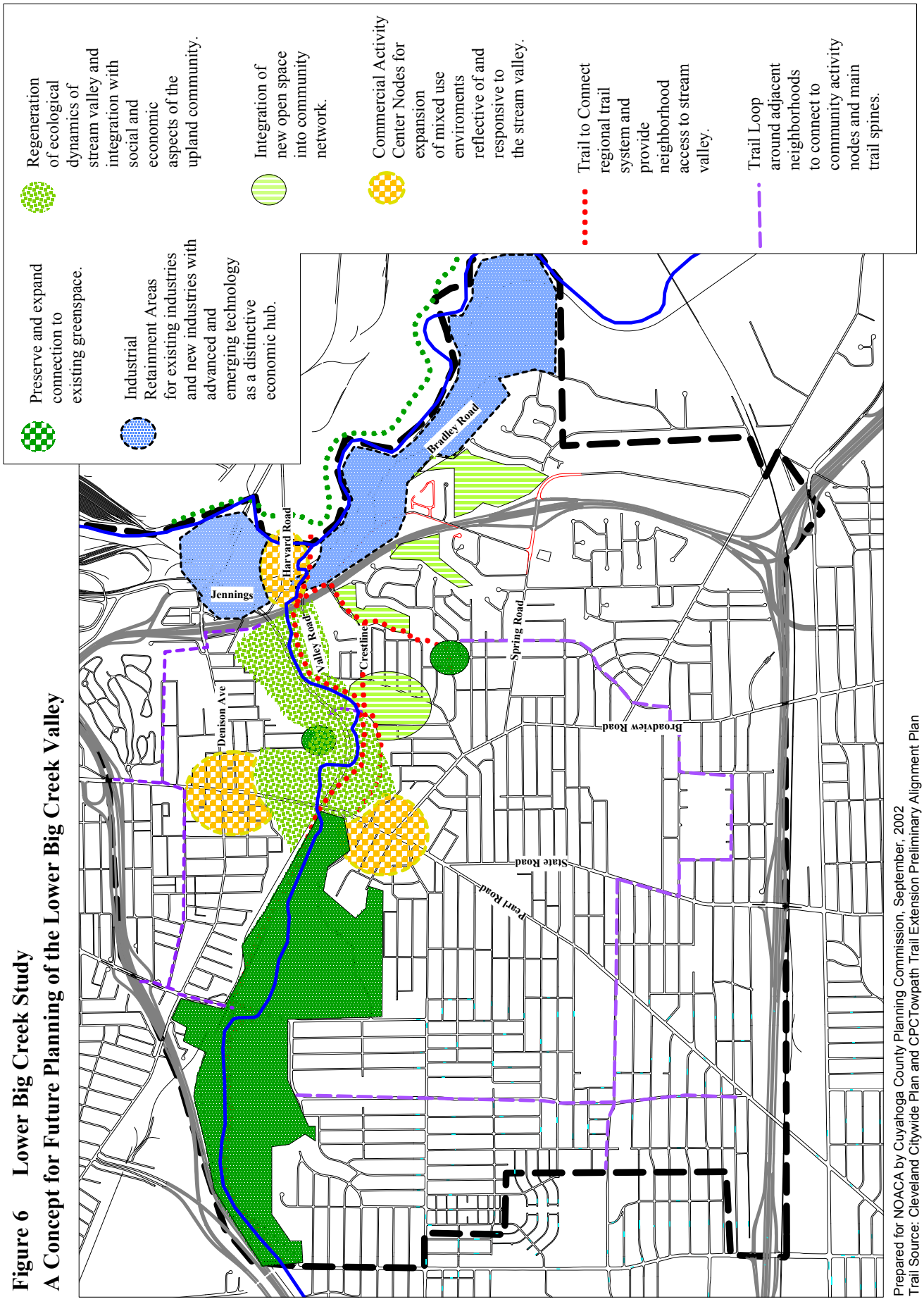


Figure 6 Lower Big Creek Study
A Concept for Future Planning of the Lower Big Creek Valley

Prepared for NOACA by Cuyahoga County Planning Commission, September, 2002
Trail Source: Cleveland Citywide Plan and CPCTowpath Trail Extension Preliminary Alignment Plan

The recommended strategy for Phase 2 encompasses seven elements:

A) Land Use Planning;
B) Business Retention, Infrastructure Improvements, and Economic Development
C) Recreational Trails-Alignment and Design Study;
D) Transportation Assessment;
E) Hillside Subsidence Planning and Management;
F) Coordinated Code Enforcement; and
G) Overall Phase 2 Coordination

Land Use Planning

This task involves planning and policy development in the Lower Big Creek Valley area that focuses on:

1) development of zoning overlay district addressing Open Space, Riparian, Viewshed and Hillside Protection zones in the Lower Big Creek area.
2) land use planning for specific parcels which makes specific reuse recommendations; and
3) review of City of Cleveland land acquisition policy for parkland development.

Business Retention, Infrastructure Improvements, and Economic Development

This task addresses the needs of existing business and industry in the Lower Big Creek valley area, and encourages the development of appropriate new businesses. This task concentrates on:

3) providing enhanced outreach and assistance to existing businesses within the valley including the adoption of environmentally sound or "green" industrial practices.

4) infrastructure improvements (e.g. streets, sewers, drainage, etc.).

5) identification of types and appropriate locations for new businesses within the valley. Commercial retail business expansion can complement the emerging recreational uses in the valley as well as service the employees of existing business and industry. New Industrial development shall be focused in appropriate areas of the valley and be targeted to attract companies that are compatible with emerging recreational uses.

This task involves further review, assessment and analysis of the feasibility of the recreational trails tentatively identified in Phase 1 connecting the Canal Towpath to the Metroparks Zoo and to upland neighborhoods in Old Brooklyn and Brooklyn Centre.

Recreational Trails-Alignment and Design Study

This task involves further review, assessment and analysis of the feasibility of the recreational trails tentatively identified in Phase 1 connecting the Canal Towpath to the Metroparks Zoo and to upland neighborhoods in Old Brooklyn and Brooklyn Center.

Transportation

This task involves transportation planning activities to address the following goals:

1) Transportation system changes and additions should reflect an effort to solve longstanding Big Creek and Cuyahoga River watershed problems;
2) Coexistence should be pursued among existing business and industrial uses and emerging commercial and recreational uses in the valley; and
3) Neighborhood circulation and connection to the valley by all modes should be strengthened.

Hillside Subsidence

This task is to develop options for technical methods and design solutions that could be applied to hillside subsidence problem sites in the Lower Big Creek Area.
A geo-technical stabilization plan is one solution for addressing current threatened property in the Lower Big Creek Study area. Other elements might include:

Technical assistance to home owners at risk in the form of technical standards to control hillside subsidence, a loan program, subsidized technical assistance;

New city standards for road stubs to prevent hillside subsidence:

Program to purchase properties severely at risk from hillside subsidence;

Hillside subsidence zoning overlay district.

Code Enforcement

This task is to coordinate and enhance enforcement of building code, site code, health and environmental regulations and other land management rules across City Departments within the Lower Big Creek Study area.

Overall Phase 2 Coordination

There is a pressing concern to maintain a coordinated effort as the Phase 2 strategies are carried out. This will require a comprehensive planning and oversight function.
This task also includes maintenance of the Lower Big Creek project advisory team to continue to provide input on proposed plans and policies, and an ongoing public involvement effort.

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Section A Introduction

Introduction

The Northeast Ohio Areawide Coordinating Agency received a grant from the Ohio Coastal Management Grant program to undertake an assessment of the land use, transportation and environmental problems in the Lower Big Creek area, to prioritize problems, and to formulate a strategy for addressing these problems.

An overall goal of the project is to plan for and implement long and short-term actions and policies to stabilize and improve physically and environmentally sensitive natural areas in the study area with the intention of eventually connecting the Cleveland Metroparks Zoo with the Canal Towpath which now features a trailhead at Harvard Rd. just east of the study area, and the planned northern terminus at Jennings and Harvard Roads for the Cuyahoga Valley Scenic Railroad. The project has been coordinated with the City of Cleveland's comprehensive approach to neighborhood revitalization planning in the Old Brooklyn and Brooklyn Centre neighborhoods.

NOACA undertook this study in partnership with the City of Cleveland which committed both staff from the Departments of Community Development and the City Planning Commission, and funding provided through City Councilwoman Merle Gordon.

NOACA also received funding for this project from the Ohio and Erie Canal Association, and provided local match funds from its own resources.

NOACA organized a project advisory team to assist in refining study issues, identifying public stakeholders for input in the planning process, and reviewing and commenting on study reports. The Team consisted of representatives from the City of Cleveland Planning Commission, the City of Cleveland Department of Community Development, the Cleveland Law Department, Cleveland Ward 15 City Councilwoman Merle Gordon, Cleveland Metro Parks, the Cuyahoga County Planning Commission, the Cuyahoga River RAP, Northeast Ohio Regional Sewer District (NEORSD), the Ohio Environmental Protection Agency, Ohio Canal Corridor, Inc., the National Park Service, the Ohio Coastal Management Program, the Old Brooklyn Community Development Corporation, and the West Side Industrial Retention and Expansion Network (WIRE-Net). The Team met every one or two months throughout the eighteen months of the study.

The project advisory team has formulated a concept for future planning of the Lower Big Creek study area that embraces the concept of a mixed industrial, recreational and open space use of the valley floor, preserves and expands greenspace along the valley floor and hillsides, integrates and links neighborhood open space with recreational trails, connects the Metroparks Zoo with the Ohio Canal Reservation with a valley floor trail, and enhances the economic relationship between upland retails and valley floor recreational users.

The project study area included the area bounded on the north by I-71, on the west by Ridge Road and the Cleveland City limits, on the south by the Cleveland City limits, and on the east by the Cuyahoga River. The focal point of the study was the Lower Big Creek valley area from Fulton Rd. east to the Cuyahoga River and south along the west side of the Cuyahoga River to the City of Cleveland municipal boundary. See Figure A-1.

The study was organized and proceeded as follows:

- NOACA's Environmental Planning Division conceptualized the study, secured the necessary funding, and provided overall coordination and direction for it in consultation with staff from the City Planning Commission and the Department of Community Development; NOACA's Transportation Planning Division undertook an assessment of transportation issues.

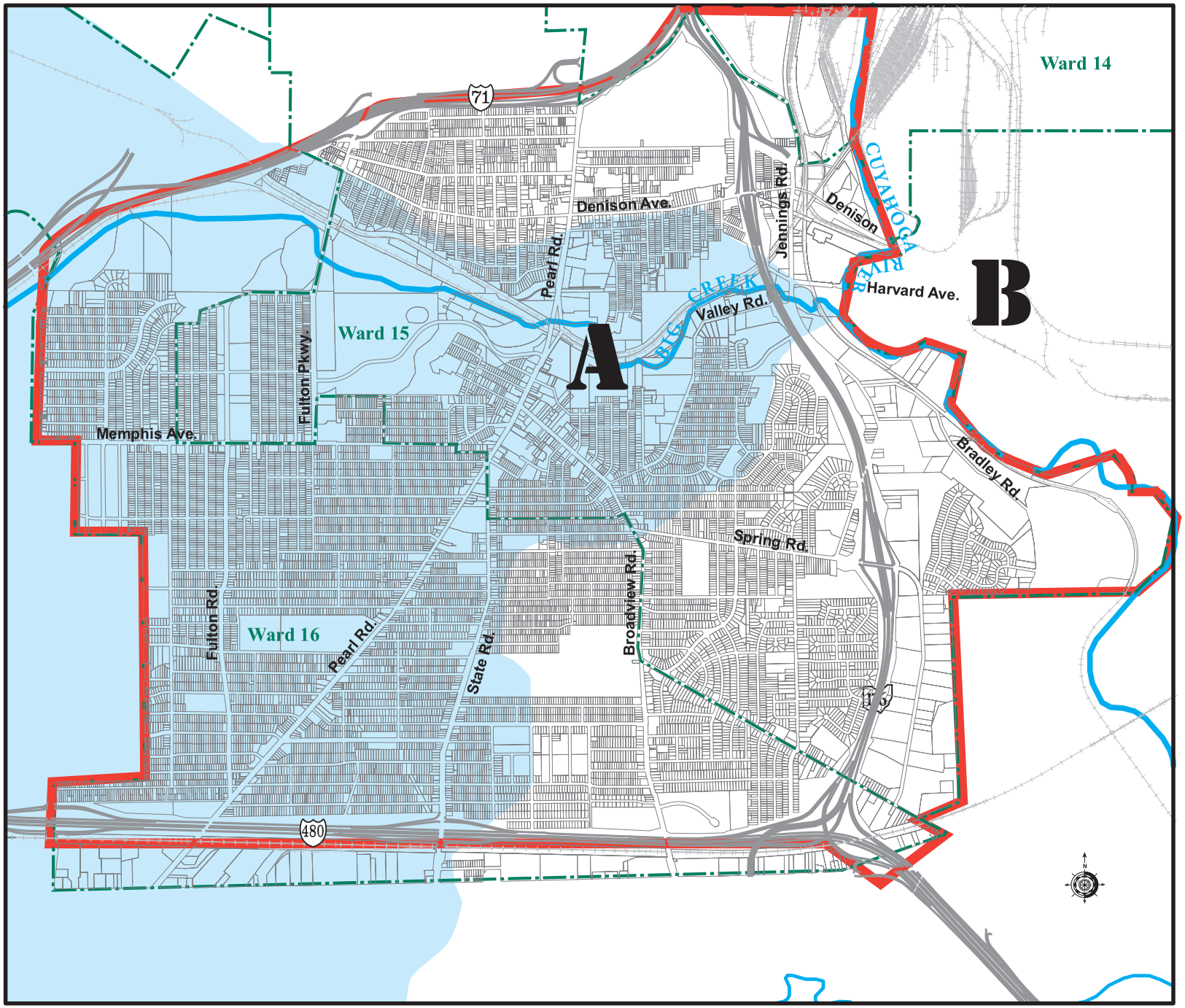
- NOACA contracted with the Cuyahoga County Planning Commission to assist with the land use and environmental assessment, analyze land use policy options, and assist with study designs for creek recovery and land use plans for phase two of the study.

- NOACA also contracted with Cannata Communications to assist with the design and implementation of a public stakeholders meeting to engage neighborhood residents in a discussion of study issues and preliminary findings. A public meeting was held on January 24, 2002.

Special effort was made to outreach to the business community. An introductory meeting was held with representatives of the business community on December 16, 2001 to provide an overview of the study and to listen to business concerns. A decision was made to undertake a survey of businesses in the study area to develop more systematic information about business conditions and concerns.

With input from the Cleveland Planning Commission staff and the Cleveland Department of Community Development staff, NOACA designed and administered a survey to 47 local businesses during March and April of 2002. NOACA was aided in this effort by staff from the West Side Industrial Retention and Expansion Network (WIRE-Net) who assisted by making personal contacts with businesses to encourage them to respond to the survey.

The Lower Big Creek Study benefited from several important planning initiatives underway Citywide, Countywide and within the Cuyahoga River Valley. These include the City of Cleveland's Connecting Cleveland 2020 Citywide Plan, the National Heritage Corridor Management Plan, Cuyahoga County Planning Commission's Towpath Trail Plan and Greenspace Plan and the Cleveland Metroparks plans for the Canal Reservation and the Metroparks Zoo. These various plans provide a context for this study in terms of overall community goals, and help to shape a concept for future action within the Lower Big Creek area.


Ward 14
71
Denison Ave.
Pearl Rd.
Jennings Rd.
Denison
CUYAHOGA RIVER
BIG CREEK
Valley Rd.
Harvard Ave.
B
A
Ward 15
Fulton Pkwy.
Memphis Ave.
Bradley Rd.
Spring Rd.
Broadview Rd.
Fulton Rd.
Ward 16
Pearl Rd.
State Rd.
480
Lower Big Creek Basin
Study Area Boundary
Ward Boundary
A. Cleveland Metroparks Zoo
B. Canal Towpath Trailhead at Harvard Road
Prepared by
NOACA
Planning For Greater Cleveland

Organization of the Report

The balance of this report is organized as follows:

Section B provides an Assessment of Biological Resources, Land Use and Its Influence, and Land Impairments. This assessment was completed under contract by the Cuyahoga County Planning Commission.

Section C provides the results of community outreach efforts. It also presents the results of a survey of Businesses of the Lower Big Creek Valley completed during March and April 2002. This work was completed by NOACA, with input from the City of Cleveland and assistance from the West Side Industrial Retention and Expansion Network.

Section D provides an analysis of Transportation Issues. This analysis was completed by Transportation Division staff of NOACA.

Section E provides the results of a Land Use Policy Investigation, also completed under contract by the Cuyahoga County Planning Commission.

Section F presents a Concept for Future Planning of the Valley.

Section G presents a Strategy for Further Action in Phase 2.

Section B Assessment

The study area assessed includes the final two miles of the Big Creek, in the City of Cleveland, from Ridge Road to its mouth into the Cuyahoga River just south of Harvard Avenue and consists of approximately 7 square miles of land area. Influences such as stream alteration, floodplain dynamics, riparian zone condition, water quality, land use patterns and practices have greatly impacted the Lower Big Creek. Discussion of these factors helps to lay the groundwork for future planning for the valley floor and plateau.

Biological Resources

Plant and wildlife habitat in an urban environment is often adversely impacted by human populations, urban infrastructure and various land use practices. Yet plant and animal communities play an essential role in urban settings that are critical in sustaining a liveable and healthy community. They can also serve as an educational tool for the study or observance of natural processes that are very limited in urban environments. The Lower Big Creek Valley serves as a natural corridor for a diversity of plant life ranging from wetland, riparian plants to upland hillside plants. Outlining potential areas for the regeneration of habitat diversity provides a point of departure for the restoration of a stream corridor.

Plants

The Lower Big Creek Valley serves as a natural corridor for a diversity of plant life from wetland, riparian plants to upland hillside plants. Upland plant communities in the Lower Big Creek Valley are reflective of most Northeast Ohio valleys and consist of forested remnants which are located primarily on the hillsides. Trees such as black oaks, sycamores, cottonwoods, and maples are common. The valley area within the Cleveland Metroparks Zoo and Brookside Reservation provides a corridor extending from valley wall to valley wall that sustains a diversity of plants. The uplands east of Pearl Road (US 42) have been seriously encroached upon, but the presence of established trees and sycamore saplings are a promising sign that plant life in this area is beginning to recover. Further encroachments should be avoided to allow this successional process to continue. The area around Calgary Park on the north side of Lower Big Creek presents an area of great diversity and includes trees that may be as old as 75 years. Protection of this area should be a priority for preservation of plant diversity in the Lower Big Creek Valley.

A strategy for restoring hillsides from erosion should include plantings of the following: black locust, rose acacia, Indian grass, big blue stem.

The Valley's riparian habitat has been severely impacted over the years by the alteration of the creek bed, the narrowing of the channel and other encroachments on the riparian zone. This is seen throughout the entire Big Creek corridor east of Ridge Road. For the most part, the channel lacks shade trees that would provide a canopy over the stream.

Absence of a canopy means that many vital ecological functions are absent from the riparian zone. A canopy can assist in eliminating invasive plants, provide habitat that helps to regenerate aquatic life in the stream and assist in improving the overall stream environment for plant diversity and wildlife habitat. Its absence is a major impediment to stream recovery.

Poor water quality and high volumes of urban runoff contribute to a degraded riparian corridor. Improvements in water quality and control of urban runoff should also contribute to recovery of the riparian corridor in the Lower Big Creek.

A strategy for restoring the riparian zone should include plantings of the following: black willow, boxelder, silver maple, sugar maple, sumac, viburnum, and dogwoods.

Invasive species proliferate in the entire stream corridor and the uplands east of Pearl Road. Japanese knotweed and phragmites are widespread. Invasive plants have suppressed the diversity of plants that once existed and are suffocating ones that remain. Eradication of these is essential for promoting the return of a natural succession of diverse, native plants to the valley. The prevalence of these species throughout the valley makes complete eradication problematic.

A strategy for reducing invasive species should include identifying priority habitat or restoration areas for the application of herbicides, particularly in isolated areas. In addition, restoring shade canopy to the stream can also assist in suffocating these plants because they thrive in sun.

Wildlife

Wildlife typical for an urban corridor, such as deer, skunks, birds, raccoons and other small mammals, exists in the Lower Big Creek area. However, the diversity and quantity of wildlife in the Lower Big Creek is limited by its poor water quality and lack of riparian cover. Providing diverse riparian and upland plant communities with fruit-bearing plants can attract more migrant birds to the area. Improving the water quality of the stream can return wildlife such as blue heron, green heron, ducks, frogs and aquatic insects.

The potential for improvements to the wildlife community in the Lower Big Creek Valley area is significantly enhanced by the prospect that this corridor will eventually connect to a regional network of green corridors. The connection of this corridor to others in the Cuyahoga Valley will expand the overall area available for wildlife and attract a more diverse ecosystem.

Expanding recreational resources in the Lower Big Creek Valley can provide a starting point for expanding the restoration efforts needed for this area. Proper planning and design approaches that fully consider the potential for restoration of biological resources can be applied both to enhance the recreational experience and to contribute to the Valley's ecological regeneration.

Topography

The Lower Big Creek Valley features high shale cliffs common to many valleys in northeast Ohio. The elevation at the mouth of the Big Creek is 577 above sea level and rises to 700 feet near Ridge road. Elevations east of Pearl Road rise to 680 feet. The land above the valley ridge continues to rise to 780 feet. See Figure B-1. The steepness of the valley ridge is generally 15-20% in relief, which makes it a landscape vulnerable to erosion problems and complicates resource protection efforts. This landscape has had a profound effect on how the human community has related to the valley environment and its resources. The ridge locations that exhibit these steep terrains will need to be taken into consideration for future trails and other development to maximize views, protect the hillsides and minimize grading or degradation of existing valley terrain. See Figure B-2.

The aspect of the slope or direction of the slope face is important to consider when restoration approaches of the hillside are discussed. The direction of the slope face can determine what plant species will thrive if used for restoration or stabilization efforts. This will affect the amount of sun, precipitation and wind exposure the slope face will receive during an annual season. The slope orientation or aspect of the Lower Big Creek Valley study area is largely in the northeast direction with 27.7% of the terrain facing this direction.[1] Selection of plant species or other restoration efforts should consider these microclimate conditions to ensure proper selections and practices are applied. See Figure B-3.

Floodplain

A floodplain can play a crucial role in stream overflow management for major storm events by providing an area for storing water adjacent to the channel. See Figure B-4. Floodplains serve as an important partner with the stream in managing flow and holding of water within the watershed system. The Lower Big Creek is no exception to the role of the floodplain in storm water management. However various factors prevent the Lower Big Creek floodplain from functioning in an optimum capacity. First, the land development of this sub-watershed such as the existing railroad lines immediately adjacent to the creek has encroached on the floodplain area and the width of the stream channel (floodway). This limits the amount of area for the storm water to be stored during rain events, particularly the annual storms which are short but intense. Second, the increased volume of storm water, due to land urbanization within the watershed over the past 50 years, often overwhelms the capacity of the floodplain and the stream channel to handle these additional loads. These factors have resulted in increased flooding during storm events in the lowlands, particularly near Jennings Road.

[1] The remaining terrain is distributed respectively in the following manner; North, 13.1%, East, 17.9%, Southeast, 10.8%, South, 8.5%, Southwest, 8.3%, West, 7.2%, and Northwest, 6.5%.

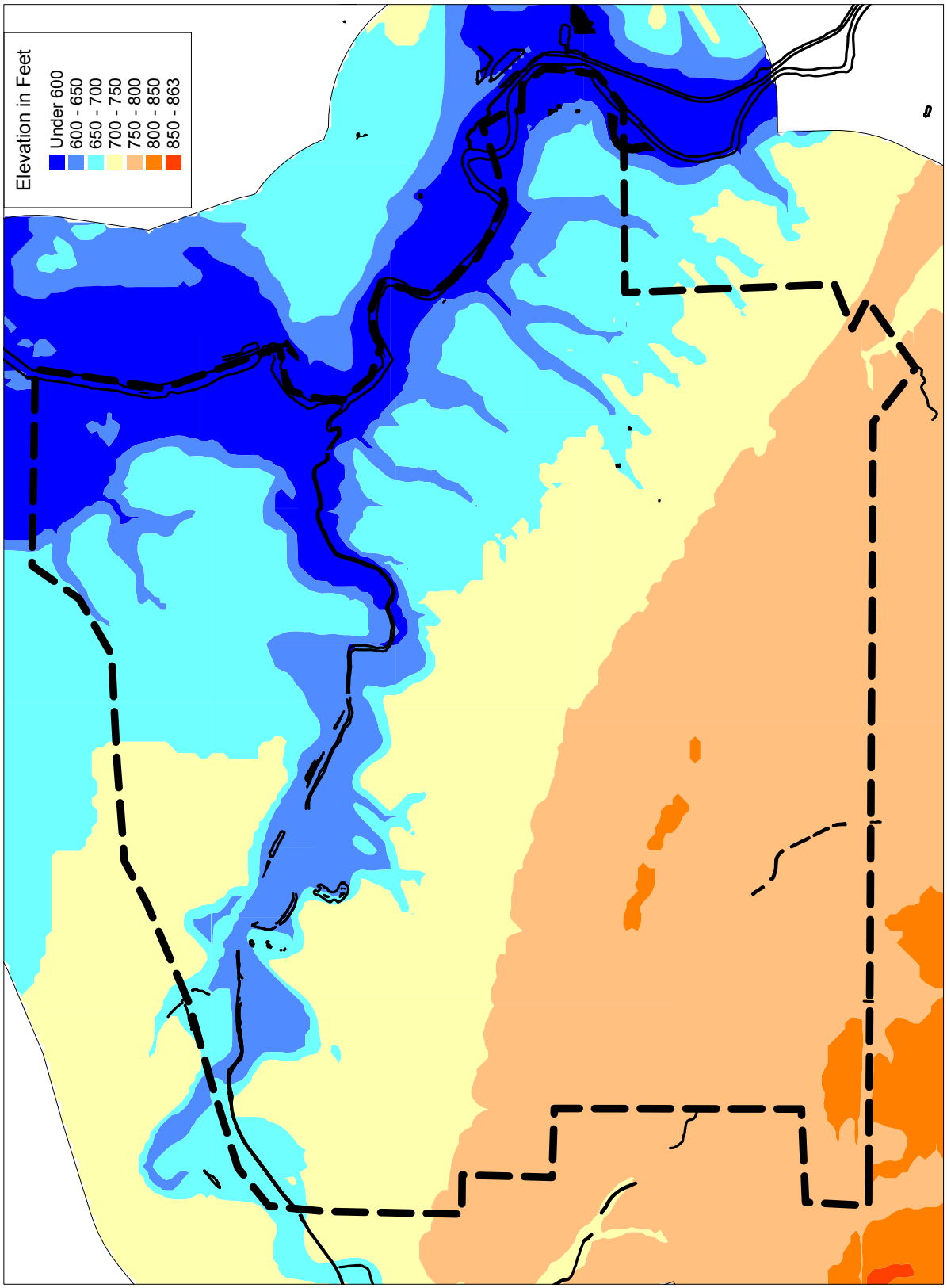


Figure B-1
Lower Big Creek Study
Baseline Assessment: **Contour Elevation**

Prepared for NOACA by Cuyahoga County Planning Commission, September, 2002

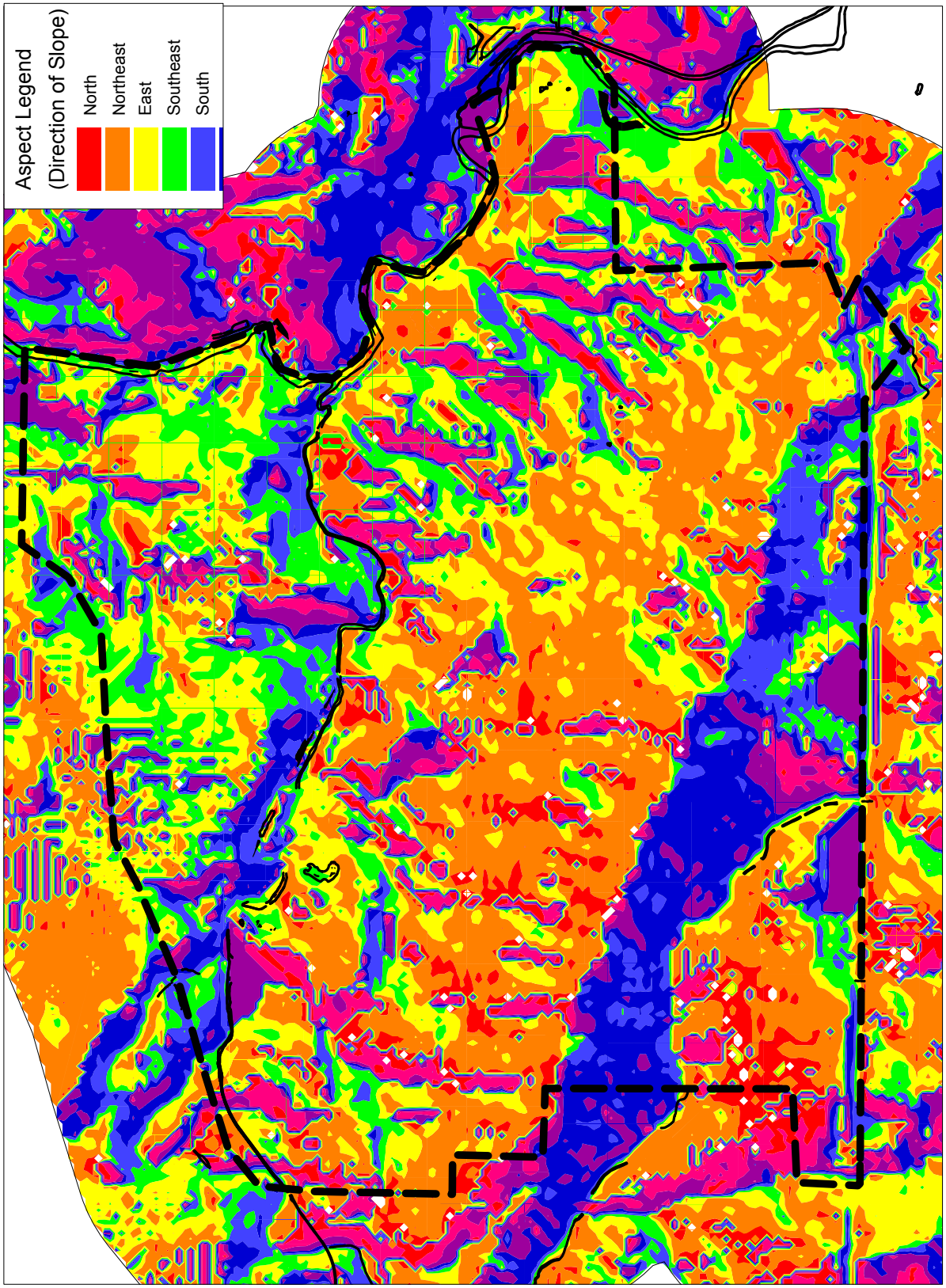


Figure B-2
Lower Big Creek Study
Baseline Assessment: **Slope Aspect**

Prepared for NOACA by Cuyahoga County Planning Commission, September, 2002

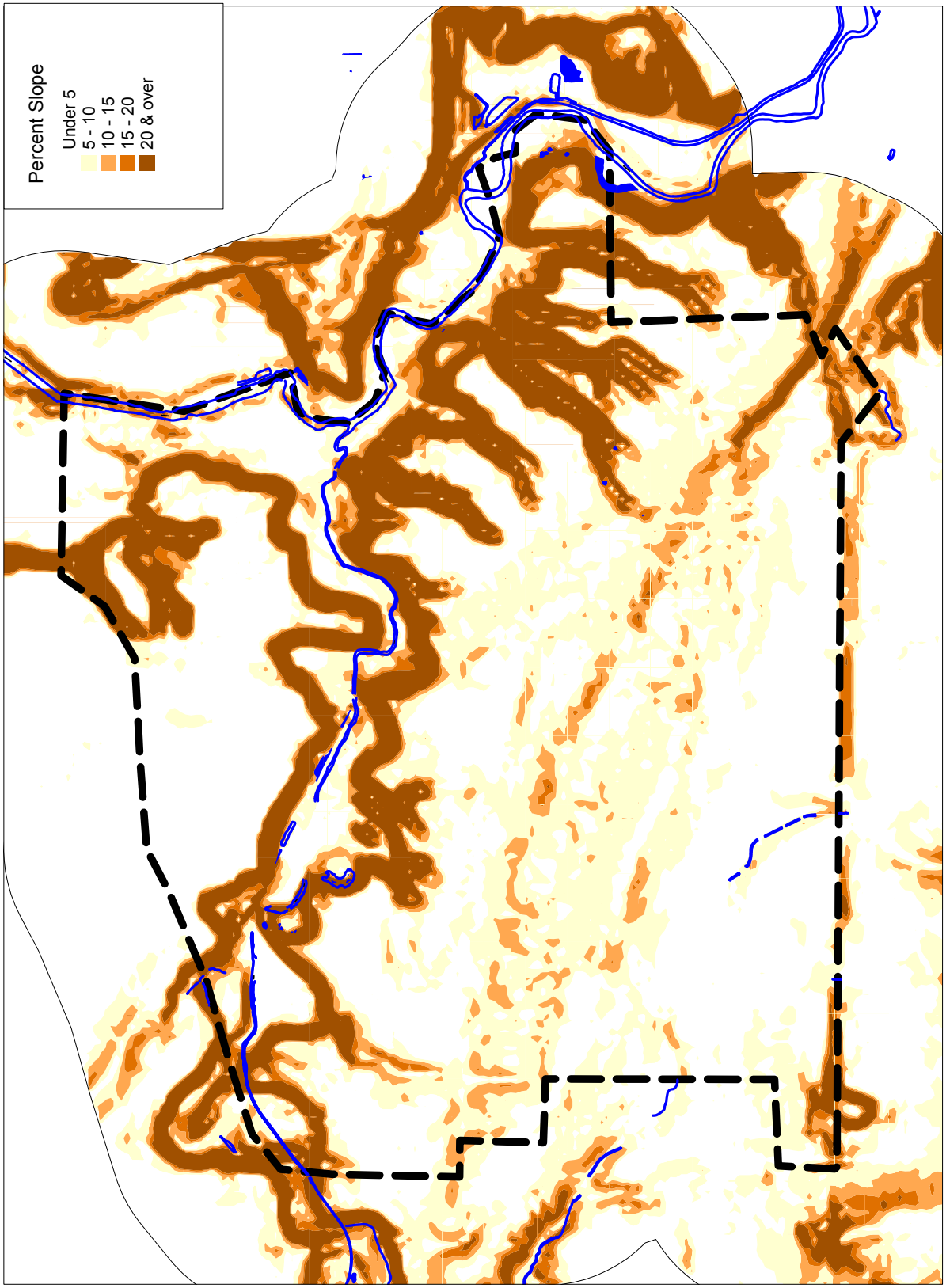


Figure B-3
Lower Big Creek Study
Baseline Assessment: **Steep Slope**

Prepared for NOACA by Cuyahoga County Planning Commission, September, 2002

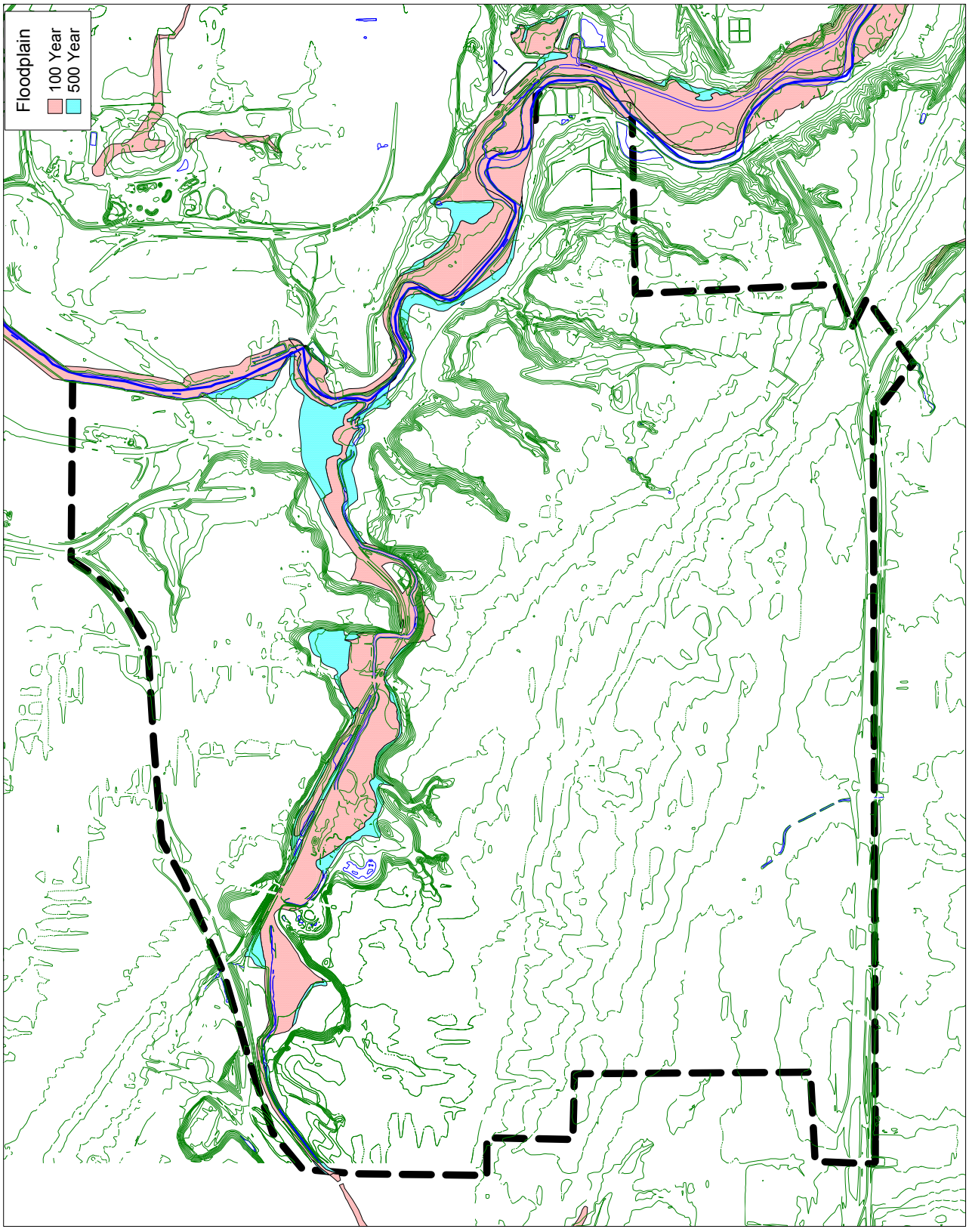


Figure B-4
Lower Big Creek Study
Baseline Assessment: **Floodplain**

Prepared for NOACA by Cuyahoga County Planning Commission
Source: Federal Emergency Management Agency

The Northeast Ohio Regional Sewer District (NEORSD) has embarked on a study to look at these flooding issues. Its Regional Intercommunity Drainage Evaluation Study (RIDE). is a plan to solve intercommunity drainage problems in the sewer district. As part of the study, the

NEORSD will be evaluating the Lower Big Creek through data collecting, monitoring and storm event modeling. This evaluation will then identify alternative solutions to the problems identified to assist communities in developing storm water management tools for the future and find solutions to existing problem areas. The RIDE Study is expected to be completed by December of 2002. Working with NEORSD to exploit the information from this study to restore floodplain and floodway functioning properties will improve the hydrologic functioning of Lower Big Creek in the future.

Watershed

The Big Creek Watershed is one of the most highly urbanized watersheds within Cuyahoga County and the entire Lake Erie Basin. Big Creek serves as a major tributary to the Cuyahoga River and is located approximately 7 river miles south from the mouth of the Cuyahoga at Lake Erie. The entire drainage area of Big Creek encompasses 38.6 square miles with a total length of 12.0 miles. It travels through the communities of Parma, Parma Heights, Brook Park, and Brooklyn before reaching the City of Cleveland. See Figure B-5. Land uses in the upper watershed greatly influence the condition of the final leg between Ridge Road and the Cuyahoga River. Non-point and point source pollution sources, storm water volume, infrastructure impacts, land use developments and practices, and daily activities from its inhabitants all impact the stream system. An overall systematic watershed approach can begin to assess these impacts on the Lower Big Creek.

Riparian Zone/Channel Assessment

The riparian corridor of a stream channel can provide a protection zone for the channel from adjacent forces as well as serve as a unique ecosystem for flora and fauna in an urban setting. The riparian area is the transition zone between the stream channel and the upland area. The many benefits of a riparian area include: providing shade to reduce water temperature, serving as filter for sediment and runoff, stabilizing stream-banks, reducing nutrient loads of streams, providing plant and animal habitat, protecting aquatic habitat, maintaining aquatic food webs, and providing an aesthetically pleasing greenbelt to the stream corridor.[2] These benefits are currently limited in the Lower Big Creek. The concrete channel and wall structure within the Brookside Reservation lacks riparian habitat and provides little or no shade to the stream corridor. The mown lawn adjacent to the stream lacks diverse riparian plant habitats to assist with establishing a corridor for wildlife and serving as buffer for sediment. However, this section has ample room for restoration and enhancement for a riparian zone. Assessing the feasibility of adding shade trees and riparian habitats is recommended here.

[2] U.S. Department of Agriculture, Stream Corridor Restoration Principles, Processes and Practices, 1998.

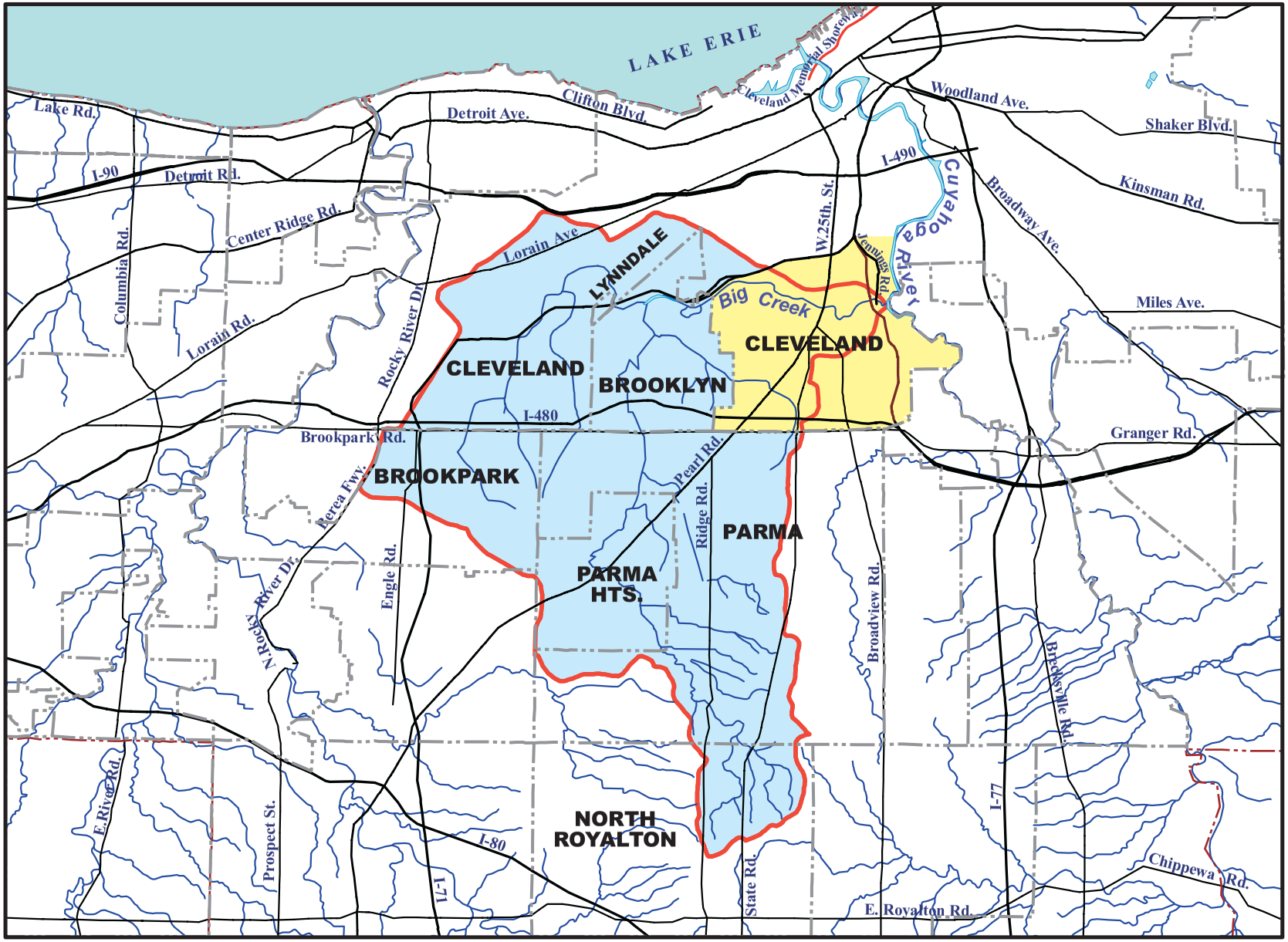


Figure B-5

Big Creek Watershed

Big Creek Watershed Boundary

Political Unit Boundary

Project Study Area

Prepared by NOACA Planning For Greater Cleveland

Figure B-5

As the stream exits the Metroparks Zoo, the riparian area is limited to approximately 10-15 feet on either side of the stream bank. Current land uses including railroads, a junkyard, and a Superfund site limit the potential for expansion of the riparian zone. This area currently has some established plants, but the presence of invasive plants restricts the potential of its riparian function. Enhancement and restoration of the existing zone in this area will need to be assessed more thoroughly. This limited riparian zone continues until the creek bend, near Calgary Park.

The reach of the creek below Calgary Park has a viable floodplain and riparian area, but is in need of enhancement and restoration due to the presence of invasive plants and debris. There is ample room on the north bank of the creek to explore riparian expansion there. As the Creek travels to Jennings Road, the riparian zone is non-existent due to encroachment from adjacent land uses. The railroad lines and industrial uses here utilize land immediately adjacent to the stream channel and provide no buffer area for a stream-bank or riparian zone. This situation limits the potential for expansion of riparian habitat here, impairs the diversity of aquatic, plant and animal life in the stream corridor, and restricts the potential buffering from adjacent land uses provided by riparian filter mechanisms. This section should be explored to identify areas to expand the floodway and re-introduce a riparian zone to the stream corridor.

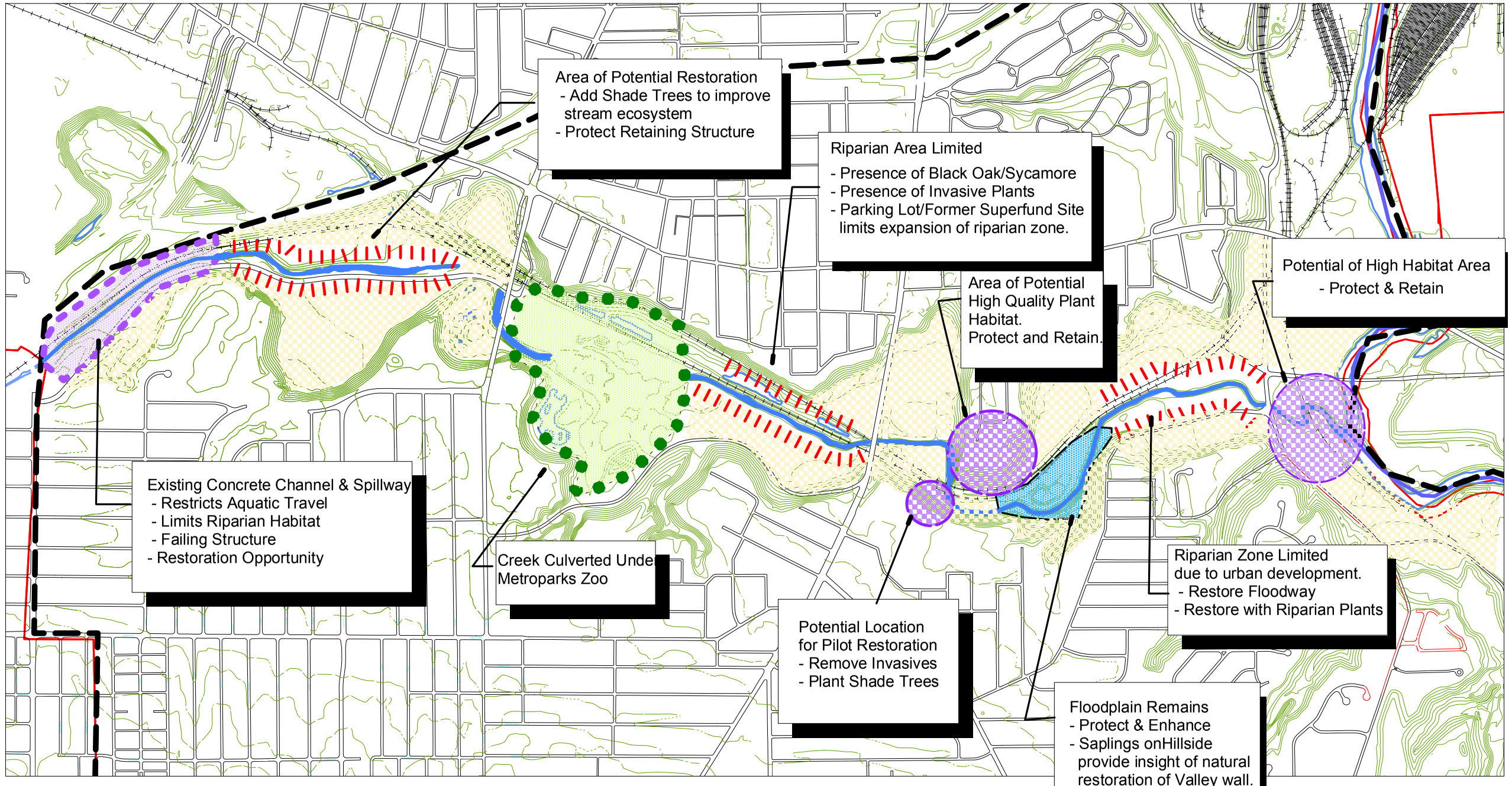
As the stream crosses Jennings Road, the natural, original state of the corridor returns with ample buffers and plant canopies. The presence of invasives and debris should be assessed an the riparian zone should be enhanced to its fullest potential. The upper limit of the estuarine effects of Lake Erie on the Cuyahoga River occurs near the mouth of Big Creek. This unique feature showcases the influence of the larger Lake Erie system on the river. The river is free-flowing (or lotic) above Big Creek, but near the Big Creek mouth, river water levels and flow rate begin to be influenced by Lake Erie. This is not something that can be seen by a passer-by, but should be considered in future planning and restoration efforts as well as serve as an interpretive tool for trail users. Another interesting feature is the interaction between the discharge of Big Creek which flows against the northerly flow of the main-stem.

Issues and opportunities for improving biological habitat in the Lower Big Creek area are summarized in Figure B-6.

Wetlands/Hydric Soils

The National Wetlands Inventory from the U.S. Fish and Wildlife Service identifies potential areas of existing wetlands for the study area. However, the urban context within the study area limits the wetlands remaining in place from the pre-urban landscape. With the percentage of wetlands in the lower Cuyahoga River watershed rapidly diminishing, protection of any remaining wetlands within the study area should be a priority action. Remaining wetland sites in the study area need to be field-verified by a wetland ecologist to begin their integration into the restoration plan.

Figure B-6
Lower Big Creek Study
Baseline Assessment:
Biological Resource and Recovery Areas



Prepared for NOACA by Cuyahoga County Planning Commission, September, 2002

<u>Overall Resources/ Recommendations</u>:

- Focus on Water Quality Improvements and Corridor will return.

- Existing Trees include Black Oaks, Sycamores, Cottonwoods & Maples.

- Valley has a good start of trees, which is key to restoring the corridor. Protect existing trees.

- Invasive plants such as phragmites and japanese knotweed are prevalent in the valley. Eradicate in focus areas of restoration or habitiat potential.

- Restore Riparian Areas with Plants such as Black Willow,

Boxelder, Silver Maple and Sugar Maple

Understory Riparian Plants: Sumac, Viburnum, Dogwoods.

- Protect Natural Hillsides with Plants such as: Black Locust, Rose Acacia, Indian Grass, Big Blue Stem

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Hydric soils can also play a major role in determining potential locations for ecological restoration initiatives. A hydric soil is defined as a soil that in its undrained condition is saturated, flooded or ponded long enough to develop anaerobic conditions that favor growth and regeneration of hydrophytic vegetation.[3] Non-hydric soils with hydric inclusions are soils that have been altered due to land change, but may have hydric characteristics within them to help re-create wetland sites. According to the Cuyahoga County Soil Survey, there are no hydric soils within the study area. However, there are areas identified as non-hydric with hydric inclusions. These sites should be assessed further for potential ecological restoration initiatives that reflect the historic hydrology of the valley. See Figure B-7.

Water Quality

> *"Here the air is pure, the environment quiet, free from unsanitary conditions. He may have Brookside Park for his front dooryard, with Big Creek - a typical little river - to add to the beauty of the landscape and provide a harmless stream in which the children may wade and fish, and he is high above all low-lying territory, with it ill drainage and noxious gases.* (Picturesque South Brooklyn Village, 1903)

Poor water quality over the last one hundred years has limited the potential of Big Creek to become an ecological resource for the region. Urban streams nationwide struggle to retain their viability as a community resource due to impacts from urban runoff, industrial land use practices and the lack of protection of riparian areas. Water quality monitoring by the Ohio Environmental Protection Agency and the NEORSD show that Big Creek is no exception to these struggles.

These agencies perform water quality testing to ascertain how well the creek is performing environmentally. These include tests for surface water quality, and the quality of physical habitat for aquatic life, fish communities and macro-invertebrates. These elements collectively portray a waterway's current condition, its contributing factors and limitations. For Water Quality Standards purposes, Big Creek has been designated by Ohio EPA for the following uses: Aquatic Life Warmwater Habitat, Agricultural Water Supply, Industrial Water Supply and Primary Contact Recreation Use. The portions of Big Creek that lie within Cleveland Metroparks boundaries have also been designated as a State Resource Water. The Ohio EPA and NEORSD both maintain one monitoring site within the study area near Jennings Road. The results of samples taken from this site in 1996 were used to assess the quality of the stream for discussion for this project.

The results indicated numerous violations of the Primary Contact Recreation standard for Fecal Coliform bacteria. The Ohio EPA and NEORSD both report that the predominant sources of these water quality limitations include the presence of combined sewer overflows, sanitary sewer overflows and urban runoff. Ohio EPA reports that the water quality of the stream has changed

[3] Natural Resource Conservation Service, National Wetland Inventory, 1985.

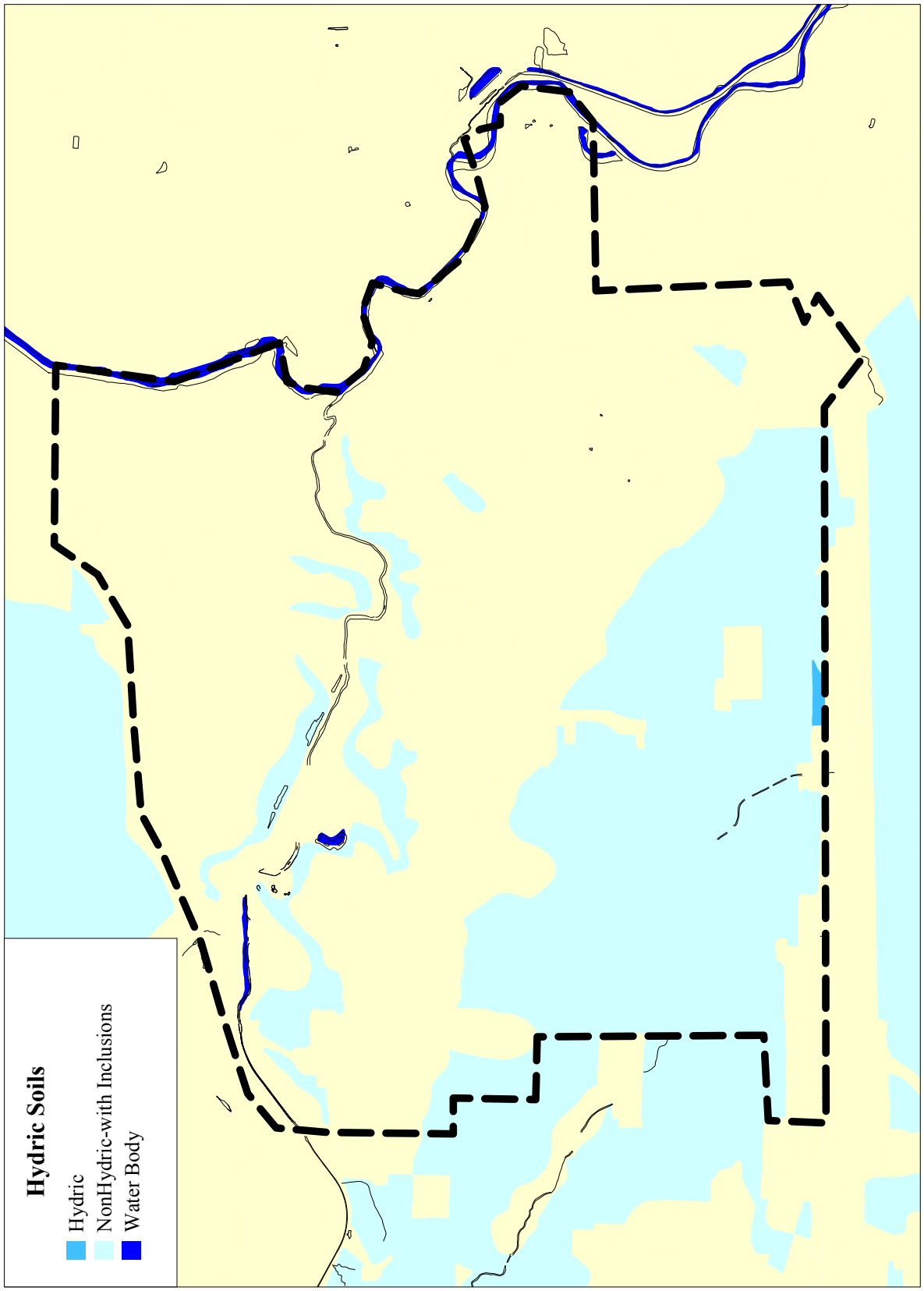


Figure B-7
Lower Big Creek Study
Baseline Assessment: Hydric Soils

little since its previous survey in 1991. In the 1996, Ohio EPA also reported dissolved oxygen exceedances at this sample site.

In 1997, the NEORSD reported an aquatic habitat score (QHEI) of 62.25 at the sample site. The physical habitat for aquatic life was also measured by OEPA in 1996 for this section of Big Creek and results show limitations in supporting warm-water stream faunas. This is due to large volumes of runoff creating flashy flows that has removed the natural vegetative cover of the channel and remains of shale bedrock and concrete debris. The mouth of the stream was reported to be most impacted by urban runoff with the presence of gravel and pulverized shale.

Fish communities did not meet Warm Water Habitat criteria for Big Creek in 1996. However the results had improved from 1984 with an increase in diversity of species and individuals. The eleven species found are reflective of pollution-tolerant species such as the stoneroller minnow. These fish limitations are due to organic and nutrient enrichment contributed by urban runoff and presence of combined sewer overflows (CSOs).

The final water quality indicator tested was macroinvertebrates. The results at the sampling site near Jennings Road was rated as poor in 1996 with the presence of 52 qualitative taxa.

The presence of high concentrations of industrial activity, outdoor storage areas, and the use of petroleum products in the Lower Big Creek, create unique chemical impacts onto the water quality. Ohio EPA has recommended a detailed assessment to identify hydrocarbon hot spots to prioritize in remediating or determining best management practices. Evaluation for sediment PAHs (poly-aromatic hydrocarbons) can assist locating the high concentration point sources. The Ohio EPA also documented that Big Creek is at its pollutant loading limit and no additional pollutant loading should be permitted. The Ohio EPA has permitted six industrial storm water permits within the study area that either are directed to Big Creek or the adjacent Cuyahoga River tributaries. The monitoring of these permits and their impact on the stream should continue to be evaluated.

Additionally, the leachate from closed and active Construction and Demolition Debris (C& DD) landfills within the study area can also be a contributing factor in the pollutant loading found in the Lower Big Creek. Materials disposed at these landfills such as gypsum board, adhesives, treated wood and waste oils such as leftover lubricants. Studies have shown that leachate from C&DD sites can lead to potentially problematic constituents such as additional iron, lead, cadmium and total dissolved solids.[4] Additional water monitoring at the landfill locations and within the stream, should be considered, and a review of the existing leachate collection systems is recommended to fully understand the extent of leachate impact on Big Creek.

Finally, the presence of 15 combined sewer overflows within the study are greatly limiting the ability of Lower Big Creek to achieve Warmwater Habitat Attainment status. This increases the amount of fecal coliform and additional nutrients in the creek. NEORSD reports that these

[4] USEPA, Construction & Demolition Waste Landfills, Draft Report, (ICF Incorporated), 1995.

existing CSOs are overflowing into the Lower Big Creek an average of 23 times per year with a high of 56 times and the low of one per year. See Figure B-8. The NEORSD has completed a study of the CSOs that empty into Big Creek as part of its analysis of CSOs in the Southerly Facilities Plan area that identifies sewer system improvements to reduce CSO contributions to Big Creek. Additionally, the NEORSD conducted an outfall survey in 1998 on the condition of storm sewers in this area. Three sewers were documented as exceeding fecal coliform and e Coli concentrations above the desired level. These locations should be prioritized to assess and remediate the cause. The City of Cleveland has old sewer systems that due to their age may not operate properly to achieve a desired result. An assessment of contributors affecting the water quality of the Lower Big Creek will assist in determining strategies to improve the future water quality and life of this section.

The Lower Cuyahoga TMDL (Total Maximum Daily Load) program, directed by the Ohio EPA, will determine the amount of pollutant that needs to be reduced to reach water quality standards, and identify actions needed to restore the lower Cuyahoga River and its affected tributaries including Big Creek. The Lower Big Creek will be reviewed by this program which is scheduled to be released for public comment in early 2003. Recommendations developed by the TMDL program should be considered in future planning efforts.

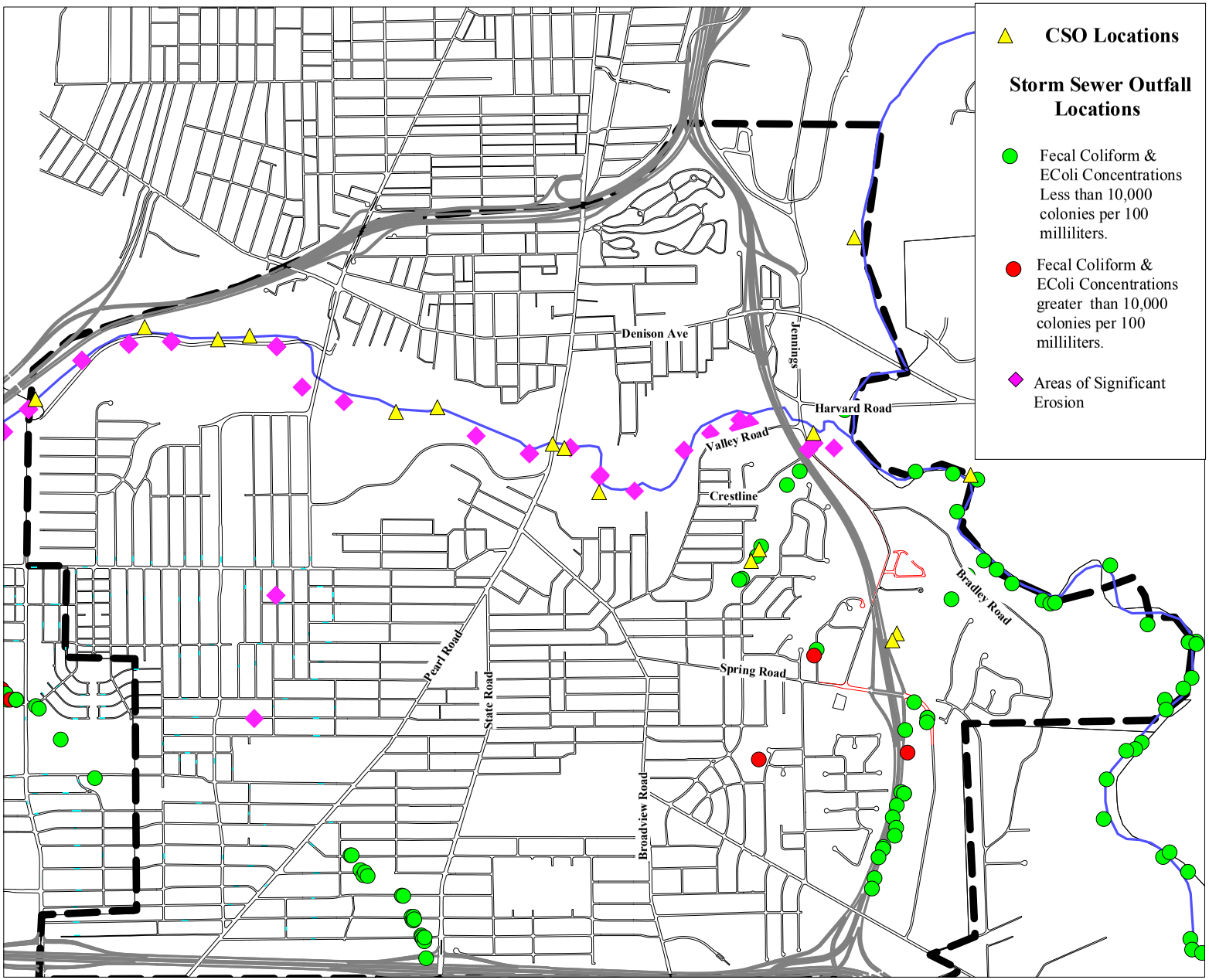
Key Findings for Stream Impairments**:**

- The Lower Big Creek original drainage patterns and riparian zone have been severely altered and fragmented as a result of channelization, spillway structures, culverting, and land use encroachment of the stream. This has increased flow volumes, decreased diversity and livability of habitat and limited the potential for stream recovery.

- The floodplain and floodway has been severely encroached upon by railroad rights of way, landfill operations, and industrial land uses. This has limited floodplain and stream capacity and increased the frequency and scale of flooding of properties, and restricted floodplain and riparian habitat diversity.

- Water quality of the Lower Big Creek is degraded, limiting the useability of this stream for recreational purposes. Bacteria levels frequently exceed water quality standards. Ecological water quality conditions are typical of those within an urban area with fish habitat in the fair range, fish communities poor but improving and macro-invertebrate communities poor but improved from grossly polluted conditions of twenty years ago. The degraded water quality is a result of the presence of CSOs, urban runoff and alteration and encroachment onto the stream.

Figure B-8
Lower Big Creek Study
Baseline Assessment: **Storm Sewer/CSO Infrastructure**



Prepared for NOACA by Cuyahoga County Planning Commission - Source: Northeast Ohio Regional Sewer District, Outfall Survey, CSO Survey, 2000 - RPSD - Phase I Study, 1999

Figure B-8

- The biological resources are severely limited within the valley due to land use practices and stream alteration, as well as a proliferation of invasive species. Pockets of historical plant communities still remain. These provide the potential to protect the remaining areas and restore other areas that can help bring an active plant and animal community back to the valley.

- The topography of the valley, with its steep slopes, is a defining feature of the landscape, but is being severely threatened by widespread instances of hillside subsidence.

Land Use and Its Influence

Cultural and Historical Resources

The Lower Big Creek Valley has an abundance of history and cultural resources that have influenced the landscape and the people that inhabit it. See Figure B-9. The valley has changed but has also remained very much the same over the years with historical sites still remaining such as Brookside Park, the original railroad lines through the valley, remnants of the original road bridges and historic use of the valley for industrial prosperity. These resources show that the nineteenth century urban establishment of the Old Brooklyn and Brooklyn Centre areas and the Lower Big Creek Valley persists today.

Brooklyn Township was established in 1812 in the wooded land immediately west of the Cuyahoga River. The first settler was James Fish and his family, arriving from Connecticut in 1811, homesteading near the intersection of Pearl and Mapledale. Pearl Road was the main stage road to Columbus, with stagecoach service starting in 1820. Jermiah Gates another early settler built a home on Memphis Road and West 35th Street that still stands, west of Pearl and Broadview. The land was cleared and good farms were established.

In the 1830's Brooklyn Centre, an agricultural village, developed to the north side of Big Creek valley, at the intersection of Pearl Road and Denison Avenue, and Brighton Village, developed to the south side of Big Creek valley at the intersection of Pearl and Broadview. A Brooklyn – Brighton Bridge was constructed in 1880, foundations of which are found in Big Creek valley, that provided better transportation access to the area. A variety of industry, including steel mills, oil refineries, tanneries, meat packers, and soap manufacturers located along the Cuyahoga River. Industry also located in the Big Creek valley including the Gates Elevator and Mills Company, the Fanner Manufacturing Company, and the Eggers Brick Company. These industries were critical for residential growth in the neighborhood. Streetcar access to Cleveland was introduced along Pearl Road in the late 19th century and early 20th century. This streetcar artery helped spur the development of housing throughout these neighborhoods, and Pearl Road developed as one of the west side's main commercial corridors. The village of Brooklyn Centre was annexed to

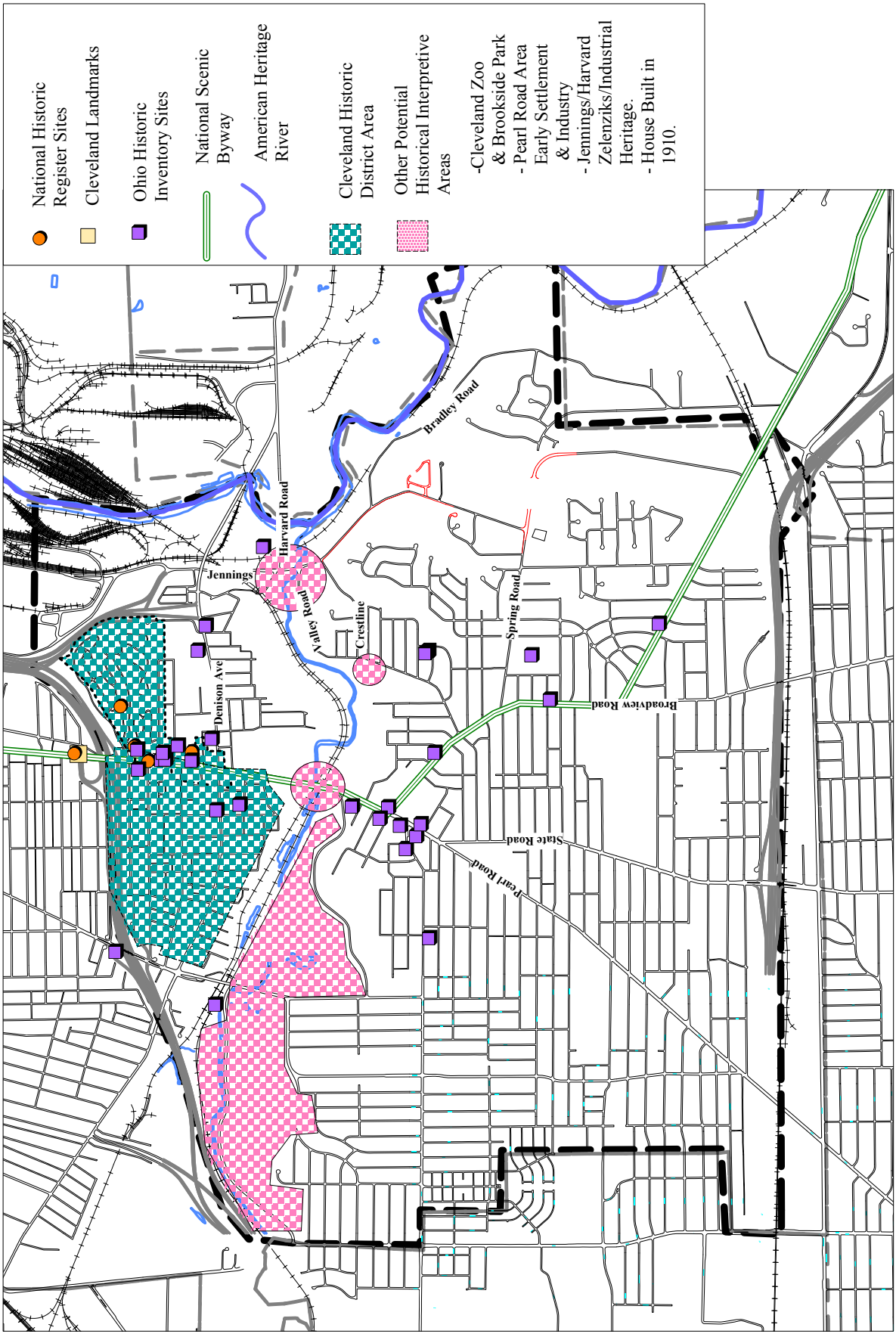


Figure B-9
Lower Big Creek Study
Baseline Assessment: **Historic/Cultural Resources**

Prepared for NOACA by Cuyahoga County Planning Commission, September, 2002

Cleveland in 1894. It was followed by Brighton' s annexation in 1905.

With population growth Clevelanders were further and further removed from the rural outskirts, and there were few municipal parks. In 1894 the city hired landscape architect Ernest Bowditch to plan a series of parks and parkways that included Brookside Park. This park plan was provide a greenbelt around the city, providing recreation for city residents. As Thomas Knight wrote in 1903 Brookside Park

> *"is the connecting link between Garfield Park in Newburg – on the east – and Edgewater Park on the West side of Cleveland. In time the whole park system will be connected by magnificent boulevards, thus bringing South Brooklyn in closer communication with both the East, South, and West ends of the city."*

The zoo, originally located in Wade Park was moved to Brookside Park in 1909. The Wade Park The Victorian Wade Park Barn was moved to Brookside Park from its original location at Wade Park. The park and zoo were later transferred to the Cleveland Metroparks.

The study area has 28 sites listed on the Ohio Historic Inventory list maintained by the Ohio Historic Preservation Office. The Brooklyn Centre Historic District has been designated as a local and National Register district. The Gates House at 3501 Memphis Road is a designated local landmark. One site that should be considered for preservation is the house at Valley Road, built in 1844 that directly overlooks the Lower Big Creek Valley. In addition, the Old Brooklyn District near Pearl and Broadview features architecturally significant buildings and should be preserved. This area should be considered for the establishment of a Cleveland Historic Landmark District.

The Cleveland Restoration Society has been very active with their Neighborhood Loan Program along Archwood Avenue, this program should be better utilized in Old Brooklyn with an emphasis on Broadview Road (east of Pearl). The history of the study area originates with the settlement of the Lower Big Creek Valley. Prominent stories and establishments in the Lower Big Creek Valley and surrounding community need to be preserved and reflected in future interpretive programs developed for the corridor. This will assist in helping people to develop a sense of the landscape that existed prior to industrialization and the subsequent encroachment of modern highway systems. The Lower Big Creek Valley tells a story of early settlement and daily life for this region those memories should be utilized in revisioning the future of the area.

Current Land Use

The land use of the Lower Big Creek displays the urban nature of this pocket within the City of Cleveland. It features one of the most diverse upland land use patterns within the city and pose great opportunities for redevelopment as a result of this existing pattern. Residential use is

predominant with a density of nine persons per acre. This compactness of structures restricts the utilization of open space as well as the potential for connection to the adjacent Big Creek Valley resources. Utilizing open space in the neighborhoods by creating "green blocks" and linear connections to the larger open spaces such as the Cleveland Metroparks facilities, will begin to overcome the problems of dense residential populations by creating outdoor spaces at a neighborhood level, and connecting these to the regional system.

Established Open Space

The Cleveland Metroparks facilities, which include the Zoo and Brookside Park, already account for approximately 335 acres or close to 75% of the Lower Big Creek Valley floor. These existing facilities provide a foundation for expansion and connection to the regional park and trail system through the downstream portions of the Lower Big Creek Valley and adjacent upland areas to the the Canalway Metropark on the east bank of the Cuyahoga River and the new Canal Towpath trailhead at Harvard Road. Strategies to develop connections to the existing regional recreational facilities should be strongly considered.

Other established open spaces are present within the study area and serve the community for neighborhood recreation including city parks such as Calgary Park and Harmody Park, and institutional uses such as churches and schools. See Figure B-10. Connecting these local spaces through a loop network to the larger regional systems can provide neighborhood residents with a much more robust open space opportunity. In addition to pursuing a strategy of connection, existing spaces should be assessed to ensure that they are meeting the needs of the users and have an aesthetic quality reflective of the community.

Other publicly-owned lands currently being used for schools, churches or government facilities should be considered for use in expanding neighborhood green space. See Figure B-11. These land parcels should be reviewed for feasibility in a green space corridor concept through easements or other cooperative agreements.

Commercial/Business Uses

Other uses within the study area include commercial/business, industrial, railroads and highways. The commercial/business uses primarily occur on main corridors such as Pearl, Ridge, Broadview and Jennings Roads. These major arterials serve as the activity centers for the neighborhoods. Connection, enhancement and retention of these areas should be strongly considered as complementary to expanding green space and recreational resources in the valley and neighborhoods. A connection between these daily activity centers and open space will encourage an integrated use of land that improves the quality of life and stimulates new economic growth.

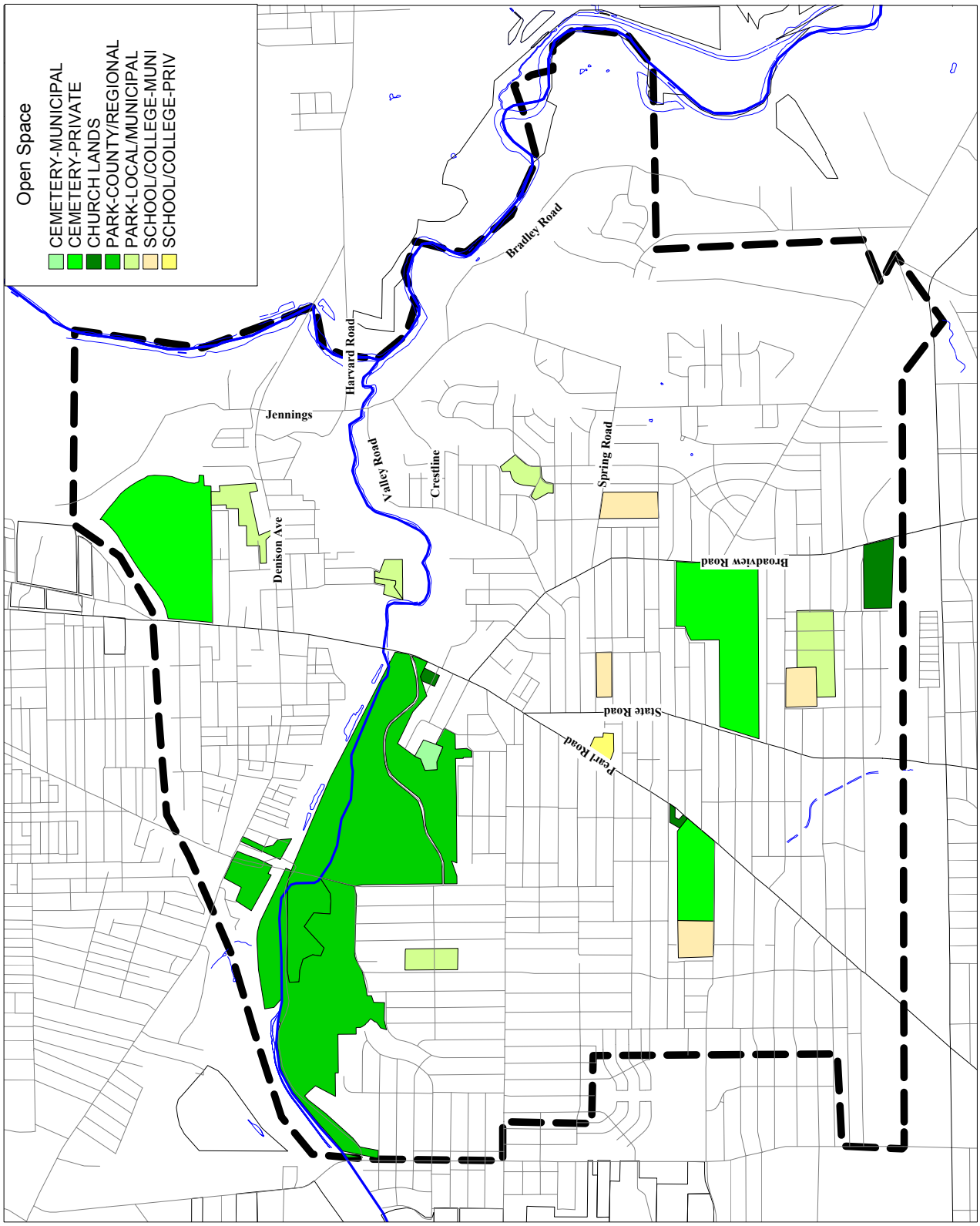
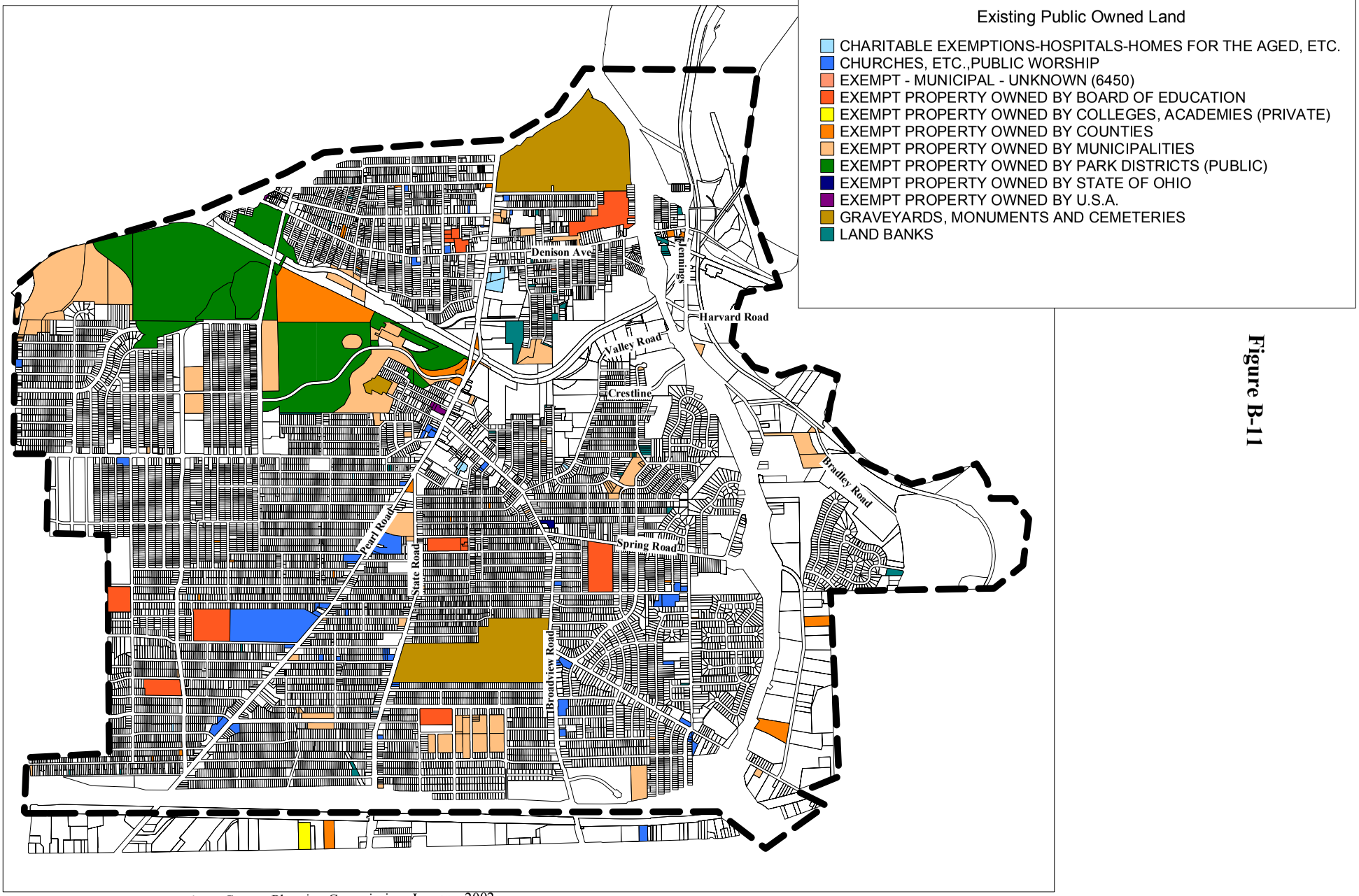


Figure B-10
Lower Big Creek Study
Baseline Assessment: **Established Open Space**

Prepared for NOACA by Cuyahoga County Planning Commission - Source: Cleveland Metroparks

Figure B-11
Lower Big Creek Study
Baseline Assessment: **Publicly Owned Land**



Prepared for NOACA by Cuyahoga County Planning Commission, January, 2002
Source: Cuyahoga County Auditor, October, 2001

Industrial Uses

There are 517 acres of industrial land use within the study area. See Figure B-12. This is largely concentrated in the Lower Big Creek Valley east of Pearl Road. This is an extension of the industrial valley lying to the north along the Cuyahoga River. Much of this industrial activity continues to contribute to the region's economic vitality and should be encouraged and supported. However, with the passage of time, a new approach is emerging that seeks to integrate a variety of land uses with the existing industrial core by ascertaining which industrial land uses and practices can be compatible with other adjacent uses. A preliminary assessment of this industrial land utilization is part of the land impairments inventory of this study.

Railroads/Highways

Transportation networks including railroads and highways are another major land use in the Lower Big Creek Valley area. Major highways traversing the area include Interstate 71 and the new Jennings Freeway (SR 176). These serve the industrial valley by providing access to the regional and state network of roadway transportation. Highways have had a major influence shaping the current Lower Big Creek Valley by contributing to its isolation from upland neighborhoods by chopping up open space below. Since the 1880's, the railroad lines have served as major commerce lines linking businesses in the Valley to markets and suppliers. Over the years the dependence on rail has diminished as businesses have shifted to truck utilization. Currently, there are two parallel active railroad lines directly traversing the Lower Big Creek Valley. The Norfolk Southern Line which is the northernmost track is considered the belt line and serves as a connector between the old LTV site and the Cloggsville Line that eventually travels to the Rockport Yard and Chicago. Until recently this track had 4 trains using the track daily. However, this level of activity of traffic preceded the LTV shutdown. These tracks should be assessed for current and future active use and for potential conversion to other uses within the Lower Big creek Valley. The second track through the valley is owned by CSX and serves as a connector between the Clark Yard by Quigley Road to the short line which eventually heads to Indianapolis. This line has five active trains using the track daily.

These lines pose a potential impediment to regeneration of the valley as an open space and recreational trail network. However they do connect to a national rail transportation network. A detailed evaluation of current use and by whom should be conducted before any concepts of re-utilizing these rail lines are developed.

Valley Zoning

The Lower Big Creek Valley includes four industrial zoning classifications or districts established by the City of Cleveland (in order, from least- to most-intense land useage): Residence-Industry, Semi-Industry, General Industry, and Unrestricted Industry. Two small sections adjacent to Valley and Bradley Roads are zoned Single-Family, being located adjacent and just below residential properties.

A "Residence-Industry District" is defined as

> *"industrial areas adjoining or adjacent to a Residence District, controlled with respect to character of occupancy, manufacturing processes, provision for off-street parking and loading, location of driveways, setbacks from residential boundary lines and treatment of the setback to protect the residential character of such adjoining or adjacent residential area. This District is created to permit lands suitable for industrial use under the conditions that will not be detrimental to such Residence District."*[5]

"Residence-Industry" districts are located along the north rim of the valley east of Calgary Playground, and along the west side of Bradley Road.

A "Semi-Industry District" allows "storage wholesaling, passenger or motor-frieght transportation terminals, light manufacturing and other semi-industrial operations of such nature as not to be detrimental" to adjacent districts that are more restricted and less intensive land uses.[6] Several areas are zoned "Semi-Industry" between Pearl and Jennings Roads.

A "General Industry District" allows for more intensive land uses although restrictions apply to locations of freight depots and trucking terminals, open yard storage, wrecking and dismantling operations, and other uses. Prohibited uses include manufacturing of acids, ammonia, bronze and other metal powders, and other uses deemed *"injurious, hazardous, noxious, or offensive"* by the Zoning Code.[7] The areas on either side of Pearl Road are predominantly "General Industry", and around Valley and Jennings Roads.

An "Unrestricted Industry District" allows for the most intensive land uses *"provided such buildings, premises and uses conform to other applicable statutes, ordinances, rules and regulations."* The following uses are permitted if specifically authorized by the City of Cleveland's Board of Zoning Appeals: *"open or unroofed yard for the storage of secondhand lumber or other used building material, junk, paper, unrepaired or uncleaned containers or other salvaged articles, or […] wrecking or dismantling of motor vehicles […] within fifty feet of any public thoroughfare, public land or Residence District."*[8] Most land east of Jennings and Bradley Roads to the Cuyahoga River is zoned "Unrestricted Industry". Exceptions are a small area of "Residence-Industry" north of the Jennings/Bradley intersection, and BP Oil Pipeline Company which is zoned "General Industry."

The Cleveland Metroparks area above the Pearl Road crossing of Big Creek is zoned "One- and Two-Family."

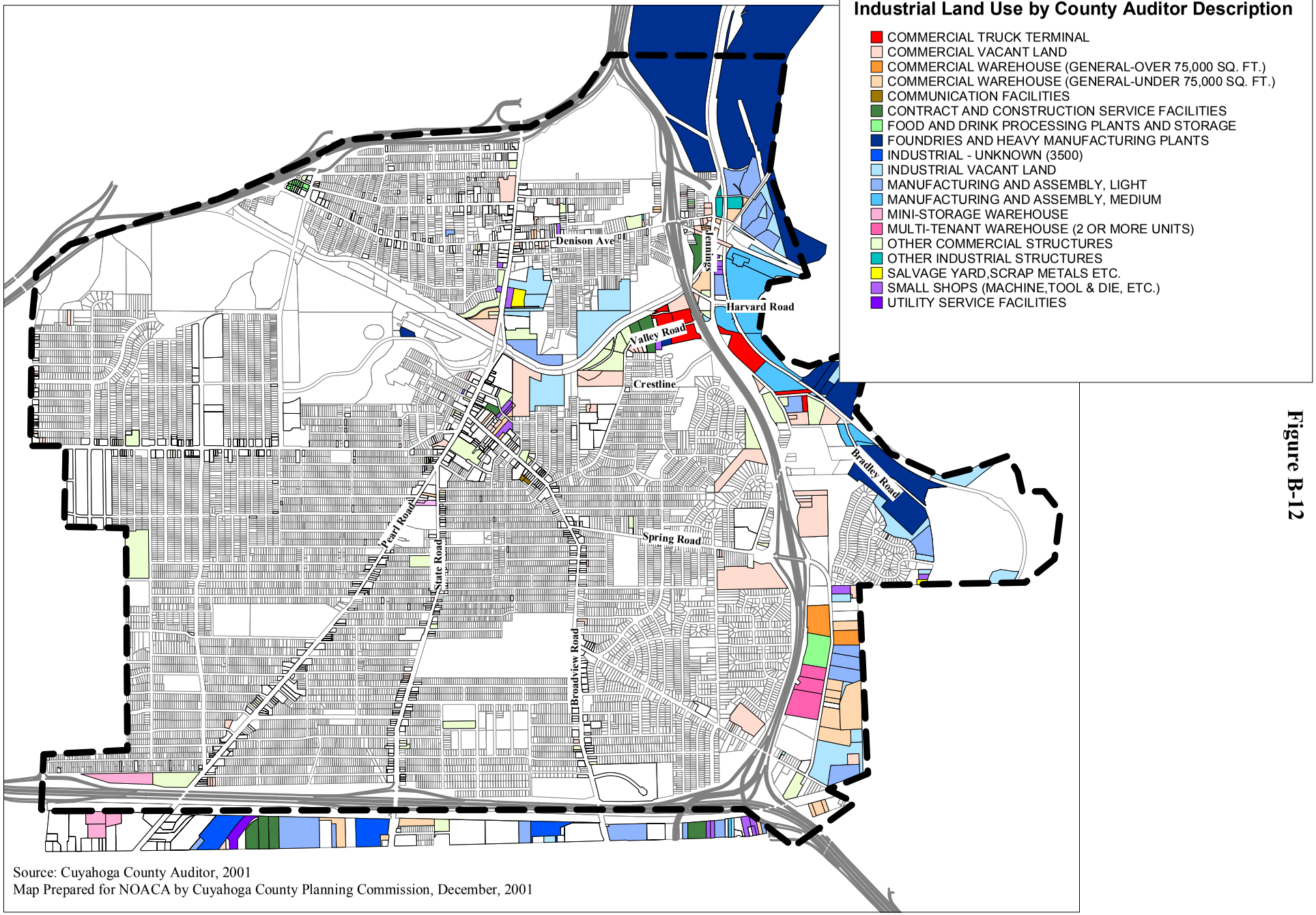
The current zoning designations should be examined as part of the overall visioning of the valley and considerations should be given to re-zoning, creation of overlay districts, or introduction of

[5] City of Cleveland, Cleveland Zoning Code Section 345.01
[6] City of Cleveland, Cleveland Zoning Code Section 345.03
[7] City of Cleveland, Cleveland Zoning Code Section 345.04
[8] City of Cleveland, Cleveland Zoning Code Section 345.05

Figure B-12

Lower Big Creek Study

Baseline Assessment: **Industrial Land Uses by County Auditor Description**



Source: Cuyahoga County Auditor, 2001
Map Prepared for NOACA by Cuyahoga County Planning Commission, December, 2001

Figure B-12

open space zoning the valley to assist in the protection and restoration of the valley for future generations.

Alteration of the Creek

There are some remnants of the creek's past life as a meandering stream with forested buffers and abundant wildlife and fish. But these remnants are now fragmented due to land development over the past 100 years, and continue to be threatened by current land practices. A USGS map circa 1953 shows the Lower Big Creek prior to its alteration by construction of the major highway systems of I-71 and the Jennings Freeway (SR176). See Figure B-13. The alignment of I-71 in the mid 1960's relocated the stream south of the railroad tracks east of Ridge Road to a concrete channel in Brookside Park.

Construction of the Jennings Freeway and the city road system on the east end of the Creek near its mouth at the Cuyahoga River, has also altered some of the adjacent Cuyahoga tributaries. Another major alteration of the Big Creek is the burial of the creek under the Cleveland Metroparks Zoo. This consists of three culvert pipes running under the zoo area that were installed in 1949 to protect the zoo animals from flooding. These alterations have influenced the rate of its flow volume in Big Creek, especially during storm events, and limit the natural dynamics that were characteristics of the stream prior to its alteration.

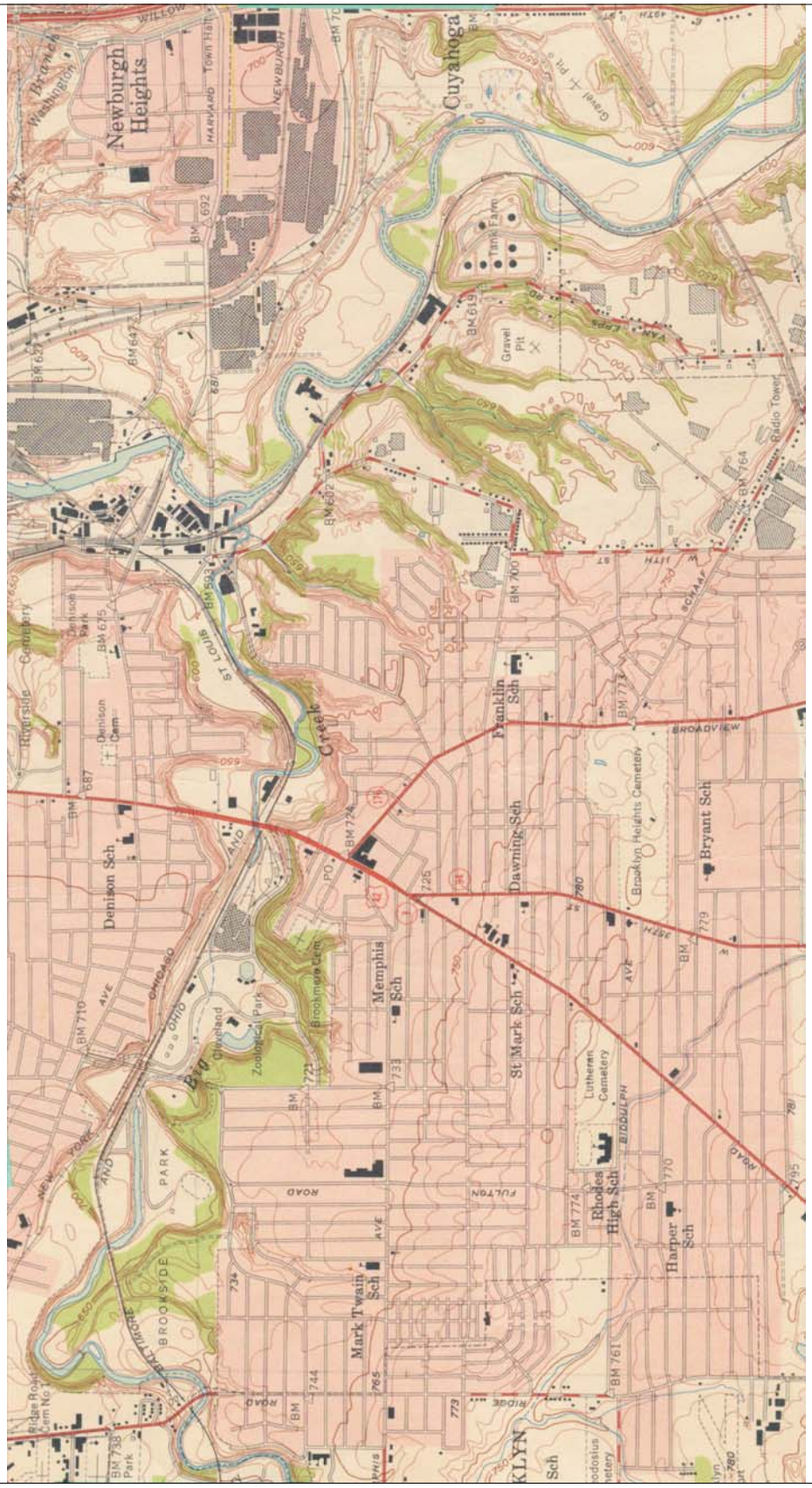
Urban Stormwater Runoff/Infrastructure Impacts

Urban runoff into the Lower Big Creek has been discussed above in the floodplain and water quality sections. Managing high volumes is a crucial contributor to improving the Lower Big Creek aesthetically and systematically. The density and impervious land uses within the watershed adversely impact the Creek. Runoff volume and the rate of volume increases erosion and sedimentation into the stream and hinders the potential of aquatic activity, increases areas that flood and limit the stream storm water retention function. The impervious nature of the urban landscape can only be addressed effectively on a watershed scale. Identifying best management practices conducive to the urban setting should be explored for the long-term protection of the Lower Big Creek.

Major infrastructure influences within the stream channel itself also pose potential restraints on the restoration of the Lower Big Creek. The presence of a concrete channel and spillway in the relocated creek built during the construction of I-71 is impacting the aquatic life in the stream. This channel increases the rate of flowing water and creates an area of low dissolved oxygen. It includes a spillway structure that impedes upstream movement of aquatic life. The channel is severely damaged and is currently not being maintained.

Other potential contributors to the urban runoff problem into Big Creek are the volume of runoff and pollutants from the Jennings Freeway Bridge and from the I-71 corridor from Ridge Road to

Figure B-13
Lower Big Creek Study
Baseline Assessment: **Historic Hydrology**



Prepared for NOACA by Cuyahoga County Planning Commission, September, 2002
Source: United States Geological Survey, 1953

Fulton Parkway. Additionally, the oil, sediment and salt emptying into the creek from these highways can potentially impact the water quality of the stream. No filtration system is in place to address these infrastructure impacts on the Lower Big Creek.

There are a number of challenges to restoring Big Creek and balancing it with current land use activity. But small adjustments made over time can begin to improve the system and eventually re-create some of its past attributes. Developing policy and management tools to assist in making these adjustments in the near future should be part of the concept and vision for the valley's restoration. However, the Lower Big Creek is part of a much larger system, and the influences outside the study area from the upper reaches of the watershed need to be assessed to fully restore the Lower Big Creek section. With the right tools in place, the Lower Big Creek valley has a great water resource that can be utilized to its fullest potential.

Key Findings for Land Use Conditions:

- The Lower Big Creek area has an abundance of historical and cultural resources that includes Brookside Park, Wade Park Zoo Barn, Jeremiah Gates Home, Old Pearl Road Bridge, the Brooklyn Center Historical District, and inclusion in the Ohio & Erie Canal National Heritage Corridor, the National Scenic Byways District and the American Heritage Rivers Designation.

- The Lower Big Creek Valley has been identified as a trail connector to the Towpath Trail as well as the city and regional trail systems in various planning efforts. The natural and cultural features within the valley make it a valuable piece for integration into the trail network.

- The urban land use has an existing mixed use layout that creates conflict and incompatibility on adjacent land uses. Its diversity of uses can also provide an opportunity to create a unique urban area that can expand the economic, recreational, and quality of life benefits for the community.

- The study area has some parks, an abundance of open space and access to regional recreational facilities, but there is a lack of connection to open space and trail opportunities within the valley from the neighborhood block to the regional system.

- Protection of the few remaining undeveloped land parcels is critical to any future open landscape in the valley and study area.

- Major infrastructure elements such as railroads, highways and drainage systems exist within the study area and pose limitations for valley restoration efforts.

- Industrial use is pre-dominant in the lower valley and along the Cuyahoga River, and is a vibrant hub for industrial activity for the City. Pre-dominant industrial uses include truck terminals, manufacturing, and contract and construction services.

- Current zoning in much of the study area is unrestrictive and does not provide for protection of critical resources or dedication of areas to consider additional design guidelines that could assist in the reclamation and sustainability of the valley.

- The environmental and recreational resources of the Cuyahoga Valley and its tributaries are emerging as an important community asset for the region. This is a departure from old ways of valuing the river valley lands and landcapes and is transforming public expectations about future land uses and industrial practices. Work is underway locally to develop new land use standards.

Land Impairments

The industrial nature of the valley east of Pearl Road and along the west bank of the Cuyahoga River creates a dual challenge in sustaining economic prosperity and maintaining high quality services for business operations. An assessment of the current use and condition of these facilities was conducted to help ascertain the future viability of this area as an economic hub for industrial use. This land impairments analysis for commercial, industrial and vacant properties focused on the valley east of Pearl Road and along the west bank of the Cuyahoga River along Bradley and Jennings Roads. This assessment inventoried the appearance and utilization of the facilities but did not determine the operational processes and needs of a business, nor its sustainability and potential for further expansion in new markets. These other factors should be investigated to get a full understanding of the potential and constraints of this hub.

The goal of the inventory was to assess existing exterior and site conditions of commercial, industrial and vacant properties located within the valley and along the valley perimeter to develop an understanding of the current use and utilization (or underutilization) of the valley as well as the aesthetic conditions that impact the valley. The inventory assessed exterior building conditions and site conditions such as condition of parking lot, outdoor storage facilities, landscaping and presence of debris. The inventory also assessed sites that are being underutilized such as junkyards or dumpsites. An opportunity may exist to restore these sites to a rejuvenated state for the valley and its future vision.

<u>Occupancy of Sites</u>

Occupancy or active use of industrial and commercial sites in the lower and upper valley is very high. The area appears to be a viable location for businesses due to good access to the highway system and proximity to the Cuyahoga River industrial valley heartland. Of the 187 sites inventoried, 48% of the parcels are occupied by buildings, are utilized for storage of materials, or are being used as junkyards. These sites are in active operation with an industrial or commercial business on site. This shows this valley district to be a viable industrial hub for business activity. Business retention and assistance activities for existing businesses should be considered to create a dynamic and sustainable industrial hub as part of the vision for the Lower Big Creek

Valley. Of the 83 sites with buildings, only four sites had buildings that are unoccupied and not being used for business. See Figure B-14.

Over one third (36% or 69 parcels) in the Lower Big Creek Valley study area are now vacant (i.e., a previously disturbed site that is currently inactive) or are an undisturbed forested remnant. The retention of the remaining forested remnants in the area should be a top priority. These can serve to protect hillsides, preserve natural character, promote green corridors and assist in reducing urban runoff volumes by means of a less compacted soil environment. Previously used vacant sites should be assessed for potential restoration as a natural environment as well as potential utilization for a recreational trail corridor connection. Reclamation of these sites is a critical component in the evolution of the valley as a model for rejuvenation and integration of resources.

Exterior Building Condition

The exterior building conditions of this area were assessed for the condition of facade and walls, windows and doors, and building signage. This general assessment of the structure used criteria developed for previous industrial area assessments within Cuyahoga County. It does not outline structural or engineering violations as administered by City code, but serves as a tool for recommending improvements to the aesthetic quality and functional integrity of the lower valley environs. The buildings being utilized are largely in good condition and are being maintained and updated. Only eight buildings were considered to be in need of major repair for exterior façade, and six for window/door replacement. Building signage was visible and properly maintained overall. Only 46 sites either had no sign or an existing sign in need of major repair. See Figure B-15.

This section of the inventory reinforces the occupancy results such that a good percentage of properties are active and thriving business sites of business, and can play a key role in the sustaining diversity of business for the City of Cleveland. However, there are architectural differences between the new and updated buildings and older structures in need of updating and repair. This may warrant a review of current policy on design guidelines for retention of older building structures so as to preserve the historical character and functionality of the valley as an industrial/business hub, for current and future operations.

Parking Areas

The parking areas and lots surrounding the buildings serve businesses in an array of uses. These include employee and customer parking, storage or staging of truck beds, and use for storage of materials and machinery. These parking areas appear to play an active role in the daily activity of these business operations by the industrial operations being undertaken such as trucking and transporting of goods, storage supply and commercial services. A site's parking area also ties the

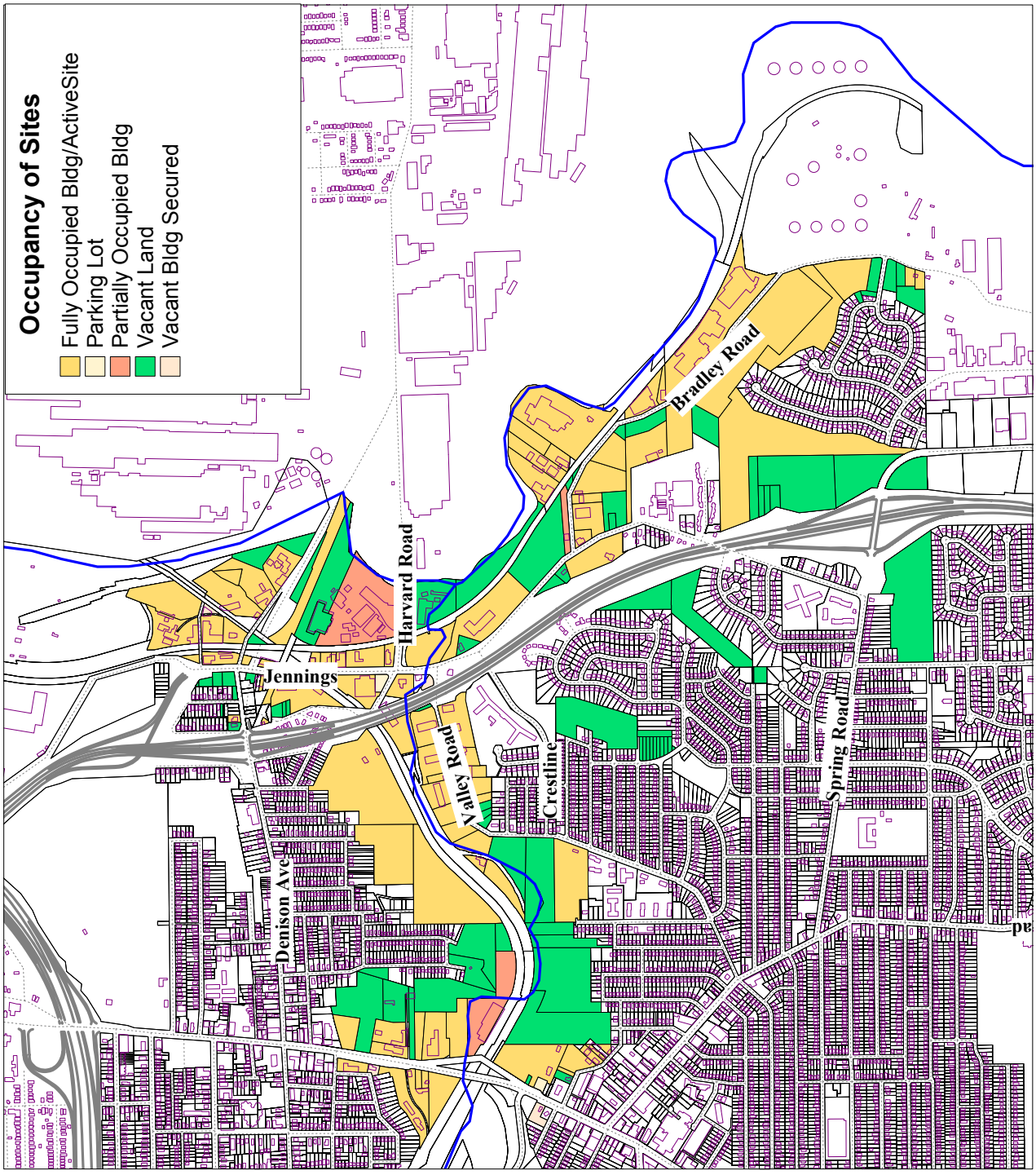


Figure B-14
Lower Big Creek Study
Land Impairments Assessment: **Building/Site Occupancy**

Prepared for NOACA by Cuyahoga County Planning Commission, September, 2002

Figure B-15

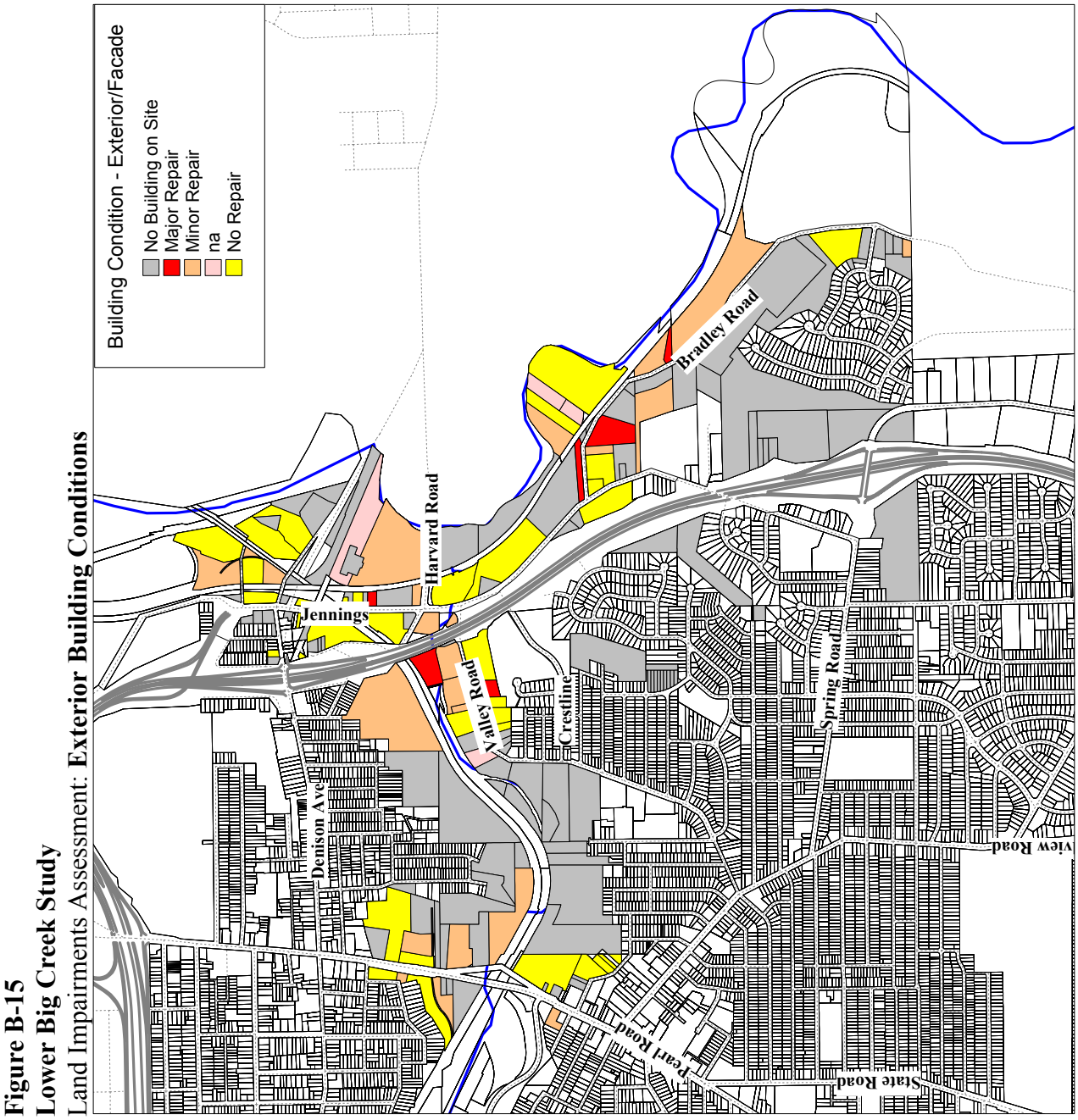


Figure B-15
Lower Big Creek Study
Land Impairments Assessment: **Exterior Building Conditions**

Prepared for NOACA by Cuyahoga County Planning Commission, January, 2002

site aesthetically to the street and community. Parking areas were inventoried to assess their condition for areas in need of repair and areas that have been updated and maintained over the years. There were 101 sites with an established parking or staging area. Of those sites, 28 sites were considered needing no repair as a result of being newly paved or graveled with no cracks or ruts in the pavement. 39 sites were considered needing minor repair with presence of minor cracking and heaving. 34 sites were considered in need of major repair with the presence of severe cracks and rutting of the pavement. See Figure B-16. Strategies to encourage pavement improvements should be explored in future planning for the area.

Properties with parking and staging areas that are paved with asphalt or concrete were identified as were those that are unpaved with either gravel or dirt. There were 51 sites with a paved surface and 74 sites with an unpaved surface being utilized for parking, storage or staging. These sites often feature groundwater and stream impacts from industrial use, especially from unpaved sites. Policies to assist businesses in incorporating sound design materials and practices for paving areas will assist in reducing non-point pollution runoff in the Lower Big Creek valley as well as improve the aesthetic quality of the area.

Infrastructure Conditions

The assessment also looked at the current condition and presence of roads, curbs, drainage structures, and sidewalks infrastructure in the Lower Big Creek Valley area. Local roads are commonly used by a large number of trucks and contain potholes, rutting and severe cracking. Bradley Road also contains a large amount of dirt and dust generated by the uses along this area and sediment eroding from hillsides nearby. This creates an unattractive environmental concern for additional sedimentation into the Cuyahoga River.

The City of Cleveland should consider a technical assessment of the roadway conditions to ascertain whether an improved structural roadway system would better serve the business traffic in the area.

There is little to no concrete curbing in the area, and the areas that do have curbing are severely damaged and old. Curbing in good condition does exist on Jennings Road and on sections of Harvard Ave. and Valley Rd. A program to install new curbing would improve the aesthetic quality of the area, however, thoughtful consideration should be given to truck traffic impacts and storm drainage alterations that could complicate future upkeep and maintenance of the curbing. A review of current maintenance and partnerships with business owners to alleviate these impacts in the future should be explored.

Sidewalks are also scarcely present due to the prevailing land uses and absence of pedestrian activity. Maintaining current sidewalks in good condition and replacement of areas in poor condition. However, further assessment to determine possible additions to the sidewalk system should be considered. This should take into account future uses of this area and in particular how

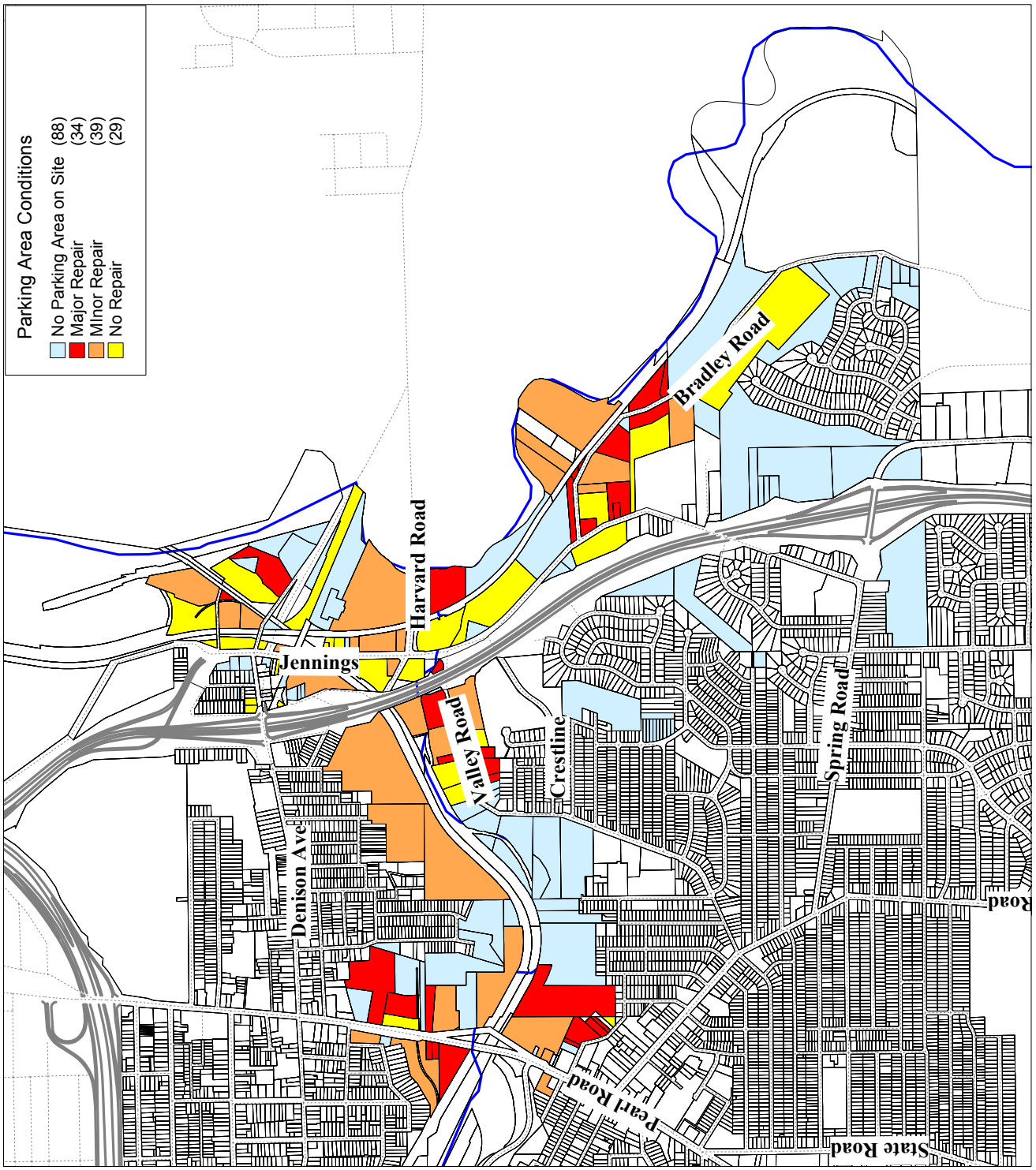


Figure B-16
Lower Big Creek Study
Land Impairments Assessment: **Parking Area Conditions**

to serve the residents and businesses access via foot or bike to adjacent recreational facilities such as the Towpath Trail.

Other - Landscaping/Accessory Structures

Due to the industrial nature of these areas, the presence of landscaping does not appear to fit into the daily operations and use of most sites. However, some properties do have streetscaping or landscaping around the perimeters of buildings. Landscaping can assist in improving the aesthetic quality of this industrial district as well as assist in air pollution and filtration of sediment. Developing landscaping guidelines, specifically for industrial and commercial use should be considered.

Fencing and gates are another major element with these facilities. These serve provide a safety feature for the protection of equipment and materials and to help secure the operation of these businesses. They play a key role in the functioning of these facilities and need to be part of the outdoor site exterior. Eighty three (83) sites presently have fences or gates and 15 of these facilities have fences in need of major repair due to extreme wear, or major holes in the fence. These fences should be replaced and design guidelines should be discussed so that the aesthetic as well as the functionality of these structures are met.

Outdoor Storage

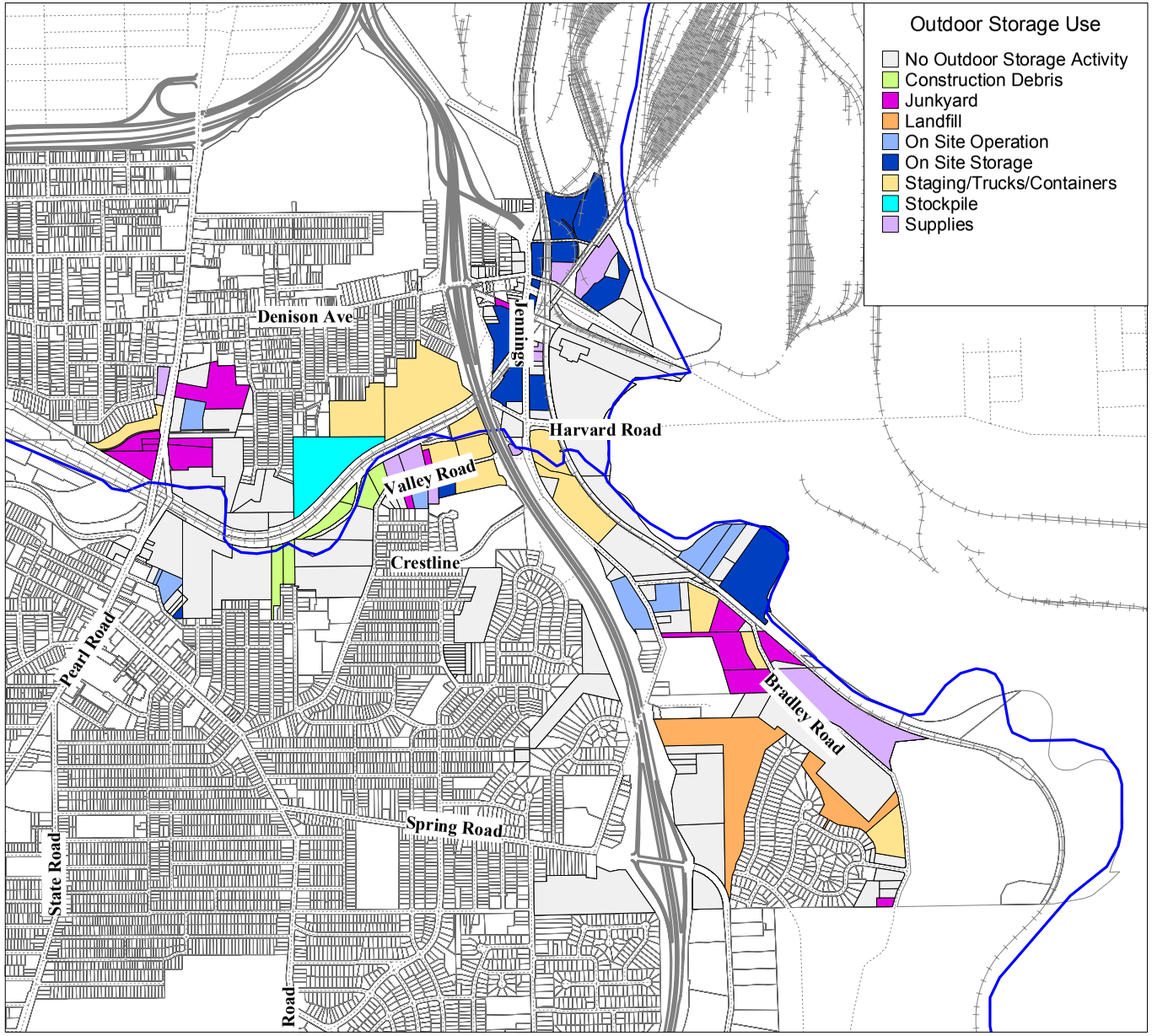
A significant number of industries within the Lower Big Creek Valley study area engage in transporting of goods, holding of materials or industrial processing. These businesses perform activities that require use of the outside property for a variety of purposes. See Figure B-17. This level of outdoor activity impairs the aesthetic appearance of the Lower Big Creek Valley and is a factor in the widespread underutilization of lands. The inventory looked at uses in the outside area of a property to ascertain how outside uses serve the business and what impact it has on the image of the valley and future land utilization.

There are 13 properties that appear to serve as staging or transporting areas with the presence of containers, warehousing facilities or fleets of trucks. These properties generate large traffic activity that should be taken into account for future trail planning and the lower valley traffic circulation patterns.

There is one large stockpiling site north of the railroad tracks west of West 14th Street. This site may use the railroad, but appears to also use truck transportation to access the stockpile. The material stockpiled here appears to be road salt and may impact stream quality. This should be considered in management practices proposed to improve water quality.

Thirty (30) sites utilize outside property for storage of supplies produced by that business, for storage of materials for their industrial processing/business activity, or to deploy equipment to assist in daily operational activity. Fencing and screening of these activities has been assessed as

Figure B-17
Lower Big Creek Study
Land Impairments Assessment : **Outdoor Storage**



Current Conditions

- Existing Land Use utilize sites for storage and staging of materials extensively.
- Storage/Staging areas are generally not screened, unpaved and unattractive to the valley.
- Areas have not been assessed for impact on nearby Big Creek and water quality issues.

Prepared for NOACA by Cuyahoga County Planning Commission, September, 2002

part of this inventory. Developing policies that mitigate aesthetic and environmental impacts from these operations should be considered.

There are currently 17 parcels that serve as junkyards within the study area. These junkyards include holding areas for auto repair shops, car junkyards and the city impound lot. Their appearance is unattractive, they represent underutilized prime valley parcels, and pose a threat to water quality and groundwater quality in the Lower Big Creek. These properties should be prioritized for assessment of reuse or reclamation of the Valley.

Outdoor storage is an important part of daily activity of these businesses and needs to be included in future site planning efforts at these facilities. A concerted effort to outline strategies to improve the movement, layout, function and utilization of these activities needs to be undertaken for the future vision of the valley. This might be through site planning design, screening design guidelines and reuse policies of underutilized sites.

Regulated Sites

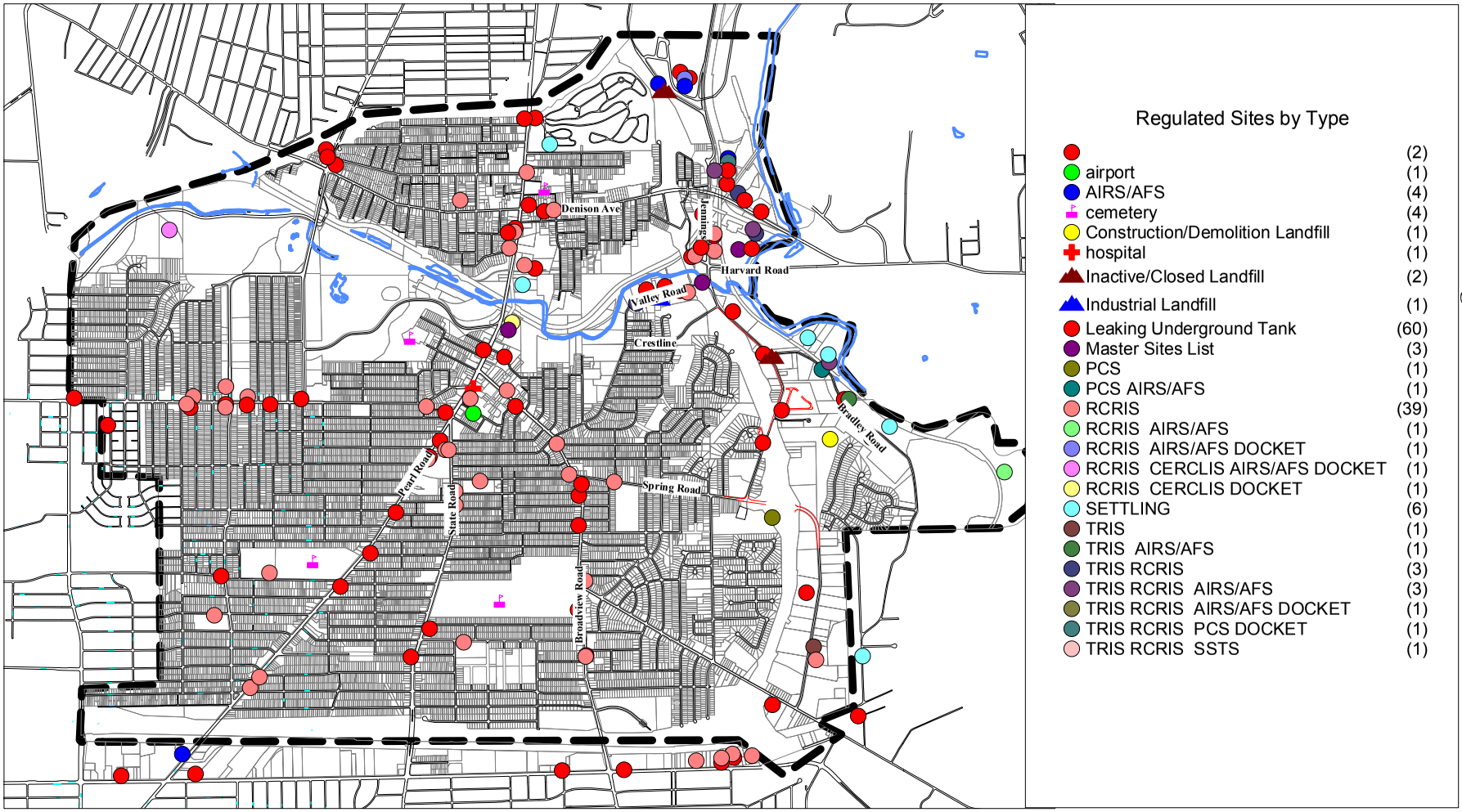
Regulated sites are areas that require a permit by a public agency, typically, Ohio EPA and are monitored on some regular basis. Permitting is required because these sites pose possible environmental threats if mismanaged. Due to the industrial nature of the Lower Big Creek Valley, there are 142 sites within the study area regulated for various issues. These issues include landfills, underground storage tanks (60 sites), surface impoundments (6 sites), hazardous wastes (39 sites) and air emissions. See Figure B-18. These regulated sites need to be continually assessed for their impact on the area's environmental quality and the restoration potential of the Valley.

Hillside Subsidence

The steepness of the valley and the pressures of land development and daily operations have resulted in hillside erosion problems throughout the Lower Big Creek valley. The first step to determining solutions was to conduct a general assessment of hillside conditions for this study.

Hillside subsidence or slumping can occur in areas of steep terrain by the natural erosion process or by man through undue impact on the slope edge. This can result in a changing topography over time that can influence a valley landscape and its utilization. Additionally, this alteration can influence drainage patterns and volume rates to the valley below that can inhibit the creek from functioning in a natural state. The Lower Big Creek Valley is no exception to this process. A general inventory of the Lower Big Creek Valley was conducted to assess hillside conditions and other impacts influencing its condition. The valley wall was assessed in terms of natural processes and impacts imposed by man.

Figure B-18
Lower Big Creek Study
Baseline Assessment: **Regulated Sites**



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Source: USEPA, Envirofacts

The presence of shale bedrock along the Lower Big Creek valley walls presents an environment that is highly erosive by nature and less suitable to slope holding vegetation such as trees and understory plants. Because this is a natural occurrence very little can be done structurally to eliminate this phenomenon. Indications of this natural occurrence are shown in the Metroparks Brookside Reservation. Measures to outline the rate of these natural erosion areas and other impacts that increase the rate of this natural erosion should be researched and taken into consideration for restoration or development of the valley plateau. The valley is a dynamic system and needs to be thought of as an ever-changing landscape. Policies and practices that allow room for nature to do this should be encouraged.

The second type of hillside subsidence or slumping is created by current practices and by past development practices. If a structure is placed too close to a slope edge, and the slope is not capable of handling the additional load of the structure, the slope edge is undermined and begins to fall away. Indications of past or present soil movement can include the following: hummocky ground, which features irregular ripples or surfaces that may tilt backwards into the slope, bare scarps, tilted or leaning trees, water seeping out of the ground or toe of a slide, or soil cracks in the soil parallel or perpendicular to the slope.

This report generally identifies these indicators and the location of structures being undermined or too close to the slope. This identification can help to prioritize areas that are in need of immediate attention, and helps begin the process of identifying proper design practices to implement in specific situations. Other information collected for addressing the hillside issues includes the following: the presence of no vegetation on a slope due to alteration, dumping and debris on a slope, and areas of man- made stabilization efforts that exist or are currently underway.

Hillside subsidence areas that are most impacting private property and structures are located on the north valley wall from Fulton Parkway to Pearl Road. This area has numerous structures such as garages, fences and roadways that are currently being undermined or are falling away. This hillside slumping is greatest at the roadway spurs, with tree roots exposed and soil cracks showing. The area on the east side of Pearl Road also has some structure- related slumping, particularly near the West 17th Street area. This area should be a priority in developing guidelines for protection of the structures and stabilization of the slope. The north valley wall has two major areas that have no vegetation and appear to be man made. They are located just west of Pearl Road and on a portion of property along Doering Court.

There are areas throughout the valley that have erosion problems, but do not threaten structures. Here there is an increasing the rate of erosion due to current dumping practices. One such area is located along the south valley wall on the closed Henninger landfill site. This is an area of the valley scarred from previous use as a construction and demolition debris landfill, but the man-made valley wall lacks vegetation and is now eroding in places.

The other area of concern is the valley wall around the perimeter of Calgary Park. Although, well-established vegetation is present, trail scars and misuse of the slope edge is evident. These scars on the slope edge can impact the edge over time, and without vegetation, can fall off. Establishing awareness of this situation and enforcing bans on trespass can assist in protecting this natural area. If there is interest for people to explore in this area, establishment of a trail loop should be considered to avoid numerous trail scars.

Due to the presence of the Cleveland Metroparks, the areas along the north valley wall from Ridge Road to Pearl Road do not generally have any man made impacts or threatened structures,. These areas should continue to be monitored by Cleveland Metroparks and addressed when hillside problems arise.

There were three locations found during the general survey that have man-made slope stabilization structures in place. One location is off of West 44th Street where concrete debris is being used to stabilize the top of the slope. Another other is an area along the railroad tracks where the railroad has installed a railroad- tie retaining wall. This is approximately 4 feet high and is adjacent to the tracks. A third location is the Lakeview Ridge Apartment Complex on Jennings Road where stone rip-rap is being installed. These measures should be monitored for their effectiveness on the hillside.

Another hindrance is the dumping of debris and presence of man-made material on the Lower Big Creek Valley wall. This inhibits natural vegetation to stabilize the slope from thriving, puts additional pressure on the load of the hillside, and can degrade the value of the area and properties within the neighborhoods. The presence of debris is greatest on the north wall of the valley. This area includes concrete, tires, appliances, household items and lawn clippings. Other areas of large debris concentrations include the Cuyahoga tributary valleys. Public education, enforcement measures and policy changes are means to pursue in eliminating these malpractices on the hillside.

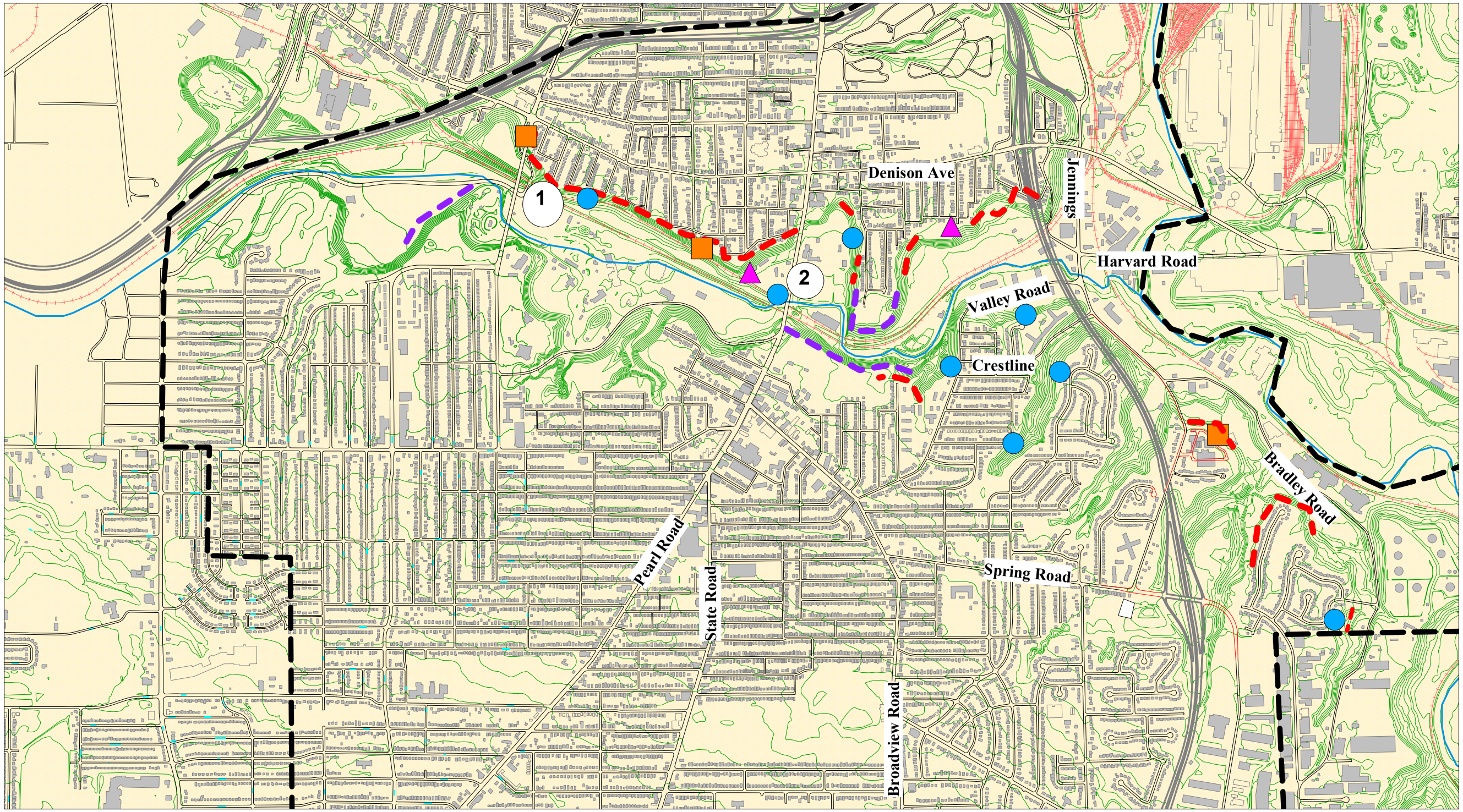
The Figure B-19 highlights hillside subsidence concern areas in the Lower Big Creek study area.

Vacant Lands

Vacant land includes parcels that have either not been developed upon, or have been utilized in the past but are not currently active, or are land bank sites. These constitute a subset of underutilized sites previously discussed in the section of this report addressing occupancy of sites. Acquisition or development of easements on these parcels can play a key role in restoration of the Lower Big Creek Valley study area. An evaluation of the reclamation costs, acquisition/easement feasibility and design considerations of these sites should be considered to restore the valley to a recreational resource.

Figure B-19

Lower Big Creek Study
Hillside Subsidence Concern Areas



Areas of Potential Property Loss Due to Hillside Erosion

Areas with Erosion Problems but do not have endangered structures.

Areas with no Vegetation on Hillside but stabilization measures in place.

Areas with highest concentration of debris/neglect.

Areas with an installed stabilization practice

1 — Structures Threatened. Erosion greatest and roadway endpoints. Largely Vegetated, but dumping of materials prevalent.

2 — Hillside disturbed by unofficial trail scars. Need to control access to prevent further erosion.

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Landfills

There are three Construction and Demolition Debris landfills within the study area: at Henninger, Bradley Road, and West 11th Street. See Figure B-20. These sites are not permitted to take sanitary waste. The Henninger and West 11th Street sites have been closed to additional dumping, whereas the Bradley Road site remains open. The Henninger site is a 25 acre site along the south ridge of the Lower Big Creek valley east of Pearl Road. It served as an active fly ash disposal site and was closed in 2000. This site has a passive open trench methane gas system that permits methane gas to dissipate. The site is covered with soil as required by Ohio EPA closure regulations, but no vegetation has been established. This site is a prime site for reclamation and conversion to mixed uses or open space for the valley.

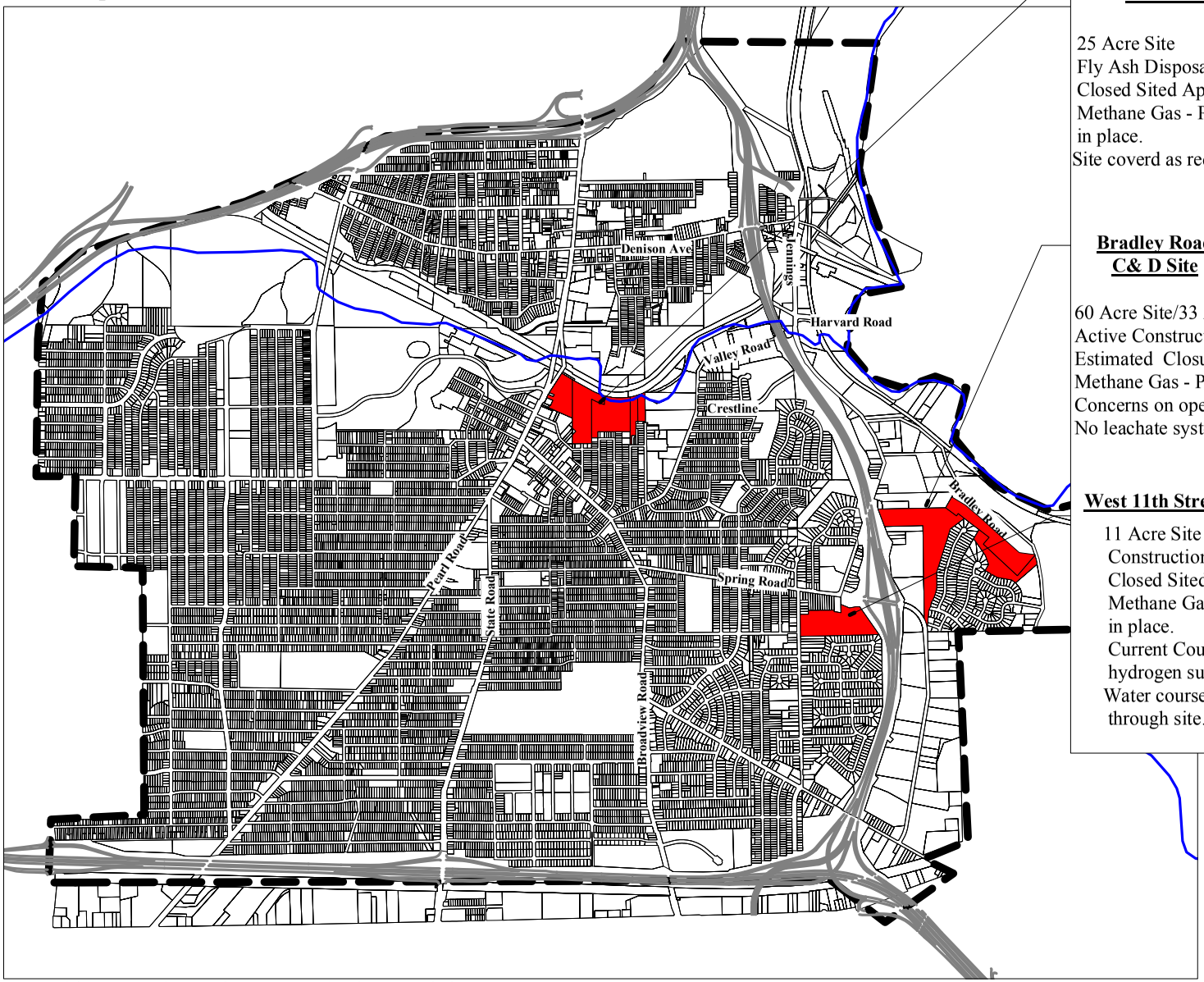
The West 11th Street site is an 11 acre site on Spring Road near the Jennings Freeway and was closed in 1996. It also has a passive methane gas system in place. This site is currently under court jurisdiction due to hydrogen sulfide findings in 1995. The source of the sulfide is at issue in this case and the results of this case will help determine the future re-use of this land. This site also had a section of a Cuyahoga River tributary running through it prior to being developed as a C&DD site.

The Bradley Road Site is a 60 acre site with 33 acres currently in use for active filling. Its estimated closure may not be for another 20 years. A passive methane gas system is in place on this site. The site is under the supervision of the City of Cleveland Health Department which monitors its operations for compliance with its permit. There have been recurring violations of the permit for this site including failure to cover the debris and to provide adequate buffers for the adjacent residential properties. There is also no leachate system in place on the site according to the Ohio EPA files. This site should continue to be monitored by the Health Department to assure that its fully complies with its permit.

All of these sites may have leachate problems due to the presence of certain debris and construction material entering the site that breaks down with environmental consequences. For example, gypsum board used in building construction can have an adverse affect on groundwater quality.

These sites also do not have liners at the base of the fill, due to their initiation of operations prior to institution of these requirements in 1992. Due to the lack of knowledge of the actual contents of this fill, it is possible that the passive methane system may not be adequate for complete remediation of the sites. Subsidence or slumping of land at these sites may not be as substantial as an organic waste site, but will nevertheless continue to occur over time as fill settles. This issue will need to be evaluated for reclamation and re-use for structures and engineering at these sites in the future.

Figure B-20
Lower Big Creek Study
Land Impairments Assessment: **Landfills**



Henninger Landfill
C & D Site

25 Acre Site
Fly Ash Disposal Site
Closed Sited Approx. 2000
Methane Gas - Passive System
in place.
Site coverd as required with soil.

Bradley Road
C& D Site

60 Acre Site/33 Acres Active Filling
Active Construction Debris Site
Estimated Closure in 20 years
Methane Gas - Passive System
Concerns on operation (covering/buffers)
No leachate system in place.

West 11th Street Site C&D Site

11 Acre Site
Construction Debris Site
Closed Sited Approx. 1996
Methane Gas - Passive System
in place.
Current Court case on
hydrogen sulfide source.
Water course orignially ran
through site.

Prepared for NOACA by Cuyahoga County Planning Commission, January, 2002
Source: City of Cleveland Health Dept, Ohio EPA, Hull & Associates

Figure B-20

Marginal/Underutilized Lands

A number of land uses have been identified in this inventory as not fully utilizing land on the valley floor to its fullest potential and/or impairing the ecological functioning of the Lower Big Creek. See Figure B-21. Underutilized sites are defined in this study as transient uses that are opportunistic and tend not to have permanent structures. These properties account for a majority of the land cover in the Lower Creek Valley east of Pearl Road. They include junkyards, landfills, a road salt storage area, a concrete crushing area, closed sites with potential environmental hazard conditions, and miscellaneous storage areas. These properties, collectively, represent short term or transient business operations that do not enhance or protect the Lower Big Creek as a resource. A full assessment of these properties and their need to be in the valley should be considered in future planning efforts. The relocation of some of these activities services to industrial areas in the City that are not adjacent to a stream should be considered. This assessment is the first step in a process of determining the valley's long-term viability economically, environmentally and socially.

Key Land Use Assessment Issues

- Business activity in the Lower Big Creek area remains active with few (4) fully unoccupied or vacated buildings and sites within the study area.

- A significant percentage of land in the valley floor (69 parcels, or 36% of the industrial/commercial valley) is either undeveloped, vacant, or underutilized. In particular, a number of key properties directly adjacent to the Lower Big Creek below and east of Pearl Rd. (US 42) represent marginal or underutilized land uses. These include an auto salvage yard, construction demolition operations, a container storage facility, a closed C& DD landfill, and a large road salt storage site, among others. These uses pose a barrier to recreational improvements and represent an ongoing threat to environmental quality. However, opportunities may exist for re-use of landfill and underutilized sites, and this could be the impetus for long term regeneration of the valley.

- Public roads, curbs and sidewalks in the valley floor are in a poor condition that includes the absence of curbs and storm sewers. Some roads are covered with dust and debris. In addition, there is a drainage problem in the vicinity of Jennings and Bradley Rd. such that surface water flowing in sheets across the Bradley Rd. Peninsula to the Cuyahoga River can sometimes be observed. This impairs the potential of some business activity as well as the aesthetic appearance of the district.

- Hillside subsidence is an extensive and multifaceted problem. Issues include threatened structures, temporary and inappropriate stabilization measures, natural erosion, and building practices that pose limitations in regards to safety of property and protection of resources.

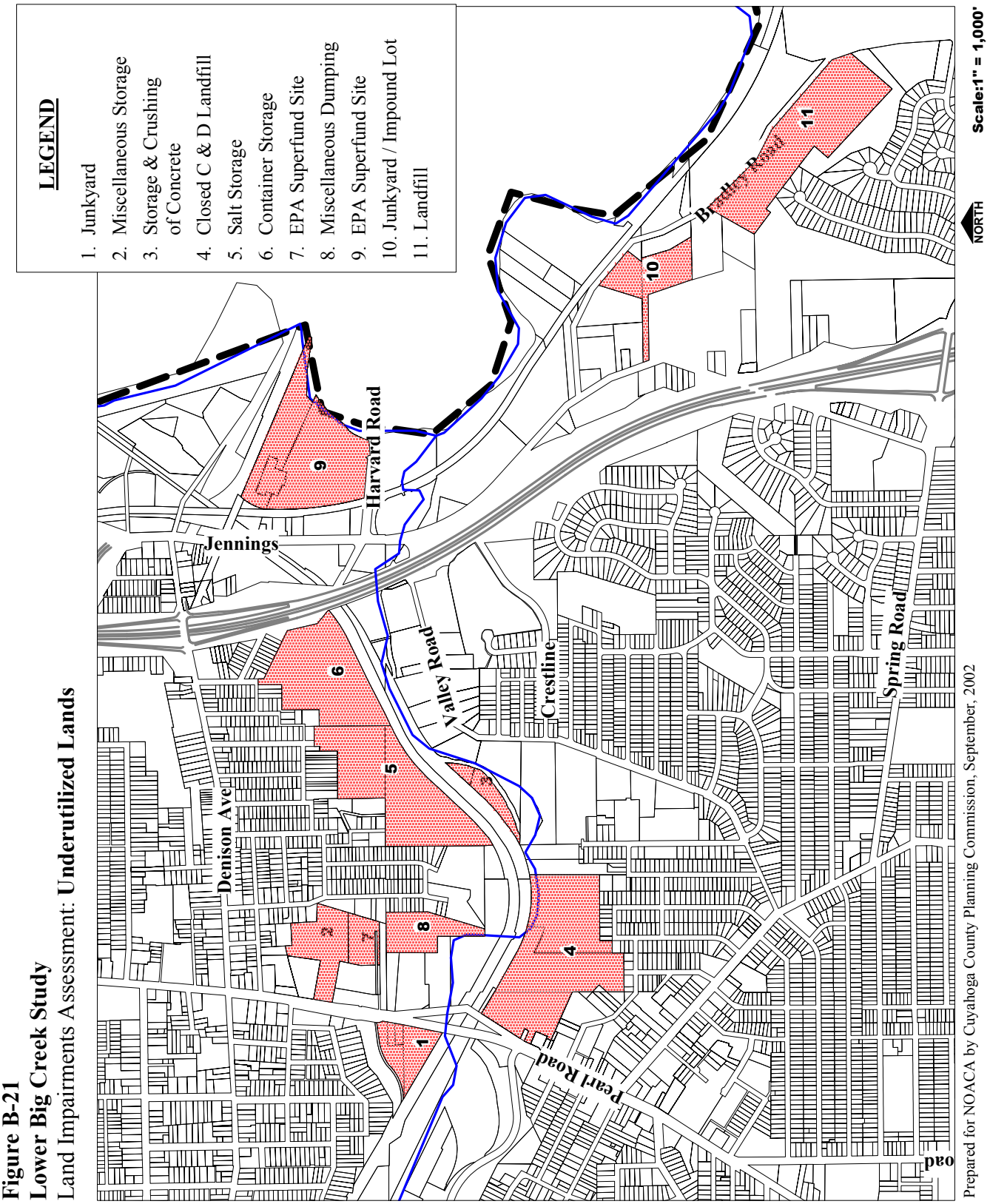


Figure B-21
Lower Big Creek Study
Land Impairments Assessment: **Underutilized Lands**

- The outdoor storage of bulk materials is a predominant feature within the valley that contributes to aesthetic and water quality issues that limit the valley's scenic potential and stream vibrancy.

- Parking areas accessory to businesses along the valley floor area are largely unpaved and not properly drained which combine to have a detrimental effect on water quality of Big Creek, the Cuyahoga River, and nearby groundwater resources.

- The operating Construction & Debris landfill at Bradley Rd. poses a challenge to assure that rules are being complied with, especially with respect to grading, encroachment on stream beds and maintenance of an adequate buffer from adjacent land uses.

- Limitations on past assessment of closed landfill facilities in the area will pose a challenge to determining constraints on their reuse, but there remains an opportunity for reclamation of land and reuse for the community

- Exterior building facades are generally in good condition and are being maintained. However, there is a lack of cohesion in architectural styles and site design in new and old structures. All of this contributes to a lack of definition to the valley industrial zone. This is largely attributable to an absence of design guidelines for industrial buildings, the lack of a design review mechanism, and the piecemeal nature of development within the valley.

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Section C Public Engagement

This section discusses the community outreach efforts undertaken as part of the Lower Big Creek study. These included a community meeting and business outreach activities.

Community Meeting

Residents from the Old Brooklyn and Brooklyn Centre areas attended a public meeting on the evening of Thursday, January 24, 2002 in the auditorium of the Cleveland Metroparks Zoo at 3900 Wildlife Way, Cleveland, Ohio to learn about the Lower Big Creek Project and to discuss their thoughts on the future of the valley. This meeting was part of an on-going communication forum to allow the community to share their viewpoints about the Lower Big Creek Project.

The began at 6:30 p.m. and ended at 9:00 p.m with approximately 100 people in attendance. The meeting consisted of three elements: visual presentations by members of the project team, a question and answer session, and a community participation session with five facilitated breakout sessions.

The program agenda included:

Introductions by City of Cleveland Ward 15 Councilwoman Merle Gordon;

An overview of the study by Project Leader, Dr. John Beeker of NOACA;

Planning Perspectives from the following Project Team members:

- Mr. George Cantor, from City of Cleveland Planning Commission discussing the Connecting Cleveland 2020 Citywide Plan;
- Mr. Tim Donovan from Ohio Canal Corridor, Inc., discussing the Ohio & Erie Canal National Heritage Corridor Plan;
- Mr. Steve Coles from the Metroparks discussing the Metroparks Plan;
- Mr. Bob Laycock from City of Cleveland Community Development Department discussing commercial & retail linkages in Ward 15;

Presentations were followed by a public a question and answer session moderated by Dr. Beeker.

Some of the questions and concerns raised included the following:

- If most of the land in the valley is private, what scope is there for public redevelopment of a recreation zone?
- Residents are concerned about water pollution and wetlands.
- There are concerns about impacts on land owners of rezoning and use of eminent domain to acquire private homes.

- What is the timeline for the trail?
- Can Brookside Park as well as the Archwood Denison play fields behind the Denison Schools connect to the Zoo?
- What is the future plan for LTV steel and its properties and can LTV be converted to park space?

Following the question and answer session and a five-minute break, participants were invited to participate in one of five breakout sessions. Attendees also received a questionnaire to turn in at the end of the evening.[1] Each breakout session had about 7 to 8 participants.

Key Public Concerns

The discussions in each of the five breakout sessions were lively with a lot of useful information obtained for the project from meeting attendees. Key public concerns expressed included the following:

- There is a marked difference in neighborhood perspectives about the past, present and future. Thinking about the past brings wonderful memories of baseball diamonds, supermarkets, theaters, local drug stores, wild turkeys, deer, and kids playing in the woods at Calgary Park. The present conjures up images of junkyards, truck depots, air and land pollution, poor schools, unsightly housing, a lack of amenities, and a continuous battle to clean up the area regularly surfaced.

- Stories about the Lower Big Creek Valley of the past abound. They include trips on the train that went to "Dollyland," the Civil War encampment under the Pearl Rd. Bridge, steam trains, ponds for ice-skating, the colors of the Big Creek (blue-green-yellow) from the Phoenix Dye Co., men cutting down trees along the Big Creek and children walking through the wallpaper factory.

- Two themes underlie neighborhood resident concerns today: the revitalization of the housing stock and general condition of the neighborhoods, and the re-

[1] Twenty of the twenty-five questionnaires returned by meeting participants provided useful information as well. By and large respondents were long time residents of the area: the average number of years and months respondents lived in the Valley was 30 yrs. 10 mo, and 78% have lived in the Valley 10 years or more. Other results:

- Nine percent of respondents own a business in the Valley.
- Thirty-three percent of respondents work in the Valley.
- Information sources for the meeting were as follows:
    - Cleveland Plain Dealer (46%)
    - Brooklyn Sun Journal (13%)
    - Old Brooklyn News (21%)
    - Flyer / Mailing (30%)
    - Friend / Family (35%)
- One hundred percent of respondents found the meeting informative and worth their time and eighty-seven percent had positive responses about the Breakout Group session.

establishment of business and industry in the Valley. Erosion of home values, safety issues, loss of private property, lack of services and amenities are mentioned among residents concerns.

- In addition, residents want to attract more people to the area, develop a higher scale of retail with more local restaurant options, convert land parcels to green space, and develop a bike trail.

- In regards to business and industry, the residents would like to maintain current establishments and add new businesses and industry to the Valley. They would also like business and industry to play a greater role in the maintenance and vitality of the Valley. The residents feel that businesses should be a cooperative partner with the neighborhoods and residents to make the Valley an attractive place where people would like to live, work and play. The attendees often referred to Ohio City and the Tremont area as examples of what they would like to see for the Lower Big Creek area.

- Many residents currently interact with the Lower Big Creek Valley by visiting the Zoo, by going for bike rides or strolls on the towpath, or by simply traversing the neighborhood streets. Many work in the neighborhood and some own businesses.

- Residents thoughts on what they would like to see happen in the Lower Big Creek Valley include a clean up of the Valley both aesthetic and environmentally, better lighting of the neighborhoods, rezoning to eliminate many of the bars on Denison and Fulton, refurbished infrastructure, a clean-up of the junkyards and recycling facilities, improved retail with storefront renovation, removal of truck traffic on residential streets, additions of hotels and bed and breakfasts, and a historic preservation movement.

- Residents wish lists include a city golf course in the Valley, an incline trolley ride similar to ones in Pittsburgh and Niagara Falls to get out of the Valley up to neighborhoods and retail, a bike lane added to Denison and Fulton Roads, the bike trail connected to the Towpath and Zoo, and the purchase of a riparian corridor in Lower Big Creek by the Metroparks Zoo to enhance the recreational amenities of the neighborhood.

In summary, the meeting proved very successful with a large diverse turnout of residents and business owners. Comments from the attendees were insightful and plentiful. This community meeting demonstrated that there is a lot of interest in the community for this project and the future of the area. Residents appreciated the opportunity to voice their thoughts and share their knowledge with others. Public comments generated in this session have been taken into account in the planning strategies developed for the Lower Big Creek area.

Ongoing communication with the public is being provided by means of a web page on the NOACA web site www.noaca.org which provides periodic updates on the project and news articles published in the Old Brooklyn News.

A second community is scheduled for January 2003 to present the Phase I report to the public.

Details of the January 24, 2002 public meeting are provided in Appendix C.

Business Outreach Meeting

Special effort was also made to outreach to the business community. An introductory meeting was held with representatives of the business community on December 18, 2001 to provide an overview of the study and to listen to business concerns.

About thirty business representatives participated in the meeting which began with a project overview and a request for input from local businesses while the project was still prioritizing issues. Other presentations addressed the status of city land use planning and recreational planning, and the status of economic development planning underway in Ward 15. A representative of the Westside Industrial Retention and Expansion Network (WIRE-Net) discussed services available to local businesses.

Presentations were followed by a discussion period. The following comments were made by meeting participants during this period.

- There are concerns about the absence of curbs, lack of pavement; liability concerns if company trucks have an accident with bike riders brought to the area; the need for infrastructure repairs in the area, especially related to drainage is extensive.
- The City is putting the "cart before the horse' in focusing on recreational trails instead of services to keep businesses intact.

- There are concerns about drainage problems, an instance of erosion behind guard rail on Valley Rd. was noted, and comments made about incomplete restoration after city repairs of water main break. There is a worried that the study will identify problems, but the project team will then depart and nothing will get done as was the case with ODOT and plans for the Jennings Freeway. Drainage pipes directing rain water from Jennings Freeway deck was also mentioned.

- Concern was expressed about the city throwing debris on the businesses property when patching or fixing is done on the streets. One businessperson said, "How can you be proposing a towpath, when the city can't even take care of the basic needs in the valley?"

- There was repeated concern about flooding in the valley area and its impact on roadways and other infrastructure, that there are high volumes of water flowing

down Big Creek during heavy rains, contributing to flooding in the valley. Are there ways to redirect the flow of Big Creek to reduce this problem?. There were pictures distributed that showed how very high water levels in the vicinity of Zeleznik's Tavern. The standing water was between 3-4 feet. One person said there was 21 inches of mud on Bradley as a result of the flooding.

- One participant expressed concerns about infrastructure problems, but also excitement about the plan prospects.

- Another expressed concern about the impact of steep slopes for getting bikes up into the neighborhoods, and observed that a better approach for a connection to the Zoo would be to stay in the valley.

- Safety concerns were expressed, especially with truck traffic and recreational traffic along the descent into the valley parallel to US 42 bridge (old 42) with kids throwing bottles from bridge & kids cutting through the LBC valley from school. It was recommended that a fence should possibly go up. The concern is how to address security concerns like these in the design of a recreational trail.

- There was general agreement that LTV closure is making a big impact on businesses in the Lower Big Creek area. There was concern that the City wanted businesses to move out of the area.

There was interest that meetings should continue with the business stakeholders in the study area.

Following this meeting, a decision was made to undertake a survey of businesses in the study area to develop more systematic information about business conditions and concerns. The discussion of this survey follows.

Survey of Lower Big Creek Valley Businesses

NOACA, with assistance of staff from the City of Cleveland's Planning Commission and Community Development Department, and help from WIRE-Net staff, conducted a survey of businesses in the Lower Big Creek Valley area by mail and in person during March and April 2002.

The decision to conduct a survey was prompted by an outreach meeting held with businesses in the area at Zeleznik's Tavern in December 2001 to acquaint them with the Lower Big Creek study and to gain insights into their concerns. At that meeting it was learned that businesses had concerns about the lack of City attention to the area, especially in terms of infrastructure maintenance and City services. One purpose of the survey, therefore, was to obtain more systematic information about these concerns, and to learn more about the economic vitality of the area and the ways in which businesses utilize the transportation network. Also of interest was business support for possible

recreational trails developments through the area. Design of the survey questionnaire was a joint NOACA-Cleveland staff effort.

The study area boundaries included the Big Creek valley below the Brooklyn-Brighton Bridge, the Harvard/Jennings Roads area, and southward along Jennings and Bradley Roads in the Cuyahoga River valley.

A total of 54 businesses in the area were sent surveys and 27 surveys were completed. Eighteen businesses did not respond to the survey and nine were closed or were in the process of relocating and were removed from the study. See Figure C-1. The response rate was 50% for those businesses surveyed. This provides a firm foundation for drawing conclusions from the results. There is the potential for self-selection by businesses that are more well-established. But these also have a greater stake in the future of the area. Those that are doing better economically are also more likely to provide economic performance information. This response rate was improved considerably because of the assistance of WIRE-Net staff who contacted businesses in the study area following NOACA's initial mailing of the survey. This encouraged business cooperation with the survey. In some instances, WIRE-Net staff administered the survey in face-to-face settings with busy company representatives.

Overview of Business Survey Results

- Businesses in the Lower Big Creek Valley area are a diverse lot and remarkably well established. A number have made recent improvements to their operations, but most have no plans to expand. None has plans to relocate at this time.

- Most businesses express optimism about their economic future. The impact of LTV's closing appears to be limited. It should be noted that this survey was conducted after the LTV closing and before ISG's purchase of the property. Businesses have relatively strong connections to the City and neighborhood in terms of customer base and employment.

- Good freeway access is a key factor in businesses locating in the area. At the same time, roadway conditions are problematic. In fact, there are widespread concerns about deficient infrastructure including concerns about drainage and flooding, sewers, lack of sidewalks and curbs, bad railroad crossings, but most especially poor roadway conditions. Many businesses have specific suggestions about making infrastructure improvements.

- Most businesses are satisfied with City services, with the exception of streets maintenance which is seen as deplorable.

- Although a few businesses are supportive of recreational trails, most are not enthusiastic unless attention is also paid to basic infrastructure problems. A frequently made comment is that recreational trails are the wrong priority when infrastructure issues are not getting the attention they deserve.

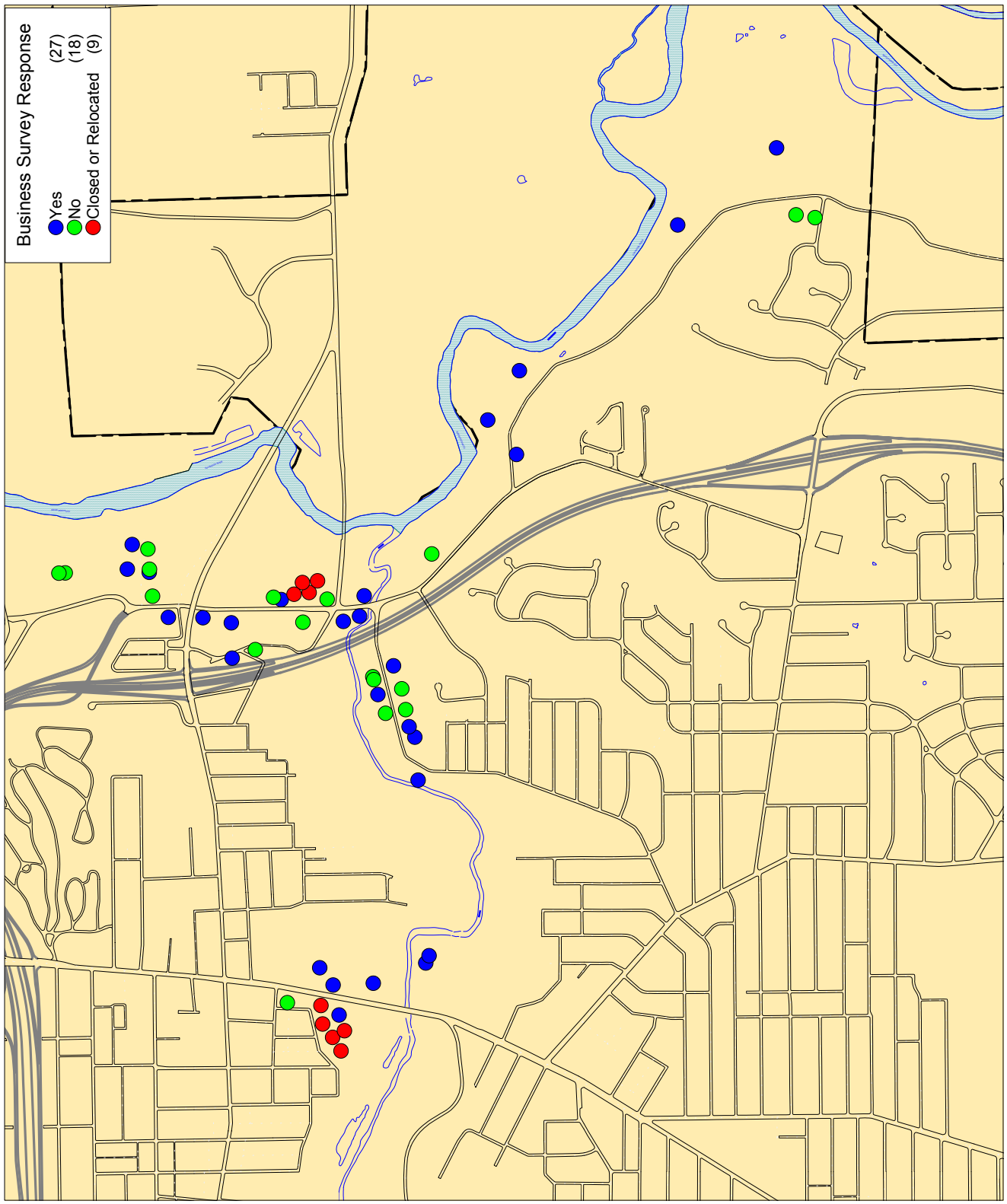

Figure C-1 Lower Big Creek Study
Business Survey Response Status

Prepared for NOACA by Cuyahoga County Planning Commission, September, 2002
Source: NOACA Survey of Business in Lower Big Creek Area.

- Since business response was voluntary, the effects of self selection cannot be discounted. This factor would most likely bias the results in favor of more established and economically viable businesses. However, survey results are more useful, in fact, if they represent well established businesses because these are the economic anchor for the area and have a greater stake in the future of the area.

Business Activity

The study area hosts a variety of business activities with Distribution operations, Manufacturing, Industrial Service and Warehouse/Storage operations the most frequently mentioned.[2]

Businesses responding to the survey were well established. Eighteen identified themselves as owners and only four were tenants. Four respondents did not address the question. Nineteen responded to the question of how many years they were in business. Of these, almost two thirds reported being in business over 10 years, while one third had been in business 20 years or more. Three respondents had been in business for more than 50 years![3] The median was fourteen years in business.

Most respondents indicated that they had no plans to expand, nor a desire to relocate.[4] At the same time more than half (15) stated that they had made improvements to their physical plant in the past three years, and five reported investments of more than 1 million dollars.[5] The median investment in improvements reported for the past three years was $500,000.

Ten companies reported annual sales or revenues. Of these, one reported revenues of less than $500k, three reported revenues of from $500k to $2 million, and six reported revenues of greater than $10 million. The maximum reported was $42 million. The median reported was $12,250,000.

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[2] Respondents were asked to describe their business activity. All 27 reported. Nine of the 27 reported multiple business activities.

Nine (9) were Distribution operations
Seven (7) businesses were Manufacturers
Seven (7) were Warehouse/Storage Facilities
Seven (7) were Industrial Service
Six (6) were Office operations
Four (4) were Consumer Service
Five (5) were Other operations

[3] Seven had been in businesses at least ten years, seven had been in business from eleven to twenty years, two had been in business from twenty-one to fifty years, and three had been in business over fifty years.

[4] Concerning expansion plans, ten had no plans, five had expansion plan, four were uncertain, and eight provided no data. Concerning plans to relocate, seventeen had no plans, two are uncertain, and eight provided no data.

[5] Fifteen reported that that had made improvements in the past three years, one had not, and eleven provided no data.

Economic Conditions

Businesses were asked to comment on whether their business was better than, the same as, or worse than the economy. Nineteen businesses addressed this issue in terms of the past ten years. Of these 79% (15) reported their businesses as equal to or better than the economy. Fifteen addressed this issue in terms of the past three years. Of these, two thirds (10) reported their businesses as equal to or better than the economy. Fourteen businesses discussed their economic future. Of these 79% (11) expected to do as good as or better than the economy in the future. While these respondents are likely self selective and do not include businesses that would have shut down recently because of economic condition in general or the closing of the LTV plants in particular, this suggests that the area remains an economically vital one for the future. Only one respondent reported that the LTV closing had severely impacted his business.

Economic Links to City

Businesses were asked to describe their economic connection to the City and neighborhood. Fourteen respondents provided information about their customer base. Of these businesses, over one third reported at least 50% of their customer base was located in the City of Cleveland. Ten of the fifteen businesses who provided information about employment reported at least 50% of their employees are City residents.

Transportation Issues

Good freeway access was mentioned most often as the key locational advantage of the area. Proximity to other industries, and the buffering of the area from residential areas was also mentioned. Basic infrastructure problems was identified as the major locational disadvantage.[6] On this point, sixteen respondents cited specific problems with road conditions or railroad crossings as impairing access to their businesses.

Businesses in the area are heavily reliant on truck transportation. Daily truck traffic varied from a handful of trucks at some businesses to several hundred. Despite the presence of railroads, only three of 21 businesses responding reported any reliance on railroad transportation.[7]

Concerns about Public Infrastructure and City Services

The survey asked a series of questions about business concerns about public infrastructure and City services. Twenty one of twenty seven respondents expressed concerns about the public infrastructure and eighteen suggested specific improvements. Poor road conditions were mentioned most frequently (11 times) followed by flooding or

[6] Freeway access was mentioned nine times, industrial location was mentioned four times, and proximity to suppliers or customers was mentioned three times.

[7] Of eighteen reporting, seven have 10 or less trucks daily, six have been eleven and twenty five, three have between twenty six and one hundred, and only one had more than one hundred.

runoff problems, railroad crossings, sewers and the absence of sidewalks or curbs. See Figure C-2.[8]

Twenty two businesses responded to the issue of City services. Poor streets maintenance was mentioned most often as problematic. This was mentioned nine times. Safety services (Fire, EMS and Police) were found to be good on the whole, although police service was mentioned by two respondents as problematic. See Figure C-3.[9]

Environmental Concerns

Businesses were asked to comment on the extent to which their operations pose environmental concerns. Six chose to respond to this question. Air pollution was mentioned four times and chemicals processing was mentioned three times as environmental issues associated with specific business operations.

Concerns about the Prospect of Recreational Trails

Businesses were asked to comment on the prospect of new recreational trails opening in the area. Fourteen responded to the question as to whether their employees would utilize such facilities. Ten were uncertain, two said "no" and two said "yes." Thirteen responded to the question as to whether new recreational trails would be a boon for their business. Six said "no," one said "yes," and five said trails could be a boon if they also brought improvements to the public infrastructure.

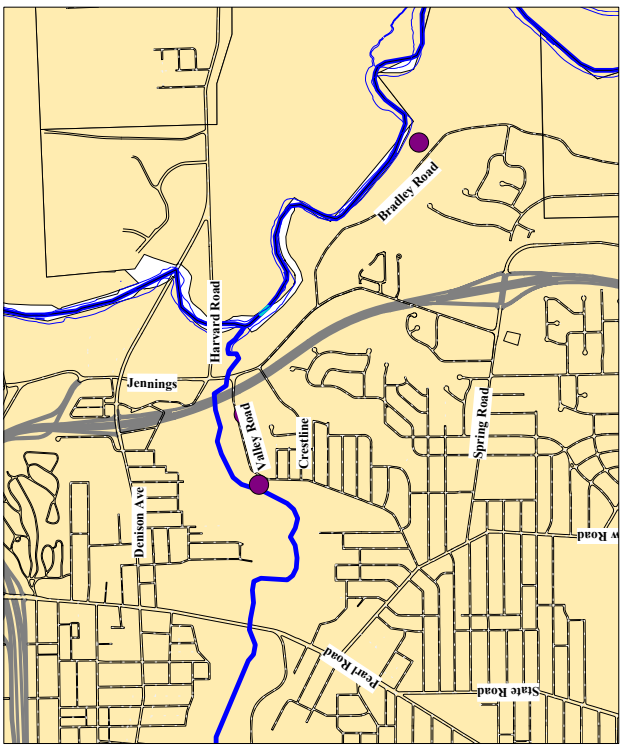
A number of concerns were mentioned regarding the proposition of new recreational trails in the area. Security and safety concerns was mentioned most frequently (7 times). Other concerns were (a) congestion caused by large numbers of visitors to the area, (b) the possibility of property encroachment, and (c) the problem of incompatibility between industries and recreation land uses. One company expressed concern about a public relations problem due to its unsightly site conditions. Several respondents argued that investment in recreational trails was the wrong priority for public investment for the area.

[8] Of twenty one responding, road conditions were reported eleven times, flooding/runoff conditions five times, railroad problems, four times, sewers three times, sidewalks and curbs three times, and generally poor infrastructure one time.

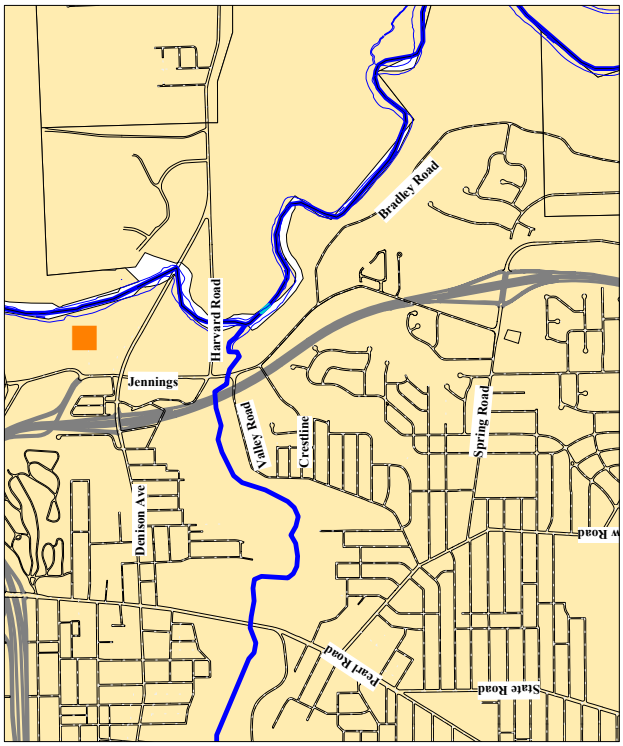
[9] Of twenty two responding, good service by safety forces (Fire, Police, EMS) was reported four times, and two responded that all services except streets maintenance were good. Poor streets maintenance was mentioned nine times, poor police service was mentioned twice, and poor snow plowing was mentioned twice.

Figure C-2
Lower Big Creek Study
Business Survey Results: **Infrastructure Isssues**

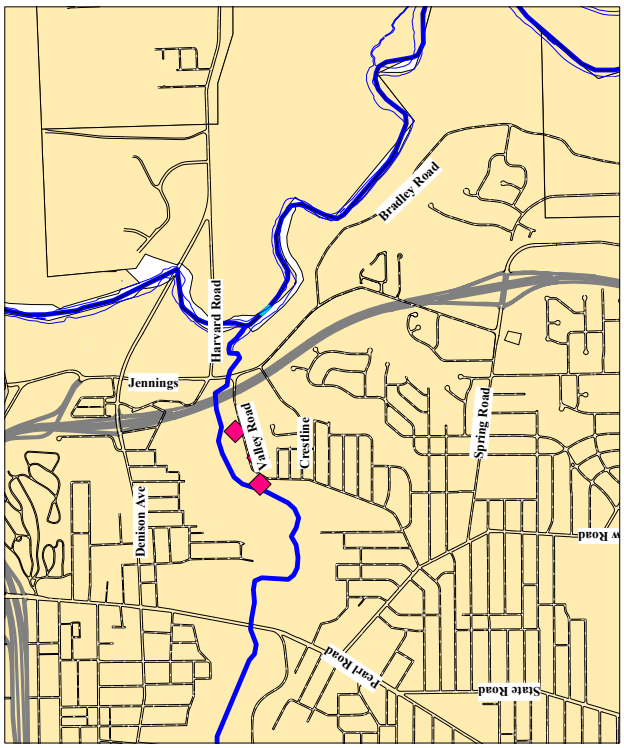
Drainage



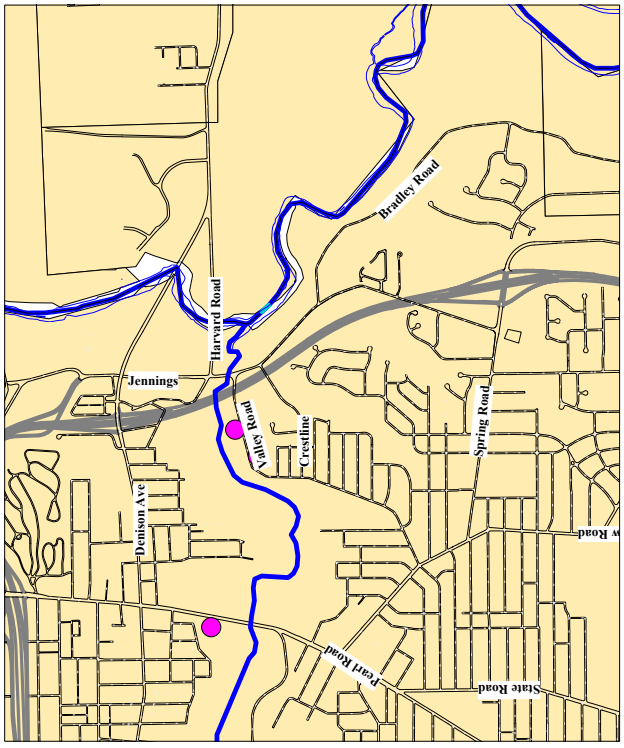
RR Track



Sidewalks



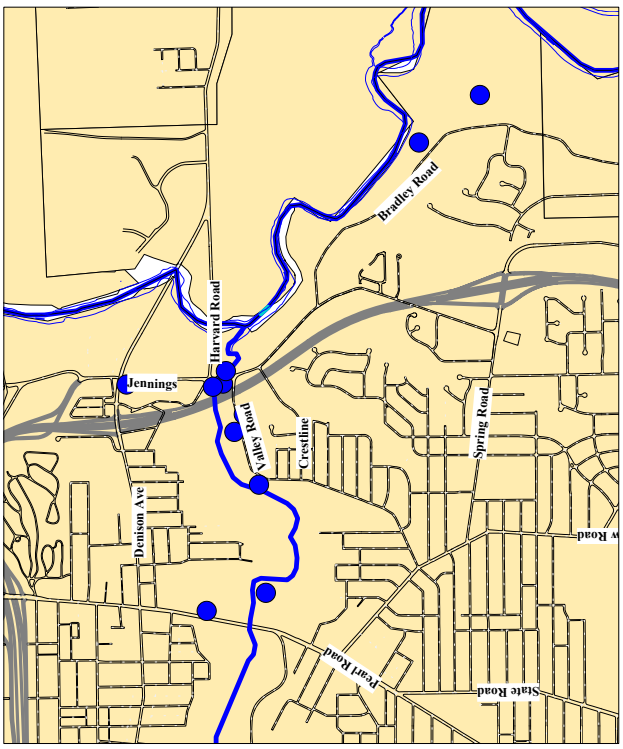
Sewer



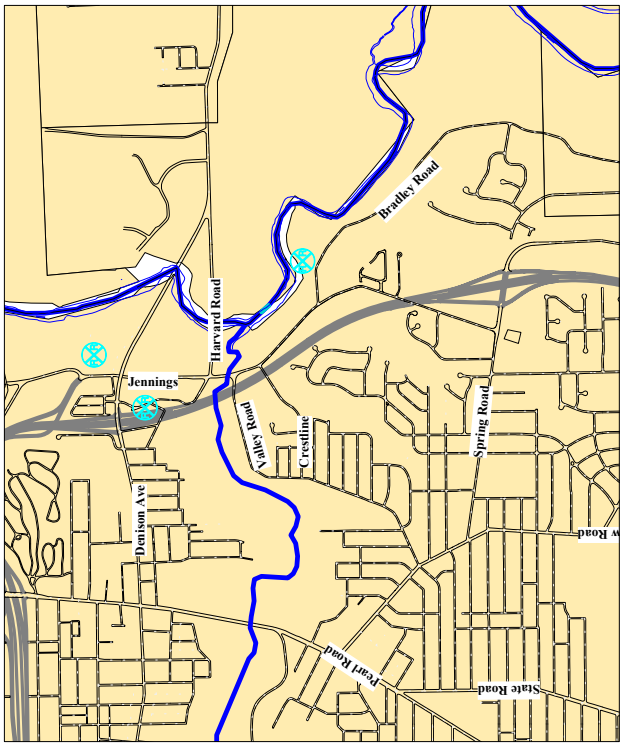
Prepared for NOACA by Cuyahoga County Planning Commission, September, 2002 - Source: NOACA Survey of Business in Lower Big Creek Area.

Figure C-2 (cont)
Lower Big Creek Study
Business Survey Results : **Infrastructure Isssues**

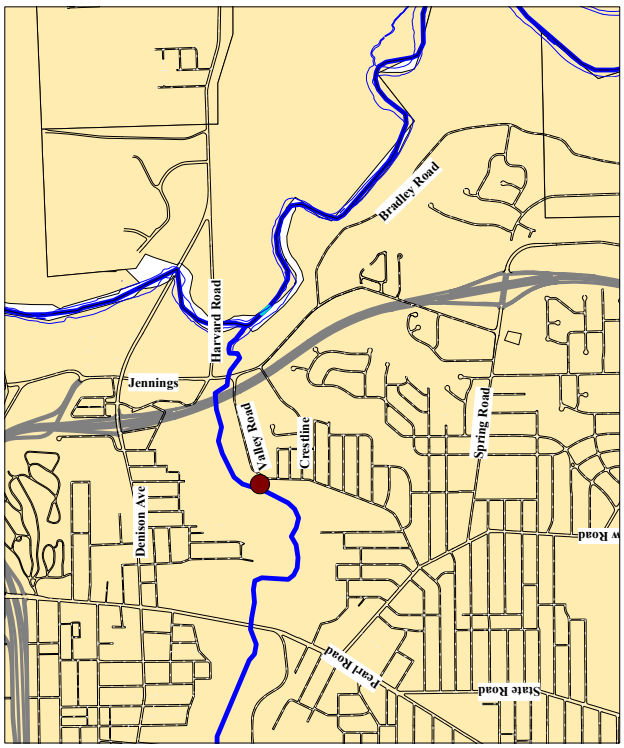
Roads



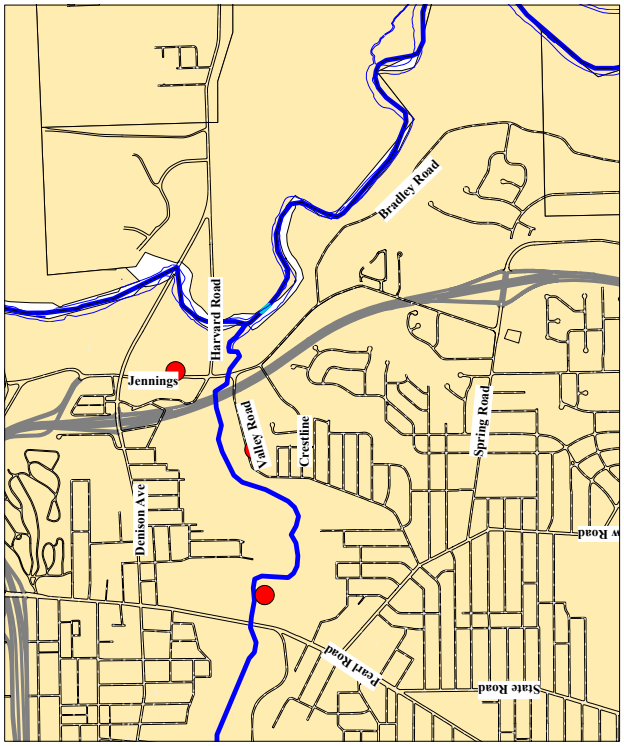
RR Crossing



Curbs



Flooding



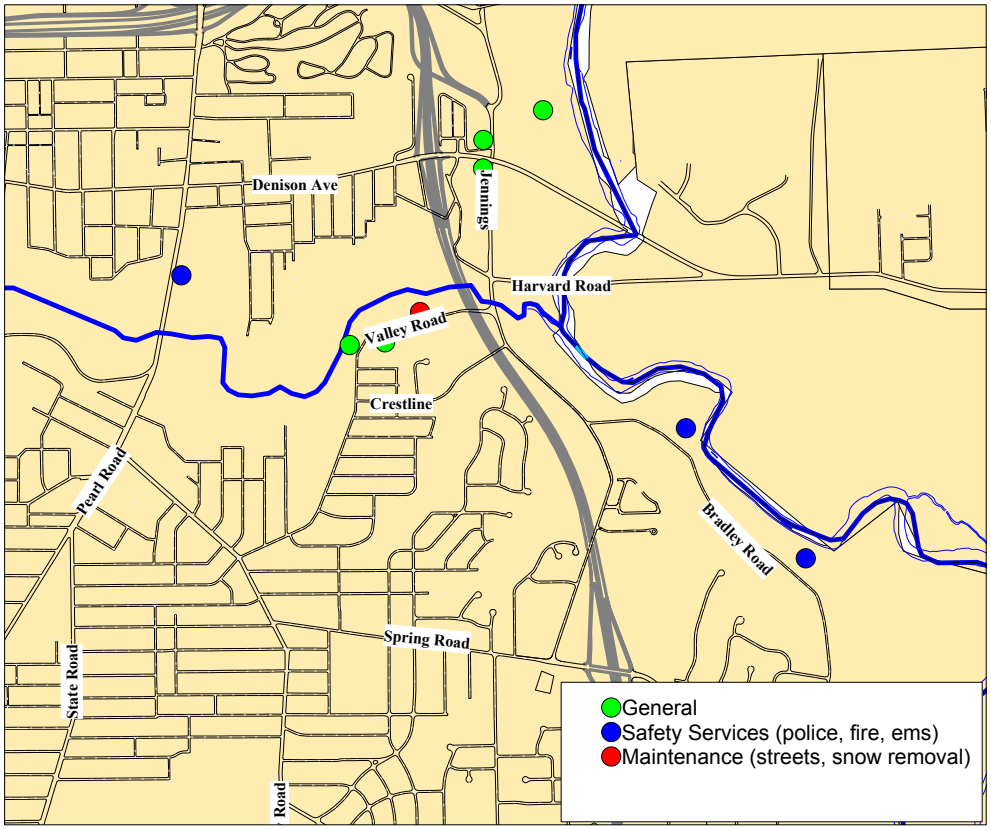
Prepared for NOACA by Cuyahoga County Planning Commission, September, 2002 - Source: NOACA Survey of Business inLower Big Creek Area.

Figure C-3

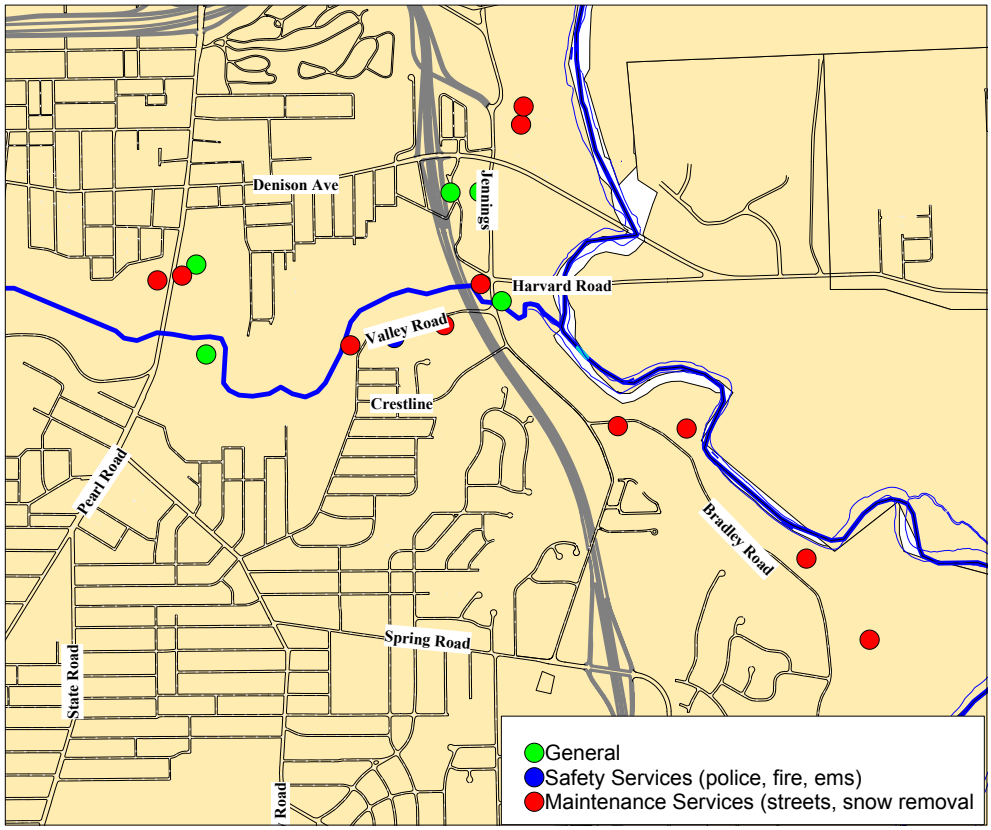
Lower Big Creek Study

Business Survey Results : **Quality of City Services**

Good Service



Poor Service



Prepared for NOACA by Cuyahoga County Planning Commission, September, 2002
Source: NOACA Survey of Business in Lower Big Creek Area.

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Section D Transportation Issues

Overview

This section explores the extent to which the transportation system continues to help or hinder the social, economic and natural environment of the Lower Big Creek study area. The existing relationship between land use and transportation produces both prosperity and problems. A new land use vision is being fashioned to guide transportation investment that strengthens existing uses and creates opportunity for new uses that will be in less conflict with their surroundings. In so doing, the study undertakes to thoughtfully integrate transportation and watershed planning.

Study Area

The northeast portion of the Big Creek watershed and its related transportation shed define the Lower Big Creek study area. The study area is bounded by IR-71 in the north, Brookpark Road in the south, Ridge Road in the west, and the Cuyahoga River (for watershed) and IR-77 (for transportation shed) in the east. The lower reach of the Big Creek meanders through the northern portion of the study area, entering at Ridge Road and IR-71 in the northwest and exiting into the Cuyahoga River at Harvard Road in the northeast portion of the study area. See Figure D-1.

Focus of Transportation Study

The primary transportation system focus in Phase I is multi-modal people and freight movement on the valley floor, and between the valley and upland freeways and neighborhoods. The study sought to identify and address transportation-related watershed problems that reduce the economic viability of the study area or that degrade the environment or quality of life of the study area. Particular emphasis is placed on the coexistence of truck traffic with growing bicycle and pedestrian traffic. The goal is to better serve existing uses and accommodate emerging uses in the study area**,** as evidenced by the recent opening of a trailhead to the Ohio canal Towpath at Harvard Road, east of Jennings Road. See Figure D-1.

Existing Transportation System

The transportation system that serves the Lower Big Creek watershed includes freight railways, freeways, an arterial and local street network, bus transit, bicycle and pedestrian ways, and a waterway. IR-71, a north-south freeway, flattens on the northern border to provide east-west internal vehicular movement that continues to northeast and southwest regional access. The Jennings Freeway (SR-176) provides centrally located north-south vehicular movement with connections to IR-71, the IR-480 outer-belt way, IR-90, IR-490 and IR-77. IR-77, a north-south freeway located on the eastern edge of the study area traffic shed, is also accessible via Harvard Road. North-south arterials: Ridge, Fulton and Jennings Roads; east-west arterials: Denison Avenue, Memphis Avenue and Brookpark

Road; and radial arterials: Pearl Road, State Rd. and Broadview Road form the framework within which a web of local streets fill the voids. See Figure D-1.

The Greater Cleveland Regional Transit Authority (GCRTA) offers fixed route, regular local bus service on the entire arterial network in the study area. Fixed route, regular express service is available on IR-77 and Pearl Road (U.S.-42), while limited express service is provided on Fulton Road, State Road, SR-176 and IR-71. Community circulator service is provided along Denison Avenue and Pearl Road in the study area, connecting Brooklyn Centre and Old Brooklyn to the MetroHealth Medical Center, the Trement and Ohio City neighborhoods, and the West Side Market.

Existing Traffic Volume and Distribution

Traffic volume and capacity are in relative harmony throughout most of the study area due to a roadway network that efficiently distributes traffic within its hierarchy of classifications. That is, there appear to be no significant operational or Level-of-Service problems. However, there are access and circulation issues due to truck movement within the valley and from the valley to upland freeways.

The traffic profile that follows in a series of figures is drawn from recent traffic count data. This profile provides traffic movement and flow for the target area, i.e., the valley floor and its access paths to upland freeways, for all vehicles (See Figures D-2 and D-3) and for trucks only (See Figures D-4 and D-5).

Transportation System Issues

Several transportation system issues arose during the course of Phase I from study team meetings, public meetings, business survey responses, and from preliminary analysis. These issues, conceptually represented in Figure D-6**,** include the following:

- isolation caused by railroad rights of way;
- isolation caused by roadways;
- disconnected recreational trails;
- lack of access to parkland and trails; and
- roadway design and maintenance problems including trail/street traffic conflicts.

A detailed discussion follows of transportation system issues arising from business concerns and neighborhood concerns that were expressed through engagement with the public.

<u>General Business Issues</u>

- Businesses expressed concern that the study would encourage new recreational uses to the disadvantage or detriment of existing business and industry;
- Businesses complained that the City ignores the needs of valley business and industry, particularly in the areas of public infrastructure improvements and the provision of services, such as streets maintenance and snow plowing.

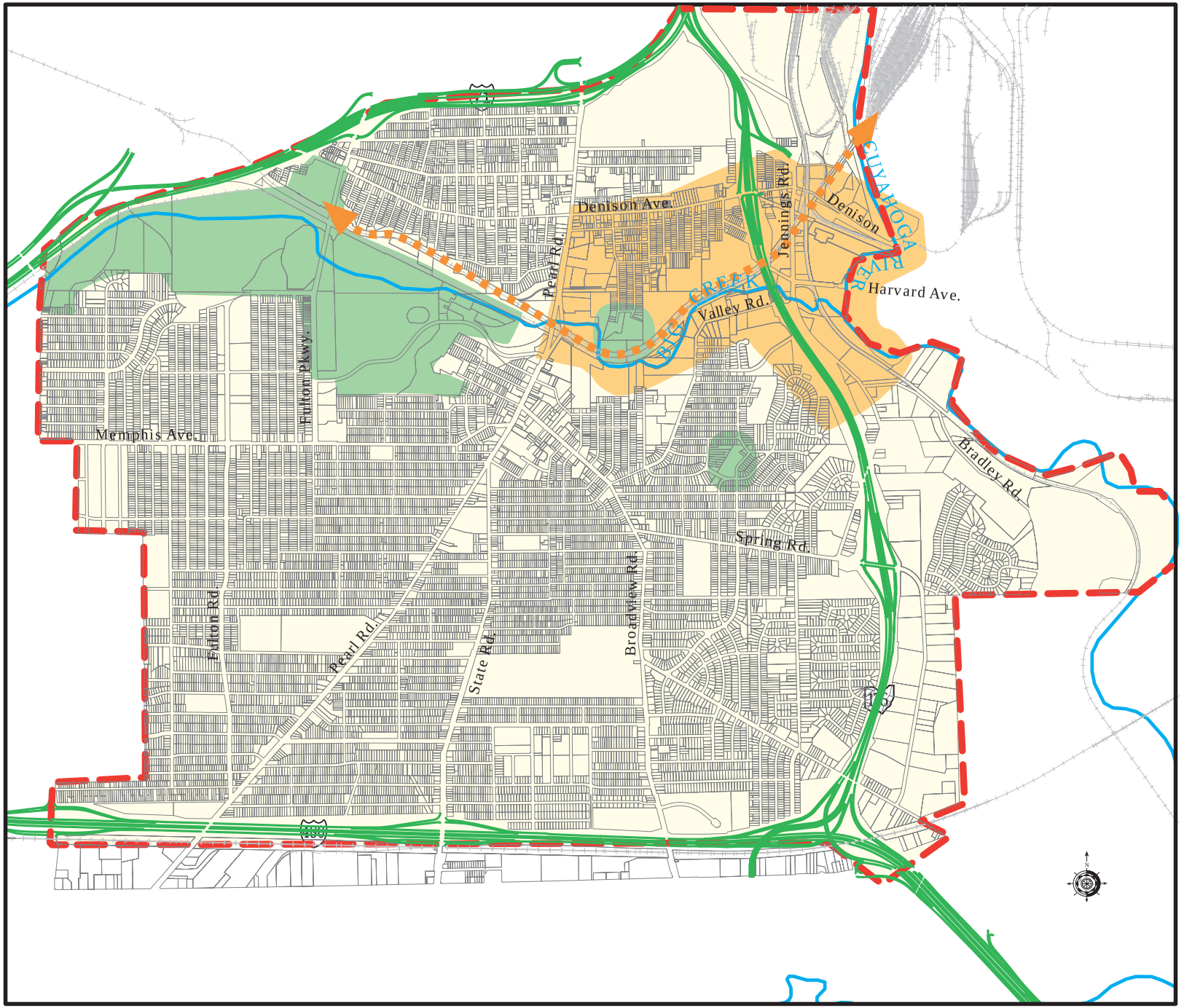

Figure D-1

Transportation Shed and Target Area

- Shed
- Focus or Target Area
- Parkland
- Rail Road

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Figure D-1

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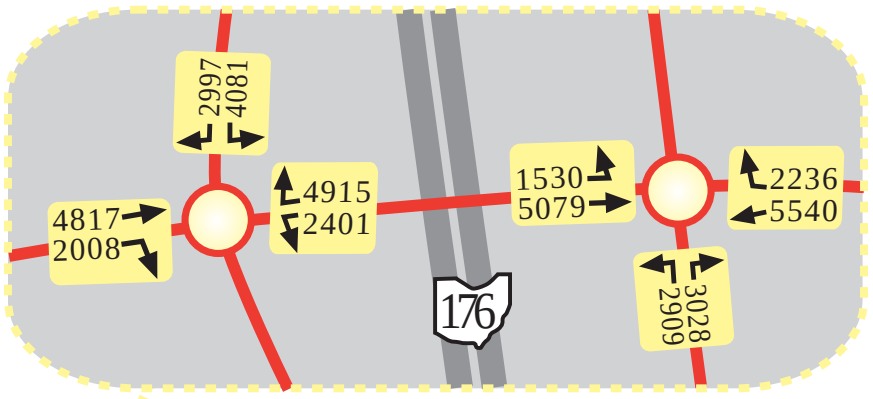

Figure D-2

Target Area

Average Daily Traffic Intersection Movement Volumes

Figure D-2

Target Area

Average Daily Traffic Intersection Movement Volumes

(All Vehicles)

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Figure D-3

Target Area

Average Daily Traffic Intersection Flow

(All Vehicles)

Figure D-3

Target Area

Average Daily Traffic Intersection Flow

(All Vehicles)

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Figure D-4

Target Area

Average Daily Traffic Intersection Movement Volumes *(Trucks Only)*

Figure D-4

Target Area

Average Daily Traffic Intersection Movement Volumes *(Trucks Only)*

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Figure D-5

Target Area

Average Daily Traffic Intersection Flow

(Trucks Only)

Figure D-5

Target Area

Average Daily Traffic Intersection Flow

(Trucks Only)

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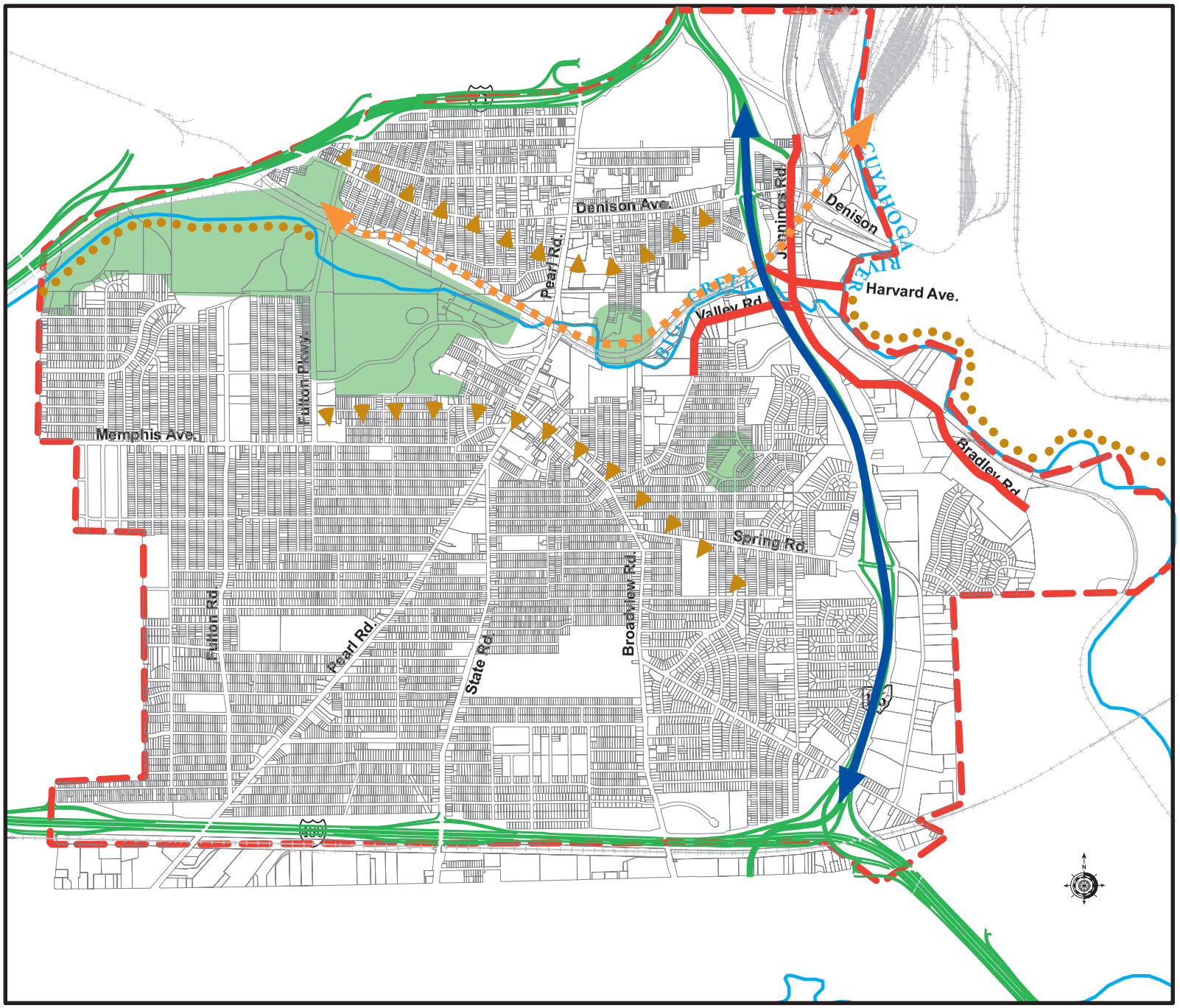

Figure D-6

Transportation Problem Areas

- Parkland
- R.R. Related Isolation
- Roadway Related Isolation
- Disconnected Trails
- Roadway Design & Maintenance Problems
- Lack of Access to Parkland & Trails

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Specific Business Issues

- Basic infrastructure needs go unmet in the valley (inadequate streets and poor or absent storm sewers);
- Services are poorly delivered services (streets maintenance);
- Proposed green corridor extension uses will be in conflict with existing valley business uses and related truck traffic;
- Truck access to the interstate system is vital to the efficient operation of valley businesses and industries;
- Encroachments on the flood plain have helped to produce flash flooding;
- Drainage from the Jennings Freeway has added to the problem of flooding;

General Neighborhood Issues

- Transportation infrastructure has improved mobility but damaged neighborhoods and natural features in the study area;
- Bicycle and pedestrian access and circulation is difficult;
- Arterial streetscapes are in disrepair and unsightly.

Specific Neighborhood Issues

- Multimodal access from neighborhoods to existing destinations is limited (Cleveland Metroparks Zoo), and planned destinations (Towpath Trail and Cuyahoga Valley Scenic Railroad Station) in the valley are difficult to non-existent;
- Bicycle access along existing arteries between the neighborhoods, (Brooklyn Centre and Old Brooklyn) should be better defined and made safer.
- Truck traffic in the valley and between the valley and the freeway system negatively impacts neighborhoods;
- Appearance and condition of infrastructure (Harvard Road, Denison Avenue, and Pearl Road) is poor;
- Multi-modal access (development of pedestrian, bicycle and multi-purpose trails, et al.) should be explored between the Zoo and the proposed Towpath trailhead and Cuyahoga Valley Railroad station near Harvard Road;
- Existing automobile access to Zoo should be rethought.

Preliminary Findings

The above issues were analyzed and examined and discussed with all segments of the community, and distilled into the following preliminary findings in consultation with the Project Advisory Team:

General Findings

- Transportation improvements in the valley should strengthen and support existing industrial base while safely making room for emerging uses;
- Transportation system findings must be tied to relevant watershed findings to provide recommendations that reflect integrated planning.

Specific Findings

- There are infrastructure problems in the valley and in the neighborhoods that should be addressed with respect to both condition and design to better accommodate different modes and remediate existing watershed problems;
- Freight access should be improved for viable businesses in locations that do not create significant watershed problems and compatibility issues with emerging economic uses;
- Businesses that do create significant watershed problems and are situated in close proximity to emerging uses should be provided relocation assistance to areas in the valley or City that have more direct freeway access and less exposure to waterways and related uses;
- The extension of the Towpath Trail from Harvard Road to the Flats will provide the last link in a project that offers Northeast Ohio an opportunity to re-discover its natural beauty and begin to shape a new economy, one that is in harmony rather than at war with nature;
- Bicycle and pedestrian pathways and connections between neighborhoods and existing and planned valley destinations should be established.

Preliminary Recommendations

From the above preliminary findings, the following preliminary transportation system recommendations have been designed to create the conditions that will preserve and assist viable existing industries and business while making room for potential new businesses, and addressing infrastructure and development-related environmental problems.

General Recommendations

- Transportation system changes and additions should reflect an effort to solve longstanding Big Creek and Cuyahoga River watershed problems;
- Coexistence should be pursued among existing business and industrial uses and emerging commercial and recreational uses in the valley;
- Neighborhood circulation and connection to the valley by all modes should be strengthened.

Specific Recommendations

- Infrastructure improvements should be pursued that will enhance the quality of travel in the valley by all modes.
- Key infrastructure improvements should be pursued that can strengthen economic development opportunities at the Harvard/Jennings intersection.
- Assistance should be provided to the City in the relocation of incompatible valley uses to other areas in the valley or City that offer better access without creating watershed problems;
- Assistance should continue to be provided to the City in its effort to develop a bicycle and pedestrian plan for the study area with neighborhood access to the Zoo, Towpath Trail, and proposed Cuyahoga Valley Scenic Railroad Station as priorities;
- The feasibility of converting West 14th Street, between Denison and Jennings to a bicycle and pedestrian way should be examined.
- An expanded transit circulator service among the neighborhoods and existing and future valley attractions should be explored either through GCRTA or non-profit participation;
- The opportunity for multi-modal access between the Zoo and the proposed Towpath trailhead and Cuyahoga Valley Railroad Station near Harvard Road should be explored;
- Automobile access to the Zoo should be examined.

Proposed Phase 2 Work Scope

The goal in Phase 2 of the study is to identify short and longer-term changes in transportation infrastructure and access that will aid in the valley's transition from a largely industrial orientation to one that emphasizes a mix of industrial and recreational uses. This transportation planning work should be closely coordinated with the City of Cleveland's work to address public infrastructure issues in the Lower Big Creek valley area. Based upon this rationale, additional study items should include, but not be limited to, the following:

- Field survey street conditions along the primary streets in the valley (i.e. Jennings, Valley, Harvard and Bradley),
- Examine truck freight access and circulation routes in the valley in detail to determine improvements and viable alternatives to existing access points and configurations, and travel patterns;
- Analyze existing and future freight rail movements;
- Explore more appropriate and accessible alternative locations in the valley or elsewhere in the City for businesses that encroach on the floodplain or create other watershed problems;
- Assemble technical and financial assistance packages for affected business in the event relocation is recommended;
- Examine prospects for improving access to the Zoo building on the findings and recommendations of the Ward 15 Commercial Revitalization Study.

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Section E Land Use Policy Investigation

There is a large gap between current land use policies available to City decision makers and policies that would enable pursuit of the vision for the Lower Big Creek area presented above. In order to begin to address this gap, NOACA worked with the Cuyahoga County Planning Commission (CPC), the City of Cleveland Planning Commission and the City of Cleveland Community Development Department on an investigation of land use policy options that might be considered by the City of Cleveland for future implementation.

Investigation of a number of land use policy concepts was undertaken by CPC staff and reviewed and revised by NOACA and City of Cleveland staff. These included concepts such as:

- Hillside Stabilization Zoning,
- Open Space Zoning,
- Guidelines for Re-Use of Landfill Sites,
- Aesthetic Design Guidelines for Industrial Uses,
- Outdoor Storage Licensing,
- Principles for Trail Feasibility Analysis,
- Conservation Easement Guidelines,
- Historic/Cultural Resource Protection and Interpretive Planning Guidelines,
- Scenic Viewshed Protection,
- Riparian & Hillside Protection,
- Wildlife Restoration,
- Plant Restoration Guidelines and
- Eco-Industrial Guidelines.

This section summarizes these land use policy concepts and discusses an overall implementation strategy for pursuing changes in the City of Cleveland's land use policies. A proposed methodology for each of these concepts is included in Appendix D.

Implementation Strategy

The Cleveland City Planning Commission, with assistance from the Lower Big Creek Project Advisory Team, the Cuyahoga County Planning Commission and NOACA, should take the lead in developing the overlay district zones for riparian protection and hillside protection in the Lower Big Creek area as a demonstration for citwide application.

See Task A in Section G below.

This should be coordinated with the model code under development by the Cuyahoga County Planning Commission

Hillside Stabilization Zoning

Task: Develop and implement city land use policy mechanisms in the form of zoning and building design standards to assist with future planning efforts for hillside remediation.

Concept: Develop specific standards within a designated hillside susceptibility zone that apply to site, building and infrastructure requirements to assist with further stabilization of new and existing structures.

This work should be coordinated with the technical assessment of Hillside Subsidence problems proposed for Phase 2 implementation.

Open Space Zoning

Task: Develop and implement Open Space Zoning Overlay District mechanism to further protect existing resources and outline parcels for future open space protection.

Concept: Develop a zoning district or overlay zone that 1) protects critical natural resources in the Lower Big Creek Valley 2) outlines specific design criteria for new or redeveloped sites to further protect areas on site.

Re-Use of Landfill Sites

Task: Develop and apply general principles for reuse of the landfill sites within the study area.

Concept: Re-use of underutilized landfill sites into viable land uses in a way that will blend and enhance neighborhood activites, highlight new economic development and integrate restoration of the Lower Big Creek Valley study area.

Aesthetic Design Guidelines for Industrial Uses

Task: Research and develop policies to include in aesthetic design guidelines for industrial and commercial properties within the valley. This should be coordinated with specific guidelines for screening, dust control and infrastructure (roads, curbing, parking)

Concept: The aesthetic design guidelines should be functional and serve multiple purposes on the site beyond serving an appearance role. These may include the following functions: stormwater management, solar collection, catchment and filtration of sediment or hydrocarbons, or driveway sharing to reduce impervious surface cover as well as improved site operations and infrastructure costs.

Industrial facilities are unique from commercial/retail centers and need to function differently, thus different site design parameters are necessary.

Outdoor Storage Licensing

Task:. Develop and implement an Outdoor Storage Management program utilizing an Overlay District concept for requiring an annual license for certain outdoor storage practises.

Concept: An Outdoor Storage licensing program is a means of regulating land uses, particularly adjacent to streams, for environmental protection, that incorporates design issues to limit water quality impact. This approach utilized annual licensing, similar to the City's Parking Lot program. One recommendation would be to utilize the floodplain boundaries to delineate the overlay district, as these storage impacts relate to water quality and stream functions.

Guidelines for Trail Feasibility Analysis

Task: Apply design guidelines/conditions to Trail Alignment and Feasibility Analysis for Lower Big Creek Study area.

Concept: Develop a multipurpose trail to connect the Cleveland Metroparks Zoo to the Towpath Trail near Harvard Road and connections to an open space plan for the adjacent community neighborhoods.

Guiding Principles:

Use ***an innovative design approach*** that includes minimizing infrastructure and restoring ecosystem functions.

Plan for a trail loop system and other ***neighborhood connectors*** that links to the main spine. Connect adjacent neighborhoods such as Old Brooklyn, Brooklyn Centre, Archwood/Denison, Memphis Area to encourage expansion for tourism, recreation and alternative transportation for commuting.

Connect to the larger regional trail system as a means of rejuvenating the original emerald necklace concept. This includes connection to Big Creek Metroparks, Towpath Trail and the Lakefront Bikeway/Edgewater Park.

Allow for ***active neighborhood and business involvement*** in the analysis process to ensure local input, encourage citizen creativity, and develop a partnership/ownership for the future trail.

Develop a route that provides utilizing the trail for a ***diversity of users and uses*** of the trail system and a variety of activities which includes the feasibility of micro-tram buses for route.

Use ***open space concepts*** for an integrated trail to neighborhood blocks, city parks

and major thoroughfares to emphasize the social, cultural and physical attributes of the local community.

Integrate the natural resources such as the stream and valley dynamics, hillside characteristics, forest remnants to allow the trail user to explore these unique ecosystems and find opportunities to restore the pre-settlement landscape.

Use interpretive markers to ***educate the trail user*** on the historical and cultural resources of the area; and utilize historic resources in the trail design.

Consider the ***adjacent land uses, especially industrial operations,*** and their daily operation activities to minimize disruption of these activities and/or their influence on trail activity.

Conservation Easement Guidelines

Task: Utilize conservation easements for natural resource protection and trail development in the Lower Big Creek Study area.

Concept: Employ several options for land protection. Purchasing property outright should only be used on properties that have significant resources, are severely threatened by impacts, or are essential to trail or community planning objectives, as this can become very costly.

A property owner can donate the land by will or other arrangements to a public entity for future protection. Tax benefits can begin prior to the death of the individual in some arrangements. This option should be educated to property owners more actively by the local land trusts and public agencies.

Easements can be an option for property owners to hold their land, but provide tax benefits to preserve and allow access on a part of their property.

Types of Easements that may be applicable for the Lower Big Creek:

> Conservation Easement – A conservation easement is designed to exclude certain activities on private land. Its primary purpose is to conserve natural or man-made resources on the land. The easement is legally binding and runs with the property deed for a specified time or in perpetuity. An easement can provide substantial tax benefits. Working with an attorney knowledgeable with land use law can provide the tax implications.
>
> Public Access Easement – An easement that permits or requires public access for trail or scenic purposes. This can provide additional agreements for public access onto an easement for trail/recreational use.

Historic Preservation Easement/Scenic Easement –An agreement that provides assurance that significant historic, cultural or scenic properties will be preserved through subsequent ownership.

Historical/Cultural Resource Protection and Interpretive Plan

Task: Develop a guidance outline for elements and process procedures to develop a Historical/Cultural Resource Protection and Interpretive Plan to be coordinated with the detailed land use and trail plan.

Concept: The Lower Big Creek Valley is an essential piece of and integral to the heritage of the Cuyahoga Valley and the Northern Ohio region. Remembrance and education of its historical and cultural heritage should be woven into and considered throughout the various planning efforts to enhance, protect and interpret the resources that residents and tourists can become aware of in future recreational planning efforts.

Cultural Resource Planning is planning for the rehabilitation and preservation of architecture and landscapes. This planning process has been identified in consultation with various existing initiatives: Ohio & Erie Canal Heritage Corridor Plan, City of Cleveland historic structures inventory. Further consultation with these regional efforts will help the Lower Big Creek Area focus on additonal cultural resources to consider for future planning efforts.

Interpretive Planning is planning for the Visitor Component. The maain goals of interpretation are to consider Who is the *audience* you interpret, What are the *stories* you want to tell, and What is the *experience* for visitors you want to have.

Scenic Viewshed Protection

Task: Policy research on zoning overlay districts or other planning practices focusing on viewshed protection.

Concept: Visual preservation of resources and scenic vistas of the valley and adjoining landscapes can play a vital role in the future planning of the valley for re-development and restoration practices. A View Protection Overlay District Zoning category can become a mechanism to protect the visual amenities of the valley.

Riparian & Hillside Protection

Task: Develop a riparian and hillside protection overlay district for the valley and identify the extents and conditions for this mechanism.

Concept for Riparian Setback Zone: This protection strategy should be woven into an overlay district onto general zoning categories that are within a designated riparian and hillside protection zone.

Riparian areas along a stream can provide multiple benefits for the health of the waterway and its inhabitiants. Such benefits include filtration, sediment removal, diversity of species , cooling of water temperatures. The protection of the riparian area can be achieved by establishing a riparian buffer ordinance.

Concept for Hillside Protection Zone: Alteration of hillsides can severely alter the landscape's function ability sustain a stable system for the valley. Developing parameters to protect the most sensitive hillsides is recommended as part of the overall planning efforts for the future visioning of the Lower Big Creek Valley.

Wildlife Restoration

Task: Develop potential strategies and research viability of these to apply to the Lower Big Creek Valley to encourage wildlife.

Concept: Wildlife serves as integral piece of human nature that should be part of urban living and bringing nature closer to the city: "Environmental literacy in cities involves an understanding of wildlife as an integral part of natural processes and the relationship of life systems to people, and what it can teach us about coexistence."[1] The current urban ecosystem is fragmented and is not expanding the opportunities for wildlife diversity and introduction. The expansion and introduction of wildlife can be achieved through a Wildlife Restoration Planning Process in coordination with the Plant Restoration Guidelines.

Plant Restoration Guidelines

Task: Develop design tools/guidelines to first prioritize plant areas of concern which are threatened or have restoration potential. Secondly, provide tools for materials and practices to assist in restoration. This includes but not limited to: plants, management of invasive species an planting/protection practices for hillside/riparian areas.

Concept: Ecological Restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed.[2] A restoration plan should include the following elements: a) address why is restoration needed; b) include ecological description of project site, c) set goals and objectives of restoration project, d) include designation and description of reference ecosystem, e) include explanation of how proposed restoration will integrate with landscape and its flows of organisms and materials, f) develop plans,schedules and budgets for site preparation, installation and post installation, g) develop performance standards which include monitoring and evaluation protocols, and h) develop strategies for long-term protection and maintenance of restored ecosystem. If feasible, one untreated control plot should be incorporated to compare with the restored ecosystem.[3]

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[1] Micheal Hough, Cities and Natural Processes, 1995, p.174.
[2] Society of Ecological Restoration, Primer on Ecological Restoration, Science and Policy Working Group, 2002.
[3] Ibid

These restoration principles should apply to Lower Big Creek :

a) Integrate the restoration of the site into the regional landscape to maintain its identity as part of a larger ecoregion;
b) Use Native Plant species that are applicable to the specific area of restoration;
c) Utilize natural ecological succession communities to develop self-sustaining and dynamic environments; and
d) Protect Significant natural features.

Eco-Industrial Guidelines

Task: This impacted area will mostly be coming out of the Business Survey and Transportation Analysis. However, Developing a general framework for Phase II on *eco-industrial practices* that may apply to this area that can assist in the retention and redevelopment of the industrial hub.

This initiative will encourage the focus on advanced technologies, ecological design principles and sustainable business practices to assist with distinguishing this region and the Lower Big Creek's industrial hub attributes as a economic competitor for industrial as well as new economic businesses.

Concept: Industrial Ecology Definition: Promotes cyclical patterns that are present in the natural systems into the designs of the typical linear patterns of industrial production processes.

This is an approach that takes into consideration the economic, environmental and social ramifications of an industrial business.

Principles of Industrial Ecology include the following[4]:

a) Fostering cooperation among various industries whereby the waste of one production process becomes the feedstock for another.
b) Identifying ways that industry can safely interface with nature, in terms of location, intensity, and timing.
c) Striving to decrease materials and energy output intensity in industrial production.
d) Re-designing production processes and patterns for maximum conservation of resources.
e) Development of renewable energy supplies for industrial production.

[4] Hardin Tibbs, "Industrial Ecology: An Environmental Agenda for Industry," U.S. Dept. of Energy, Center of Excellence for Sustainable Development.

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Section F. Concept for Future Planning of the Valley

Introduction

Environmental conditions in Big Creek are typical of older urban communities with high-density development and aging infrastructure. These include discharges from sewer outfalls, runoff from urban streets and neighborhoods, degraded fish habitat due to channel modifications, degraded riparian zones, littering and dumping, and streamside commercial/industrial uses incompatible with stream protection.

The lower Big Creek has suffered varieties of abuse for long periods of time. It has been used as a dumping ground for decades. Streamside land uses include those which cause some of the worst kinds of environmental insult: junk yards, demolition landfills, leaching industrial stockpiles and waste materials. The stream suffers from water quality and quantity problems resulting from intensive urban land uses throughout its drainage basin.

This study has assessed problems in a number of areas and prioritized issues for further action. This section provides an overall assessment of existing conditions and proposes a planning concept to guide additional work

Overall Assessment of Existing Conditions

An overall assessment of existing conditions includes the following observations.

There is no central focus on the Big Creek as a resource for management and protection through land use planning and urban design strategies.

Parklands in the study area are isolated, both within upland areas and between the upland and the valley floor. Existing trails are unconnected to each other.

Pockets of forested open space exist in the areas connecting the valley floor to upland neighborhoods, but these are unprotected from future development.

There are important concentrations of business and industry in the valley floor area east of Jennings Avenue below Harvard Avenue, along Valley Road west of Jennings Road, and along Bradley Road adjacent to the Cuyahoga River, east of Jennings. There are also a few isolated industries below the Brooklyn-Brighton Bridge, on which Pearl Road (US 42) crosses Big Creek.

Land adjacent to the Lower Big Creek is generally vacant or underutilized, and existing uses restrict stream recovery and floodplain function.

Upland neighborhoods are isolated from the valley floor by topography, economics, land use practices and transportation system design.

Major transportation corridors-railroads and highways-traverse the study area and contribute to the isolation of the valley floor to upland neighborhoods.

Landfill practices impact on the quality of life of neighborhoods and contribute to their isolation from natural areas in the valley floor and hillside.

See Figure F-1 for the overall assessment of existing conditions. Each of these observations is discussed below.

Absence of Management and Protection of Big Creek as a Focus

The failure of local public authorities to focus management and protection of stream and stream-side areas is a theme throughout the lower Cuyahoga River valley. The Lower Big Creek valley shares a century and a half of neglect and lack of foresight in managing land uses with the rest of the lower Cuyahoga River and its major tributaries.

During this period the Big Creek has been abused by public authorities and private businesses alike. In the Lower Big Creek valley we see for example industrial uses such as huge storage piles of road salt and auto salvage yards right at the waters edge. Natural ravines have been exploited as landfills with approval by state and local authorities.

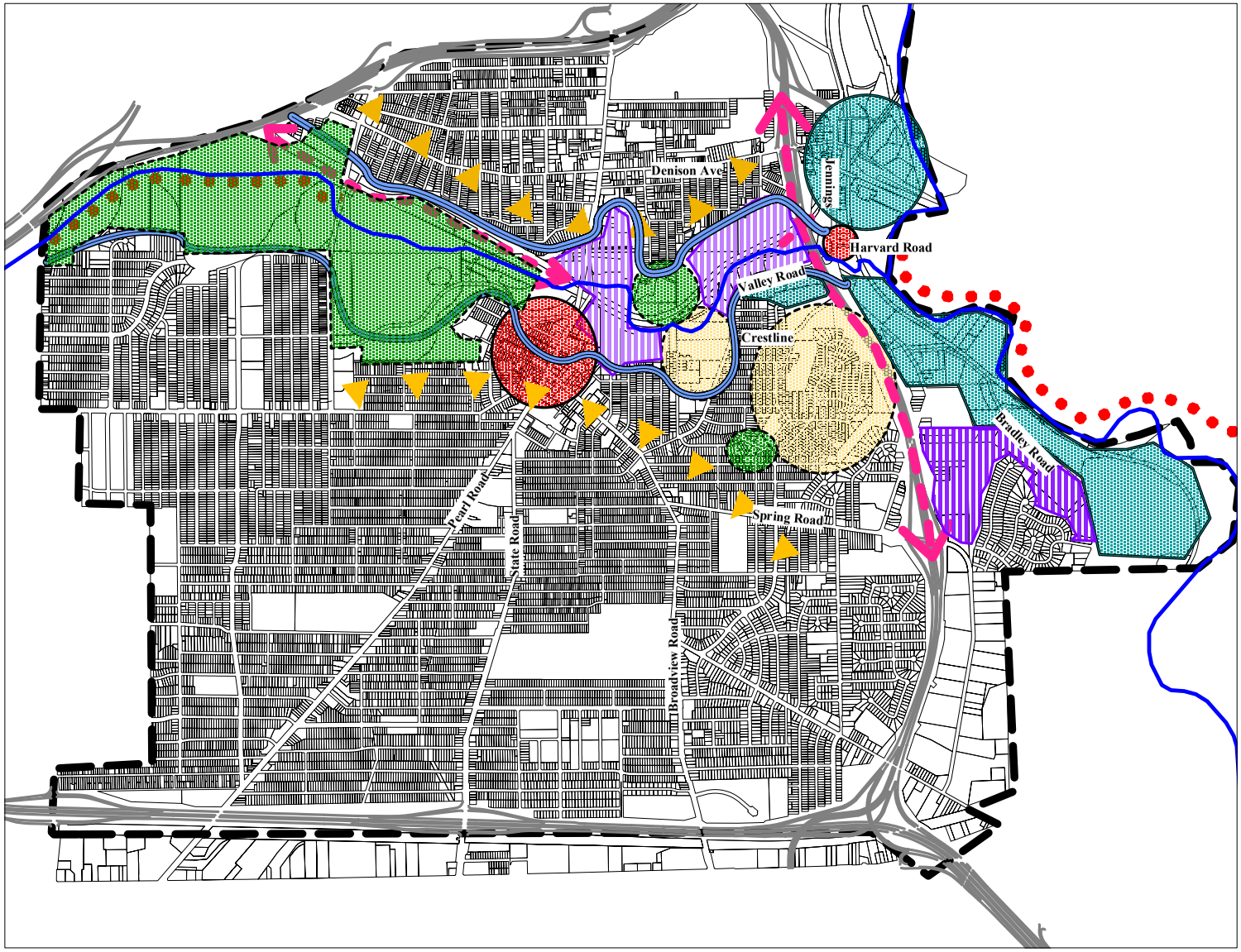
Recently, city and county officials have launched an initiative to rethink and plan for a revitalized landscape that better preserves and protects natural resources in the valley floor and along its hillsides. This Cuyahoga River Initiative will provide a new framework for land use planning and zoning that provides for mixed land uses including commerce and industry, open space and recreational areas.

Isolated and Unconnected Parklands

In the City of Cleveland parklands have often been constructed as an afterthought from available residual, often unbuildable, undeveloped lands remaining after residential development is completed. This ad hoc approach contrasts with the well planned and executed parkland developments of the late nineteenth and early twentieth century. Brookside Park and the Cleveland Metroparks Emerald Necklace, which were planned long ago, demonstrate today how well parklands can serve the public if they are well planned and executed.

The recent opening by Cleveland Metroparks of the Ohio & Erie Canal Reservation, and the opening of the of the Ohio & Erie Canal Towpath Trailhead at Harvard Road, just east of Big Creek, are strategic investments in parkland in the urban core that provide a fresh opportunity to plan for recreational trail connections to the upland neighborhoods along the Cuyahoga River including Old Brooklyn and Brooklyn Centre. Within the lower Big Creek valley itself there remains sufficient land, now in private hands and largely undeveloped to accommodate development of parklands and a trail connection between the Ohio & Erie Canal Reservation and the Metroparks Zoo.

Figure F-1 Lower Big Creek Study
Overall Assessment of Existing Conditions



No central focus on the stream as basis for decision making for land use and design.

Isolated Parkland

Industrial Use Concentrations

Underutilized Land/ Restricting Stream and Floodplain functional potential.

Commercial Use Concentrations/ Activity Hubs

Threatened Open Space (forested land unprotected from future development)

Existing Trails Unconnected to each other.

Transportation spines isolating areas.

Lack of connection of Stream Valley to adjacent neighborhoods.

Prepared for NOACA by Cuyahoga County Planning Commission, September, 2002

Figure F-1

Unprotected Pockets of Forested Open Space

There are pockets of remaining forested land in the lower Big Creek valley in the riparian zone next to the stream and on the hillsides. These are an important resource for rebuilding the natural resource base of the valley and represent a potential enhancement to a biological corridor from the Cuyahoga River area into Brookside Park and beyond. These areas include hillside areas along the south side valley wall west of Valley Road, hillside areas north of the creek and areas immediately adjacent to the stream-bed. There is an area undergoing reforestation on the hillside north of the creek and west of Jennings. See Figure F-2.

A large area of the floodplain on the north side of the creek now serves as the location of a large salt storage pile and container storage facility. This area is contiguous with Calgary Park and lies below and east of it. This area has been has modified by creating an impervious surface and altering natural drainage patterns. Because of its proximity to Calgary Park, this is an area with significant potential for development as a lowland expansion of Calgary Park.

The closed Henninger landfill which lies south of Big Creek and just east of Pearl Road is another man-disturbed landscape that could be recovered and integrated into an open space concept for the lower Big Creek. A redevelopment strategy has been proposed here that mixes open space with passive and active recreation land uses.

What is significant about these areas is that they are all currently unprotected from future development of the kind that would exacerbate the existing conditions of "business as usual."

Work is underway by the City of Cleveland on a plan that preserves and expands greenspace along the valley floor and hillsides, and integrates and links neighborhood open space with recreational trail. At the county level, the Cuyahoga County Planning Commission has completed a Greenspace Plan that advances this concept throughout the lower Cuyahoga River valley.

Important Concentrations of Business and Industry on the Valley Floor

The survey of businesses conducted as part of this study demonstrates that businesses in the Lower Big Creek Valley area are viable parts of the region's industrial base. These businesses are important employers of neighborhood residents, among other things providing valuable services including pre-manufacturing of parts and recycling of materials for other Cleveland-area industries.

At the same time these businesses have suffered from neglect including poor city services and the lack of maintenance of public infrastructure such as roads and sewers. This contributes to a decrepit landscape that belies the reality that many of these businesses

Figure F-2 Ecosystem Remnants in Lower Big Creek

Pockets of Forested Hillside Remain

Steep Shale Cliffs are a Significant Feature

Areas of Intact Riparian Vegetation Remain

Excellent Riparian Cover is Abundant Near the Mouth of Big Creek

represent productive operations that are vital to the region's economy. The poor condition or absence of storm sewers contributes, in addition to being a practical inconvenience, heightens the possibility of inappropriate runoff into Big Creek and the Cuyahoga River. At the same time there is a perception that the physical isolation of these businesses have contributed to a pattern of unchecked environmentally harmful practices.

Vacant and Underutilized Land Uses in Valley Floor

This study found concentrations of vacant and/or underutilized lands along the valley floor. The key point here is that most of these are in the flood plain, often directly adjacent to the stream, and have tended to compromise the natural functioning of the stream channel. At the same time they represent large parcels of property that should be susceptible to a more compatible reuse. These underutilized lands are frequently used for storage of materials including construction materials, road salt, auto junk piles and the like.

From a public policy perspective these uses represent obstacles to reclaiming the functioning of the natural systems in the valley floor. They should be adjusted to uses more in harmony with the natural stream system.

See Figure F-3 and Figure F-4.

Upland Neighborhoods are Isolated from the Valley Floor

The isolation of upland neighborhoods from the valley floor has both a physical topographical dimension and a psychological dimension. Over one hundred years of urban development practices has placed residential and commercial areas in the upland areas along the Cuyahoga River and its tributaries, waste disposal uses in its ravines and industrial uses on the valley floor. This development pattern made practical sense because it tended to separate residential neighborhoods from direct exposure to noxious air, land and water pollution associated with waste disposal and heavy industry. But it also isolated neighborhood residents from their natural environment providing very limited access to woodlands and streams just below the valley rim.

Transportation corridors have contributed to this problem of community isolation from its natural landscape. For example the recently constructed Jennings Freeway (SR 176) serves as a physical barrier between Old Brooklyn and Brooklyn Centre neighborhoods and the Cuyahoga Valley. In several locations the freeway blocks natural ravine providing access to the valley floor. The closed landfill on West 11 St. and the still active landfill on Bradley Road similarly constitute a physical barrier that contributes to neighborhood isolation.

Residents from the neighborhood speak about this isolation in psychological terms as well. The industrial areas on the valley floor are inhospitable because of a decrepit appearance. And the natural landscape that should be their birthright is often hidden and

Figure F-3 Streamside Land Uses in Lower Big Creek

Henninger Land Fill

Brookside Auto Salvage Yard

Norfolk Southern and CSX Railroads Rights of Way Parallel the Creek

Industrial Facility below US-42

Figure F-3 Streamside Land Uses in Lower Big Creek (*continued*)

Aluminatech Dross Pile at Cuyahoga River's Edge

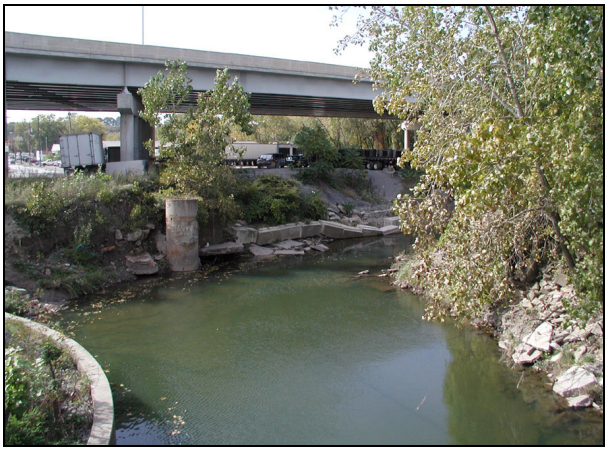
Road Salt Storage Site lies to north of Stream

Debris Dumping on Valley Floor

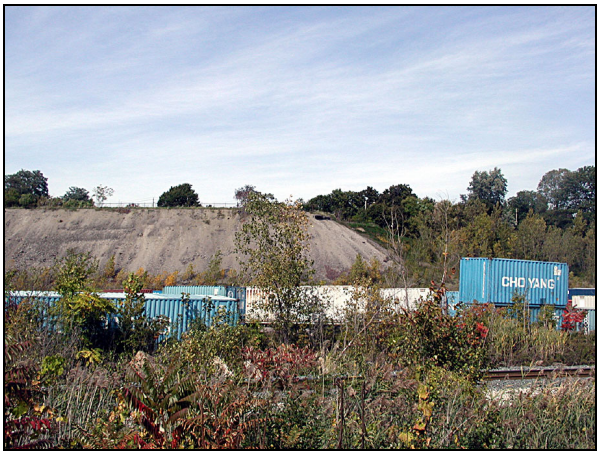
Storage of Construction Material Adjacent to Stream

Figure F-4 Transportation Issues in Lower Big Creek Area

West 14th Street is in poor condition for vehicular traffic



Parking of Truck Rigs under Jennings Freeway



Truck Container Storage Site on Valley Floor

inaccessible. For their part business representatives express concern about security and safety problems that come with ready access by neighborhood residents to their business areas. Both sets of conflicting perceptions constitute a significant obstacle to a holistic planning approach that would reconnect the neighborhoods to the natural environment, promote more sustainable industries and restore natural areas for the benefit of the public.

A Concept for Future Planning of the Valley

In response to this assessment**, t**he project advisory team has formulated a concept for future planning of the Lower Big Creek study area that

- embraces the concept of a mixed industrial, recreational and open space use of the valley floor,
- encourages policies fostering development and retention of compatible industrial uses, and supporting retail,
- preserves and expands greenspace along the valley floor and hillsides,
- integrates and links neighborhood open space with recreational trails,
- connects the Metroparks Zoo with the Ohio Canal Reservation with a valley floor trail, and
- enhances the economic relationship between upland retail and valley floor recreational users.

This concept has been formulated within the context of city, county and regional plans, approved or underway, that address future land use concerns. These have helped to frame discussions about the future of the Lower Big Creek valley.

Connecting Cleveland 2020: Citywide Plan

The City of Cleveland's City Planning Commission last prepared a comprehensive plan for the city's neighborhoods in 1990. Titled the *Civic Vision 2000 Citywide Plan*, this document set goals for development in Cleveland through the year 2000 and recommended actions required to achieve those goals. In the case of the Lower Big Creek Valley area, the Plan proposed that the vacant and marginally used industrial land situated in the area between the Cleveland Metroparks Zoo and Jennings Road be converted to open space uses. This proposed recreation corridor was intended to connect with the then-planned Cuyahoga Valley Towpath Trail, which would provide direct linkage to the Cuyahoga Valley National Park. See Figure F-5.

Beginning in 2001, the City commenced efforts to update the Citywide Plan under the *Connecting Cleveland 2020: Citywide Plan* initiative. While still a work in progress, the Plan, which is expected to be completed in 2003, recommends that the Big Creek Valley floor's land use pattern be re-oriented to integrate existing viable business and industrial uses with proposed recreation and open space uses. This strategy is based on comments gathered at various public meetings with Ward 15 residents, business and industrial owners, and government agencies.

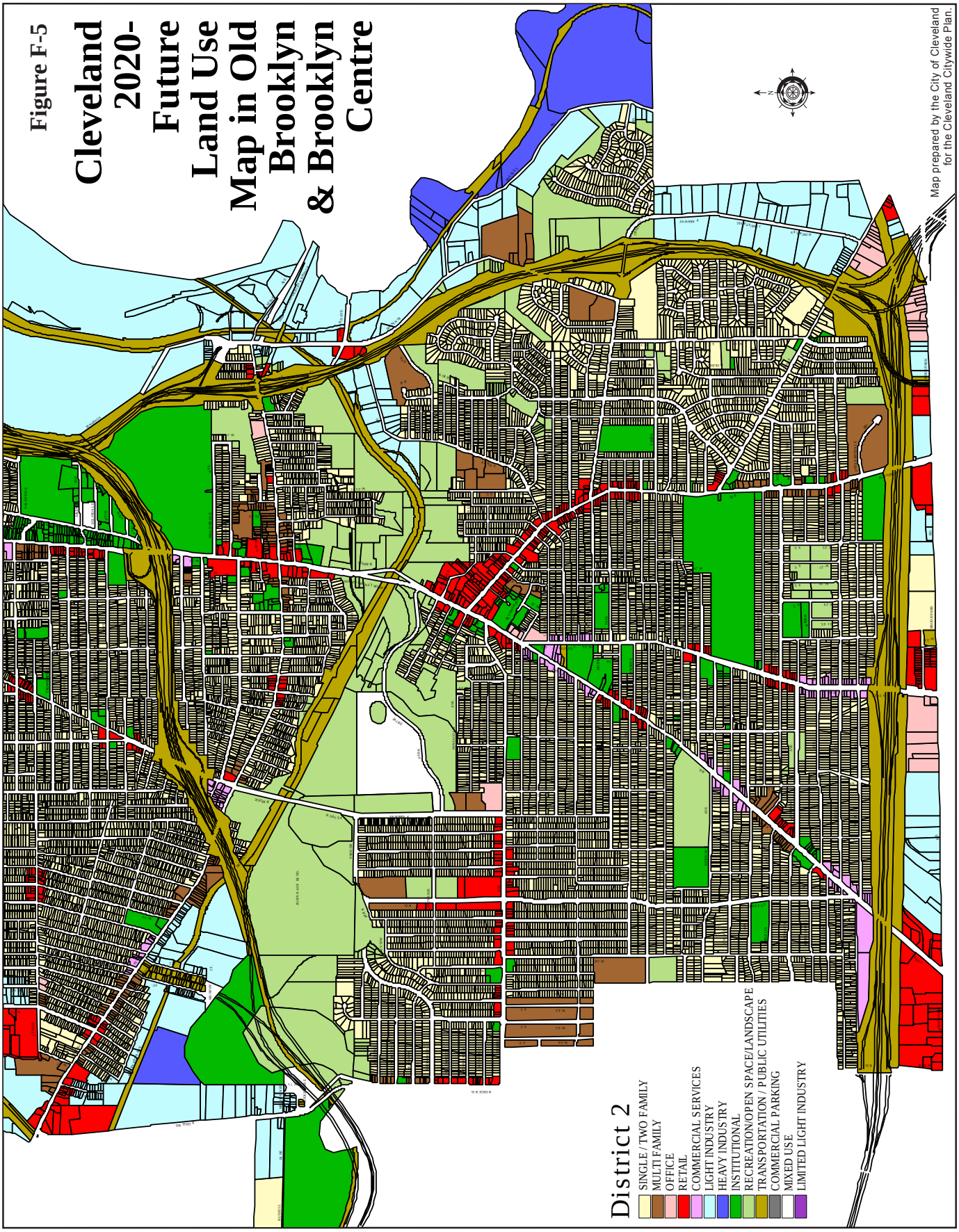


Figure F-5
Cleveland 2020- Future Land Use Map in Old Brooklyn & Brooklyn Centre
Map prepared by the City of Cleveland for the Cleveland Citywide Plan.
District 2
SINGLE / TWO FAMILY
MULTI FAMILY
OFFICE
RETAIL
COMMERCIAL SERVICES
LIGHT INDUSTRY
HEAVY INDUSTRY
INSTITUTIONAL
RECREATION/OPEN SPACE/LANDSCAPE
TRANSPORTATION / PUBLIC UTILITIES
COMMERCIAL PARKING
MIXED USE
LIMITED LIGHT INDUSTRY

In particular, the Plan proposes:

- A continuous open space corridor along the north side of the Big Creek, from Calgary Park eastward to the Jennings Road area. This includes a 25-acre property that is presently being used for the storage of bulk materials and rail containers.

- A two-level open space area stretching along the south side of the Big Creek, from Pearl Road eastward to just opposite Calgary Park. This area incorporates a portion of railroad-owned property at the creek level along with a 27-acre upland parcel presently occupied by a closed construction & demolition landfill.

- Retention of the industrial area fronting on the north side of Valley Road, extending eastward to Jennings Road. This area, which is the home to a number of viable light industrial and commercial service uses, serves a regional customer base and provides employment to area residents.

- A creekside multi-purpose recreation trail linking the Cleveland Metroparks Zoo with the Towpath Trail. The proposed trail would require the cooperation of the railroads and private landowners that occupy prime riparian lands immediately adjacent to the Big Creek streambed.

- Establishment of an expanded commercial node around the Jennings Road-Harvard Road intersection that could serve the valley's emerging recreational uses as well as the employees of existing businesses and industries. Existing businesses like Zelznik's Tavern and Cudnik's Tavern would be encouraged to continue their operations. At the same time, the presence of the Towpath Trail's new Harvard Road trailhead and the development of a new passenger station for the planned extension of the Cuyahoga Valley Scenic Railroad near the Jennings-Harvard intersection present new commercial development opportunities. For example, concessionaires featuring bike, canoe and in-line skate rentals, and new family-oriented restaurants would be desirable. A visitor's center emphasizing the valley's natural history and industrial legacy and connections between the Metroparks Zoo and Towpath Trail is a possibility.

- Continued business and heavy industrial uses along Bradley Road, from Jennings Road southeast to the Brooklyn Heights city limits. Many of these firms provide environmentally important materials recycling services that utilize the by-products of the valley's heavy industrial base.

See Figure F-6.

Connecting Cleveland 2020: Citywide Plan, the City's long-term plan for development, is a central element in the overall strategy for Cleveland's continued revitalization. Building on the success of the original Citywide Plan, this program will help ensure that the hundreds of development-related decisions made by City government each year fit

Figure F-6

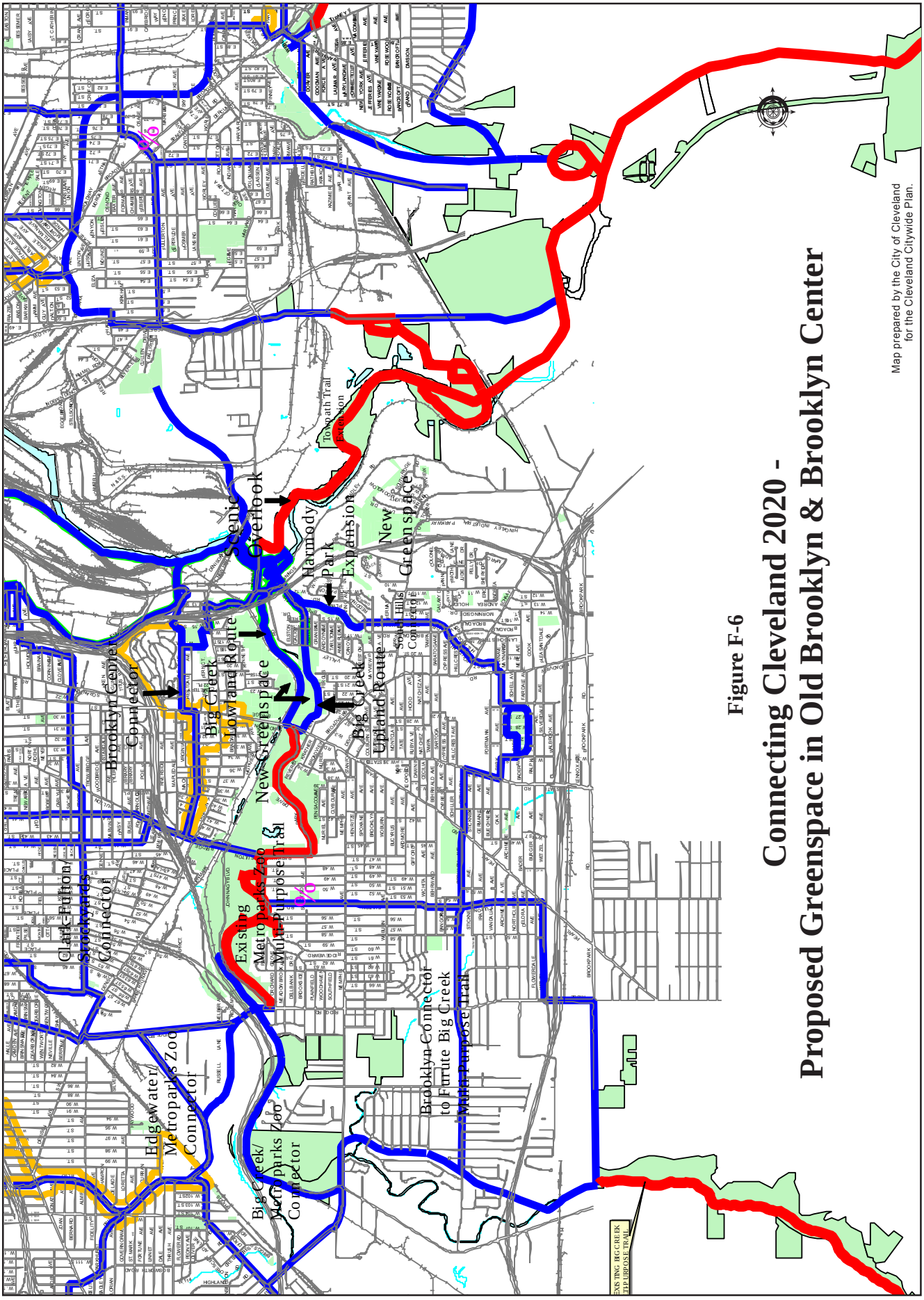


Figure F-6
Connecting Cleveland 2020 -
Proposed Greenspace in Old Brooklyn & Brooklyn Center
Map prepared by the City of Cleveland
for the Cleveland Citywide Plan.
Scenic Overlook
Towpath Trail Extension
Harmody Park Expansion
New Greenspace
Brooklyn Center Connector
Big Creek Low Land Route
Big Creek Upland Route
South Hills Connector
New Greenspace
Clark-Fulton/ Stockyards Connector
Existing Metroparks Zoo Multi-Purpose Trail
Edgewater/ Metroparks Zoo Connector
Big Creek/ Metroparks Zoo Connector
Brooklyn Connector to Future Big Creek Multi-Purpose Trail
EXISTING BIG CREEK TRAIL PURPOSE TRAIL

into an overall strategy for the City's continued revitalization. Without a continuous comprehensive planning program, the City runs the risk of supporting projects that either work at cross-purposes or simply fail to make the best use of limited public funds.

Ohio & Erie Canal National Heritage Corridor Management Plan

In 1996 Congress enacted the Ohio & Erie Canal National Heritage Corridor establishing a National Heritage Corridor along the Ohio & Erie Canal from Cleveland to New Philadelphia, Ohio. In 2000 the Ohio & Erie Canal National Heritage Management Plan was approved by the federal government. The Plan recommended that the Heritage Area include as Journey Gateways urban neighborhoods such as Old Brooklyn and Brooklyn Centre that are in close proximity to the Canal, Scenic Byway and Scenic Railroad. Journey Gateways serve as places where visitors to the National Heritage Corridor "feel a sense of arrival, are provided information on experiencing the Corridor, and may find interpretation and/or services associated with that experience."[1] In addition to this, three other criteria apply to the Journey Gateway concept: strong regional accessibility, the presence of significant natural and cultural attractions, and the presence of sites with potential for expanded visitor services. Strong regional accessibility is provided by excellent accessibility to these neighborhoods by I 90 and the Jennings Freeway, and the Scenic Byway which follows Pearl Rd. through the heart of both Old Brooklyn and Brooklyn Centre neighborhoods. The Cleveland Metroparks Zoo and the many historic resources represent significant natural and cultural attractions in the area. With respect to sites with potential for expanded retail services, the Ward 15 Commercial Revitalization Plan discussed below embraces this concept in its recommendation to re-position the area's retail mix to capture the economic development potential of the Zoo and Towpath Trail. This focus could be enhanced as the implementation of that plan moves forward. The expectation is that recreational and historic preservation programs and facilities and commercial developments that tie these neighborhoods to the Canal, the Towpath, the Scenic Byway, etc would be considered integral components of the Plan's implementation.

This year the Cleveland City Council approved expansion of the Brooklyn Centre Historic Landmarks District southward from Dennison Ave. to the Brooklyn-Brighton Bridge. This designation helps to insure proper review of any new building construction, extensive alteration to existing structures, and/or demolition.

Cuyahoga County Planning Commission Activities

The Cuyahoga County Planning Commission is preparing a Cuyahoga County Greenspace Plan that promotes a comprehensive vision of greenspace protection and restoration within Cuyahoga County. The key elements of the Plan include the creation of a system of natural corridors, a county-wide trail system, the preservation of scenic views and the protection and restoration of critical natural areas. The plan envisions a system of natural corridors following rivers and streams throughout the County including

[1]Ohio & Erie Canal Association, Ohio & Erie Canal National Heritage Corridor Management Plan (June 2000), p. 70.

the Big Creek and a trail system that links upland neighborhoods along the Cuyahoga River to the Towpath Trail.

The concept of neighborhood connector trails has been advanced further with Towpath Trail Extension Study recently completed by the Cuyahoga County Planning Commission and the City of Cleveland's Bikeway Plan which is part of its Connecting Cleveland: 2020 Citywide Plan.

The County Planning Commission has also launched the Cuyahoga Valley Initiative, a project to develop model zoning and environmental municipal codes, design guidelines and sustainable practices for implementation by communities in the Cuyahoga River valley. This initiative, once completed, should provide a detailed model for pursuing enhancements to the City of Cleveland's management of land uses in the Lower Big Creek valley.

Ward 15 Commercial Revitalization Plan

The Ward 15 Commercial Revitalization Plan was undertaken to examine the redevelopment potential of the Ward's two commercial areas – the Pearl-Broadview-Memphis and the Brooklyn Centre retail districts. With funding provided by Councilwoman Merle Gordon, the consulting firm of BBP Associates of Annapolis, MD was retained in August 2000 by the Old Brooklyn Community Development Corporation to undertake the work program. Planning oversight for this initiative was provided by a Project Advisory team comprised of the Councilwoman, along with staff from the City of Cleveland's Planning Commission and Community Development Department, and individuals representing the area's residential, commercial and institutional stakeholders.

Three (3) community meetings were held during Fall 2000 and Winter 2001, attended by approximately 250 area residents and business owners. At these meetings, the consultant provided an assessment of the retail market's strengths and weaknesses, identified potential redevelopment sites, and presented a conceptual urban design strategy for the two retail districts. Another major study element was the production of a detailed strategic action plan designed to guide implementation efforts by the Old Brooklyn Community Development Corporation.

At its heart, the Plan was designed to identify opportunities to physically link the two retail districts with the adjacent Cleveland Metroparks Zoo and the Metroparks' Ohio and Erie Canal Towpath Trial, located 1.5 miles to the east. Among the Plan's major recommendations:

- Capitalize on the Brooklyn Centre and Old Brooklyn retail district's stock of architecturally significant commercial buildings through continued promotion of adaptive reuse and restoration opportunities along with targeted infill development.

- Pursue streetscape enhancements in the form of signage, street furniture, fencing, wider sidewalks, curb extensions, and lighting improvements to create a more pedestrian-friendly environment.
- Re-position the area's retail mix to capture the economic development potential that results from the 1.3 million annual visitors to the Cleveland Metroparks Zoo and the 3.3-million visitors projected to annually utilize the Towpath Trail.
- Promote traffic calming measures such as reductions in the number of traffic lanes along Pearl Road, lane narrowing, curb bump outs, reductions in traffic speeds, and changes in signal timing, all designed to better accommodate cyclists and pedestrians.
- Provide for direct pedestrian and bicycle linkages between the area's residential neighborhoods and business districts and the lower Big Creek Valley to increase regional recreational and local economic development opportunities.

The Old Brooklyn Community Development Corporation views the Plan's recommendations as important to position the two retail districts to capture a larger share of the economic development opportunities that result from proximity to the lower Big Creek Valley. The Cleveland City Planning Commission reviewed and approved the findings of the *Ward 15 Commercial Revitalization Plan* on October 4, 2002. The Plan will be incorporated in the Commission's *Connecting Cleveland 2020 Citywide Plan* as the officially recognized strategy for commercial development of the target area.

Mixed Industrial, Recreational and Open Space Use of the Valley

The Lower Big Creek plan would seek to effectively integrate existing viable commercial/industrial uses with recreation and open space. This includes maintaining many existing industries where they exist, but promoting greater use of environmentally benign practices. But this plan also envisions relocating some industries. Redevelopment of the LTV west side site may provide an opportunity for relocation of some these industries. The incentive for them is that they would enjoy greater efficiencies because of better organization of highway connections to and city services for the LTV site. It is anticipated that some forms of direct relocation assistance may also be required, for which possibilities will be explored. The community at large would benefit from the removal of several incompatible industries from the natural environment in the lower Big Creek valley.

The plan also proposes parkland development in the valley floor and a recreational trails system for trams, bikes, and pedestrians connecting the Ohio and Erie Canal Towpath with the Metroparks Zoo and the neighborhoods of Old Brooklyn and Brooklyn Center.

Economic Retention and Development

The plan proposes that organized, on-going assistance be provided to viable, compatible industries and businesses in the valley. The goal is retention of industries that are compatible with the emerging recreational uses and sound environmental practices. This would include basic infrastructure improvements, better city services and direct technical

assistance to individual businesses and any association they might organize together. The strategy also calls for promotion of "green" industrial practices by those industries that remain and prosper.

The plan envisions that retail businesses would be encouraged in the existing commercial areas of Old Brooklyn and Brooklyn Centre to respond to and support new recreational users of the lower Big Creek trail and parkland. Retail operations would also be encouraged in the Harvard/Jennings area to provide services to users of the Towpath Trail and the Scenic Railway.

Preservation and Expansion of Greenspace

The greenspace concept envisions a continuous ribbon of parkland and open space linking the Metroparks Zoo to the Ohio and Erie Canal Reservation, the expansion of Calgary Park to lowland areas below and to it east. Improvements here might include a trail linking the existing park with the floodplain areas.

The open space concept would embrace the use of conservation easements on privately owned parcels as well as outright public purchase of lands to promote the recovery of natural stream functioning, protect and improve the riparian zone and sensitive hillside areas, and establish a continuous corridor for movement of wildlife.

Recreational Trail Links to Upland Areas and through the Valley Floor

Several neighborhood connector routes are proposed that would link the Towpath Trail to Old Brooklyn and Brooklyn Centre neighborhoods and to the Metroparks Zoo.

From the Towpath Trailhead at Harvard Road these routes all follow Harvard Road west to the Harvard/Jennings intersection. From here the connector routes proposed include:

> Harmody Park/Treadway Creek Route: From Harvard/Jennings, south on Jennings Road, west on Crestline Road, then south to Harmody Park via an existing natural ravine;
>
> Upland Big Creek Route: From Harvard/Jennings, south on Jennings, west on Crestline to a point west of Valley Road, then westward along the valley rim to Pearl Road via the Henninger landfill;
>
> Lowland Big Creek Route: From Harvard/Jennings, south to Jennings Road and westward through the valley floor to Metroparks Zoo property; and
>
> Brooklyn Centre Connector: From Harvard/Jennings, north on West 14th Street north to Dennison Avenue, then north to Willowdale Avenue via East Dennison School and W.C. Reed Playfield, to Pearl Road.

Figure F-7 presents the overall concept for future planning of the valley.

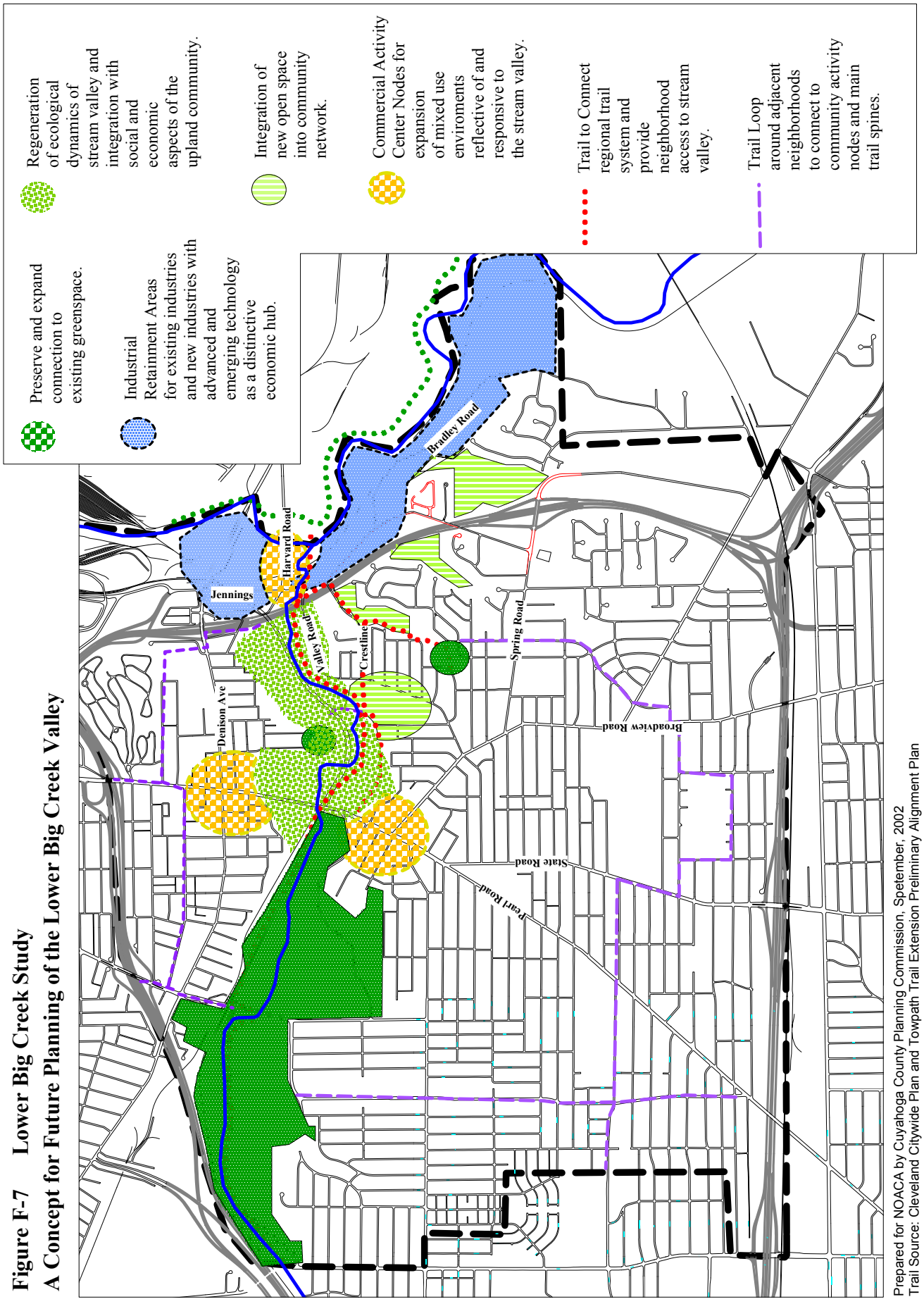


Figure F-7 Lower Big Creek Study
A Concept for Future Planning of the Lower Big Creek Valley
Preserve and expand connection to existing greenspace.
Regeneration of ecological dynamics of stream valley and integration with social and economic aspects of the upland community.
Industrial Retainment Areas for existing industries and new industries with advanced and emerging technology as a distinctive economic hub.
Integration of new open space into community network.
Commercial Activity Center Nodes for expansion of mixed use enviroments reflective of and responsive to the stream valley.
Trail to Connect regional trail system and provide neighborhood access to stream valley.
Trail Loop around adjacent neighborhoods to connect to community activity nodes and main trail spines.
Jennings
Harvard Road
Bradley Road
Valley Road
Crestline
Denison Ave
Spring Road
Broadview Road
State Road
Pearl Road
Prepared for NOACA by Cuyahoga County Planning Commission, September, 2002
Trail Source: Cleveland Citywide Plan and Towpath Trail Extension Preliminary Alignment Plan

Strategies for Furthering the Planning Concept

The next section, Section G, outlines several strategies for furthering this planning concept including the following:

- Land Use Planning (which addresses Mixed Uses and Greenspace Preservation concepts);
- Business Retention, Infrastructure Improvements and Economic Development (which addresses Economic Retention and Development concept).
- Recreational Trails (which addresses Recreational Trails and Greenspace Preservation concepts);
- Transportation Assessment (which addresses Mixed Uses, Recreational Trails and Economic Retention and Development concepts);
- Coordinated Code Enforcement. (which addresses Mixed Uses) and

Taken together, these strategies should provide a comprehensive approach to revitalizing the lower Big Creek Valley area.

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Section G. Strategy for Phase 2 of the Lower Big Creek Project

Phase 1 of this project includes an assessment of the land use, transportation and environmental issues in the Lower Big Creek area, and prioritizes these problems based on advice from the Project Advisory Team and input from the public. Phase 1 also involves formulation of a strategy for addressing these problems. This section outlines a strategic plan for Phase 2 that includes both shorter term and longer term action elements.

Problems in the Lower Big Creek Study area are multifaceted and in some cases verge on the intractable. An effective approach for confronting these is to pursue a multifaceted plan of action with sustained involvement by the institutional stakeholders with interests in the Lower Big Creek area. Actions to be undertaken in Phase 2, whether direct project implementation or targeted studies aimed at Phase 3 implementation, are recommended on the basis of issue priority. Direct project implementation is recommended on the basis of immediate practical logic and feasibility. Continuation of the Project Advisory Team concept into Phase 2 is a key element in this approach.

The recommended strategy for Phase 2 encompasses seven elements:

A) Land Use Planning;
B) Business Retention, Infrastructure Improvements, and Economic Development
C) Recreational Trails-Alignment and Design Study;
D) Transportation Assessment;
E) Hillside Subsidence Planning and Management;
F) Coordinated Code Enforcement; and
G) Overall Phase 2 Coordination

Each of these strategic elements will be discussed in turn.

A) Land Use Planning

This task involves planning and policy development in the Lower Big Creek Valley area that focuses on:

1. Land use planning for specific parcels which makes specific reuse recommendations oriented toward development of a strategically located greenspace in the valley area between the Cleveland Metroparks Zoo and the Ohio & Erie Canal Reservation;

2. Development of zoning overlay district addressing Open Space, Riparian, Viewshed and Hillside Protection zones in the Lower Big Creek area; and

3. Review of City of Cleveland land acquisition policy for parkland development.

Lead Agency: Cleveland City Planning Commission

Partner Agencies: Cleveland Community Development Department; Cuyahoga County Planning Commission

Funding Source: City of Cleveland

Recommended Short Term Actions:

1. Parcel Level Land Use Planning

Lead Agency: Cleveland City Planning Commission

Several properties in the Lower Big Creek valley area have significant potential for more detailed planning and redevelopment leading to the establishment of a strategically located greenspace including the a landfill property in the upland area south of Big Creek and east of US 42, and the floodplain property north of the lower Big Creek and east of Calgary Park currently used for the storage of road salt and bulk containers for truck transportation.

a) Development of a Preliminary Master Plan and an Acquisition Strategy for the Landfill Property in the Upland Area South of Big Creek and East of US 42.

Implementation Strategy:

Contact property owner and arrange meeting to discuss how their specific property fits into the City's long range plan for Old Brooklyn.

Review site and land use recommendations form the Ward 15 commercial revitalization plan.

Tour property with representatives from Cleveland Departments of Economic Development and Parks, Recreation & Properties and Law to acquaint them with site.

Research how various programs including Clean Ohio Brownfields and Trails Programs, and USEPA Initiatives such as Brownfield Pilot Grants could be used to fund site assessment and/or acquisition activities

Schedule follow-up meeting with Ward 15 City Council representative and describe proposed strategy.

Seek funding sources.

Seek authority from Administration to discuss project further with Cleveland Metroparks and/or other government agencies. Focus on longer-term management issues and review possible long term funding scenarios.

Obtain appraisal of fee interests in privately-owned parcel.

Make offer to owner for leasehold, easement and/or fee-simple purchase.

b) Development of a Preliminary Master Plan and an Acquisition Strategy for the Portion of the Big Creek Valley Floor North of the Big Creek Currently Occupied by a Truck Container Storage Site and Road Salt Storage Pile.

Implementation Strategy
Follow same general steps as outlined in previous section immediately above.

2. Development of Zoning Overlay District

The Cuyahoga County Planning Commission (CPC) has launched the Cuyahoga Valley Initiative, a project to develop model municipal zoning and environmental codes, design guidelines and sustainable practices for implementation by the twelve communities within the Cuyahoga River valley including the City of Cleveland. The Cleveland City Planning Commission staff are technical advisors to this project which builds upon the land use policy research undertaken for the Lower Big Creek project. The CPC initiative, when completed, will provide a foundation for pursuing enhancements to the City of Cleveland's management of land uses in the Lower Big Creek valley.

3. Review of Parkland Acquisition Policy

Co-Lead Agencies: Cleveland Community Development Department and Parks, Recreation & Properties Department

Partner Agencies: Cleveland City Planning Commission, Economic Development Department and Law Department

Implementation Strategy

Current City of Cleveland policies concerning parkland acquisition and management of conservation easements currently constitute a barrier to implementation of a reuse plan and should be revisited as part of this planning effort.

Recommended Long Term Action

Land Use Plan

In the longer term, the development of a land use plan at the parcel level that makes specific reuse recommendations oriented toward the establishment of a strategically located green space along the Lower Big Creek Valley floor between the Cleveland Metroparks Zoo and the Ohio & Erie Canal Reservation should also be considered. The parcel-by-parcel analysis looks at various criteria as a basis for formulating reuse scenarios with the intention of accommodating various goals including connected open space, maintenance of industrial uses, etc.

Criteria for assessment of parcels include: extent of ownership complexity; cost of relocation of current use, potential for open space linkages and public access, road access, environmental pollution burden for reuse, impact on industrial uses (avoidance of fragmentation or isolation of industrial use parcels, availability of buffer areas).

Environmental Remediation Strategy

These steps will set the stage for future development of a stream side protection plan that incorporates protection of hillside and riparian areas through land acquisition, conservation easements and habitat restoration along the Lower Big Creek Valley.

Establishment of targeted green spaces in the Lower Big Creek area can support many uses including recreation, conservation of open space, stream protection, and economic revitalization. Moreover, green spaces can be targeted to be compatible with many pre-existing industrial land uses as evidenced by the recently opened Ohio & Erie Canal Reservation.

Improvements to water quality should be a major component in plans to regenerate the ecology of the Lower Big Creek area. Control of urban runoff and combined sewer overflows are indispensable steps to reducing water pollution and moderating high runoff rates during storm events. The Northeast Ohio Regional Sewer District is currently engaged in planning a combined sewer storage facility for the Big Creek area which includes both long term and early action items. Early action items to be constructed within the next couple of years are expected to remove about 371 million gallons per year of combined sewer overflow volume from Big Creek well more than half of the load

reduction expected when the long term program is constructed. When completed, this should reduce bacteria loadings in the Lower Big Creek area by over one third.

Once the CSO control program is constructed, storm water will contribute a relatively larger percentage of (reduced) bacteria loadings to Big Creek, up from about 50% currently to almost 80% under a CSO control regime. Further reductions in overall bacteria loadings can be expected with the implementation of the new federal Phase II Storm Water Management Program. Under Phase II, communities in the Big Creek Watershed must comply with new federal regulations for addressing storm water pollution beginning in early 2003. By March 10, 2003, communities must submit plans to the Ohio Environmental Protection Agency that state how they will implement storm water control measures over the next five years. When fully implemented, these should significantly reduce problems of urban runoff in the Big Creek watershed. Continued participation of the NEORSD on the Lower Big Creek Project Advisory Team will help assure that the NEORSD's water quality control programs are taken into account in comprehensive planning process underway for the area.

B) Business Retention, Infrastructure Improvements and Economic Development

This task addresses the needs of existing business and industry in the Lower Big Creek valley area, and encourages the development of appropriate new businesses. This task concentrates on

1. Providing enhanced outreach and assistance to existing businesses within the valley including the adoption of environmentally sound or "green" industrial practices.

2. Infrastructure improvements (e.g. streets, sewers, drainage, etc.).

3. Identification of types and appropriate locations for new businesses within the valley. Commercial retail business expansion can complement the emerging recreational uses in the valley as well as service the employees of existing business and industry. New Industrial development shall be focused in appropriate areas of the valley and be targeted to attract companies that are compatible with emerging recreational uses.

Lead Agencies: Cleveland Department of Community Development, Department of Public Service, Division of Engineering & Construction, Economic Development Department.

Partner Agencies: WIRE-Net, Old Brooklyn Community Development Corp. and NOACA

Funding Sources: City of Cleveland Capital Bond Funds, State Issue 2, City of Cleveland Community Development Block Grant, City of Cleveland Neighborhood Equity Fund, and various other state and federal funding programs.

Recommended Short Term Actions

1. Business Retention

Providing enhanced outreach and assistance to existing businesses within the valley.

Lead Agency: **WIRE-Net/CIRI**

Implementation Strategy

Encourage and support the Westside Industrial Retention & Expansion Network (WIRE-Net)/Cleveland Industrial Retention Initiative (CIRI) to enhance its outreach services to assist manufacturing businesses within the valley. WIRE-Net/CIRI's expanded role would include:

Encouraging and assisting the organization of an association to represent and give voice to the businesses and industries in the Lower Big Creek valley area;

Providing direct Technical Assistance in business operations, human resource management and training, and adoption of sound environmental practices;

Linking businesses and industries with resources to help them meet goals, improve operations and encourage reinvestment;

Working with businesses and industries to identify, advocate and secure funding for needed infrastructure projects that will enhance business conditions and encourage reinvestment;

Undertaking development studies, as appropriate and possible, to address identified problems or take advantage of investment opportunities;

Offering help with in-service training and educational opportunities for CEOs, Senior Executives and Managers; and

Helping with Workforce Development, including student apprenticeships.

2. Infrastructure improvements

Infrastructure improvements (e.g. streets, sewers, drainage, etc.) should be pursued in the Lower Big Creek valley area.

Co-Lead Agencies: Cleveland Department of Public Service/Cleveland Department of Community Development

Implementation Strategy

Field survey street and sewer conditions along Jennings, Harvard, Valley and Bradley Roads and prepare a comprehensive list of improvements needed;

Support WIRE-Net's efforts to gain business and industrial input to determine the best prioritization and/or most urgent of the identified problems;

Prepare engineering design plans, specifications and cost estimates for the needed improvements;

Identify potential sources of funding, including City of Cleveland Capital Bond funds;
Initiate acquisition and reservation of funds, with particular attention including programming of City of Cleveland Capital Improvement Bond funds.

3. Economic Development

Identification of types and appropriate locations for new businesses within the valley that complements the emerging recreational uses in the valley and meets the needs of existing business and industry. New industrial development shall be focused in appropriate areas of the valley and be targeted to attract companies that are compatible with emerging recreational uses.

Co-Lead Agencies: Cleveland Department of Economic Development; WIRE-Net

Implementation Strategy

Conduct market research to identify commercial retail needs and opportunities associated with the expansion of the Canal Towpath Trail and neighborhood linkages through the area;

Include research into commercial retail needs that would serve existing business and industry, and its employees;

Include coordination with commercial retail development planned in the Old Brooklyn and Brooklyn Centre neighborhoods through the Ward 15 Commercial Revitalization Study and the Cleveland Main Street Initiative; and

Conduct analysis of the valley's existing industrial mix and identify opportunities for attracting complementary industries that promote a balanced mix with an overall emphasis on industrial ecology.

Develop a strategy to recruit desired commercial retail operations or to assist existing commercial retail operations take advantage of changing market opportunities.

Recommended Long Term Actions

Infrastructure improvements

Pursue construction of the required street and sewer improvements.

Economic Development

Identify types and appropriate locations for new commercial retail businesses that can serve the emerging recreational uses in the valley as well as the employees of existing business and industry.

Recruit and assist the entry of desired commercial retail operations into the Lower Big Creek valley, and/or provide existing commercial retail operations with technical assistance to take advantage of the changing market opportunities.

C) Recreational Trails-Alignment and Design Study

This task involves further review, assessment and analysis of the feasibility of the recreational trails tentatively identified in Phase 1 connecting the Canal Towpath to the Metroparks Zoo and to upland neighborhoods in Old Brooklyn and Brooklyn Center.

Lead agency: Old Brooklyn Community Development Corporation

Partner Agencies: Cleveland Community Development Department, Cleveland City Planning Commission, and Parks, Recreation & Properties Department

Funding Source: City of Cleveland, Ohio and Erie Canal Association, Clean Ohio Fund

Recommended Short Term Actions:

1. Development of a Master Plan for the following Connector Trails Linking the Old Brooklyn and Brooklyn Centre Neighborhoods to the Recently Completed Towpath Trail Trailhead at Harvard and Jennings Road.

Harmody Park/Treadway Creek Route: From Harvard/Jennings, south on Jennings Road, west on Crestline Road, then south to Harmody Park via an existing natural ravine;

Upland Big Creek Route: From Harvard/Jennings, south on Jennings, west on Crestline to a point west of Valley Road, then westward along the valley rim to Pearl Road via the Henninger landfill;

Lowland Big Creek Route: From Harvard/Jennings, south to Jennings Road and westward through the valley floor to Metroparks Zoo property; and

Brooklyn Centre Connector: From Harvard/Jennings, north on West 14th Street north to Dennison Avenue, then north to Willowdale Avenue via East Dennison School and W.C. Reed Playfield, to Pearl Road.

Implementation Strategy:

Organize a neighborhood meeting focusing on brief presentations of the Towpath Trail, County Greenspace Plan and Citywide Plan Recreation Plan. Meeting should be focused to attract large turnout of neighborhood residents with goal of educating them on potential neighborhood linkages to the Towpath Trail.

Contract with consultant to produce preliminary designs of up to four (4) Connector Trails: a) through Big Creek Valley floor connecting to the Metro Parks Zoo and an uplands route linking to the Henninger Road Landfill and Metro

Parks Zoo, and b) through the ravine to Harmody Park and points south, and to Brooklyn Centre via West 14th Street.

Schedule follow-up meeting/design charrette at which draft trail route designs are presented to the neighborhood and other stakeholder groups.

2. Acquisition of the Ravine Directly North of Harmody Park for Use as a Neighborhood Connector Trail.

Implementation Strategy:

In-House meeting with staff and directors from the Cleveland City Planning Commission and Community Development Department. The meeting objective is to review trail planning framework and seek administration's approval to pursue City acquisition of privately-owned ravine to the north of Harmody Park and merge it with City-owned landbank parcels bordering park.

Follow-up meeting to brief Ward 15 Council Representative about #1, above.

Meet w/abutting property owner Cleveland Metropolitan Housing Authority (CMHA) to apprise them of plan and confirm their continued interest in contributing their land holding to the trail plan concept.

Obtain appraisal of fee interests in privately-owned parcel.

Entertain preliminary discussions with property owner concerning interest in possible property sale and/or trail easement or lease.

Research how EPA Issue 1 Trail Fund monies could be used to purchase the property and/or assist in development of trail easement.

Make offer to owner.

Contract w/Schmidt Copeland Parker & Stevens to develop detailed design based upon preliminary design generated as part of comprehensive trail design strategy (see above item).

Recommended Long Term Action

Trail Alignment & Design

Perform recreational trails feasibility study for four Connector Trails in the study area. This will involve (i) refinement of base data and evaluation criteria pertaining to the trail routes tentatively identified, (ii) analysis of existing natural and man-made cultural features to determine opportunities for trail development; (iii) identify alternatives and

layout design, including preliminary costs; (iv) evaluation of alternatives; and (v) identification of preferred alternatives.

Implementation Strategy

Pursue Funding Mechanisms for Analysis Work

With Project Advisory Team finalize routes to be evaluated, determine use and variety of activities for valley vision to assist with future planning of the trail component;

Develop action plan/funding mechanisms for property acquisition/easement initiative;

Outline future management measures and entities to ensure proper design components are considered in the design analysis phase;.

Develop preliminary plan and perform initial property owner assessment prior to consultant;.

Prepare and send out RFQ/RFP;

Hire contractor;

Develop an acquisition mechanism to retain lands for future trail use or protection of valley during feasibility phase;.and

Establish funding mechanism for trail construction (sources and uses of funds).

D) Transportation

This task involves the following transportation planning activities to address the following goals:

- Transportation system changes and additions should reflect an effort to solve longstanding Big Creek and Cuyahoga River watershed problems;

- Coexistence should be pursued among existing business and industrial uses and emerging commercial and recreational uses in the valley;

- Neighborhood circulation and connection to the valley by all modes should be strengthened.

Specific objectives include the following**:**

- Pursue infrastructure improvements that will enhance the quality of travel in the valley by all modes.
- Pursue key infrastructure improvements that can strengthen economic development opportunities at the Harvard/Jennings intersection.
- Assist the City in the relocation of incompatible valley uses to other areas in the valley or City that offer better access without creating watershed problems;
- Continue to assist the City in its effort to develop a bicycle and pedestrian plan for the study area with neighborhood access to the Zoo, Towpath Trail, and proposed Cuyahoga Valley Scenic Railroad Station as priorities;
- Examine the feasibility of converting West 14th Street, between Denison and Jennings to a bicycle and pedestrian way.
- Explore expanded transit circulator service among the neighborhoods and existing and future valley attractions either through GCRTA or non-profit participation;
- Explore the opportunity for multi-modal access between the Zoo and the proposed Towpath trailhead and Cuyahoga Valley Railroad Station near Harvard Road;
- Examine automobile access to the Zoo.

Lead agency: NOACA

Partner Agencies: City of Cleveland Department of Public Service, Community Development Department and Cleveland City Planning Commission, Cleveland Metroparks

Funding Source: NOACA Planning Funds

Recommended Actions

Study items should include, but not be limited to, the following:

- Field survey street conditions along the primary streets in the valley (i.e. Jennings, Valley, Harvard and Bradley),

- Examine truck freight access and circulation routes in the valley in detail to determine improvements and viable alternatives to existing access points and configurations, and travel patterns;

- Analyze existing and future freight rail movements;

- Explore more appropriate and accessible alternative locations in the valley or elsewhere in the City for businesses that encroach on the floodplain or create other watershed problems;

- Assemble technical and financial assistance packages for affected business in the event relocation is recommended;

- Examine prospects for improving access to the Zoo building on the findings and recommendations of the Ward 15 Commercial Revitalization Study.

E) Hillside Subsidence Planning and Management

The task is to develop options for technical methods and design solutions that could be applied to hillside subsidence problem sites in the Lower Big Creek Area.

A geo-technical stabilization plan is one solution for addressing current threatened property in the Lower Big Creek Study area. Other elements might include:

- Technical assistance to home owners at risk in the form of technical standards to control hillside subsidence, a loan program, subsidized technical assistance;
- New city standards for road stubs to prevent hillside subsidence:
- Program to purchase properties severely at risk from hillside subsidence;
- Hillside subsidence zoning overlay district.

Co Lead agencies: NOACA and the Cleveland Department of Public Service, Division of Engineering and Construction

Partner Agencies: Cleveland City Planning Commission, Community Development Department and Law Department

Funding Source: City of Cleveland; U.S. Army Corps of Engineers

Recommended Short Term Actions:

Retain a geo-technical engineer to perform at minimum, a general *site assessment* to evaluate severity and a preliminary evaluation of priority areas to focus on an area of concern that includes the valley rim from Fulton Rd. to the Cuyahoga River.

Implementation Strategy:

The implementation strategy includes:

Conducting an on-site inspection of the valley rim in the area of concern.

Identifying areas of instability in the area of concern (and relationship of problem areas to geology and stream morphology of the area).

Identifying structures, including public infrastructure such as road stubs, at risk for failure from hillside subsidence. Provide insight on time frames associated with progressive subsidence.

Within resource budget available, identifying general types of controls appropriate to address current and future problems. Consider individual site

structural support and general solutions associated with stabilization of slopes, including projects to stabilize the current channel of Big Creek. Provide information on low-cost best management practices that might help to slow the current subsidence problem.

Providing generalized cost estimates for both engineering and construction for the types of controls considered.

Recommended Long Term Actions

These are contingent on preliminary evaluation but may include:

Forming a hillside subsidence planning group of local public technical resources review preliminary evaluation and recommend follow-up action.

Developing a plan for the design approach and feasible techniques for the specific areas of concern.

Outlining options/alternatives for the technical applications or solutions. Develop cost estimates on solutions/alternatives to weigh options economically. Explore design solutions that are innovative, sustainable and serve larger purpose than just hillside stabilization.

Technical solutions might include but are not limited to :

Tieback retaining walls;
Terracing;
Greenwall Systems – structures with plant components;
Geosynthetics;
Bio-engineering/use of vegetation; and
Acquisition/removal of structures.

Outlining construction plan and procedures for construction and management of project (protection of existing structures, disturbance of land and structures in the process, permits required, project supervision component, protection of natural resources and minimizing impact on stream).

F) Coordinated Code Enforcement

The task is to coordinate and enhance enforcement of building code, site code, health and environmental regulations and other land management rules across City Departments within the Lower Big Creek Study area. This has a short term component and a longer term component. A City of Cleveland model for this approach is the Streetscape Advisory Committee.

Co-Lead agencies: Cleveland Community Development Department Division of Building and Housing; Department of Health Environmental Health Division

Partner Agencies: Cleveland Law Department; Cleveland Board of Zoning Appeals.

Funding Source: City of Cleveland

Recommended Short Term Action

Establish Cross Department Code Enforcement Task Force

The short term component is to organize a task force with representatives from the relevant City Departments to begin to target and coordinate code enforcement activities in the Lower Big Creek Valley area. A number of enforcement concerns have been raised including unsightly site conditions on some properties, problems at C & D landfills, potential environmental problems, and other issues. The diversity of problems encountered in this area is further complicated by the absence of close coordination among disparate enforcement agencies within the City and among outside agencies. The code enforcement task force is a mechanism for tackling short term issues collectively through common assessment of problems and a coordinated response under existing regulations of different departments, but also longer term modifications to existing regulations through a systematic assessment of enforcement issues across departments and formulation of new approaches that allow for targeted enforcement.

The code enforcement task force can be established by the Mayor as an executive order that (a) establishes the charge to the team, (b) identifies its members, and (c) establishes a timetable for carrying out its charge. The Lower Big Creek area is an appropriate location for a demonstration of this type because of problems identified will require a coordinated response across Departments to be effective. If successful, this approach can serve as a model for other areas of the City.

Recruitment of a city hall-based issues team that can focus on short-term code enforcement activities in and around the Lower Big Creek Valley Area.

Implementation Strategy:

Identification of City team members from the following Departments: Law, Community Development, Cleveland City Planning Commission, Department of Health, Division of Environmental Health, plus representatives from Division of Air Pollution Control, Building Department, Public Service, Animal Control, etc.

Identify allied agencies that can be approached to join the Team – ODNR, Ohio EPA, County Health Department, NEORSD, Army Corps of Engineers, etc.

Recommended Long Term Action

Building and Site Codes should be reviewed and modified.

The longer-term component is to pursue possible modifications to process for enforcing building codes and other regulations. This would involve a review of current code enforcement policy and practice and identifying successful approaches taken elsewhere for addressing code problems particularly in industrial areas.

Code enforcement review would involve an assessment of the appropriateness and effectiveness of current code enforcement policies, understanding points of inadequacy in the system, where enforcement breaks down, what are common abuses of the system, what remedies would be appropriate. This would help develop a focus on potential modifications to enforcement policies and procedures based on an assessment of current code enforcement experiences and the identification of systematic enforcement problems.

This review might entail a description of the typical flow of events in code enforcement process (complaint, code inspector visit, etc.); case studies applicable to landowners in the Lower Big Creek area that would describe the sequence of enforcement steps and an assessment of deficiencies in the process in terms of efficiency, fairness, effectiveness, etc.

A second step would be to research model programs for coordinated and effective municipal code enforcement that would apply to this area.

The third step would be to formulate recommendations for policy or procedural revisions to code enforcement policies and practices.

G) Overall Phase 2 Coordination

There is a pressing concern to maintain a coordinated effort as the Phase 2 strategies are carried out. This will require a comprehensive planning and oversight function. This task also includes maintenance of the Lower Big Creek project advisory team to continue to provide input on proposed plans and policies; and an ongoing public involvement effort.

Lead Agency:	NOACA
Partner Agencies:	Cleveland City Planning Commission and Community Development Department
Funding Source:	Ohio Coastal Management Program, Ohio & Erie Canal Association, City of Cleveland, NOACA

Implementation Strategy:

Development of a Grant Proposal for submittal to the Ohio Coastal Management program that addresses the second phase of the Lower Big Creek project to include comprehensive planning and oversight functions, advisory team maintenance and public involvement work necessary to sustain and coordinate the Phase 2 strategies outlined in this Section.

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Appendix A

Inventory of Land Impairments in the Lower Big Creek Area

NOACA contracted with the Cuyahoga County Planning Commission to carry out a baseline assessment of impairments to land uses in the lower Big Creek study area in order to better understand existing land uses and the potential for encouraging new land uses in the study area.

A major concern was to note land use impairments include issues such as industrial housekeeping practices that may impact environmental quality (water, air and visual) and uses such as junk yards, storage of bulk materials and creating disturbances that may impact valley slopes as well as areas of hillside subsidence.

The following data were compiled at the parcel level in a GIS format for this project:

- Parcel number
- Address
- Owner
- Number of buildings
- Building name
- Land use/building type (retail, office, light industrial, heavy industrial)
- Year of construction
- Tax valuation
- Property market value
- Occupancy (abandoned, vacant/unsecured, vacant/secured, partially occupied or fully occupied.
- Building condition/façade/exterior walls
- Building condition/signage
- Building condition/windows & doors
- Parking areas (paved or unpaved condition, quality of paved condition, surface drainage conditions
- Site conditions/accessory structures (good, needs minor repair, needs major repair)
- Site conditions/existing vegetation (natural or landscaping present)
- Site conditions/observed dumping (type & description)
- Site conditions/outdoor activity (junkyard, brownfield or landfill, outdoor storage of bulk materials, equipment, finished products
- Infrastructure conditions/roads (good, fair or poor)
- Infrastructure conditions/sidewalks & curbs
- Railroad right of way
- Truck traffic

Survey data are provided on the attached compact disk. See File Name "Lower Big Creek Land Impairments Survey." to view an Excel spreadsheet. The compact disk also contains computer map displays of this data. The computer map files are presented as ESRI shape files that can be viewed with ARC/INFO, ARC/VIEW or ARC/MAP and

several other commonly used Geographic Information System (GIS) programs. A copy of ESRI's ARC/EXPLORER is included on the compact disk to facilitate viewing of the map information by people who do not have access to a GIS program. Instructions for loading ARC/EXPLORER are contained on the disk.

Appendix B

Survey of Lower Big Creek Valley Businesses

NOACA, with assistance of staff from the City of Cleveland's Planning Commission and Community Development Department, and help from WIRE-Net staff, conducted a survey of businesses in the Lower Big Creek Valley area by mail and in person during March and April 2002.

The decision to conduct a survey was prompted by an outreach meeting held with businesses in the area at Zeleznik's Tavern in December 2001 to acquaint them with the Lower Big Creek study and to gain insights into their concerns. At that meeting it was learned that businesses had concerns about the lack of City attention to the area, especially in terms of infrastructure maintenance and City services. One purpose of the survey, therefore, was to obtain more systematic information about these concerns, and to learn more about the economic vitality of the area and the ways in which businesses utilize the transportation network. Also of interest was business support for possible recreational trails developments through the area. Design of the survey questionnaire was a joint NOACA-Cleveland staff effort.

The study area boundaries included the Big Creek valley below the Brooklyn-Brighton Bridge, the Harvard/Jennings Roads area, and southward along Jennings and Bradley Roads in the Cuyahoga River valley.

A total of 54 businesses in the area were sent surveys and 27 surveys were completed. Eighteen businesses did not respond to the survey and nine were closed or were in the process of relocating and were removed from the study. This response rate was improved considerably because of the assistance of WIRE-Net staff who contacted businesses in the study area following NOACA's initial mailing of the survey. This encouraged business cooperation with the survey. In some instances, WIRE-Net staff administered the survey in face-to-face settings with busy company representatives.

Survey data are provided on the enclosed compact disk. See File Name "Lower Big Creek Business Survey Final Results."

Other Survey materials follow.

NOACA Survey Letter Transmitted on March 4, 2002

Dear Lower Big Creek Valley Business Owner

As you may know, NOACA and the City of Cleveland have initiated a study of the Lower Big Creek Valley area. We are taking a coordinated look at neighborhood, economic base, environment and transportation issues, and recreational and economic development opportunities presented by development of Canal Reservation, Scenic Railroad and Towpath Trail adjacent to Lower Big Creek area.

The purposes of the plan are to:

Sustain economic vitality of business and industry in the area by understanding types of businesses in the area and their needs.

Identify issues and concerns about transportation access and other infrastructure issues in the area.

Identify upland neighborhood concerns about hillside subsidence and erosion, dumping etc.

Identify ways to link Big Creek Valley to upland neighborhoods physically and economically with possible recreational trail connections.

Explore options for connecting the Cleveland Metroparks Zoo with the Towpath Trail.

Develop plans for future development so that recreational improvements can co-exist with businesses and industries.

We are requesting your assistance by **responding to the enclosed survey by March 31, 2002**. The survey is intended to gather information about your business and to better understand the economy of the valley and issues and concerns you may have about the area's future. We believe that this information will be critical to any future development plans. You may be contacted for additional followup. If you have any questions about the survey or the planning study please contact John Beeker, Project Director at (216) 241-2414, Extension 250.

Sincerely

John Beeker, Project Director

Survey Objectives

NOACA is working with the City of Cleveland on a plan to revitalize the Lower Big Creek Valley area. This survey is intended to help us better understand the factors that contribute to or inhibit the success of your business and the economy of the area. This will enable us to develop a plan that addresses the full range of challenges and opportunities in the Lower Big Creek Valley area. Our ultimate goal is to produce a plan that enhances the quality of the neighborhoods while sustaining local business and industry.

A. Basic Business Information

1. Name of Industry/Business: _____

2. Address: _____

a. Please identify location of business on (**attached map)**.

3. Contact Name/Title, Telephone & Fax Numbers, E-mail address:

_____

4 Industry/business SIC Code: _____

5. Please identify the industrial/business activities that occur on site (check all that apply):

Manufacturing	____
Warehouse/Storage	____
Distribution	____
Office	____
Industrial Service	____
Consumer Service	____
Retail	____
Vacant	____
Other (please specify)	_____

6. Provide size of property (parcel dimensions; land area in acres):

_____

7. What is size of building(s) in square feet? _____

8. Are you an owner or tenant? _____

9. Single or multi-floor building? _____
If multi-story, please identify type of use by floor:

_____

10. Have recent improvements (past five years) been made to the physical plant? What was done and what did it cost? _____

B. Physical Infrastructure Issues

1. How does condition of the physical infrastructure condition affect your daily business operations (e.g., roadways, curbs, sidewalks, lighting and sewers)? Please be specific:

_____

2. What suggestions do you have for improvements? _____

_____

3. How do you assess adequacy of basic city services (e.g., Street Maintenance, Snow Plowing, Police, Fire & EMS, etc.)? Please be specific:

_____

4. Please identify any physical infrastructure issues or suggested improvements on **attached map:**

C. Truck/Rail Traffic Information

1. On average, how many trucks arrive at/depart from your facility daily?
_____

2. Do you depend on direct rail access from your facility? _____

3. What is the total volume in tons of cargo delivered to or shipped from your facility weekly? _____

What percentage of this is by rail? _____
What percentage of this is by truck? _____
What percentage of this is by other? _____

4. Please identify the route most commonly used by trucks to exit the valley or to access the Interstate System (please identify route sequence by name and indicate route on **attached map**):

_____

_____

_____

5. Please identify any problem areas that you or your drivers encounter on these routes (examples might include heavy traffic/congestion, railroad crossings, road conditions, etc.: _____

_____

Please identify any problem areas noted on the **attached map:**

D. Business Operations Information

1. How many years has the company been in business at this location? _____

2. What percentage of customer base is located in:
   - Old Brooklyn and Valley area? _____
   - City of Cleveland outside Old Brooklyn and Valley? _____
   - Northeast Ohio outside City of Cleveland? _____
   - Other? _____

3. What percentage of suppliers are located in:
   - Old Brooklyn and Valley area? _____
   - City of Cleveland outside Old Brooklyn and Valley? _____
   - Northeast Ohio outside City of Cleveland? _____
   - Other? _____

4. What percentage of employees are from:
   - Old Brooklyn neighborhood? _____
   - City of Cleveland outside Old Brooklyn? _____
   - Northeast Ohio outside of Cleveland?
   - Other? _____

5. What is your total annual business revenue? _____

6. What has been growth pattern:
   a. In last ten years (select one):
      - Same as economy? _____
      - Greater than economy? _____
      - Less than economy? _____

b. In last three years (select one):

Same as economy? _____
Greater than economy ? _____
Less than economy? _____

7. What are growth expectations for the future (select one):

Same as economy? _____
Greater than economy ? _____
Less than economy? _____

8. What are the reasons for the trends cited above? _____

_____

9. Do you have plans for future expansion? Please explain: _____

_____

10. Do you anticipate relocation to another location?

If yes, explain why and where: _____

_____

11. Are there perceived environmental nuisance factors associated with your operation? If so, please identify the factor:

Chemicals: potential spill or fire risk: _____
Significant hazardous materials present: _____
Noise: _____
Air quality: odors, smoke, airborne particulates: _____
Long hours of operation: _____
Unsightly buildings/site conditions: _____
Other (please explain): _____

12. What is your perception of the advantages or disadvantages of a Big Creek Valley location for your business? _____

_____

E. Impact of Potential Recreational Facilities

1. Would you or your employees utilize any local recreational facilities if developed for the area (please explain)? _____

2. Do you see any advantages or disadvantages for your business of a Big Creek Valley location for recreational facilities if developed for the area (please explain)?

_____

_____

3. Do you have any other comments concerning the potential for recreational facilities in the area? _____

_____

F. Other Comments

_____

Prepared by:

Date completed:

Please return completed survey to:

John Beeker, Project Director
Lower Big Creek Valley Study
Northeast Ohio Areawide Coordinating Agency
1299 Superior Ave.
Cleveland, Ohio 44114

Tel: (216) 241-2414 FAX: (216) 621-3024

Companies Receiving the NOACA Survey of Lower Big Creek Businesses

Company Name	Address 1	Address 2	City	State	Zip + 4
A & L Fabricating Corp	3975	Jennings Rd.	Cleveland	OH	44109-2859
A A A Stamping Inc	4001	Pearl Rd	Cleveland	OH	44109-3198
ABC Auto Parts	3920	Valley Rd	Cleveland	OH	44109
All Industrial Roofing Inc.	4014	Jennings Rd	Cleveland	OH	44109
Alumitech of Cleveland, Inc	4181	Bradley Rd	Cleveland	OH	44109-3779
Anthony's Paving Company	3954	Pearl Rd	Cleveland	OH	44109-
Art Galvanizing Works	3935	Valley Rd	Cleveland	OH	44109
Arthard Tool & Die Co.	3930	Pearl Road	Cleveland	OH	44109-3104
Automatic Vendors Inc.	3341	Jennings Rd.	Cleveland	OH	44109
B & D Transfer Inc.	3750	Valley Rd	Cleveland	OH	44109
Best Aire Inc.	3930	Pearl Road	Cleveland	OH	44109-3104
BP Oil Pipeline Company	4421	Bradley Rd	Cleveland	OH	44109-
Brookside Auto and Salvage Comp	3979	Pearl Rd	Cleveland	OH	44109-
Buckeye Metal Co			Cleveland	OH	44109-0159
C & D Trucking & Equipment	4015	Jennings Rd	Cleveland	OH	44109
Chemical Solvents	3751	Jennings Rd	Cleveland	OH	44109-
Cleveland Stripping/Derusting	3888	Pearl Rd	Cleveland	OH	44109-3159
Cleveland Welding	3971	Jennings Rd	Cleveland	OH	44109
Cudnik's Tavern	3995	Jennings Rd	Cleveland	OH	44109
Custom Enterprises Auto Body	3965	Valley Rd	Cleveland	OH	44109
Dennison Transportation	3910	West 14th Street	Cleveland	OH	44109
DiCillo's Industrial Services	3341	Jennings Rd.	Cleveland	OH	44109
Eveready Products Corporation	1101	Belt Line Avenue	Cleveland	OH	44109
Gene's Trucking	3930	Pearl Road	Cleveland	OH	44109-3104
H & M International	3930	Pearl Road	Cleveland	OH	44109-3104
Level 5	1001	Belt Line Avenue	Cleveland	OH	44109
Martin Enterprises	3926	Valley Rd	Cleveland	OH	44109
Merit Foundry	3921	Valley Rd	Cleveland	OH	44109
Milan Express	3930	Pearl Road	Cleveland	OH	44109-3104
Miracle Power Products	1101	Belt Line Avenue	Cleveland	OH	44109
Modern Builders Supply - Jennings	3900	Jennings Rd	Cleveland	OH	44109-
National Tire & Rubber Company	3751	Valley Rd	Cleveland	OH	44109-
OH BY Products	1002	Belt Line Avenue	Cleveland	OH	44109
Ohio Transport Corporation	3750	Valley Rd	Cleveland	OH	44109
PB Express	3870	West 14th Street	Cleveland	OH	44109

Ponz Recycling Inc.	3800	Valley Rd	Cleveland	OH	44109
R & T Equipment	3985	Jennings Rd.	Cleveland	OH	44109-2859
Rental Service Corp.	3985	Jennings Rd.	Cleveland	OH	44109-2859
Republic Waste Management Of Cleve.	3980	Jennings Rd	Cleveland	OH	44109-
River Recycling Industries Inc.	4195	Bradley Rd	Cleveland	OH	44109-
Schuster Tool & Die	3985	Jennings Rd.	Cleveland	OH	44109-2859
Standard Lafarge	3985	Jennings Rd.	Cleveland	OH	44109-2859
Superior Demolition & Excavating	4480	Bradley Rd	Cleveland	OH	44109-
Terrace Construction Company Inc.	3965	Pearl Rd	Cleveland	OH	44109-
Tesar Industrial Contractors	3920	Jennings Rd	Cleveland	OH	44109-
The ELCO Corporation	1000	Belt Line Avenue	Cleveland	OH	44109
Turbonics Inc	4001	Pearl Rd	Cleveland	OH	44109-3197
Wabash Alloys	4365	Bradley Rd	Cleveland	OH	44109-3773
William E. Platten Contracting Co.	3939	Valley Rd	Cleveland	OH	44109
Zeleznik's	4002	Jennings Rd	Cleveland	OH	44109
Independence Recycling	3870	Jennings Rd	Cleveland OH	OH	44125
DLH Building Corp	4130 & 4150	Bradley Rd	Cleveland OH	OH	44109
Carson Paving	4175	Jennings Rd.	Cleveland	OH	44109
Auto Recovery	4480	Bradley Rd	Cleveland	OH	44109

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Appendix C

Community Meeting Results

Residents from the Old Brooklyn and Brooklyn Centre areas attended a public meeting on the evening of Thursday, January 24, 2002 in the auditorium of the Cleveland Metroparks Zoo at 3900 Wildlife Way, Cleveland, Ohio to learn about the Lower Big Creek Project and to discuss their thoughts on the future of the valley. This meeting was part of an on-going communication forum to allow the community to share their viewpoints about the Lower Big Creek Project.

The began at 6:30 p.m. and ended at 9:00 p.m with approximately 100 people in attendance. The meeting consisted of three elements: visual presentations by members of the project team, a question and answer session, and a community participation session with five facilitated breakout sessions.

The program agenda included:

Introductions by City of Cleveland Ward 15 Councilwoman Merle Gordon;

An overview of the study by Project Leader, Dr. John Beeker of NOACA;

Planning Perspectives from the following Project Team members:

- Mr. George Cantor, from City of Cleveland Planning Commission discussing the Connecting Cleveland 2020 Citywide Plan;
- Mr. Tim Donovan from Ohio Canal Corridor, Inc., discussing the Ohio & Erie Canal National Heritage Corridor Plan;
- Mr. Steve Coles from the Metroparks discussing the Metroparks Plan;
- Mr. Bob Laycock from City of Cleveland Community Development Department discussing commercial & retail linkages in Ward 15;

Presentations were followed by a public a question and answer session moderated by Dr. Beeker.

Some of the questions and concerns raised included the following:

- If most of the land in the valley is private, what scope is there for public redevelopment of a recreation zone?
- Residents are concerned about water pollution and wetlands.
- There are concerns about impacts on land owners of rezoning and use of eminent domain to acquire private homes.

- What is the timeline for the trail?

- Can Brookside Park as well as the Archwood Denison play fields behind the Denison Schools connect to the Zoo?
- What is the future plan for LTV steel and its properties and can LTV be converted to park space?

Following the question and answer session and a five-minute break, participants were invited to participate in one of five breakout sessions. Attendees also received a questionnaire to turn in at the end of the evening. Each breakout session had about 7 to 8 participants.

Key Public Concerns

The discussions in each of the five breakout sessions were lively with a lot of useful information obtained for the project from meeting attendees. Key public concerns expressed included the following:

- There is a marked difference in neighborhood perspectives about the past, present and future. Thinking about the past brings wonderful memories of baseball diamonds, supermarkets, theaters, local drug stores, wild turkeys, deer, and kids playing in the woods at Calgary Park. The present conjures up images of junkyards, truck depots, air and land pollution, poor schools, unsightly housing, a lack of amenities, and a continuous battle to clean up the area regularly surfaced.

- Stories about the Lower Big Creek Valley of the past abound. They include trips on the train that went to "Dollyland," the Civil War encampment under the Pearl Rd. Bridge, steam trains, ponds for ice-skating, the colors of the Big Creek (blue-green-yellow) from the Phoenix Dye Co., men cutting down trees along the Big Creek and children walking through the wallpaper factory.

- Two themes underlie neighborhood resident concerns today: the revitalization of the housing stock and general condition of the neighborhoods, and the re-establishment of business and industry in the Valley. Erosion of home values, safety issues, loss of private property, lack of services and amenities are mentioned among residents concerns.

- In addition, residents want to attract more people to the area, develop a higher scale of retail with more local restaurant options, convert land parcels to green space, and develop a bike trail.

- In regards to business and industry, the residents would like to maintain current establishments and add new businesses and industry to the Valley. They would also like business and industry to play a greater role in the maintenance and vitality of the Valley. The residents feel that businesses should be a cooperative partner with the neighborhoods and residents to make the Valley an attractive place where people would like to live, work and play. The attendees often

referred to Ohio City and the Tremont area as examples of what they would like to see for the Lower Big Creek area.

- Many residents currently interact with the Lower Big Creek Valley by visiting the Zoo, by going for bike rides or strolls on the towpath, or by simply traversing the neighborhood streets. Many work in the neighborhood and some own businesses.

- Residents thoughts on what they would like to see happen in the Lower Big Creek Valley include a clean up of the Valley both aesthetic and environmentally, better lighting of the neighborhoods, rezoning to eliminate many of the bars on Denison and Fulton, refurbished infrastructure, a clean-up of the junkyards and recycling facilities, improved retail with storefront renovation, removal of truck traffic on residential streets, additions of hotels and bed and breakfasts, and a historic preservation movement.

- Residents wish lists include a city golf course in the Valley, an incline trolley ride similar to ones in Pittsburgh and Niagara Falls to get out of the Valley up to neighborhoods and retail, a bike lane added to Denison and Fulton Roads, the bike trail connected to the Towpath and Zoo, and the purchase of a riparian corridor in Lower Big Creek by the Metroparks Zoo to enhance the recreational amenities of the neighborhood.

In summary, the meeting proved very successful with a large diverse turnout of residents and business owners. Comments from the attendees were insightful and plentiful. This community meeting demonstrated that there is a lot of interest in the community for this project and the future of the area. Residents appreciated the opportunity to voice their thoughts and share their knowledge with others. Public comments generated in this session have been taken into account in the planning strategies developed for the Lower Big Creek area.

Meeting materials are attached.

News Release

For Immediate Release

December 21, 2001

Contact

Janet Cannata 216-524-3737
Janet_Cannata@msn.com

John Beeker 216-241-2414 ext. 250
jbeeker@mpo.noaca.org

Meeting Scheduled to Discuss Future of Lower Big Creek Valley

Cleveland---Residents from the Old Brooklyn Community are invited to learn more about the Lower Big Creek Valley and to discuss their thoughts on the future of the area. On Thursday, January 24, 2002, officials will hold a public meeting in the auditorium of the Cleveland Metroparks Zoo at 3900 Wildlife Way at 6:30 p.m. The auditorium is located across from The Rainforest. This program is part of an on-going communication forum to allow the community to share their viewpoints about the Lower Big Creek Project. With local, regional and state resources, this study is a collaborative and comprehensive planning effort to identify, assess and develop plans to address neighborhood and economic revitalization issues, environmental, land use and transportation concerns, and potential recreational trail development opportunities.

As part of the forum, speakers will present information about; the current land use, transportation issues, infrastructure and environmental concerns, potential economic revitalization for area businesses and future recreational trail opportunities. This will include discussions on linking the Big Creek Valley to the Ohio Canal Towpath Trail and the upland neighborhoods through on-going economic development and recreational trail connections. Direct input from the public will be a key feature of this forum. Residents will have an opportunity to interact directly with group facilitators to share their ideas and concerns for the area through breakout focus groups.

---more---

Meeting Scheduled to Discuss Future of Lower Big Creek

The Lower Big Creek Valley is located between the Brooklyn Brigton Bridge on Pearl Road and the vicinity of Valley Road and Jennings Road. The Ohio Canal Towpath Trail will reach this neighborhood when Cleveland Metroparks opens a new trailhead at Harvard Road near Jennings Road in 2002. Nearly two million people use this 110-mile long trail each year for hiking, biking and roller blading.

This meeting is one of several planned during the course of the two-year study to provide the Old Brooklyn Community with information on the scope and phases of the project and to allow the community to provide their input. Project team members include: Cleveland Councilwoman Merle Gordon, Cleveland's City Planning Commission, Cleveland Community Development and Health Departments, Cleveland Metroparks, the Cuyahoga County Planning Commission and the Northeast Ohio Areawide Coordinating Agency (NOACA) who is administering the study. Those interested in more information can contact John Beeker at 216-241-2414 ext. 250.

###

The Lower Big Creek Study is a collaborative effort designed to review and recommend plans for land use and transportation, identify infrastructure and environmental issues, stimulate economic revitalization for the area and develop recreational opportunities.

Public Meeting Agenda for Lower Big Creek Valley Study

Cleveland Metroparks Zoo Auditorium
Thursday, January 24, 2002
6:30 P.M.- 8:30 P.M.

Greetings - Introductions
- **Councilwoman Merle Gordon** **City of Cleveland**

Overview of Study
- **John Beeker** **NOACA**

Planning Perspectives

Civic Vision Plan
- **George Cantor** **City of Cleveland**

Heritage Corridor Plan
- **Tim Donovan** **Ohio Corridor**

Metroparks Plan
- **Steve Coles** **Metroparks**

Commercial and Retail Linkages in Ward 15
- **Bob Laycock** **City of Cleveland**

Questions and Answers
- **John Beeker** **NOACA**

Break **(7:30 – 7:40 p.m.)**

Community Participation **(7:45-8:30 p.m.)**
- **Facilitated breakout groups**

Wrap Up
- **John Beeker**

Results of Breakout Sessions
Lower Big Creek Valley
01/24/2002 Metroparks Zoo Auditorium

Breakout Session 1

When you think of the Lower Big Creek Valley, what are some of the first thoughts that come to mind?

- **Baseball diamonds and Zoo.**
- **Harvard and Jennings run down.**
- **No curb appeal – buildings run down.**

What do you see as current or potential issues facing the Lower Big Creek Valley?

- **Loss of private property.**
- **Access needs improvement.**
- **Environmental clean-up.**
- **Land ownership mix.**

If you could change something in the Lower Big Creek Valley, what would that be?

- Make waterways more accessible and inviting like Chicago experience on lake and river.
- Infrastructure improvement. i.e. Pearl Road.
- EPA concerns regarding clean water at the expense of people.
- Landowner should determine final use.
- Remove truck traffic from residential streets. i.e. Pearl Rd. and Denison Ave.
- What is happening with Fulton Rd. Bridge Reconstruction?

Map notes: Bike / Hike path to Brookside Park at Big Creek Elevation

Breakout Session 2

When you think of the Lower Big Creek Valley, what are some of the first thoughts that come to mind?

- **Junkyard.**
- **Truck Depot.**
- **Dumping ground.**
- **Continuing fight to get it clean.**
- **Wild turkey, deer.**
- **Slag fill and salt pile.**

If you would, please share a brief story from the past or present that you have of the Lower Big Creek Valley Area?

- **Use to be lush.**
- **Steam train.**
- **Ponds for ice-skating.**
- **Apple trees.**

What do you see as current or potential issues facing the Lower Big Creek Valley?

- **Make LTV an opportunity.**
- **Relocate industries.**
- **Industry reinvestment in Valley for non-industrial purposes.**
- **Relocation of industry into Valley.**
- **Bradley Rd. revitalization.**
- **Landfill (Henninger) and junkyards.**

What kinds of interactions do you currently have in the Lower Big Creek Valley?

- **Walking.**
- **Bike riding.**
- **Look for animals. i.e. wild turkey, deer.**

If you could change something in the Lower Big Creek Valley, what would that be?

- Get recycling out of Valley.
- Expand path thru Zoo to Park,) i.e. San Diego Zoo experience.
- Safe bike ride thru industrial area.
- Dress up industrial area.
- Urban archeology tours.
- Build train station.
- Tie into Round House Museum.
- City golf course in Valley.
- Hotel & B&B's in Krathen and Masonic buildings, on Pearl Rd.
- Improve and light signs to Zoo for night activities.

Breakout Session 3

When you think of the Lower Big Creek Valley, what are some of the first thoughts that come to mind?

- **Good memories – woods in Calgary.**
- **Good land – presently appears polluted.**
- **Lost potential – some beauty – land uses sub-par.**
- **LTV and Brookside Park.**
- **The stuff nobody else wanted – piles of salt, etc.**

If you would, please share a brief story from the past or present that you have of the Lower Big Creek Valley Area?

- **Woods – open, fun, kids.**
- **Big Creek colored blue, green, yellow – Phoenix Dye.**
- **Men cutting down trees along Big Creek.**
- **Child walking thru wallpaper factory – now a junkyard.**

What do you see as current or potential issues facing the Lower Big Creek Valley?

- **How are you going to develop bike trail?**
- **Bradley Rd. – needs help – activity for safety.**
- **People judge neighborhood based on main commercial streets.**
- **W. 25th St. has stigma.**
- **Zoo expansion.**
- **Fulton Rd. Bridge - Link to Towpath Trail.**
- **Business impact : can we move them near by.**
- **Resentment from business to cooperate.**
- **Homes: Louisiana etc. – property line goes to bottom of hill.**
- **Need quality tenants for commercial property.**
- **Include whole area in planning**.
- **Attract new people to buy houses.**

What kinds of interactions do you currently have in the Lower Big Creek Valley?

- **Ridden towpath (Schaaf) – upset that it does not go north.**
- **Bike ride to bank and work.**
- **Biked – blew tires out on W. 14th St.**

If you could change something in the Lower Big Creek Valley, what would that be?

- Abuse to land – all run down – curbs on street – drainage – sewers.
- Pollution – get rid of junkyards – barrels replace grids – reclaim.
- Connect bike trail to Towpath and Zoo.
- Explore reuse of historic property.
- Improve retail on Broadview Rd. and Pearl Rd.

Breakout Session 4

When you think of the Lower Big Creek Valley, what are some of the first thoughts that come to mind?

- **Don't like schools. i.e. Denison East School.**
- **Like city and older homes.**
- **Junkyards have to go. (soil – Walker)**
- **What a waste of resources.**
- **YMCA's view of junkyard.**
- **Polluted creek.**
- **Devonian shale – fossils.**
- **No entrance to Harvard / Denison – took a nice drive away.**
- **Flood free ice skating**
- **Grandstand seats**
- **Loan Pine BBQ**

If you would, please share a brief story from the past or present that you have of the Lower Big Creek Valley Area?

- **Train went to Dollyland.**

What do you see as current or potential issues facing the Lower Big Creek Valley?

- **Erosion of home value.**
- **Safety issues.**
- **Building in flood plain.**
- **Too many bars – seedy feel – Denison and Jennings to Fulton.**
- **Private land ownership.**
- **Railroad cooperation.**

What kinds of interactions do you currently have in the Lower Big Creek Valley?

If you could change something in the Lower Big Creek Valley, what would that be?

- Clean up back of YMCA.
- Purchase of Riparian Corridor by Cleveland Zoo.
- Erosion control.
- Volunteering for improvement.
- Create an aesthetic drive with Harvard and Denison open entrance.
- Finish paths – Brookpark north to Parma
- Add bike lane to Denison Ave,
- Renovate – lights! lights! lights!
- Rezone – no bars on Denison and Fulton.
- Store front renovation – more housing.

Breakout Session 5

When you think of the Lower Big Creek Valley, what are some of the first thoughts that come to mind?

- **Valley use to be forest – now junk.**
- **Neighborhood had everything. i.e. retail , supermarket, theater, garbage upkeep.**
- **What I need is no longer in Old Brooklyn.**
- **The smelter plant is obnoxious.**
- **Convenience stores "socks" people and yet people claim we cannot support a market.**

If you would, please share a brief story from the past or present that you have of the Lower Big Creek Valley Area?

- **Civil War encampment under Pearl Rd. Bridge.**
- **Big Creek was more attractive in the past.**
- **Markets, theaters, and pharmacists in the 40's**
- **I miss Glenn's restaurant.**

What do you see as current or potential issues facing the Lower Big Creek Valley?

- **Dirt on porch more from industry.**
- **Retail – Services.**
- **Opportunities for growth – conversions to green space.**
- **Need local retail and restaurants.**
- **W. 25th conflict with highway interchange mobility.**
- **Pedestrian traffic – Brooklyn Center.**

What kinds of interactions do you currently have in the Lower Big Creek Valley?

- **Zoo.**
- **Swimming.**

If you could change something in the Lower Big Creek Valley, what would that be?

- Harvard Trail all the way to Big Creek Parkway.
- Trail connection from W. 42 & Memphis to Zoo and Metroparks.
- Incline similar to Pittsburgh and Niagara Falls to get out of Valley up to neighborhoods and retail.
- Cleaning up the Big Creek will attract new people.
- I am not sure that improving the Big Creek Area will improve retail.

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Demographics of Questionnaire Responses

Lower Big Creek Valley Meeting
01/24/2002 Metroparks Zoo Auditorium

- Number of people responding to questionnaire (25).

- Average number of years and months respondents lived in the Valley
- (30 yrs. 10 mo.). Percentage living in the Valley 10 years or more (78%).

- Percentage of respondents who own a business in the Valley (9%).

- Percentage of respondents who work in the Valley (33%).

- Media Response:
    - Plain Dealer (46%)
    - Brooklyn Sun Journal (13%)
    - Old Brooklyn News (21%)
    - Flyer / Mailing (30%)
    - Friend / Family (35%)

- Percentage of respondents finding the meeting informative and worth their time (100%).

- Percentage of positive responses to Breakout Group Session (87%).

- Percentage of respondents requesting updates on the Valley (83%).

- Percentage of respondents making comments on the questionnaire (80%).

Questionnaire Comments
Lower Big Creek Valley Meeting –
01/24/2002 Metroparks Zoo Auditorium

Enjoyed updates on towpath and plans for Ward 15. Also, enjoyed learning about all the agencies involved.

Enjoyed the good graphics and maps. Could have done better by labeling major roads. Also, overlay of maps would improve visual and spatial correlations.

Enjoyed everything. Very interested in commercial development and residential rehabilitation.

Would like to know how much property is owned by railroads. Could have been more specific on exactly who owns what properties in Valley.

Enjoyed learning about the Valley towpath connections and the revitalization plans for the area.

Enjoyed the speakers and learning about development in the area.

Found meeting very informative but felt we tried to cover too many subjects.

Would like tennis courts brought back to Brookside Park and make it easier to enter the park from the north. Had trouble hearing speakers but enjoyed what she did hear about the potential for the area.

Would like to see the retail stores in the area become more trendy and popular like those in Ohio City and Tremont. Enjoyed learning about commercial and retail linkages in Ward 15.

Feels future plans for area are much needed.

Thought every speaker was interesting and informative.

Feels we need commercial development and housing inspections. Need to clean up the appearance of the area. Closed businesses are unsightly. Found information interesting but she has heard the same things year after year.

Was informed and stimulated.

Felt many of the speakers spent time going over the same information. Should try to keep the speakers more concise and less repetitive. Did enjoy learning about the commercial and retail linkages in Ward 15 and learning about the study of the area.

Enjoyed learning about the commercial and retail linkages.

Very impressed with speakers and presentation. "preserve the land – recreate".

Tim Donovan was a smooth polished presenter. He gave a clean picture of what was coming. I had hoped for more information on a trail from the Canal way to the Zoo area through the Big Creek Valley. We had to leave. The time went past the projected schedule. I think Bob Laycock went to deep into stuff no one was looking for. Hey, nobody is perfect.

Felt they needed more time for participation in the breakout group sessions. Enjoyed learning about the Canal Corridor and the building and growth on Broadview Rd. and Pearl Rd.

Want to know how they can get involved other than attending meetings. All they have heard about is plans. He wants to know what exactly is going to happen and when. Would have liked the breakout sessions to have asked more specific questions about more specific topics.

Loved the Heritage Corridor Plan and feels that it is a brilliant way to embrace the area's early history. Young people have been deprived of the opportunity to learn about the Valley's history. Enjoyed the visual historic presentation.

Appendix D

Land Use Policy Investigation: Proposed Methodologies

This research was conducted by Ms. Lynn Garrity, Cuyahoga County Planning Commission, under contract to NOACA

There is a large gap between current land use policies available to City decision makers and policies that would enable pursuit of the vision for the Lower Big Creek area presented above. In order to begin to address this gap, NOACA worked with the Cuyahoga County Planning Commission (CPC), the City of Cleveland Planning Commission and the City of Cleveland Community Development Department on an investigation of land use policy options that might be considered by the City of Cleveland for future implementation.

Investigation of a number of land use policy concepts was undertaken by CPC staff and reviewed and revised by NOACA and City of Cleveland staff. These included concepts such as:

- Hillside Subsidence Planning,
- Hillside Stabilization Zoning,
- Open Space Zoning,
- Guidelines for Re-Use of Landfill Sites,
- Aesthetic Design Guidelines for Industrial Uses,
- Outdoor Storage Licensing,
- Principles for Trail Feasibility Analysis,
- Conservation Easement Guidelines,
- Historic/Cultural Resource Protection and Interpretive Planning Guidelines,
- Scenic Viewshed Protection,
- Riparian & Hillside Protection,
- Wildlife Restoration,
- Plant Restoration Guidelines and
- Eco-Industrial Guidelines.

For each of these land use policy areas Appendix D includes a discussion of the concept, a proposed methodology to effect changes in the City of Cleveland's land use policies, and an identification of resources consulted.

Hillside Stabilization Zoning

TASK: Develop and implement city land use policy mechanisms in the form of zoning and building design standards to assist with future planning efforts for hillside remediation.

CONCEPT: Develop specific standards within a designated hillside susceptibility zone that apply to site, building and infrastructure requirements to assist with further stabilization of new and existing structures.

METHODOLOGY:

1. Designate a Hillside Susceptibility Overlay Zone through use of NRCS soil mapping project.

2. Develop review process for a project through the evolution of the project with the participation of a geotechnical engineer/geologist throughout the entire permit and development process.

3. Develop risk degree categories for varying levels of review.
   a. Zoning Review/Zoning Change – earth movement, erosion issues, existing conditions of site.
   b. Site Plan Review – Site layout, Building Layout, Preliminary Building Design.
   c. Building Permit – Excavation/Fill, Foundations, Design

   This can apply to all projects within the designated zone which includes new construction, accessory buildings and additions or modifications to an existing structure.

4. Develop design standards that assist with future construction and redevelopment of sites and public right-to-way, within the established susceptibility zone. This includes but not limited to:
   Site: Street Standards – Design/Layout/Construction
   Varying Setbacks from slope to follow grade of hill
   Building Layout/Siting
   Site Grading Standards/Erosion Control
   Drainage Standards
   Plant and Animal Life Standards/Landscape
   Building: Load Design/Foundation Compliance
   Retaining Structures Guidelines

5. Develop other assistance tools for existing structures/future development
   Transfer of Development Rights
   Easements/Dedication of Land
   Land Banking/Land Trusts

Special Considerations for Lower Big Creek

It is important to consider architectural cohesiveness of older structures as well as structural considerations for these structures. Retaining character of landscape as part of cultural history of the valley should be a goal.

No current assistance programs for property owners were found. Typically, cities tap into existing assistance funding programs to apply to hillside property problems.

RESOURCES/PROFESSIONAL ASSISTANCE

City of Cincinnati Planning Department

Steven Briggs: The City has done extensive work in the past 15 years on developing hillside remediation solutions and guidelines for development.

City of Pittsburgh Planning Department

Dan Sentz: The City has a Landslide Prone Overlay Zone which assists with landslides as well as mine subsidence problems.

City of San Bernadino, California

The City has developed design standards related to varying issues within their designated Hillside Management District.

American Planning Association, Chicago

Sanjey Jeer, Meghann Rowley www.planning.org:
APA has an entire web site section and planning division working landslide/hillside issues pertaining to policy and serving as a clearinghouse of information on this issue from around the country. It provides a survey and listing of communities nationwide with landslide regulations and the approach that is being taken.

Natural Resources Conservation Service

Jim Storer: The local office of NRCS is currently working on a map to outline hillside susceptibility zones based on soil type, degree of slope, and existing vegetation.

Open Space Zoning

TASK: Develop and implement Open Space Zoning Overlay District mechanism to further protect existing resources and outline parcels for future open space protection.

CONCEPT: Develop a zoning district or overlay zone that 1) protects critical natural resources in the Lower Big Creek Valley 2) outlines specific design criteria for new or redeveloped sites to further protect areas on site.

METHODOLOGY:

1. Identify boundary of open space overlay zone through site inventory to include steep slopes, wetlands, stream corridors, floodplain, scenic vistas, clusters of forested areas, riparian areas, wildlife corridors, other environmentally sensitive areas. (This could encompass a number of issues : floodplain, riparian, hillside protection, viewsheds/ridgelines, critical natural resources, and serve as an Umbrella district for all of these policies.

2. Apply Model Open Space Zoning District Concept to Public Zone/High Priority Protection Zones:

   Purpose: Full protection and preservation of natural resources with restrictions of land use to recreation and land conservation for public lands and/or conservation easement areas.

   Permitted Uses: Passive and active recreational use, buffer areas, stormwater management , outdoor facility structures, farming and gardening areas, offstreet parking that fits specific criteria, imperviousness criteria, landscape areas.

   Develop Design Guidelines/Appropriate Use Determination for Public Zone
   a) Develop a percentage of the open space zone to remain in undisturbed condition or of a contiguous nature.
   b) City Planning Commission to determine land use compatibility for uses within and adjacent to the district.
   c) Outline site disturbance and lot coverage guidelines for parking areas or accessory buildings and trails and stormwater management practices.
   d) Develop criteria to allow for public access and use.
   e) Identifty /Prioritize Sites that can be acquired to public owned land.

   Develop and identify an Open Space Management Plan to:
   a.. Assess allowable uses and activities in open space zone.
   b. Provide standards and maintenance plans for open space which may include additional measures such as restoration initiatives and re-introduction of plant and animal species.
   c. Form coordinating mechanism of applicable public agencies to pursue a consistent management objective.

3. Apply Model Open Space Zoning District Concept to Private Zones:

Purpose: Site plan and design standards to protect critical natural resources in future development or redevelopment on private property lands.

Permitted Uses: General land use categories under the City's zoning law, but would require additional criteria for natural resource protection within the open space designated boundary.

Develop Design Guidelines for Private Zone
Develop Buffer Zone criteria for critical areas.
Determine Density of net buildable area for site. Subtract critical resource area to site to be developed.
Establish landscaping guidelines to assist with utilization of native plantings, removal, management of invasive species, and visual connection with the entire corridor.
Develop specific site plan and development techniques that will assist in minimizing disturbance of open space features. This may include: reduction in parking area ratios , building layout such as clustering of buildings, or multi-story construction, minimized road and driveway widths

RESOURCES/PROFESSIONAL ASSISTANCE

Center for Watershed Protection
Open Space Model Ordinance www.cwp.org.

City of Chicago
Lake Michigan and Chicago Lakefront Protection Ordinance. Although this is geared towards lakefront protection, some of the concept approaches can be applicable in inland applications www.ci.chi.il.us/Mayor/Zoning.

Western Resrve Resource, Conservatioin and Developoment Distgrict
Kirby Date: Countryside Program, Conservation Development Resource Manual. Although she has been focusing on rural areas, she is beginning to research applicable approaches to suburban and urban areas for commercial and industrial land uses.

Clackamas County, Oregon
Open Space Zoning Ordinance.

City of Parma
Open Space Protection Zoning District. This applies to public lands only.

Re-Use of Landfill Sites

TASK: Develop and apply general principles for reuse of the landfill sites within the study area.

CONCEPT: Re-use of underutilized landfill sites into viable land uses in a way that will blend and enhance neighborhood activites, highlight new economic development and integrate restoration of the Lower Big Creek Valley study area.

METHODOLOGY:

1. Develop guidelines for design and administration for future re-use of landfill sites. Remedial Action of Site and Cleanup Extent of site is largely influenced by future land use. The remedial action plan needs to layout the alternative objectives for specific land uses and determine constraints and opportunities.
2. Develop a partnership with a development and engineering firm to approach property owner and to fully assess the reuse potential of site.
3. Undertake present and future ownership assessment. Determine the long term ownership of the property. What are the future plans for the property.
4. Perform Phase I assessment (this can take approximately 60 days and cost $3,000-$5,000 using Henninger Site as an example).
5. Perform Phase II Assessment (this can take 3-6 months and cost $20,000-$40,000). These assessments will set the mark to determine actions that need to be taken and full extent of reclamation to meet land re-use needs.
6. Determine legal and regulatory aspects of the sites to clarify the re-use strategy.
7. Assess economic market for current and future of site.
8. Employ following current funding mechanisms to assist with Phase I & Phase II work as well as re-development work of the site: Cuyahoga County Brownfields Redevelopment Fund, Clean Ohio Fund.
9. Undertake community Involvement: involve input from the neighborhood to make sure the re-use is compatible with the interests of neighboring land owners and the community.
   Reuse planning must consider that remediation standards vary with land reuse goal. For example, residential use has a high cost of cleanup due to stricter regulations for cleanup due to human health exposures. Foundation or basement design can also become costly on structures by the increased level of engineering.
10. Undertake present and future ownership assessment. Determine the long term ownership of the property. Ascertain what are the future plans for the property.
11. Determine structural restoration needed for site that addresses:
    - Site topography – landform grading
    - Natural drainage patterns
    - Soil Restoration/Bioremediation
    - Restoration of native vegetation and successional processes to site (affects soil enrichment potential, wildlife attraction potential, toxic removal potential), phytoremediation

Aesthetics (visual appeal of site through restoration of slope and toe of fill).

RESOURCES/PROFESSIONAL ASSISTANCE

Bill Beach & Eric Wilburn Hull & Associates
Engineering firm focusing on brownfield assessments for redevelopment options throughout the state.

Hemisphere Development Company
Todd Davis: Development Company that focuses on brownfield redevelopment projects throughout the region.

Malcolm Pirnie
Wes Rhiel : Engineering firm focusing on brownfield remediation.

Sustainable Landscape Construction
Design Practices and resources that require less engineering to restore a landfill site.

The Brownfields Center – Carnegie Mellon University
Think Tank on redevelopment strategies for Brownfields
www.ce.cmu.edu/Brownfields

Cuyahoga County Brownfields
Virginia Aveni, Jim Heron

Clean Ohio Fund Program

Aesthetic Design Guidelines for Industrial Uses

TASK: Research and develop policies to include in aesthetic design guidelines for industrial and commercial properties within the valley. This should be coordinated with specific guidelines for screening, dust control and infrastructure (roads, curbing, parking)

CONCEPT: The aesthetic design guidelines should be functional and serve multiple purposes on the site beyond serving an appearance role. These may include the following functions: stormwater management, solar collection, catchment and filtration of sediment or hydrocarbons, or driveway sharing to reduce impervious surface cover as well as improved site operations and infrastructure costs.

Industrial facilities are unique from commercial/retail centers and need to function differently, thus different site design parameters are necessary.

METHODOLOGY:

1. Conduct a performance analysis of the industrial area to determine causes of existing conditions. (dust, lack of landscaping, parking/pavement needs)
2. Determine areas that can improve productivity of buildings and site operations by instituting new site design components. This may include but is not limited to: Native Landscaping clusters in specified areas to assist with screening, dust control and stormwater management.
3. Identify areas of parking/pavement areas for alternative pavers or porous pavement that will assist in dust control and stormwater management.
4. Utilize phytoremediation planting to assist with pollution prevention of industrial operations.
5. Develop signage guidelines that can identify this area as a cohesive industrial hub within the Cuyahoga Valley.
6. Develop Lighting components for safety and an distinguishable element of the landscape that ties in with the industrial nature of the district. Incorporate solar panels on the lighting to introduce new power resources.
7. Develop Parking and Lot storage guidelines based on current operations and emerging operation practices that minimize pavement cover and maximize circulation and production patterns of the businesses.
8. Identify historical architecture themes of the valley to assist in establishing an architectural façade for new structures.
9. Determine materials that are best suited for the industrial conditions such as pavement material to minimize dust.
10. Develop a building envelope that is conducive to the site and maximizes building performance with consideration to windows, roofing and internal building systems.
11. Involve the users of such facilities to gain an understanding of site functionality for industrial use and feedback on design guideline development.

RESOURCES/PROFESSIONAL ASSISTANCE:

Urban Design Collaborative
www.udc.saed.kent.edu

Cuyahoga County Planning Commission
Cuyahoga Valley Model Code Project.

Green Building Coalition
Sadhu Johnson

Outdoor Storage Licensing

TASK:. Develop and implement an Outdoor Storage Management program utilizing an Overlay District concept for requiring an annual license for certain outdoor storage practises.

CONCEPT: An Outdoor Storage licensing program is a means of regulating land uses , particularly adjacent to streams,for environmental protection, that incorporates design issues to limit water quality impact. This approach utilized annual licensing, similar to the City's Parking Lot program. One recommendation would be to utilize the floodplain boundaries to delineate the overlay district, as these storage impacts relate to water quality and stream functions.

METHODOLOGY:

1. Develop a definition of Outdoor Storage and what is included in outdoor storage. (junkyards, containers, transporting staging areas, materials such as salt piles, materials used for production processes, bulk storage)
2. Utilize definition for allowable storage uses as well as chemical composition, as outlined in U.S EPA and Ohio EPA for industrial activity, to direct allowable uses and design criteria for storage areas.
3. Outline current properties with outdoor storage functions and assess their code enforcement with existing ordinances.
4. Assess current properties for potential of relocation to other sites outside of the valley that limits their environmental and visual impacts.
5. Determine license program setup – administration, enforcement, permit fee structure, design/technical review of permit, code guidelines.
6. Utilize U.S.EPA and Ohio EPA Stormwater Management for Industrial Activities to assist with determining a Pollution Prevention Plan such as materials inventory, preventive maintenance, spill prevention planning and risk assessment.
7. Develop design guidelines for permitted outdoor storage areas and the chemical components that are involved to determine proper design measures are utilized for the appropriate site. These guidelines should include but not limited to :
    - Water Quality Measures
        - Filtration Areas
        - Bioretention
        - Phytoremediation
        - Detention basins/ sediment
        - Catchment/diking
        - Oil/Grit Separator Systems
    - Screening Devices
        - Landscape Berming/Mounding
        - Landscape Buffering with Native Plants
    - Enclosure Design Options – Fencing/Walls
    - Established Setbacks from critical resources
        - Waterways
        - Established Plant Communities

Drainage courses
Circulation Aspects
Ingress/Egress of Traffic
Traffic Volume of site/business

RESOURCES/PROFESSIONAL ASSISTANCE

Center for Watershed Protection
Does research is a resource for pollution prevention strategies to protect water resources from industrial use www.cwp.org.

Santa Clara Valley, California
NPS Program: Outlines practices for outdoor storage.

U.S. Environmental Protection Agency
Stormwater Management Guidelines for Industrial Activities

City of Cleveland
Bob Brown: Parking Lot Licensing Program

ODOT, District 12 Office
Hydrologic Engineer- David Lastovka:Performing pilot project utilizing bioretention for salt run-off.

Guidelines for Trail Feasibility Analysis

TASK: Apply design guidelines/conditions to Trail Alignment and Feasibility Analysis for Lower Big Creek Study area.

CONCEPT: Develop a multipurpose trail to connect the Cleveland Metroparks Zoo to the Towpath Trail near Harvard Road and connections to an open space plan for the adjacent community neighborhoods.

Guiding Principles:
Use ***an innovative design approach*** that includes minimizing infrastructure and restoring ecosystem functions.

Plan for a trail loop system and other ***neighborhood connectors*** that links to the main spine. Connect adjacent neighborhoods such as Old Brooklyn, Brooklyn Centre, Archwood/Denison, Memphis Area to encourage expansion for tourism, recreation and alternative transportation for commuting.

Connect to the larger regional trail system as a means of rejuvenating the original emerald necklace concept. This includes connection to Big Creek Metroparks, Towpath Trail and the Lakefront Bikeway/Edgewater Park.

Allow for ***active neighborhood and business involvement*** in the analysis process to ensure local input, encourage citizen creativity, and develop a partnership/ownership for the future trail.

Develop a route that provides utilizing the trail for a ***diversity of users and uses*** of the trail system and a variety of activities which includes the feasibility of micro-tram buses for route.

Use ***open space concepts*** for an integrated trail to neighborhood blocks, city parks and major thoroughfares to emphasize the social, cultural and physical attributes of the local community.

I*ntegrate the natural resources* such as the stream and valley dynamics, hillside characteristics, forest remnants to allow the trail user to explore these unique ecosystems and find opportunities to restore the pre-settlement landscape.

Use interpretive markers to ***educate the trail user*** on the historical and cultural resources of the area; and utilize historic resources in the trail design.

Consider the ***adjacent land uses, especially industrial operations,*** and their daily operation activities to minimize disruption of these activities and/or their influence on trail activity.

METHODOLOGY

1. Evaluate options/alterations of route alternatives and identify challenges and opportunities for each alternative.
2. Develop a scoring system for these elements based on the guiding principles to produce the highest level of a final product. Scoring factors should include:
    - Access to Neighborhoods
    - Environmental Impact
    - Land Use Impact (Adjacent Properties – Private/Public)
    - Interaction with other modes of transportation
    - Opportunity for Economic Development/Neighborhood Revitalization
    - Opportunity for Ecological Restoration
    - User Experience
    - Opportunity for Interpretive Resources
    - Connection to Other Amenities (Parks, Attractions)
    - Views
    - Estimated Cost
    - Potential for Reclamation of Land
3. Determine Feasibility of Preferred Trail Route
4. Assess property/land issues – easements, acquistion. Make initial contact with property owners that may influence the trail routing.
5. Expand on Environmental Assessment on potential properties for trail use to assist with future engineering and provide background for best ecological restoration measures.
6. Determine engineering elements of trail design.
7. Develop design elements/ecological restoration measures for trail layout
8. Develop cost estimates for route alternatives
9. Develop a Design Team that includes the following:
    - Landscape Architect
    - Architect
    - Historian/Interpretive Specialist
    - Engineer –Structural/Civil/GeoTechnical
    - Ecologist
    - Hydrologist/Geologist
    - Urban Planner
10. Organize a Steering Committee consisting of the following to review, critique and revise to develop a consensus for the successful development of a comprehensive plan:
    - Neighborhood Development Corporations
    - Industrial Business Representative
    - Commercial/Retail Business Representative
    - Neighborhood Citizen Representative
    - Cleveland Metroparks
    - Cuyahoga Valley National Park
    - Ohio Canal Corridor
    - City Council Person

Cuyahoga RAP/Big Creek Representative
Soil & Water Conservation District
Committee for Public Art
Cleveland Green Building Coalition/Eco-City Cleveland

RESOURCES/PROFESSIONAL ASSISTANCE

City of Cleveland
Bikeway Plan, Civic Vision 2020

Cleveland Metroparks 2000
Reservation Concept Value Plans

Cuyahoga Valley National Park

Cuyahoga County Planning Commission
County Greenspace Plan, Towpath Trail Extension Plan

Ohio Canal Corridor
National Heritage Corridor Plan

Schmidt Copeland Parker Stevens
Patricia Stevens, Local landscape architecture firm did feasibility analysis for Towpath Trail Extension Plan

Micheal Hough, Cities and Natural Process,
Develops concepts for connecting spaces in urban systems considering natural, social and economic aspects of the urban environment

Conservation Easement Guidelines

TASK: Utilize conservation easements for natural resource protection and trail development in the Lower Big Creek Study area.

CONCEPT: Employ several options for land protection. Purchasing property outright should only be used on properties that have significant resources, are severely threatened by impacts, or are essential to trail or community planning objectives, as this can become very costly.

A property owner can donate the land by will or other arrangements to a public entity for future protection. Tax benefits can begin prior to the death of the individual in some arrangements. This option should be educated to property owners more actively by the local land trusts and public agencies.

Easements can be an option for property owners to hold their land, but provide tax benefits to preserve and allow access on a part of their property.

Types of Easements that may be applicable for the Lower Big Creek:

Conservation Easement – A conservation easement is designed to exclude certain activities on private land. Its primary purpose is to conserve natural or man-made resources on the land. The easement is legally binding and runs with the property deed for a specified time or in perpetuity. (Ohio State University Extension Agency) An easement can provide substantial tax benefits. Working with an attorney knowledgeable with land use law can provide the tax implications.

Public Access Easement – An easement that permits or requires public access for trail or scenic purposes. This can provide additional agreements for public access onto an easement for trail/recreational use.

Historic Preservation Easement/Scenic Easement –An agreement that provides assurance that significant historic, cultural or scenic properties will be preserved through subsequent ownership. (National Park Service, Historic Preservation Services)

METHODOLOGY

1. Develop a map delineating areas of possible easement application as a result of the trail feasibility analysis and natural/historic/stream protection as well as high priority properties.
2. Develop and adopt a model conservation/public access agreement that can be utilized specifically for the issues at hand in the Lower Big Creek Valley and beyond.
3. Develop a Management Entity: determine the organization that will manage the lands as well as enforce the easement agreement. Management should include the determining the roles of the agency or group for monitoring, maintaining and

administering the easement properties. Consider the Cuyahoga County Greenspace Plan Recommendation to develop an *Urban Land Trust* to assist with acquiring ecologically sensitive properties throughout the urban area of the county. The plan also suggests utilizing this Trust as a tool to hold properties for economic development areas.

4. Evaluate properties:
   a) establish criteria for selection process of qualified land and the best conservation/public access method;
   b) provide consistency in evaluation with Goals and Purposes of Overall Plan. cultural/historic preservation); and.
   c) ensure there is a public benefit for the transaction.*
5. Involve property owners upfront on entire planning process to encourage their participation in the success of the restoration and renewal efforts. This can done through forming a committee of various interest, holding public meetings and having direct contact with property owners.
6. Develop the following mechanisms or partners to ensure successful transactions:
   a) technical expertise- real estate, tax, financial and land management;
   b) legal review and independent legal advice for all parties; and
   c) clear understanding by all parties the purpose, use, roles, rights, and responsibilities of the transaction.*
7. Establish an Easement Stewardship Program/Landowner Outreach Program to assist with longevity of easement through new ownership and maintaining relationship with easement owner.

RESOURCES/PROFESSIONAL ASSISTANCE

Trust for Public Land

Chris Knopf, Barb Clint can serve as facilitators/partners between private/public discussions. www.tpl.org.

Cuyahoga Soil & Water Conservation Service

Jim Storer, Krysten Albro - Model Conservation Easement Agreement

Cleveland Metroparks

Steve Coles – Metroparkts is holding agency for land conservation easements.

Land Trust Alliance*

National Clearinghouse of land trust information www.lta.org.

Wildlife Habitat Council

National organization to manage dedicated corporate lands for wildlife protection and biodiversity. www.wildlifehc.org

Historical/Cultural Resource Protection and Interpretive Plan

TASK: Develop a guidance outline for elements and process procedures to develop a Historical/Cultural Resource Protection and Interpretive Plan to be coordinated with the detailed land use and trail plan.

CONCEPT: The Lower Big Creek Valley is an essential piece of and integral to the heritage of the Cuyahoga Valley and the Northern Ohio region. Remembrance and education of its historical and cultural heritage should be woven into and considered throughout the various planning efforts to enhance, protect and interpret the resources that residents and tourists can become aware of in future recreational planning efforts.

Cultural Resource Planning is planning for the rehabilitation and preservation of architecture and landscapes. This planning process has been identified in consultation with various existing initiatives: Ohio & Erie Canal Heritage Corridor Plan, City of Cleveland historic structures inventory. Further consultation with these regional efforts will help the Lower Big Creek Area focus on additonal cultural resources to consider for future planning efforts.

Interpretive Planning is planning for the Visitor Component. The maain goals of interpretation are to consider Who is the *audience* you interpret, What are the *stories* you want to telll, and What is the *experience* for visitors you want to have.

METHODOLOGY FOR CULTURAL RESOURCE PLANNING:

1. Research and Evaluate known resources as well as new structures or landscapes that may be relevant in the preservation of cultural heritage.
2. Plan for determining the future use and preservation of identified resources as well as providing additional mechanisms to consider future impacts on these resources.
3. Determine stewardship guidelines to guide the use, access and appearance of these resources.

METHODOLOGY FOR INTERPRETIVE PLANNING:

1. Develop a Long Range Interpretive Plan that includes the following components*:
    - Site Background
    - Purpose/Significance
    - Interpretive Themes –The key stories or concepts that visitors should understand after visiting an area.
    - Visitor Experience Goals –what is to be achieved for the specific site for visitor experience.
    - Visitor/Audience Profiles – Identifying the type of users can assist with developing the end interpretive tools that will maximize the visitor experience.
    - Issues Consideration – Safety, Natural Resources, Management

2. Determine Media and Product to utilize for interpretation: a) wayside exhibit b)signage, c) audio/visual displays, d) guidebook/pamphlet, and e) educational programming

RESOURCES/PROFESSIONAL ASSISTANCE

Cuyahoga Valley National Park
Jennie Vasarhelyi, Chief of Interpretation,
Jeff Winstel, Ohio & Erie Canal Heritage Corridor

Cleveland Metroparks
Foster Brown, , Chief of Interpretation

Local Historical Societies
Lynnette Zeiminski – Local Historical Researcher.

National Park Service
Planning for Interpretation and Visitor Experience, Harper's Ferry Center, Division of Interpretive Planning, 1998
Management Policies on Cultural Resource Management, 2001

Scenic Viewshed Protection

TASK: Policy research on zoning overlay districts or other planning practices focusing on viewshed protection.

CONCEPT: Visual preservation of resources and scenic vistas of the valley and adjoining landscapes can play a vital role in the future planning of the valley for re-development and restoration practices. A View Protection Overlay District Zoning category can become a mechanism to protect the visual amenities of the valley.

METHODOLOGY

1. Perform a *Visual Assessment* to determine primary views to protect and set criteria for prioritizing views. A visual assessment involves evaluating representative landscpaes and unique viewsheds. Also involve, the local community in this process to build consensus and develop a sense of ownership to the valley and its viewsheds.
   Visual Assessment approaches include the following*:
   - Planning a tour or scavenger hunt for community participation;
   - Conducting a visual preference survey through photography to evaluate visual resources;
   - Comparing community gateways; and
   - Visualizing future change to protect or renew visual resources for the Community.
2. Outline *View Protection Overlay Zone* Boundary as a result of the Visual Assessment.
3. Develop *Design Guidelines and development standards* that can provide guidance for the district that may include but not limited to the following:
   - Prohibits Billboard Signs
   - Restricts other Outdoor Signage
   - Provides additional Tree Preservation
   - Establishing buffers for stream protection
   - Restrictions on Building Heights and/or location of structures.
   - Establish View corridor

RESOURCES/PROFESSIONAL CONTACTS

Scenic America/Scenic Ohio

A Visual Awareness Tool Kit for Communities:*
Resource for legislation and approaches to visual assessment for scenic quality
www.scenic.org

Ohio & Erie Canal National Heritage Corridor

Jeff Winstel, Tim Donovan: ensure that visual assessment and and scenic preservation measures are consistent with the National Heritage Corridor Plan.

Anaheim,California

Scenic Corridor Zone Overlay

Riparian & Hillside Protection

TASK: Develop a riparian and hillside protection overlay district for the valley and identify the extents and conditions for this mechanism.

CONCEPT FOR RIPARIAN SETBACK ZONE: This protection strategy should be woven into an overlay district onto general zoning categories that are within a designated riparian and hillside protection zone.

Riparian areas along a stream can provide multiple benefits for the health of the waterway and its inhabitiants. Such benefits include filtration, sediment removal, diversity of species , cooling of water temperatures. The protection of the riparian area can be achieved by establishing a riparian buffer ordinance.

METHODOLOGY FOR ESTABLISHING A RIPARIAN SETBACK ORDINANCE:

1. Establish setback width by size of drainage area.(Example: Big Creek's watershed drainage area is 35 miles. It is recommended that this size drainage area provide a minimum of 120 feet on both sides of the watercourse as the designated setback. Adjust to expand for 100 year floodplain and wetlands. Adjust for % of slope adjacent to watercourse meeting criteria of slopes 10% or greater, soil erodibility and lack of soil cover.
2. Develop a Riparian Setback Map. This will assist in delineating the setback boundaries on parcels and serve as a reference point for administration and enforcement.
3. Develop Permitted and Prohibited Uses in Riparian Setback Areas. Potential Permitted Uses: Recreational Activity, Revegetation Streambank Stabilization/Erosion Control, public utility crossings.Potential Prohibited Uses: Structures, Roads, Dumping, Impervious Cover, sewage disposal, disturbance of natural vegetation.
4. Require inspection of Riparian Setback to be done prior to any soil disturbing activity or use permitted activity or when evidence is brought to the community of violation of the setback code.
5. Encourage legislative adoption of Riparian Ordinance. Elements: a) a grandfather clause on property transfer agreements citywide. b) requirement that public property owners to institute upon adoption; c) variance mechanism including the justification of the variance based on a consideration of the impact of the riparian area functions of proposed variance.*
6. Coordinate development of Overlay Riparian Setback with other proposed initiatives: Open Space, Hillside Protection, Plant/Wildlife Restoration
7. Develop Planting Guidelines for riparian setback areas for property owners.

CONCEPT FOR HILLSIDE PROTECTION ZONE: Alteration of hillsides can severely alter the landscape's function ability sustain a stable system for the valley. Developing parameters to protect the most sensitive hillsides is recommended as part of the overall planning efforts for the future visioning of the Lower Big Creek Valley.

METHODOLOGY FOR ESTABLISHING A HILLSIDE PROTECTION ORDINANCE

1. Develop Criteria:
   a) determine a slope percentage that restricts any development or alteration to in land use and policy making decisions. (25-30%).
   b) determine the impact of drainage patterns alterations and their contribution to
   c) restrict development or alteration to a site.
   d) utilize soil and geology information to identify areas of high susceptibility for failure to determine other areas of protection. (See *Hillside Remediation* Section)
   e) develop Planting/Restoration Guidelines for further hillside protection. This may require additional assessment of existing protected hillsides to determines their needs.
2. Develop a Map of Area to protect as identified from the criteria developed. This will serve as an overlay.
3. Determine a management entity or administrative body to monitor and implement hillside protection measures for the Lower Big Creek Valley.

RESOURCES/PROFESSIONAL CONTACTS:

Cuyahoga Soil & Water Conservation District/NRCS
Jim Storer, Krysten Albro – Model riparian setback ordinance*

Chagrin River Watershed Partners
Kyle Dreyfuss-Wells – Model riparian setback ordinance

Center for Watershed Protection
National Information Clearinghouse on Stormwater, Water Quality, Resource Protection ordinances and policies

Baltimore County, Maryland
Has a number of protection ordinances in place.

Cuyahoga County Planning Commission
Cuyahoga Valley Model Code Project

Wildlife Restoration

TASK: Develop potential strategies and research viability of these to apply to the Lower Big Creek Valley to encourage wildlife.

CONCEPT: Wildlife serves as integral piece of human nature that should be part of urban living and bringing nature closer to the city. "*Environmental literacy in cities involves an understanding of wildlife as an integral part of natural processes and the relationship of life systems to people, and what it can teach us about coexistence*." (Hough, *Cities and Natural Processes*, p.174.)

The current urban ecosystem is fragmented and is not expanding the opportunities for wildlife diversity and introduction. The expansion and introduction of wildlife can be achieved through a ***Wildlife Restoration Planning*** Process in coordination with the Plant Restoration Guidelines.

METHODOLOGY

1. Identify and Protect what is there now. The urban landscape is fragmented with disconnected patches, matrices and corridors. Identifying these existing pockets of wildlife habitat use, can begin the piecing together of these fragments to expand migratory routes, diversify plant habitats and ecosystems to develop a mixture of wildlife habitats. These include a) remnant landscapes that may currently harbour wildlife species, b) human altered landscapes that may be creating new pockets of habitat such as abandoned lands, c) sewer infrastructure areas, d) corridor rights of way, e) existing established open spaces/city parks/residential backyards, and f) linear connections such as the stream corridor.

2. Restore what has been impaired or destroyed taking into consideration: a) increasing area size to attract more species, b) considering the smallest of spaces to attract wildlife, c) expanding process to retrofit existing infrastructures to enhance wildlife. (fish ladders, wildlife tunnels), d) partner planning with planting restoration to enhance, e) protect and restore plant species that will expand wildlife diversity, f) consider human interaction to avoid disturbance, and g) determine management objectives that considers urban interactions.
3. Consider alternative sites to attract and expand wildife: a) private property/rooftops, b) industrial lands, c) sewage treatment infrastructure, and d) city parks.
4. Consider all types of wildife species to diversify of all levels of landscape: a) migratory species – birds, b) mammals, c) insects – butterflies, d) amphibians/reptiles – frogs, turtles, and e) aquatic species – fish.
5. Initiate a team to assemble a plan or guideline specific to the Lower Big Creek for wildlife enchancement and management consisting of a) an ecologist, b) a wildlife specialist/zoologist, c) a botanist, d) an urban planner/landscape architect, and e) a wildlife management officer.

RESOURCES/PROFESSIONAL ASSISTANCE

Ohio Division of Natural Resources
Division of Wildlife www.dnr.state.oh/wildlife/
Urban Landscape Management for Wildlife

National Wildlife Federation
www.nwf.org

Petro-Canada Lakeshore Oil Refinery Landscape Plan, Mississauga, Ontario,

Cleveland Museum of Natural History
Jim Bissel, Stanley Stein

Cleveland Metroparks
Tom Stanley, Chief of Natural Resources

Cuyahoga National Park
Kevin Skerl, Ecologist

Cities and Natural Processes, Hough

Plant Restoration Guidelines

TASK: Develop design tools/guidelines to first prioritize plant areas of concern which are threatened or have restoration potential. Secondly, provide tools for materials and practices to assist in restoration. This includes but not limited to: plants, management of invasive species an planting/protection practices for hillside/riparian areas.

Note: This section needs to be refined to address the immediate restoration needs and applicable approaches of the Lower Big Creek Valley. This will be completed for the final document.

CONCEPT: *Ecological Restoration Definition*: process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed. (Society of Ecological Restoration)

A restoration plan should include the following: a) address why is restoration needed; b) include ecological description of project site, c) set goals and objectives of restoration project, d) include designation and description of reference ecosystem, e) include explanation of how proposed restoration will integrate with landscape and its flows of organisms and materials, f) develop plans,schedules and budgets for site preparation, installation and post installation, g) develop performance standards which include monitoring and evaluation protocols, and h) develop strategies for long-term protection and maintenance of restored ecosystem. If feasible, one untreated control plot should be incorporated to compare with restored ecosystem. (The SER Primer on Ecological Restoration, Science & Policy Working Group, 2002)

<u>These restoration principles should apply to Lower Big Creek :</u>

a) Integrate the restoration of the site into the regional landscape to maintain its identity as part of a larger ecoregion;
b) Use Native Plant species that are applicable to the specific area of restoration;
c) Utilize natural ecological succession communities to develop self-sustaining and dynamic environments; and
d) Protect Significant natural features.

METHODOLOGY

1. Establish a professional restoration team to include the following: a) landscape architect, b) botanist, c) biologist, d) urban planner, e) environmental engineer, and f) wildlife sppecialist. Include agency representatives on team (Ohio EPA, ODNR, Metroparks).

   Hire a Restoration Ecologist to be the lead manager of the project.

   This team should address the plant restoration and wildlife expansion potential on the same project.

2. Perform a detail riparian and upland plant assessment to reach a full understanding of the plant communities and human influences on them. Divide into ecological areas such as woodlands, riparian zone, hillsides, lowlands.

3. Identify other issues that impact the site to consider and to apply to the restoration design and application (erosion control, stormwater management).

4. Identify sites that have greater or less potential for restoration due to the degradation degree and adjacent environs.

5. Prioritize, identify and develop pilot project sites to demonstrate urban ecological restoration on various measures which may include eradication of invasive species, hillside stabilization, phytoremediation for industrial sites or aquatic habitat restoration.

6. Develop a restoration design manual for the valley as well as to assist adjacent property owners to incorporate native plant restoration practices in their landscaping. This should include a native plant list that is specific in their uses and benefits (hillside stabilization, riparian protection, wildlife attraction, etc)

7. Develop performance standards for the restoration project as it reflects to a reference ecosystem. A reference ecosystem is a local landscape that can serve as a model for the restoration project to meet the site project goals and strategies.

8. Secure research funding opportunities: There are a number of state and federal funding opportunities that may apply to this type of project. Possible resources include the Ohio Lake Erie Protection Fund.

RESOURCES/PROFESSIONAL ASSISTANCE

Nature Conservancy, Ohio Chapter
Has a number of programs that may assist with establishing goals to be consistent with eco-region planning www.tnc.org

Ohio Department of Natural Resources
Can assist on establishing a native plant list for the site. www.dnr.state.oh.us

Plant Conservation Alliance
A national consortium that may assist for funding and technical partnerships on a restoration/conservation project.www.nps.gov/plants/

Society of Ecological Restoration
A national non-profit that provides professional resources and guidelines to direct plant restoration planning.www.ser.org, Guidelines for Developing and Managing Ecological Restoration Project.

Cleveland Metroparks
Tom Stanley, Chief of Natural Resources

Cleveland Museum of Natural History
Jim Bissell/Stanley Stine.

BioHabitats
Nationally recognized stream restoration company.

Davey Resource Group
Local stream assessment/restoration firm.

Waterfront Regeneration Trust, Restoring Natural Habitats

Leslie Jones Sauer, Once and Future Forest

Eco-Industrial Guidelines

TASK: This impacted area will mostly be coming out of the Business Survey and Transportation Analysis. However, Developing a general framework for Phase II on *eco-industrial practices* that may apply to this area that can assist in the retention and redevelopment of the industrial hub.

This initiative will encourage the focus on advanced technologies, ecological design principles and sustainable business practices to assist with distinguishing this region and the Lower Big Creek's industrial hub attributes as a economic competitor for industrial as well as new economic businesses.

CONCEPT:
Industrial Ecology Definition: Promotes cyclical patterns that are present in the natural systems into the designs of the typical linear patterns of industrial production processes.

This is an approach that takes into consideration the economic, environmental and social ramifications of an industrial business.

Principles of Industrial Ecology include the following:

a) Fostering cooperation among various industries whereby the waste of one production process becomes the feedstock for another.
b) Identifying ways that industry can safely interface with nature, in terms of location, intensity, and timing.
c) Striving to decrease materials and energy output intensity in industrial production.
d) Re-designing production processes and patterns for maximum conservation of resources.
e) Development of renewable energy supplies for industrial production.
(Source: Hardin Tibbs Article " Industrial Ecology: An Environmental Agenda for Industry", U.S. Dept. of Energy, Center of Excellence for Sustainable Development.)

METHODOLOGY:

1. The following are issues to consider for eco-industrial development improvements: a) design, b) resource usage, c) transportation/infrastructure, d) emissions/pollution, e) and social/community management.

2. Encourage new businesses/industries that can cooperate or partner with existing business processing or use of byproducts to create an integrated system of manufacturing and economic sustainability in the economic development planning of the area. Utilize Business Survey and Land Use information to identify the partnership potentials for the area.

3. Partner with existing businesses to develop strategies to properly locate or relocating facilities to maximize performance and improve the relationship with the natural systems through use of newly formed Business/Stakeholder Partnership.

4. Identify areas that can utilize natural systems in the processing or operation of the industrial process as well as providing mechanisms for the least amount of impact on the land and environment and utilization of renewable resources.

5. Utilize, retain, and expand the newly formed *Business/StakeholderPartnership* in cooperation with OBNDC to serve as the initial group to develop partnerships and introduce strategies to.

6. Identify *Funding Sources* to develop a *Guideline Document* that pertains to the Lower Valley's specific industrial resources and how to introduce new technologies as well as businesses related to the existing businesses as well as applying ecological principles to the existing processes.

7. Develop a *Technical Committee* which would serve as an advisory to form a Strategy Plan specific to the Industrial nature of the Lower Big Creek Valley that will reflect the Principles of the Industrial Ecology previously noted. Members should include local experts on the following: a) green building architect, b) economicdevelopment and market analysis,
c) transportation/infrastructure/communications, d) environmental health & safety, f) human resources/employees, g) industrial manufacturing – production processes, materials, and h) landscape architect/restoration ecologist knowledgeable of water and plant systems.

   This committee would provide information and develop the Guideline Document for the Business/Stakeholder Partnership

RESOURCES/PROFESSIONAL ASSISTANCE:

Cleveland Advanced Manufacturing Program
Gus Eskamani, Terry Pim – Assist manufacturing companies in assessing and developing more efficient processing practices.

Westside Industrial Retention and Expansion Network (WIRE-Net)

Cleveland Green Building Coalition
Sadhu Johnston

U.S. Department of Energy, Center of Excellence for Sustainable Development,
Industrial Ecology /Sustainable Business Section www.sustainable.doe.gov

National Center for Eco-Industrial Development Program

A national membership and resource for eco-industrial partnerships for businesses in collaboration with Cornell University and the University of Southern California www.usc.edu/schools/sppd/research/NCEID

Delta Institute

T.J. Holsen/Lavea Brachman – A non-profit organization in Chicago/Columbus that assists with policy and partnerships to sustainable development and economic prosperity for industries. www.delta-institute.org

Rocky Mountain Institute

Internationally recoginized thinktank on renewable energy. www.rmi.org

Case Studies:

Cape Charles, Virginia Sustainable Technology Park
www.sustainablepark.com

Lower Rouge/Southwest Detroit Project

Fairfield Ecological Business Park Initiative, Baltimore, Maryland

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