

APPLICATION FOR THE CLEAN OHIO CONSERVATION FUND
SUMMARY SHEET

APPLICANT: Anderson Park District CODE 061-02121

DISTRICT NUMBER: 2 COUNTY: Hamilton DATE 08-09-06

CONTACT: Molly McClure PHONE # (513) 388-5080 (THE PROJECT CONTACT PERSON SHOULD BE THE INDIVIDUAL WHO WILL BE AVAILABLE DURING BUSINESS HOURS AND WHO CAN BEST ANSWER OR COORDINATE THE RESPONSE TO QUESTIONS)

FAX: (513) 388-2494 E-MAIL mmclure@andersonparks.com

PROJECT NAME: Little Miami Scenic River Riparian Corridor Restoration at Riverside Park

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: 22

(Choose a category from Attachment A which most closely describes your primary project emphasis.)

ESTIMATED TOTAL

PROJECT COST (from 1.1f): \$ 631,175 CLEAN OHIO CONSERVATION FUNDING REQUESTED: (from 1.2e) \$ 410,264

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

PROJECT ESTIMATED COSTS SUMMARY TOTAL		\$631,175
*Engineering	51,000	
*Existing House Demolition	12,000	
*Archeological Mitigation	55,000	
*Engineers Construction Estimate (Total Includes 10% construction contingency)	490,375	
Permits and Legal Fees	10,000	
Contingency on remaining items	12,800	
	\$631,175	
* Estimates are attached.		
a.) Acquisition Expenses:	\$N/A	<u>\$0</u>
Fee Simple Purchase	\$N/A	
Perpetual Easement Purchase	\$0 - Gift	
Other _____	\$N/A	
b.) Planning and Implementation:		<u>\$118,000</u>
Appraisal	\$ N/A	
Closing Costs	\$ N/A	
Title Search	\$ N/A	
Environmental Assessments/ Archeological Mitigation	\$55,000	
Design & Engineering	\$51,000	
Other Eligible Costs		
Removal of Existing Structure	\$12,000	
c.) Construction or Enhancement of Facilities:		<u>\$445,795</u>
d.) Permits, Advertising, Legal:		<u>\$ 10,000</u>
Permits	\$ 5,000	
Legal	\$ 4,500	
Advertising	\$ 500	
e.) Contingencies – all items (Not to exceed 10% of total costs)		<u>\$ 57,380</u>
Construction	\$44,580	
All other items	\$12,800	
f.) TOTAL ESTIMATED COSTS:		\$631,175

1.2 PROJECT FINANCIAL RESOURCES:

(Round to Nearest Dollar and Percent)

a.)	In-Kind Contributions	\$0	
	Staff Resources from the Hamilton County Park District		
	No value assigned – Letter in Partnership section		
b.)	Applicant Contributions (Local Funds) Total		
	Includes the provision of staff labor & Equipment	\$ 88,411	
	Other: Funding from Anderson Township Received by APD	\$132,500	
c.)	Other Public Revenues		
	Nature Works	\$0	
	Land Water Conservation Fund	\$0	
	Ohio Environmental Protection Agency	\$0	
	Ohio Water Development Authority	\$0	
	Community Development Block Grant	\$0	
	Ohio Department of Natural Resources	\$0	
d.)	Private Contributions	\$0	
	SUBTOTAL LOCAL RESOURCES:	\$220,911	35%
e.)	CLEAN OHIO CONSERVATION FUND:	\$410,264	
	Funds from another NRAC	\$0	
	SUBTOTAL CLEAN OHIO RESOURCES:	\$410,264	65%
f.)	TOTAL FINANCIAL RESOURCES:	\$631,175	100%

1.3 AVAILABILITY OF LOCAL FUNDS: Immediately

Attach a statement signed by the Chief Financial Officer listed in section 4.2 certifying all local share funds required for the project will be available on or before the earliest date listed in the Project Schedule section.

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

Hamilton County Park District – Partnership Assistance – provision of technical assistance for the Little Miami River Corridor Management Plan – intended to be a regional plan. The value of the in-kind gift is unknown.

Anderson Township Government – letter of support and \$132,500 in funding to assist with planning and implementation of project and an official resolution of support.

Army Corp of Engineers – Completed design plans and numerous studies; all information was beneficial in providing a base of useful information and curtailing cost for the current design process with Oxbow River and Stream Restoration Inc.

Horizon Community Church – Letter of intent to donate the easement needed to complete and maintain the project in addition to the construction easement we will need.

2.0 PROJECT INFORMATION

(If the project is multi-jurisdictional, information must be consolidated in this section.) The project is contained within the boundaries of Anderson Township.

 Please check here if additional documentation is attached.

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

 X *Please check here if additional documentation is attached.*

A: SPECIFIC LOCATION: Map is attached.

The project is located at Riverside Park - 3969 Roundbottom Road in Anderson Township. The project area is approximately 1,400 lineal feet of failed riverbank along the bank of the Little Miami Wild and Scenic River.

The park consists of 46 acres featuring 6 first rate ball diamonds, athletic fields used for Soccer, Rugby & Lacrosse matches, a hike/bike trail, a top quality concession and restroom building, an innovative playground, a 120' natural river buffer and a riverbank that experienced serious erosion problems for many years. This is a very beautiful portion of the Little Miami Wild & Scenic River with the exception of the issues pertaining to the erosion.

PROJECT COUNTY: Hamilton **PROJECT ZIP CODE:** 45244

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

Approximately 1,000 lineal feet of Riverbank has failed on park property and an additional 400' has also been affected to Riverside Park's neighboring property, formerly Indian Valley Golf Course, recently acquired by Horizon Community Church.

The district has worked diligently for 14 years first attempting natural methods of bank restoration in cooperation with Anderson Township through the Palmeto Method. After all natural efforts failed, the APD worked to secure permits and funding to correct this ever-evolving problem. See attached Riverside Park Riverbank History, which outlines the primary efforts of the Anderson Park District to resolve this issue since 1992.

This riverbank needs to be repaired for a variety of reasons:

1. All vegetation on the failing bank has been eroded away by the river. This results in very high erosion rates during high water conditions. Approximately 100,000 cubic yards of soil has been discharged into the river in the 1995-97 alone. The eroded sediment is detrimental to aquatic life and to the flow characteristics downstream of the park. We conservatively estimate that over 1.25 acres have been lost to the river since our ownership began in the early 90's.
2. There are historically significant prehistoric Native American artifacts being washed away into the river. Extensive archaeology studies have concluded a village site, partially removed at this point by the river, lies on park property at the current edge of the riverbank. David Snyder of The Ohio Historical Society has agreed this site is eligible to be included in the National Historical Register

of historical sites in the country. The erosion as a result of the failed bank is destroying this site. The Park District adopted the Integrated Archaeological Preservation Plan (attached) during the construction of Riverside Park and will adhere to the provisions of the plan.

3. The Anderson Park District has invested approximately \$500,000 in a restroom and concession building, sewerage leaching system, extensive playgrounds, and trails that are soon to be in danger if the river continues to migrate into the park. There is also an existing structure used for maintenance purposes that is in danger of being swept into the river. This building will be carefully removed as part of the project, if funded.
4. The failed bank has resulted in a 20 feet vertical drop, inverted in many places, from bank to river. This is a serious safety concern for the thousands of children, and adults, who visit the park to recreate annually. While we have used construction fence and signage to try to keep people away from the hazard, the unsafe condition remains in the riverbank's current state.
5. The condition of the failed bank has stripped the bank of vegetation and the slopes prohibit natural reforestation of the riparian corridor. The Ohio Department of Natural Resources has stated that riparian buffers are essential for healthy rivers. This project would provide channel stability by eliminating bank erosion and sloughing along the length of the project area as well as creating a re-vegetated stream bank.
6. In addition to capital improvements being lost due to continued migration, the park real estate is being reduced. Taxpayers of Anderson Township purchased this property and have invested in the existing recreation facilities. If the park continues to shrink, these recreational opportunities will be reduced.
7. Once the project is completed, safe access to park facilities via canoe or kayak will be possible; and will result in a positive economic impact to area businesses and the APD's concession operation. The project will beautify the unsightly bare ground and will eliminate the need to fence off the dangerous bank with orange construction fence.

The project will stabilize the failing bank and remedy the detrimental conditions described above. The specific details for the design plan, created by Oxbow River and Stream Restoration Inc. is attached. A soils map of the project site is also included. The project protects highly erodable lands and hydric soils.

In summary, the project involves construction of a rock toe along the length of the eroding bank. The existing bank will be sloped back to a stable configuration and planted with native trees and shrubs.

The project meets the following Open Space Criteria as outlined in Part II: Project Emphasis – Open space criteria:

- (2) Preserves or increases high quality, viable habitat for plant or animal species, including native species through all of the vegetation that will be added.

- (3) It will preserve or restore other natural features that contribute to quality of life and state' natural heritage – through the protection of the Pre-historic Indian Artifacts that have been documented on the site and which are currently being washed into the river, each time the river floods.
- (4) The Project incorporates aesthetically pleasing and ecologically informed design including sensitivity to the terrain, natural resources and heritage of the property. All artifacts will be mitigated during construction. The slopes were engineered to maximize stability and allow for maximum vegetative growth, using bio-engineering techniques. These techniques have been used with great success by the Professional Engineering firm, Oxbow Inc., currently under contract for this design. The National Park Service and the Ohio Department of Natural Resources identified Oxbow Inc. as the local firm who is most qualified and possesses the best practical experience to manage our project.
- (8) The Project will provide access to natural areas that result in recreational, economic, or aesthetic preservation benefits; access from the river and to the river will be possible resulting in a positive exposure to this beautify park and area businesses and the APD will financially benefit from the sale of food and beverages.

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

Related to Attachment A – Riparian Corridor – Primary Emphasis

- A1** 18. Incorporates aesthetically pleasing and ecologically informed design
A2 16. Reforestation of land
A3 22. Provides multiple recreational, economic and aesthetic preservation benefits

In summary, this project will preserve and restore a functioning floodplain; once the re-vegetation takes hold, filtration of storm water runoff will result in improved water quality and the negative effects to the biological and aquatic communities will be decreased; the natural stream channel will be restored and the streamside forest will be able to regenerate and become supportive to adjacent habitats.

The project meets the following Riparian Corridor Criteria as outlined in Part II: Project Emphasis – Riparian Corridor:

- (12) Preserves or restores functioning floodplains, including groundwater recharge areas.
- (13) Preserves or restores water quality and/or aquatic biological communities.
- (14) Preserves or restores natural stream channels.
- (15) Preserves or restores streamside forests, native vegetation or adjacent habitat.
- (18) Plants vegetation or reforests lands for filtration to improve water quality and to control storm water runoff.

IDENTIFICATION OF PARTNERSHIPS – PLEASE SEE ATTACHMENTS IN PARTNERSHIP SECTION.

With the long-standing history of this project outlined in the Riverside Park Riverbank History, we've had interactions with many local, state and federal agencies. The most significant assistance came from the Army Corps of Engineers through Section 14 Continued Authorities Program, established under the 1946 Flood Control Act. This process began in early 1999; see details outlined in the history and the results of their planning and design efforts included as an attachment. Their assistance has moved the project along to where we are today.

After The National Park Service and the Ohio Department of Natural Resources rejected the Corps of Engineer's plan; they indicated they would assist APD with their technical expertise to devise a plan that would meet their criteria for permit approval. See permit rejection letter from ODNR, partnership section attachment.

The Hamilton County Park District (See letter in **Partnership Section**) Because of the importance of our project to the Hamilton County Park District, technical support for our project has been offered to complement the corridor management plan they have already implemented on the other side of the river. Specifically they will assist the Anderson Park District in completion of a management plan for the riparian areas within Riverside Park. This plan will help ensure the long-term success of the restoration work funded through the Clean Ohio Conservation Program.

PROJECT COORDINATION

Information concerning the coordination of the project among local political subdivisions, state agencies, federal agencies, community organizations, conservation organizations, and local business groups.

While there will be much coordination between Anderson Township, ODNR, NPS, The Hamilton County Park District, the State of Ohio Historical Preservation Office and others, there will not be a formal cooperation agreement established to execute the agreement.

The NPS will provide much assistance in program coordination, as they play a significant role and must grant approval in the permit process.

A successful permit will require formal approval and or input from the Corps of Engineers, the Ohio Environmental Protection Agency, SHPO, NPS, ODNR – division of Wildlife, US Fish and Wildlife.

Attached is a letter from the Ohio Department of Natural Resources pertaining to a review of the Natural Heritage maps and files. There are no existing or proposed state nature preserves at the project site. They are unaware of any unique ecological sites, geologic features, breeding or non-breeding animal concentrations, state parks, state nature preserves, state forests or wildlife areas within the project area. Riverside Park is across the river from Avoca Park, owned by the Hamilton County Park District, HCPD, and consideration is being given to the future effect for the HCPD property in our planning process.

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

The Anderson Park District will provide a conservation easement to the State of Ohio on APD property as prescribed by section 164.26 of the ORC.

A conservation easement will also be acquired from our neighbors, Horizon Community Church for the small section of their property we intend to repair in conjunction with our project.

This project would not be successful if we did not include their property in the restoration project. Attached is a letter of intent to cooperate from Horizon Community Church. They are aware of the conservation easement requirement and have indicated that they will execute an easement if we are awarded the Clean Ohio Grant provided they are in

agreement with our final design and if they will not lose future access to the river at the project site. We understand that if we do not execute the required easement from Horizon Church, we will remove the portion of their property from grant funding and will take full responsibility for the entire restoration expense of their property. They are awaiting the final plan and will act formally if the project is granted the funding.

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? Describe the economic impact to area? Describe how this project will improve the view shed along the roadway.

Riverside Park is open daily, dawn to dusk to the general public. Once repaired, the slopes on either end of the project will allow river access including access for canoeist and other small non-motorized watercraft. There will be a public input process once the project is permitted and funded.

This project will improve the recreational offerings already offered at this park and will offer the public an increase opportunity to enjoy the natural surroundings of the wildlife and natural habitat on the Little Miami Wild and Scenic River.

The increased visitation will assist the park district to fund the maintenance of its operation (over 50% comes from sources outside of taxes) through increased concession sales for hungry and thirsty visitors. This park is also located in the proximity of several township businesses.

Riverside Park is located on Roundbottom Road – the highway access to Anderson Township's Industrial Area. The current state of the park includes unsightly construction fencing to protect our visitors from the unsafe condition. The project will indeed improve the views of motorist and bicyclist who pass the park in addition to improving the views of the small watercraft users on the river.

2.2 OWNERSHIP/MANAGEMENT/OPERATION: Please address.

The Anderson Township Trustees purchased the majority of the land for Riverside Park. On January 9, 1992, this land was deeded to the APD and the remaining parkland was purchased by the APD in late 1993.

The Anderson Township Bicentennial Commission raised funds for part of the development; the remaining development funds were derived from the district's operating levy and other private fundraising.

The APD has adopted high standards of maintenance, which are performed on a daily basis. Trash is collected and removed daily, restrooms are cleaned twice daily in peak season, grass is mowed once or twice per week as season dictates; athletic fields are prepared daily according to seasonal use; the park is patrolled by the Hamilton County Deputy Sheriff's routinely. Concession or operations staffs are available for the majority of the time during peak use. The park is open from dawn to dusk, 365 days a year and is solely owned and operated by the Anderson Park District.

The Hamilton County Park District's established Little Miami River Corridor Plan will be implemented with their assistance. Attached is the HCPD plan, that we will model our plan after.

3.0 PROJECT SCHEDULE:	BEGIN DATE	END DATE
3.1 *Planning and Implementation:	<u>1 /2006</u>	<u>10/31/07</u>
3.2 Land Acquisition/Easements	<u>11/1/06</u>	<u>12 /15/06</u>
3.3 **Site Improvements – 6 weeks:	<u>9 /15 /07</u>	<u>10 /31/07</u>

*The planning process with Oxbow River and Stream Restoration, Inc. commenced in early 2006. They are very nearly ready to submit our design for permitting to The Corps of Engineers, the Ohio Environmental Protection Agency and the National Park Service. This permit review and approval process is estimated to take 6 months. Oxbow Inc. is highly qualified to plan and oversee the implementation of this project; they were recommended by the NPS and ODNR as they recently completed a successful project upstream in Milford, Ohio. They have a great deal of experience with projects of this nature.

**The construction will take place in a four to six week period – at a time prescribed by the permitting agencies (low water period – July – December). If the project is awarded funding and the permit is granted, the timeframe could be moved forward.

(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
Molly McClure, Executive Director
8249 Clough Pike, Cincinnati, Ohio 45244
PHONE (513) 388-5080 FAX (513)388-2494
mmclure@andersonparks.com

4.2 CHIEF FINANCIAL OFFICER
Bailey Martella, Business Director
8249 Clough Pike, Cincinnati, Ohio 45244
PHONE (513) 388-5088 FAX (513)388-2494
bmartella@andersonparks.com

4.3 PROJECT MANAGER
Michael Smith, Operations Manager
8249 Clough Pike, Cincinnati, Ohio 45244
PHONE (513)266-3577 FAX (513)388-2494
msmith@andersonparks.com

Changes in Project Officials must be submitted in writing from the CEO or CFO.
Certifying Representative: Molly McClure, Anderson Park District Executive Director

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.

- [X] 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.
- [X] 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.
- [X] 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.
- [X] Resolution of Support and letter from Anderson Township (Please refer to section 164.23(B)(1) of the Ohio Revised Code for guidance.)
- [X] Identification of any participation by state agencies that will provide to this particular project and that will provide assistance with respect to the project; technical assistance from the Ohio Department of Natural Resources.
- [] Information concerning the coordination of the project among local political subdivisions, state agencies, federal agencies, community organizations, conservation organizations, and local business groups.
- [X] 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.
- [X] Have you reviewed your NRAC's methodology to see that you have addressed all components?

COOPERATION AGREEMENT

Execute a cooperation agreement if your project is a joint project with the active participation of two or more groups.

N/A

Group Name AA@ and Group Name AB@ enter into a cooperative agreement to submit an application to the Ohio Public Works Commission for the **project name**.

Group Name AA@ will provide funds totaling ___ % of the cost of the project name. Such funds will come from the _____ fund.

Group Name AB@ will provide funds totaling ___ % of the cost of the project name. Such funds will come from the _____ fund.

Group Name AA@ authorizes Group Name AB@ to be the lead applicant and to sign all necessary documents.

Group Name AA@ agrees to pay its ___ % of the cost as invoices are due/at the end of the project/as otherwise agreed upon.

Group Name AB@ agrees to pay its ___ % of the cost as invoices are due/at the end of the project/as otherwise agreed upon.

Authorized Designated Official, Group AA@

Authorized Designated Official, Group AA@

Authorized Designated Official, Group AA@

Authorized Designated Official, Group AB@

Authorized Designated Official, Group AB@

Authorized Designated Official, Group AB@

ATTACHMENT A

PROJECT EMPHASIS

NOTE: IF THE PROJECT HAS MORE THAN ONE EMPHASIS, PLEASE PLACE A A1" IN THE CATEGORY THAT IS THE PRIMARY EMPHASIS, A A2" IN THE CATEGORY WITH SECONDARY EMPHASIS, AND A A3" 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
- 7. Preserves or restores floodplain and streamside forest functions
- 8. Preserves or restores water quality
- 9. Preserves or restores natural stream channels
- 10. Preserves or restores functioning floodplains
- 11. Preserves or restores wetlands
- 12. Preserves or restores streamside 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
- A2** 16. Reforestation of land
- 17. Planting vegetation for filtration
- A1** 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
- A3** 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.

In summary, this project preserves and restores a functioning floodplain; water quality will be restored and negative effects to biological and aquatic communities will be decreased; the natural stream channel will be restored and the streamside forest will be able to regenerate and become supportive to adjacent habitats. Finally, once the vegetation takes hold, filtration of storm water runoff will result in improved water quality to this wild and scenic river.

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.

Certifying Representative, Molly McClure, Anderson Park District Executive Director

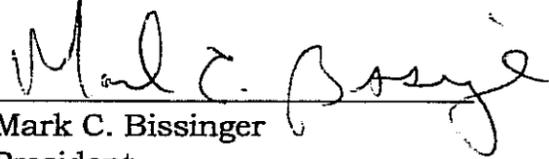
Molly McClure 8/9/06
Original Signature/ Date Signed

**AUTHORIZATION BY THE GOVERNING BODY OF THE
APPLICANT**

Molly McClure, Anderson Park District Executive Director, is hereby authorized to apply to the OPWC for Clean Ohio Conservation Program funds.

Molly McClure, Anderson Park District Executive Director, and Biz Martella, Anderson Park District Business Director, are further authorized to enter into any agreements as may be necessary and appropriate for obtaining this financial assistance.

6/29/06
Date


Mark C. Bissinger
President
ANDERSON PARK DISTRICT
BOARD OF PARK COMMISSIONERS

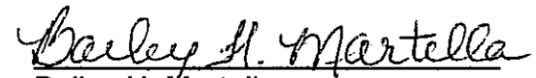
INDEX OF ATTACHMENTS

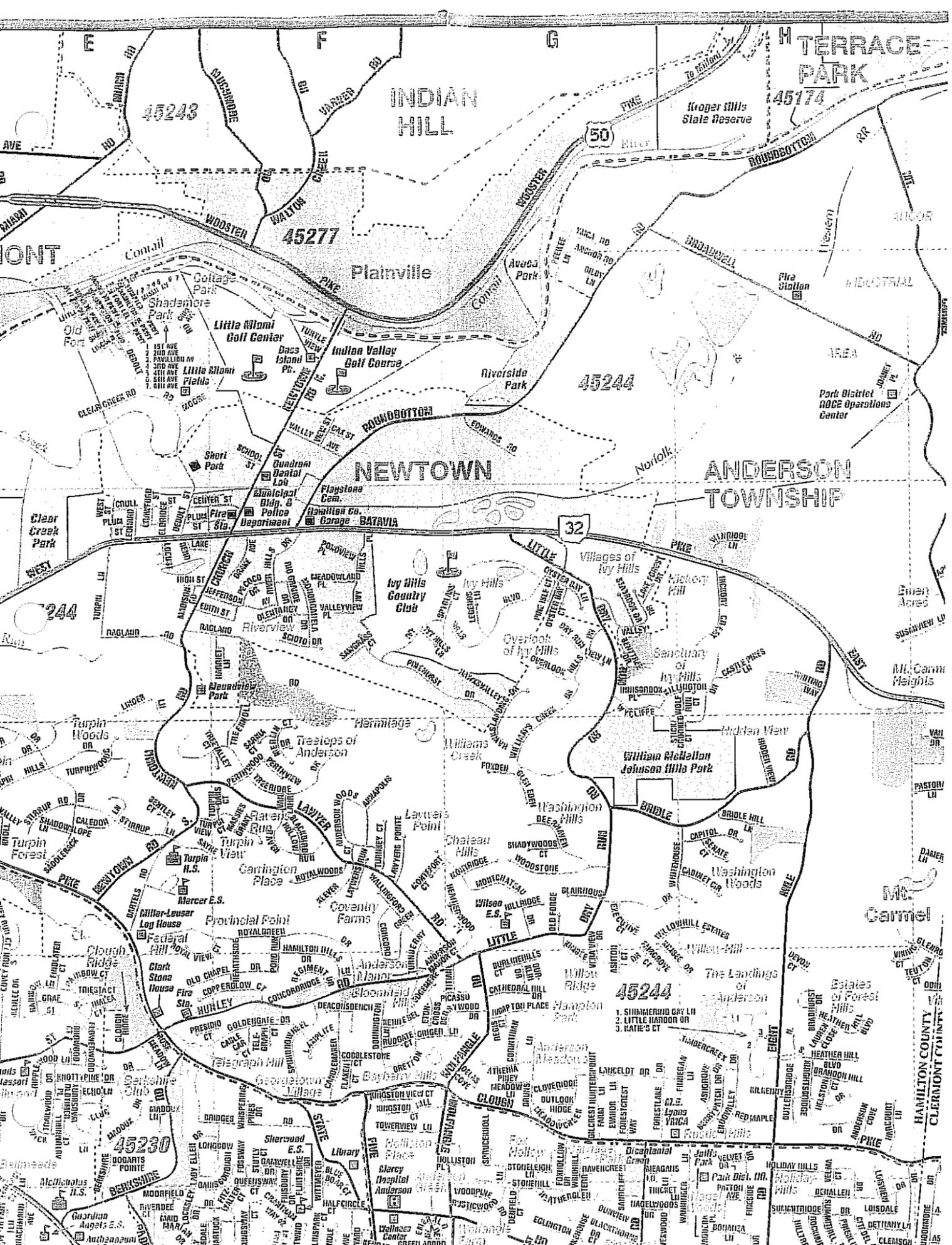
1.3	AVAILABILITY OF LOCAL FUNDS	Chief Financial Officer Statement
2.1A	SPECIFIC LOCATION	Map of Anderson Township area
2.1B	PROJECT COMPONENTS	Riverside Riverbank History (Timeline)
2.1B2	PROJECT COMPONENTS	Integrated Archaeological Preservation Plan
2.1B	PROJECT COMPONENTS	Stabilization Design Plan by Oxbow River & Stream Restoration Inc.
2.1C	PROJECT EMPHASIS	Attachment A – Riparian Corridor
2.1C	INDENTIFICATION OF PARTNERSHIP	Army Corps of Engineers planning & design efforts (disk and printed documentation included in binder)
2.1C	INDENTIFICATION OF PARTNERSHIP	Permit Rejection Letter with Assistance Offer
2.1C	INDENTIFICATION OF PARTNERSHIP	Letter from Hamilton County Park District
2.1C	INDENTIFICATION OF PARTNERSHIP	Little Miami Corridor Management Plan
2.1C	PROJECT COORDINATION	ODNR letter, Natural Heritage maps and files
2.1D	TERMS OF EASEMENTS	Letter of Intent from Horizon Community Church
5.0	ATTACHMENTS/COMPLETENESS	Governing Body Certification
5.0	ATTACHMENTS/COMPLETENESS	Chief Financial Officer Certification
5.0	ATTACHMENTS/COMPLETENESS	Professional Detailed Estimate of Project Costs
5.0	ATTACHMENTS/COMPLETENESS	Resolution of Support/Letter from Anderson Twp.
5.0	ATTACHMENTS/COMPLETENESS	Local NRAC Methodology
5.1	Soils Map	
5.2	Topographical Map	
5.3	Qualifications to Execute Project (Project Management Experience)	
5.4	Natural Resources Viability Statement	
5.5	Species & Vegetation Map	
6.0	<u>PHOTO DOCUMENTATION OF RIVER EROSION</u>	
7.0	MISCELLANEOUS DOCUMENTS	
7.1	Ohio Public Works Document of Eligibility	
7.2	ODNR Initial Project Approval	
7.3	ODNR Park Development Approval	
7.4	Preliminary Assessment Meeting Notes	
8.0	MISCELLANEOUS MAPS	
8.1	Future Land Use	
8.2	Site Map of Adjoining Neighbor	

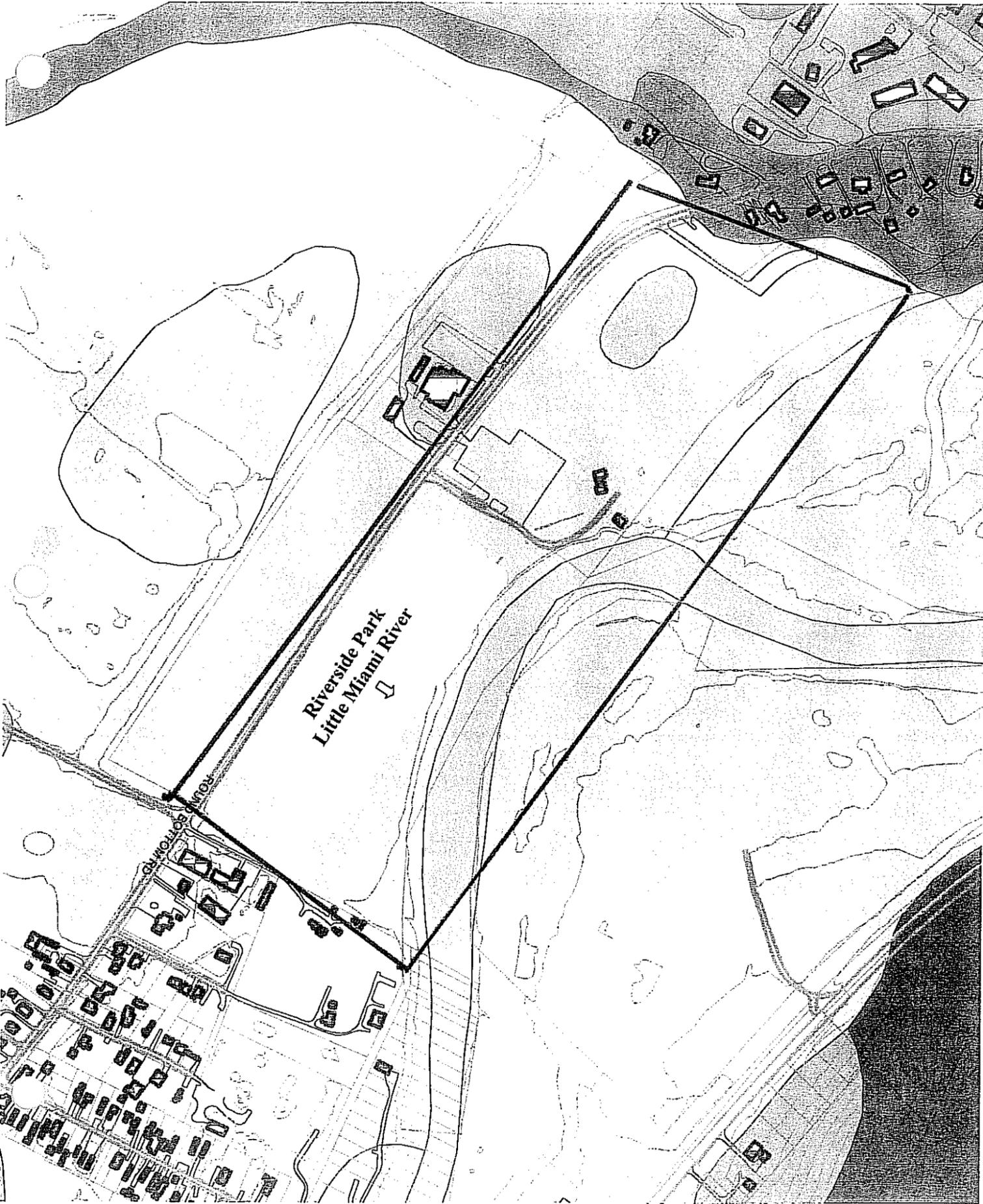
CHIEF FINANCIAL OFFICER CERTIFICATION OF LOCAL FUNDS

8/9/06

I, Business Director of the Anderson Park District, hereby certify that the Anderson Park District has the amount of **\$220,911** in the **General Fund** and that this amount will be used to pay the applicant revenues immediately for the Little Miami Scenic River Riparian Corridor Restoration at Riverside Park when it is required.


Bailey H. Martella
Anderson Park District
Business Director/Board Clerk





**ANDERSON PARK DISTRICT
RIVERSIDE PARK RIVERBANK HISTORY
Updated May 2006**

- In 1992 Anderson Township bought the current Riverside Park parcel and deeded it to The Anderson Park District (APD) for the development of a bicentennial park.
- The Little Miami River, a designated Wild and Scenic River, borders the park on the north and has been aggressively migrating into the park.
- In 1992, The Township Trustees attempted to stabilize the bank utilizing the Palmiter method (cabling large trees along the bank) prior to deeding the property to the Park District. This method was unsuccessful as forceful waters freed the cabled trees.
- Through the mid 1990's (1995, '96, '97) the bank began to fail at an accelerated rate, causing the loss of approximately one acre of real estate, discharging over 100,000 cubic yards of soil into the river causing water quality degradation.
- Various archaeological investigations revealed a Native American village site on the park property along the river's edge. It was determined that this village site was and continues to be destroyed by the bank failure and the artifacts continue to erode into the river.
The Park District sought assistance from various governmental agencies to stabilize the bank, preserve the artifacts, and prevent further water quality degradation and land loss. The U.S. Army Corps of Engineers indicate they have a program that can help.
- In 1998, the APD teamed up with The Corps to formulate a solution under The Corps Section 14 Continued Authorities program as established under the 1946 Flood Control Act. This process began early in 1999.
- In 2000, The Corps began an extensive study to develop a stream bank stabilization plan that will preserve, the undisturbed cultural resources contained within the village site.
- In 2001, The Corps estimated the project to be \$700,000.
- In 2002, the APD sold bonds, in part, to raise the District's 35% share of construction. In 2002 the District estimated the cost to repair "in house" to be \$144,500. By 2003 the District budgeted \$270,000 for its share of the project (35% of the Corps estimate of \$700,000).
- In 2003 continued plan development resulted in a project estimate increase of \$450,000, for a total of \$1,150,000. Section 14 provides for 65% federal monies to be combined with the Park District's 35% to execute the project.
- In the spring of 2003, The Corps hosted a design workshop with expert David Derrick of the Corps to facilitate a design for the riverbank. NPS, ODNR, OEPA, APD and members of the Corps were invited to attend. All agencies participated in the planning process except the NPS. Subsequent phone conversations and a conference call brought all agencies on board with the plan.
- In the Spring of 2004, based on current estimates, the Park District's 35% of the project is determined to be \$402,500, leaving the Park District with a \$132,500

had to focus on for a little while. She did indicate once that was complete they would be finalizing their comments on our project.

- October 19, 2004, The National Park Service provided the results of their preliminary determination of their section 7(a) review. They indicated the project as proposed would have a "direct and adverse affect on the free flowing characteristics of the river and ORV's, thus the project may not proceed.
- October 20, 2004, Sonia Suggs called to indicate that FY 2005 funding for Section 14 Continued Authorities projects had been cut from the budget. Furthermore, the Continued Authorities technical staff had been reassigned to the military branch to perform projects for the military. The Continued Authorities projects were being put on hold. However, there is a Continued Authorities manager who would be able to continue to correspond with us for future planning as a Continued Authorities project possibility once funding had been restored.
- December 10, 2004, The Corps forwarded the project plans and specs to APD for its use, along with a letter indicating their inability to continue at this time.
- Later in December 2004, Troy Euton called Marty Sterkel as referenced in the NPS letter dated October 19, 2004, to discuss how the NPS could assist APD in pursuit of the recommendations made by NPS.
- January 2005, Mr. Sterkel indicated Sue Jennings would be the point person for APD regarding their assistance to APD. Mr. Sterkel indicated NPS would facilitate and lead a series of stakeholder meetings to develop and acceptable solution for our bank erosion problem. Furthermore, NPS would facilitate meetings and research to provide for the physical resources to accomplish the project developed plan. Sue Jennings indicated Paul Labovitz would be the local point of contact.
- February 2005, Representatives from APD, ODNR and NPS met in Columbus to discuss details of the project. This meeting resulted in the need to develop a new plan utilizing less intrusive toe protection.
- March 2005, APD suggested that a design forum be created through email communications between NPS, ODNR and APD. Sue Jennings of NPS thinks that would be a great way to develop a plan. ODNR has yet to respond to any of the design discussion emails that have occurred over a two- week period.
- The APD sought proposals from design companies with specific Riverbank erosion experience. Steve Phillips, CPESC from Oxbow River and Stream Restoration Inc., won the bid for design, the permit process and construction management for the cost of \$51,000. The project is currently estimated to cost \$430,000. Oxbow Inc. recently completed the Milford erosion project.
- The APD will seek funding assistance through the State of Ohio's Clean Ohio funds. We need to obtain a permanent easement from our adjacent property owners, in order to fix this dynamic riverbank erosion problem on APD and adjoining properties.

shortfall to fund the project. The Anderson Township Trustees agreed to provide the \$132,500 shortfall so the project could proceed with all agreements.

- In May, of 2003, the Corps was on schedule for construction in the fall of 2004. The District must pay its' 35% contribution to the Corps in July of 2004.
- On June 3, 2004, a Section 7 plan review meeting with The National Park Service (NPS), Ohio Department of Natural Resources (ODNR), The U.S. Army Corps of Engineers and APD resulted in significant plan revision requirements. Although ODNR participated in the design, and NPS was consulted during the design process, both agencies now feel the design is too costly and contrary to The Wild and Scenic Rivers Act. Specifically, they now disagree with the use of Bendway weirs on the project. Based on these comments the Corps is continuing further preliminary research and planning efforts to make plan modifications acceptable to both agencies. The Corps is hesitant to spend more design money without some written guidelines or agreements from NPS and ODNR as there is inconsistency in their representative's opinions. The NPS indicated they would evaluate mitigating the cultural resources (the entire site) and develop a preferred plan utilizing their staff. Sue Jennings of NPS indicated they would have their work conceptually completed within four to six weeks. This was never done.
- The Corps has requested the NPS provide them with some definitive guidelines for projects on Wild and Scenic Rivers, as there is inconsistency in design information and compliance with the Act when compared to other projects they (NPS) have permitted in this section of The Little Miami River.
- On June 23, 2004 at the regular monthly meeting of the Board of Park Commissioners, The Board agreed to allow the National Park Service and the Corps to proceed with alternative plan formulations. They also advised staff to check into the possibility of incorporating Riverside Park into the Village of Newtown to evaluate if riverbank regulatory requirements changed nincorporated areas.
- August 3, 2004: Sonia Suggs called in response to our request for specific direction and language requested by Senator Portman's office. Sonia indicated that the Senator's representative should call her directly at (502) 315-6888. The Corps staff will draft specific language for the Senator's office.
- August 4, 2004: Sonia Suggs called to update the District that Sue Jennings of NPS has indicated they have not nixed the idea of using the bendway weirs. The NPS has learned of the importance of the site and the expense of the cultural resource mitigation for the site and have concluded that it would be cost prohibitive. Furthermore, they have concluded the site should be protected. Ms. Jennings also indicated they are now weighing the fact that this section of The Little Miami River is in an urban setting and has several urban influences affecting the river, thus consideration of the weirs should be looked at in more detail. Ms. Suggs explained to Ms. Jennings that if the weir design doesn't move forward, the project would have to increase in length further down stream to compensate for the loss of function the weirs provide.
- As of 9-21-04, The National Park Service was still reviewing The Corps Planning and Design Analysis (PDA) for the project. Sue Jennings, NPS, indicated they had to take a break on our project as they had a critical, top priority project they

ANDERSON PARK DISTRICT

ANDERSON TOWNSHIP

A TIMELINE OF INHABITATION, SIGNIFICANT EVENTS AND OCCURRENCES

Prehistoric inhabitants of the area were:

- Paleo.....20,000 BC to 5,000 BC
- Archaic.....5,000 BC to 500 BC
- Adena (Woodland).....500 BC to 250 AD
- Hopewell (Woodland).....250 AD to 500AD
- Newtown Focus (Woodland).....500 AD to 1000 AD
- Fort Ancient (Late Pre-historic)..1,000 AD to 1650 AD

- 1607 Captain John Smith founded the first English settlement at Jamestown, Virginia.
- 1609 King James of England charters the Virginia Colony.
- 1620 The Pilgrims founded a colony at Plymouth, Massachusetts.
- 1628 Mohawk indians defeat Hurons and Mahicans to facilitate beaver fur trade with British and Dutch.
- 1648-56 The Iroquois League, pressured by the Mohawk, instigate the “ beaver wars ” as they invade the Western Great Lake and Piedmont tribal territories in search of more beaver. The Shawnee are dispersed west and southward from the central Ohio valley region.
- 1664 The Dutch surrender New Amsterdam (New York) to the British.
- 1670 LaSalle, French explorer locates the Little Miami River, while charting the Ohio.
- 1682 Soon after William Penn’s arrival in Pennsylvania,

Philadelphia is founded

- 1690's French fur traders are prevalent throughout the area.
- 1720's The British fur traders are predominant in the area.
- 1722 The Tuscarora join the Iroquois confederation to form what the British called "the six nations".
- 1725 The Shawnee once again unite in their return to the central Ohio valley region.

ANDERSON PARK DISTRICT

INTEGRATED ARCHAEOLOGICAL PRESERVATION PLAN

DEVELOPMENT OF CLEAR CREEK AND RIVERSIDE

As development plans begin to take form in these Parks there is a need to coordinate activities with other responsible agencies due to the significant presence of archaeological deposits within the respective boundaries. The Anderson Park District recognizes that Clear Creek Park and Riverside Park are archaeologically sensitive.

Contacts with these entities have been established.

Mr. David Snyder
Ohio Historical Society
Ohio Historic Preservation Office
Ohio Historical Center
1982 Velma Avenue
Columbus, Ohio 43211-2497
614/297-2470
FAX:297-2546

Dr. Wesley Cowan (or successor)
Cincinnati Museum of Natural History
Collections & Research Center
1720 Gilbert Avenue
Cincinnati, Ohio 45202
513/345-8512
Fax:345-8501

Mr. Kenneth D. Irwin, Sr.
The Ohio Council for Native American Burial Rights,
AIM - Ohio Chapter
203 Broad Street
Columbus, Ohio 43215
614/228-0470
Fax:228-0460

1. **Layout drawings** will be distributed by the Anderson Park District and held by Mr. David Snyder, Dr. Wes Cowan and Troy Euton. Any revisions or changes will be recorded, and disseminated. Drawings will be provided by the Anderson Park District.

2. **Archaeological investigations** will be requested by the Park District before construction begins on concessions stands/restroom buildings, lighting, utility poles, utility installation, parking lots and roads where base preparation requires grading below the plow zone (8 to 10" in depth).

The actual timing for these investigations will be negotiated by Troy Euton who is directing and scheduling construction for both these parks.

3. **Advisories** will be forthcoming from the investigating authority and/or the Park District should any further archaeological deposits be identified. These notices will be directed to the attention of Mr. Snyder at the Ohio Historic Preservation Office.

4. **Archaeological reports** will be tendered by the investigative archaeological authority to Mr. Snyder when that work has been completed. Copies will be made for the Park District.

5. **Systematic surface surveys** of the remaining areas of both parks will also be scheduled.

6. **Portions of known sites** will be protected as part of the Anderson Park District's overall preservation policy.

DRAWING INDEX

1. TITLE AND SITE LOCATION
2. SITE PLAN - ALTERNATIVE 1
3. CROSS SECTIONS - ALTERNATIVE 1
4. CROSS SECTIONS - ALTERNATIVE 1
5. DETAILS - ALTERNATIVE 1
6. PROJECT NARRATIVE



SITE LOCATION AERIAL
SCALE :NTS

RIVERSIDE PARK STREAM BANK STABILIZATION

LITTLE MIAMI RIVER

ANDERSON PARK DISTRICT CINCINNATI, OHIO



PRELIMINARY NOT
FOR CONSTRUCTION

2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 800-362-2764
OHIO UTILITIES PROTECTION SERVICE

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Specialists in
Riverine Ecosystem
Restoration

Oxbow River and Stream Restoration
Delaware, Ohio 43015
ph 740 362 4131
fax 740 362 4234
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RIVERSIDE PARK STREAM BANK
STABILIZATION
ANDERSON PARK DISTRICT
CINCINNATI, OHIO
TITLE AND SITE LOCATION

SCALE: NTS



DATE: 7-6-06

SHEET:

1/6



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RESTORATION, INC.

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RIVERSIDE PARK STREAM BANK
STABILIZATION
ANDERSON PARK DISTRICT
CINCINNATI, OHIO
SITE PLAN-ALTERNATIVE 1

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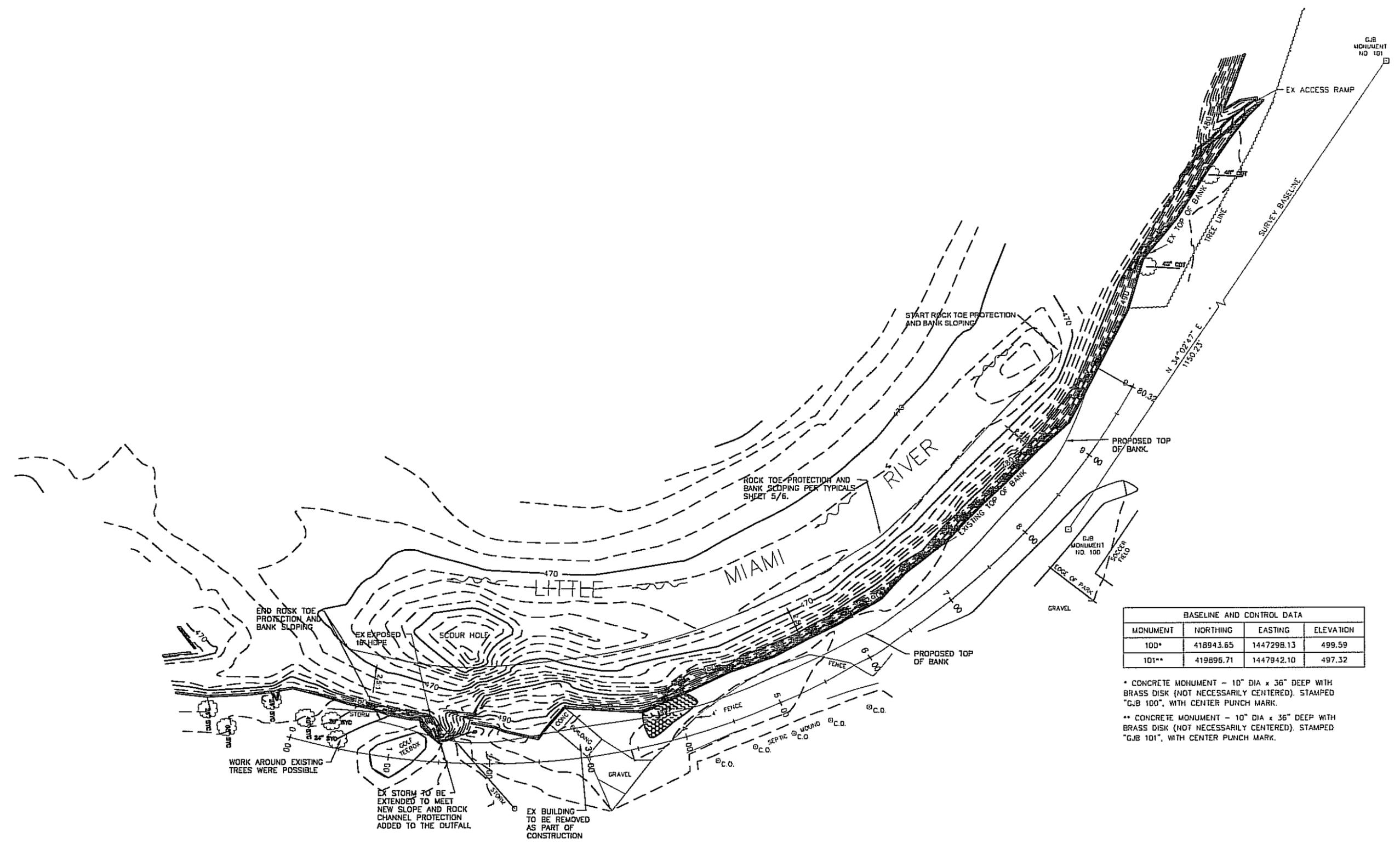


NORTH

DATE: 7-6-06

SHEET:

2/6



BASELINE AND CONTROL DATA			
MONUMENT	NORTHING	EASTING	ELEVATION
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101**	419896.71	1447942.10	497.32

* CONCRETE MONUMENT - 10" DIA x 36" DEEP WITH BRASS DISK (NOT NECESSARILY CENTERED). STAMPED "GJB 100", WITH CENTER PUNCH MARK.
 ** CONCRETE MONUMENT - 10" DIA x 36" DEEP WITH BRASS DISK (NOT NECESSARILY CENTERED). STAMPED "GJB 101", WITH CENTER PUNCH MARK.



SCALE IN FEET

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RIVERSIDE PARK STREAM BANK STABILIZATION
ANDERSON PARK DISTRICT
CINCINNATI, OHIO
CROSS SECTION ALTERNATIVE 1

SCALE: 1"=10'

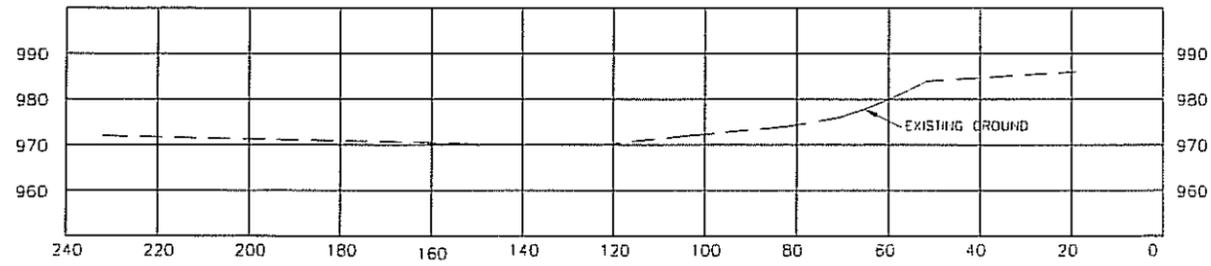


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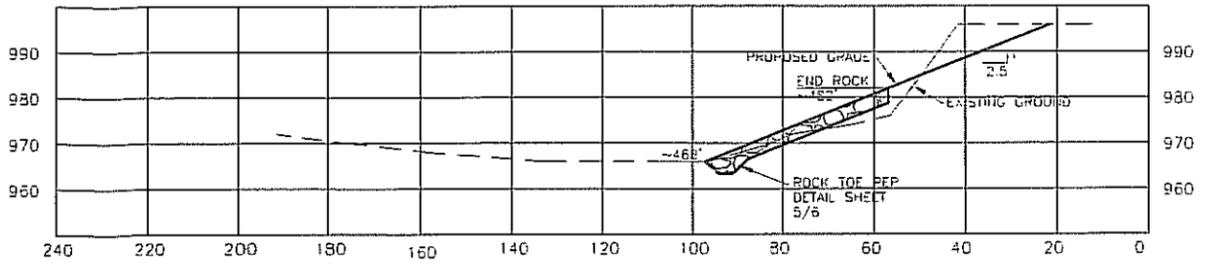
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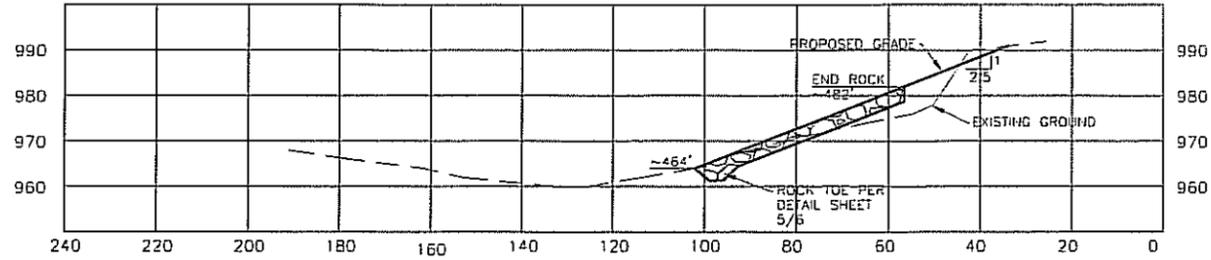
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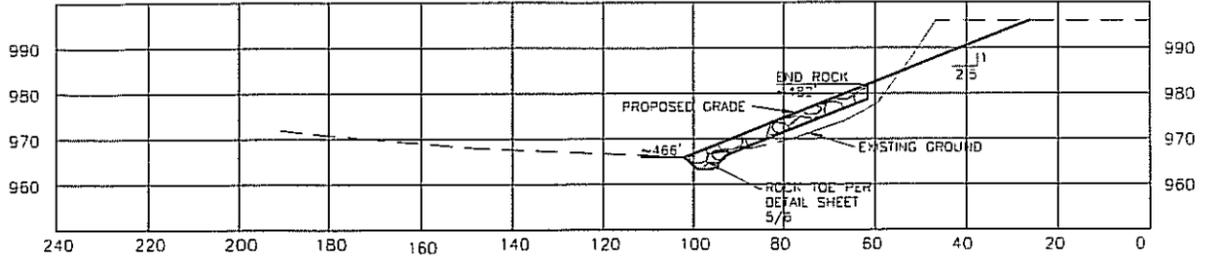
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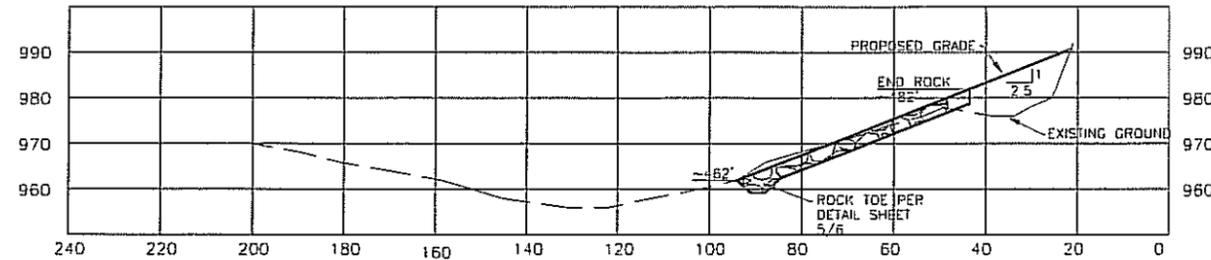
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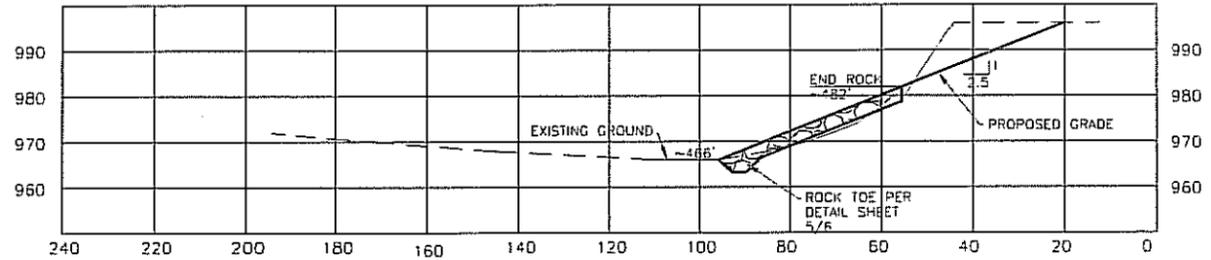
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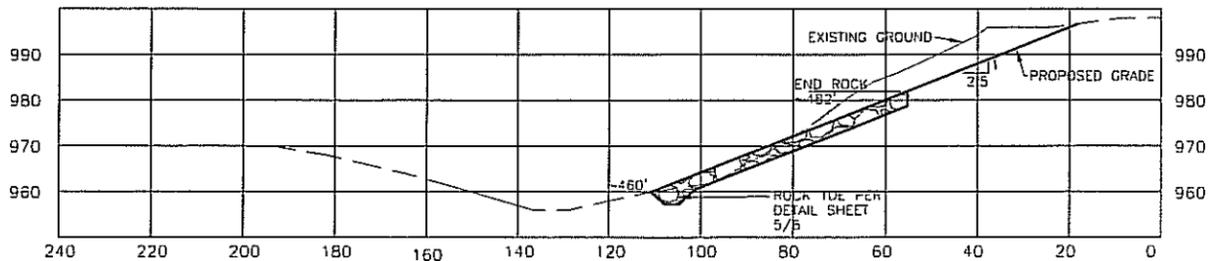
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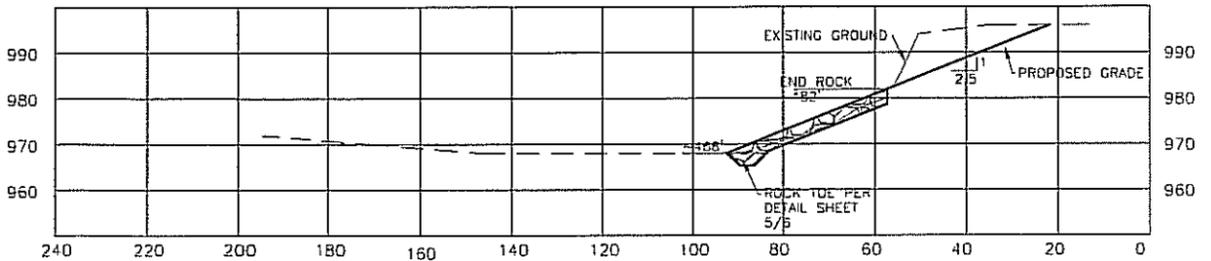
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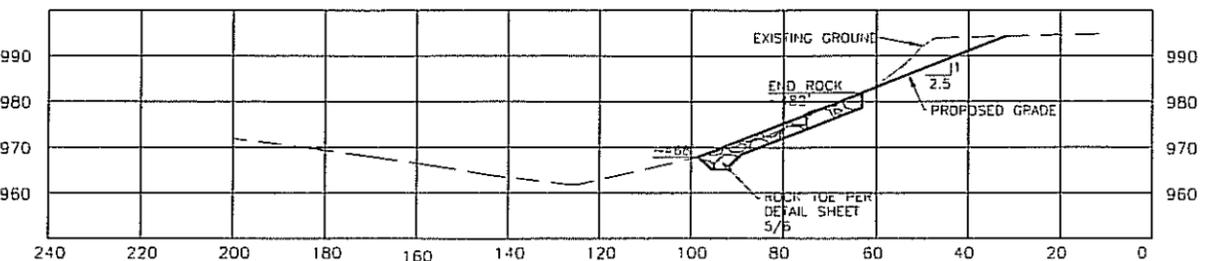
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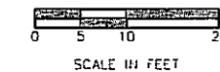
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STATION 7+00



STATION 3+00

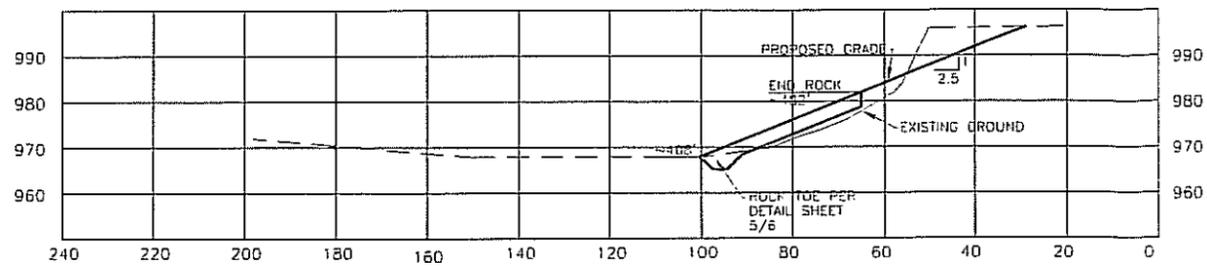


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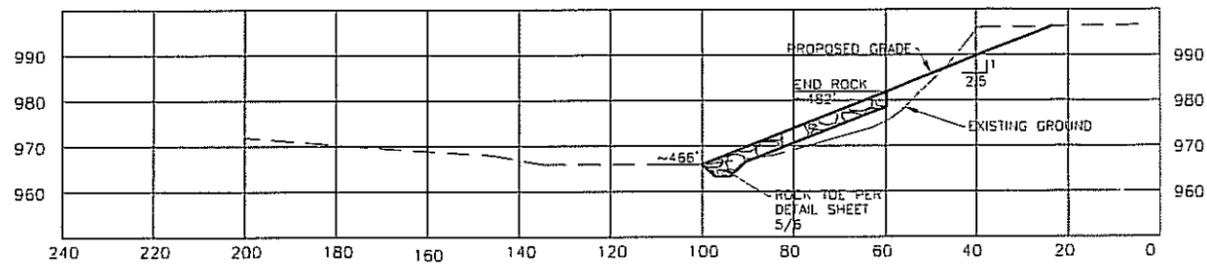
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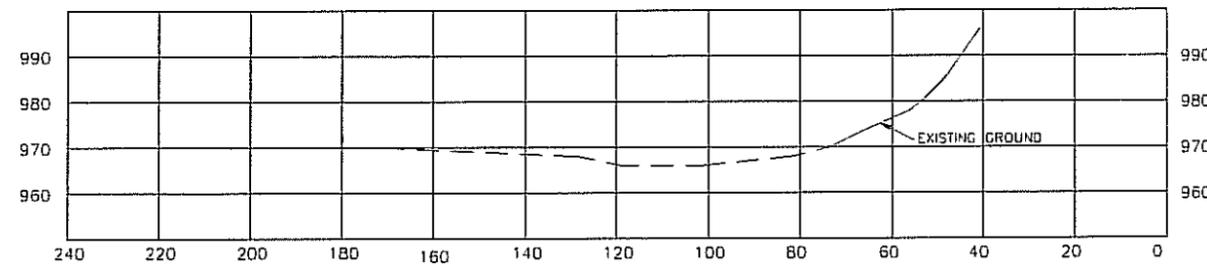
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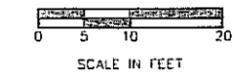
STATION 8+00



STATION 9+00



STATION 9+80



NOTE
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 AND BANK SLOPING WILL BE DETERMINED
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 PH 740 362 4134
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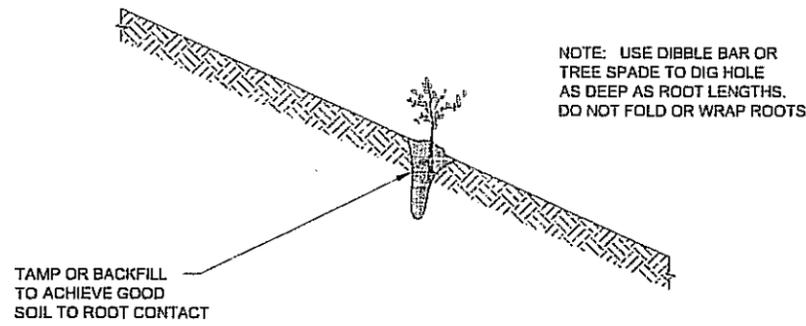
RIVERSIDE PARK STREAM BANK
 STABILIZATION
 ANDERSON PARK DISTRICT
 CINCINNATI, OHIO
 CROSS SECTION ALTERNATIVE 1

SCALE: 1"=10'



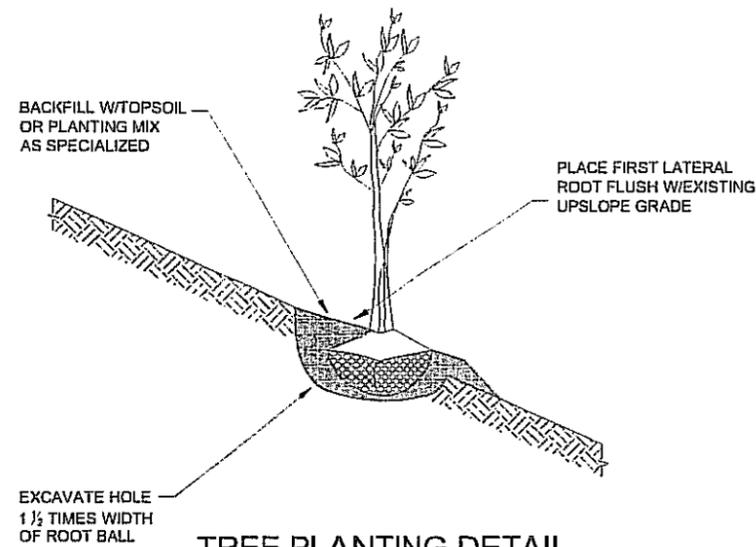
DATE: 7-6-06

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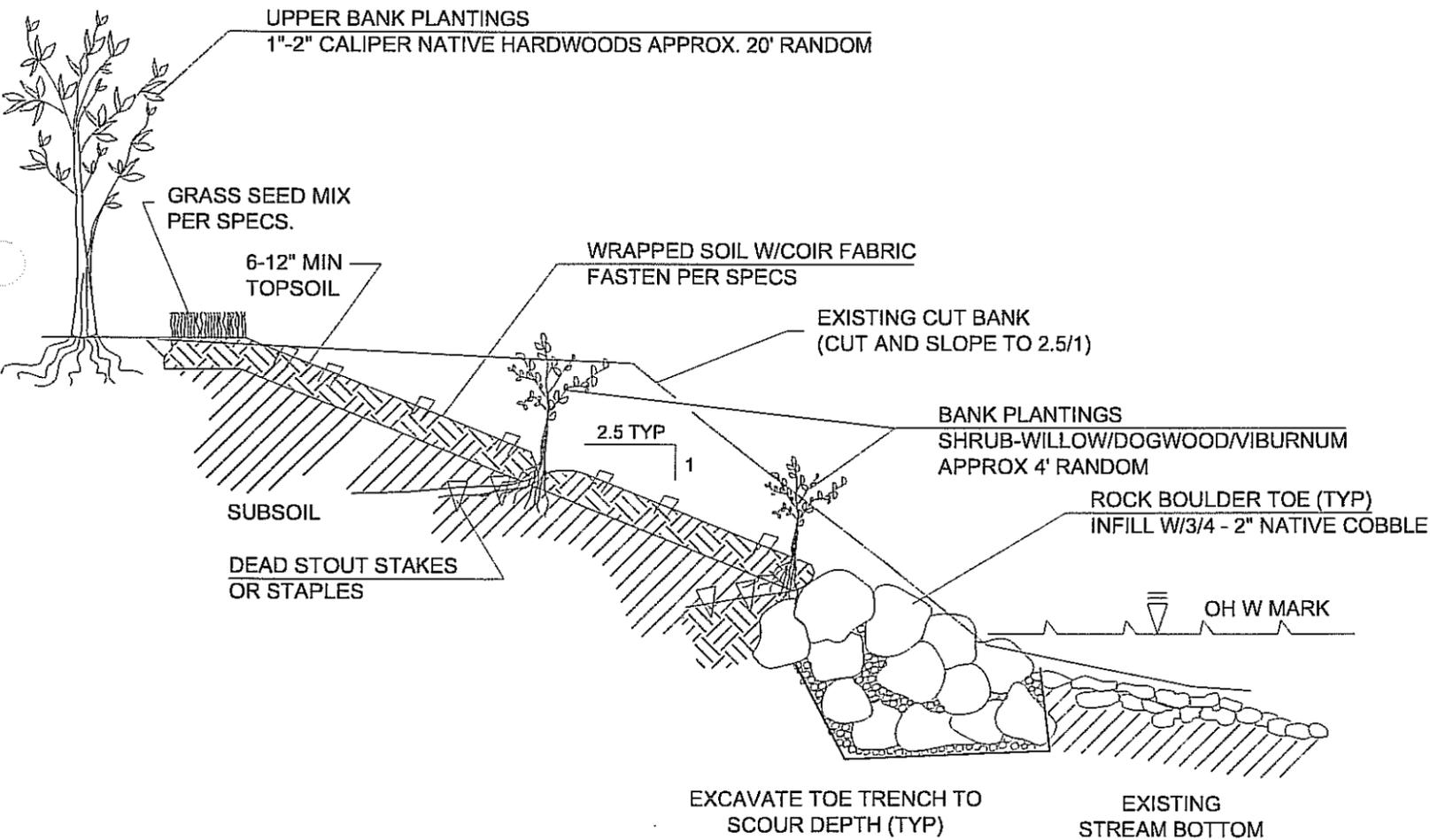
SHRUB PLANTING DETAIL
BARE ROOT/SMALL CONTAINER

N.T.S

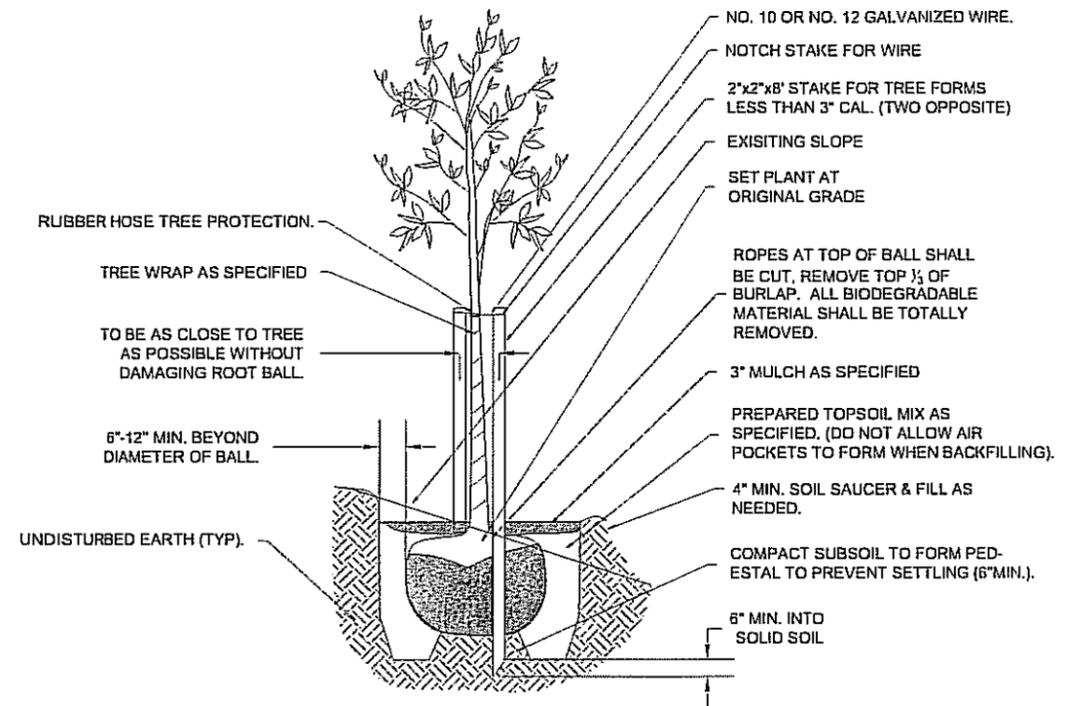


TREE PLANTING DETAIL
BALLED & BURLAP

N.T.S



TYPICAL BANK DETAIL
CROSS SECTION (PROPOSED)
N.T.S.



TREE PLANTING DETAIL
N.T.S

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1.0 GENERAL SPECIFICATIONS

1.0 Restoration Concept - Alternative 1

This project will utilize bio-engineering and stabilized wrapped earth techniques to accomplish the goals of stabilizing the eroding banks in the project area and allow for the reintroduction of native specie grasses, shrubs and trees. The reconstruction and planting of the slope in the project area will develop a uniform depth and density of root mass that will prevent future erosion, collapse and slope failure. Maintenance of that vegetation such as not mowing or spraying and proper watering and reseeding is essential to the performance of this project.

Bio-engineering, Best Management Practices (BMP) and general construction specifications can be referenced in 1) USDA NRCS "Engineering Field Handbook" Chapter 16 and 18; and 2) "Rainwater and Land Development", Ohio's Standards for Storm water Management and Urban Stream Protection.

Because of the short duration of construction (approximately 4-6 weeks) minimal impacts to the Little Miami River can be expected. There is very little riparian vegetation remaining due to the erosion and collapse of the banks in the project area, therefore minimal grubbing, clearing, soil disturbance and excavation are required. Sill fence, straw bales, diversions, and sediment control basins are not necessary.

Easement requirements and access points to the stream shall be at locations shown on the plan.

Construction Barrier Fencing shall be provided and placed at the locations shown on the plan.

1.1 Sequence Of Construction

- Bank stabilization would be performed during times of low water and after spawning. Typically during the months of July through December or as identified by regulatory agencies.
- Live plant cuttings such as willow posting, live fascines, willow mattress or live branch layering must be performed during the dormant seasons. These details can be installed over or through temporary seedings.
- Transplanting of live trees and shrubs can be performed anytime, providing an adequate water and maintenance program is established.
- Temporary seeding and mulching must be performed prior to October 30 or a dormant seeding of winter wheat is required.

1.2 BMP's and Erosion Control Measures

- Best Management Practices as outlined in "Rainwater and Land Development", Ohio's Standards for Storm water Management and Urban Stream Protection will be followed.
- Disturbed areas that will remain un-worked for 30 days shall be seeded and protected within seven calendar days of the disturbance. Additional erosion control measures such as final grade and seeding of disturbed areas within 7 days will be observed.
- All work performed will be from the bank area, outside the active river channel.
- Disturbance to the riparian will be limited to the indicated access points.

1.3 Mulch, Seeding, And Geo-Textiles

- Mulching, hydro seeding, emulsions and binders will be applied as prescribed in "Rainwater and Land Development", Ohio's Standards for Storm water Management and Urban Stream Protection pg. 159-160
- Temporary grass seedings pg. 174
- Permanent grass seeding pg. 165-168
- Additional seedings of warm season grasses such as Switch grass, Indian grass, Big Bluestem, Prairie Cordgrass as specified.
- In lieu of topsoil, organic compost may be added at the rate of 40 lbs per disturbed cubic yard of soils (see spec. for organic compost).
- Installation of coir fabric matting will be per manufacturers specs. Due to the expected use and traffic by citizens and fisherman, dead stout stakes will not be an accepted method of stapling the fabric in place. All fasteners must remain flush to the fabric and not pose a hazard to foot traffic.

2.0 SAFETY REQUIREMENTS

The Contractor and Subcontractor shall be solely responsible for all federal, state and local safety requirements, together with exercising precautions at all times for the protection of persons (including employees) and property. It is the sole responsibility of the Contractor and Sub-Contractor to initiate, maintain and supervise all safety requirements and programs in connection with this work.

3.0 STORAGE OF EQUIPMENT AND MATERIALS

No materials or equipment shall be stored within 50 feet of any floodplain, stream channel, existing wetland, drainage ditch or Interseccion. The Contractor shall provide a plan for storage of equipment, fuels and materials at the pre-construction meeting. The cost of this work shall be included in the price bid for the project improvements.

4.0 TEMPORARY SOIL EROSION AND SEDIMENT CONTROL.

Erosion and sediment control measures are required as part of this project. The Contractor shall be solely responsible for providing necessary and adequate measures for proper control of erosion and sediment runoff for the site along with proper maintenance and inspection in compliance with the site specific SWP-3.

All land disturbing activities shall be subject to inspection and site investigation by the Engineer and /or OEPA. All erosion control devices will be inspected daily and maintained throughout the duration of the project. The Contractor is solely responsible for compliance with these measures and failure to comply with these regulations is subject to legal enforcement action. The cost of this work shall be included in the price bid for the project improvements.

Best Management Practices as outlined in "Rainwater and Land Development", Ohio's Standards for Storm water Management and Urban Stream Protection will be followed.

5.0 RESTORATION AND CLEAN UP

All fence, signs, drainage structures, landscaping etc. removed, disturbed or damaged during work within the project easement area and/or under the Contract Improvements shall be restored to their original condition by the Contractor unless otherwise specified. The cost of this work shall be included in the price bid for the project improvements.

6.0 EXISTING TREES

All existing trees that will required to be removed due to conflict with the project improvements shall be coordinated and marked in the field by Oxbow River & Stream Restoration with the Contractor. No tree shall be removed that is not specifically marked on the plans. Disturbance to the riparian area will be limited to the indicated access points. A "vegetation protection plan" will be develop and approved by the engineer prior to starting work. This plan must adequately protect existing trees from construction damage. The cost of this work shall be included in the price bid for the project improvements.

7.0 CONSTRUCTION EQUIPMENT SPECIFICATIONS

Only approved equipment shall be allowed to operate in the floodplain and stream channel area and will be limited to Low Ground Pressure (LGP) machines under 50,000 lbs gross with less than 4.5 psi ground pressure fully loaded such as track hoe, crawler loader and other track type machines with the following exceptions; Rubber tired machines under 6.5 psi will be approved for use in bedrock stream bottoms of shale where risk of fracture from track cleats exists. This will necessitate the use of dual tires. LGP track loaders loaded must be less than 6.5 psi when fully loaded. Equipment used under the tree canopy or drip-line will be limited to 4.5 psi maximum

8.0 BIO-DEGRADABLE AND NON-TOXIC HYDRAULIC FLUIDS

Equipment used in this project will be required to use special bio-degradable and non-toxic hydraulic fluids to eliminate spill and fire hazard issues while working in the creek and floodplain environment. The Contractor shall be presumed to have taken into account in the preparation of his bid the additional cost of this special item and shall be itemized in the bid specifications. The Contractor will be required to submit a complete list of MSDS sheets and suppliers to the Owner for these products prior to commencing work.

9.0 BIO-DIESEL FUELS

The Contractor may be required to use 100% soy based fuels for the construction of this project to eliminate storage, handling, spill and fire hazards during the construction of the project. The Contractor shall be presumed to have taken into account in the preparation of his bid the additional cost of this special item and shall be itemized in the bid specifications. The Contractor shall be required to submit a complete list of MSDS sheets and suppliers to the Owner for these products prior to commencing work.

10.0 Access By Construction Equipment To The Stream

- Limited access to the stream channel will be at designated points on all plans.
- Grubbing of trees adjacent to stream will be limited to those marked by engineer and designated on plans.
- All stream crossings will be stabilized as per plan specs and removed and stabilized immediately upon work completion.
- Machine unloading access, machine storage during construction and truck parking during construction will be on stabilized areas designated on plans or with prior approval.
- All work under tree canopy or drip-lines will require special aeration treatment as indicated in plan spec.

11.0 MAINTENANCE OF CONSTRUCTION EQUIPMENT

All construction equipment shall be inspected daily for hydraulic and fuel leaks. All fueling operations, lubricating, hydraulic topping off and equipment repairs and maintenance shall be performed at upland locations away from the active stream channel. These activities shall take place on an approved pad with spill control/collection devices in place. No storage of fuels or lubricants will be allowed on site. All equipment and materials not in use will be securely locked to avoid vandalism and accidental spills. Emergency response liquid containment devices such as absorbent socks and pads shall be readily available on site. Fuel tank purging or draining of water from fuel bowls is prohibited on site.

- No construction equipment will be left unattended in the flood prone zone below the upper bank area.

12.0 DETAILED SPECIFICATIONS

12.1 Rock Toe Protection

- A. Material specifications
1. Bank and footer rocks shall be limestone, dolomite, and granite.
 2. Shale and waste concrete shall not be considered as alternatives.
 3. Bank and footer rocks must be ODOT A spec (> 1.5 feet diameter or + 500 lbs.)
 4. Filler rocks must be larger than ODOT C or exceed the D-50 minimum.
- B. Installation
4. Bank rocks must be placed tight against one another and all voids must be filled or plugged with smaller rock.

13.0 GENERAL VEGETATION SPECIFICATIONS

13.1 Landscape Plantings

- Zone I. Lower stream bank flood plain understory
- Bare root plants within the 20-foot zone adjacent to the stream. These will be on approximate 1.5 foot centers comprised of plants listed in the Plant Schedule or a mix of silky dogwood, red osler dogwood, sandbar willow, black willow, red willow and American elderberry. This phase must be done during the dormant season.
- Zone II Upper stream bank canopy forest
- Plant 2-3 foot balled trees and shrubs on 10-foot random spacing patterns at the top of the slope. This will be comprised of plants listed in the Plant Schedule or a mix of hardwood specie trees for canopy such as yellow birch, green ash, white oak, red maple, pin oak, and sycamore.
 - Plant 2-3 foot container trees and shrubs on 10 foot random spacing patterns immediately downslope of the canopy species for visual screens areas will comprise of deciduous species trees as listed in the Plant Schedule or a mix of white pine and blue spruce and northern spicebush, silky dogwood, arrowwood, hawthorn, eastern redbud for wildlife habitat.

13.2 Overseeding

- Seeding and overseeding will be applied as prescribed in "Rainwater and Land Development", Ohio's Standards for Stormwater Management and Urban Stream Protection pg. 159-160
- Temporary grass seedings pg. 174
- Permanent grass seeding pg. 165-168
- Additional seedings of warm season grasses such as Switch, Indian, Big Bluestem, Prairie cordgrass, fringed sedge at 10 lbs per acre.

13.3 Plant Schedule

Quantity	Specie	Common Name	Unit	Size
15	<i>Quercus albar</i>	White Oak	container	2 Inch
20	<i>Acer rubrum</i>	Red Maple	container	2 inch
15	<i>Quercus palustris</i>	Pin Oak	container	2 Inch
10	<i>Platanus occidentalis</i>	American Sycamore	container	2 inch
20		Blackgum	container	
20		Cucumber tree	container	
20		Tulip Tree	container	
600	<i>Lindera benzoin</i>	Northern Spicebush	container & bare root	
1000	<i>Cornus amomum</i>	Silky Dogwood	container & bare root	
600	<i>Vitium dentatum</i>	Arrowwood	container & bare root	
240	<i>Llex verticulata</i>	Winterberry	container & bare root	
500	<i>Physocarpus opulifolius</i>	Common Ninebark	container & bare root	
Seeding	<i>Panicum virgatum</i>	Switch Grass	6 lbs per acre	
	<i>Carex crinita</i>	Fringed Sedge	2 lbs per acre	
	<i>Glyceria striata</i>	Fowl Meadow Grass	2 lbs per acre	
	<i>Aster puniceus</i>	Purple Stemmed Aster	2 lbs per acre	
Temporary Seeding	Canada Wildrye		5 lbs per acre	
	Virginia Wildrye		5 lbs per acre	



Specialists in Riverine Ecosystem Restoration

Oxbow River and Stream Restoration
Delaware, Ohio 43015
PH: 740.262.4134
FAX: 740.262.4234
www.oxbowrivers.com

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RIVERSIDE PARK STREAM BANK STABILIZATION ANDERSON PARK DISTRICT CINCINNATI, OHIO PROJECT NARRATIVE

SCALE: NTS

DATE: 7-6-06

SHEET:

6/6

PRELIMINARY NOT FOR CONSTRUCTION

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ATTACHMENT A

PROJECT EMPHASIS

NOTE: IF THE PROJECT HAS MORE THAN ONE EMPHASIS, PLEASE PLACE A A1" IN THE CATEGORY THAT IS THE PRIMARY EMPHASIS, A A2" IN THE CATEGORY WITH SECONDARY EMPHASIS, AND A A3" 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
- 7. Preserves or restores floodplain and streamside forest functions
- 8. Preserves or restores water quality
- 9. Preserves or restores natural stream channels
- 10. Preserves or restores functioning floodplains
- 11. Preserves or restores wetlands
- 12. Preserves or restores streamside 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.

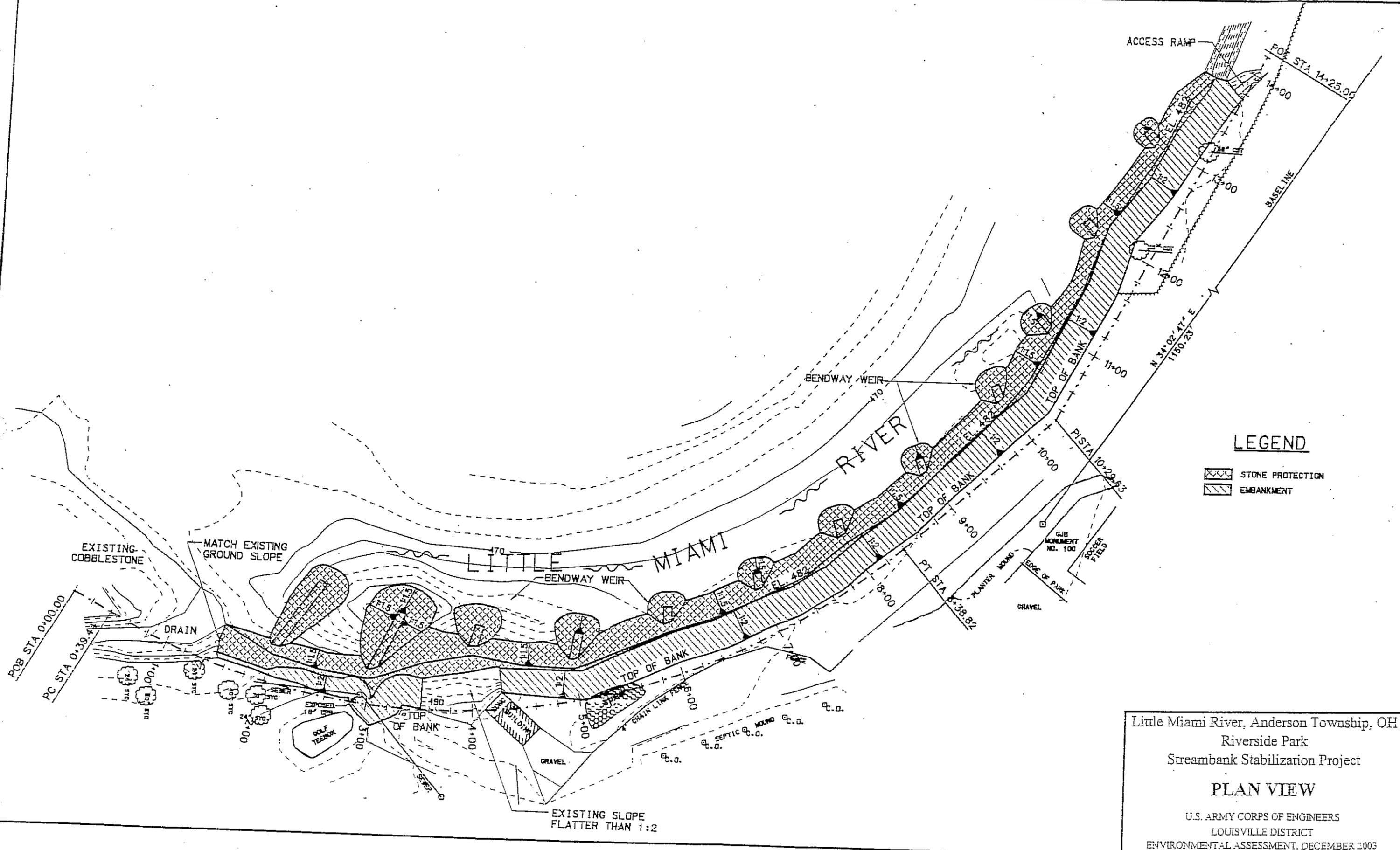
In summary, this project preserves and restores a functioning floodplain; water quality will be restored and negative effects to biological and aquatic communities will be decreased; the natural stream channel will be restored and the streamside forest will be able to regenerate and become supportive to adjacent habitats. Finally, once the vegetation takes hold, filtration of storm water runoff will result in improved water quality to this wild and scenic river.

Army Corps of Engineers – Partnership

Documentation of work produced by the Corps of Engineers

1. Planning and design analysis (PDA), Public Notice, Environmental Assessment (EA)
2. Corps Response to Comments
3. Letter of Intent (LOI) / Section 14 Project, Cooperation Agreement (PCA)
4. Indian Valley Easement Development
5. Luebbers Opinion of Counsel
6. Historical Overview

Printed files from the Army Corps of Engineers (CD) – follow this section

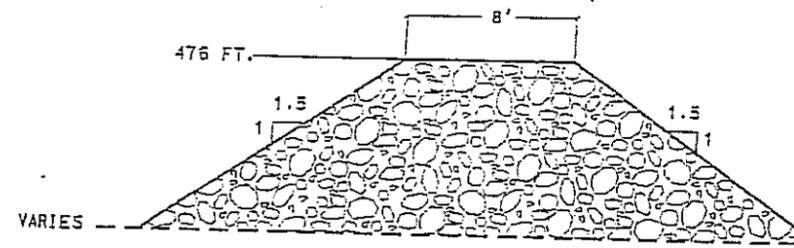
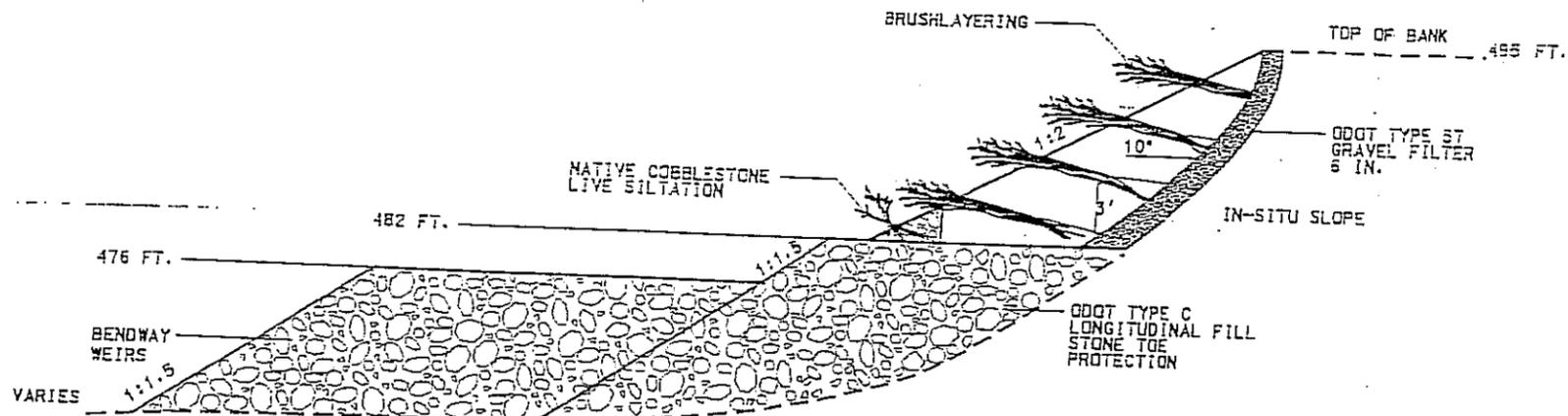


LEGEND

-  STONE PROTECTION
-  EMBANKMENT

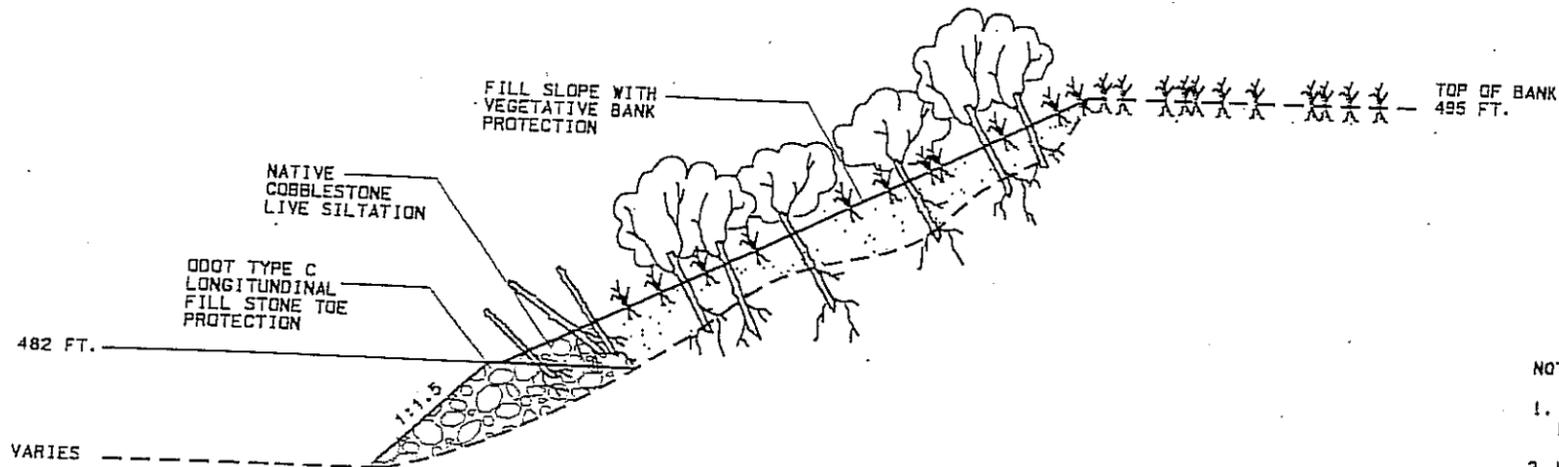
Little Miami River, Anderson Township, OH
 Riverside Park
 Streambank Stabilization Project
PLAN VIEW
 U.S. ARMY CORPS OF ENGINEERS
 LOUISVILLE DISTRICT
 ENVIRONMENTAL ASSESSMENT, DECEMBER 2003

FIGURE 2

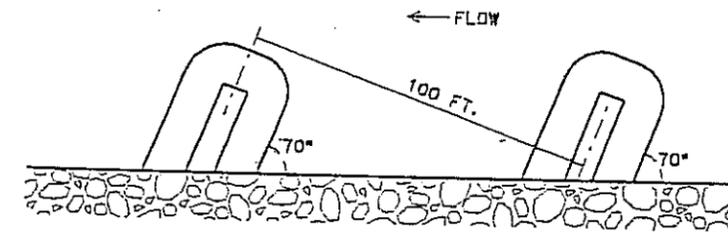


TYPICAL CROSS SECTION
BENDWAY WEIRS
SCALE: NONE

TYPICAL CROSS SECTION
FILL SLOPE WITH BRUSHLAYERING
STA. 2+50 TO STA. 3+50
STA. 4+50 TO STA. 13+00
SCALE: NONE



TYPICAL CROSS SECTION
LITTLE OR NO FILL SLOPE WITH VEGETATION
STA. 1+50 TO STA. 2+50
STA. 13+50 TO STA. 14+00
SCALE: NONE



PLAN VIEW
BENDWAY WEIRS
SCALE: NONE

NOTES:

1. ODOT TYPE C ROCK IS RECOMMENDED FOR TOE PROTECTION, LAUNCH STONE AND BENDWAY WEIRS.
2. WEIRS SHALL BEGIN AT THE LEFT BANK AND EXTEND AT A 70 DEGREE ANGLE FROM THE BANK POINTED UPSTREAM INTO LITTLE MIAMI RIVER.
3. THE WEIRS SHALL BE SPACED 100 FEET FROM ONE WEIR CENTERLINE TO THE ADJACENT WEIR CENTERLINE.
4. THE WEIRS ARE 15 FEET IN LENGTH BETWEEN STATIONS 6+00 TO 13+00, 25 FEET AT STA. 5+00, 20 FEET AT STA. 4+00, AND 60 FEET AT STA. 3+00, AND 75 FEET AT STA. 2+00.
5. CONSTRUCTION SEQUENCE AND FINAL LENGTHS OF BENDWAY WEIRS WILL BE ADJUSTED AT THE FIELD DURING CONSTRUCTION BY THE FIELD ENGINEER.

Little Miami River, Anderson Township, OH
Riverside Park
Streambank Stabilization Project
TYPICAL CROSS-SECTION
U.S. ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
ENVIRONMENTAL ASSESSMENT, DECEMBER 2003

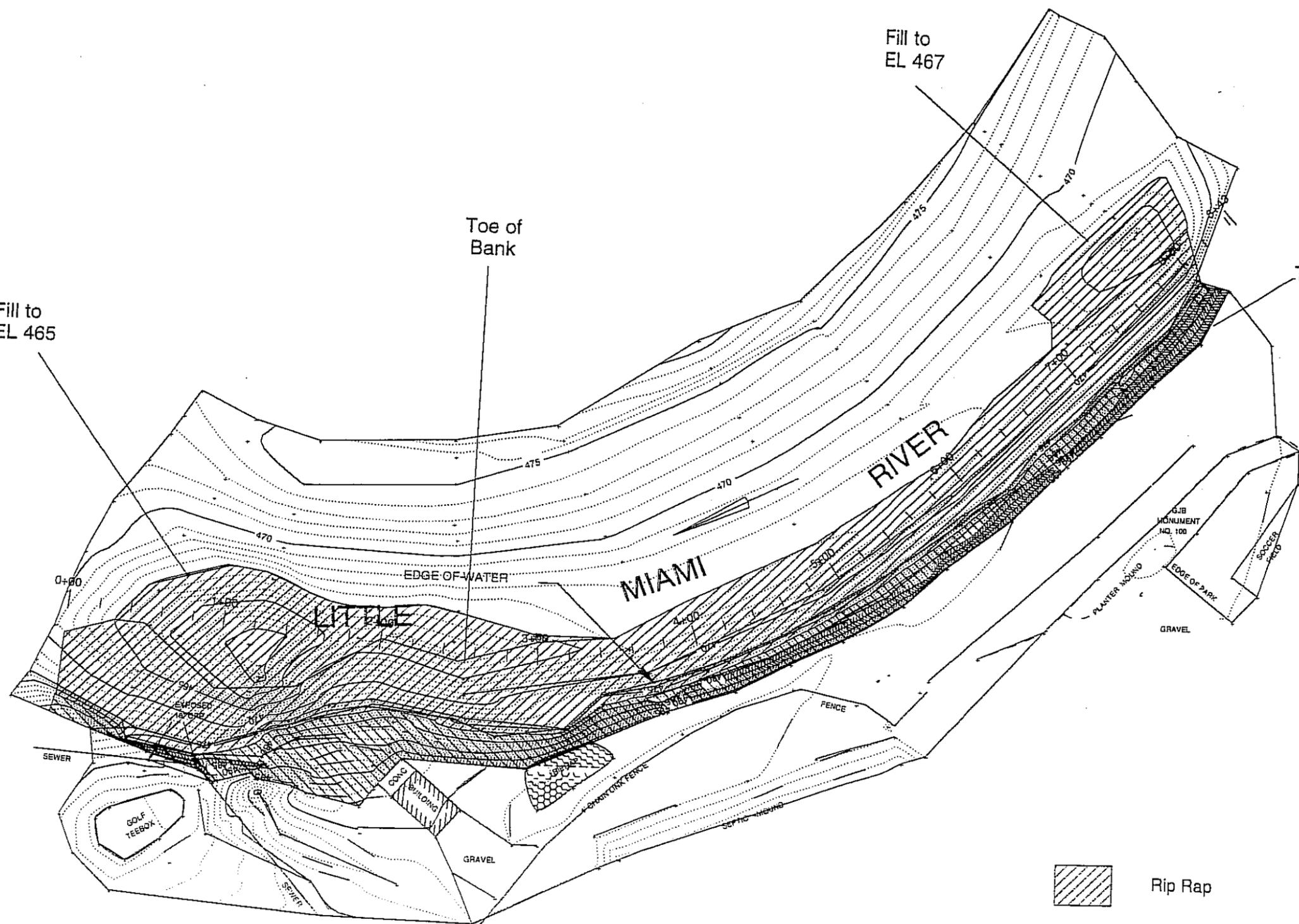


Fill to
EL 465

Fill to
EL 467

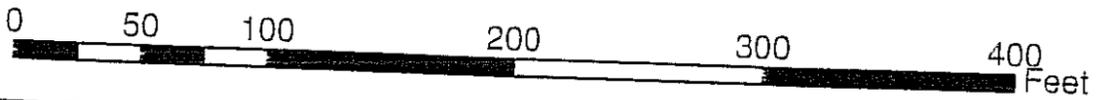
Toe of
Bank

Top of Bank



NOTES:

- 1. Assumed bankful level is 485 ft
- 2. Concrete building at the top of the bank is to be removed by others



-  Rip Rap
-  Erosion Control Mat

PROJECT SITE MAP
Proposed Bank Protection
Anderson Township Riverside Park
Hamilton County, OH



Figure: 2
Date: July 2002
Scale: 1:900
Source: GEC/G. J. Berding



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE
CORPS OF ENGINEERS
P.O. BOX 59
LOUISVILLE, KENTUCKY 40201-0059

<http://www.lrl.usace.army.mil/>

Planning, Programs and
Project Management Division
Economic and Environmental
Resources Section

December 18, 2003

PUBLIC NOTICE

Section 14 Study
Erosion Protection for Anderson Township Park
Little Miami River
Anderson Township, Hamilton County, Ohio

TO WHOM IT MAY CONCERN:

Notice is given that the U.S. Army Engineer District, Louisville, under authority of Section 14 of the 1946 Flood Control Act, as amended, plans to provide bank erosion protection on the Little Miami River for an erosion site adjoining Anderson Township Park, Anderson Township, Hamilton County, Ohio.

The Little Miami River is a National Scenic River. Anderson Township Park is located on the left descending bank of the Little Miami River. Native American burial mounds are located along the upstream end of the project site. The mounds are listed on the Ohio Register of Historic Places and eligible for registry on the National Register of Historic Places. In addition to the cultural resources, the park recreational features consist of playgrounds, tennis courts, hiking and biking trails, baseball, soccer, and lacrosse fields.

The proposed bank protection plan will protect approximately 1,400 linear feet and up to 30 feet to the top of bank. It will provide stone toe protection and reestablish the streambank slope with native vegetation. The plan is a combination of longitudinal fill stone toe protection (LFSTP), brush layering, live siltation, and bendway weirs. The bendway weirs (spaced

100-feet apart) will be keyed into the LFSTP and serve to direct flow from the eroding bank. The live siltation will provide additional toe protection with a natural look. The LFSTP will have a trapezoidal cross section and will have a riverside slope of 1 vertical to 1.5 horizontal.

The bendway weirs will have side and end slopes of 1 vertical to 1.5 horizontal. Most of the weirs will be 15-feet long, however the four weirs at the downstream end of the project (at the river's bend) will be 25-feet, 25-feet, 60-feet, and 70-feet long respectively. This plan will require approximately 25,500 tons of Ohio Type C riprap for the LFSTP and bendway weirs (19,850 tons for the LFSTP and 5,650 tons for the bendway weirs); 600 cubic yards of ODOT #57 bedding stone (6-inch thick); and 80 cubic yards of native cobblestone.

The toe protection will provide rock to settle into the existing low areas in the river channel.

A summary of the plans and a planting schedule for the proposed work are attached. With the exception of the bendway weir placement, construction activities will not occur in the Little Miami River. Additionally bank stabilization activities will not occur on the top of bank. The LFSTP will be constructed first and will serve as a road, allowing placement of the vegetative plantings. A copy of the environmental assessment is available upon request.

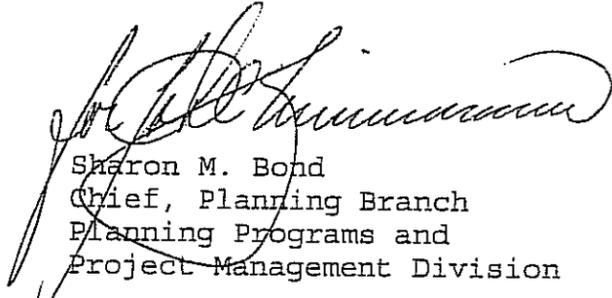
The U.S. Fish and Wildlife Service's comments on this project are hereby requested in accordance with the Fish and Wildlife Coordination Act of 1958. Based on available information it has been determined that no species, or the critical habitat thereof, listed, or proposed to be listed as threatened or endangered will be adversely affected by the proposed work. In accordance with the Endangered Species Act of 1973, as amended, should any listed species be identified during construction, consultation with the U.S. Fish and Wildlife Service will be initiated.

Because of the Little Miami River's National Scenic River status, a plan was developed to stabilize the bank while minimizing the impacts to both the scenic stream and the cultural resources. It was determined that the project as designed will not affect any sites or structures eligible for inclusion in the National Register of Historic Places. Should it become known that specific prehistoric, historic sites or historic structures will be affected by the considered work, the District Engineer will perform the necessary investigations and/or data recovery activities pursuant to Public Law 89-665, the National Historic Preservation Act of 1966.

Guidelines promulgated by the Administrator, U.S. Environmental Protection Agency under the authority of Section 404 (b)(1) of the Clean Water Act (40CFR, Part 230) evaluation will be used for determining whether this authorized Federal project will be implemented. Written statements received in this office before January 31, 2004 will become a part of the record and will be given due consideration in making this determination. Water quality certification pursuant to Section 401 of the Clean Water Act is required for this activity and is being requested from the State of Ohio.

Any person with an interest related to water quality and its associated environmental factors, which may be adversely affected by the proposed work, may request a public hearing. The request must be submitted in writing to the District Engineer within 30 days of the date of this notice and must clearly set forth the interest and the manner in which that interest may be adversely affected by the activity.

Please address all comments or inquiries to the above address, ATTN: Mr. Van Shipley CELRL-PM-P-E, telephone (502) 315-6877; e-mail address van.v.shipley@lrl02.usace.army.mil or Ms. Sonia L. Suggs CELRL-PM-P-F, telephone (502) 315-6888; e-mail address sonia.l.suggs@lrl02.usace.army.mil.



Sharon M. Bond
Chief, Planning Branch
Planning Programs and
Project Management Division

Enclosures

APPENDIX A
PLANTING SCHEDULE

LITTLE MIAMI RIVER, ANDERSON TOWNSHIP, HAMILTON COUNTY, OHIO
 STREAMBANK STABILIZATION STUDY
 PLANTING SCHEDULE

High bank planting

Seeding

<u>Botanical Name</u>	<u>Common Name</u>	<u>Rate(lb./acre)</u>
<u><i>Andropogon gerardii</i></u>	Big Blue Stem	2.5
<u><i>Andropogon scoparius</i></u>	Little Blue Stem	2
<u><i>Bouteloua curtipendula</i></u>	Side Oats Grama	1.5
<u><i>Elymus canadensis</i></u>	Prairie Wild Rye	1.5
<u><i>Panicum virgatum</i></u>	Prairie Switch Grass	2
<u><i>Sorghastrum nutans</i></u>	Indian Grass	3

<u>Botanical Name</u>	<u>Common Name</u>	<u>Rate(oz./acre)</u>
<u><i>Anemone cylindrica</i></u>	Thimbleweed	1
<u><i>Baptisia leucantha</i></u>	White Wild Indigo	1.3
<u><i>Baptisia leucophaea</i></u>	Cream Wild Indigo	1.6
<u><i>Cassia fasciculata</i></u>	Partridge Pea	2
<u><i>Desmodium illinoiense</i></u>	Prairie Bundle-Flower	1
<u><i>Echinacea pallida</i></u>	Pale Purple Coneflower	4
<u><i>Eryngium yuccifolium</i></u>	Rattlesnake Master	2
<u><i>Liatris aspera</i></u>	RoughBlazing Star	3
<u><i>Liatris scariosa nieuwlandii</i></u>	Blazing Star	1
<u><i>Lupinus perennis</i></u>	Wild Lupine	2
<u><i>Monarda fistulosa</i></u>	Prairie Bergamot	0.3
<u><i>Petalostemum purpureum</i></u>	Purple Prairie Clover	3
<u><i>Ratibida pinnata</i></u>	Yellow Coneflower	4
<u><i>Rudbeckia hirta</i></u>	Black-Eyed Susan	3
<u><i>Silphium laciniatum</i></u>	Compass Plant	2
<u><i>Silphium terebinthinaceum</i></u>	Prairie Dock	1
<u><i>Solidago nemoralis</i></u>	Old-Field Goldenrod	1
<u><i>Solidago rigida</i></u>	Stiff Goldenrod	2
<u><i>Solidago speciosa</i></u>	Showy Goldenrod	1

Low bank planting

Seeding

<u>Botanical Name</u>	<u>Common Name</u>	<u>Rate(oz./acre)</u>
<u><i>Acorus calamus</i></u>	Sweet flag	0.125
<u><i>Agrostis alba</i></u>	Redtop	2.0
<u><i>Agrostis alba palustris</i></u>	Creeping bent grass	0.5
<u><i>Alisma subcordatum</i></u>	Common water plantain	0.25
<u><i>Eleocharis obtusa</i></u>	Spike rush	0.375
<u><i>Juncus effusus</i></u>	Common rush	0.25
<u><i>Leersia orzyoides</i></u>	Rice cut grass	0.125
<u><i>Mimulus ringens</i></u>	Monkey flower	0.125
<u><i>Polygonum Pensylvanicum</i></u>	Smartweed	0.5
<u><i>Pontederia cordata</i></u>	Pickrel weed	0.5
<u><i>Sagittaria latifolia</i></u>	Broad leaf Arrowhead	0.250
<u><i>Scirpus latifolia</i></u>	Soft stem bulrush	0.118
<u><i>Sparganium eurycarpum</i></u>	Bur reed	1.0

Avena sativa seed oats will be added to the seed mix at 32.0 pounds per acre for a cover crop.

SHRUBS

Flame Azalea*	Deciduous Holly*
Smooth Azalea**	Wild Hydrangea*
Chokeberry **	Kentucky Coffee Tree*
Coralberry*	New Jersey Tea*
Roughleaf Dogwood**	Allegheny Serviceberry*
Silky Dogwood*	Downy Serviceberry*
Elderberry**	Alder Smooth**
Hawthorn*	Spicebush*
Cocklespur Hawthorn*	Flameleaf Sumac*
Washington Hawthorn*	Smooth Sumac*
Staghorn Sumac*	Maple Leaf Viburnum*
Arrow-Wood Viburnum*	Witch Hazel*

** LOWER BANK

* UPPER BANK

TREES TO BE PLANTED ON UPPER BANK

Bitternut Hickory
Shagbark Hickory
Black Locust
Post Oak
Black Walnut
Chinkapin Oak
Persimmon
Pin Oak
Red Oak
White Oak
Sassafras

Sweetgum
Green Ash
Black Oak
Paw Paw

APPENDIX B
CULTURAL RESOURCES REPORT

REPORT FOR
ARCHAEOLOGICAL INVESTIGATIONS
AT SITE 33HA128
HAMILTON COUNTY, OHIO

Submitted to:

GEC
9357 Interline Avenue
Baton Rouge, Louisiana 70809

Submitted by:

Natural & Ethical Environmental Solutions
8857 Cincinnati-Dayton Road, Suite 203
West Chester, Ohio 45069

Jeannine Kreinbrink
Principal Investigator

December 2002

ABSTRACT

The Anderson Park District plans to conduct a bank stabilization project in Riverside Park located in Anderson Township, Hamilton County, Ohio. GEC of Baton Rouge, Louisiana, is conducting the engineering for the project in coordination with the Louisville District of the Army Corps of Engineers. The project is being conducted as part of a Section 14, Continued Authorities Project.

Riverside Park is situated on the east bank of the Little Miami River, a National Scenic River. The bank stabilization project will impact a strip of land, approximately 18.3 m (60 ft) wide, from the river bank edge inland. The project will encompass an area approximately 244 m (800 ft) in length. The impact area begins approximately 183 m (600 ft) upstream of the small building at the riverbank. The downstream edge of the impact area is approximately 61 m (200) below the small building.

The Louisville District requested a review of previous archaeological investigations and an analysis of proposed impacts to site 33HA128. Site 33HA128 is a significant archaeological site located within Riverside Park. The proposed bank stabilization project will impact portions of site 33HA128. This report includes a summary of previous archaeological work conducted at site 33HA128, a correlation of known data with the proposed Area of Potential Effect, and recommendations regarding impacts to the archaeological site.

Previous archaeological investigations document that site 33HA128 extends to the edge of the riverbank for approximately 310 m (1,017ft) within Riverside Park. Within that 310 meter area, an area approximately 250 meters in length has produced the most intensive evidence of Native American occupation. Shovel testing at ten-meter intervals produced Native American artifacts including chert debitage, pottery sherds, burned rock, and at least four possible subsurface archaeological features.

The bank stabilization project will impact the southern portion of site 33HA128. The site is a significant Native American village site that likely dates to the Late Woodland period (within the period AD 500-1000). The site is one of the few remaining relatively undisturbed habitation sites from this period in the Newtown area along the Little Miami River. Construction, gravel mining, and other modern activities have intensively disturbed this portion of the Little Miami River valley. This site is eligible for the National Register of Historic Places and has the capability to provide significant information on the Native American prehistory.

Mitigation (data recovery) measures should be taken prior to conducting the bank stabilization project. This could include mechanical stripping of the old plowzone to uncover archaeological features, village layout and other important data. Safety will be a consideration given the unstable nature of the bank edge. Recommendations include beginning the excavations at least 5

meters back from the edge. This will allow investigation of an area up to 13 meters in width, out to the edge of the 18.3 meter wide impact area.

One archaeological feature (designated Feature B1) has been found within the vertical river bank, at a depth of approximately .8 m (2.6 ft) below the current ground surface (to top of feature). Radiocarbon dating of a charcoal sample from this feature returned a calibrated date of AD 690-990 (Beta 169231). This feature documents that a buried archaeological site does exist in at least one section of the riverbank within Riverside Park. The feature was found downstream of the surface concentration of artifacts, but is within a smaller, separate surface concentration. This area is located within the proposed project impact area (see Photos at end of report).

The extent of buried archaeological deposits within the remainder of the proposed impact area is unknown at this time due to several factors. Previous investigations did not include deep testing. In addition, the river bank is unstable and has precluded subsurface investigation due to safety concerns. Examination of the cutbank from the river's edge has not been conducted systematically for the same reason.

Sixty-one meters (200 ft) of the impact area is located downriver of the small building that sits at the riverbank edge. No archaeological testing has been conducted in this area. A review of the current setting and land use within this portion of Riverside Park shows that park construction has impacted most of this area. A concession building, playground, golf course, and storm sewer pipelines are situated within and adjacent to the proposed impact area. In addition, large segments of riverbank downriver of this structure are unstable and cannot be safely archaeologically tested at this time.

The portion of the proposed impact area down river of the bank-edge structure is unlikely to contain intact surface or near surface archaeological deposits. Park construction activities and unstable river edge conditions indicate that much of this section of the park is disturbed and/or has been impacted by erosion and bank undercutting. No archaeological testing is recommended for this portion of the impact area at this time. Monitoring during bank stabilization may be a viable option, although safety may be a factor.

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INTRODUCTION

The following report details a project review and impact analysis for a proposed riverbank stabilization project for that portion of the Little Miami River located in Riverside Park, Hamilton County, Ohio (Figures 1 and 2). The Anderson Park District has requested assistance from the Louisville District of the Army Corps of Engineers (Louisville District). GEC, of Baton Rouge, Louisiana, is providing the engineering and coordination for the project at the request of the Louisville District. Natural & Ethical Environmental Solutions is providing archaeological services for the project at the request of GEC and the Anderson Park District.

Ms. Jeannine Kreinbrink of Natural & Ethical Environmental Solutions (N&E) serves as Principal Investigator for the project. Mr. Cade E. Carter of GEC is the project administrator. Mr Troy Euton is the local Anderson Park District contact for the project. The Louisville District is the lead federal agency for the project. The project is conducted by the Louisville District under a Section 14, Continuing Authorities Project.

The proposed Area of Potential Effect (APE) at this time consists of an approximately 60 ft (18.3 m) wide strip of land that begins at the existing river bank edge and extends inland from that edge for approximately 244 m (800 ft) within Riverside Park (Figures 1 and 2). The APE will impact a portion of site 33HA128, a National Register eligible archaeological site dating to the prehistoric Native American period (Figure 2).

The bank stabilization project may include cutting the bank at a 2:1 or 3:1 slope from an average low water mark. This may impact up to 18.3 m (60 ft) of land along the bank edge. The land will be excavated to create a sloping surface. Materials will be placed on this slope for further stabilization.

This document summarizes previous investigations at Riverside Park conducted by various institutions, individuals, and companies. This information is correlated with the proposed impacts to determine what archaeological sites and how much area will be impacted. Recommendations are made regarding possible data recovery/mitigation procedures.

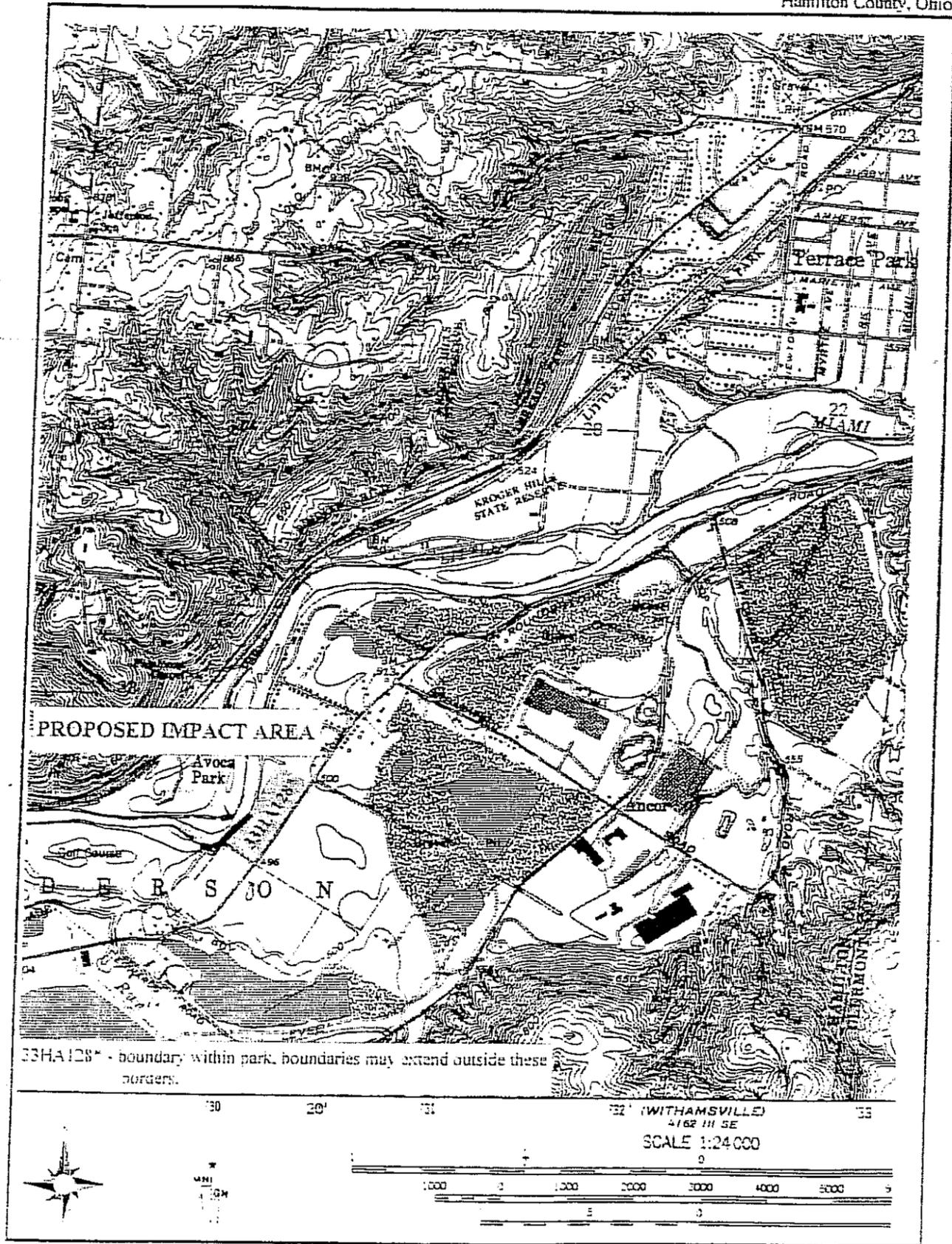


Figure 1. Portion of Madeira topographic maps showing site 33HA128 and proposed impact area.

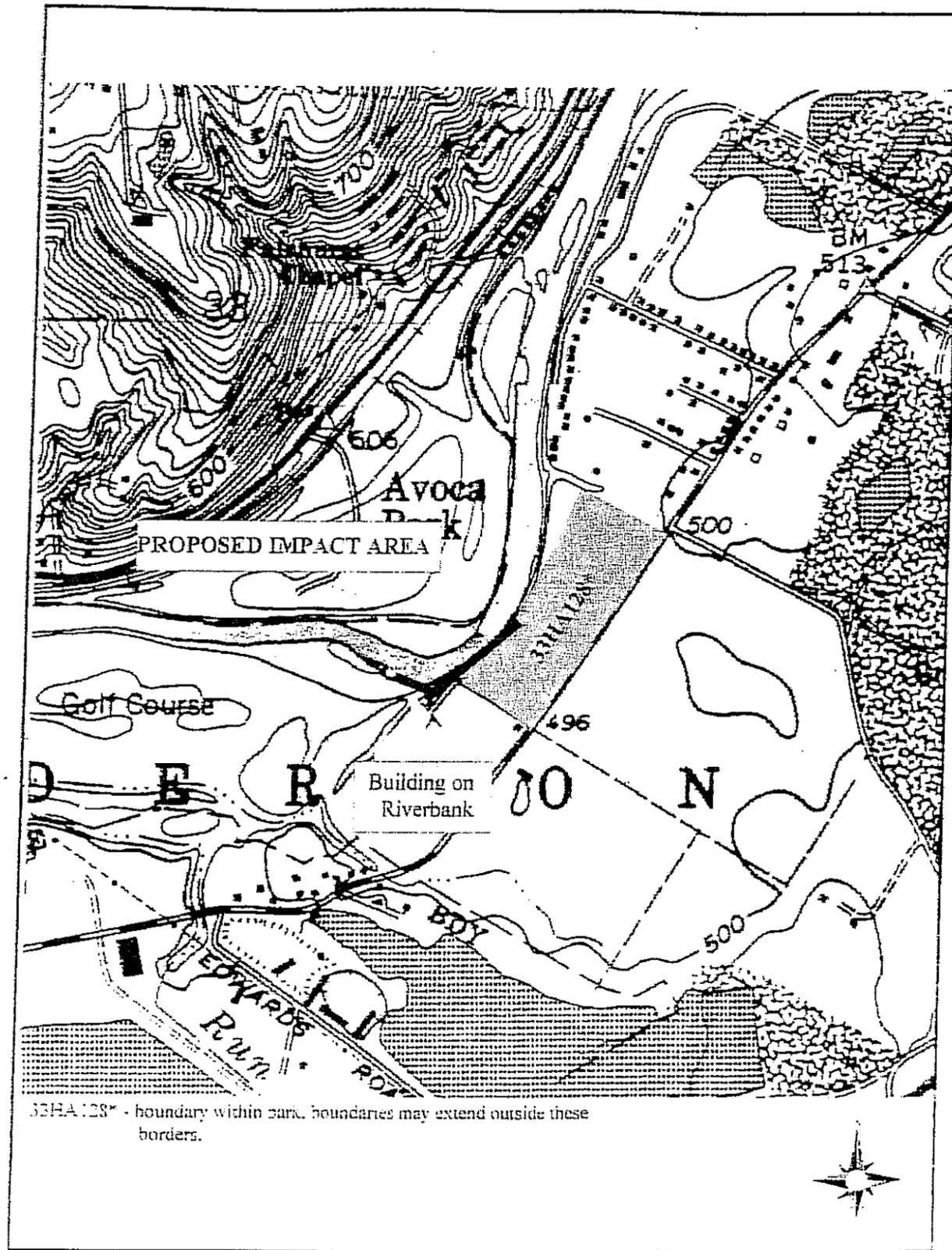


Figure 2. Enlargement of the Madeira topographic maps showing site 33HA128 location and proposed impact area.

SITE 33HA128 SITE OVERVIEW AND REVIEW OF PREVIOUS WORK

33HA128 Archaeological Site Background

The following information is taken directly from Kreinbrink (1998), *Riverside Park Archaeology Project, Assessment of Site 33HA128 (42), The Edwards Site, Hamilton County, Ohio*, which was submitted to the Anderson Park District in 1998.

People have been aware of the presence of archaeological sites in the Riverside Park vicinity for many years. Starr (1960) describes excavations conducted at the Edwards Stone Mound in the early 1880s by Dr. Charles Metz. He gives the site location as follows: "It was located in the level bottom land adjoining the Little Miami River west of Roundbottom Road and three-fifths of a mile southwest of Benchmark 513." (Starr 1960:44). Benchmark 513 is the intersection of Roundbottom Road and Broadwell Road (Figure 2).

Dr. Metz excavated the Edwards Stone Mound sometime before 1883. He describes the excavation in a letter to Professor F.W. Putnam of Harvard University, dated March 1883 (Starr 1960:44-45). Metz succeeded in documenting 71 burials within the mound. Starr reports that one of the burials apparently had a "dog or young bear" buried with it, although it is not broken out in the list below. Starr listed the breakdown of burial types as:

- 32 extended - 17 with artifacts in association
- 22 flexed - 6 with artifacts in association
- 5 in one heap
- 1 child
- 1 with skull associated
- 2 isolated skulls
- 8 fragmentary

In preparation for his 1960 publication, Starr visited the location and observed a surface scatter of artifacts in the area surrounding the mound location. He found chert artifacts, pottery, and broken rock. Starr must have seen Metz's report because he states that the pottery he observed was "identical to that found in the mound".

Starr designated the Edwards Mound as site 33Ha205, and the surrounding village 33Ha42. These site numbers do not correspond to official Ohio Archaeological Inventory numbers and will not be used in this report to refer to the two sites.

The Ohio Archaeological Inventory (OAI) forms list three official numbers that describe this particular location (33Ha7, 128, and 291). The original card site file for 33Ha7 describes it as the Samuel Edwards Mound III. "Located on Samuel Edwards' farm between the Samuel Edwards Mounds I and II and the river, about 100 yards from the bank on an elevation of the

bottom land." The card file also provides a reference for Metz's 1883 excavations: *The 16th and 17th Annual Reports*, Peabody Museum Vol III, Nos. 3 and 4, Cambridge 1884:pp. 344-346.

The Miami Purchase Association (MPA) completed updated OAI forms in 1975. The MPA obtained site number 33Ha128 for the Perin Village site (Starr's site 42), and 33Ha291 for the Edwards Stone Mound III (Starr's site 205). All the site numbers are listed on the 33Ha7 site file. Consequently, site number 33HA128 is used by this author to refer specifically to the archaeological village site in this location.

As reported by the MPA, the University of Cincinnati (UC) conducted small test excavations in the village portion of the site in 1974. They recovered pottery, chert tools, items listed as ceremonial objects, and a sample of corn (OAI form 1975). A conversation with Dr. Kent Vickery of UC in August 1998 reveals that two students conducted small test excavations while looking for a site at which to conduct a field school. He does not believe they found any features and they did not return to the site.

1995-1998 Test Excavations at site 33HA128

In 1995, the Cincinnati Museum of Natural History (CMNH) staff and volunteers conducted a controlled surface collection and the excavation of several small test units at the site. At that time, the soccer fields did not exist. An equivalent area lay in agricultural fields. The boundaries of the agricultural field encompassed the current soccer fields plus both the northern and southern parking lots. However, the 1995 project area ended up limited in scope and they did not study the entire agricultural field (see project graphics in Kreinbrink 1998 in Appendix 1). CMNH personnel and volunteers compiled field data forms and lab analysis sheets while cataloging their finds, but did not complete a final report.

Anderson Park District requested assistance in 1997 from the N&E in further assessing the horizontal boundaries of site 33Ha128, and in reviewing the results compiled by the CMNH effort. Please see Appendix 1 for a complete copy of Kreinbrink's 1998 report. Graphics from that project are included in Appendix 1 with the report copy.

The original scope of work for the 1997-1998 project proposed duplicating the methodology of the 1995 effort. However, due to failure of a tax levy in November 1997, the Anderson Park District could not allow disking and reseeding of the field. In addition, the fields were in almost constant use by soccer and lacrosse teams throughout the year. The 1997-1998 project area consisted of the entire soccer field located between the paved parking lot (south side of fields), an unpaved lot on the northern end of the soccer fields, Roundbottom Road on the east and the western edge of the soccer fields. The 1997-98 testing did not include any survey in the buffer zone between the soccer fields and the Little Miami River. N&E and a crew of volunteers was able to accomplish shovel testing in two quadrants of the project area and a small amount of surface collection where the grass was sparse in the soccer fields.

Based on the 1995 CMNH testing and the 1997-1998 investigation, N&E provided information regarding the horizontal boundaries of site 33HA128. The soccer fields were constructed after 1995. Prior to that, they consisted of agricultural fields and a model airplane landing strip. The investigations by the Cincinnati Museum of Natural History (CMNH) in 1995 included a controlled surface collection of the field, excluding the landing strip. The western edge of that field roughly corresponds to the current western edge of the soccer fields. The CMNH investigations found that in the central and northern part of the field, the artifact density was still increasing to the west (toward the river) when they stopped at the edge of the field. The work confirmed that the site in general encompasses the entire soccer field. Artifacts were recovered in greater quantities in the northern half of the field, but items were recovered throughout the grassy field.

In summary the CMNH (1995) and the N&E (1997-1998) projects combined to confirm the following:

- The location of a mound excavated in the late 19th century was confirmed within the soccer field portion of the site.
- The investigations showed that the site extended intensively throughout the central and northern portions of the soccer field, lessening toward Roundbottom Road on the east, and to the south.
- Artifact densities were increasing westward and northwestward toward the Little Miami River bank edge.
- The site appears to be primarily a Woodland habitation site, with pottery and other diagnostics placing it in the late Middle Woodland to Late Woodland periods.
- Neither project included any archaeological testing in the scrubby strip of land along the bank edge, between the west edge of the soccer fields and the river bank edge.

1999 Test Excavations at site 33HA128

The Anderson Park District requested additional boundary delineation testing in Riverside Park in 1999. N&E conducted a systematic program of shovel testing at 10 meter (30 ft) intervals along the Little Miami River bank, between the west edge of the soccer field/earth berm and the east bank edge of the Little Miami River (Figure 3). This strip of land includes an area that stretches for approximately 430 meters along the river bank starting at the main, paved parking lot (Figure 4) and running north to the park property line. The width of the strip of land varies from 30 meters to over 60 meters at the northern end (Figures 4 and 5). The following information is taken largely from Kreinbrink (2000). Figures included as Figures 3-5 in this report are taken from that earlier document.

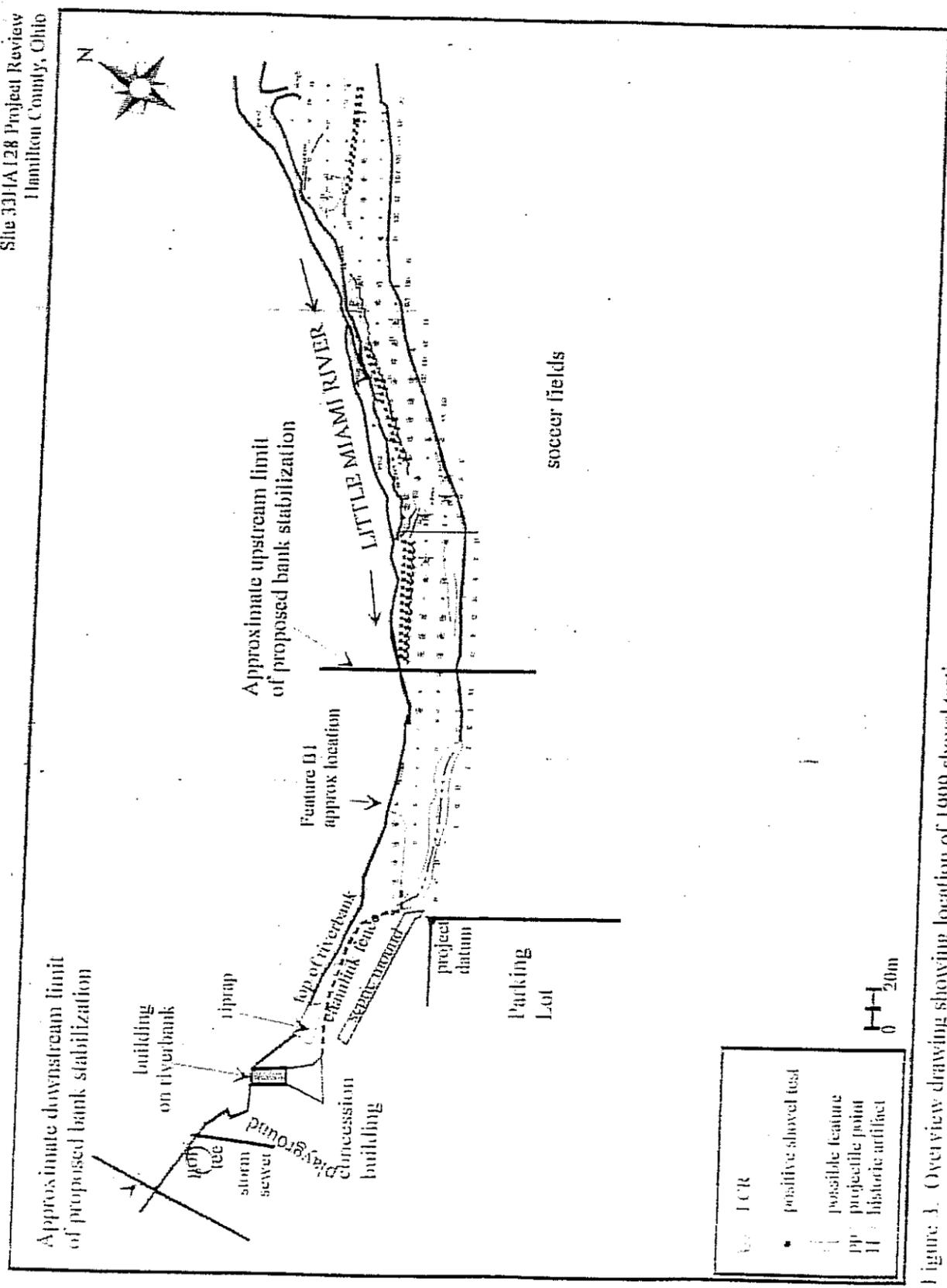


Figure 3. Overview drawing showing location of 1999 shovel testing.

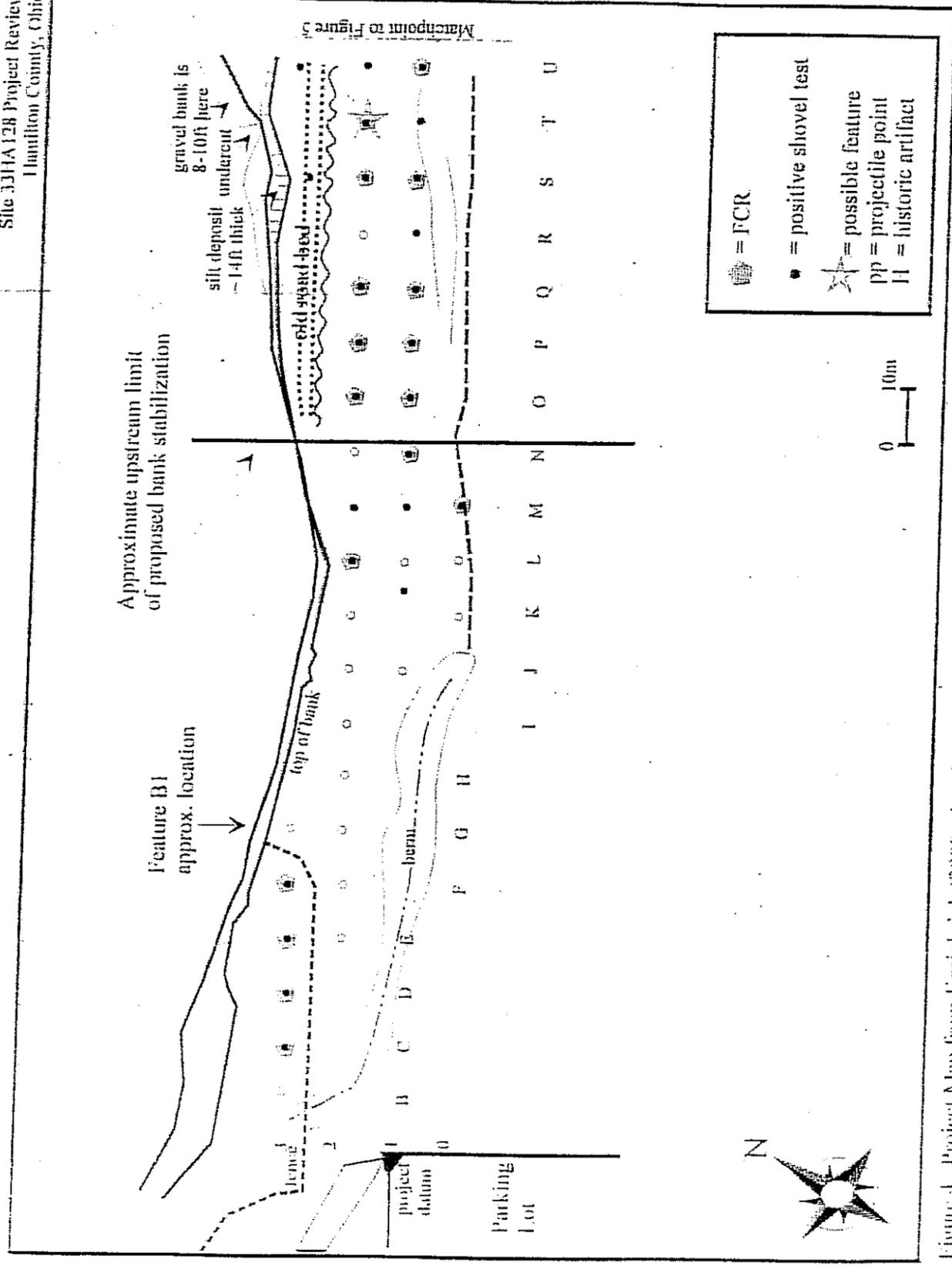


Figure 4. Project Map from Kreinbrink (2000) showing shovel testing results.

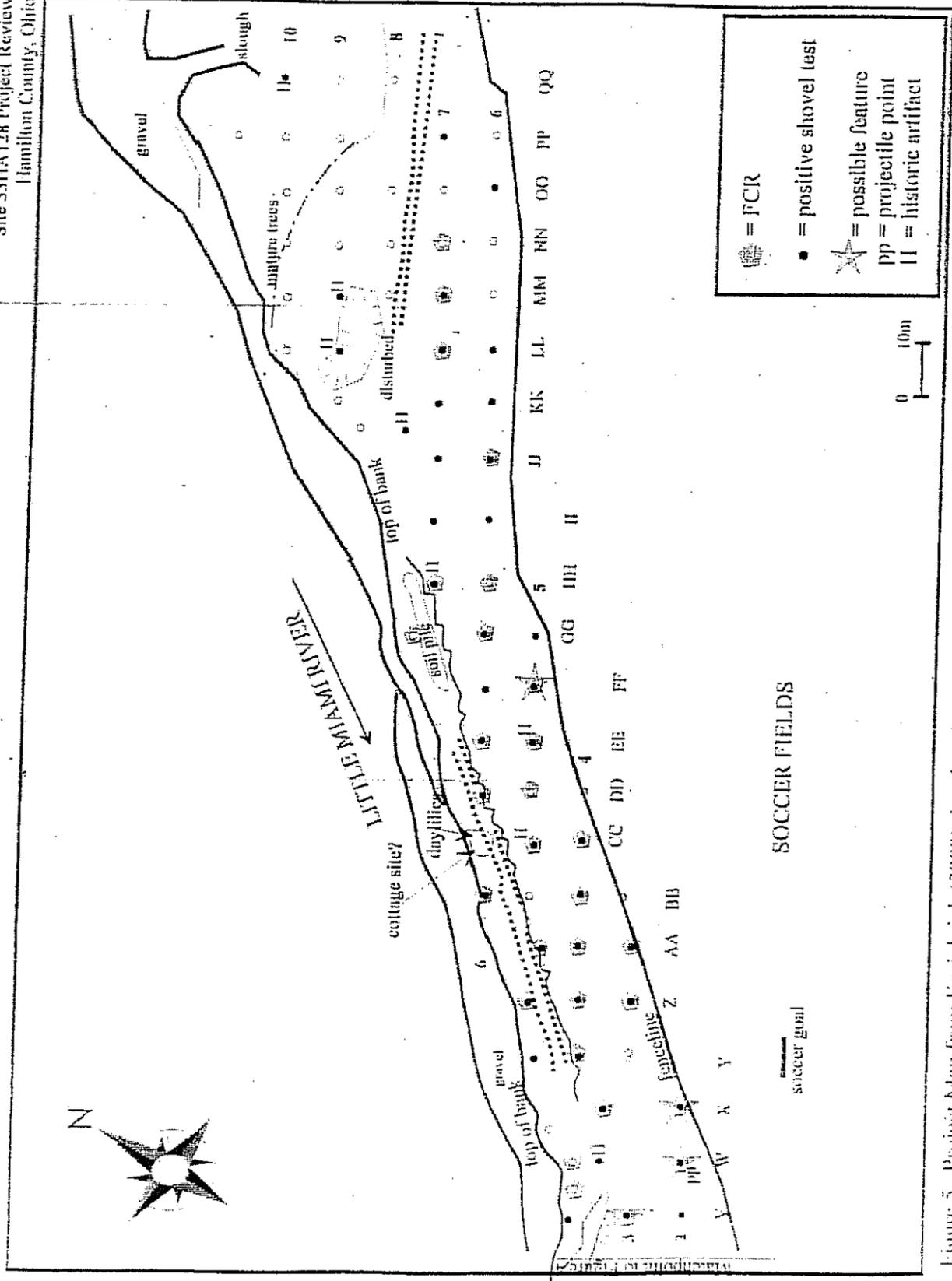


Figure 5. Project Map from Kreinbrink (2000) showing shovel testing results.

The western boundary of site 33HA128 had never been adequately defined. This area consists of an ODNR easement along the riverbank and has been in scrub and grasses for many years. The northern part of this area is in large beech and other trees.

The project area is situated along the bank of the Little Miami River. It is long, narrow, and curved (Figures 2-4). A corner of a parking lot was used for the project datum. The shovel test grid was laid out in straight lines at 10 meter intervals, using compass and tape measures.

Each shovel test was approximately 50cm in diameter and excavated to sterile soil or 50cm in depth. The field crew screened each shovel test through ¼ inch wire mesh. They bagged artifacts by provenience. During excavation, changes in soil type/texture were noted. If artifacts were encountered in differing soil horizons they were bagged separately by depth/soil type.

After the shovel test grid was completed, a few shorter interval shovel tests were conducted for further delineation of artifact concentration boundaries. Selected shovel test soil profiles are discussed below.

Natural & Ethical Environmental Solutions (N&E) conducted a program of shovel testing in the strip of land along the Little Miami Riverbank within Riverside Park (Figures 2-4). This strip of land consists of scrubby vegetation and grasses between the riverbank and the soccer fields to the east (Figure 2). Because of the ODNR easement, the ground could not be cleared or disked.

Figures 3 and 4 illustrate the results of the shovel testing. As described above, the grid used a corner of the Riverside Park parking lot as project datum. The field crew excavated a total of 113 shovel tests at 10 meter intervals. The total includes several intersite tests.

Of the 113 tests, 72 produced artifacts and/or fec. Table 1 lists general artifact types.

Table 1. Artifact categories from shovel testing.

ARTIFACT TYPE	QUANTITY
Projectile point (Jacks Reef: 500-900+ AD)	1
Chert Bifaces	2
Prehistoric pottery sherds, grit tempered	77
Celt preform	1
Chert cores/core fragments	2
Chert flakes	229
Bone fragments	128
Historic artifacts	55
TOTAL ARTIFACTS	495
TOTAL HISTORIC ARTIFACTS	55
TOTAL PREHISTORIC (INCLUDING BONE)	440

The artifacts appear to cluster into one small group at the southern end of the site and one very large cluster of positive shovel tests that stretches for over 200 meters along the river bank (Figures 3 and 4).

Four of the 72 positive shovel tests turned up in Row 3, just at the riverbank edge adjacent to the southern parking lot (Figure 4). Shovel tests C3, D3, E3, and F3 each produced either chert flakes or grit tempered pottery sherds. All contained at least one fragment of burned rock. Shovel test F3 produced fire cracked rock from between 29 to 50cm below the current ground surface. This narrow cluster of artifacts appears confined to the bank edge, within an area approximately 40 meters in length and up to 10 meters back from the bank edge. This part of the bank has experienced extensive erosion over the past several decades. These few shovel tests may be the last remnant of a site that has been almost completely washed into the Little Miami River. The shovel tests to the south and east exhibited signs of disturbance from construction and berming (Figure 4).

Feature B1, described below, was excavated from the vertical river bank in this portion of site 33HA128. This feature is described below and represents a buried component of the site.

Of the other 68 positive shovel tests, four contained only modern artifacts such as metal or glass. These four were found at the northern end of the site, near an excavated depression and a slough (Figure 5).

The 64 other positive shovel tests all produced artifacts related to the prehistoric Native American occupation of the site. These shovel tests are found between Row K and Row PP (310 meters) but are concentrated between Rows M and LL (Figures 4 and 5). They represent a continuous band of positive shovel tests for over 250 meters in length and encompassing almost the entire width of the grassy strip along the bank (30-40 meters wide). Toward the northern end of the project area, the positive shovel tests end and the remaining tests contained no prehistoric cultural artifacts. (Figure 5). The positive shovel tests in rows S, V, Y, Z, BB, and GG, continue right up to the edge of the bank (Figures 4 and 5). This may indicate that the edge of the habitation has been truncated by overbank erosion in these areas.

The intensive concentration of positive shovel tests between Rows M and LL also produced evidence of several possible features. Five shovel tests contained darker soils and fcr to depths of up to or exceeding 50cm (T2, V3, W2, X2, and FF5) (Figures 4 and 5). These may indicate the presence of sub-plowzone deposits.

The intensive occupation area of site 33HA128 along the Little Miami Riverbank then is concentrated between Shovel Test Rows M and LL, encompassing an area approximately 250 meters by 25 meters (average), or 6,250 square meters. This area contained almost all of the shovel tests that produced fcr and the shovel tests with subplowzone deposits indicating possible features.

2002 Feature Excavation

The following information is taken from a letter report produced by Natural & Ethical Environmental Solutions in June 2002 (Kreinbrink 2002). Additional information is included regarding radiocarbon testing results.

The Anderson Park District requested an archaeological investigation of an exposed cultural feature found eroding out of the west bank of the Little Miami River. Persons canoeing on the Little Miami River noted the feature in the vertical bank of the river and called Anderson Park District to report its location. The feature is situated within the known boundary of site 33HA128, as previously documented by Kreinbrink (1998; 2000).

Prior to the discovery of this buried archaeological feature, almost all of the previously documented archaeological materials were recovered from 0-60cm below the current ground surface. The boundary delineation project conducted by N&E in 1999-2000 noted charcoal in the cut bank, approximately .5-1 meter above the gravel layer (Kreinbrink 2000). The charcoal was documented in the vertical riverbank in the vicinity of Shovel Test Grid Row G (Figure 4).

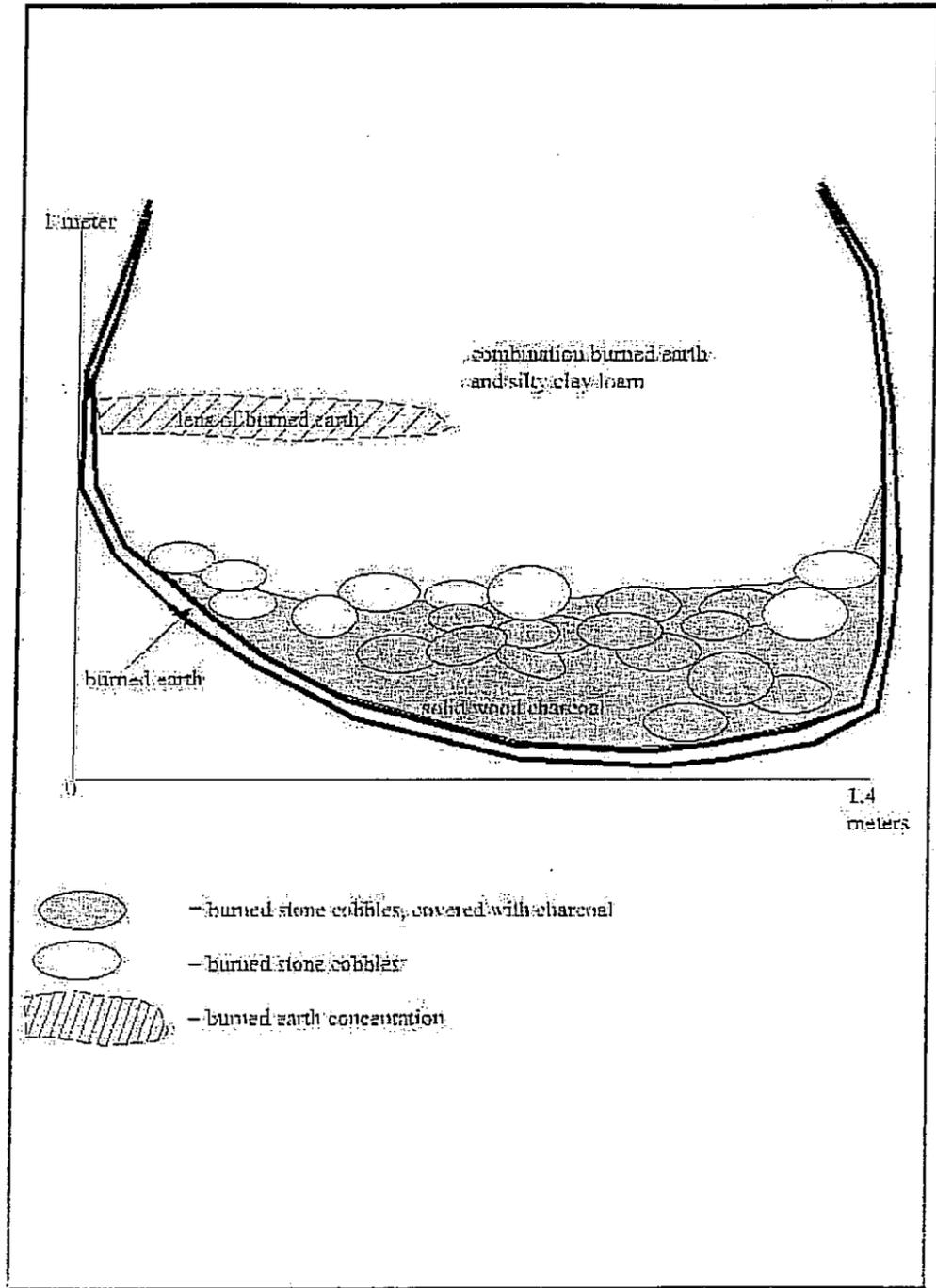
Designated Feature B1 (for buried feature 1), the investigation found the feature in the cutbank approximately .8-1.9 meters below the current ground surface. It is located between Shovel Test Rows E and F, or at least 15 meters downstream from the charcoal noted in 2000 (Figure 4). The feature is situated in a dangerous position in the vertical cut bank. The soil profile in the immediate vicinity consists of about 2.5 meters of silty clay loam over 1 meter of almost pure sand. The sand lies on top of at least 4 meters of unconsolidated large river cobbles with little soil matrix.

Feature B1 lies within the silty clay loam layer, about one meter above the gravel and just above the sand layer. The danger of bank slumping and the unstable nature of the sand and gravel below the feature precluded complete excavation. Park personnel lowered a ladder adjacent to the feature and secured it above the bank with rope. Using the ladder for safety, N&E Staff Archaeologist A. Chris Anderson cleaned the feature profile for photographic documentation (Appendix 2). A metric stadia rod was used for taking measurements. Figure 6 is a sketch drawing that was completed using the stadia rod.

During the investigation, they were able to obtain a charcoal sample from near the base of the feature by scooping the charcoal into plastic bags held inside a 5 gallon bucket. A separate soil flotation sample was collected in the same manner. The remainder of the feature was left intact due to the unstable nature of the river cut bank.

Feature B1 is a large pit feature found in profile in the vertical cut bank. It consists of an intensive soil stain measuring approximately 1.4 meters in diameter by .8-1 meter in depth. The top of the feature is

Feature salvage, 33HA128
Hamilton County, Ohio



FEATURE PROFILE, SITE 33HA128

Figure 6. Sketch drawing of Feature B1, 33HA128.

located .8 meters below the current ground surface. The base of the feature is about 1.8-1.9 meters below the current ground surface (Figure 6 and Photos in Appendix 2).

The feature exhibits internal stratigraphy and distinctive morphology. The feature walls are burned to a reddish brown for most of the visible profile. A thick layer of burned wood charcoal lies above the burned feature margins. In the bottom center, this layer is at least 15 cm thick. Above the burned wood, at least three layers of burned river cobbles and a small amount of burned limestone cover the entire feature. They form a distinct layer within the feature profile, with little soil mixture among the rocks.

The feature extends about 50-60 cm above the rock layer. Burning is visible on the feature margins to the top of the feature. Soil matrix above the rocks is a mixture of burned and unburned silty clay loam. One distinct horizontal band of burned soil is visible approximately 10 cm above the rock layer (Figure 6).

No artifacts were visible in the feature profile. The flotation sample includes soil from above the rock layer and will be examined for the presence of artifacts. Flotation of the soil sample recovered only wood charcoal in large quantities. No artifacts were recovered. One radiocarbon sample was submitted to Beta Analytic in Florida for testing. The charcoal sample returned a calibrated date range of AD 690 to 990 (2 sigma calibration; Beta 169231). The standard radiometric date range is 1180 +/- 60 BP, or AD 770 +/- 60.

This date range provides information on when the buried cultural layer was deposited and the time depth for alluvial deposition at the site. Test excavations at site 33HA128 in the soccer field area found cultural materials dating several hundred years older than the radiocarbon date for Feature B1. The CMNH testing in 1995 documented the location of the mound excavated in the 1890s and found village debris that probably dates to the Newtown period of the Late Woodland (usually before AD700 at the most recent). That area is situated approximately 90-130 meters away from the bank edge.

The presence of younger material buried at the bank edge indicates that overbank deposition has been greater closer to the river. Several scenarios may account for this situation. If the area between what is now Roundbottom Road and the river sloped down toward the river, or contained a lower terrace closer to the bank, then more recent occupations could have existed closer to the river at ground level. Overbank deposition may have filled the lower terrace/slope until it became relatively level with the higher terrace. In this way it would appear that more recent sites were buried deeper than older sites.

The horizontal boundaries of this lower cultural horizon are unknown at this time. Deep testing has not been conducted in Riverside Park. The buried cultural horizon may not be excavated in the future depending on the nature of future impacts to the site.

If erosion of the riverbank is not halted, then both the surface and subsurface cultural components of site 33HA128 will continue to be endangered. The chances of additional features eroding out of the riverbank will increase as the bank approaches the intensively occupied portions of the site.

PROJECT IMPACTS AND MITIGATION RESEARCH DESIGN

Proposed Project Impacts

Anderson Park District is working to control and reduce the significant erosion that has impacted the Little Miami River bank in Riverside Park. One proposed plan includes stabilization of the river bank by grading and angling the bank at either a 2:1 or 3:1 slope. The area affected by the stabilization project includes an area approximately 18.3 m (60 ft) by at approximately 244 m (800 ft) along the river bank in Riverside Park (Figure 1-3).

According to information received from Don Ball of the Louisville District, if the excavation/grading option is chosen, they anticipate impacting an area up to 18.3 m (60 ft) back from the bank. The action will include excavation of soil in order to create a slope leading back from the average low water mark to the current top of the bank.

This will impact portions of site 33HA128 (Figures 1 through 4). One portion of the site that will be impacted is located between the septic berm and the riverbank and produced cultural materials both from surface (0-50cm) contexts and buried contexts (below 80 cm). Feature B1 was recovered in this portion of the site as described above (Figures 3 and 4). Erosion continues to be a problem in this portion of the site. This segregated area of positive shovel tests may be a remnant of a site that has undergone extensive erosion and disappearance into the river. The buried portion of the site was previously undocumented until the recovery of Feature B1 in 2002. The horizontal extent of this buried component is currently unknown.

The APE will also impact the southern portion of the high concentration section of site 33HA128. As indicated on Figures 3 and 4, the shovel testing conducted in 1999 found that the intensive portion of the site begins at about shovel test row K, with even greater concentration starting at row M. The APE may impact up to approximately Row N. Thus up to 40 meters (131 ft) of this intensive portion of the site may be excavated to create the necessary bank slope for the stabilization project.

This is the most intensive portion of the site along the river's edge and includes possible features and midden and a large volume of cultural material. Figure 7 illustrates the possible vertical and horizontal impact to site 33HA128 from a bank stabilization project that includes cutting the bank at a slope.

Discussion

The OHPO and the Louisville District have requested this review of the impacts to site 33HA128 if the bank stabilization project proceeds using bank excavation/cutting. The following questions have been put forward regarding site 33HA128 and the potential impacts from the project.

- What do we know about the first 60 ft back from the river bank within Riverside Park?

Site 33HA128 extends to the river bank within an area approximately 310 meters in length, with an intensive area about 250 meters long (Figures 4 and 5). This area is situated up stream of the small structure at the edge of the river and is adjacent to the soccer fields.

North of the site to the upriver boundary of the park, the artifact density lessens to nothing. Historical disturbance and an erosional gully have impacted this area. Little cultural material other than twentieth century dumping debris is present.

One area downriver of the main portion of the site, but still upriver of the small structure on the bank produced four positive shovel tests plus the buried Feature B1 as described above.

Downriver from the small structure, the project impact area extends for another several hundred meters. This area has been extensively disturbed from modern construction and from recent erosion that has destabilized the bank. Little information would be gained from intensive archaeological investigations in this area. It would also be unsafe.

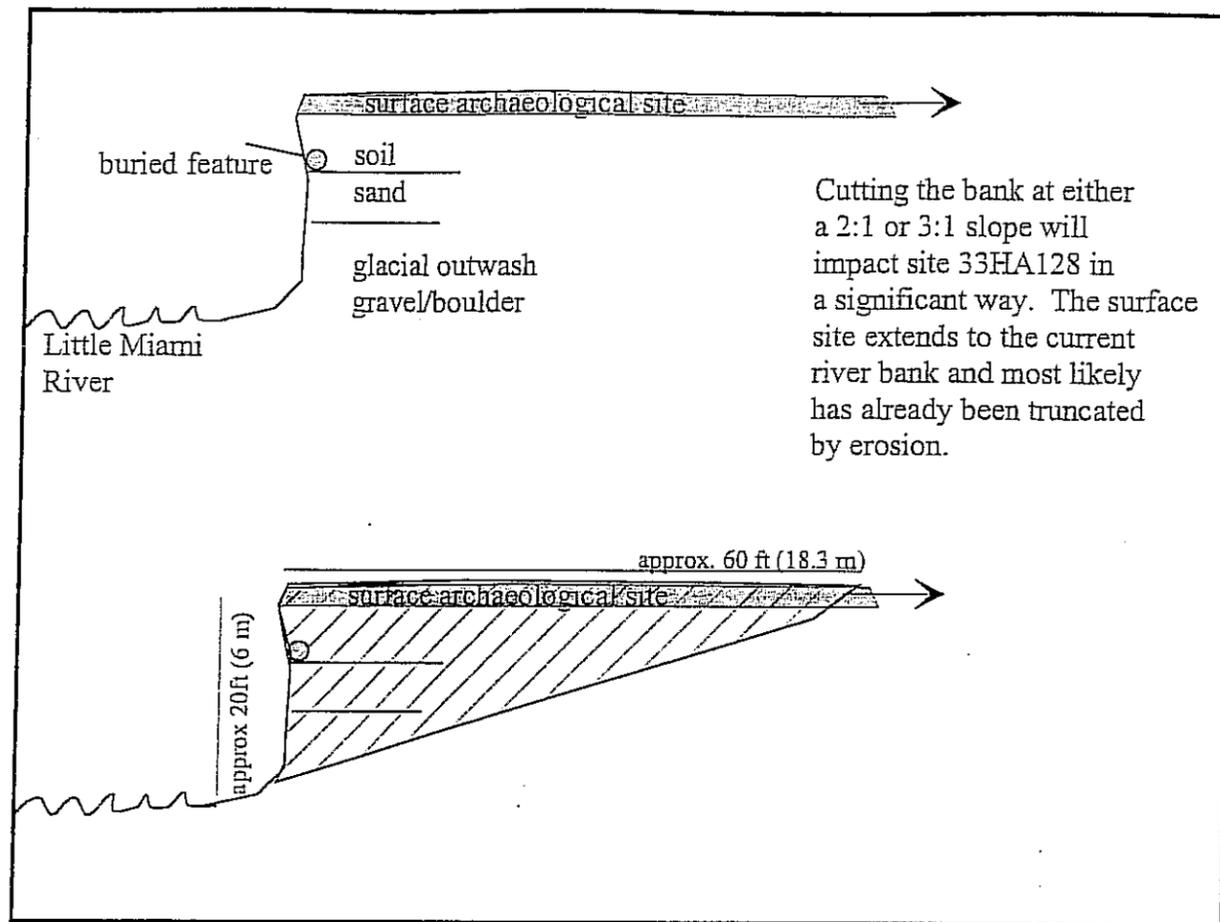


Figure 7. Schematic drawing showing potential impacts to site 33HA128.

- What will we find if we strip the plowzone, and where is the most likely place to recover the most archaeological information?

As mentioned above, the 250 meter stretch along the river bank that produced 100 percent positive shovel tests during the 1999 testing project is the most likely place to recover significant archaeological information. The shovel testing documented for and artifacts below the plowzone in many shovel tests. Five shovel tests contained evidence of possible subplowzone cultural deposits such as features or midden.

Stripping the plowzone in portions of this area should provide information on internal spatial patterning of the site, activity areas, possible village layout and other important data on Late Woodland social organization. The site should contain a variety of archaeological features including cooking and household features such as hearths, storage pits, and possibly house or other structure outlines.

- How important is data recovery at site 33HA128? How important is the stabilization for protecting the integrity of the whole of site 33HA128, not just the first 18.3 m (60 ft).

The following Research Design lays out the archaeological significance of site 33HA128 and defines the importance of preserving the site. The bank stabilization project at Riverside Park is not just about preserving the immediate vicinity of the riverbank. The entire park is located within this curve of the Little Miami River. The continued extensive undercutting and erosion that has greatly impacted the riverbank in recent years will continue if no action is taken. As the bank is continually eroded away by the river, more and more of site 33HA128 will disappear. This is an opportunity to slow down and hopefully control the erosion and to preserve a very important archaeological site. The information that will be retrieved by excavation will shed light on an important time period in Native American prehistory. The Late Woodland period marks a transitional period when the Native Americans were developing an agricultural way of life. The end of the Middle Woodland marked an end to a large scale involvement in a cultural phenomena known to archaeologists as the Hopewell period. Large earthworks such as the Turner Earthworks were located on the other side of Roundbottom Road a short distance away. Sometime after about AD400 the Native Americans stopped using these earthworks and began gathering together on a more local level into small villages. Site 33HA128 represents one of these village locations in the shadow of the former ceremonial earthwork sites. The following Research Design outlines some of the important research questions associated with the investigation and preservation of site 33HAA128.

Research Design

Site 33Ha128 is a Native American habitation site that includes archaeological components dating from the early through late Late Woodland. This time period saw the expansion of horticulture/agriculture activities on the part of the Native Americans. They were living in more permanent settlements for longer periods of time. This site was intensively occupied, based on the quantities of burned and broken animal bones, broken pottery sherds, and chert debitage found during the shovel testing.

Excavations in the late 19th and early 20th centuries found a burial mound, whose location is beneath the nearby soccer field. They also found evidence of intensive habitation surrounding the location of the mound. The Cincinnati Museum of Natural History conducted test excavations in that same vicinity in the mid-1990s. They confirmed the location of the previously excavated mound, found domestic archaeological features, and artifacts dating to the Middle Woodland and Late Woodland periods (probably from 100+ AD to at least 800 AD). The site probably was not occupied continuously during this 700+ year span, but used throughout this period as a village site or small housing sites by different generations and/or groups.

The site vicinity (Newtown, Hamilton County) is a very significant area for Native American archaeological activity in Southwest Ohio. The Turner Earthworks consisted of a large group of Hopewell (Middle Woodland) earthworks. They were located within one-fourth mile +/- of site

33Ha128. Although excavated in the 1920s, little is known about the relationship of the Turner Earthworks to the large numbers of archaeological habitations sites known from the Newtown area.

The terraces and floodplains of the Little Miami River valley were very attractive for the Woodland period Native Americans who were looking for well-drained soils and a variety of natural resources. The Newtown area has a large number of archaeological sites of all prehistoric periods. Located just below the confluence of the Little Miami and the East Fork of the Little Miami rivers, it may have been especially attractive, with a variety of animal and plant resources. Culturally, the area contains a large number of earthworks, including Turner as mentioned above, and the Milford Earthworks, just up the East Fork of the Little Miami River. Both date to the Hopewell period and would have been large centers of activity, drawing people from outlying areas for ceremonies, meetings, trading, and other cultural activities.

The proposed mitigation at site 33Ha128 provides an opportunity to investigate an intensively occupied archaeological site dating to the Woodland period. If cultural deposits from the Middle Woodland period are found, they may contribute information regarding the nature and use of the area during this culturally significant time period.

The Late Woodland period saw a shift from the ceremonialism of the Hopewell to an emphasis on village and local community. This time period also saw an increasing reliance on horticulture for subsistence. Research questions that may be answered by excavation at site 33Ha128 include the following:

- What is the relationship of site 33Ha128 to other known sites in the Newtown area? Are they similar in configuration, types of features, subsistence, time of year occupied, and so forth?
- If Middle Woodland artifacts are found, what is the possible relationship to the Turner Earthworks, a large Hopewell ceremonial and burial site located just a short distance away from the site?
- What information can be obtained regarding types of plants and animals they hunted or cultivated. Does the site show increasing reliance on cultivated plants?
- What time periods are represented at the site? Can they be determined from diagnostic artifacts, and/or radiocarbon dating?
- If features are encountered, what information will they provide on site layout, intensity of occupation, and relationship to other nearby sites?

Summary

The archaeological mitigation of site 33HA128 will provide significant information on the Native American utilization of the Little Miami River valley during several critical and little understood time periods. The proposed bank stabilization project will impact two portions of site 33HA128.

- 1: The project will impact the vicinity of the buried Feature B1 and the adjacent 30 meters of surface cultural material (30 m x 18 m, 540 m²)
- 2: The project will impact an area up to 40 meters by 18 meter (720 m²) in the larger, intensive portion of site 33HA128. This portion of the site also contains evidence of subplowzone features and cultural deposits.

A data recovery plan will take into account the sensitive nature of the Native American archaeological site as well as safety concerns related to OSHA and the unstable nature of the riverbank. Proposed excavation methods will consist mainly of mechanical stripping of the plowzone in approximately 30 percent of the impacted site areas. Hand excavated units may be placed within the stripped areas to sample deeper deposits and the determine vertical site stratigraphy. Features uncovered during the mechanical soil removal will be mapped and excavated. In-depth methodology and research design for the data recovery will be prepared as a Mitigation Plan.

Safety considerations will be an important logistical component of this project. The unstable nature of the riverbank will preclude excavation within at least 5 meters of the bank itself. Several lengthy areas of the bank exhibit undercutting, with slumped areas visible along the bank. The proposed data recovery will focus on the impacted portion of the site between 5 and 18 meters back from the edge of the bank. A detailed safety plan will be included in the actual Mitigation Plan.

REFERENCES CITED

Kreinbrink, Jeannine

2000 *Boundary Delineation Site 33HA128, at Riverside Park, Anderson Park District, Hamilton County, Ohio.* Submitted to the Anderson Park District. On file at the OHPO.

1998 *Riverside Park Archaeology Project, Assessment of Site 33HA128 (42), The Edwards Site, Hamilton County, Ohio,* submitted to the Anderson Park District. On file at the OHPO.

Starr, S.F.

1960 *The Archaeology of Hamilton County, Ohio.* The Journal of the Cincinnati Museum of Natural History.

APPENDIX 1 – 1998 PROJECT REPORT

RIVERSIDE PARK ARCHAEOLOGY PROJECT
ASSESSMENT OF SITE 33HA128 (42),
THE EDWARDS SITE,
HAMILTON COUNTY, OHIO

Submitted to:

Anderson Park District
8249 Clough Pike, Juilfs Park
Cincinnati, Ohio 45244

Submitted by:

Natural & Ethical Environmental Solutions, LLC
4670 Imperial Drive
Liberty Township, Ohio 45011

Jeannine Kreinbrink
Principal Investigator

September 1998
FINAL

ABSTRACT

The Edwards Mound and Perin Village archaeological sites (33Ha7, 128, 291) are located in Riverside Park, Anderson Township, Hamilton County, Ohio. The Anderson Park District owns and manages the park. Prior to implementing any construction or other impacts within the park, they requested an analysis of previous archaeological investigations and an evaluation of site boundaries and sensitive areas, in accordance with the Anderson Park District Preservation Plan.

In 1995, the Cincinnati Museum of Natural History (CMNH) staff and volunteers conducted a controlled surface collection and the excavation of several small test units at the site. Anderson Park District requested assistance in 1997 from the author in further assessing the horizontal boundaries of site 33Ha128, and in reviewing the results compiled by the CMNH effort. This report details both efforts.

The original scope of work for the 1997-1998 project proposed duplicating the methodology of the 1995 effort. However, due to failure of a tax levy in November 1997, the Anderson Park District could not allow disking and reseedling of the field. In addition, the fields are in almost constant use by soccer and lacrosse teams throughout the year.

We were able to accomplish shovel testing in two quadrants of the project area and a small amount of surface collection where the grass was sparse. While analytically the results are not truly comparable, the 1997-1998 testing did provide information on the horizontal extent of the site.

The boundaries of site 33Ha128 appear to be fairly inclusive of the soccer fields at Riverside Park as bounded by Round Bottom Road on the east, the Little Miami River bank/berm on the west, and the southern part of the field. On the northern end, the site probably extends beneath an existing parking lot. Central Ohio Valley Archaeological Society (COVAS) volunteers conducted shovel testing parallel to this parking lot in spring 1998. The testing produced chert flakes and fcr in the first row of shovel tests adjacent to the parking lot.

Natural & Ethical Environmental Solutions recommends caution to the Anderson Park District during the conduct of any earthmoving activities in the soccer fields at Riverside Park. Any project impacts below the base of the plowzone will encounter intact soils. These soils bear the high probability of containing cultural features, including human skeletal remains. Monitoring, at a minimum, of any excavation procedures is recommended for anywhere within the boundaries mentioned above. The southern end of the field should be considered at a somewhat lower probability than the remainder of the field.

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INTRODUCTION

The Anderson Park District requested assistance in completing an archaeological investigation of the Edwards Mound and Perin Village sites, 33Ha7 (128, 251), located in Riverside Park. Riverside Park is situated along the Little Miami River in Anderson Township, Hamilton County, Ohio (Figure 1).

Ms. Jeannine Kreinbrink of Natural & Ethical Environmental Solutions, LLC, served as Principal Investigator for the project. Mr. Dick Combs of the Anderson Park District served as project contact. The Cincinnati Museum of Natural History conducted their investigations under the supervision of Dr. C. Wesley Cowan and Mr. Robert Genheimer with museum and Central Ohio Valley Archaeological Society (COVAS) volunteers. Current CMNH responsibility is held by Dr. Frank Cowan and Mr. Genheimer. Ms. Sarah Adams collated the CMNH data. Volunteers from the Central Ohio Valley Archaeology Society (COVAS) provided field assistance for both the CMNH and the 1997-1998 field investigations.

The Edwards site, 33Ha128 (42), is located on a terrace of the Little Miami River, just north of Newtown (Figure 2). The site occupies an old agricultural field that has been sodded for use as soccer fields. The northern end of Riverside Park now encompasses the location of the archaeological sites. Currently, the northern end of the park is sodded and is used for soccer and lacrosse. Potential future plans for the northern end include three baseball fields and an expanded parking lot (Figure 3).

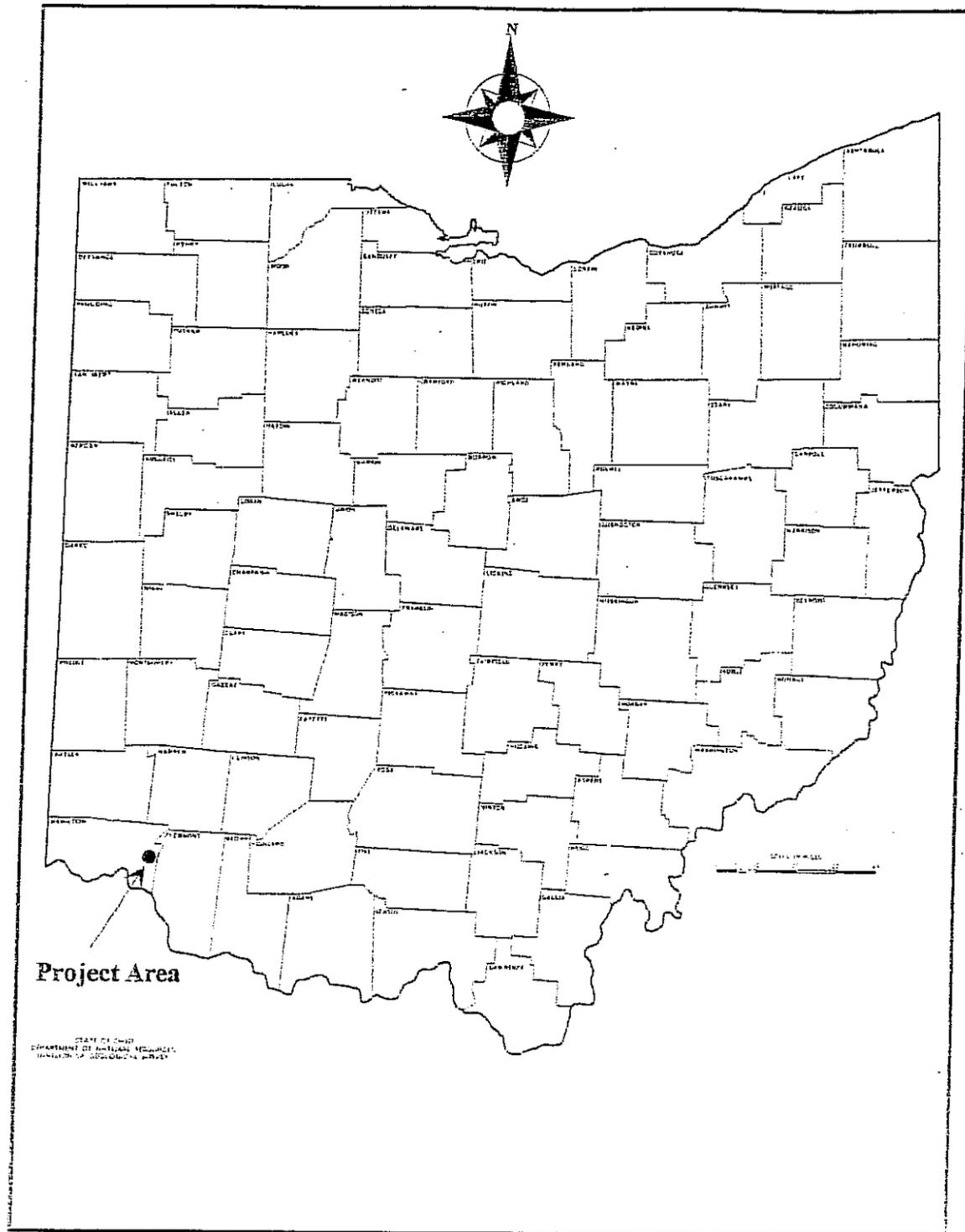


Figure 1. Map of Ohio showing location of project area.

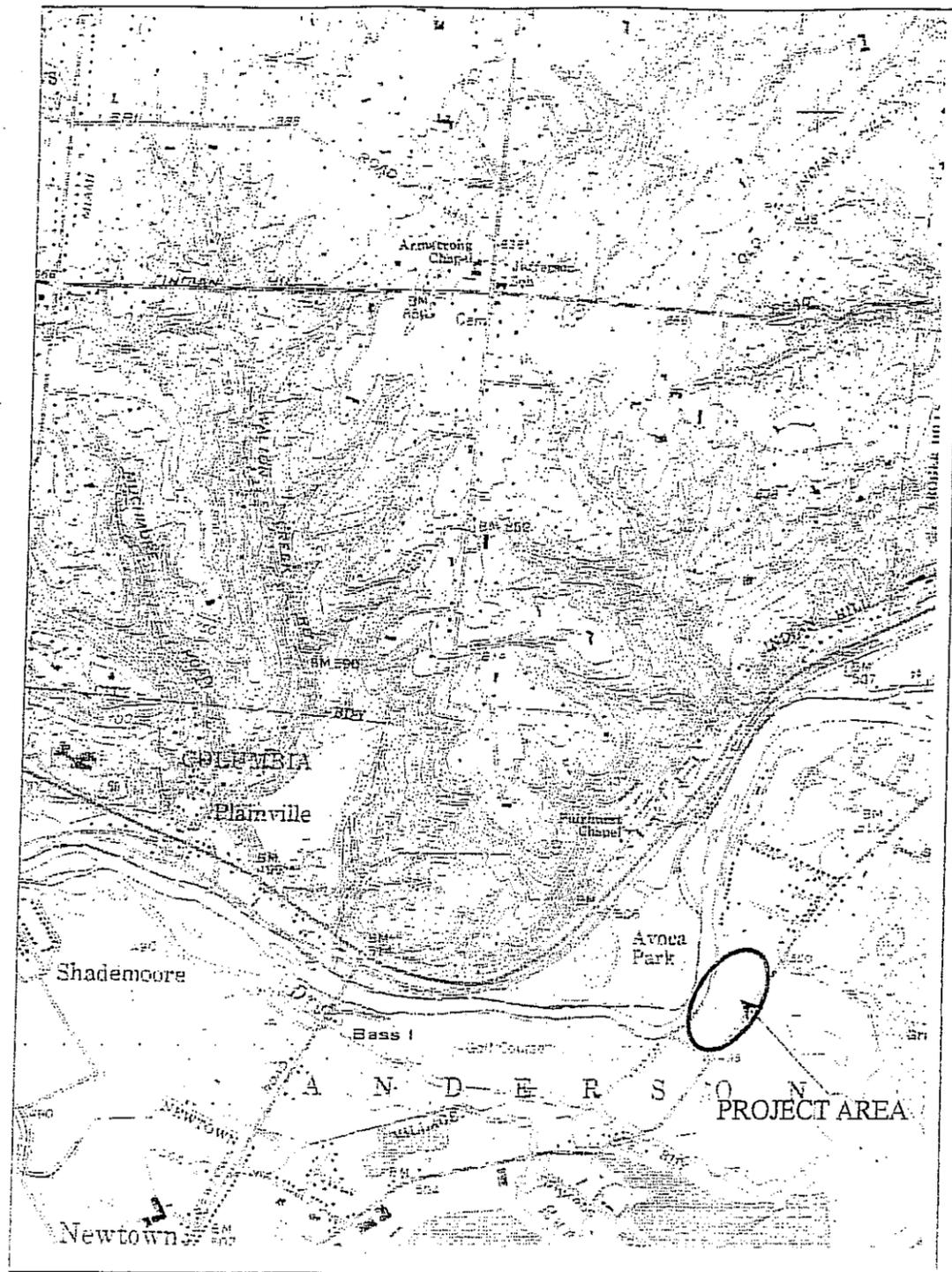


Figure 2. Portion of Madeira 7.5 minute topographic quadrangle showing location of project area.

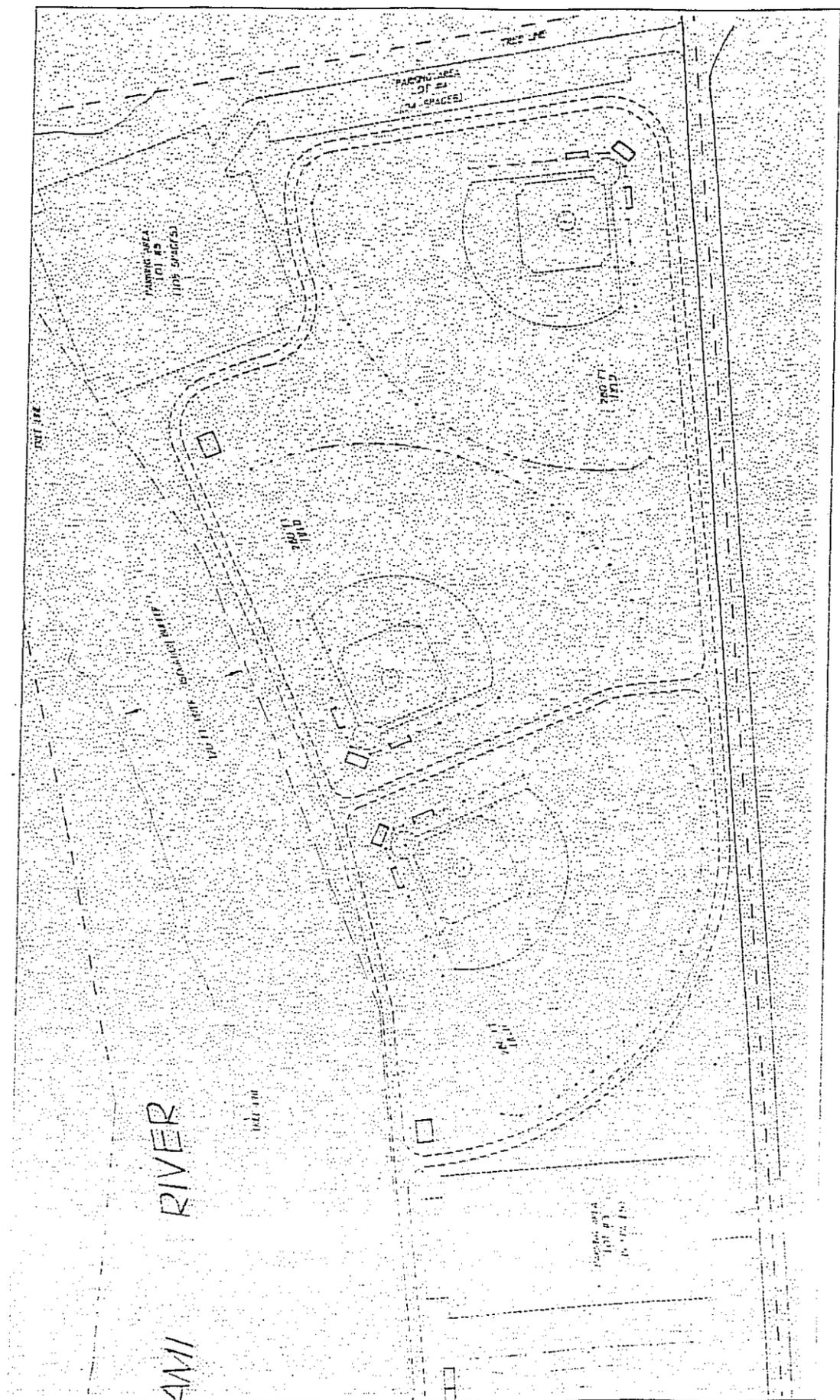


Figure 3. Project area map showing tentative proposed development.

SITE BACKGROUND

People have been aware of the presence of archaeological sites in the Riverside Park vicinity for many years. Starr (1960) describes excavations conducted at the Edwards Stone Mound in the early 1880s by Dr. Charles Metz. He gives the site location as follows: "It was located in the level bottom land adjoining the Little Miami River west of Roundbottom Road and three-fifths of a mile southwest of Benchmark 513." (Starr 1960:44). Benchmark 513 is the intersection of Roundbottom Road and Broadwell Road (Figure 2).

Dr. Metz excavated the Edwards Stone Mound sometime before 1883. He describes the excavation in a letter to Professor F.W. Putnam of Harvard University, dated March 1883 (Starr 1960:44-45). The description is reprinted here:

"At the time when I was engaged in the exploration of the Large Edward Mound No. 22, Mr. Edwards called my attention to a mound situated on the higher portion of the first bottom of the Little Miami River, and on a direct line N.W. from mound No. 22 distant about 500 yards from it. On visiting the locality with Mr. Edwards, I found the mound located about 100 yards from the river bank, on the higher portion of the bank of the river, and is not subject to inundation except at unusually high freshets of the river. The mound appeared about 2 1/2 feet high, 100 feet in diameter N. & S. and measured 120 feet in length E. & W. Mr. Edwards informed me that 60 years ago the mound was between 8 and 9 feet high, and was covered with the forest that also occupied all of the surrounding plain. Shortly after this time, the land was cleared, and he himself scraped down part of the mound, requiring the earth to fill up a depression in the plain nearby. He removed about 4 feet of the earth from the top when he encountered stones and human remains, for 50 years past he has cultivated the mound annually, and during the period has removed quantities of stone from it, besides ploughing up many skeletons and other bones, however finding no relics.

On March 8, we began exploration of the mound by making an excavation 15 ft. wide at the edge of the mound on the N.E. At a depth of 8 inches a layer of stone was found which extended upwards conforming to the slope of the sides of the mound. This stone was found to consist of from 4 to 7 courses being heavier in some places than in others and subsequently proved to extend entirely around the sides of the mound. The stones were of all sizes, from that not larger than a man's hand to that which can hardly be lifted. The larger stones were the hill limestones and were brought from the hills 3/4 mile distant while the smaller were flat and water worn, and evidently were taken from the river and drift gravel beds nearby. They were disposed in regular layers, some care seems to have been taken in their arrangements, this was evident wherever we found them undisturbed. Near the surface of the mound, many fragments of human and animal remains were found intermingled with stones that had been torn up by the plough. The men were instructed to completely uncover the stones all around the base. After this was done, a trench 25 ft wide was begun on the N.E. side, and was carried

through the centre of the mound. About 2 ft. from the edge of the mound, a skeleton was discovered...

On the south side of the mound was a space 10 ft. wide and 12 ft. long where a fire had been kept up for some length of time, as the earth was burned red to a depth of 2 or 3 inches. In this space almost all of the animal remains and fragments of pottery sent you were obtained. Here was also found a considerable quantity of burned *Unio* shells. Five were found buried over this space. the base of the mound formed a complete circle 270 ft. around and 90 ft. in diameter..."

Metz succeeded in documenting 71 burials within the mound. Starr reports that one of the burials apparently had a "dog or young bear" buried with it, although it is not broken out in the list below. Starr listed the breakdown of burial types as:

- 32 extended - 17 with artifacts in association
- 22 flexed - 6 with artifacts in association
- 5 in one heap
- 1 child
- 1 with skull associated
- 2 isolated skulls
- 8 fragmentary

In preparation for his 1960 publication, Starr visited the location and observed a surface scatter of artifacts in the area surrounding the mound location. He found chert artifacts, pottery, and broken rock. Starr must have seen Metz's report because he states that the pottery he observed was "identical to that found in the mound".

Starr designated the Edwards Mound as site 33Ha205, and the surrounding village 33Ha42. These site numbers do not correspond to official Ohio Archaeological Inventory numbers and will not be used in this report to refer to the two sites.

The Ohio Archaeological Inventory (OAI) forms list three official numbers that describe this particular location (33Ha7, 128, and 291). The original card site file for 33Ha7 describes it as the Samuel Edwards Mound III. "Located on Samuel Edwards' farm between the Samuel Edwards Mounds I and II and the river, about 100 yards from the bank on an elevation of the bottom land." The card file also provides a reference for Metz's 1883 excavations: the 16th and 17th Annual Reports, Peabody Museum Vol III, Nos. 3 and 4, Cambridge 1884: pp. 344-346.

The Miami Purchase Association (MPA) completed updated OAI forms in 1975. The MPA obtained site number 33Ha128 for the Perin Village site (Starr's site 42), and 33Ha291 for the Edwards Stone Mound III (Starr's site 205). All the site numbers are listed on the 33Ha7 site file.

As reported by the MPA, the University of Cincinnati conducted small test excavations in the village portion of the site in 1974. They recovered pottery, chert tools, items listed as ceremonial objects, and a sample of corn (OAI form 1975). A conversation with Dr. Kent Vickery of UC in August 1998 reveals that two students conducted small test excavations while looking for a site at which to conduct a field school. He does not believe they found any features and they did not return to the site. When he gets back to school, he will look through their old files.

In 1995, the Cincinnati Museum of Natural History conducted a controlled surface collection over parts of the site. They also excavated two 1x1 meter units. They compiled field data forms and lab analysis sheets while cataloging their finds. No written description of the results of their field work and analysis was completed. This report utilizes their results to provide an assessment of the site and its horizontal boundaries. Please see the Results Section for that discussion.

FIELD INVESTIGATIONS

The archaeological site situated within the northern part of Riverside Park has been investigated several times over the past 100+ years, as discussed in the Background Section. Most recently, the Cincinnati Museum of Natural History (CMNH) and the Anderson Park District have conducted investigations at the site. Both field projects are described below regarding methods and results.

Cincinnati Museum of Natural History Results

The Cincinnati Museum of Natural History (CMNH) conducted both a controlled surface collection and excavation of several test units at the Edwards site in 1994 (Figure 4). Dr. C. Wesley Cowan and Mr. Robert Genheimer supervised the investigations. They used CMNH and COVAS volunteers for the field work.

Field Methods

During 1995, one portion of the Edwards site was in use as a model airplane landing strip. The CMNH personnel asked for the surrounding area to be plowed. They sunk a permanent datum of pvc pipe and concrete at the edge of the landing strip. This datum is still there and provided a reference point for the 1997-1998 research described below.

Using the datum and the road as a guideline, they laid out a ten meter (30ft) grid system, over an area approximately 13,500 m² (Figure 4). The volunteers collected all artifacts and potential cultural material within each 10 meter grid.

They completed a data sheet for each collection grid square, noting numbers of fire cracked rock (fcr), unburned limestone, other sedimentary rock, and any igneous/metamorphic rock. The information from the field data sheets and subsequent artifact analysis forms has been entered into an Excel spreadsheet (Appendix 1). Examples of these forms are also included in Appendix 2.

During the course of the controlled surface collection, the CMNH staff conducted probing of the site area in an effort to locate subsurface features. They excavated two 1x1 meter units in likely locations. They placed Unit 1 at grid coordinates W62 N8. The excavation revealed two features below the plowzone. Feature 1 consisted of a partial human burial. They recovered a right tibia and fibula at 55-69cm below the unit datum. The investigators felt that the feature had been disturbed. Feature 2 is a yet undefined pit feature within the same 1x1 unit. No description or artifact catalog was made available.

Unit 2 was located at grid coordinates W52 N54 over an area that had been probed. They encountered Feature 3, a burned area of undetermined size and origin.

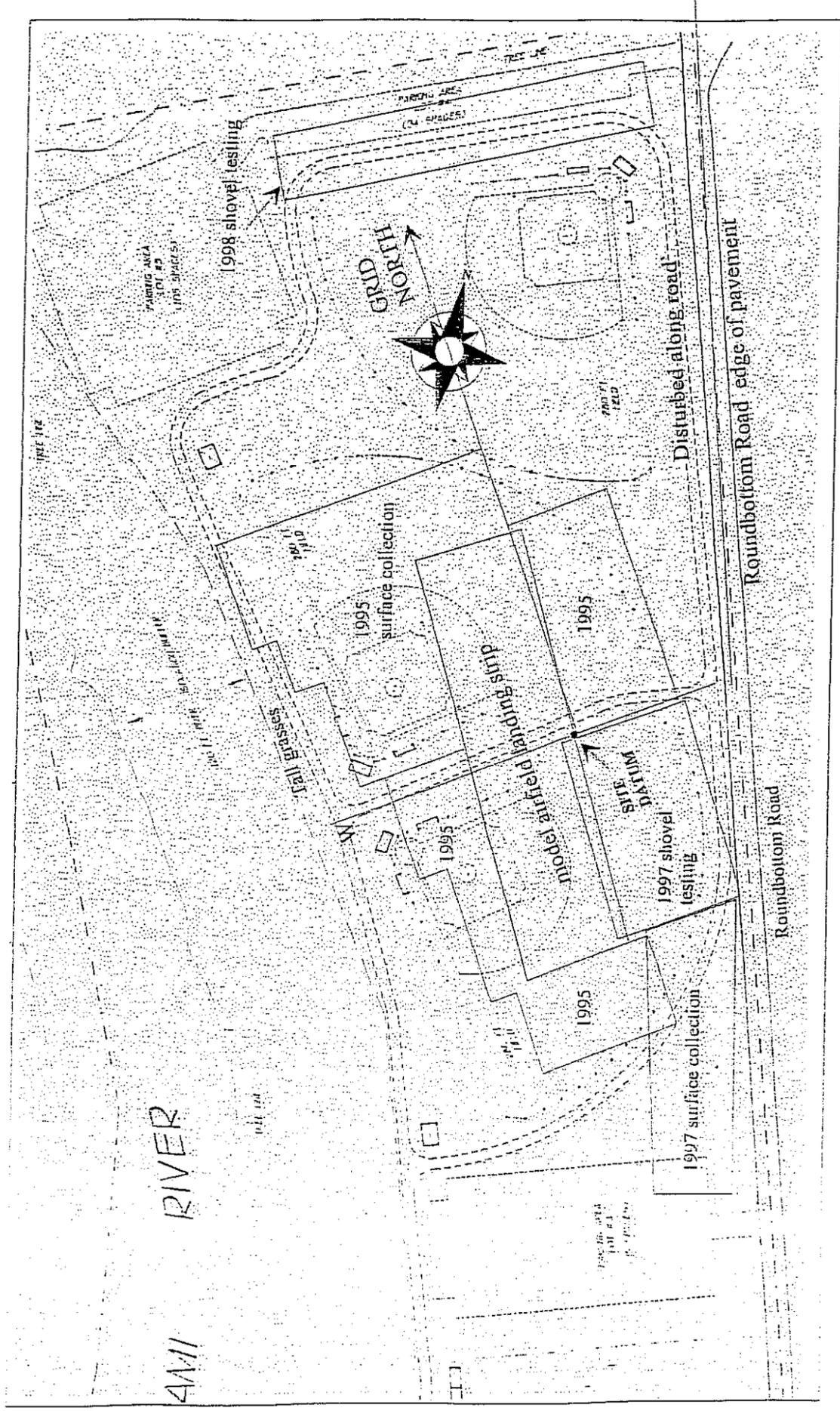


Figure 1. Project map showing relationship of proposed development to tested areas.

Both test units clearly illustrate that subsurface deposits still exist at the site, both within the mound area and in the village that surrounds it. Although Feature 1 appeared disturbed, the presence of human bone in both plowzone and sub-plowzone context demonstrate the sensitive nature of the site regarding human burials. Even though the mound had been excavated in the 1880s, they apparently did not remove or find all the human remains present. This will be discussed further in the Summary and Conclusions Section of this report.

1997-1998 Results

The Anderson Park District requested further investigations at Riverside Park in 1997, prior to final design and implementation of physical changes at the park. Preliminary design plans call for construction of baseball diamonds and additional parking in the vicinity of the archaeological sites (Figure 3).

The author began the project in the fall of 1997 using volunteers from the Central Ohio Valley Archaeological Society (COVAS). The original project scope of work proposed to duplicate the 1995 collection methods. A proposed levy to provide funding to the Anderson Park District failed in November 1997. The Park District was unable to plow the field. Since the 1995 field investigations, the project area has been sodded and turned into soccer fields. They were unable to provide funding for plowing and subsequent re-seeding/sodding of the field.

This prompted a revision of the scope of work. Instead of duplicating the surface collection, which would have provided additional information on artifact densities as well as boundary definition, we had to rely on shovel testing. The goal then altered to simply presence/absence of artifacts, hopefully providing additional information on the horizontal extent of the archaeological sites (Figure 4).

We accomplished two field days at the site, one in November 1997 and the other in March 1998. The volunteers were able to shovel test two portions of the site and conduct a surface reconnaissance of a sparsely grassed area toward the southern part of the site. The results of the shovel testing are shown on Figures 5 and 6. How these results relate to the site boundary is discussed in the Summary and Recommendations Section.

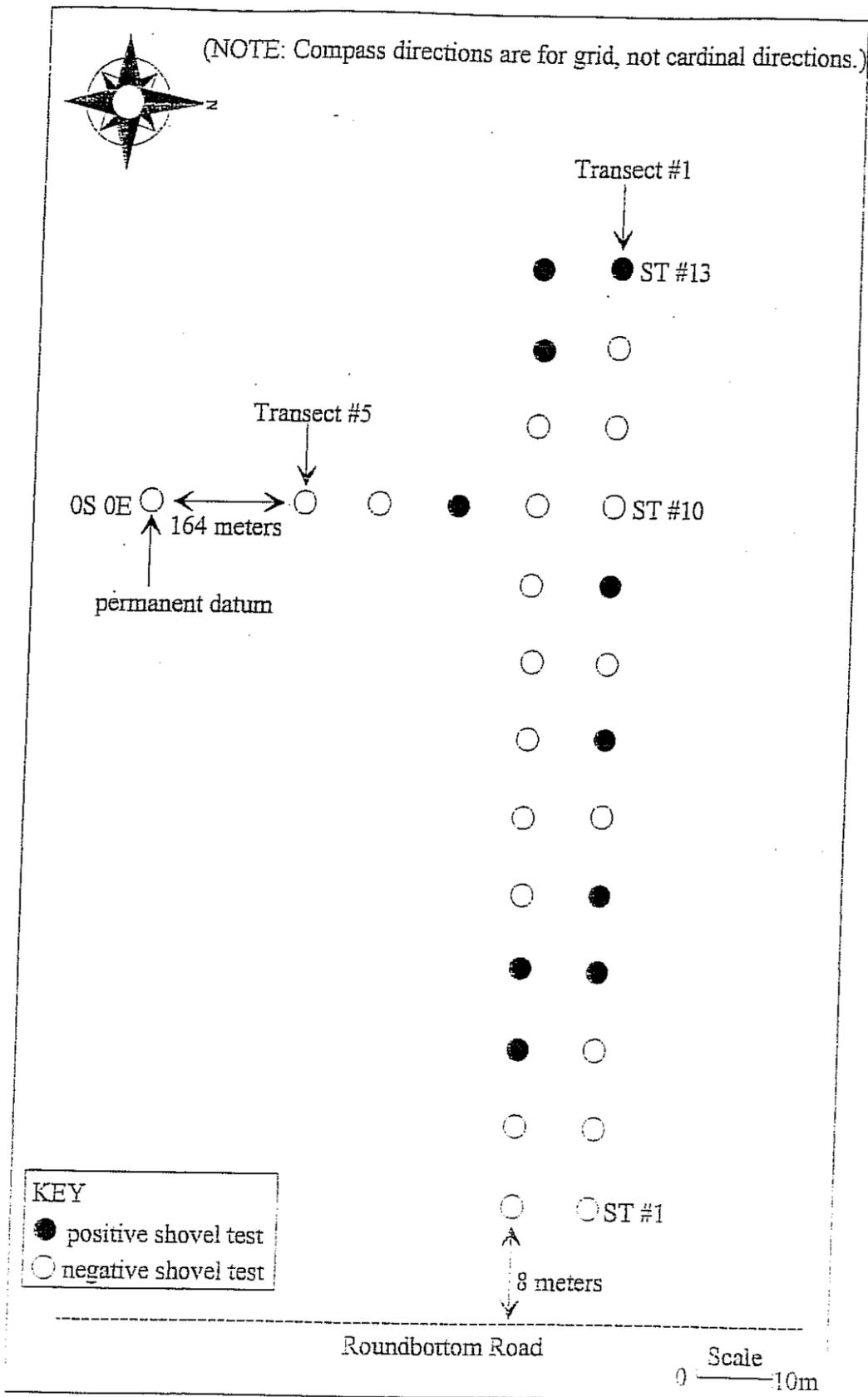


Figure 5. 1998 Shovel test area, Edwards/Riverside Park Site.

SUMMARY AND RECOMMENDATIONS

Prior to implementing any construction or other impacts to the northern end of Riverside Park, the Anderson Park District requested an analysis of previous archaeological investigations and an evaluation of site boundaries and sensitive areas. This investigation includes an analysis of the results of a field investigation by the Cincinnati Museum of Natural History (CMNH) in 1995 and a coordinated volunteer effort in 1997-1998 by the author, the Park District, and the Central Ohio Valley Archaeological Society (COVAS). This section includes a brief distributional analysis of the controlled surface collection conducted in 1995 and the shovel testing conducted in 1997-98. The project does not include an in-depth artifact analysis.

The archaeological sites located in the northern part of Riverside Park are known by several site names; including The Edwards Stone Mound, The Samuel Edwards Mound III, and the Perin Village site. The site numbers associated with the site include 33Ha7, 33Ha128, and 33Ha291. Starr¹ (1960) referred to the Edward Mound site as 33Ha205 and the Perin Village as 33Ha42. These site numbers, however, are apparently not official Ohio Archaeological Inventory designations for these particular sites. Alternate sites with those numbers already existed on the west side of Hamilton County that were recorded before Starr's work in the late 1950s.

The field was first cultivated at least as early as Metz's work at the sites in the 1880s. In recent years, the property owner had cultivated pumpkins in the field. Part of the field also served as a model airplane landing field. Since 1995, the field has been a soccer/lacrosse field.

Metz excavated the stone mound in the early 1880s. The University of Cincinnati conducted a small series of test excavations in 1974 to ascertain whether they wanted to conduct an archaeological field school at the site. Their test pits did not uncover any features and they chose another site.

The 1995 CMNH investigations found an abundance of both unburned and fire cracked rock in the plowed up field, and encountered at least three intact cultural features during test unit excavations. The 1995 CMNH surface collection and Test Unit 1 produced human skeletal fragments.

The 1997-98 shovel testing recovered chert flakes and fire cracked rock. The extreme northern end of the field produced the most positive shovel tests, while the southern quadrant only produced one flake and several burned limestone fragments.

The following Distributional Analysis is based on the 1995 and 1997-98 investigations. They are then compared with the descriptions of Metz's 1883 excavations (Starr 1960).

¹ Starr, S.F.
1960 *The Archaeology of Hamilton County, Ohio*. The Journal of the Cincinnati Museum of Natural History.
Natural & Ethical Environmental Solutions, LLC
4670 Imperial Drive
Liberty Township, Ohio 45011

Distribution Analysis

1995 Controlled Surface Collection

CMNH personnel conducted the 1995 controlled surface collection under good field conditions. The field had been disked and surface visibility was excellent. Figures 7 through 11 illustrate the distributional analysis of various types of artifacts (Bone, Lithics, Pottery, Fire Cracked Rock, and Limestone). Each will be discussed briefly regarding densities and distribution.

Bone: The distribution of bone across the collected part of the site presents an interesting pattern. All the human bone is concentrated near the E-W '0' line (shown in bold on Figure 7). As will be seen below, this also corresponds with the heaviest concentrations of limestone and fire cracked rock. A test unit placed in this vicinity found human skeletal material below the plowzone, although in apparently disturbed context. This area around the E-W '0' line and between South 20 and North 20 probably overlaps with some portion of the original location of the Edwards stone mound that was excavated by Metz in 1883. Discussed in the Background Section of this report, that excavation reported a mound base 90 ft in diameter (27 meters). This would fit well within the grid coordinates listed above.

The distribution of animal bone fragments presents a very different distribution pattern. As seen on Figure 7, the animal bone is spread over much of the northwest quadrant of the grid system. One concentration corresponds with the distribution of human bone and the probable location of the mound (Figure 7). Starr's (1960) description of Metz' excavation of the mound mentions the presence of large amounts of animal bone in the mound fill (see transcription above).

A second, heavy concentration of animal bone is seen in the northwest quadrant (Figure 7). The second excavation unit was placed in this vicinity. That unit found evidence of a subplowzone feature. The dense concentration of bone in that area also corresponds with a rise in fcr counts and a small rise in lithic artifact quantities. This portion of the site probably represents a domestic/activity area with subsurface cultural features.

Lithics: Figure 8 reflects the distribution of lithic artifacts from the surface collection. As mentioned above, the pottery distribution matches that of the animal bone. Those squares also produced fairly large numbers of lithic artifacts as well.

The distribution of lithic artifacts probably reflects the habitation portion of the site. Large concentrations are seen in the northwest quadrant of the surface collection. The concentrations drop off dramatically toward the south and eastern parts of the collection area. One exception is the grid square below the site datum that also contained pottery and animal bone (Figures 7, 8, and 9). That square had 21 lithic artifacts while surrounding squares had much fewer. A feature probably has been plowed up in that vicinity.

Pottery: Figure 9 illustrates the distribution of prehistoric pottery sherds across the surface collection area. As seen with the lithic artifact distribution, most of the pottery is concentrated in the northwest portion of the surface collection grid. Larger numbers in individual blocks may represent plowed up features. The pottery concentration is very low in the vicinity of the proposed mound location. Starr's reporting of Metz' excavations did not report pottery from the mound context. This corresponds well with the other information from that report. The pottery concentrations indicate that the densest part of the site is in the northern part of the soccer field, as also indicated by the distribution of the other artifact types.

Fire Cracked Rock: The distribution of fire cracked rock (FCR) across the surface collection grids closely resembles the lithic and pottery distribution (Figure 10). In comparing Figure 10 with Figures 8 and 9, both the lithic and pottery artifacts and the FCR are much denser in the northwest quadrant. The presence of such large amounts of burned rock may indicate that many features have already been plowed up at the site. The large amount is also indicative of the high density of features that must exist below the plowzone.

The quantities of FCR also fall very quickly south and east of the site datum area. The exception appears to be below the site datum on Figure 10, where some numbers in the 30-40 range appear. This area may represent a separate, smaller concentration of features than in the northwest.

Limestone: A large concentration of unburned limestone may be seen in the central part of the surface collection grid, near the E-W '0' line (Figure 11). This concentration corresponds well with the location of the human skeletal remains seen on Figure 7. The Edwards Stone Mound reportedly contained large quantities of limestone, both creek and upland limestone slabs. Starr (1960) does not report what Metz did with the limestone that he excavated from the mound. It is apparent that a large quantity remained in the field.

Smaller concentrations are seen in the northwest quadrant. These may represent scatter from the mound excavations, or may have been associated with other features.

1997-98 Shovel Testing

The 1997 shovel testing at Riverside Park was conducted in the southeast quadrant of the surface collection area. The CMNH project did not investigate this section in 1995. The shovel testing found few artifacts during the testing. The recovered artifacts consist of two chert flakes, seven fragments of FCR, and three unburned limestone fragments. Only one item, a fragment of limestone, was recovered from beneath the plowzone (grid square 10S 30E).

The lower density of artifacts from the 1997 shovel testing corresponds well with the lower levels of artifacts found in the southwestern and northeastern quadrants during the 1995 surface collection. The denser part of the site appears to be to the northwest.

The 1998 shovel testing was conducted along the northern end of the park, just south of a parking lot (Figure 4 and 6). This shovel testing recovered eight chert flakes, one unburned limestone fragment, and six FCR fragments. The higher number of chert flakes may indicate that the archaeological site continues northward, perhaps under the parking lot. A local collector noted that he had collected artifacts from that area, when the parking lot was part of the field.

RECOMMENDATIONS

The long history of archaeological investigations at the Edwards/Perin Village sites clearly illustrates the significance of the site. The information provided by those investigations has been synthesized in this report in an attempt to determine horizontal boundaries for the sites.

The mound may be confidently placed in the vicinity of grid coordinates W40-W80 and between S30 and N30. This allows for some leeway in several directions (Figure 12).

The Perin Village site appears concentrated to the north and northwest of the mound location, based on the surface collection distributions and the shovel testing results. The presence of both FCR and lithic artifacts both south and east of the site datum for over 110 meters south and 40 meters east, however, indicates that some level of prehistoric activity was also taking place in those areas. Plow scattering of materials would not cause that widespread of a distribution.

In summary, the heart of the site appears to be north of the site datum area, however, the entire field should be considered part of the Perin Village site. The most caution is advised for the mound area and for the northern half of the field. If any below-ground activity will take place in the northern half of the site, then the utmost caution should be taken, or archaeological investigations should take place prior to any digging. If any work will take place in the southern half of the site, then monitoring of the activity could suffice to check for the presence of significant archaeological features.

Any proposed development in Riverside Park will be evaluated using the Anderson Park District Preservation Plan. Section .2 states that archaeological investigations will be requested prior to any disturbance below the depth of plowzone in either Riverside or Clear Creek Parks. In addition, the Anderson Park District has a statement on file that addresses accidental discovery of any plowzone/disturbed archaeological materials. Both the Preservation Plan and the accidental discovery document include coordination with the Ohio Historic Preservation Office and the Ohio Council for Native American Burial Rights, both located in Columbus, Ohio.

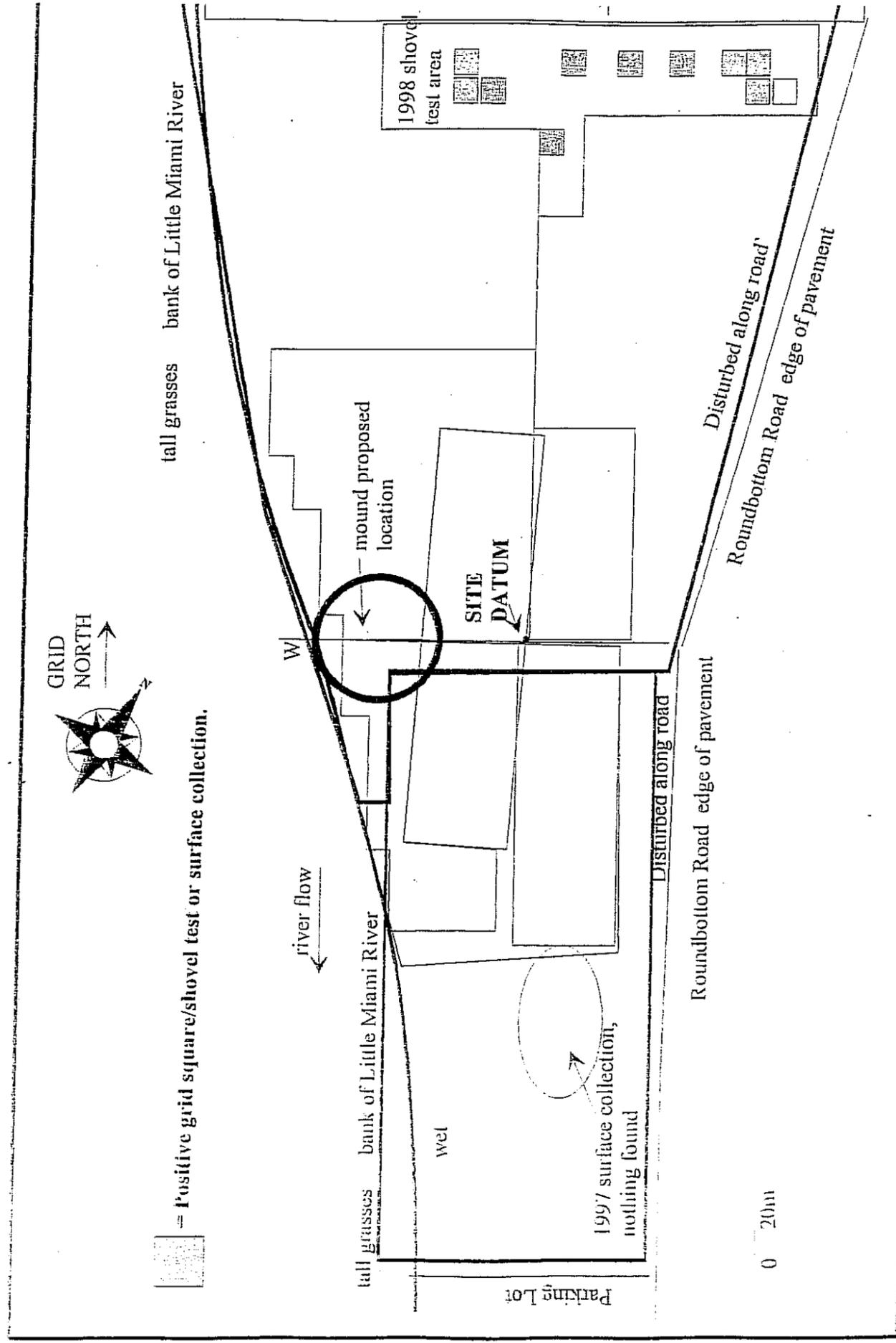


Figure 12. Proposed site boundaries.

APPENDIX 2 - PROJECT PHOTOS

PHOTOS: SITE 33HA128,
FEATURE IN BANK - June 2002

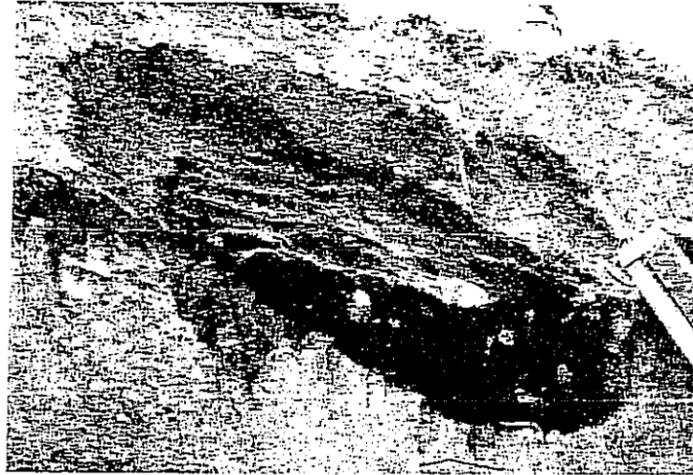


PHOTO: SITE 33HA128,
FEATURE IN BANK - June 2002



APPENDIX C

**VISTA INFORMATION SOLUTIONS, INC.
ENVIRONMENTAL RECORDS SEARCH**

SITE ASSESSMENT REPORT

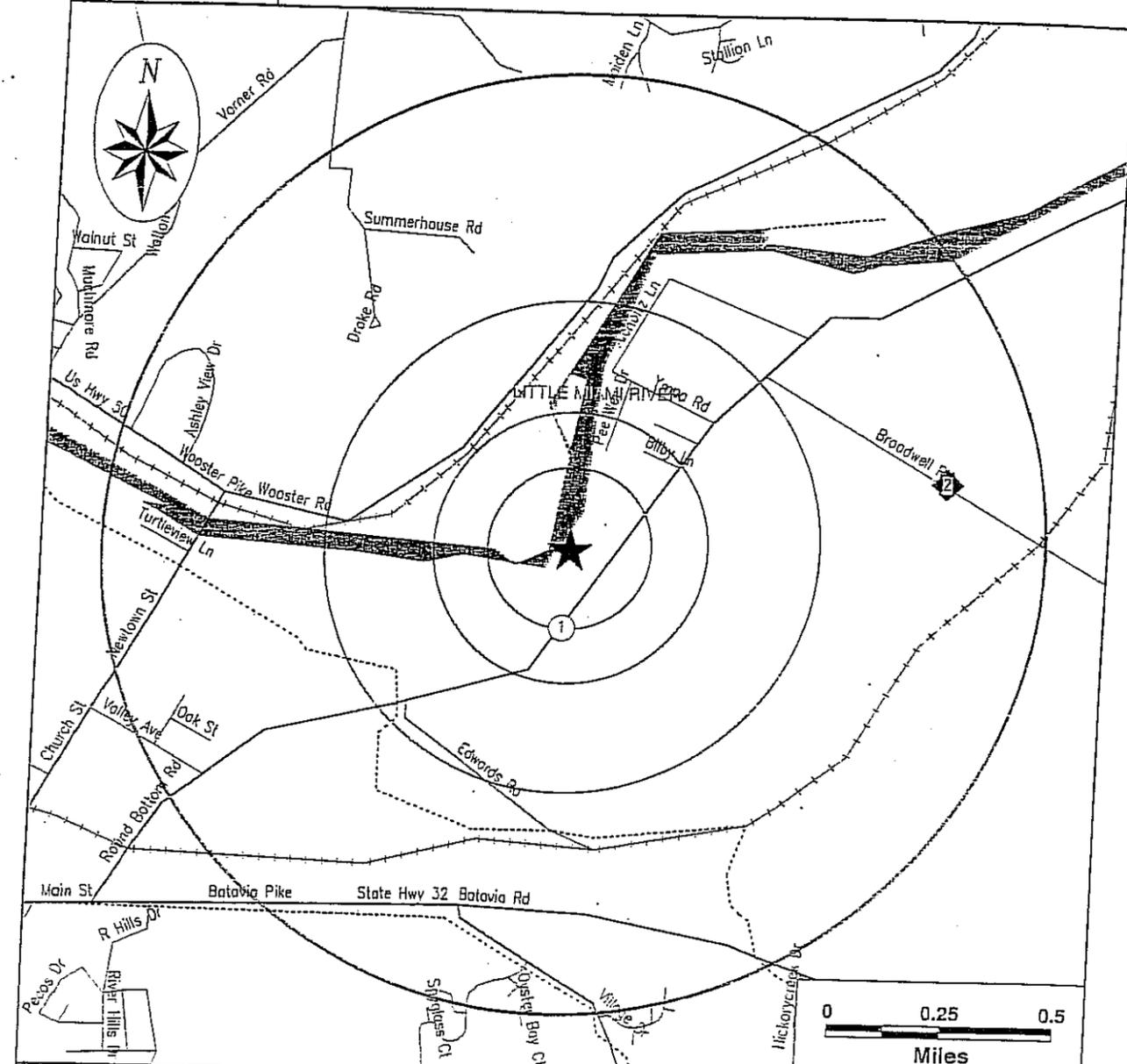
PROPERTY INFORMATION	CLIENT INFORMATION
Project Name/Ref #: Not Provided Anderson Township Latitude/Longitude: (39.136240, 84.337315)	Brady Turk GEC INC. 9357 INTERLINE AVE BATON ROUGE, LA 70809

Site Distribution Summary	within 1/8 mile	1/8 to 1/4 mile	1/4 to 1/2 mile	1/2 to 1 mile
Agency / Database - Type of Records				
A) Databases searched to 1 mile:				
US EPA NPL National Priority List	0	0	0	0
US EPA CORRACTS RCRA Corrective Actions (w/o TSD)	0	0	0	0
US EPA TSD RCRA Corrective Actions and CORRACTS associated TSD	0	0	0	1
B) Databases searched to 1/2 mile:				
STATE SCL State equivalent CERCLIS list	0	0	0	-
US EPA CERCLIS / NFRAP Sites currently or formerly under review by US EPA	0	0	0	-
US EPA TSD RCRA permitted treatment, storage, disposal facilities	0	0	0	-
STATE LUST Leaking Underground Storage Tanks	0	0	0	-
STATE SWLF Permitted as solid waste landfills, incinerators, or transfer stations	0	0	0	-
C) Databases searched to 1/4 mile:				
STATE UST Registered underground storage tanks	0	0	-	-
D) Databases searched to 1/8 mile:				
US EPA ERNS Emergency Response Notification System of spills	0	-	-	-
US EPA LG GEN RCRA registered large generators of hazardous waste	0	-	-	-
US EPA SM GEN RCRA registered small generators of hazardous waste	0	-	-	-
STATE SPILLS State spills list	1	-	-	-
US EPA NOTIFIERS RCRIS Notifiers	0	-	-	-



SITE ASSESSMENT REPORT

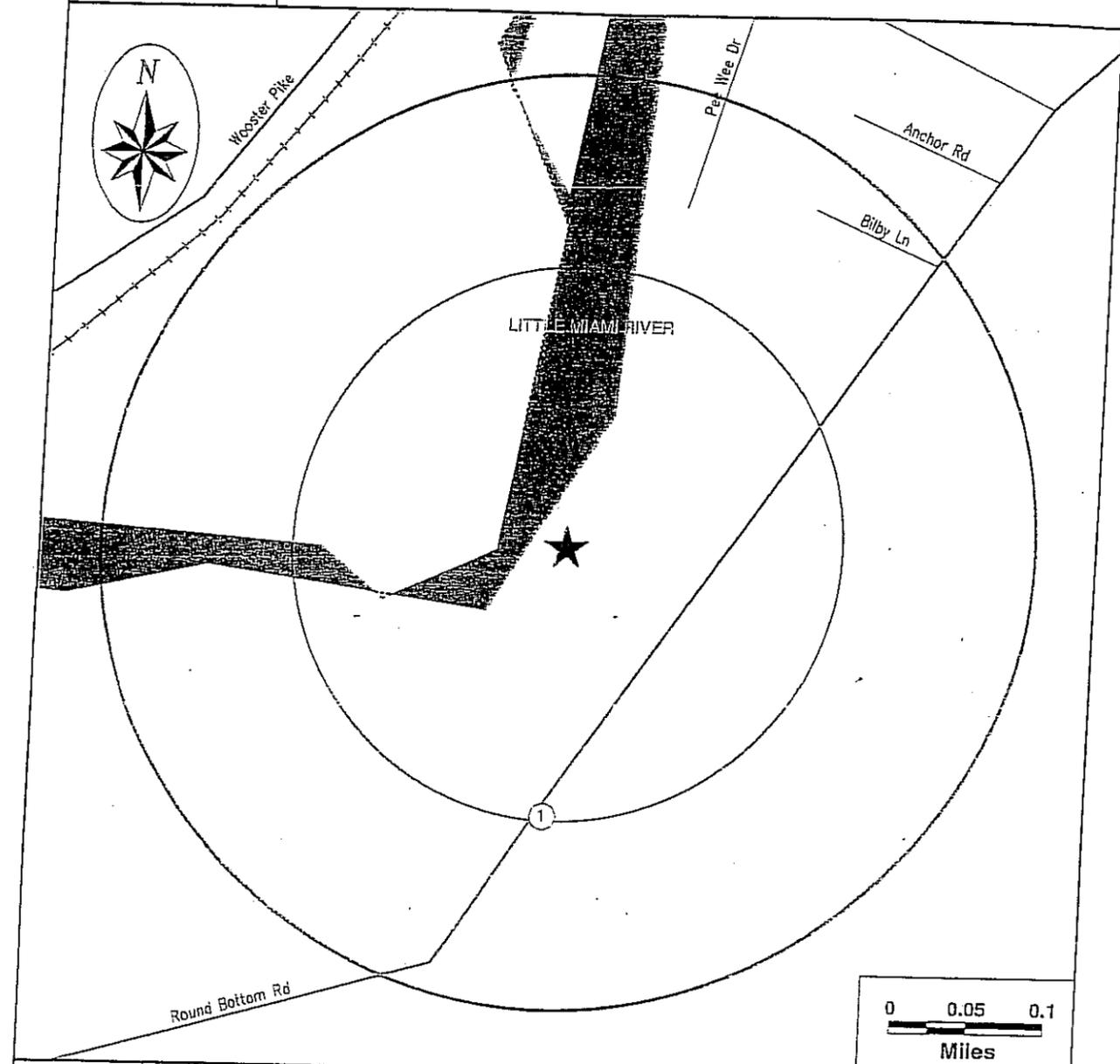
Map of Sites within 1 Mile



Subject Site	Category:	A	B	C	D
★	Databases Searched to:	1 mi.	1/2 mi.	1/4 mi.	1/8 mi.
	Single Sites	◆	■	△	○
	Multiple Sites	◆	■	△	○
		NPL, SPL, CORRACTS (TSD)	CERCLIS/ NFRAP, TSD, LUST, SWLF, SCL	UST	ERNS, GENERATORS
	Highways and Major Roads	—			
	Roads	—			
	Railroads	—			
	Rivers or Water Bodies	—			
	Utilities	—			

SITE ASSESSMENT REPORT

Map of Sites within 1/4 Mile

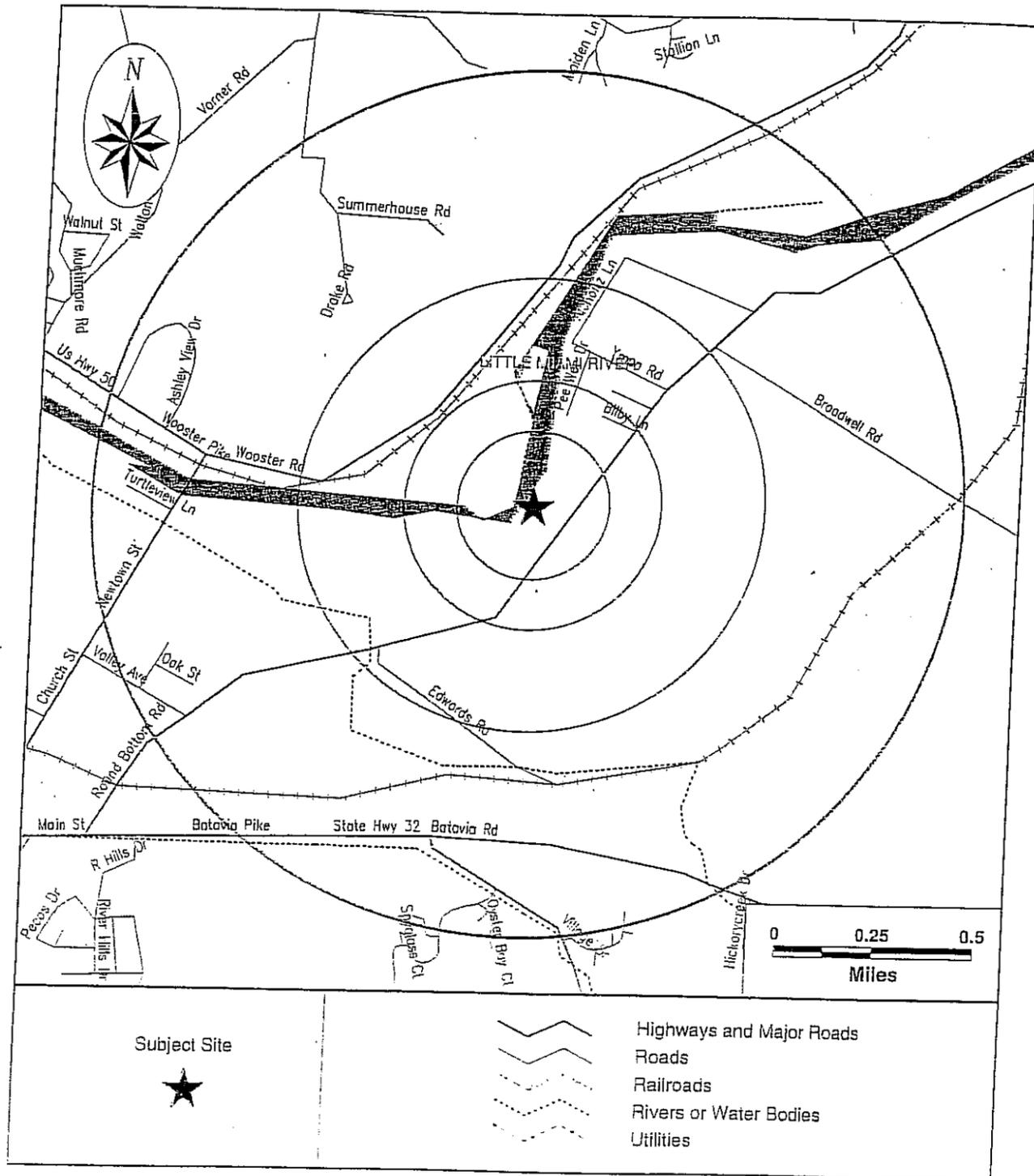


Subject Site	Category:	A	B	C	D
★	Databases Searched to:	1 mi.	1/2 mi.	1/4 mi.	1/8 mi.
	Single Sites	◆	◻	△	○
	Multiple Sites	◆	◻	△	○
		NPL, SPL, CORRACTS (TSD)	CERCLIS/ NFRAP, TSD, LUST, SWLF, SCL	UST	ERNS, GENERATORS
Highways and Major Roads Roads Railroads Rivers or Water Bodies Utilities					



SITE ASSESSMENT REPORT

Street Map



SITE ASSESSMENT REPORT

SITE INVENTORY

MAP ID	PROPERTY AND THE ADJACENT AREA (within 1/8 mile)	VISTA ID DISTANCE DIRECTION	A			B			C		D				
			NPL	CORRACTS	TSD CORRACTS	SCL	GERCLIS/NFRAP	TSD	LUST	SWLF	UST	ERNS	LG GEN	SM GEN	SPILLS
1	UNKNOWN 3910 ROUND BOTTOM RD CINCINNATI, OH 45244	3825993 0.12 MI S												X	

MAP ID	SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)	VISTA ID DISTANCE DIRECTION	A			B			C		D				
			NPL	CORRACTS	TSD CORRACTS	SCL	GERCLIS/NFRAP	TSD	LUST	SWLF	UST	ERNS	LG GEN	SM GEN	SPILLS
No Records Found															

MAP ID	SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)	VISTA ID DISTANCE DIRECTION	A			B			C		D				
			NPL	CORRACTS	TSD CORRACTS	SCL	GERCLIS/NFRAP	TSD	LUST	SWLF	UST	ERNS	LG GEN	SM GEN	SPILLS
No Records Found															

MAP ID	SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile)	VISTA ID DISTANCE DIRECTION	A			B			C		D				
			NPL	CORRACTS	TSD CORRACTS	SCL	GERCLIS/NFRAP	TSD	LUST	SWLF	UST	ERNS	LG GEN	SM GEN	SPILLS
2	BALL METAL FOOD CONTAINER CORP. 8200 BROADWELL RD. CINCINNATI, OH 45244	121259 0.79 MI E		X	*	*	*				*				



UNMAPPED SITES	VISTA ID	A			B			C			D			
		NPI	CORRACTS	TSD CORRACTS	SC	CERCH/MRRAP	TSD	UST	SWFT	UST	TRANS	US GEN	SM GEN	SPILLS
UNITED DAIRY FARMERS #083 3502 MAIN CHURCH NEWTOWN, OH 45244	66222213						X		X					
PENNZOIL C O CLOUGH PIKE MT CARMEL CINCINNATI, OH 45244	66224649						X							
FORMER PENNZOIL 482 OHIO PIKE SR 125 CINCINNATI, OH 45244	66224652						X							
THRIFTYWAY OLD US 74 MT CARMEL TOBASCO RD CINCINNATI, OH 45244	66222317						X							



SITE ASSESSMENT REPORT

DETAILS

PROPERTY AND THE ADJACENT AREA (within 1/8 mile)

VISTA Address:	UNKNOWN 3910 ROUND BOTTOM RD CINCINNATI, OH 45244	VISTA ID#:	3825993	Map ID: 1
		Distance/Direction:	0.12 MI / S	
		Plotted as:	Point	
State Spills / SRC# 425		EPA/Agency ID:	N/A	

Agency Address:	UNKNOWN 3910 ROUND BOTTOM RD NEWTOWN, OH 0
Facility Name:	UNKNOWN
Facility Address:	3910 ROUND BOTTOM RD
Facility City:	NEWTOWN
Facility State:	OH
Spill ID:	091292
Spill Date:	091292
Quantity Spilled:	000000000
Spilled Units:	TONS PER H
Spill Source:	UNKNOWN
Media Affected 1:	SOIL/LAND/SAND ---
Other Release:	SOIL/LAND/SAND
Fields Not Reported by the Source Agency for this Site:	Agency ID(1), Epa ID(1), Facility Zip(1), Facility County(1), Source Agency(1), Substance Class(1), Substance 1(1), Substance 2(1), Hazardous Substance(1), CAS ID(1), Quantity Recovered(1), Recovered Units(1), Media Affected 2(1), Media Affected 3(1), Air Release(1), Facility Release(1), Ground Release(1), Land Release(1), Water Release(1)

SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)

No Records Found

SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)

No Records Found



SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile)

VISTA Address:	BALL METAL FOOD CONTAINER CORP 8200 BROADWELL RD CINCINNATI, OH 45244	VISTA ID:	121269
		Distance/Direction:	0.79 MI / E
		Plotted as:	Point

Map ID
2

RCRA-TSD CORRACTS / SRC# 556		EPA ID:	OHD004253225
Agency Address:	MILTON CAN CO INC 8200 BROADWELL RD CINCINNATI, OH 45244		
EPA Handler ID:	OHD004253225		
Handler Name:	MILTON CAN CO INC		
Handler Address:	8200 BROADWELL RD CINCINNATI, OH 45244		
Land Type:	PRIVATE		
County:	HAMILTON		
Latitude:	3908290		
Longitude:	08419140		
Mailing Address:	8200 BROADWELL RD CINCINNATI, OH 45244 -		
Other/Secondary Identification:	05 31 0664		
TSD Date:	19580601		
Sequence No:	1		
Receipt Date:	19790101		
Source Description:	STATE INSPECTION		
Generator Regulatory Status:	RCRA REGULATED		
Generator Indicator:	LARGE QUANTITY GENERATOR		
Sequence No:	1		
Receipt Date:	19961028		
Source Description:	NOTIFICATION		
Generator Regulatory Status:	RCRA REGULATED		
Generator Indicator:	LARGE QUANTITY GENERATOR		
Owner/Operator Indicator:	PREVIOUS OWNER		
Owner/Operator Type:	PRIVATE		
Owner/Operator Name:	HEEKIN CAN DIV		
Phone:	(513) 474-3020		
Address:	8200 BROADWELL RD CINCINNATI OH 45244 1608		
Owner/Operator Indicator:	CURRENT OPERATOR		
Owner/Operator Type:	PRIVATE		
Owner/Operator Name:	HEEKIN CAN DIV		
Phone:	(513) 474-3020		
Address:	8200 BROADWELL RD CITY NOT REPORTED OH 99999		
Owner/Operator Indicator:	PREVIOUS OWNER		



SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile) CONT

Owner/Operator Type:	PRIVATE
Owner/Operator Name:	BALL
Phone:	(317) 747-6100
Address:	345 S HIGH ST MUNCIE IN 47305 2326
Owner/Operator Indicator:	CURRENT OWNER
Owner/Operator Type:	PRIVATE
Owner/Operator Name:	MILTON CAN
Phone:	(513) 388-2200
Address:	8200 BROADWELL RD CINCINNATI OH 45244 1608
SIC Sequence No:	0001
SIC Primary Indicator:	PRIMARY
SIC Code Source:	REPORTED BY FACILITY
SIC Code:	3411
Sic Code Description:	MANUFACTURING - METAL CANS
Notification Type:	PART A PERMIT
Contact Address:	8200 BROADWELL ROAD CINCINNATI, OH 45244 -
Contact Phone:	5134743020
Contact Title:	L CHIEF ENGINEER
Contact:	T WILKENING
Notification Type:	NOTIFICATION
Contact Address:	8200 BROADWELL RD CINCINNATI, OH 45244 -
Contact Phone:	5133882200
Contact Title:	MGR PLT ENG
Contact:	JERRY DINSER
Subject to Corrective Action:	YES
Large Quantity Generator:	YES
Permit Progress:	YES
Treatment:	YES
Area Sequence No:	1
Area Name:	ENTIRE FACILITY
Facility Wide:	YES
Regulated Unit:	NOT REPORTED
Event Sequence No:	1
Responsible Agency:	EPA
Event Date:	19890929
Correct Event Description:	RFA COMPLETED



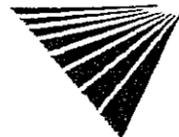
SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile) CONT

Event Sequence No:	1
Responsible Agency:	EPA
Event Date:	19890929
Correct Event Description:	DETERMINATION OF NEED FOR ARFI-RFI IS NECESSARY
Event Sequence No:	1
Responsible Agency:	EPA
Event Date:	19910927
Correct Event Description:	CA PRIORITIZATION-MEDIUM CAPRIORITY
Event Sequence No:	2
Responsible Agency:	EPA
Event Date:	19940331
Correct Event Description:	CA PRIORITIZATION-MEDIUM CAPRIORITY
Series Sequence No:	1
Series Name:	PART B W/D
Event Sequence No:	1
Event Date:	19820528
Responsible Agency:	EPA
Event Code:	OP010
Event Description:	PART B CALL-IN
Series Sequence No:	2
Series Name:	CL: T01
Event Sequence No:	2
Event Date:	19860514
Responsible Agency:	STATE
Event Code:	CL310
Event Description:	PLAN RECEIVED - CLOSURE
Event Sequence No:	1
Event Date:	19860626
Responsible Agency:	STATE
Event Code:	CL310
Event Description:	PLAN RECEIVED - CLOSURE
Event Sequence No:	1
Event Date:	19861022
Responsible Agency:	STATE
Event Code:	CL360MO
Event Description:	PLAN APPROVED - CLOSURE-PARTIAL CLOSURE
Event Sequence No:	2
Event Date:	19870313
Responsible Agency:	EPA
Event Code:	CL360MO
Event Description:	PLAN APPROVED - CLOSURE-PARTIAL CLOSURE
Unit Sequence No:	1
Unit Name:	S01
Detail Sequence No:	1
Effective Date:	19820528



SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile) - CONT.

Capacity:	.999 GALLONS
Total Units within Process Unit Group:	1
Process Code Type:	STORAGE
Process Code Description:	CONTAINER
Strange But True Flag:	NO
Subject To Inspection:	NO
Permit Progress:	NO
Permit Workload:	NO
Closure Workload:	NO
Post Closure Workload:	NO
Subject To Corrective-action:	NO
Corrective Action Workload:	NO
Legal Operating Status Code:	NRPF
Legal Operating Status Description:	NEVER REGULATED AS A TSD - PROTECTIVE FILER
Unit Sequence No:	2
Unit Name:	S01
Detail Sequence No:	1
Effective Date:	19821214
Capacity:	.999 GALLONS
Total Units within Process Unit Group:	1
Process Code Type:	STORAGE
Process Code Description:	CONTAINER
Strange But True Flag:	NO
Subject To Inspection:	NO
Permit Progress:	NO
Permit Workload:	NO
Closure Workload:	NO
Post Closure Workload:	NO
Subject To Corrective-action:	NO
Corrective Action Workload:	NO
Legal Operating Status Code:	NRPF
Legal Operating Status Description:	NEVER REGULATED AS A TSD - PROTECTIVE FILER
Unit Sequence No:	3
Unit Name:	S02
Detail Sequence No:	1
Effective Date:	19820528
Capacity:	.999 GALLONS
Total Units within Process Unit Group:	1
Process Code Type:	STORAGE
Process Code Description:	TANK STORAGE
Strange But True Flag:	NO
Subject To Inspection:	NO
Permit Progress:	NO
Permit Workload:	NO



* VISTA address includes enhanced city and ZIP.

For more information call VISTA Information Solutions, Inc. at 1 - 800 - 767 - 0403.

Report ID: 494004901

Date of Report: January 9, 2002

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SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile) CONT.

Closure Workload:	NO
Post Closure Workload:	NO
Subject To Corrective-action:	NO
Corrective Action Workload:	NO
Legal Operating Status Code:	NRPF
Legal Operating Status Description:	NEVER REGULATED AS A TSD - PROTECTIVE FILER
Unit Sequence No:	4
Unit Name:	S02
Detail Sequence No:	1
Effective Date:	19821214
Capacity:	.999 GALLONS
Total Units within Process Unit Group:	1
Process Code Type:	STORAGE
Process Code Description:	TANK STORAGE
Strange But True Flag:	NO
Subject To Inspection:	NO
Permit Progress:	NO
Permit Workload:	NO
Closure Workload:	NO
Post Closure Workload:	NO
Subject To Corrective-action:	NO
Corrective Action Workload:	NO
Legal Operating Status Code:	NRPF
Legal Operating Status Description:	NEVER REGULATED AS A TSD - PROTECTIVE FILER
Unit Sequence No:	5
Unit Name:	T01
Detail Sequence No:	1
Effective Date:	19820528
Capacity:	.999 GALLONS PER DAY
Total Units within Process Unit Group:	1
Process Code Type:	TREATMENT
Process Code Description:	TANK TREATMENT
Strange But True Flag:	NO
Subject To Inspection:	NO
Permit Progress:	NO
Permit Workload:	NO
Closure Workload:	NO
Post Closure Workload:	NO
Subject To Corrective-action:	NO
Corrective Action Workload:	NO
Legal Operating Status Code:	NRPF
Legal Operating Status Description:	NEVER REGULATED AS A TSD - PROTECTIVE FILER
Unit Sequence No:	6
Unit Name:	T01:TRMT PROCESS



SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile) CONT.

Detail Sequence No:	1
Effective Date:	19860514
Capacity:	67000 GALLONS PER DAY
Total Units within Process Unit Group:	1
Process Code Type:	TREATMENT
Process Code Description:	TANK TREATMENT
Strange But True Flag:	NO
Subject To Inspection:	YES
Permit Progress:	YES
Permit Workload:	NO
Closure Workload:	YES
Post Closure Workload:	YES
Subject To Corrective-action:	YES
Corrective Action Workload:	YES
Legal Operating Status Code:	ISIN
Legal Operating Status Description:	INTERIM STATUS - INACTIVE/CLOSING, BUT NOT YET RCRA CLOSED
Detail Sequence No:	2
Effective Date:	19880516
Capacity:	67000 GALLONS PER DAY
Total Units within Process Unit Group:	1
Process Code Type:	TREATMENT
Process Code Description:	TANK TREATMENT
Strange But True Flag:	NO
Subject To Inspection:	NO
Permit Progress:	YES
Permit Workload:	NO
Closure Workload:	NO
Post Closure Workload:	NO
Subject To Corrective-action:	YES
Corrective Action Workload:	NO
Legal Operating Status Code:	ISCC
Legal Operating Status Description:	INTERIM STATUS - CLEAN CLOSED
Evaluation Date:	19850514
Evaluation Type:	CEI - COMPLIANCE EVALUATION INSPECTION ON-SITE
Lead Agency:	STATE
Evaluation Date:	19970318
Evaluation Type:	CEI - COMPLIANCE EVALUATION INSPECTION ON-SITE
Lead Agency:	STATE
Evaluation Date:	19860306
Evaluation Type:	CEI - COMPLIANCE EVALUATION INSPECTION ON-SITE
Lead Agency:	STATE
Evaluation Date:	19860415
Evaluation Type:	FRR - FINANCIAL RECORD REVIEW
Lead Agency:	STATE



SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile) CONT.

Evaluation Date:	19860724
Evaluation Type:	NRR - NON-FINANCIAL RECORD REVIEW
Lead Agency:	STATE
Evaluation Date:	19870220
Evaluation Type:	CEI - COMPLIANCE EVALUATION INSPECTION ON-SITE
Lead Agency:	STATE
Evaluation Date:	19880616
Evaluation Type:	CEI - COMPLIANCE EVALUATION INSPECTION ON-SITE
Lead Agency:	STATE
Evaluation Date:	19880916
Evaluation Type:	CEI - COMPLIANCE EVALUATION INSPECTION ON-SITE
Lead Agency:	STATE
Evaluation Date:	19880916
Evaluation Type:	OTH - OTHER EVALUATION
Lead Agency:	STATE
Evaluation Date:	19890106
Evaluation Type:	FRR - FINANCIAL RECORD REVIEW
Lead Agency:	STATE
Evaluation Date:	19891030
Evaluation Type:	OTH - OTHER EVALUATION
Lead Agency:	STATE
Evaluation Date:	19900731
Evaluation Type:	CEI - COMPLIANCE EVALUATION INSPECTION ON-SITE
Lead Agency:	STATE
Evaluation Date:	19900731
Evaluation Type:	OTH - OTHER EVALUATION
Lead Agency:	STATE
Evaluation Date:	19911017
Evaluation Type:	OTH - OTHER EVALUATION
Lead Agency:	STATE
Enforcement Sequence No:	001
Enforcement Date:	19860724
Lead Agency:	STATE
Enforcement Type:	120 - WRITTEN INFORMAL
Enforcement Sequence No:	002
Enforcement Date:	19880620
Lead Agency:	STATE
Enforcement Type:	120 - WRITTEN INFORMAL
Enforcement Sequence No:	003
Enforcement Date:	19880919
Lead Agency:	STATE
Enforcement Type:	120 - WRITTEN INFORMAL
Enforcement Sequence No:	004
Enforcement Date:	19900914
Lead Agency:	STATE



SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile) CONT.

Enforcement Type:	120 - WRITTEN INFORMAL
Enforcement Sequence No:	005
Enforcement Date:	19900806
Lead Agency:	STATE
Enforcement Type:	120 - WRITTEN INFORMAL
Enforcement Sequence No:	006
Enforcement Date:	19911028
Lead Agency:	STATE
Enforcement Type:	120 - WRITTEN INFORMAL
Enforcement Sequence No:	007
Enforcement Date:	19921021
Lead Agency:	STATE
Enforcement Type:	310 - FINAL 300B(A) COMPLIANCE ORDER
Source:	SEP
Type:	PPE - POLLUTION PREVENTION
Source:	PENALTY
Type:	PA - PROPOSED MONITARY PENALTY
Violation Sequence No:	0001
Determining Agency:	STATE
Responsible Agency:	STATE
Determined Date:	19860724
Compliance Date:	19861022
Area Of Violation:	GER - GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Violation Sequence No:	0002
Determining Agency:	STATE
Responsible Agency:	STATE
Determined Date:	19880616
Compliance Date:	19881012
Area Of Violation:	GER - GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Violation Sequence No:	0003
Determining Agency:	STATE
Responsible Agency:	STATE
Determined Date:	19880916
Compliance Date:	19881012
Area Of Violation:	GER - GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Violation Sequence No:	0004
Determining Agency:	STATE
Responsible Agency:	STATE
Determined Date:	19900731
Compliance Date:	19911028
Area Of Violation:	GER - GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Violation Sequence No:	0005
Determining Agency:	STATE
Responsible Agency:	STATE
Determined Date:	19911028



SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile) CONT.

Compliance Date:	19911129
Citation:	3745-65-52(A),-53(B)
Area Of Violation:	GPT - GENERATOR-PRE-TRANSPORT REQUIREMENTS
Fields Not Reported by the Source	(4), Capacity Type(7), Citation(4)
Agency for this Site:	



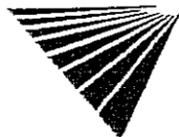
UNMAPPED SITES

VISTA Address:	UNITED DAIRY FARMERS #083 3502 MAIN CHURCH NEWTOWN, OH 45244	VISTA ID#:	66222213
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STATE LUST - State Leaking Underground Storage Tank / SRC# 428		EPA/Agency ID:	N/A
Agency Address:	SAME AS ABOVE		
Facility ID #:	310588		
Facility Name:	UNITED DAIRY FARMERS #083		
Facility Address:	3502 MAIN CHURCH NEWTOWN, OH 45244 - HAMILTON		
Facility County:	HAMILTON		
Release ID #:	3100588-N00001		
Former LUSTMAN Release ID #:	318016500.0		
LUST Trust Fund Status:	6 CLOSURE OF REGULATED UST		
Facility Status:	ACTIVE		
Release Status:	A POSSIBLE INCIDENT IS REPORTED		
Owner Name:	LARRY WHITAKER		
Owner Address:	3955 MONTGOMERY RD ATTN: SANDY CINCINNATI, OH 45212		
Discovery Date:	NOT REPORTED		
Media Affected:	NOT REPORTED		
Substance:	UNKNOWN		

VISTA Address:	PENNZOIL C O CLOUGH PIKE MT CARMEL CINCINNATI, OH 45244	VISTA ID#:	66224649
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STATE LUST - State Leaking Underground Storage Tank / SRC# 428		EPA/Agency ID:	N/A
Agency Address:	PENNZOIL C O CLOUGH PIKE MT CARMEL MT CARMEL, OH 45244		
Facility ID #:	DRG1310021		
Facility Name:	PENNZOIL		
Facility Address:	C O CLOUGH PIKE MT CARMEL MT CARMEL, OH 45244 - CLERMONT		
Facility County:	CLERMONT		
Release ID #:	13010021-N00001		
Former LUSTMAN Release ID #:	131149800.0		
LUST Trust Fund Status:	1 SUS/CON FROM REGULATED UST		
Facility Status:	ACTIVE		
Release Status:	A POSSIBLE INCIDENT IS REPORTED		
Owner Name:	PENNZOIL		
Owner Address:	C/O CLOUGH PIKE MT CARMEL MT CARMEL, OH 45244		
Discovery Date:	NOT REPORTED		
Media Affected:	NOT REPORTED		



UNMAPPED SITES CONT.

Substance: UNKNOWN

VISTA Address:	FORMER PENNZOIL 482 OHIO PIKE SR 125 CINCINNATI, OH 45244	VISTA ID#:	66224652
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STATE LUST - State Leaking Underground Storage Tank / SRC# 428		EPA/Agency ID:	N/A
Agency Address:	FORMER PENNZOIL 482 OHIO PIKE SR 125 UNION TWP, OH 45244		
Facility ID #:	DRG1310036		
Facility Name:	FORMER PENNZOIL		
Facility Address:	482 OHIO PIKE SR 125 UNION TWP, OH 45244 - CLERMONT		
Facility County:	CLERMONT		
Release ID #:	13010036-N00001		
Former LUSTMAN Release ID #:	134055900.0		
LUST Trust Fund Status:	1 SUS/CON FROM REGULATED UST		
Facility Status:	INACTIVE		
Release Status:	NO FURTHER ACTION		
Owner Name:	FORMER PENNZOIL		
Owner Address:	482 OHIO PIKE (SR 125) UNION TWP, OH 45244		
Discovery Date:	NOT REPORTED		
Media Affected:	NOT REPORTED		
Substance:	UNKNOWN		

VISTA Address:	THRIFTYWAY OLD US 74 MT CARMEL TOBASCOR RD CINCINNATI, OH 45244	VISTA ID#:	66222317
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STATE LUST - State Leaking Underground Storage Tank / SRC# 428		EPA/Agency ID:	N/A
Agency Address:	THRIFTYWAY OLD US 74 MT CARMEL TOBASCOR RD MT CARMEL, OH 45244		
Facility ID #:	132101		
Facility Name:	THRIFTYWAY		
Facility Address:	OLD US 74 MT CARMEL TOBASCOR RD MT CARMEL, OH 45244 - CLERMONT		
Facility County:	CLERMONT		
Release ID #:	13002101-N00001		
Former LUSTMAN Release ID #:	136115700.0		
LUST Trust Fund Status:	6 CLOSURE OF REGULATED UST		
Facility Status:	INACTIVE		
Release Status:	NO FURTHER ACTION		
Owner Name:	WINN DIXIE		
Owner Address:	720 LOCUST LN LOUISVILLE, KY 40217		



UNMAPPED-SITES CONT

Discovery Date:	NOT REPORTED
Media Affected:	NOT REPORTED
Substance:	UNKNOWN

SITE ASSESSMENT REPORT

DESCRIPTION OF DATABASES SEARCHED

A) DATABASES SEARCHED TO 1 MILE

NPL - VISTA conducts a database search to identify all sites within 1 mile of your property.
SRC#: 19 The agency release date for National Priorities List was October, 2001.

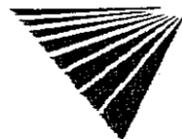
The NPL Report is the US EPA's registry of the nation's worst uncontrolled or abandoned hazardous waste sites. NPL sites are targeted for possible long-term remedial action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980.

CORRACTS VISTA conducts a database search to identify all sites within 1 mile of your property.
SRC#: 14 The agency release date for RCRIS Corrective Action Sites was August, 2001.

The CORRACTS database contains information concerning RCRA facilities that have conducted, or are currently conducting a corrective action. A Corrective Action Order is issued pursuant to RCRA Section 3008 (h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility. Corrective actions may also be imposed as a requirement of receiving and maintaining a TSDF permit.

RCRIS-TSDC VISTA conducts a database search to identify all sites within 1 mile of your property.
SRC#: 556 The agency release date for RCRIS TSDs Subject to Corrective Action was August, 2001.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA TSDCs are treatment, storage and/or disposal facilities that are subject to corrective action under RCRA.



B) DATABASES SEARCHED TO 1/2 MILE

CERCLIS
SRC#: 17 VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Comprehensive Environmental Response, Compensation and Liability Information Sys was October, 2001.

The CERCLIS database is a comprehensive listing of known or suspected uncontrolled or abandoned hazardous waste sites. These sites have either been investigated, or are currently under investigation by the U.S. EPA for the release, or threatened release of hazardous substances. Once a site is placed in CERCLIS, it may be subjected to several levels of review and evaluation, and ultimately placed on the National Priorities List (NPL).

NFRAP
SRC#: 18 VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for No Further Remedial Action Planned was October, 2001.

The No Further Remedial Action Planned Report (NFRAP), also known as the CERCLIS Archive, contains information pertaining to sites which have been removed from the U.S. EPA's CERCLIS database. NFRAP sites may be sites where, following an initial investigation, either no contamination was found, contamination was removed quickly without need for the site to be placed on the NPL, or the contamination was not serious enough to require federal Superfund action or NPL consideration.

SCL
SRC#: 423 VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Master Sites List was March, 1999.

This historical database is provided by the Ohio Environmental Protection Agency. The agency may be contacted at: 614-644-2924.

RCRIS-TSD
SRC#: 12 VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for RCRIS Treatment, Storage and Disposal Facilities was August, 2001.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA TSDs are facilities which treat, store and/or dispose of hazardous waste.

SWLF
SRC#: 23 VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for USGS Solid Waste Landfills was December, 1991.

This database is provided by the United States Geological Survey. The agency may be contacted at: 703-648-5613.



SWLF VISTA conducts a database search to identify all sites within 1/2 mile of your property.
SRC#: 424 The agency release date for Closed Solid Waste Landfills was March, 1995.

This database is provided by the Ohio Environmental Protection Agency (One time only list).

SWLF VISTA conducts a database search to identify all sites within 1/2 mile of your property.
SRC#: 426 The agency release date for Licensed Solid Waste Facilities was November, 2001.

This database is provided by the Ohio Environmental Protection Agency, Division of Solid Infectious Waste. The agency may be contacted at: 614-728-5326.

SWLF VISTA conducts a database search to identify all sites within 1/2 mile of your property.
SRC#: 427 The agency release date for Delisted and Closed Landfills was May, 2001.

This database is provided by the Ohio Environmental Protection Agency, Division of Solid Infectious Waste.

LUST VISTA conducts a database search to identify all sites within 1/2 mile of your property.
SRC#: 428 The agency release date for Leaking Underground Storage Tanks was November, 2001.

This database is provided by the Department of Commerce, Division of State Fire Marshall. The agency may be contacted at: 614-752-7926.

C) DATABASES SEARCHED TO 1/4 MILE

UST VISTA conducts a database search to identify all sites within 1/4 mile of your property.
SRC#: 429 The agency release date for Underground Storage Tanks was November, 2001.

This database is provided by the Department of Commerce, Division of State Fire Marshall. The agency may be contacted at: 614-752-7926. Be advised that some states do not require registration of heating oil tanks, especially those used for residential purposes.

D) DATABASES SEARCHED TO 1/8 MILE

ERNS VISTA conducts a database search to identify all sites within 1/8 mile of your property.
SRC#: 8 The agency release date for Emergency Response Notification System was December, 2000.

ERNS is a national computer database system that is used to store information on the sudden and/or accidental release of hazardous substances, including petroleum, into the environment. The ERNS reporting system contains preliminary information on specific releases, including the spill location, the substance released, and the responsible party.



RCRA-LQG
SRC#: 16

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for RCRIS Large Quantity Generators was August, 2001.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Large Generators are facilities which generate at least 1000 kg./month of non-acutely hazardous waste (or 1 kg./month of acutely hazardous waste).

RCRIS-SQG
SRC#: 15

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for RCRIS Small Quantity Generators was August, 2001.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Small Quantity Generators are facilities which generate less than 1000 kg./month of non-acutely hazardous waste.

RCRIS-NOTI
SRC#: 1298

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for RCRIS Notifiers was August, 2001.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRIS Notifiers contains information on formerly regulated RCRA sites with more complete historical information.

SPILLS
SRC#: 425

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for Spills was April, 1999.

This database is provided by the Ohio Environmental Protection Agency. The agency may be contacted at: 614-644-2084.

End of Report



APPENDIX D
MAILING LIST

Regional Director, HHS/OS/RO/R-V
Dept of Health & Human Services
733 N. Michigan Ave. - Suite 1300
Chicago, IL 60601

Regional Administrator,
U.S. Environmental Protection Agency - Reg V
NEPA - Federal Facilities
77 West Jackson Blvd
Chicago, IL 60604

Regional Director,
National Park Service
Department of the Interior
1709 Jackson Street
Omaha, NE 68102

Regional Director,
USFWS
Department of the Interior
Federal Building
St. Paul, MN 55111

Regional Administrator - Region V,
Federal Highway Administration
NEPA - Federal Facilities
19900 Governors Hwy, Suite 301
Olympia Fields, IL 60461-1021

Regional Officer,
Office of Env. & Policy Compliance
Customs House, Room 217
200 Chestnut Street Philadelphia, PA
19106

Regional Administrator,
Dept. of Housing & Urban Development
77 West Jackson Blvd, Room 2401
Chicago, IL 60604-3507

Regional Director,
Federal Energy Regulatory Commission
230 S. Dearborn, Room 3130
Chicago, IL 60604

Regional Forester - Region 9,
U.S. Dept. of Agriculture
310 W. Wisconsin Ave. - Room 500
Milwaukee, WI 53203

Regional Director (R5-RD) - Region 5,
Federal Emergency Management Agency
536 South Clark St - 6th Floor
Chicago, IL 60605

Director,
Office of NEPA Assistance
Department of Energy
100 Independence Ave SW, Rm 3G080
Washington, D.C. 20585

Director,
Office of Environment and Energy
Dept. of HUD
451 7th Street SW, Room 7240
Washington, D.C. 20410

Executive Director,
Advisory Council on Historic Preservation
Old Post Office Bldg.
1100 Pennsylvania Ave NW - Suite 809
Washington, D.C. 20004

Office of Environmental Affairs, Chief
12201 Sunrise Valley Dr. MS423
Reston, VA 20192

U.S. Fish & Wildlife Service
C/O Dr. Mary Knapp - NEPA Reviews
6950 Americana Prkwy - Suite H
Reynoldsburg, OH 43068

Division Director,
Federal Emergency Management Agency
500 C Streets SW, Room 714
Washington, D.C. 20472

Administrator,
NOAA
Department of Commerce
14th & Constitution Ave. NW Rm 6013
Washington, D.C. 20230

Chief Hydrologist,
U.S. Geological Survey
12201 Sunrise Valley Dr. MS423
Reston, VA 20192

Mr. Kenneth Holt,
Centers for Disease Control & Prevention
Nat. Cntr for Env. Hlth (MS F-29)
4770 Bufford Highway, N.E.
Atlanta, GA 30341-3724

Chief,
Division of Forestry
Department of Natural Resources
Fountain Square, Building C-3
Columbus, OH 43224

State Conservationist,
Natural Resources & Conservation Service
U.S. Department of Agriculture
200 North High Street, Room 522
Columbus, OH 43215

Ohio Div. Engineer, Highway Administra'tn
Ohio Department of Transportation
23 South Front Street
Columbus, OH 43216-0899

Director,
Ohio Department of Natural Resources
Fountain Square, Building D-1
Columbus, OH 43216-0899

Ms. Rachel Tooker
State Historic Preservation Officer
Ohio Historic Preservation Office
567 East Hudson Street
Columbus, OH 43211-1030

Honorable Bob Taft,
Governor of Ohio State House, 30th Floor
77 South High Street
Columbus, OH 43215-6117

Director, Off. Managm'nt & Budget
James H. Rhodes State Office Tower
30 East Broad St., 34th Floor
Columbus, OH 43266-0411

Chief, Division of Wildlife,
Department of Natural Resources
Fountain Square
1840 Belcher Drive
Columbus, OH 43244

Director,
Ohio Environmental Protection Agency
1800 Watermark Drive
Columbus, OH 43166-0149

Honorable George Voinovich,
United States Senate
36 East 7th Street, Room 2615
Cincinnati, OH 45202

Honorable Mike DeWine,
United States Senate
312 S. Walnut St. - Suite 2030
Cincinnati, OH 45202

Honorable Rob Portman
United States House of Representatives
8044 Montgomery Road
Room 540
Cincinnati, OH 45236

Mr. Ross Carlson, Field Environment Officer
HUD - Ohio State Office
200 North High Street
Columbus, OH 43215-2499

Honorable Steve Chabot
United States House of Representatives
3003 Carew Tower
441 Vine Street
Cincinnati, OH 45202

Mariemont Library
ATTN: Reference Department
3810 Pocahontas Avenue
Cincinnati, OH 45227

Mr. Jack Sutton, Director
Hamilton County Park District
10245 Winton Road
Cincinnati, OH 45231

Mr. James Lee Edwards, Governor
Absentee-Shawnee Tribe of Oklahoma
2025 S. Gordon Cooper Drive
Shawnee, Oklahoma 74801-9381

Mr. Charles Enyart, Chief
Eastern Shawnee Tribe of Oklahoma
P.O. Box 350
Seneca, MO 64865

Director, Indian Valley Golf Course
3950 Newtown Road
Cincinnati, OH 45244

Mr. Ron Sparkman, Chairman
Shawnee Tribe
P. O. Box 189
Miami, OK 74355-0189

Mr. Floyd Leonard, Chief
Miami Tribe of Oklahoma
P. O. Box 1326
Miami, OK 74355-1326

Mr. Chad Smith, Principal Chief
Cherokee Nation
P.O. Box 948
Tahlequah, OK 74465

Mr. Leon D. Jones, Principal Chief
Eastern Band of Cherokee Indians
P.O. Box 455
Cherokee, NC 28719

Mr. James Bird (THPO)
Eastern Band of Cherokee Indians
P.O. Box 455
Cherokee, NC 28719

Mr. Gregory Pyle, Chief
Choctaw Nation of Oklahoma
P.O. Drawer 1210, 16th and Locust St.
Durant, Oklahoma 74702

Mr. Terry Cole
Choctaw Nation of Oklahoma
P.O. Drawer 1210, 16th and Locust St.
Durant, Oklahoma 74702

Mr. Troy Euton, Planning Director
Anderson Township Park District
8249 Clough Pike
Cincinnati, OH 45244

Mr. Bob Gable
Ohio Department of Natural Resources
Division of Natural Area & Preserves
1889 Fountain Square Court
Columbus, OH 43224

Mr. Dan Osterfel
Division of Surface Water
401 Unit
Lazarus Government Center
122 South Front Street
Columbus, OH 43125

Ms. Molly McClure, Executive Director
Anderson Township Park District
8429 Clough Pike
Cincinnati, OH 45244

Mr. Ken Krushner, Operations Director
Anderson Township Park District
8429 Clough Pike
Cincinnati, OH 45244

Mr. Jerry Ballard
Ohio Department of Natural Resources
Southwest Scenic Rivers
5349 Wilmington Road
Lebanon, OH 45036



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE
CORPS OF ENGINEERS
P.O. BOX 59
LOUISVILLE, KENTUCKY 40201-0059

<http://www.lrl.usace.army.mil/>

April 13, 2004

Planning, Programs and
Project Management Division
Plan Formulation Section

Dr. Mary Knapp
U. S. Fish and Wildlife Service
Ecological Services
6950 Americana Parkway, Suite H
Reynoldsburg, OH 43068-4127

Dear Dr. Knapp:

This letter addresses comments included in your January 30 response to the Little Miami River, Anderson Township Park, Ohio Environmental Assessment (EA). The EA was prepared in support of a proposed bank stabilization project along 1,400 of the left bank of the Little Miami River at the Anderson Township Riverside Park (about River Mile 8.7). The site is immediately downstream of the sharp bend in the Little Miami River. Photographs of the site are included as Enclosure 1. Park officials have continually monitored the river's erosion since they purchased the site in 1992. Based on their observation, review of aerial photographs, and failed efforts to stabilize the riverbank, they estimate erosion is progressing at a rate of approximately 15 - 20 feet of bank per year.

In your letter you requested clarification of the project's purpose. The project will protect both a significant historic Native American village site and the park's recreational features that include ball fields (soccer/lacrosse and baseball), a building housing the concession stand and restroom, and a leaching mound and pipe. The leaching mound was built in 1996. The project is being undertaken under Section 14 of the 1946 Flood Control Act. Section 14 enables the Corps of Engineers to partner with non-Federal government agencies to protect vital public facilities that are endangered by streambank erosion. Anderson Township Park District (APD) is the local sponsor. The types of facilities eligible for protection are public buildings, roads, sewage treatment plants, and known cultural resources whose significance has been demonstrated by a determination of eligibility for listing on or actual listing on the National Register of Historic Places and/or equivalent State register.

Anderson Township Park is located in eastern Hamilton County, Ohio, approximately 10 miles northeast of downtown Cincinnati. The park is comprised of approximately 46

acres located along the left descending bank of the Little Miami River. Anderson Township purchased the majority of the park's land in 1992; the park opened in 1996. Park officials estimate daily usage is approximately 2,500 visitors per weekend day and 1,500 visitors per weekday April - November. User figures through the winter season range between 100-200 visitors daily. Residents from Hamilton and Clermont counties (Ohio) and Northern Kentucky use the facility.

Archaeological Significance

The archaeological site is listed in the State Register of Historic Places and is eligible for inclusion in the National Register. The erosion poses a direct threat to these cultural resources and if left unabated, the erosion will result in the loss of the cultural resources. Erosion along the site has already caused the loss of some of the artifacts. The most recent documented incident was in June 2002.

The endangered archaeological site is 33HA128, the Edwards Mound/Perin Village. It is a Native American habitation site that includes archaeological components that likely dates to the Late Woodland period (within the period AD 500 - 1000). Excavations in the late 19th and early 20th centuries found a burial mound, whose location is beneath the nearby soccer field. They also found evidence of intensive habitation surrounding the location of the mound. The Cincinnati Museum of Natural History conducted test excavations in the same vicinity in the mid-1990s. They confirmed the location of the site and its estimated age.

In your letter you referenced language in Appendix B (page 11) of the EA that stated the site was "almost completely washed into the LMR". This statement references Site F3 of Figures 3 and 4 of the submitted *Report for Archaeological Investigations at Site 33HA128* (this report is included as Enclosure 2 of this letter). This is located at station 7+20 of the project (refer to the Plan View included in Enclosure 3). Erosion has significantly damaged this site. However, it is our desire that the proposed plan will stabilize the erosion and the continual damage incurred upstream of F3. While we cannot stop the damage that has occurred, it is our intent to limit future damage along the site.

As stated in the *Report for Archaeological Investigations at Site 33HA128*, this site is considered one of the few remaining relatively undisturbed habitation sites from this period in the area along the Little Miami River (construction, gravel mining, and other modern activities have intensively disturbed this portion of the Little Miami River valley). If erosion of the riverbank is not halted, both surface and subsurface cultural components will continue to be endangered. The chances of additional features eroding out of the riverbank will increase as the bank approaches the intensively occupied portions of the site.

Your letter asked about the feasibility of "relocating" the archaeological artifacts. The critical criterion for a feasible Section 14 project is the determination that the method of erosion protection is more cost effective than relocating the endangered facility or facilities. For archaeologically significant structures (those listed or eligible for the National Historic Register), preservation in place is the first and preferred option. However, excavation of the site was evaluated. A review of the procedures that would be

required to excavate the site include, recovery of all archaeological materials, analyses of all materials (floral and faunal included), preparation of a report discussing the site in a regional perspective, and curation of all materials. Costs associated with the necessary fieldwork, excavation, mapping, data collection and processing would be significant.

For a project area this size, a conservative estimate for 100% data recovery would cost well over one million dollars. This estimate is based on evaluation of recent mitigation projects and archaeological field experience. Additionally the estimated cost of relocating the recreational facilities is \$300,000 (the storage building, septic system and playground). The proposed plan costs less than the excavation/relocation option. Therefore an excavation/relocation option is neither economically justified nor feasible under Section 14. Additionally it is not consistent with the APD's Cultural Preservation Plan.

Discussion of Alternatives

The Corps' plan formulation efforts began with an array of general alternatives ranging from complete riprap of the bank to solely using vegetation to stabilize the bank. While included in scoping meetings, these alternatives were eliminated early in the planning process. The former was dismissed because of the Little Miami River's scenic river designation and latter because the study team did not feel that vegetation alone would stabilize the toe to a sufficient level to withstand the velocity and subsequent erosive forces along the Little Miami River.

APD officials have already tried several vegetative alternatives. These projects have been directed by and done in concert with the Ohio Department of Natural Resources (ODNR) and have included the following:

- In 1992 APD placed five tree revetments along a 1,000 lineal foot section of the bank. These revetments were washed away during high water events over the next few years.
- In 1994, APD and the Ohio Valley Tree Fellowship planted 3,000 seedlings along the riparian buffer, with over 1,000 planted directly into the riverbank. High water in spring 1995 caused an additional 10-15 feet of bank to wash away, including all the plantings placed on the bank.
- In 1995, APD placed three more tree revetments along the endangered bank, however, these revetments failed during high water events during 1996 and 1997.
- In 1995, 1996 and 1997, APD utilized local Boy Scout troops to plant over 2,000 seedlings (procured from Soil and Water Conservation District) directly into the bank. Again, bank failure during high water events washed away all seedlings.

The study team's initial plan (presented in October 2002) was a rock toe protection with live staking and an erosion control blanket. Live staking is a process in which live

vegetative cuttings are placed in a slope for soil stabilization. The amount of rock protection included in the initial plan was to elevation 467 feet. This alternative was discussed with ODNR, Ohio State Historic Preservation Office (SHPO), Ohio Environmental Protection Agency (EPA) and the sponsor. The following technical issues were raised with the design:

1. Ordinary High Water (OHW) is elevation 479 feet, 12 feet above the initially proposed height of the rock (467 feet). Geotechnical and hydraulic engineering experience within the Corps determined this was an inadequate level of protection and the bank would still be subject to the river's erosive forces. Previous failures of all vegetative stabilization attempts have demonstrated that rock toe protection is essential to a successful plan at the site.
2. Both Ohio EPA and ODNR felt that diversion structures (i.e., bendway weirs, vanes) should be included to divert flow from the endangered bank.
3. The study team determined that in order to establish a sufficient slope necessary to construct and establish vegetative growth, the bank would have to be sloped to a minimum of a 1 vertical (V) to 2 horizontal (H) slope. After continual discussion, the prevailing sentiment among the study team is that even a 1V: 2H slope is inadequate. Based on experience with similar projects, a flatter slope – typically 1V: 5H – would be required to effectively establish a vegetative bank and truly dissipate the river's energy to sufficiently stabilize bank. The 2002 Archaeological report submitted in the EA (Enclosure 2 of this letter) stated that laying the bank at a 1V: 2H slope would significantly impact the cultural resources. Therefore laying the bank back would not be in accordance with guidance set forth under Section 14.

Because of these concerns Mr. David Derrick, a Hydraulic Engineer from Engineering Research and Design Center (formerly Waterways Experiment Station) in Vicksburg, Mississippi was included in the discussions and assisted in the planning and design. Mr. Derrick has extensive knowledge and experience in incorporating bioengineering techniques in streambank stabilization designs.

Mr. Derrick visited the site and conducted a weeklong workshop on the project in March 2003. The two main project constraints were presented at the onset of the discussion – the need to protect the historic cultural resources and the need to limit impact on the scenic river. The current proposal was formulated during this meeting.

The preferred alternative (as submitted in the EA) is a combination of longitudinal fill stone toe protection (LFSTP), live siltation, brushlayering, live staking, and bendway weirs. LFSTP is an effective toe protection system while also allowing the stone to settle to the low areas in the river. LFSTP provides continuous bank protection with stone dikes placed longitudinally at or slightly streamward of the toe of the eroding bank. Live siltation will provide additional toe protection with a natural look. Live siltation is a revegetation technique used to secure the toe of a slope, trap sediments, and create aquatic rearing habitat. The slope will be filled with brushlayering. Layers of live branches and soil are placed on the bank. Branches are placed in criss-cross, overlapping

pattern with the tips of the branches protruding just beyond the face of the fill. Where there is little or no fill required at the natural slope, the bank will be vegetated by live stakes.

As designed, the plan will protect archaeological sites between grids B – Y of the *Report for Archaeological Investigations at Site 33HAI28*. (Enclosure 2, Figures 3 and 4). The proposed plan is included as Enclosure 3.

Discussion of Project Features

Each project feature serves an important, necessary purpose. Because of the River's scenic river designation, the amount of **stone protection** has been kept to a minimum. The stone protection will stabilize the toe of the bank. A review of the previous attempts at bank stabilization has shown that vegetation alone is not the solution.

The LFSTP will be constructed to elevation 482, three feet above ordinary high water (elevation 479 feet). In 1997, 2000, and 2001 the site endured significant heavy rainfalls that contributed to the erosion. High water up to 20-feet up the bank is not uncommon. During the March 2003 team site visit when ODNR, Ohio SHPO, and Ohio EPA staff were present, the estimated river stage was about 483.4 feet. While some rock will be seen at the onset of the project, once the vegetation begins to grow, the rock will be hidden.

While **vegetation** alone is not the solution, it will play an integral part in the proposed plan. The proposed plant species are native to the area and will reestablish growth along this portion of the Little Miami River. Vegetation along the project area is sparse. The plantings will provide aesthetic improvements to the current condition while adding bank stability.

The **bendway weirs** were included after consultation with Mr. Derrick. As described by Mr. Derrick, the bendway weirs will serve several key purposes as outlined below:

- **Reduced Scour:** The weirs will reduce the deep localized scour anticipated immediately stream ward of the toe of the Longitudinal Fill Stone Toe Protection (LFSTP). This reduced scour will result in a reduced amount of rock required to stabilize the toe of the eroding bank.
- **Reduced Velocity:** Even when overtopped with several feet of water, flow velocities in the water column within the weir field (over the tops of the weirs) will be reduced significantly. The anticipated velocity reductions of top-water currents where weirs are longer than 15 feet are estimated to be up to 50%, based on limited prototype measurements on other rivers. Reduced flow velocities within the weir field will result in reduced stress on the bioengineering protection plantings on the bank.
- **Reduce Overall Energy:** Analysis of existing fluvial geomorphology suggests that the river in the area of the project has an excess of energy, which is resulting in the significant bank erosion observed. The river needs to see an

increase in resistance to flow. Typically the river will adjust by making itself longer, resulting in increased resistance and a flatter slope. Roughness can always be substituted for length. In this case the hydraulic roughness generated by turbulent flow over the bendway weirs will result in a reduction of overall river energy.

- Move Thalweg: The proposed plan will move the thalweg back toward the middle of the Little Miami River. It will move the thalweg from the toe of the LFSTP to an alignment immediately riverward of the river ends of the Bendway Weirs.
- Benefits: Within the longer section of the weir field, some sediment deposition should occur. This deposition will not overtop the crest elevation of the weirs. This deposited substrate is typically finer than the sediment gradation found in the thalweg trace of the river. Variations in sediment size and gradation could be environmentally valuable in some riverine systems.

Increases in the diversity and complexity of velocity (both horizontal and vertical), depth, substrate, increased underwater edge effects, solid submerged substrate, and interstices within the rocks of the weirs can all result in positive environmental benefits.

When using any bank protection technique (and especially redirective methods), the anticipated downstream changes in the flow and energy fields must be analyzed. For this project the reduction of energy and redirection of the thalweg trace should result in beneficial effects. The thalweg realignment is designed to reduce the existing very deep scour caused by the interaction of the non-engineered concrete rubble and existing stream forces. As the river exits the scour hole it makes an unnatural abrupt right turn resulting in a redirection of the river forces which then impact the right descending bank at a severed angle of impingement (close to 90 degrees) resulting in severe bank erosion. If left unchecked, this bank erosion will result in changes in the attack angle into the next immediate downstream bend, resulting over time with increased bank erosion and non-point source pollutants (eroded bank materials) in the immediate downstream bend. The redirected thalweg (due to the Bendway Weirs) will result in some filling of the existing scour hole and result in stream forces vectored away from the right descending bank toward a more natural alignment of stream energy dissipated in a riffle adjacent to the downstream pointbar.

Twelve bendway weirs are planned, spaced 100 feet apart. The weirs at the middle and upstream end of the proposed project are 15 feet in length (approximate surface area of 225 square feet). The four weirs at the downstream end are 25 feet (approximate surface area of 375 sq. ft.), 20 feet (approximate surface area of 300 sq. ft.), 60 feet (approximate surface area of 900 sq. ft.), and 75 feet (approximate surface area of 1,125 sq. ft.). The weirs will not be seen during normal flow conditions.

The weirs will be designed to elevation 476 feet, three feet below OHW. Because they will not be exposed at normal water levels, the visual impacts to the river should not be unfavorable. The addition of rock substrate and the diversities created will benefit aquatic resources.

Affected Environment

You inquired about the origin and extent of the existing erosion. ODNR, in a November 1997 letter to Anderson Township, surmised that a contributing factor to the current erosion was an area on the right bank of the Little Miami River about 3,800 feet upstream of the Park (the site has a culvert and railroad fill in the Little Miami River). The letter states that flow from the culvert creates a plunge pool and gravel bar and that the gravel bar formed by the culvert appears to have increased in size recently.

Additional analyses of the problems upstream are beyond the scope of the Section 14 program. While it is true that circumstances upstream of the site contributed to the erosion problem, the Corps cannot engage in potential corrective measures upstream of the project site. This is for the following several reasons:

1. Section 14 has authorized the Corps to stabilize the endangered site (and work on the endangered site); the Corps is not authorized implement a project upstream of the project site.
2. Section 14 is cost shared between the Corps and a non-Federal sponsor. By law, the non-Federal sponsor has to have the power of condemnation. APD has condemnation power within Anderson Township, not upstream of the site.
3. If a project were initiated upstream of the project site, there is still a level of uncertainty that the Anderson Township Park project site would be stabilized (or when stabilization would occur).

Funding for the Section 14 program is extremely limited. Therefore we do not have the funding needed to perform detailed hydrology and hydraulic analyses or quantify ecosystem restoration benefits. Additionally we do not have the funding or authority to perform detailed investigations of the entire river. While this bank stabilization project is not an ecosystem restoration, it is an environmentally sensitive project. The total eroding bank, currently devoid of much habitat, will be improved. Through the project the riverbank will become a stable vegetative bank for aquatic and terrestrial habitat.

Additional Questions

Your letter also requested a **proposed plan for native plant establishment**. Species included in Appendix B (Planting Schedule) of the EA are native to the area and can be easily purchased. The schedule is included as Enclosure 4 of this document. If the submitted planting schedule is not satisfactory, please let us know along with an explanation why they are not satisfactory (this information will also help us on any future projects).

Your letter stated post planting cultural care should be implemented to minimize mortality. Vegetation planted will be from a local source. Native grasses will be planted with a cover crop and then native trees and shrubs will be planted. Planting native grasses that will become rapidly established will benefit wildlife, while the trees and shrubs mature. The project area is a steep bank so mowing will not be factor, however, the area will be fenced and protected from mowing. Other landscape methods, such as watering that is not normally required in the project area and mulching that does not benefit native vegetation, will not be incorporated in the project.

The construction contract will include a "plant maintenance bid item". This bid item will mandate that the selected contractor maintain the plants for a period of one-year after construction is complete. This will make the contractor responsible for establishing a vegetative growth. This plant maintenance bid item has proven successful in other Corps projects. After the one-year maintenance period, replacement of plants is an Operation and Maintenance feature and is the responsibility of the local sponsor.

While the EA references the presence of sensitive mussel species in the area, they have not been observed within the project site.

In response to your question on the **implementation sequence during construction**, the stone toe protection will be constructed first. The weirs will be constructed after the toe protection is established. We anticipate construction from the downstream end to the upstream end. However, the weir construction sequence and final lengths may be adjusted during construction.

Project duration is anticipated to last about **one year**. This will include time for the contractor's submittals of its safety plan, quality control plan, and other necessary paperwork. The ideal time to begin construction is late summer. This would allow for construction during low water and the vegetation could be planted during the fall of the year (the best time to fully establish growth). We understand that ODNR does not allow construction on the Little Miami River during April – June. Therefore, the contract will have an exclusionary period stating construction cannot take place during April – June. If ODNR has other restrictions about construction times, they can be included in the contract language.

The **staging area** is noted on the plan view included in Enclosure 3. The staging area is located near station 9+00 at an existing gravel area at the north end of the parking lot.

As stated in the EA, the equipment building will be demolished. As is standard with Corps projects, the contractor will be required to submit a demolition plan for approval. The debris will be hauled to an approved construction debris landfill. The building will be demolished in response to a request by ODNR. Mitigation addressing spills will be the standard policy included in the construction specifications. A copy language to be included in the specifications is included in Enclosure 5 for your information.

The proposed plan should have the smallest possible effects on the bank because the design of the project is for minimal earth moving. Proposed construction will not take

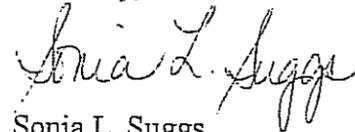
place from the River or from the top of bank but along the project site itself. The pollution prevention plan will be included in specifications sent to prospective contractors. Plan drawings will state the contractor shall not disturb an area larger than can be restored in two weeks. A copy of the Pollution Prevention Plan is included in Enclosure 5.

Consultation with the Ohio SHPO has been ongoing. They provided a letter in response to the EA concurring with our No Adverse Effect finding. A copy is included as Enclosure 6. We have not received any comments from Native American tribes.

We hope this information will provide clarification about the project. Coordination has been ongoing with various state agencies in an effort to develop a technically sound plan that addresses the environmental and cultural resource concerns. We welcome any suggestions of proven methods utilized effectively on similarly sized streams with similar constraints (cultural resources concerns, location at the bend of a River, etc).

We hope the letter will answer any questions you have. The APD has tried several repair techniques without success. If you would like additional consultation or information, please call me at 502-315-6888 or Van Shipley, the project's biologist at 502-315-6877.

Sincerely,



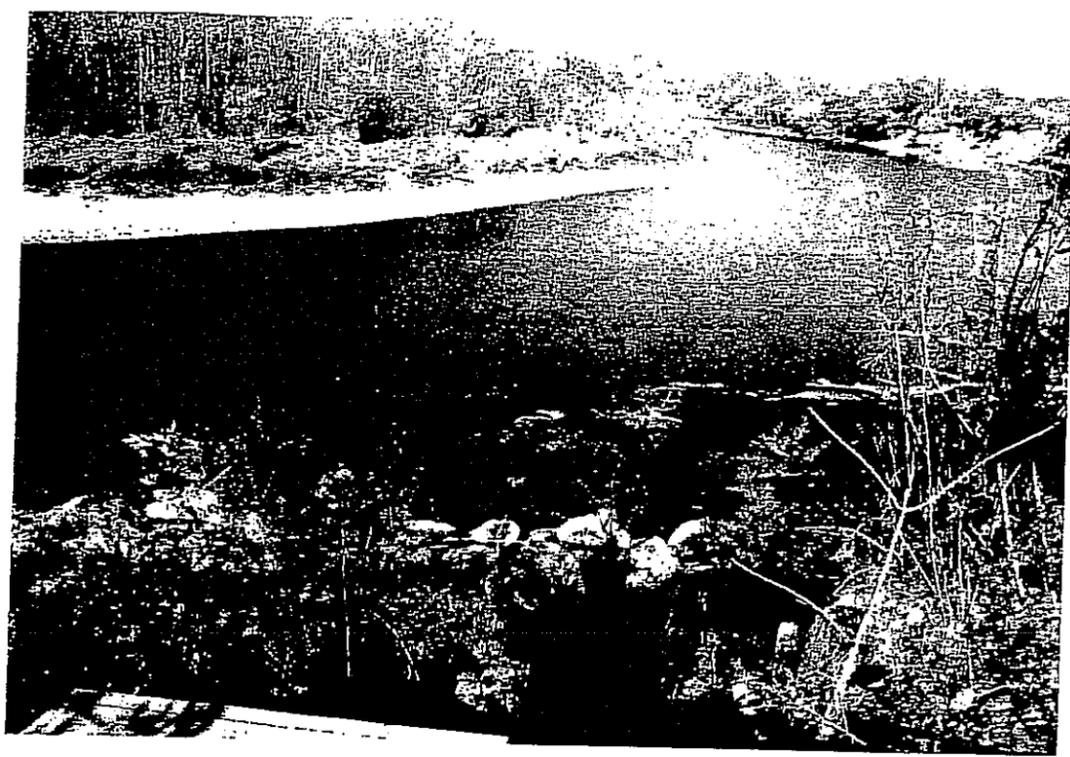
Sonia L. Suggs
Project Manager

Enclosures

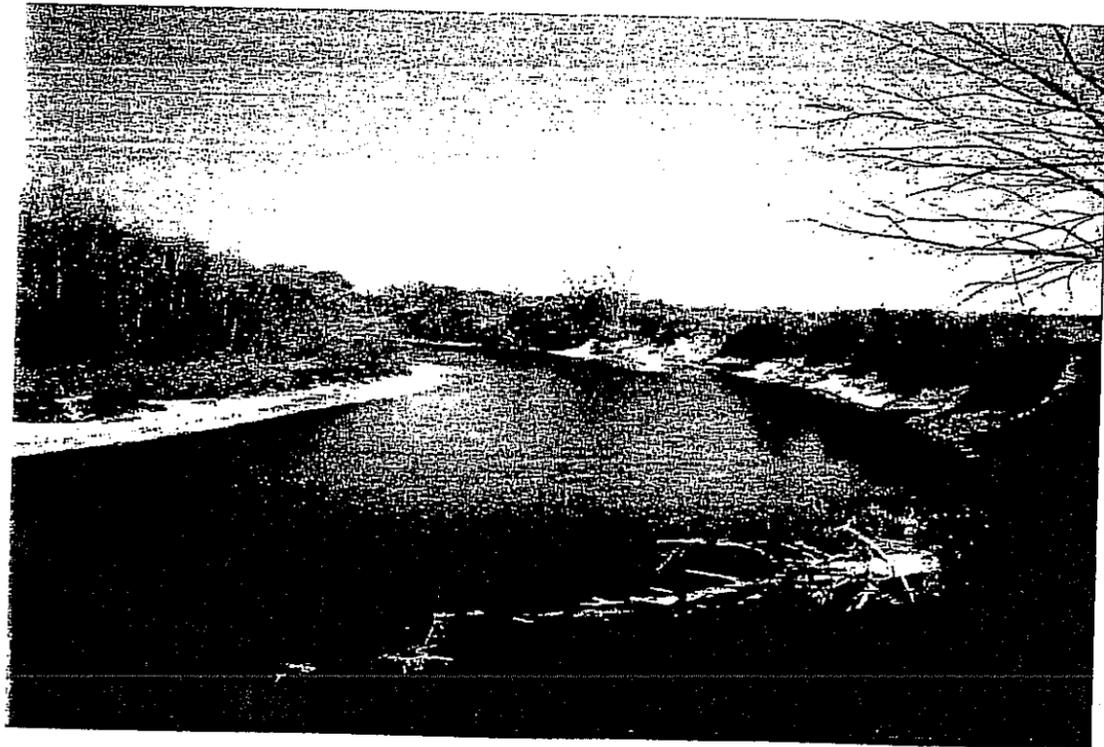
Copies Furnished:

National Park Service – Ms. Sue Jennings
Ohio Dept. of Nat. Resources – Mr. Bob Gable
Ohio Dept. of Nat. Resources – Mr. Jerry Ballard
Anderson Park District – Ms. Molly McClure
Anderson Park District – Mr. Troy Euton
Ohio Historic Preservation Office – Mr. Dave Synder
Ohio EPA – 401/Wetland Section
Little Miami River, Inc. – Mr. Eric Partee

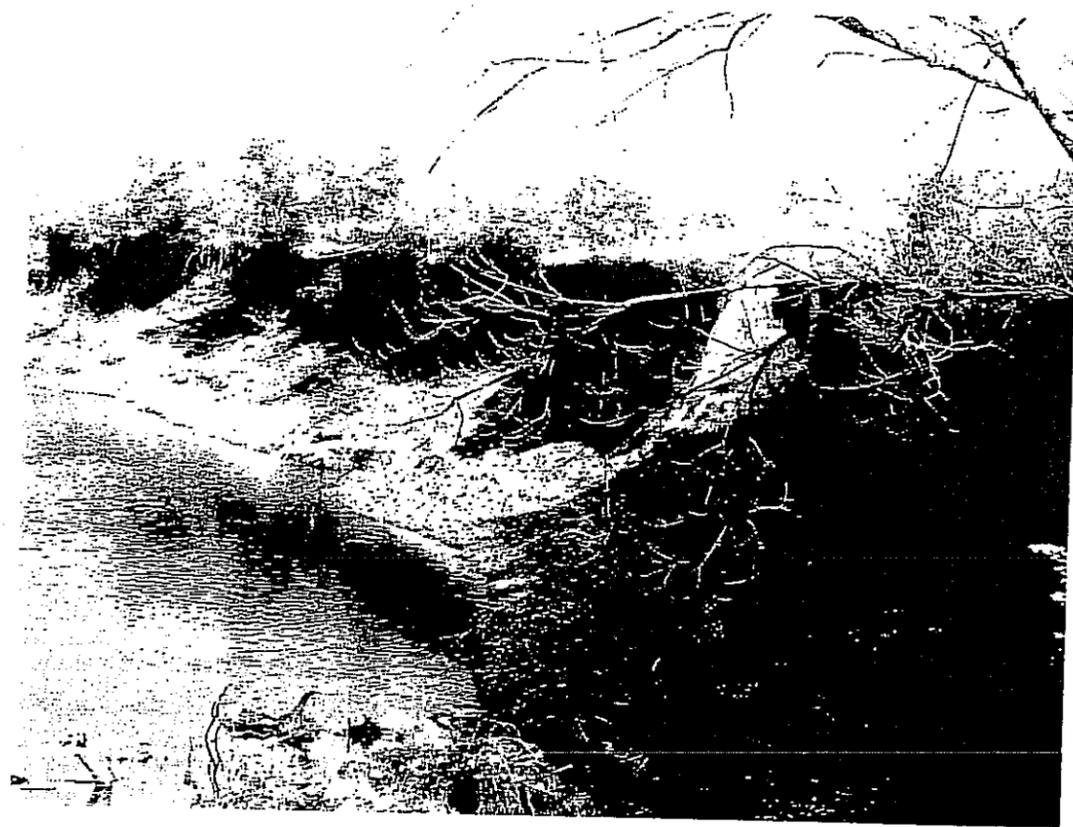
ENCLOSURE 1
SITE PHOTOS



Looking upstream at Sta. 4+30. Standing at the building set for removal.



Looking upstream.

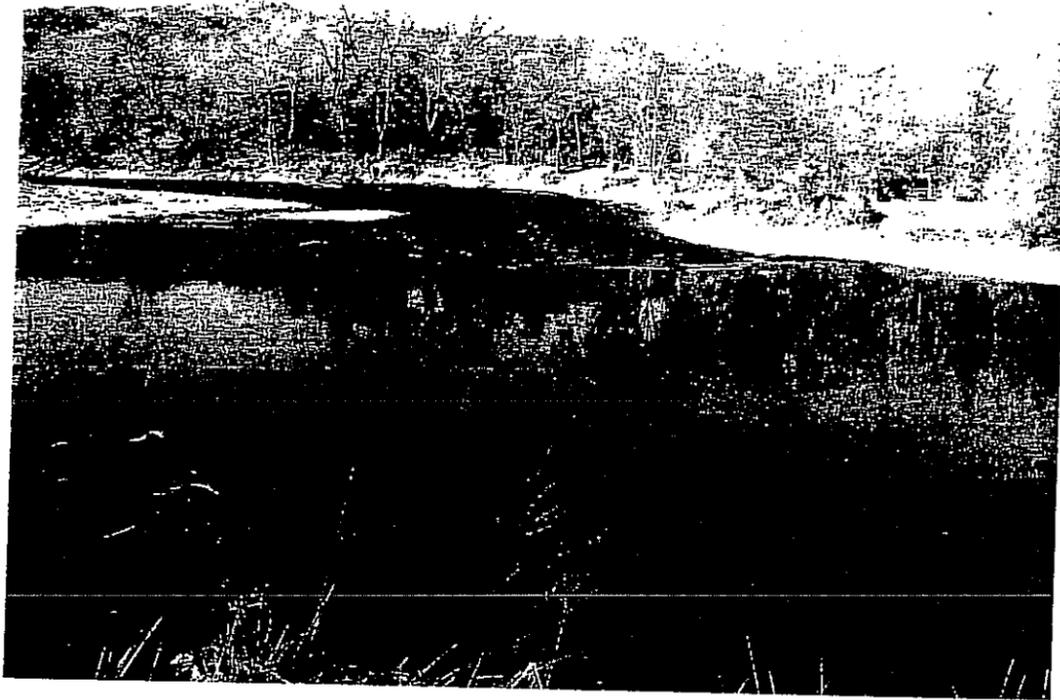


Riverbank erosion beginning at approximately Sta. 5+00.

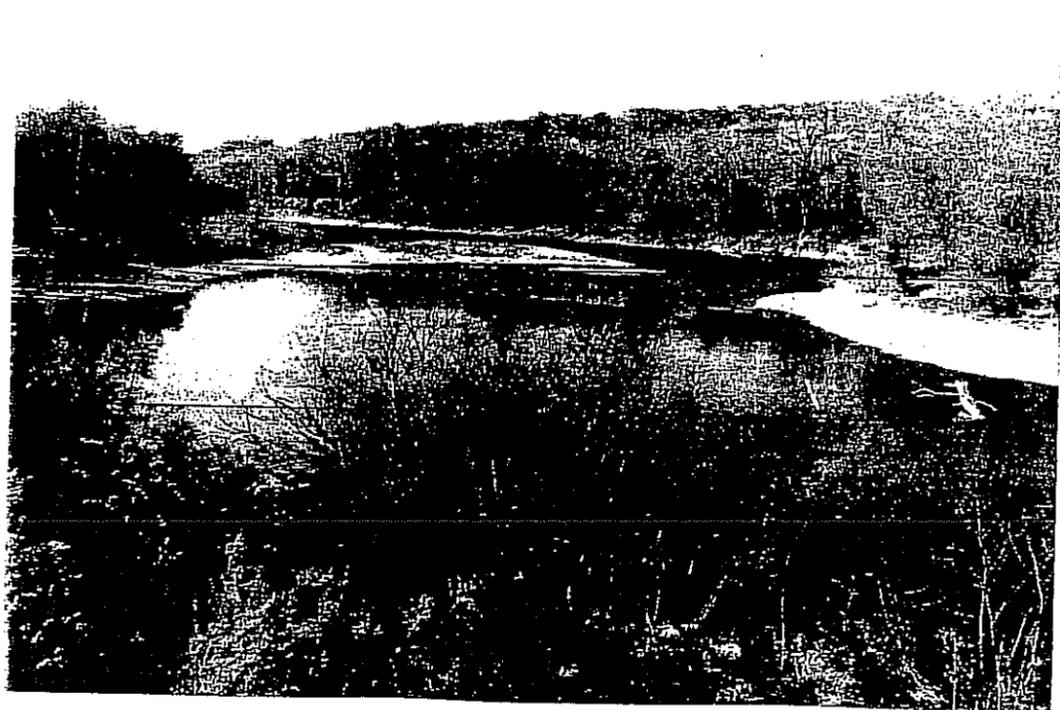




Looking downstream near sta. 4 + 40.



Looking downstream of the project site.





2001 photo at the building at sta. 4+30. Undermining continues.

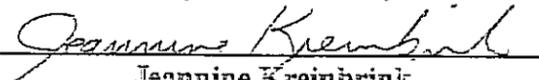


ENCLOSURE 2
REPORT FOR ARCHAEOLOGICAL INVESTIGATIONS AT SITE
33HA128

REPORT FOR
ARCHAEOLOGICAL INVESTIGATIONS
AT SITE 33HA128
HAMILTON COUNTY, OHIO

Submitted to:
GEC
9357 Interline Avenue
Baton Rouge, Louisiana 70809

Submitted by:
Natural & Ethical Environmental Solutions
8857 Cincinnati-Dayton Road, Suite 203
West Chester, Ohio 45069


Jeannine Kreinbrink
Principal Investigator

December 2002

ABSTRACT

The Anderson Park District plans to conduct a bank stabilization project in Riverside Park located in Anderson Township, Hamilton County, Ohio. GEC of Baton Rouge, Louisiana, is conducting the engineering for the project in coordination with the Louisville District of the Army Corps of Engineers. The project is being conducted as part of a Section 14, Continued Authorities Project.

Riverside Park is situated on the east bank of the Little Miami River, a National Scenic River. The bank stabilization project will impact a strip of land, approximately 18.3 m (60 ft) wide, from the river bank edge inland. The project will encompass an area approximately 244 m (800 ft) in length. The impact area begins approximately 183 m (600 ft) upstream of the small building at the riverbank. The downstream edge of the impact area is approximately 61 m (200) below the small building.

The Louisville District requested a review of previous archaeological investigations and an analysis of proposed impacts to site 33HA128. Site 33HA128 is a significant archaeological site located within Riverside Park. The proposed bank stabilization project will impact portions of site 33HA128. This report includes a summary of previous archaeological work conducted at site 33HA128, a correlation of known data with the proposed Area of Potential Effect, and recommendations regarding impacts to the archaeological site.

Previous archaeological investigations document that site 33HA128 extends to the edge of the riverbank for approximately 310 m (1,017ft) within Riverside Park. Within that 310 meter area, an area approximately 250 meters in length has produced the most intensive evidence of Native American occupation. Shovel testing at ten-meter intervals produced Native American artifacts including chert debitage, pottery sherds, burned rock, and at least four possible subsurface archaeological features.

The bank stabilization project will impact the southern portion of site 33HA128. The site is a significant Native American village site that likely dates to the Late Woodland period (within the period AD 500-1000). The site is one of the few remaining relatively undisturbed habitation sites from this period in the Newtown area along the Little Miami River. Construction, gravel mining, and other modern activities have intensively disturbed this portion of the Little Miami River valley. This site is eligible for the National Register of Historic Places and has the capability to provide significant information on the Native American prehistory.

Mitigation (data recovery) measures should be taken prior to conducting the bank stabilization project. This could include mechanical stripping of the old plowzone to uncover archaeological features, village layout and other important data. Safety will be a consideration given the unstable nature of the bank edge. Recommendations include beginning the excavations at least 5

meters back from the edge. This will allow investigation of an area up to 13 meters in width, out to the edge of the 18.3 meter wide impact area.

One archaeological feature (designated Feature B1) has been found within the vertical river bank, at a depth of approximately .8 m (2.6 ft) below the current ground surface (to top of feature). Radiocarbon dating of a charcoal sample from this feature returned a calibrated date of AD 690-990 (Beta 169231). This feature documents that a buried archaeological site does exist in at least one section of the riverbank within Riverside Park. The feature was found downstream of the surface concentration of artifacts, but is within a smaller, separate surface concentration. This area is located within the proposed project impact area.

The extent of buried archaeological deposits within the remainder of the proposed impact area is unknown at this time due to several factors. Previous investigations did not include deep testing. In addition, the river bank is unstable and has precluded subsurface investigation due to safety concerns. Examination of the cutbank from the river's edge has not been conducted systematically for the same reason.

Sixty-one meters (200 ft) of the impact area is located downriver of the small building that sits at the riverbank edge. No archaeological testing has been conducted in this area. A review of the current setting and land use within this portion of Riverside Park shows that park construction has impacted most of this area. A concession building, playground, golf course, and storm sewer pipelines are situated within and adjacent to the proposed impact area. In addition, large segments of riverbank downriver of this structure are unstable and cannot be safely archaeologically tested at this time.

The portion of the proposed impact area down river of the bank-edge structure is unlikely to contain intact surface or near surface archaeological deposits. Park construction activities and unstable river edge conditions indicate that much of this section of the park is disturbed and/or has been impacted by erosion and bank undercutting. No archaeological testing is recommended for this portion of the impact area at this time. Monitoring during bank stabilization may be a viable option, although safety may be a factor.

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INTRODUCTION

The following report details a project review and impact analysis for a proposed riverbank stabilization project for that portion of the Little Miami River located in Riverside Park, Hamilton County, Ohio (Figures 1 and 2). The Anderson Park District has requested assistance from the Louisville District of the Army Corps of Engineers (Louisville District). GEC, of Baton Rouge, Louisiana, is providing the engineering and coordination for the project at the request of the Louisville District. Natural & Ethical Environmental Solutions is providing archaeological services for the project at the request of GEC and the Anderson Park District.

Ms. Jeannine Kreinbrink of Natural & Ethical Environmental Solutions (N&E) serves as Principal Investigator for the project. Mr. Cade E. Carter of GEC is the project administrator. Mr Troy Euton is the local Anderson Park District contact for the project. The Louisville District is the lead federal agency for the project. The project is conducted by the Louisville District under a Section 14, Continuing Authorities Project.

The proposed Area of Potential Effect (APE) at this time consists of an approximately 60 ft (18.3 m) wide strip of land that begins at the existing river bank edge and extends inland from that edge for approximately 244 m (800 ft) within Riverside Park (Figures 1 and 2). The APE will impact a portion of site 33HA128, a National Register eligible archaeological site dating to the prehistoric Native American period (Figure 2).

The bank stabilization project may include cutting the bank at a 2:1 or 3:1 slope from an average low water mark. This may impact up to 18.3 m (60 ft) of land along the bank edge. The land will be excavated to create a sloping surface. Materials will be placed on this slope for further stabilization.

This document summarizes previous investigations at Riverside Park conducted by various institutions, individuals, and companies. This information is correlated with the proposed impacts to determine what archaeological sites and how much area will be impacted. Recommendations are made regarding possible data recovery/mitigation procedures.

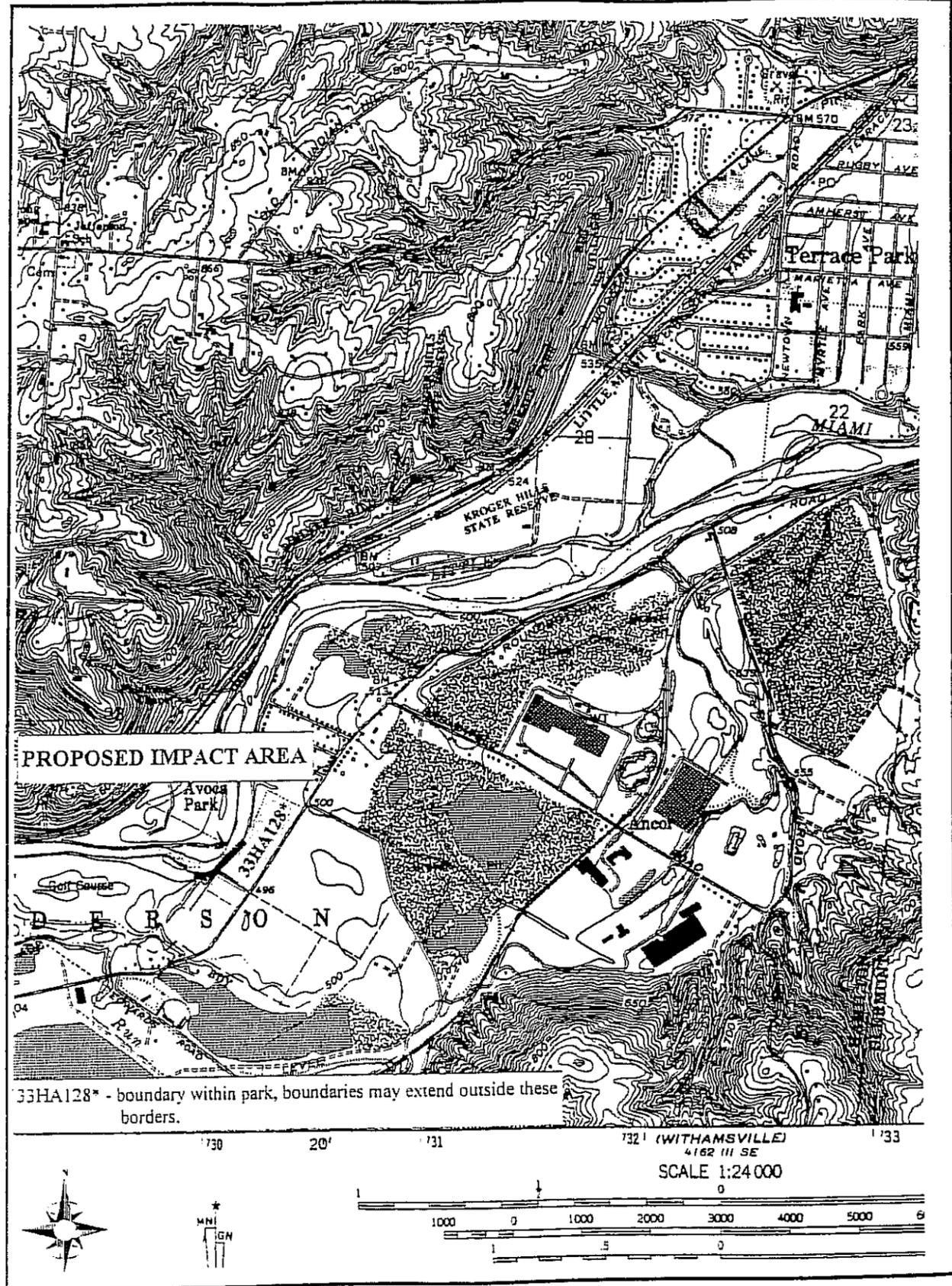


Figure 1. Portion of Madeira topographic maps showing site 33HA128 and proposed impact area.

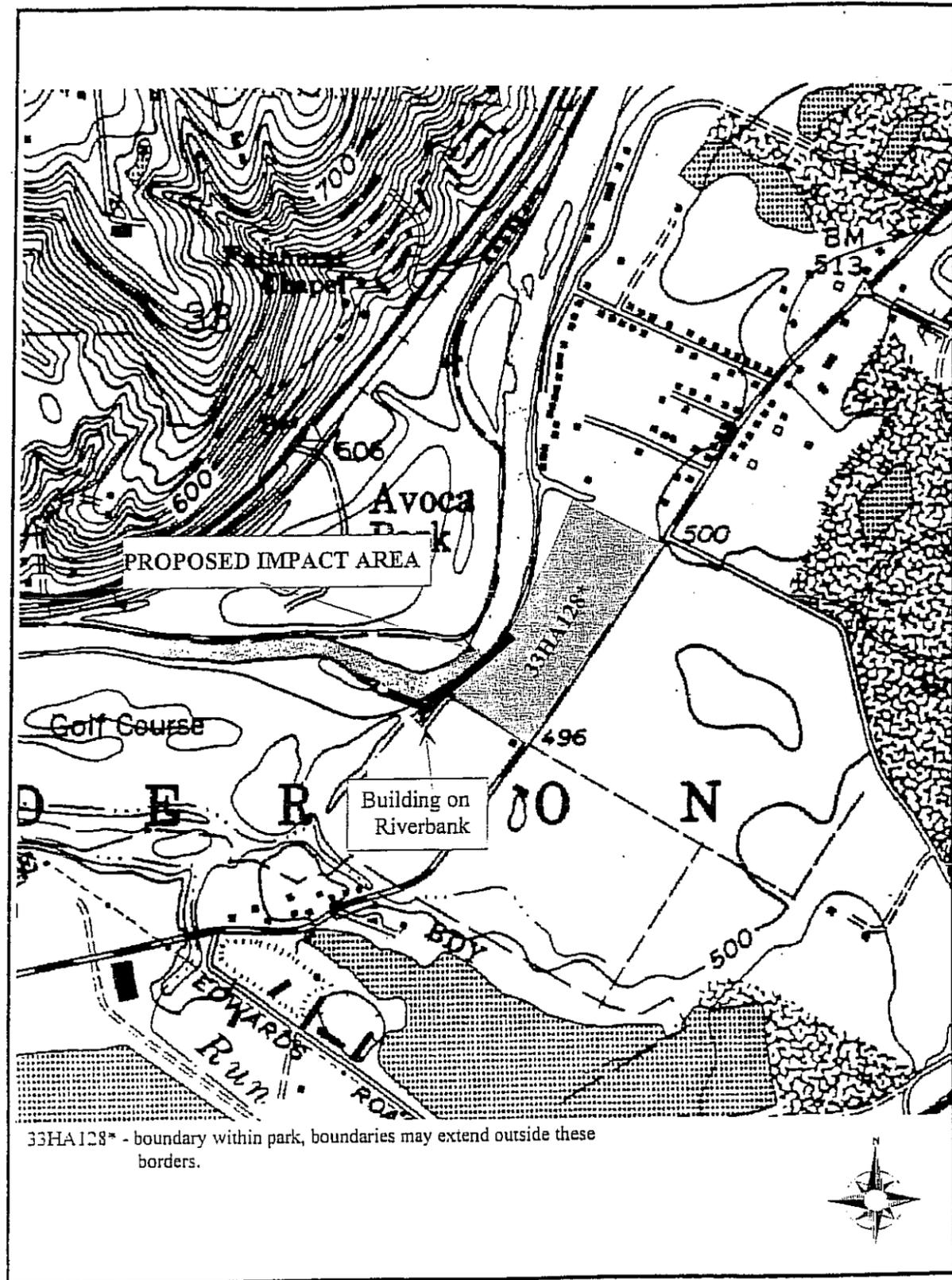


Figure 2. Enlargement of the Madeira topographic maps showing site 33HA128 location and proposed impact area.

SITE 33HA128 SITE OVERVIEW AND REVIEW OF PREVIOUS WORK

33HA128 Archaeological Site Background

The following information is taken directly from Kreinbrink (1998), *Riverside Park Archaeology Project, Assessment of Site 33HA128 (42), The Edwards Site, Hamilton County, Ohio*, which was submitted to the Anderson Park District in 1998.

People have been aware of the presence of archaeological sites in the Riverside Park vicinity for many years. Starr (1960) describes excavations conducted at the Edwards Stone Mound in the early 1880s by Dr. Charles Metz. He gives the site location as follows: "It was located in the level bottom land adjoining the Little Miami River west of Roundbottom Road and three-fifths of a mile southwest of Benchmark 513." (Starr 1960:44). Benchmark 513 is the intersection of Roundbottom Road and Broadwell Road (Figure 2).

Dr. Metz excavated the Edwards Stone Mound sometime before 1883. He describes the excavation in a letter to Professor F.W. Putnam of Harvard University, dated March 1883 (Starr 1960:44-45). Metz succeeded in documenting 71 burials within the mound. Starr reports that one of the burials apparently had a "dog or young bear" buried with it, although it is not broken out in the list below. Starr listed the breakdown of burial types as:

- 32 extended - 17 with artifacts in association
- 22 flexed - 6 with artifacts in association
- 5 in one heap
- 1 child
- 1 with skull associated
- 2 isolated skulls
- 8 fragmentary

In preparation for his 1960 publication, Starr visited the location and observed a surface scatter of artifacts in the area surrounding the mound location. He found chert artifacts, pottery, and broken rock. Starr must have seen Metz's report because he states that the pottery he observed was "identical to that found in the mound".

Starr designated the Edwards Mound as site 33Ha205, and the surrounding village 33Ha42. These site numbers do not correspond to official Ohio Archaeological Inventory numbers and will not be used in this report to refer to the two sites.

The Ohio Archaeological Inventory (OAI) forms list three official numbers that describe this particular location (33Ha7, 128, and 291). The original card site file for 33Ha7 describes it as the Samuel Edwards Mound III. "Located on Samuel Edwards' farm between the Samuel Edwards Mounds I and II and the river, about 100 yards from the bank on an elevation of the

bottom land." The card file also provides a reference for Metz's 1883 excavations: *The 16th and 17th Annual Reports*, Peabody Museum Vol III, Nos. 3 and 4, Cambridge 1884:pp. 344-346.

The Miami Purchase Association (MPA) completed updated OAI forms in 1975. The MPA obtained site number 33Ha128 for the Perin Village site (Starr's site 42), and 33Ha291 for the Edwards Stone Mound III (Starr's site 205). All the site numbers are listed on the 33Ha7 site file. Consequently, site number 33HA128 is used by this author to refer specifically to the archaeological village site in this location.

As reported by the MPA, the University of Cincinnati (UC) conducted small test excavations in the village portion of the site in 1974. They recovered pottery, chert tools, items listed as ceremonial objects, and a sample of corn (OAI form 1975). A conversation with Dr. Kent Vickery of UC in August 1998 reveals that two students conducted small test excavations while looking for a site at which to conduct a field school. He does not believe they found any features and they did not return to the site.

1995-1998 Test Excavations at site 33HA128

In 1995, the Cincinnati Museum of Natural History (CMNH) staff and volunteers conducted a controlled surface collection and the excavation of several small test units at the site. At that time, the soccer fields did not exist. An equivalent area lay in agricultural fields. The boundaries of the agricultural field encompassed the current soccer fields plus both the northern and southern parking lots. However, the 1995 project area ended up limited in scope and they did not study the entire agricultural field (see project graphics in Kreinbrink 1998 in Appendix 1). CMNH personnel and volunteers compiled field data forms and lab analysis sheets while cataloging their finds, but did not complete a final report.

Anderson Park District requested assistance in 1997 from the N&E in further assessing the horizontal boundaries of site 33Ha128, and in reviewing the results compiled by the CMNH effort. Please see Appendix 1 for a complete copy of Kreinbrink's 1998 report. Graphics from that project are included in Appendix 1 with the report copy:

The original scope of work for the 1997-1998 project proposed duplicating the methodology of the 1995 effort. However, due to failure of a tax levy in November 1997, the Anderson Park District could not allow disking and reseeding of the field. In addition, the fields were in almost constant use by soccer and lacrosse teams throughout the year. The 1997-1998 project area consisted of the entire soccer field located between the paved parking lot (south side of fields), an unpaved lot on the northern end of the soccer fields, Roundbottom Road on the east and the western edge of the soccer fields. The 1997-98 testing did not include any survey in the buffer zone between the soccer fields and the Little Miami River. N&E and a crew of volunteers was able to accomplish shovel testing in two quadrants of the project area and a small amount of surface collection where the grass was sparse in the soccer fields.

Based on the 1995 CMNH testing and the 1997-1998 investigation, N&E provided information regarding the horizontal boundaries of site 33HA128. The soccer fields were constructed after 1995. Prior to that, they consisted of agricultural fields and a model airplane landing strip. The investigations by the Cincinnati Museum of Natural History (CMNH) in 1995 included a controlled surface collection of the field, excluding the landing strip. The western edge of that field roughly corresponds to the current western edge of the soccer fields. The CMNH investigations found that in the central and northern part of the field, the artifact density was still increasing to the west (toward the river) when they stopped at the edge of the field. The work confirmed that the site in general encompasses the entire soccer field. Artifacts were recovered in greater quantities in the northern half of the field, but items were recovered throughout the grassy field.

In summary the CMNH (1995) and the N&E (1997-1998) projects combined to confirm the following:

- The location of a mound excavated in the late 19th century was confirmed within the soccer field portion of the site.
- The investigations showed that the site extended intensively throughout the central and northern portions of the soccer field, lessening toward Roundbottom Road on the east, and to the south.
- Artifact densities were increasing westward and northwestward toward the Little Miami River bank edge.
- The site appears to be primarily a Woodland habitation site, with pottery and other diagnostics placing it in the late Middle Woodland to Late Woodland periods.
- Neither project included any archaeological testing in the scrubby strip of land along the bank edge, between the west edge of the soccer fields and the river bank edge.

1999 Test Excavations at site 33HA128

The Anderson Park District requested additional boundary delineation testing in Riverside Park in 1999. N&E conducted a systematic program of shovel testing at 10 meter (30 ft) intervals along the Little Miami River bank, between the west edge of the soccer field/earth berm and the east bank edge of the Little Miami River (Figure 3). This strip of land includes an area that stretches for approximately 430 meters along the river bank starting at the main, paved parking lot (Figure 4) and running north to the park property line. The width of the strip of land varies from 30 meters to over 60 meters at the northern end (Figures 4 and 5). The following information is taken largely from Kreinbrink (2000). Figures included as Figures 3-5 in this report are taken from that earlier document.

Figure 3. Figure taken from Kreinbrink 2000 showing extent of shovel testing.

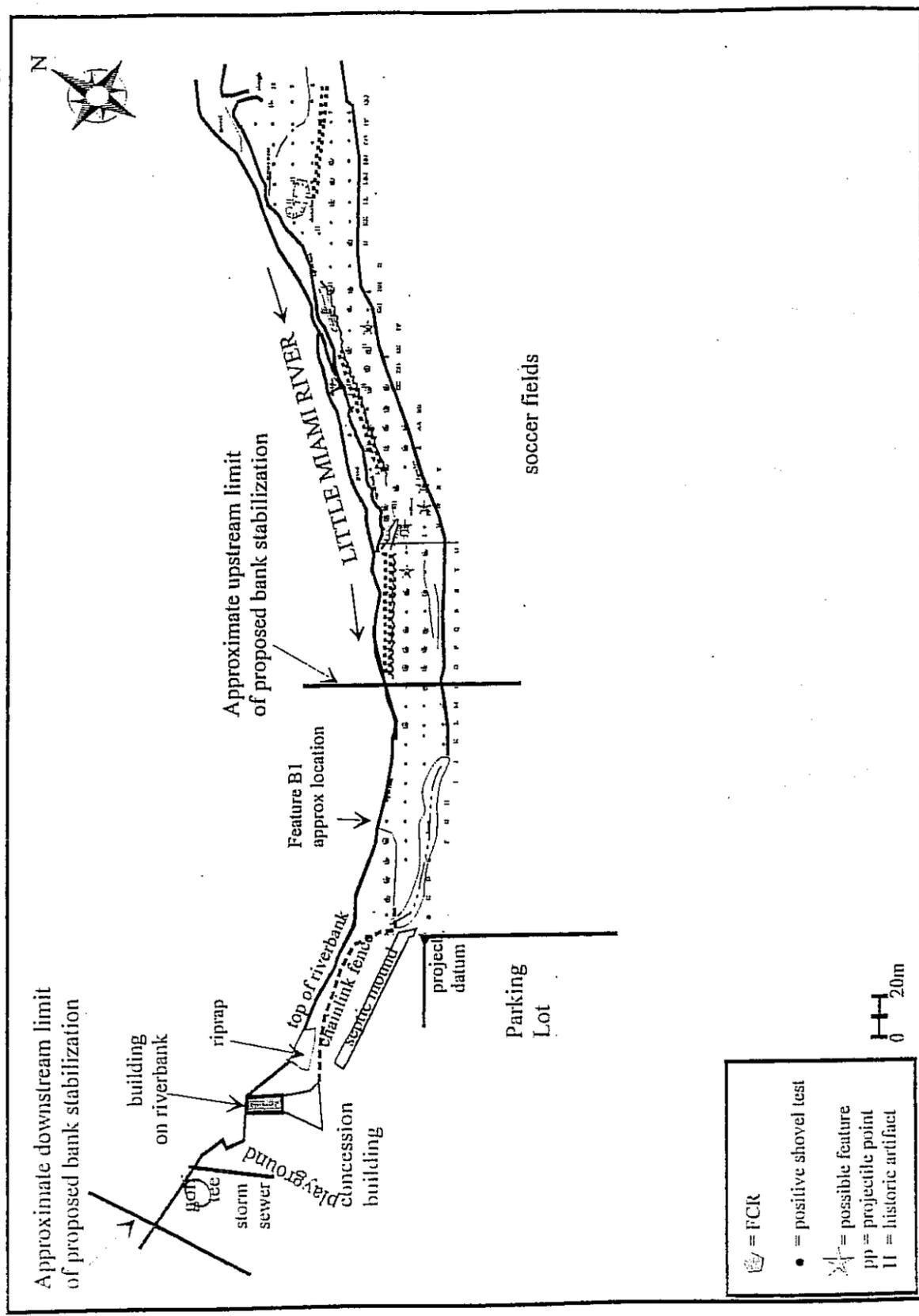


Figure 3. Overview drawing showing location of 1999 shovel testing.

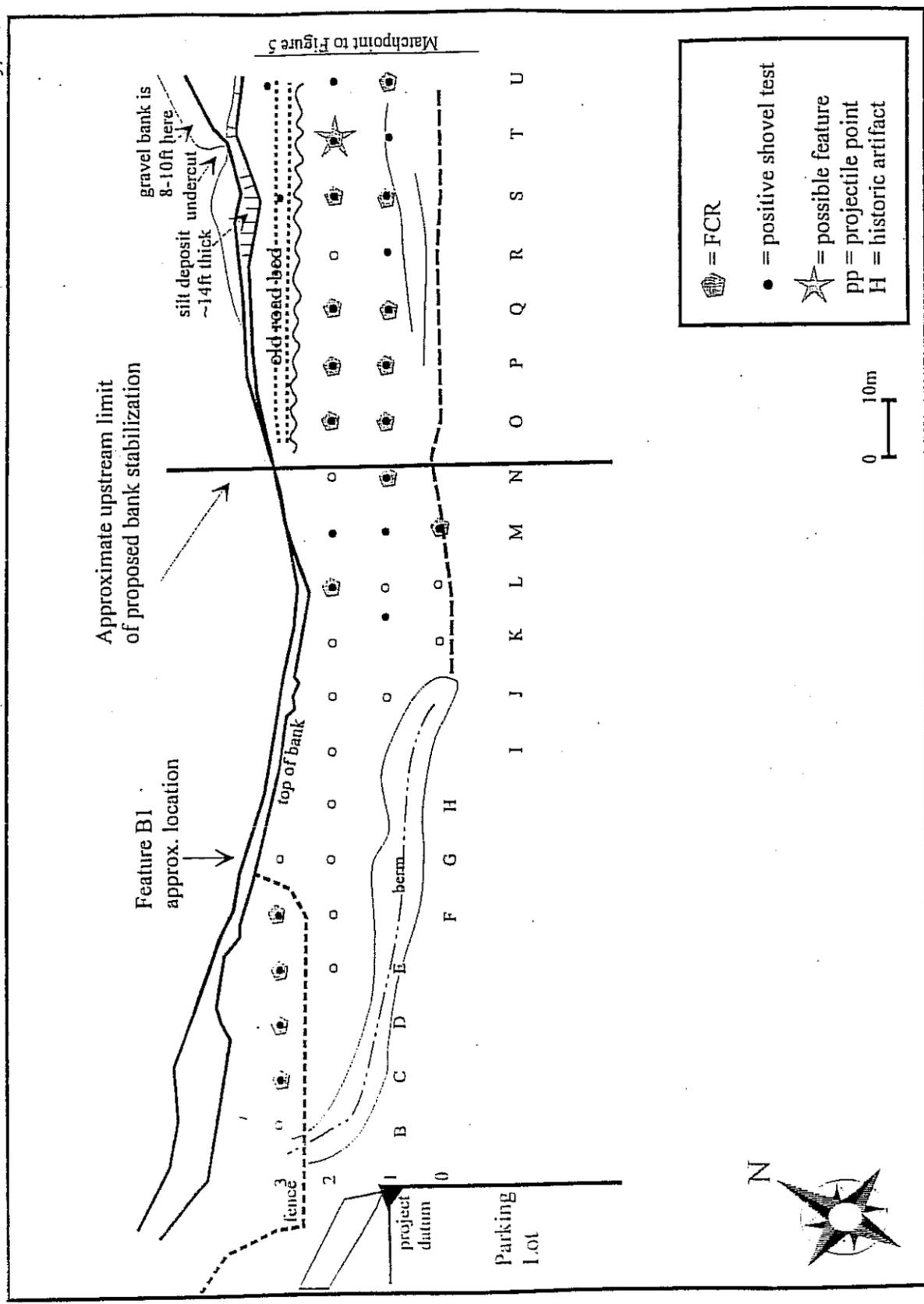


Figure 4. Project Map from Kreinbrink (2000) showing shovel testing results.

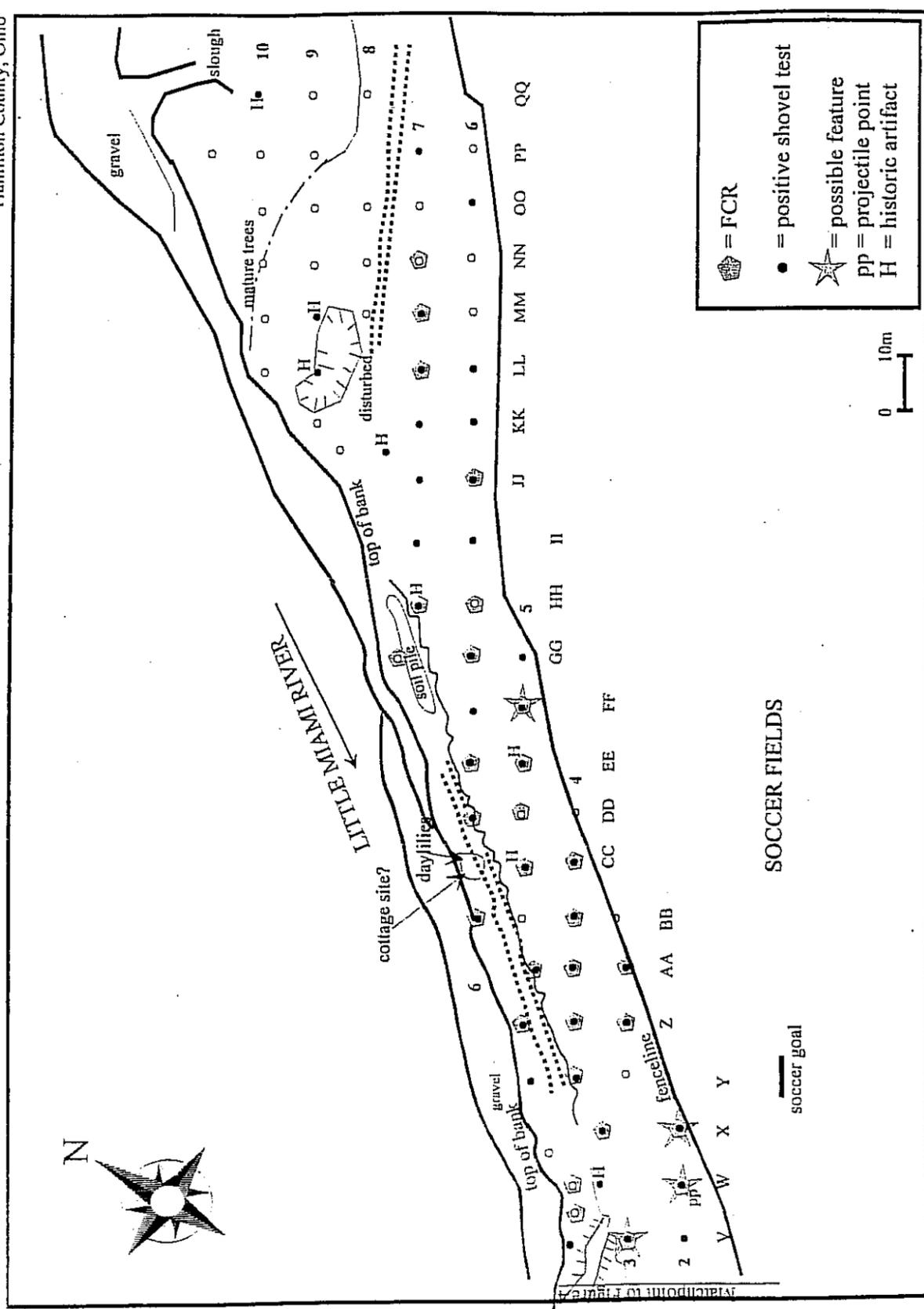


Figure 5. Project Map from Kreinbrink (2000) showing shovel testing results.

The western boundary of site 33HA128 had never been adequately defined. This area consists of an ODNR easement along the riverbank and has been in scrub and grasses for many years. The northern part of this area is in large beech and other trees.

The project area is situated along the bank of the Little Miami River. It is long, narrow, and curved (Figures 2-4). A corner of a parking lot was used for the project datum. The shovel test grid was laid out in straight lines at 10 meter intervals, using compass and tape measures.

Each shovel test was approximately 50cm in diameter and excavated to sterile soil or 50cm in depth. The field crew screened each shovel test through ¼ inch wire mesh. They bagged artifacts by provenience. During excavation, changes in soil type/texture were noted. If artifacts were encountered in differing soil horizons they were bagged separately by depth/soil type.

After the shovel test grid was completed, a few shorter interval shovel tests were conducted for further delineation of artifact concentration boundaries. Selected shovel test soil profiles are discussed below.

Natural & Ethical Environmental Solutions (N&E) conducted a program of shovel testing in the strip of land along the Little Miami Riverbank within Riverside Park (Figures 2-4). This strip of land consists of scrubby vegetation and grasses between the riverbank and the soccer fields to the east (Figure 2). Because of the ODNR easement, the ground could not be cleared or disked.

Figures 3 and 4 illustrate the results of the shovel testing. As described above, the grid used a corner of the Riverside Park parking lot as project datum. The field crew excavated a total of 113 shovel tests at 10 meter intervals. The total includes several intersite tests.

Of the 113 tests, 72 produced artifacts and/or fec. Table 1 lists general artifact types.

Table 1: Artifact categories from shovel testing.

ARTIFACT TYPE	QUANTITY
Projectile point (Jacks Reef: 500-900+ AD)	1
Chert Bifaces	2
Prehistoric pottery sherds, grit tempered	77
Celt preform	1
Chert cores/core fragments	2
Chert flakes	229
Bone fragments	128
Historic artifacts	55
TOTAL ARTIFACTS	495
TOTAL HISTORIC ARTIFACTS	55
TOTAL PREHISTORIC (INCLUDING BONE)	440

The artifacts appear to cluster into one small group at the southern end of the site and one very large cluster of positive shovel tests that stretches for over 200 meters along the river bank (Figures 3 and 4).

Four of the 72 positive shovel tests turned up in Row 3, just at the riverbank edge adjacent to the southern parking lot (Figure 4). Shovel tests C3, D3, E3, and F3 each produced either chert flakes or grit tempered pottery sherds. All contained at least one fragment of burned rock. Shovel test F3 produced fire cracked rock from between 29 to 50cm below the current ground surface. This narrow cluster of artifacts appears confined to the bank edge, within an area approximately 40 meters in length and up to 10 meters back from the bank edge. This part of the bank has experienced extensive erosion over the past several decades. These few shovel tests may be the last remnant of a site that has been almost completely washed into the Little Miami River. The shovel tests to the south and east exhibited signs of disturbance from construction and berming (Figure 4).

Feature B1, described below, was excavated from the vertical river bank in this portion of site 33HA128. This feature is described below and represents a buried component of the site.

Of the other 68 positive shovel tests, four contained only modern artifacts such as metal or glass. These four were found at the northern end of the site, near an excavated depression and a slough (Figure 5).

The 64 other positive shovel tests all produced artifacts related to the prehistoric Native American occupation of the site. These shovel tests are found between Row K and Row PP (310 meters) but are concentrated between Rows M and LL (Figures 4 and 5). They represent a continuous band of positive shovel tests for over 250 meters in length and encompassing almost the entire width of the grassy strip along the bank (30-40 meters wide). Toward the northern end of the project area, the positive shovel tests end and the remaining tests contained no prehistoric cultural artifacts. (Figure 5). The positive shovel tests in rows S, V, Y, Z, BB, and GG, continue right up to the edge of the bank (Figures 4 and 5). This may indicate that the edge of the habitation has been truncated by overbank erosion in these areas.

The intensive concentration of positive shovel tests between Rows M and LL also produced evidence of several possible features. Five shovel tests contained darker soils and fcr to depths of up to or exceeding 50cm (T2, V3, W2, X2, and FF5) (Figures 4 and 5). These may indicate the presence of sub-plowzone deposits.

The intensive occupation area of site 33HA128 along the Little Miami Riverbank then is concentrated between Shovel Test Rows M and LL, encompassing an area approximately 250 meters by 25 meters (average), or 6,250 square meters. This area contained almost all of the shovel tests that produced fcr and the shovel tests with subplowzone deposits indicating possible features.

2002 Feature Excavation

The following information is taken from a letter report produced by Natural & Ethical Environmental Solutions in June 2002 (Kreinbrink 2002). Additional information is included regarding radiocarbon testing results.

The Anderson Park District requested an archaeological investigation of an exposed cultural feature found eroding out of the west bank of the Little Miami River. Persons canoeing on the Little Miami River noted the feature in the vertical bank of the river and called Anderson Park District to report its location. The feature is situated within the known boundary of site 33HA128, as previously documented by Kreinbrink (1998; 2000).

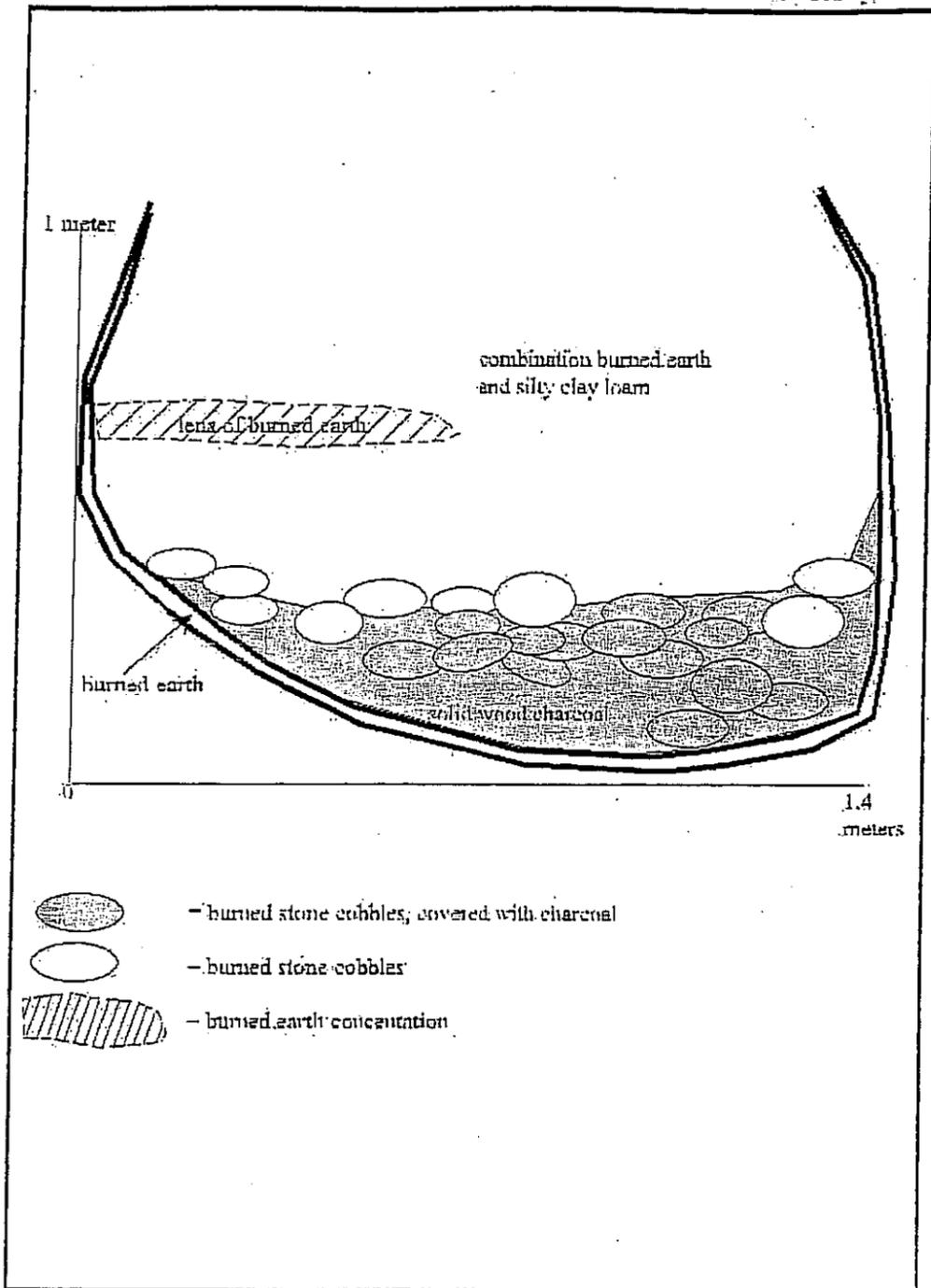
Prior to the discovery of this buried archaeological feature, almost all of the previously documented archaeological materials were recovered from 0-60cm below the current ground surface. The boundary delineation project conducted by N&E in 1999-2000 noted charcoal in the cut bank, approximately .5-1 meter above the gravel layer (Kreinbrink 2000). The charcoal was documented in the vertical riverbank in the vicinity of Shovel Test Grid Row G (Figure 4).

Designated Feature B1 (for buried feature 1), the investigation found the feature in the cutbank approximately .8-1.9 meters below the current ground surface. It is located between Shovel Test Rows E and F, or at least 15 meters downstream from the charcoal noted in 2000 (Figure 4). The feature is situated in a dangerous position in the vertical cut bank. The soil profile in the immediate vicinity consists of about 2.5 meters of silty clay loam over 1 meter of almost pure sand. The sand lies on top of at least 4 meters of unconsolidated large river cobbles with little soil matrix.

Feature B1 lies within the silty clay loam layer, about one meter above the gravel and just above the sand layer. The danger of bank slumping and the unstable nature of the sand and gravel below the feature precluded complete excavation. Park personnel lowered a ladder adjacent to the feature and secured it above the bank with rope. Using the ladder for safety, N&E Staff Archaeologist A. Chris Anderson cleaned the feature profile for photographic documentation (Appendix 2). A metric stadia rod was used for taking measurements. Figure 6 is a sketch drawing that was completed using the stadia rod.

During the investigation, they were able to obtain a charcoal sample from near the base of the feature by scooping the charcoal into plastic bags held inside a 5 gallon bucket. A separate soil flotation sample was collected in the same manner. The remainder of the feature was left intact due to the unstable nature of the river cut bank.

Feature B1 is a large pit feature found in profile in the vertical cut bank. It consists of an intensive soil stain measuring approximately 1.4 meters in diameter by .8-1 meter in depth. The top of the feature is



FEATURE PROFILE, SITE 33HA128

Figure 6. Sketch drawing of Feature B1, 33HA128.

located .8 meters below the current ground surface. The base of the feature is about 1.8-1.9 meters below the current ground surface (Figure 6 and Photos in Appendix 2).

The feature exhibits internal stratigraphy and distinctive morphology. The feature walls are burned to a reddish brown for most of the visible profile. A thick layer of burned wood charcoal lies above the burned feature margins. In the bottom center, this layer is at least 15 cm thick. Above the burned wood, at least three layers of burned river cobbles and a small amount of burned limestone cover the entire feature. They form a distinct layer within the feature profile, with little soil mixture among the rocks.

The feature extends about 50-60 cm above the rock layer. Burning is visible on the feature margins to the top of the feature. Soil matrix above the rocks is a mixture of burned and unburned silty clay loam. One distinct horizontal band of burned soil is visible approximately 10 cm above the rock layer (Figure 6).

No artifacts were visible in the feature profile. The flotation sample includes soil from above the rock layer and will be examined for the presence of artifacts. Flotation of the soil sample recovered only wood charcoal in large quantities. No artifacts were recovered. One radiocarbon sample was submitted to Beta Analytic in Florida for testing. The charcoal sample returned a calibrated date range of AD 690 to 990 (2 sigma calibration; Beta 169231). The standard radiometric date range is 1180 +/- 60 BP, or AD 770 +/- 60.

This date range provides information on when the buried cultural layer was deposited and the time depth for alluvial deposition at the site. Test excavations at site 33HA128 in the soccer field area found cultural materials dating several hundred years older than the radiocarbon date for Feature B1. The CMNH testing in 1995 documented the location of the mound excavated in the 1890s and found village debris that probably dates to the Newtown period of the Late Woodland (usually before AD700 at the most recent). That area is situated approximately 90-130 meters away from the bank edge.

The presence of younger material buried at the bank edge indicates that overbank deposition has been greater closer to the river. Several scenarios may account for this situation. If the area between what is now Roundbottom Road and the river sloped down toward the river, or contained a lower terrace closer to the bank, then more recent occupations could have existed closer to the river at ground level. Overbank deposition may have filled the lower terrace/slope until it became relatively level with the higher terrace. In this way it would appear that more recent sites were buried deeper than older sites.

The horizontal boundaries of this lower cultural horizon are unknown at this time. Deep testing has not been conducted in Riverside Park. The buried cultural horizon may not be excavated in the future depending on the nature of future impacts to the site.

If erosion of the riverbank is not halted, then both the surface and subsurface cultural components of site 33HA128 will continue to be endangered. The chances of additional features eroding out of the riverbank will increase as the bank approaches the intensively occupied portions of the site.

PROJECT IMPACTS AND MITIGATION RESEARCH DESIGN

Proposed Project Impacts

Anderson Park District is working to control and reduce the significant erosion that has impacted the Little Miami River bank in Riverside Park. One proposed plan includes stabilization of the river bank by grading and angling the bank at either a 2:1 or 3:1 slope. The area affected by the stabilization project includes an area approximately 18.3 m (60 ft) by approximately 244 m (800 ft) along the river bank in Riverside Park (Figure 1-3).

According to information received from Don Ball of the Louisville District, if the excavation/grading option is chosen, they anticipate impacting an area up to 18.3 m (60 ft) back from the bank. The action will include excavation of soil in order to create a slope leading back from the average low water mark to the current top of the bank.

This will impact portions of site 33HA128 (Figures 1 through 4). One portion of the site that will be impacted is located between the septic berm and the riverbank and produced cultural materials both from surface (0-50cm) contexts and buried contexts (below 80 cm). Feature B1 was recovered in this portion of the site as described above (Figures 3 and 4). Erosion continues to be a problem in this portion of the site. This segregated area of positive shovel tests may be a remnant of a site that has undergone extensive erosion and disappearance into the river. The buried portion of the site was previously undocumented until the recovery of Feature B1 in 2002. The horizontal extent of this buried component is currently unknown.

The APE will also impact the southern portion of the high concentration section of site 33HA128. As indicated on Figures 3 and 4, the shovel testing conducted in 1999 found that the intensive portion of the site begins at about shovel test row K, with even greater concentration starting at row M. The APE may impact up to approximately Row N. Thus up to 40 meters (131 ft) of this intensive portion of the site may be excavated to create the necessary bank slope for the stabilization project.

This is the most intensive portion of the site along the river's edge and includes possible features and midden and a large volume of cultural material. Figure 7 illustrates the possible vertical and horizontal impact to site 33HA128 from a bank stabilization project that includes cutting the bank at a slope.

Discussion

The OHPO and the Louisville District have requested this review of the impacts to site 33HA128 if the bank stabilization project proceeds using bank excavation/cutting. The following questions have been put forward regarding site 33HA128 and the potential impacts from the project.

- What do we know about the first 60 ft back from the river bank within Riverside Park?

Site 33HA128 extends to the river bank within an area approximately 310 meters in length, with an intensive area about 250 meters long (Figures 4 and 5). This area is situated up stream of the small structure at the edge of the river and is adjacent to the soccer fields.

North of the site to the upriver boundary of the park, the artifact density lessens to nothing. Historical disturbance and an erosional gully have impacted this area. Little cultural material other than twentieth century dumping debris is present.

One area downriver of the main portion of the site, but still upriver of the small structure on the bank produced four positive shovel tests plus the buried Feature B1 as described above.

Downriver from the small structure, the project impact area extends for another several hundred meters. This area has been extensively disturbed from modern construction and from recent erosion that has destabilized the bank. Little information would be gained from intensive archaeological investigations in this area. It would also be unsafe.

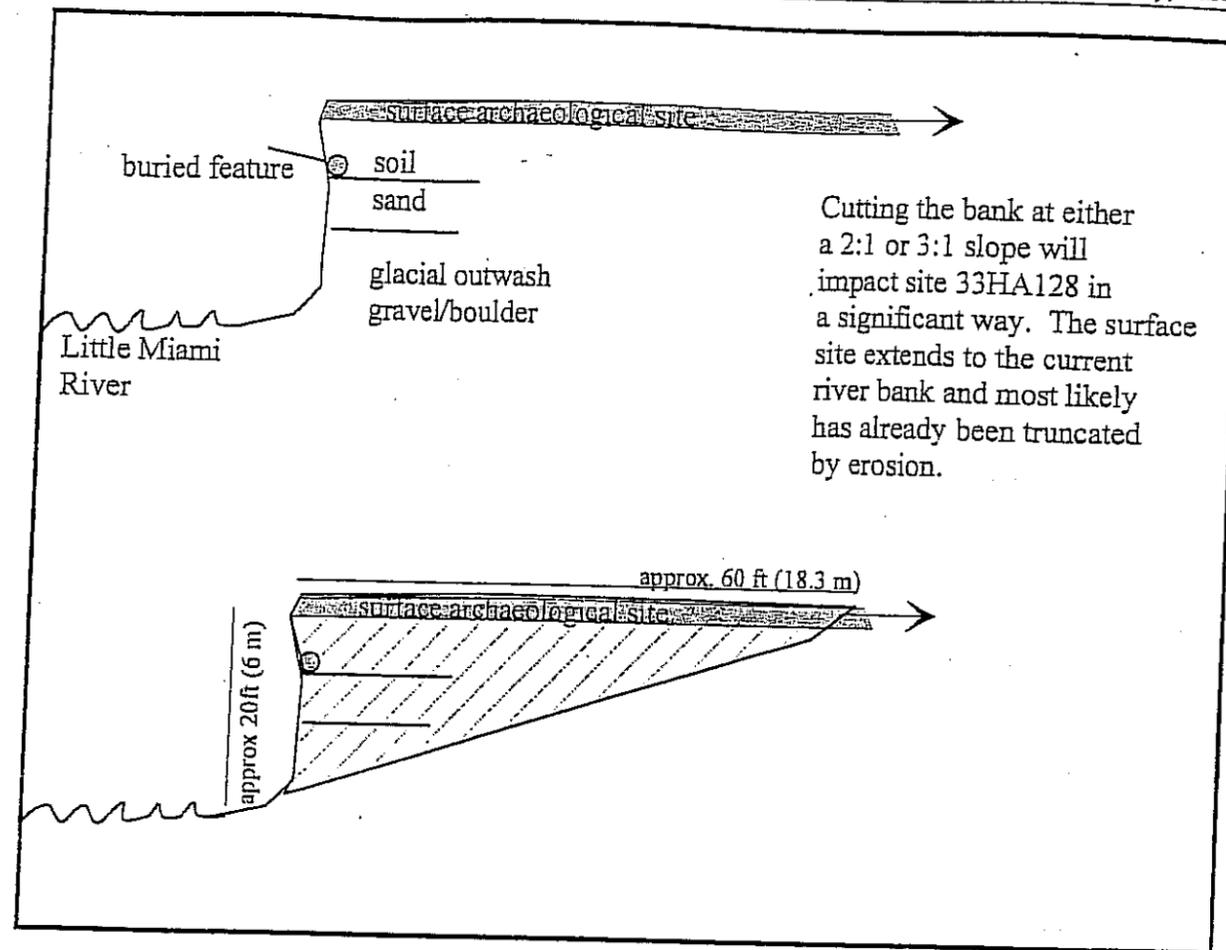


Figure 7. Schematic drawing showing potential impacts to site 33HA128.

- What will we find if we strip the plowzone, and where is the most likely place to recover the most archaeological information?

As mentioned above, the 250 meter stretch along the river bank that produced 100 percent positive shovel tests during the 1999 testing project is the most likely place to recover significant archaeological information. The shovel testing documented for and artifacts below the plowzone in many shovel tests. Five shovel tests contained evidence of possible subplowzone cultural deposits such as features or midden.

Stripping the plowzone in portions of this area should provide information on internal spatial patterning of the site, activity areas, possible village layout and other important data on Late Woodland social organization. The site should contain a variety of archaeological features including cooking and household features such as hearths, storage pits, and possibly house or other structure outlines.

- How important is data recovery at site 33HA128? How important is the stabilization for protecting the integrity of the whole of site 33HA128, not just the first 18.3 m (60 ft).

The following Research Design lays out the archaeological significance of site 33HA128 and defines the importance of preserving the site. The bank stabilization project at Riverside Park is not just about preserving the immediate vicinity of the riverbank. The entire park is located within this curve of the Little Miami River. The continued extensive undercutting and erosion that has greatly impacted the riverbank in recent years will continue if no action is taken. As the bank is continually eroded away by the river, more and more of site 33HA128 will disappear. This is an opportunity to slow down and hopefully control the erosion and to preserve a very important archaeological site. The information that will be retrieved by excavation will shed light on an important time period in Native American prehistory. The Late Woodland period marks a transitional period when the Native Americans were developing an agricultural way of life. The end of the Middle Woodland marked an end to a large scale involvement in a cultural phenomena known to archaeologists as the Hopewell period. Large earthworks such as the Turner Earthworks were located on the other side of Roundbottom Road a short distance away. Sometime after about AD400 the Native Americans stopped using these earthworks and began gathering together on a more local level into small villages. Site 33HA128 represents one of these village locations in the shadow of the former ceremonial earthwork sites. The following Research Design outlines some of the important research questions associated with the investigation and preservation of site 33HAA128.

Research Design

Site 33Ha128 is a Native American habitation site that includes archaeological components dating from the early through late Late Woodland. This time period saw the expansion of horticulture/agriculture activities on the part of the Native Americans. They were living in more permanent settlements for longer periods of time. This site was intensively occupied, based on the quantities of burned and broken animal bones, broken pottery sherds, and chert debitage found during the shovel testing.

Excavations in the late 19th and early 20th centuries found a burial mound, whose location is beneath the nearby soccer field. They also found evidence of intensive habitation surrounding the location of the mound. The Cincinnati Museum of Natural History conducted test excavations in that same vicinity in the mid-1990s. They confirmed the location of the previously excavated mound, found domestic archaeological features, and artifacts dating to the Middle Woodland and Late Woodland periods (probably from 100+ AD to at least 800 AD). The site probably was not occupied continuously during this 700+ year span, but used throughout this period as a village site or small housing sites by different generations and/or groups.

The site vicinity (Newtown, Hamilton County) is a very significant area for Native American archaeological activity in Southwest Ohio. The Turner Earthworks consisted of a large group of Hopewell (Middle Woodland) earthworks. They were located within one-fourth mile +/- of site

33Ha128. Although excavated in the 1920s, little is known about the relationship of the Turner Earthworks to the large numbers of archaeological habitations sites known from the Newtown area.

The terraces and floodplains of the Little Miami River valley were very attractive for the Woodland period Native Americans who were looking for well-drained soils and a variety of natural resources. The Newtown area has a large number of archaeological sites of all prehistoric periods. Located just below the confluence of the Little Miami and the East Fork of the Little Miami rivers, it may have been especially attractive, with a variety of animal and plant resources. Culturally, the area contains a large number of earthworks, including Turner as mentioned above, and the Milford Earthworks, just up the East Fork of the Little Miami River. Both date to the Hopewell period and would have been large centers of activity, drawing people from outlying areas for ceremonies, meetings, trading, and other cultural activities.

The proposed mitigation at site 33Ha128 provides an opportunity to investigate an intensively occupied archaeological site dating to the Woodland period. If cultural deposits from the Middle Woodland period are found, they may contribute information regarding the nature and use of the area during this culturally significant time period.

The Late Woodland period saw a shift from the ceremonialism of the Hopewell to an emphasis on village and local community. This time period also saw an increasing reliance on horticulture for subsistence. Research questions that may be answered by excavation at site 33Ha128 include the following:

- What is the relationship of site 33Ha128 to other known sites in the Newtown area? Are they similar in configuration, types of features, subsistence, time of year occupied, and so forth?
- If Middle Woodland artifacts are found, what is the possible relationship to the Turner Earthworks, a large Hopewell ceremonial and burial site located just a short distance away from the site?
- What information can be obtained regarding types of plants and animals they hunted or cultivated. Does the site show increasing reliance on cultivated plants?
- What time periods are represented at the site? Can they be determined from diagnostic artifacts, and/or radiocarbon dating?
- If features are encountered, what information will they provide on site layout, intensity of occupation, and relationship to other nearby sites?

Summary

The archaeological mitigation of site 33HA128 will provide significant information on the Native American utilization of the Little Miami River valley during several critical and little understood time periods. The proposed bank stabilization project will impact two portions of site 33HA128.

- 1: The project will impact the vicinity of the buried Feature B1 and the adjacent 30 meters of surface cultural material (30 m x 18 m, 540 m²)
- 2: The project will impact an area up to 40 meters by 18 meter (720 m²) in the larger, intensive portion of site 33HA128. This portion of the site also contains evidence of subplowzone features and cultural deposits.

A data recovery plan will take into account the sensitive nature of the Native American archaeological site as well as safety concerns related to OSHA and the unstable nature of the riverbank. Proposed excavation methods will consist mainly of mechanical stripping of the plowzone in approximately 30 percent of the impacted site areas. Hand excavated units may be placed within the stripped areas to sample deeper deposits and the determine vertical site stratigraphy. Features uncovered during the mechanical soil removal will be mapped and excavated. In-depth methodology and research design for the data recovery will be prepared as a Mitigation Plan.

Safety considerations will be an important logistical component of this project. The unstable nature of the riverbank will preclude excavation within at least 5 meters of the bank itself. Several lengthy areas of the bank exhibit undercutting, with slumped areas visible along the bank. The proposed data recovery will focus on the impacted portion of the site between 5 and 18 meters back from the edge of the bank. A detailed safety plan will be included in the actual Mitigation Plan.

REFERENCES CITED

Kreinbrink, Jeannine

2000 *Boundary Delineation Site 33HA128, at Riverside Park, Anderson Park District, Hamilton County, Ohio.* Submitted to the Anderson Park District. On file at the OHPO.

1998 *Riverside Park Archaeology Project, Assessment of Site 33HA128 (42), The Edwards Site, Hamilton County, Ohio,* submitted to the Anderson Park District. On file at the OHPO.

Starr, S.F.

1960 *The Archaeology of Hamilton County, Ohio.* The Journal of the Cincinnati Museum of Natural History.

APPENDIX 1 - 1998 PROJECT REPORT