

APPLICATION FOR THE CLEAN OHIO CONSERVATION FUND SUMMARY SHEET

APPLICANT: Hamilton County Park District CODE # 061-02037

DISTRICT NUMBER: 2 COUNTY: Hamilton DATE 7/14/06

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PROJECT NAME: Dry Fork Creek Streambank Restoration Project

OFFICE OF NEW BURLINGTON
COUNTY ENGINEER
2006 JUL 13 PM 12:11

ELIGIBLE APPLICANT

(Check Only 1)

- A. County (1)
- B. City (2)
- C. Township (3)
- D. Village (4)
- E. Conservancy District (6)
- F. Soil & Water Conservation District (7)
- G. Joint Recreational District (8)
- H. Park District/ Authority (9)
- I. Nonprofit Organization (10)
- J. Other _____ (11)

PROJECT TYPE

(Check Largest Component)

- A. Open Space (7)
- B. Riparian Corridor (8)

PRIMARY PROJECT EMPHASIS 9, 7

- 9. Preserves or restores natural stream channels.
- 7. Preserves or restores flood plain and stream side forest functions

ESTIMATED TOTAL

CLEAN OHIO CONSERVATION

PROJECT COST (from 1.1f): \$318,840.00 FUNDING REQUESTED: (from 1.2e) \$220,000.00

NRAC APPROVAL - To be completed by the NRAC Committee ONLY

GRANT: \$ _____

FOR OPWC USE ONLY

PROJECT NUMBER: _____

APPROVED FUNDING: \$ _____

Local Participation _____ %

Project Release Date: _____

Clean Ohio Fund Participation _____ %

1.0 PROJECT FINANCIAL INFORMATION

1.1 PROJECT ESTIMATED COSTS: TOTAL DOLLARS In Kind Dollars

(Round to Nearest Dollar) (See definition in instructions.)

a.) Acquisition Expenses:	\$ <u> .00</u>	_____
Conservation Easement Purchase	\$ _____	
Easement Purchase	\$ _____	
Other <u>Earnest Money</u>	\$ <u> .00</u>	

There is no acquisition involved in this application.

b.) Planning and Implementation:	\$ <u> .00</u>	_____
Appraisal	\$ <u> .00</u>	
Closing Costs	\$ <u> .00</u>	
Title Search	\$ <u> .00</u>	
Environmental Assessments	\$ <u> .00</u>	
Survey	\$ <u> .00</u>	
Other Eligible Costs	\$ <u> .00</u>	

This was funded previously by the HCE and is not being requested in this application.

c.) Construction or Enhancement	
Access Road	\$ <u> 940.00</u>
Earthwork	\$ <u> 38,000.00</u>
Erosion Control Fabric	\$ <u> 16,100.00</u>
Live Staking	\$ <u> 55,200.00</u>
Riparian Seeding	\$ <u> 13,800.00</u>
Stream Diversion/Dewatering	\$ <u> 20,000.00</u>
Cross Vane	\$ <u> 10,000.00</u>
Step Vane	\$ <u> 24,000.00</u>
J-Hook Vane	\$ <u> 12,000.00</u>
Imbricated Stone Toe	\$ <u> 55,000.00</u>
Ford Crossing	\$ <u> 300.00</u>
Boulder Cluster	\$ <u> 12,500.00</u>
Mobilization/demobilization	\$ <u> 30,000.00</u>
Construction layout	\$ <u> 5,000.00</u>
Maintenance of Traffic	\$ <u> 4,000.00</u>

Total estimate	\$ <u>296,840.00</u>	<hr/>
Reforestation by HCPD		
1,000 native canopy trees	\$ <u>11,000.00</u>	
Deer Fencing	\$ <u>7,000.00</u>	
Temporary Wildflower Seed Mix	\$ <u>1,000.00</u>	
Labor and herbicide	\$ <u>3,000.00</u>	
Total	\$ <u>22,000.00</u>	
d.) Permits, Advertising, Legal:	\$ <u>.00</u>	
e.) Contingencies: (not to exceed 10% of total costs)	\$ <u>.00</u>	
Permitting and any overages will be paid in full by the HCE.		
f.) TOTAL ESTIMATED COSTS:	\$ <u>318,840.00</u>	<hr/>

1.2 PROJECT FINANCIAL RESOURCES:

(Round to Nearest Dollar and Percent)

	DOLLARS	%
a.) In-Kind Contributions (Please define)_____	\$ _____ .00	
b.) Applicant Contributions (Local Funds) Contributed by Hamilton County Engineers (local match for stream restoration work)	\$ <u>89,820.00</u>	<u>28 %</u>
c.) Other Public Revenues		
Nature Works	\$ _____ .00	
Land Water Conservation Fund	\$ _____ .00	
Ohio Environmental Protection Agency	\$ _____ .00	
Ohio Water Development Authority	\$ _____ .00	
Community Development Block Grant	\$ _____ .00	
Ohio Department of Natural Resources	\$ _____ .00	
OTHER <u>HCPD restoration local match</u>	\$ <u>9,020.00</u>	<u>3%</u>
d.) Private Contributions	\$ _____ .00	
SUBTOTAL LOCAL RESOURCES:	\$ <u>98,840.00</u>	<u>31%</u>
e.) CLEAN OHIO CONSERVATION FUND:	\$ <u>220,000.00</u>	<u>69%</u>
Funds from another NRAC	\$ _____ .00	
SUBTOTAL CLEAN OHIO RESOURCES:	\$ <u>220,000.00</u>	<u>69%</u>
f.) TOTAL FINANCIAL RESOURCES:	\$ <u>318,840.00</u>	<u>100%</u>

1.3 AVAILABILITY OF LOCAL FUNDS:

Please list any partnership with other sources. (i.e.; is this part of a larger project or plan):

2.0 PROJECT INFORMATION

If the project is multi-jurisdictional, information must be consolidated in this section.

X Please check here if additional documentation is attached.

2.1 BRIEF PROJECT DESCRIPTION - (Sections A through E):

A: SPECIFIC LOCATION: Please attach a map.

PROJECT COUNTY: Hamilton **PROJECT ZIP CODE:** 45030

B: PROJECT COMPONENTS: Please describe the various project components.

C: PROJECT EMPHASIS AS DEFINED BY SECTIONS 164.22 (A) (B) OF THE OHIO REVISED CODE AND LISTED IN APPENDIX A: Please describe.

D: DEFINE TERMS OF EASEMENTS:
PLEASE REFER TO SECTION 164.26 OF THE OHIO REVISED CODE.

E: INFORMATION REGARDING PUBLIC ACCESS
Where is the access located? Is it open to the general public or are there restrictions? What are the hours of availability? Will the general public be given the opportunity to participate in the planning of the project?

2.2 OWNERSHIP/MANAGEMENT/OPERATION: Please address.

See Tables A and B for a cost breakdown on the three properties in this application.

2.0 Project Information

2.1 Brief Project Description

- A. **Specific Location:** The Dry Fork Creek Streambank Restoration project site is located within the northern most section of Miami Whitewater Forest which is owned and managed by the Hamilton County Park District (HCPD). The project site is located along Oxford Road at Dick Road in Crosby Township. This property is located in the OPWC District 2, in western Hamilton County, north of Highway 275 and Interstate 74 and east of Edgewood Road along the Dry Fork Creek approximately 9 miles upstream of the confluence with the Whitewater River. The eroded streambank lies within the Great Miami Aquifer and Watershed. See Exhibits 1 and 2 for location.

Project Emphasis: See Attachment A. The Hamilton County Engineers Office (HCE) and the HCPD have collaborated to develop design plans to stabilize a portion of the Dry Fork Creek. The HCE hired the Cincinnati engineering firm of Fuller Mossbarger Scott and May (FMSM) in 2000 to develop a bio-engineering plan to stabilize 1,400 linear feet of the Dry Fork Creek bank located in Miami Whitewater Forest. The project will strengthen the surrounding woodland and improve stream health. The environmentally sound design will also prevent undermining the stability of Oxford Road.

The movement of the portion of Oxford Road parallel to the Dry Fork Creek was identified by HCE prior to 2000 and plans were developed to re-route the road through a portion of a culturally significant area of the Miami Whitewater Forest (MWF). When the HCE discussed this alternative with the HCPD it was suggested by the Park District that the road alignment may be avoided if a stream stabilization/restoration plan was developed and implemented for Dry Fork Creek. The two teams reviewed this suggestion and found it to be a sound alternative to the problem and would preserve culturally significant park land.

The HCE partnered with the HCPD on this design process to develop a solution for stabilizing the stream and protect the surrounding riparian ecosystem. Considerable effort was taken by these two agencies and FMSM over the past two years to ensure that there was minimal impact to the surrounding vegetation. After several design generations, a solution to preserve the mature trees was developed by the team. Due to this effort, there was only one small area of successional trees which will be disturbed due to stabilization of the creek.

The FMSM restoration plan calls for the planting of live stakes and riparian seed mix in this disturbed area, where appropriate. This planting process will also be utilized in other areas of the stream bank. This process will create a healthier stream as well as a wider riparian corridor along the stream to reduce erosion and sedimentation.

The HCPD will bid out the job with the plans provided by FMSM as well as manage the creek bank restoration work. In addition, the HCPD will restore the creek bank's northern riparian corridor to a width of approximately 150 feet. This restoration project will include planting trees which will be protected with deer

fencing. The riparian corridor which will be widened by this plan will convert 4 acres of former cropland into riparian forest. See Exhibit 3 for Habitat and Restoration Map.

The HCE will be responsible for providing the funding for the installation of the stream restoration work, which includes all stream work, live staking and riparian seed planting. The HCPD will be responsible for funding the planting of more than 1,000 rooted native trees and installing deer fencing in the creek's northern riparian corridor. The HCPD will also plant native prairie seeds in the remaining riparian corridor.

The removal of invasive species will also be included in the land management portion of this project. This service will be executed by HCPD employees.

HCPD Reforestation Estimate

1,000 native canopy trees	\$11,000.00
Deer fencing	\$ 7,000.00
Temporary Wildflower Seed Mix	\$ 1,000.00
Labor and herbicide	<u>\$ 3,000.00</u>
Total	\$22,000.00

Project Components:

FMSM evaluated the condition of the bank along the Dry Fork Creek along Dick Road and provided an explanation of the project and their preferred recommendation. See Appendix A for Stream Restoration design drawings for the stream area.

Dry Fork Creek Stream Restoration – FMSM Bio-Engineering plan

**Dry Fork of the Whitewater River
Stream Restoration and Bank Stabilization Project**

Situation

The root cause of this stream condition is the downstream migration of a river meander bend immediately upstream of the failing bank. Upstream, the inside channel bank is low and well protected by tree roots and the outer bank is high and the much higher tree roots can't protect the bank toe. The stream flow is undermining this high bank in the downstream direction, causing the trees to fall into the Dry Fork. The resulting downstream migration of this bend has proceeded until it was caught by a point bar with three large Cottonwood trees. The low, extensive tree roots on this bar are effectively holding this inside bank in place, causing the upstream bend to hook severely as it migrates downstream. This hook in the stream flow is directing the Dry Fork into the opposite 45-foot high stream bank, undermining the bank slope and causing landslides.

No Build Scenario

Eventually the flow stresses and erosion caused by this migrating bend will undermine the Cottonwoods and bring down these huge trees. The resulting tree falls commonly cause an avulsion of the inner bank, which would remove the hook in this migrating bend and restore a normal stream alignment. However by the time this would occur,

the existing 45-foot high bank would have failed several times, placing landslide sediment into the channel and removing a section of Oxford Road.

Preferred Recommendation

The proposed solution is to realign the Dry Fork channel and to redistribute the energy dissipation along its profile. This realignment would move the migrating bend back upstream and restore the original alignment. Channel bed grading and bank stabilization would establish a new stable channel form. Revegetation would hold these new banks in place. An imbricated bank toe would protect the 45 foot high bank. Rock vanes would establish a new channel gradient.

The channel gradient would be changed such that energy is dissipated above and below the channel bend (at the eroding 45 foot high bank.) At the eroding bank, a gentler and deeper bend pool would be created to lower scour velocities.

The proposed work would occur within the existing channel with the exception of relocating a side bar (and former island) to the opposite bank. Material from the existing channel bed would be used in the channel reconstruction. Large rock would be brought to the site to build the larger stone structures. At a failing pipe outfall, a new pipe outfall will be installed and the bank restabilized. Native riparian trees and herbaceous vegetation will be used in this restoration.

Given that the Dry Fork is intermittent, the main access will occur down an abandoned road and use an exiting ford to traverse 400 feet down several point bars to the stream restoration site. During August and September the river is normally dry, however a contingent pump around will be provided.

FMSM Stream Restoration Estimate

Item	Quantity	Unit	Unit Price	Quantity Price
Access Road	47	CY	\$ 20.00	\$ 940.00
Earthwork	3800	CY	\$ 10.00	\$ 38,000.00
Erosion Control Fabric	4600	SY	\$ 3.50	\$ 16,100.00
Live Staking	13800	EA	\$ 4.00	\$ 55,200.00
Riparian Seeding	4600	SY	\$ 3.00	\$ 13,800.00
Stream Diversion/Dewatering	1	LS	\$ 20,000.00	\$ 20,000.00
Cross Vane	1	EA	\$ 10,000.00	\$ 10,000.00
Step Vane	2	EA	\$ 12,000.00	\$ 24,000.00
J-Hook Vane	2	EA	\$ 6,000.00	\$ 12,000.00
Imbricated Stone Toe	1	LS	\$ 55,000.00	\$ 55,000.00
ford crossing	12	CY	\$ 25.00	\$ 300.00
Boulder Cluster	5	EA	\$ 2,500.00	\$ 12,500.00
Mobilization/demobilization	1	LS	\$ 30,000.00	\$ 30,000.00
Construction Layout	1	LS	\$ 5,000.00	\$ 5,000.00
Maintenance of traffic	1	LS	\$ 4,000.00	\$ 4,000.00
		sum:		\$ 296,840.00

A mutually agreed upon action plan has been developed and will be implemented in the summer of 2007, contingent on securing Clean Ohio funding.

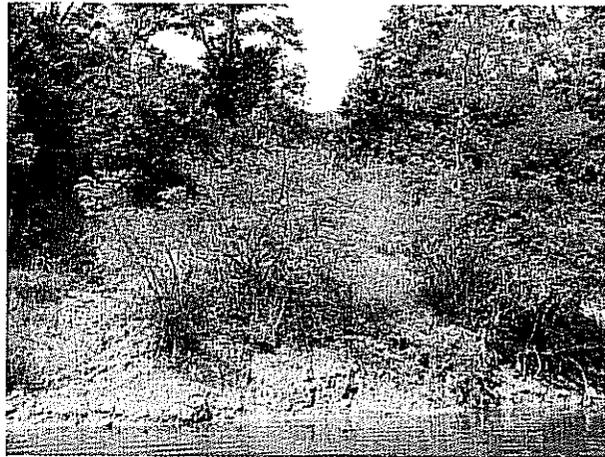
C. Project Emphasis

OPEN SPACE

Woodland Habitat

- X 1. Reduces or eliminates nonnative, invasive species of plants or animals
- X 2. Preserves or increases high quality, viable habitat for plant or animal species, including native species.
- X 3. Preserves or restores other natural features that contribute to quality of life and state's natural heritage.

The HCPD will provide in-kind services for the removal of invasive species such as honeysuckle along the Dry Fork Creek bed. By removing the invasive plants, native wild flowers and under story shrubs should be able to proliferate in the area and improve the overall health and diversity of the site. HCPD also plans to eliminate the invasive Johnson Grass and Multi-Flora Rose that is present on the adjoining farm field north creek of the creek.



Typical example of invasive species within the corridor. These plants will be removed by HCPD staff.

In addition to the invasive plant removal, the HCPD will plant numerous trees and shrubs along the creek's northern riparian corridor to increase the width of the plant buffer. When this work is complete the riparian corridor will be widened to at least 180 feet adding more than 100 feet in some areas to the corridor's width. This added reforestation will allow a more diverse landscape to emerge naturally and provide a more abundant ecosystem for the native wildlife. The tree planting within the northern banks riparian corridor is included in this application.

This project will also contribute to the quality of life and state's natural heritage. Natural waterways contribute greatly to the quality of life and the State's natural heritage in our community. This project will ensure that this resource is strengthened and preserved for the public use and enjoyment. See Exhibit 4 for USGS map showing natural terrain.

Aquatic Habitat

X 4. Incorporates aesthetically pleasing and ecologically informed design including sensitivity to the terrain, natural resources and heritage of the property.

The HCE as well as the HCPD will ensure that this project is designed and implemented in an environmentally sound way that is ecologically informed and sensitive to the creek environment and natural resources of the area. The team of the HCPD, the HCE and FMSM has spent considerable energy in producing an environmentally sound design which respects the riparian landscape.

Personnel involved on this design team included engineering and surveying consultants with FMSM, engineers from the HCE and land management, engineering and planning staff from the HCPD.

The original engineering plan proposed by FMSM to repair the stream included grading work that would eliminate many mature trees in the corridor. The HCPD requested that the team revisit the design to determine if alternative engineering practices could be utilized to save these valuable trees in severely sloping areas. FMSM, after several plan generations, developed an innovative plan which involved numerous double weirs or step vanes, several J-hooks riffle pools and boulder clusters that are designed to slow the velocity of the stream flow, thus cutting down on erosion on the stream banks. FMSM also proposed to reroute flow and protect the failing southern bank. With this engineering adjustment, it will save the mature trees on site, and only disturb a small number of successional plants which would be replanted upon completion of the project.

The stream restoration consultant, FMSM, is a nationally recognized, award winning engineering firm and currently has 7 offices throughout the United States. Their engineers employ the latest proven technologies and have conducted hundreds of miles of stream restoration and assessments throughout the United States. The firm specializes in restoring stream areas by using professionally accepted bio-engineering practices and has completed well over 18 similar projects in the Kentucky, Ohio region in the past two years alone. This firm is also currently working with the HCPD to perform a Clean Ohio funded stream bank restoration along the Whitewater River on Kilby Road. The engineer assigned to this project has over 25 years of experience in this field and is based in the Cincinnati Office.

In addition to the active preservation and restoration on site, the HCPD will ensure that the Dry Fork Creek riparian corridor will remain in a protected state as defined by the Ohio Public Works Clean Ohio Deed Restrictions.

This project will also help to preserve the cultural landscape associated with the Miami Whitewater Shaker Village. As explained above, this project should eliminate the need to relocate Oxford Road through the MWF. The proposed re-alignment was planned to go through a portion of the Whitewater Shaker Village landscape. The Shakers were one of the most successful utopian communities in the United States and thrived for over 100 years. From 1822 to 1916, the

Shakers farmed the portion of land that was slated for the Oxford Road re-alignment.

The agriculture land that would have been impacted is important to the interpretive value and context of this irreplaceable cultural resource. This Shaker area is currently used throughout the year for school interpretive visits. The restoration of Dry Fork Creek will help preserve this valuable cultural resource.

X 7.Supports openspace/greenspace planning and preserves lands as recommended within previously identified planning or natural resources management documents.

This bank stabilization and riparian planting project is consistent with and helps to implement a number of important community and local environmental plans and policies adopted by county organizations regarding environmental sensitivity to natural features. Two more notable plans are the Hamilton County Planning Commission's Community Compass Plan, environmental portion, and the Western Hamilton County Collaborative Plan. These plans are explained in more detail on page 11.

In addition to local plans, the HCPD is also participating in the Conservation Reserve Program (CRP), a program of the U.S. Department of Agriculture. This program provides technical and financial assistance to eligible farmers, ranchers and other entities to address soil, water, and related natural resource concerns on their lands in an environmentally beneficial and cost-effective manner.

The Conservation Reserve Program reduces soil erosion, protects the Nation's ability to produce food and fiber, reduces sedimentation in streams and lakes, improves water quality, establishes wildlife habitat, and enhances forest and wetland resources. It encourages farmers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover, such as tame or native grasses, wildlife plantings, trees, filterstrips, or riparian buffers.

In 2005, the HCPD applied for and was granted funding through this program with the understanding that it would take five acres of land out of its existing use of agriculture. By doing this the agency will receive federal monies for 15 years to help maintain this corridor.

X 8.Provides access to natural areas that result in recreational, economic or aesthetic preservation benefits.

The aesthetic preservation benefit of this plan will be increased greatly when the tree restoration, widening of the riparian corridor and invasive plant removal is complete. By making this a healthier habitat for both plants and animals and reducing the erosion events in this area, it will enhance the beauty of this site.

RIPARIAN CORRIDOR

- X 12. preserves or restores functioning floodplains, including groundwater recharge areas.
- X 13. preserves or restores water quality and/or aquatic biological communities.
- X 14. preserves or restores natural stream channels.
- X 15. preserves or restores streamside forest, native vegetation or adjacent habitat.
- X 18. plants vegetation or reforests lands for filtration to improve water quality, or to control stormwater runoff.

The Dry Fork Creek is a natural stream channel which eventually empties into the Great Miami River. Numerous examples of natural springs emptying into this creek were evident upon inspection by HCPD staff. The presence of these springs add to the water quality of this stream and will be preserved during this restoration. There is currently some healthy riparian species along this channel, however, the HCPD will enhance this stand and increase the riparian area's width.

The yearly flooding along Dry Fork Creek is taking its toll on the surrounding banks of the creek. The engineered plan described in this plan will ensure that the creek bank is more stable due to the work performed within and outside of the stream area, and will better resist erosion. By placing the J-hooks, weirs and riffle ponds, the velocity of the stream flow will decrease significantly and the planting and seeding of riparian plant species will further help improve the health of the floodplain. The new vegetation will help to filtrate and clean the water, thus improving water quality.

By improving the water quality, it will also aid in preserving the health of the aquatic species in the creek and improve connecting water systems in this aquifer system and the larger water system in the county. Two fish of special interest include the Black Redhorse and the Stonecat Madtom. They are considered intolerant to polluted waters and can only be found in clean, healthy streams such as Dry Fork Creek. If the bank was allowed to continue deteriorating, these fish would most likely not survive in the increased soil sedimentation. See Appendix B for a complete list of fish species found in Dry Fork Creek.



Example of typical erosion along Dry Fork Creek.

The HCPD, as mentioned earlier, will widen the existing riparian corridor to approximately 150 feet using all native species. Currently, the existing corridor is not adequate to properly filtrate and slow the stream's flow. Increasing the vegetative buffer along this stream will aid in providing this benefit. The widening of the riparian area will also provide a larger buffer between the adjoining agricultural fields helping to reduce the soil erosion caused from the Farming operation.



Example of farm field area north of the creek bed which will be restored using native tree, shrub and prairie plants.

The HCPD has performed periodic water quality tests on Dry Fork Creek since the property was purchased and it has been found that Dry Fork Creek's water quality is very high, achieving a classification as an exceptional warmwater habitat.

D. Define Terms of Easement This application does not entail acquisition of land with funds from the Clean Ohio Fund. The restoration/bank stabilization and riparian corridor replanting work occurs on park property. The HCPD agrees to grant the Ohio Public Works Commission an easement on the acreage within the scope of work for the project as shown in Exhibit 3.

E. Extent of public access once project is completed.

The site is currently available to the public from dawn to dusk. The HCPD does request that visitors call before visiting the site to ensure their safety as it is considered a natural area and is not frequented often by the public.

The site can be accessed via Oxford Road off of Dick Road. The project site is in a natural state with a partial riparian corridor.

2.2 Ownership/Management/Operation

Ownership/Management

The HCPD owns and manages the project site discussed in this application. The site is located within the northern most portion of the Miami Whitewater Forest north of Oxford Road.

The HCPD staff has decades of management experience in land stewardship and currently manages approximately 12,480 acres of natural area and miles of streams and rivers. The Park District has the staff time and expertise to manage this site after the restoration is complete.

Maintenance/Operations

The MWF property has been maintained and operated by the HCPD since its purchase. The streambank restoration project, when completed, will be

monitored as needed to assess the slope's status to ensure the long term success of this repair.

The HCPD is an experienced and successful steward of land and is currently responsible for successfully maintaining and operating over 12,480 acres of natural area within the park. The HCPD's mission states that 80% of the total parkland acreage will perpetually remain in a natural state.

The HCPD has an operation plan and infrastructure in place and is ready to begin maintenance on the site.

Similar Experience

The HCPD has been involved in successful restoration of several eroded streams in the past five years. Two large stream restoration projects have been completed to date, one is underway and the fourth significant project is nearing completion of the design stage. The project will begin this year and is scheduled to be completed by the end of 2006.

Below are examples of previous bank stabilization projects which have been completed by the HCPD in recent years.

Previous bank stabilization and erosion control projects –

- Lake Isabella Riverbank Stabilization project. The Park District used bio-engineering techniques to successfully stabilize the bank separating the Little Miami River and Lake Isabella. The Park District hired Mainstream Restoration Inc. to develop a bio-engineering plan that would stabilize the 34' foot high earthen barrier separating the Little Miami River and Lake Isabella. The project was completed by the Park District in 2000 and is continuing to work as expected, securing the bank. The stabilization has proven to be very successful at this site and is preventing erosion on the slope. See before and after photos of this project in Exhibit 5.

The Park District received an Environmental Award for this project from the National Association of County Parks and Recreation Officials (NACPRO) following completion of the work.

- Howard Creek Bank Stabilization– The HCPD performed two in-house streambank stabilization projects along Howard Creek five years ago, which have established themselves and are successful. Two areas along the creek were failing. The first site measured approximately 30' high by 100' long and the second was approximately 20' high by 100' long. The Park District utilized staff to install willow stakes in the bank and planted prairie plants and seeds to stabilize the bank. In addition to this work, HCPD established a small wetland and introduced species such as spotted salamander and other wetland amphibians. These species have established themselves and their populations are growing.

- The HCPD is in the process of engineering the restoration of a portion of the Whitewater River on Kilby Road that was partially funded through Clean Ohio funding. A 600' long section of river embankment failed. The bank will be regraded, planted and stabilized using bio-engineering techniques. The planning stage of this project is in progress and completion of the stream restoration project is scheduled for 2006.

2.3 Purchase Contract: There is no property purchase associated with this project.

Part III. Compliance with State Criteria

1. Percentage of Clean Ohio matching funds necessary to complete project

75% 74 - 70% 69 - 65% 64 - 60% <60%

The HCPD is applying for 69% of Clean Ohio Funding for the 2006 funding year for the Dry Fork Creek project.

2. Level of collaborative participation: Participation means active involvement through in-kind services or funding.

local political subdivisions State agencies federal agencies

community organizations conservation organizations

local business groups

This project was a joint effort between the Hamilton County Park District and the Hamilton County Engineer. The HCPD will be also utilizing the support and volunteer time from local Boy Scouts in the Hamilton County area for the reforestation of the riparian corridor buffering the agricultural land and creek.

The Park District has executed a 15-year agreement with the U.S. Department of Agriculture to maintain a corridor between the existing agriculture land and the Dry Fork Creek.

The HCE has provided engineering design work and provided the engineering plans for the work to be performed on the stream. This contribution has a value of approximately \$35,000. The HCE is also funding the local share of this project with the exception of the corridor planting between the creek and cropland. The HCPD will fund that portion of the local share.

3. OPWC Districts

Joint project in more than one district

Joint project in this district

_____ Carries out an adopted community, watershed or other plan overlapping another district

4. Community benefits: Relative economic, social and recreational benefits

 X economic benefits

_____ social/recreational

Economic Benefits

Numerous plans in the county encourage the preservation and restoration of riparian corridors. By adding vegetation, especially native, it improves many quality of life and infrastructure elements within a community. Greenspace will reduce storm water management costs and water quality management cost by increased absorption of runoff. The presence of preserved trees on site also creates a process called transpiration which helps to purify air quality in Hamilton County, which currently is in noncompliance with the Environmental Protection Agency. This process would help reduce air quality related health costs, such as treatment for lung cancer, asthma and other respiratory diseases.

Points 5 – 7 are addressed previously in this application. See Above.

Part IV. Compliance with Hamilton County Priorities

1. Community Planning –

The Community Compass/Hamilton County 2030 plan and implementation framework, Greenspace Concept Plan states the importance of preserving our natural greenspace resources. The greenspace concept has evolved from the identification of environmental critical and sensitive areas, such as aquifers and steep slopes, existing public and private open space and other natural features such as rivers, streams and lakes. The Greenspace Concept map utilizes the work and recommendations of various organizations including the recent Hamilton County Regional Planning Commission State of the County Report on environmental as well as the nine county Regional Greenprint prepared by Green Umbrella, extensive geographic and environmental analysis completed by the Hamilton County Park District, environmental policies recommended by OKI Land Use Commission's Regional Strategic Policy Plan and the aligned policies related to environment in the Hamilton County Policy Plan. The Dry Fork Creek restoration site is classified as having a very high water quality. These types of streams are identified on the Greenspace Concept Plan Map as an environment to preserve. Dry Fork Creek is also a tributary of the Whitewater River. It has one of the highest clean water designations in the State.

The HCPD's priority to preserve greenspaces in this county is further reflected in the Hamilton County Planning Commission's Community Compass Report No. 16-6 "State of the County Report: Environment. It states that "Whereas past conservation efforts often focused on protecting individual pieces of land, emphasis is now being placed on the need to provide for green infrastructure. Green infrastructure provides a framework for creating an interconnected

network of natural streams, conservation lands, working landscapes and other green spaces that support native species, maintain natural ecological processes, sustain air and water resources, and contribute to the health and quality of life for American's communities and people".

This acquisition will also comply with the EPA mandated and approved **Storm Water Management Program** prepared by HCPD.

In March 2003, HCPD completed this mandated program to outline HCPD stewardship practices utilized on all existing and newly acquired greenspaces. This program was approved by the OEPA in 2003 and presented the Park District with a five-year permit giving approval for projects occurring during that time. In return, the HCPD is required by law to implement all stewardship and development guidelines as set forth in HCPD's Storm Water Management Program to ensure the greenspaces are managed per the OEPA's standards.

This program outlines some major components that are a part of HCPD stewardship practices. They include: preserving open space; performing environmental assessments on potential acquisitions, reducing impervious surfaces on the site, and reforesting these lands.

2. Natural Resource Viability: How important is the project to the viability of the natural resources affected by the project.

Protects a threatened biological community or important example of Ohio's natural heritage.

The Ohio Environmental Protection Agency, February of 2006, gave the Dry Fork Creek a stream designation of an Exceptional Warmwater Habitat, which is the highest stream classification that can be achieved in Ohio. This stream also has an impressive 26 to 28 species of fish which is considered considerable for an Ohio stream of this size. The significantly elevated health status of this stream makes it even more critical that this restoration occur to prevent further siltation and erosion from entering the stream.



Dry Fork Creek is classified as an Exceptional Warm Water Habitat which is the highest designation in Ohio.

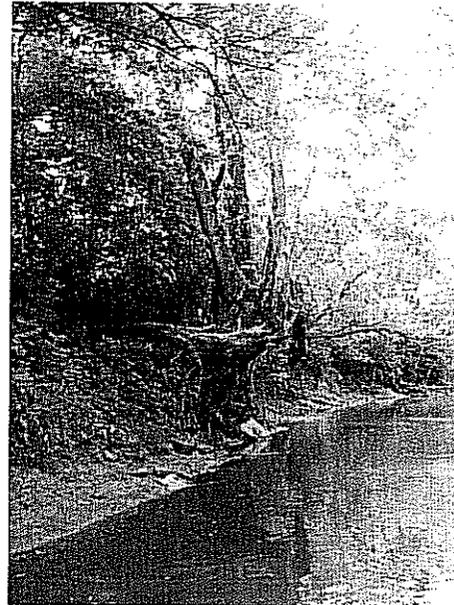
The Dry Fork Creek also contains two fish species that are considered "intolerant" to pollution in the stream and are only found in non contaminated waters. This would include the inclusion of sedimentation and erosion into the water. These fish species are Stonecat Madtom - *Noturus flavus* and Black

Redhorse - *Moxostoma duquesnei*. If this stream were not corrected soon, these fish species would be significantly impaired and may not survive. Both fish species were identified in the project area during a site visit by the HCPD staff. See Appendix B for a complete list of fish species in this creek.

3. Project preserves or naturally restores steep hillsides with slopes greater than 20%:

The eroded area along the river shore far exceeds a 20% slope. The majority of the streambank along the Dry Fork Creek restoration area averages approximately 70%. The slope combined with the erodable soils in this area makes this creek bed particularly vulnerable to slippage.

The stream restoration work, when completed will stabilize this bank substantially and will only remove a small section of successional vegetation which will be replaced after stream work is complete. The reforestation added to the northern riparian corridor will further stabilize this bank.



The majority of the streambank slopes far exceed 20%. Above is a typical example of the northern bank of Dry Fork Creek.

4. Protection of highly erodable lands:

The restoration site is composed predominantly of Genessee loam, Gn and Miamian-Hennepin silt loams, MoE2. See Exhibit 6 for Soil Survey Map.

The **GN** soil classification is located on the majority of the site. This area of the project is situated where the relocation of the stream will occur. Currently there is a rather sharp curve in the stream that is causing erosion along the stream. The engineering plan proposes to straighten this area of the stream to reduce the friction on that section of bank.

These areas generally range from 0 to 2% slope and are located on flood plains. Due to stream erosion, however, the stream bank consistently exceeds 20% while the remaining area is relatively flat. This classification is subject to occasional brief flooding. This classification is usually long and narrow and range from 2 to 400 acres. Typically, the surface layer is brown, friable loam about 9 inches thick. Permeability is moderate. The available water capacity is very high, and runoff is slow. The organic matter content is moderate.

In areas such as that on this site, measures such as the use of plant cover is needed to reduce stream bank erosion the soil is well suited to trees and habitat

for open land and woodland wildlife. This soil is in capability subclass 1lw and woodland suitability subclass 1o.

This plan has addressed the constraints of this soil type by vegetating this area with appropriate planting material and to place accepted environmentally sound engineering practices into the stream bed to stabilize its potential to erode.

The existing riparian corridor along this stream has an average width of 120' and one small area of this corridor is being farmed causing obvious erosion issues. The entire 1,400 foot creek bank laid out in this application will be allowed to revert back to woodland to total a width of 150'.

The embankment south of the creek adjacent this site is classified as **MoE2**. This soil classification is included here due to its interconnectivity to the restoration site. These areas are long and narrow and range from 10 to 60 acres in size.. This classification is also generally very steep ranging from 25 to 35%.

Permeability is moderately slow in the Miamian soil and moderately slow or slow in the Hennepin soil. The available water capacity is moderate in both soils. Runoff is rapid. The organic matter content is moderately low in both soils.

This soil type located along a stream is generally suited to a woodland use. Slopes are too steep for safe operation of modern farm machinery. Erosion is a severe hazard if adequate plant cover is not maintained. Grazing when the soils are wet causes surface compaction and excessive runoff and reduces yields. These soils are well suited to trees. This area is currently being eroded due to the failure in the stream corridor. When this project is complete, it will help to stabilize this steep slope which is weakening Oxford Road.



Example of the slopes along the Dry Fork Creek. This example shows a more extreme example of the erosion along this portion of the bank that will be corrected by this restoration.

These soils are in capability subclass VIIe and woodland suitability subclass 1r.

Readiness to proceed: FMSM has completed the design work on this project and if funding from the Clean Ohio funds is received the HCPD will commence work on this project in the summer of 2007 with the local match being provided by the HCE. Due to high water in the creek, work will not be able to start until the

fall of 2007. It is anticipated that the work will be completed by the end of 2007. Restoration work will be completed the following fall, 2008, after the stream work is completed.

3.0 PROJECT SCHEDULE:*

		BEGIN DATE	END DATE
3.1	Planning and Implementation:	<u>7 / /05</u>	<u>7 / /06</u>
3.2	Land Acquisition/Easements:	<u>/ /</u>	<u>/ /</u>
3.3	Reforestation:	<u>1/ / 08</u>	<u>5/30/08</u>

* Failure to meet project schedule may result in termination of agreement for approved projects. Modification of dates must be requested in writing by a project official of record and approved by the commission once the Project Agreement has been executed.

4.0 PROJECT OFFICIALS:

4.1	CHIEF EXECUTIVE OFFICER	Jack Sutton
	TITLE	Director
	STREET	10245 Winton Road
	CITY/ZIP	Cincinnati, OH 45231
	PHONE	(513) 521-7275
	FAX	(513) 521-2606
	E-MAIL	jsutton@greatparks.org
4.2	CHIEF FINANCIAL OFFICER	Don Rudler
	TITLE	Treasurer
	STREET	10245 Winton Road
	CITY/ZIP	Cincinnati, OH 45231
	PHONE	(513) 521-7275
	FAX	(513) 521-2606
	E-MAIL	drudler@greatparks.org
4.3	PROJECT MANAGER	Ross Hamre
	TITLE	Planning Director
	STREET	10245 Winton Road
	CITY/ZIP	Cincinnati, OH 45231
	PHONE	(513) 728-3551, ext. 256
	FAX	(513) 521-2896
	E-MAIL	rhamre@greatparks.org

Changes in Project Officials must be submitted in writing from the CEO or CFO.

5.0 ATTACHMENTS/COMPLETENESS REVIEW:

In order that your application may be processed in a timely fashion, please submit your application on 8 1/2 by 11 white paper with dark ink so that it may be copied for others. It is understood that some items may not conform to this request such as large maps and photographs. Please feel free to include these items.

Confirm in the blocks [] below that each item listed is attached.

- A certified copy of the authorization by the governing body of the applicant authorizing a designated official to sign and submit this application and execute contracts. This individual should sign under 6.0, Applicant Certification, below.
- A certification signed by the applicant's chief financial officer stating all local share funds required for the project will be available on or before the dates listed in the Project Schedule section.
- A formal detailed estimate of the project's costs provided by an architect, landscape architect, or other professional. For land acquisition, an appraisal by a State-certified general real estate appraiser, as defined under ORC 4763 for the type of land being appraised will need to be submitted to the NRAC prior to closing.
- A cooperation agreement (if the project involves more than one entity) which identifies the fiscal and administrative responsibilities of each participant.
- Resolution of Support (Please refer to section 164.23(B)(1) of the Ohio Revised Code for guidance.)
- Identification of any participation by state agencies that will provide to this particular project and that will provide assistance with respect to the project.
- Information concerning the coordination of the project among local political subdivisions, state agencies, federal agencies, community organizations, conservation organizations, and local business groups.
- Supporting Documentation: Materials such as additional project description, photographs, and/or other information to assist your NRAC in ranking your project. Be sure to include supplements which may be required by your *local* NRAC.
- Have you reviewed your NRAC's methodology to see that you have addressed all components?

6.0 APPLICANT CERTIFICATION:

The undersigned certifies: (1) he/she is legally authorized to request and accept financial assistance from the Ohio Public Works Commission; (2) to the best of his/her knowledge and belief, all representations that are part of this application are true and correct; (3) all official documents and commitments of the applicant that are part of this application have been duly authorized by the governing body of the applicant; and, (4) should the requested financial assistance be provided, that in the execution of this project, the applicant will comply with all assurances required by Ohio Law, including those involving Buy Ohio and prevailing wages.

Applicant certifies that the project, as defined in the application, has NOT resulted in any transfer of title or rights to land or begun any type of physical improvements prior to the execution of a Project Agreement with the Ohio Public Works Commission. Action to the contrary will result in termination of the agreement and withdrawal of Ohio Public Works Commission funding.

JACK SUTTON, Director

 _____
 Original Signature/Date Signed 7/14/06

ATTACHMENT A

PROJECT EMPHASIS (Dry Fork Creek Streambank Restoration Project)

NOTE: IF THE PROJECT HAS MORE THAN ONE EMPHASIS, PLEASE PLACE A "1" IN THE CATEGORY THAT IS THE PRIMARY EMPHASIS, A "2" IN THE CATEGORY WITH SECONDARY EMPHASIS, AND A "3" IN THE CATEGORY WITH THIRD EMPHASIS.

OPEN SPACE

- * 1. Protects habitat for rare, threatened and endangered species
- * 2. Increases habitat protection
- * 3. Reduces or eliminates nonnative, invasive species of plants or animals
- * 4. Preserves high quality, viable habitat for plant and animal species
- * 5. Restores and preserves aquatic biological communities
- 6. Preserves headwater streams
- 2 7. Preserves or restores flood plain and stream side forest functions
- 3 8. Preserves or restores water quality
- 1 9. Preserves or restores natural stream channels
- * 10. Preserves or restores functioning flood plains
- 11. Preserves or restores wetlands
- 4 12. Preserves or restores stream side forests
- * 13. Preserves or restores other natural features that contribute to quality of life and state's natural heritage

RIPARIAN CORRIDOR

- 14. Fee simple acquisition of lands to provide access to riparian corridors or watersheds.
- 15. Acquisition of easements for protecting and enhancing riparian corridors or watersheds
- * 16. Reforestation of land
- * 17. Planting vegetation for filtration
- * 18. Incorporates aesthetically pleasing and ecologically informed design
- 19. Enhances educational opportunities and provides physical links to schools and after school centers
- 20. Acquisition of connecting corridors
- * 21. Supports comprehensive open space planning
- 22. Provides multiple recreational, economic and aesthetic preservation benefits
- 23. Allows proper management of areas where safe hunting and trapping may take place in a manner that will preserve balanced natural ecosystems.
- 24. Enhances economic development that relies on recreational and ecotourism in areas of relatively high unemployment and lower incomes

One (1) through three (3) indicate the project's primary components. Asterisks (*) indicate strong elements involved within this project.

**BOARD OF PARK COMMISSIONERS
HAMILTON COUNTY PARK DISTRICT**

June 15, 2006

RESOLUTION NO. 2596

CLEAN OHIO CONSERVATION PROGRAM

WHEREAS, the Board of Park Commissioners of the Hamilton County Park District, desires financial assistance under the Clean Ohio Conservation Program Funds, administered by the Ohio Public Works Commission.

NOW, THEREFORE, BE IT RESOLVED, by the Board of Park Commissioners of the Hamilton County Park District, as follows:

1. That the Board of Park Commissioners of the Hamilton County Park District hereby approves filing of applications for the Clean Ohio Conservation Program Funds.
2. That Jack Sutton, Director, is hereby authorized and directed to execute and file applications with the Ohio Public Works Commission, to enter into any agreements as may be appropriate and necessary for obtaining this financial assistance, and to provide all information and documentation required in said application for submission to the Ohio Public Works Commission.
3. THAT THE BOARD OF PARK COMMISSIONERS OF THE HAMILTON COUNTY PARK DISTRICT hereby does agree to obligate the funds required to satisfactorily complete the proposed projects and thus become eligible for Clean Ohio Conservation Program financial aid up to 75% of the total project costs.

BOARD OF PARK COMMISSIONERS
HAMILTON COUNTY PARK DISTRICT

CHIEF FINANCIAL OFFICER'S CERTIFICATION OF LOCAL FUNDS

July 14, 2006

I, Don Rudler, Treasurer of the Hamilton County Park District, hereby certify that Hamilton County Park District has the amount of \$9,020.00 in the Land Acquisition Fund and that this amount will be used to pay the applicant revenues for the Dry Fork Creek Restoration project.

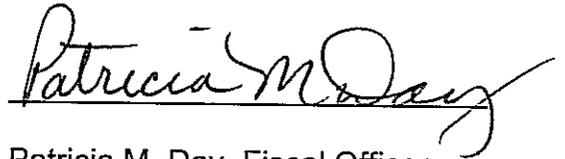


Don Rudler, Treasurer

CHIEF FINANCIAL OFFICER'S CERTIFICATION OF LOCAL FUNDS

July 14, 2006

I, Patricia M. Day, Fiscal Officer of the Hamilton County Engineer's Office, hereby certify that Hamilton County Engineer's Office has the amount of \$89,820.00 in the Project Fund and that this amount will be used to pay the applicant revenues for the Dry Fork Creek Restoration project aka Engineer Project Identification number 500327 Oxford Road.



Patricia M. Day, Fiscal Officer

RECEIVED

JUL 10 2006

HAMILTON CO. PARK DISTRICT



PURCHASE ORDER

7/5/2006

Hamilton County Purchasing Division
 138 E Court St., Room 507
 Cincinnati, OH 45202-1104
 Phone :(513) 946-4355 Fax :(513) 946-4335

Ship To - (See delivery schedule for any additional delivery information)

See Delivery Schedule

HAMILTON COUNTY PARK DISTRICT
 10245 WINTON RD

 CINCINNATI OH 45231

Document No
PO510465

The above number must appear on all invoices, packing lists and packages.

Document
Draft

Solicitation #

Vendor Code
316000063 036

Deliver on or Before
Jul 07, 2006

Discount Terms

FOB Point

Requisition
RQ048762

Invoice To

Patricia Day
 Engineer
 Room 700
 138 E Court St
 Cincinnati OH 45202

ATTENTION VENDOR
 PURCHASE ORDER NUMBER MUST APPEAR ON ALL INVOICES AND PACKAGING LISTS
 VENDOR - DO NOT ACCEPT THIS ORDER UNLESS IT IS SIGNED IN BOTH SPACES ON THE LAST PAGE

Line	Description	Quantity	UOM	Unit Price	Total Cost
1	SPECIFICATION: for project 500327 oxford road engineer portion Delivery Address: tim gilday 223 galbraith rd cinti OH 45216- Phone: (513) 946-8400 Ext. 0 Fax : (000) 000-0000	1	EA	130,000.00	130,000.00

Total 130,000.00

Suffix	Account Code	Account Amt.
1	502006500025 0950 N NNOS	\$130,000.00

AUDITOR'S CERTIFICATE

I hereby certify that the cost of materials or work ordered is fully covered by unencumbered balances in the fund and accounts shown and that the expenditure therefore has been legally appropriated.
 Hamilton County Auditor Dusty Rhodes

EXEMPTION FROM OHIO SALES TAX IS PROVIDED UNDER SECTION 5739.02(B) (I) OHIO
 REVISED CODE FEDERAL I.D. NO. 31-6000063

By

Purchasing Agent

Consultation with Legislative Authorities
Per PRC 164.23



HAMILTON COUNTY PARK DISTRICT
10245 Winton Road, Cincinnati, Ohio 45231

FACSIMILE COVER SHEET
TEL NO. (513) 728-3551 Ext.217
FAX NO. (513) 521-2896

DATE:	March 15, 2005	FAX NO.	
TO:	Crosby Township	PAGES:	4
ATTN:	Township administrator		(including this cover sheet)
FROM:	Sally Bauer, Park Planner		

IF YOU HAVE ANY PROBLEM WITH THE RECEPTION OF THESE PAGES, PLEASE CONTACT US AT (513) 728-3551, EXT 264

As required by the Clean Ohio Conservation Program Grant Application, Ohio Revised Code Sec. 164.23, the Hamilton County Park District is consulting with Whitewater Township regarding the following project:

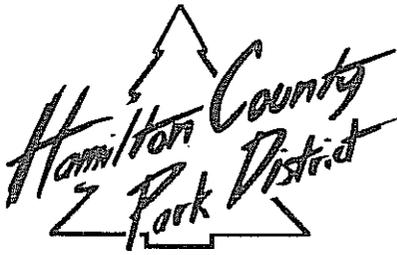
- Dry Fork Creek Streambank Restoration

(See attached project information describing the above project)
No Funds from Crosby Township are involved in this project.

Please respond to this fax indicating you have received this information and acknowledge these applications.

Should you have any questions, please contact Sally Bauer, Park Planner at 728-3551 extension 264.

Cooperation Agreement



Your Natural Choice®

10245 Winton Road ▪ Cincinnati, Ohio 45231
(513) 521-PARK (7275) ▪ www.greatparks.org

Board of Park Commissioners:

NANCY R. HAMANT ▪ ROBERT A. GOERING ▪ JAMES E. BUSHMAN

Director JACK SUTTON

July 12, 2006

Mr. Joe Cottrill
Hamilton County Engineer
10480 Burlington Road
Cincinnati, Ohio 45231

Dear Mr. Cottrill:

The attached agreement between the Hamilton County Park District and the Hamilton County Engineers is scheduled to go before the Board of County Commissioners on July 19, 2006. The County Commissioners are expected to authorize the Hamilton County Administrator to execute the agreement. The attached letter indicates that the County Prosecutor has reviewed and approved the document and the Park District has signed the document. Please accept this enclosed documentation as the Hamilton County Engineers willingness to enter into this agreement. The Hamilton County Park District will forward the final documentation to you immediately upon receipt.

Sincerely,

Ross Hamre
Planning Director
Hamilton County Park District

MISSION STATEMENT

"To preserve and protect natural resources and to provide outdoor recreation and education in order to enhance the quality of life for present and future generations."

County of Hamilton

WILLIAM W. BRAYSHAW, P.E.-P.S. COUNTY ENGINEER

700 COUNTY ADMINISTRATION BUILDING

138 EAST COURT STREET

CINCINNATI, OHIO 45202-1232

PHONE (513) 946-4250 FAX (513) 946-4288

June 8, 2006

Mr. Ross Hamre
Hamilton County Park District
10245 Winton Road
Cincinnati OH 45231

Re: Oxford Road
Crosby Township
Project No. 500327

Dear Mr. Hamre:

Transmitted herewith are three (3) originals of the Joint Agreement that will allow the County to participate in the above referenced project.

Please sign each original Agreement and return all originals to Mr. Timothy Gilday for further processing to the Board of County Commissioners. One of the originals will be returned to you after the Board has executed the Joint Agreement.

If you have any questions regarding this matter, please contact Mr. Gilday at 513-946-8914 or Tim.Gilday@hamilton-co.org.

Note that the Agreement has already been submitted to and been approved as to form by the County Prosecutor's office. Please make no changes or modifications to the Agreement without contacting Mr. Gilday.

Sincerely,

William W. Brayshaw
WILLIAM W. BRAYSHAW, P.E. - P.S.
HAMILTON COUNTY ENGINEER

WWB/TPG

RECEIVED

JUN 12 2006

HAMILTON CO. PARK DISTRICT

**JOINT AGREEMENT BETWEEN HAMILTON COUNTY
AND THE HAMILTON COUNTY PARK DISTRICT
FOR THE DESIGN AND CONSTRUCTION OF IMPROVEMENTS TO
OXFORD ROAD CREEK**

PROJECT No. 500327

This JOINT AGREEMENT is made and entered into, by and between the Board of County Commissioners of Hamilton County, Ohio, hereinafter referred to as the "COUNTY", on behalf of the Hamilton County Engineer, hereinafter referred to as the "ENGINEER", and the Hamilton County Park District, hereinafter referred to as the "DISTRICT", acting by and through its duly authorized agent(s).

The COUNTY and the DISTRICT desire to improve and stabilize the Oxford Road creek in the vicinity of Oxford Road and Dick Road, hereinafter referred to as the "PROJECT".

The COUNTY and the DISTRICT acknowledge that the PROJECT is of mutual benefit to both parties.

The PROJECT shall include the installation of environmentally friendly measures to stabilize the condition of the existing creek and the abutting slopes.

The COUNTY and the DISTRICT mutually agree that the public will benefit by creating a joint project to complete the design and construction of said PROJECT.

The COUNTY and/or the ENGINEER will:

- 1) employ a qualified firm to complete the design of the PROJECT.
- 2) be responsible for the costs of the design work to be completed for the PROJECT
- 3) coordinate the reviewing of the plans by all necessary parties.
- 4) employ a qualified firm to complete all required geotechnical work on the PROJECT.
- 5) work with the DISTRICT to determine the amount of local funding to be used in obtaining additional construction funding from other sources, i.e. the local match required to obtain those funds.
- 6) employ a qualified firm to complete all required testing and to assist in the inspection of the construction of the improvements on the PROJECT.
- 7) be responsible for the cost of the improvements constructed under the PROJECT that are not obtained from other sources, i.e. the local match required to obtain those funds.
- 8) prior to the commencement of the bidding process, certify that the funds necessary for the PROJECT are available and have been allocated for the PROJECT.
- 9) upon proper billing by the DISTRICT, pay to the DISTRICT the total amount of the PROJECT **PRIOR** to the awarding of the construction contract for the PROJECT to the lowest and best bidder. The amount to be advanced is to be calculated based upon the estimated quantities for the PROJECT and the prices submitted by the lowest and best bidder.

- 10) after a request from the Contractor for changes/modifications to the PROJECT is received from the DISTRICT, review and approve and/or execute the change order, said approval and/or execution is not to be unreasonably withheld.
- 11) be responsible for any additional funding that may become necessary because of approved change orders for the PROJECT, and will, upon proper billing by the DISTRICT, pay to the DISTRICT the total amount of the change order.

The DISTRICT will:

- 1) be responsible for the negotiating for and the acquisition of an easement for access on the property located to the north/northwest of the PROJECT.
- 2) apply for and obtain any and all permits that may be required for the construction of the PROJECT, including the payment of any and all fees that may be required for the permits.
- 3) obtain the agreement of the ENGINEER for the amount of local funding to be used in obtaining additional construction funding from other sources, i.e. the local match required to obtain those funds.
- 4) prepare and submit an application to obtain the additional non-local funds for construction of the PROJECT, i.e. Clean Ohio funds.
- 5) prepare the bid documents, quantities and specifications.
- 6) require the successful bidder to name the COUNTY as additional insured on all general, automobile, personal injury, contractor's risk insurance policies and all other applicable required insurance policies.
- 7) administer the bidding process and, after receiving the bids, complete the computation and analysis of the bids and determine the lowest and best bid according to the applicable sections of the ORC.
- 8) submit the bids to the COUNTY for review and analysis by the COUNTY and obtain the COUNTY's authorization to execute the construction CONTRACT, said authorization is not to be unreasonably withheld.
- 9) after receiving bids on the PROJECT, bill the COUNTY for the total cost of the PROJECT PRIOR to the awarding of the construction contract for the PROJECT to the lowest and best bidder. The amount to be advanced is to be calculated based upon the estimated quantities for the PROJECT and the prices submitted by the lowest and best bidder.
- 10) coordinate and administer the construction CONTRACT.
- 11) assist in the inspection of the construction of the improvements on the PROJECT.
- 12) after receiving an invoice from the Contractor, verify the quantities of work completed and reimburse the Contractor.

- 13) after receiving an invoice from the Contractor, prepare and submit the necessary forms/information to the pertinent agency/agencies to obtain the partial dispersement of the non-local funds that were obtained for the construction of the PROJECT.
- 14) Upon receiving the payment of the non-local funding, reimburse the COUNTY in the amount of the dispersed funds.
- 15) after receiving any request from the Contractor for changes/modifications to the PROJECT, prepare the appropriate change order and submit the change order to the COUNTY for approval
- 16) as may become necessary due to any approved change order(s), bill the COUNTY in the amount of the change order.
- 17) after the completion of the PROJECT and the final acceptance of the improvements, i.e. after the final invoice has been submitted, approved and paid, return all unused funds paid by the COUNTY.
- 18) after the completion of the PROJECT and the final acceptance of the improvements, maintain and keep in repair the improvements at no further expense to the COUNTY.

The COUNTY and the DISTRICT further agree that:

- 1) the design and construction of the PROJECT as a Joint Project does **NOT** mean that either party to this JOINT AGREEMENT has accepted from or delegated to either of the other parties responsibility and/or liability.
- 2) prior to the execution of the construction CONTRACT, either party to this JOINT AGREEMENT reserves the right to delete a portion of or the total of the project for **ANY REASON**, e.g. the cost of said work exceeds the budgetary restraints of the pertinent agency.

This JOINT AGREEMENT shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.

IN WITNESS WHEREOF, the COUNTY and the DISTRICT have signed and sealed this JOINT AGREEMENT on the dates indicated in their respective acknowledgements below.

HAMILTON COUNTY PARK DISTRICT:

By: 
Director, Hamilton County Park District
Title

HAMILTON COUNTY:

By: _____
William W. Brayshaw, P.E.-P.S.
Hamilton County Engineer

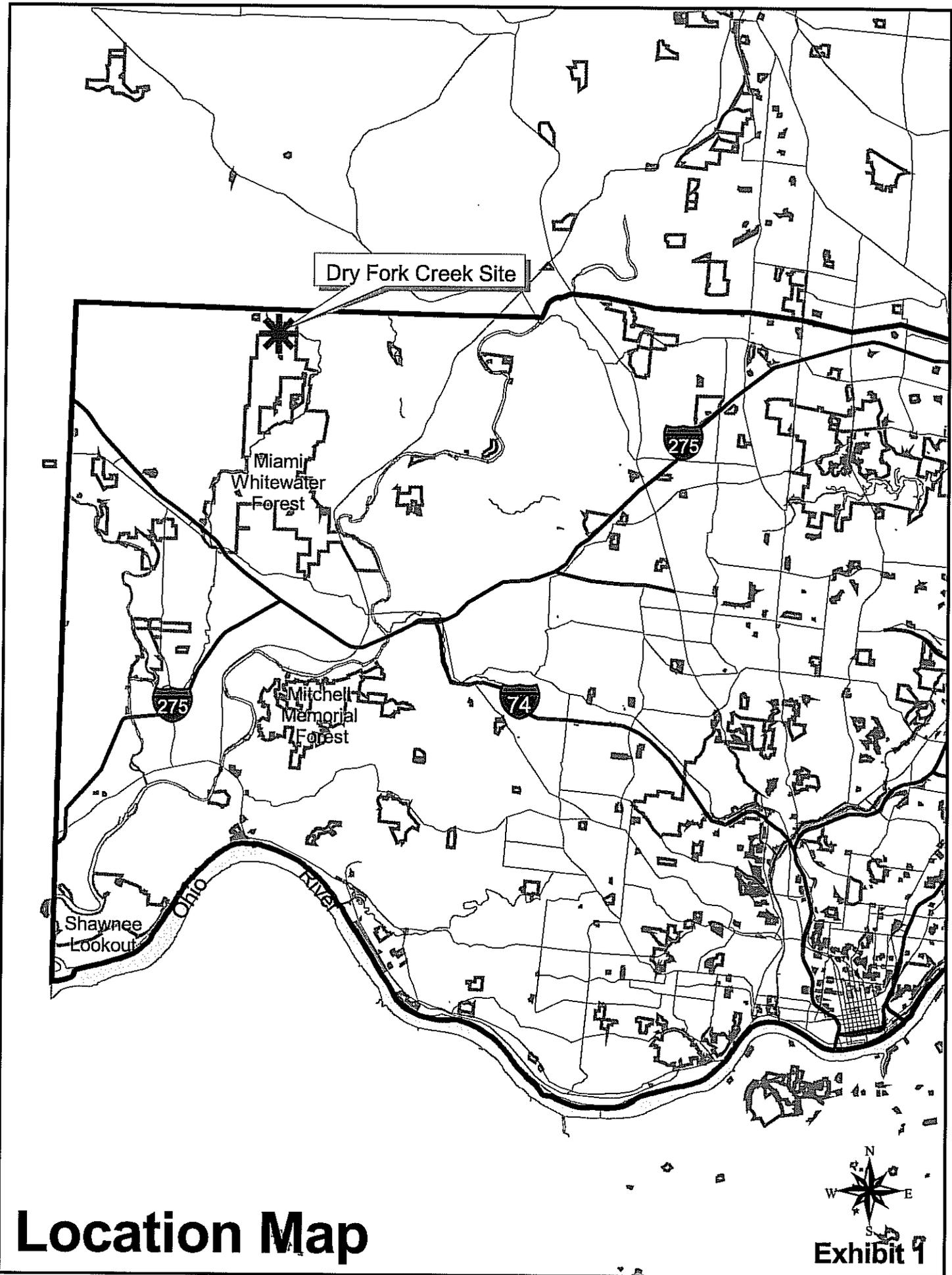
Board of County Commissioners, Hamilton County, Ohio:

By: _____
Patrick Thompson
Administrator

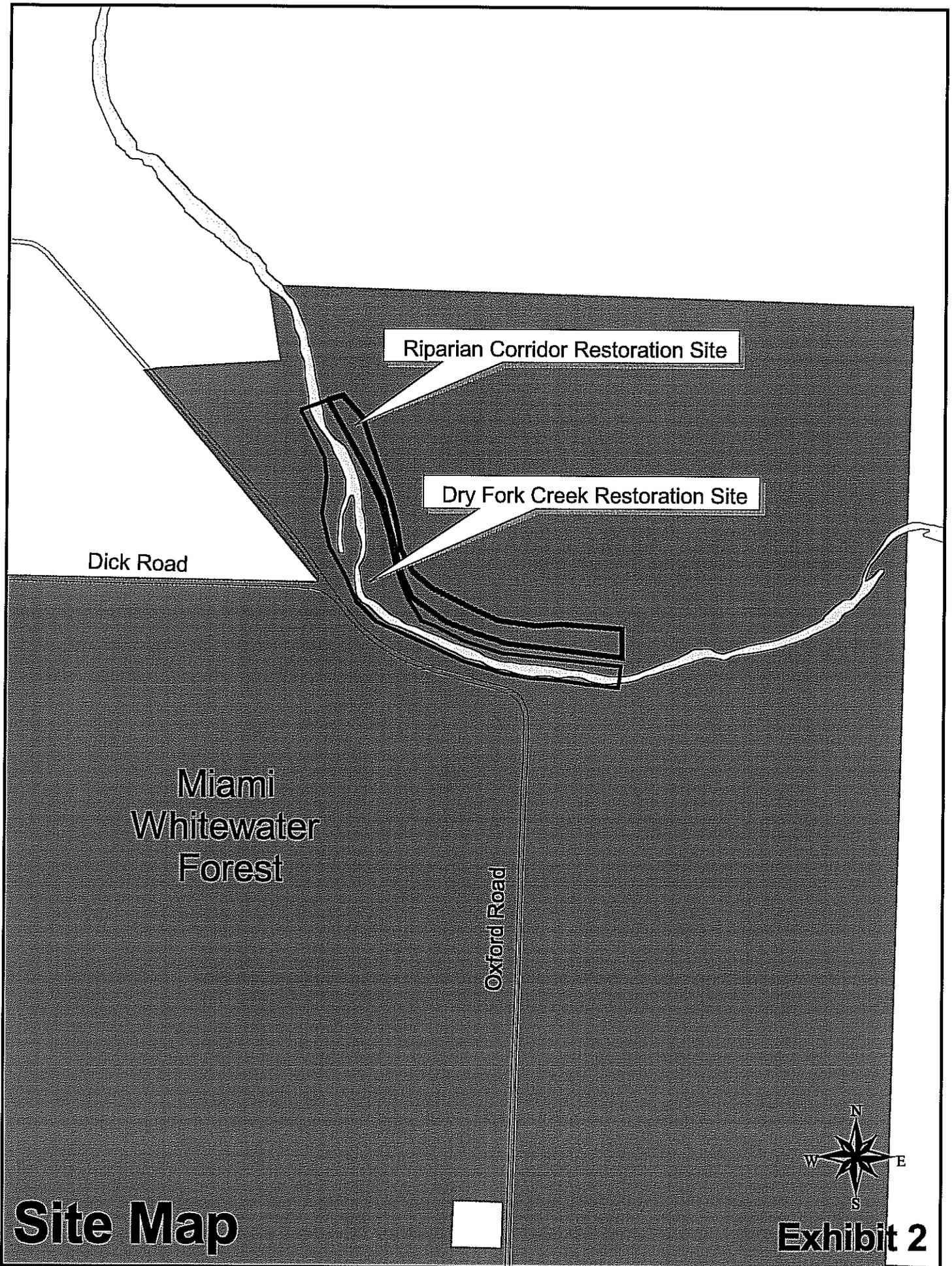
Approved as to Form:

By: 
Assistant County Prosecutor

Exhibits



Location Map



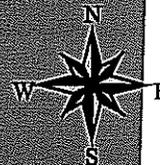
Riparian Corridor Restoration Site

Dry Fork Creek Restoration Site

Dick Road

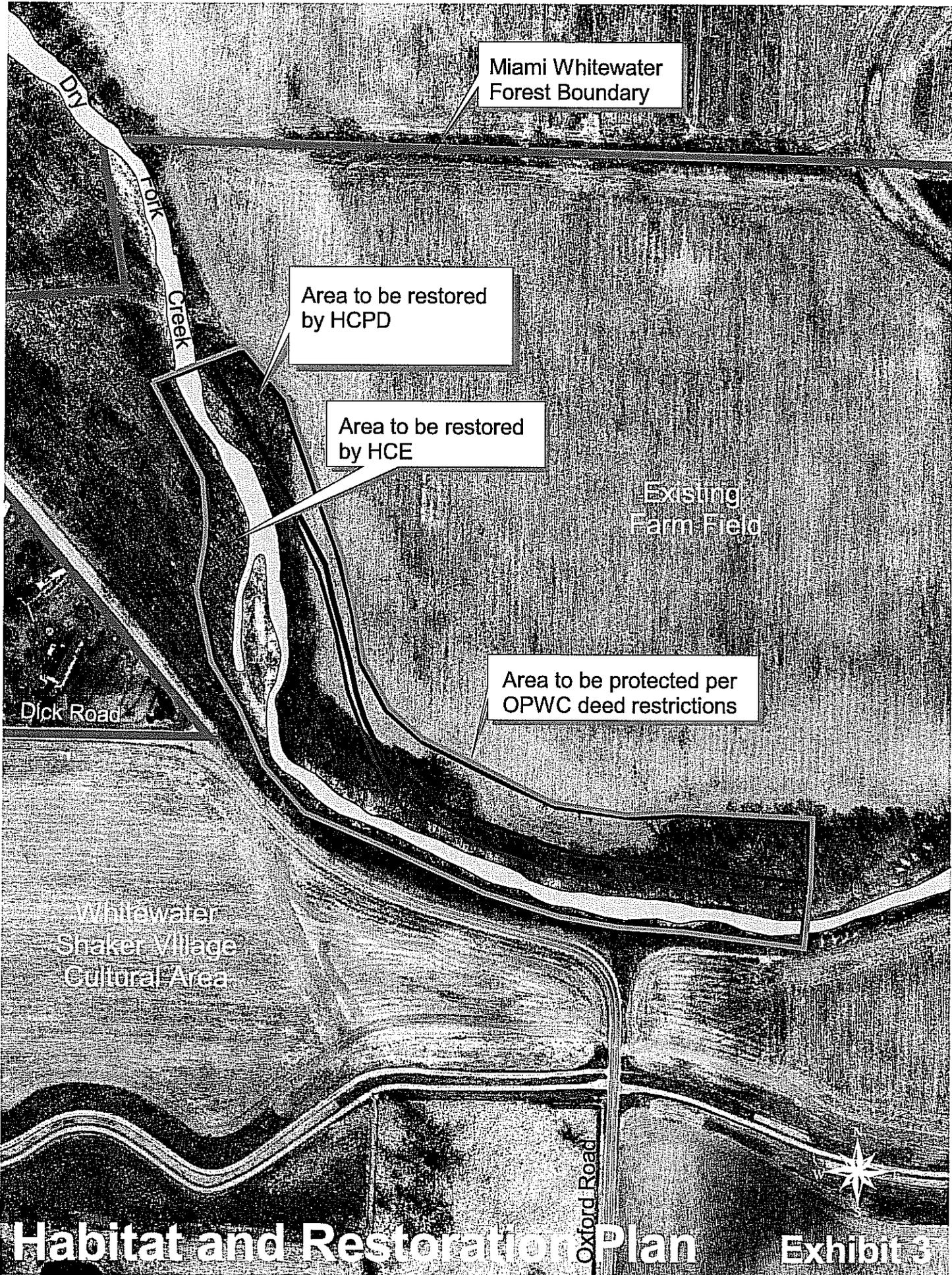
Miami
Whitewater
Forest

Oxford Road



Site Map

Exhibit 2



Miami Whitewater Forest Boundary

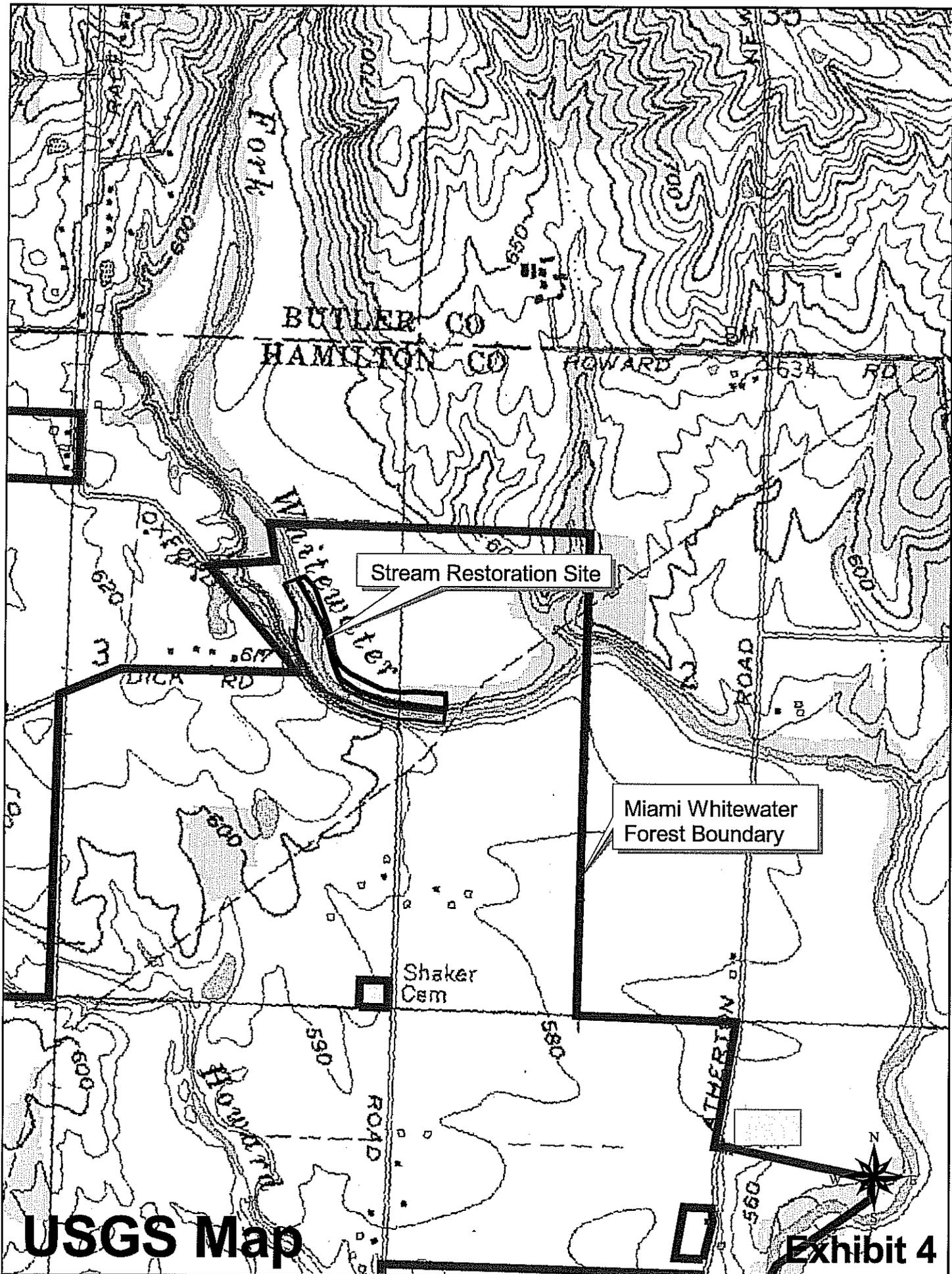
Area to be restored by HCPD

Area to be restored by HCE

Existing Farm Field

Area to be protected per OPWC deed restrictions

Whitewater Shaker Village Cultural Area



BUTLER CO
HAMILTON CO

HOWARD ROAD

Stream Restoration Site

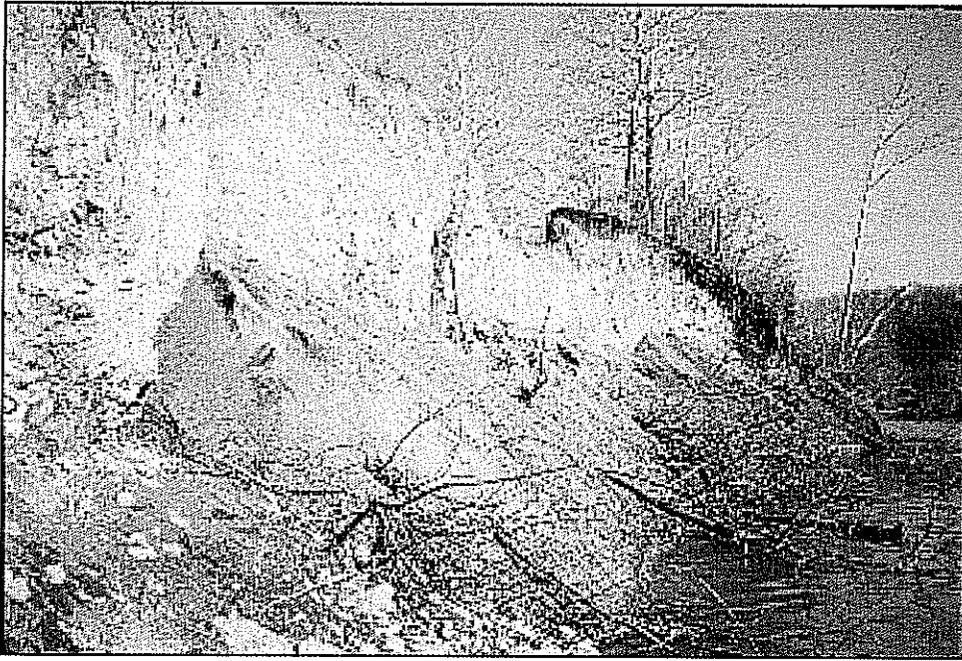
Miami Whitewater
Forest Boundary

Shaker
Cem

USGS Map

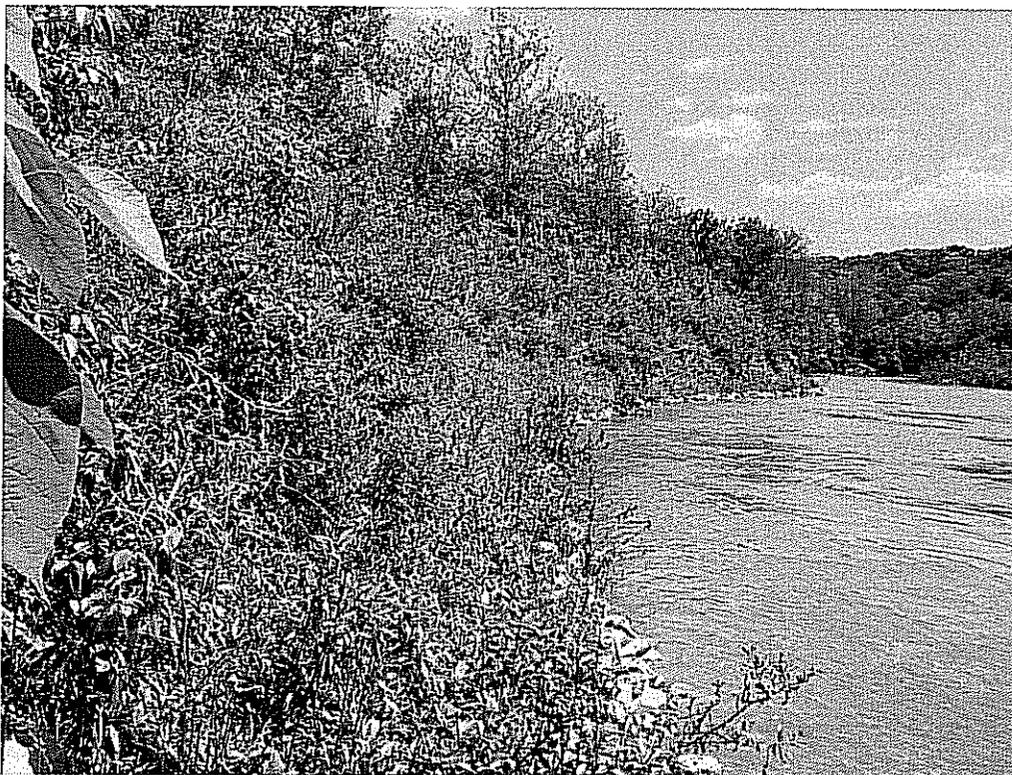
Exhibit 4

Lake Isabella Riverbank Stabilization Project – Before



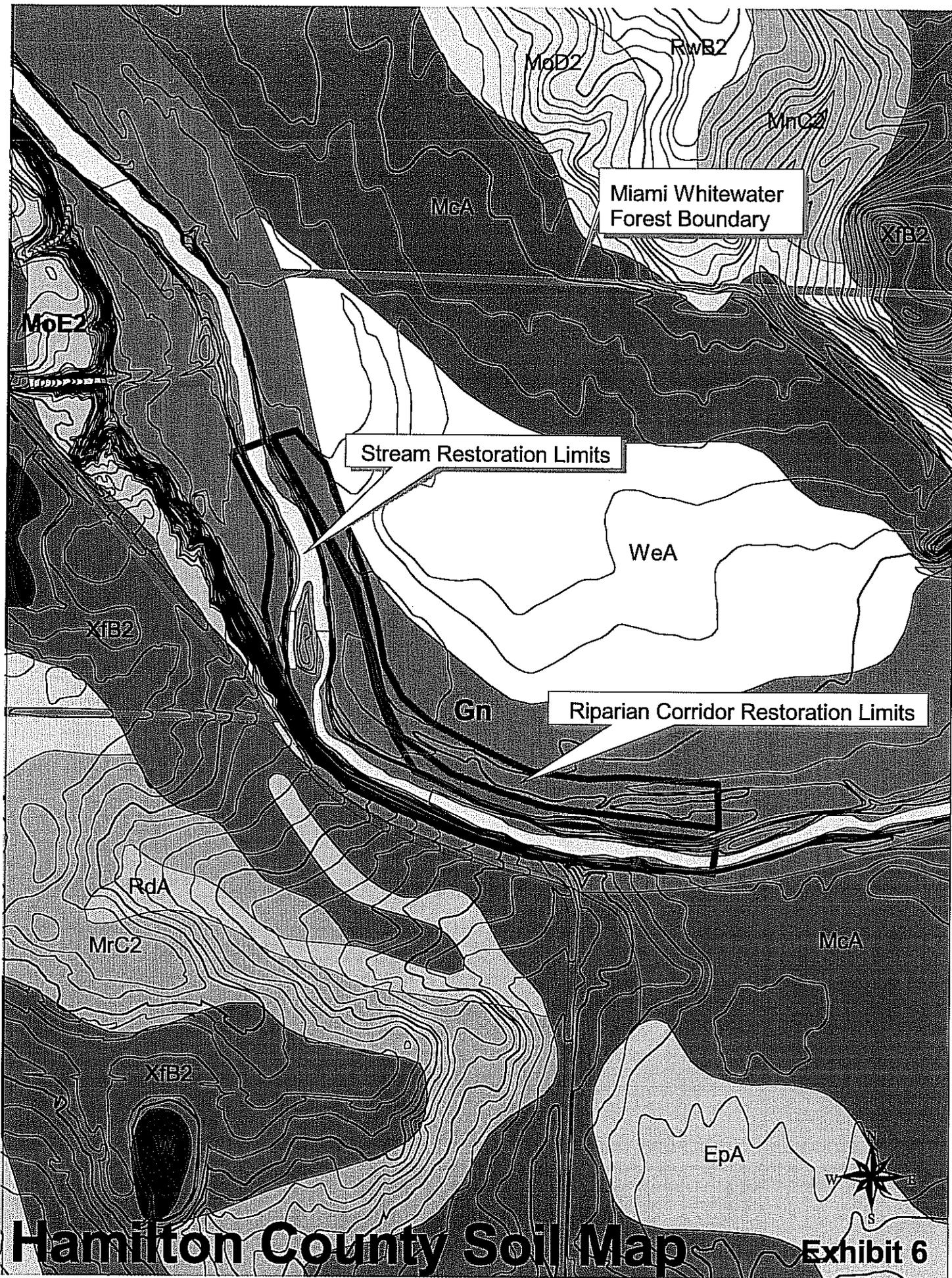
Picture taken in 1995 shows the bank failure along the Little Miami Scenic River at Lake Isabella. Mainstream Restoration Inc. served as the consultant for this engineering project.

Lake Isabella Riverbank Stabilization Project – After



This picture was taken in 2003, three years after final completion of the bank stabilization project along the Little Miami Scenic River at Lake Isabella. The bank is holding up well and continues to thrive.

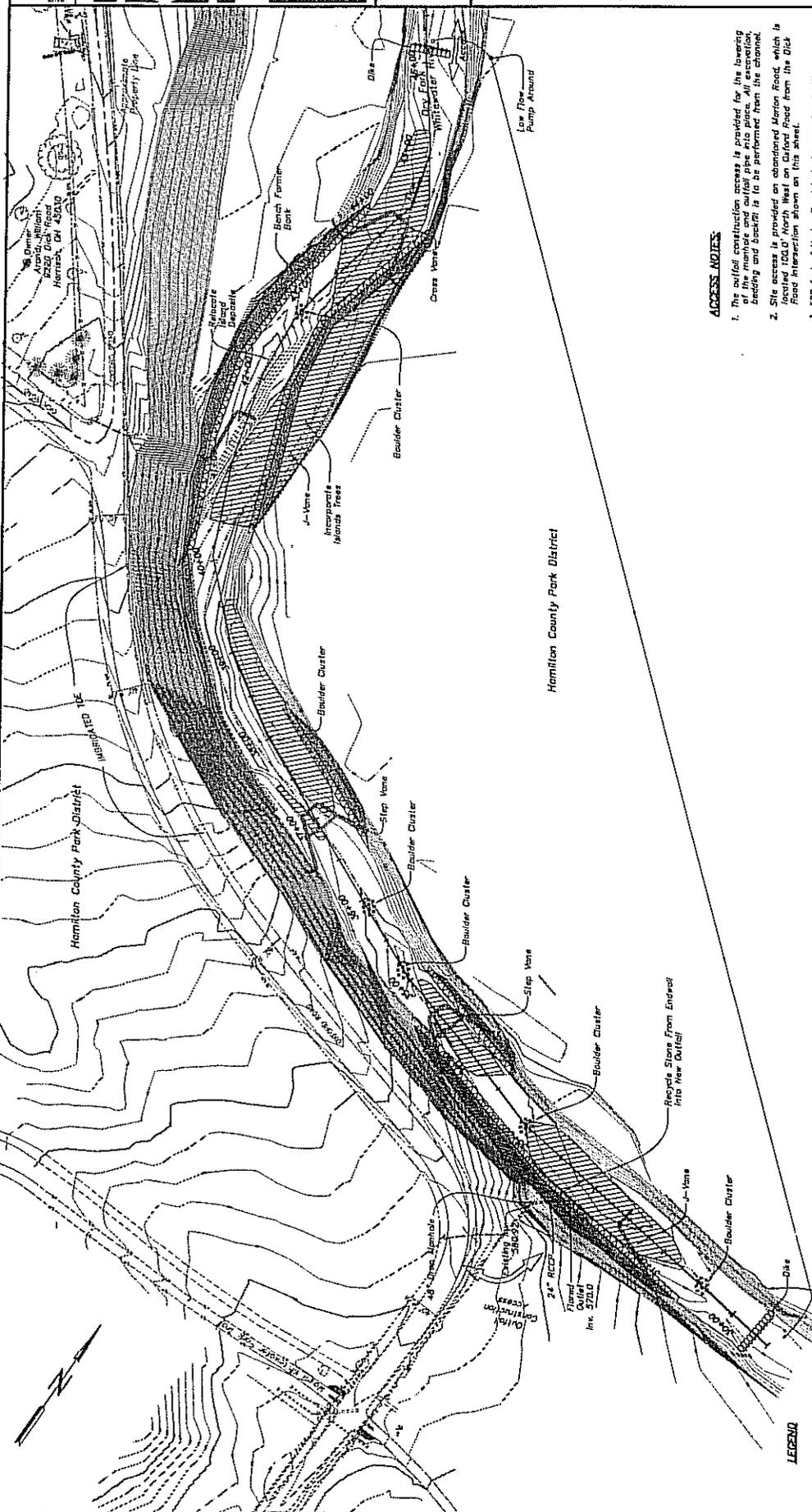
Exhibit 5



Hamilton County Soil Map

Exhibit 6

Appendix



ACCESS NOTES:

- The outfall construction access is provided for the lowering of the manhole and outfall pipe into place. All excavation, bedding and backfill is to be performed from the channel.
- Site access is provided on abandoned Marion Road, which is located 100.0' North West on Oxford Road from the Dick Road Intersection shown on this sheet.
- 500 feet of Marion Road is to be resurfaced with compacted #57 stone, 10 feet wide and 3 inches deep.
- An existing Ford and 400' of the channel will be used to access the work area shown on this plan.
- Reconstruct the River Ford with Type D Riprap 10 feet wide and 12 inches high. The riprap will be placed and maintained by the contractor. Material for the stream restoration will not be delivered via the west bank using the Ford.

TOPOGRAPHIC NOTE:
 Topographic and survey information was taken from a survey drawing supplied by Kluge and Associates, Inc.

SECTION OR DETAIL NO.
 SHEET WHERE SHOWN
 REFERENCE KEY

QUANTITIES FOR PLAN SHEETS

Description	Quantity	Unit
Excavation and Embankment	1,620	CY
Foundation Concrete	2,600	SY
Flow Structure	1,400	EA
24\"/>		

TABLE OF COORDINATES

Traverse Station	Northing	Easting
39+00	480,485	1,131,628
39+50	480,460	1,131,657
40+00	480,435	1,131,686
40+50	480,410	1,131,715
41+00	480,385	1,131,744
41+50	480,360	1,131,773
42+00	480,335	1,131,802
42+50	480,310	1,131,831
43+00	480,285	1,131,860
43+50	480,260	1,131,889
44+00	480,235	1,131,918
44+50	480,210	1,131,947
45+00	480,185	1,131,976
45+50	480,160	1,132,005
46+00	480,135	1,132,034
46+50	480,110	1,132,063
47+00	480,085	1,132,092
47+50	480,060	1,132,121
48+00	480,035	1,132,150

TABLE OF COORDINATES

Stationing	Northing	Easting
39+00	480,161	1,131,747
39+50	480,187	1,131,697
40+00	480,213	1,131,746
40+50	480,239	1,131,696
41+00	480,265	1,131,745
41+50	480,291	1,131,695
42+00	480,317	1,131,744
42+50	480,343	1,131,694
43+00	480,369	1,131,743
43+50	480,395	1,131,693
44+00	480,421	1,131,742
44+50	480,447	1,131,692
45+00	480,473	1,131,741
45+50	480,499	1,131,691
46+00	480,525	1,131,740
46+50	480,551	1,131,690
47+00	480,577	1,131,739
47+50	480,603	1,131,689
48+00	480,629	1,131,738
48+50	480,655	1,131,688
49+00	480,681	1,131,737
49+50	480,707	1,131,687

LEGEND

- Construct Boulder Slip Vane (1)
- Construct Boulder Cross Vane (2)
- Construct Boulder J-Flap Vane (3)
- Construct Boulder Cluster (4)
- Channel Bed Material to Be Reconciled
- Impregnated Stone
- Approximate Limits of Live Staking
- Bankfull Bench
- Proposed Spot Elevations
- Temporary Sanding Dike

Appendix B

Fish Species List for the Dry Fork Creek

(as researched by OEPA in their 2005 Biological and Water Quality Study of the Dry Fork Creek / Whitewater River)

Dry Fork Creek 200 meters upst. New Haven Rd. (Davis and Bixby, 1995)

- longnose gar
- gizzard shad
- central stoneroller
- spotfin shiner
- common carp
- striped shiner
- rosefin shiner
- silverjaw minnow
- sand shiner
- bluntnose minnow
- blacknose dace
- creek chub
- yellow bullhead
- stonecat madtom – intolerant fish species
- quillback carpsucker
- white sucker
- northern hog sucker
- golden redhorse
- black redhorse
- rock bass
- bluegill
- longear sunfish
- smallmouth bass
- spotted bass
- largemouth bass
- greenside darter
- rainbow darter
- fantail darter
- johnny darter

Dry Fork Creek 200 meters downstream of West Rd. bridge (Davis and Bixby, 1995; Ohio EPA, 1986)

- gizzard shad
- central stoneroller
- spotfin shiner
- common carp
- bigeye chub
- greater redhorse
- striped shiner
- rosefin shiner
- silverjaw minnow
- sand shiner
- suckermouth minnow
- bluntnose minnow
- blacknose dace
- creek chub
- yellow bullhead
- stonecat

Table 6. Fish community summaries based on pulsed DC electrofishing sampling conducted by Ohio EPA in the Dry Fork Whitewater River, July and September, 2005. Relative numbers and weight for the Dry Fork Whitewater River sites are per 0.3 km.

Stream/ River Mile	Mean Number of Species	Total Number Species	Mean Relative Number	Mean Relative Weight (kg)	QHEI	Mean Modified Index of Well-Being	Mean Index of Biotic Integrity	Narrative Evaluation
<i>Dry Fork Whitewater River (2005)</i>								
16.6	24.0	26	1651	71.91	74.0	10.1	53	Exceptional
15.9	25.5	28	1816	41.78	75.0	9.6	53	Exceptional
15.6	23.0	26	3168	46.60	77.0	10.1	51	Exceptional

Ecoregion Biocriteria: Eastern Corn Belt Plains (ECBP)
(Ohio Administrative Code 3745-1-07, Table 7-15)

<u>INDEX</u>	<u>WWH</u>	<u>EWB</u>	<u>MWH</u> ^a
IBI-Wading	40	50	24
MIwb - Wading	8.3	9.4	6.2

^a Modified Warmwater Habitat for channel modified areas.

* Significant departure from ecoregion biocriterion; poor and very poor results are underlined.

^{ns} Nonsignificant departure from ecoregion biocriterion (≤ 4 IBI units, ≤ 0.5 MIwb units).