Date of Report: June, 30 1995 JUL 12 1995

LCMR Work Program 1993

I. Project Title: Recreational Resource Planning in the Metro Mississippi Corridor

Program Manager: William R. Morrish, Director
Agency Affiliation: Design Center for American Urban Landscape
Address: Suite 222
1313 Fifth Street S.E.
College of Architecture and Landscape Architecture
University of Minnesota
Minneapolis, MN 55414-1546
Phone: (612) 627-1850

A. Legal Citation: M.L. 93 Chpt. 172, Sect. 14, Subd. 8c

	LCMR Funds	Matching Funds
Total Biennial LCMR Budget:	$175,000	$25,000
Balance:	$ 0	$ 0

Appropriation Language as drafted 7/27/92: Subd. 8c. This appropriation is from the future resources fund to the commissioner of natural resources for a contract with the University of Minnesota to investigate the potential for enhancing and enriching the recreational opportunities along the Mississippi River in the metropolitan corridors of the Mississippi National River and Recreation Area (MNRRA). This appropriation must be matched by $25,000 of nonstate funds.

B. LMIC Compatible Data Language: Not applicable

C. Status of Match Requirement:
Match Required: $25,000
Funds Raised to Date: $25,000

Dayton Hudson Foundation has committed funds for this grant in the amount of the match requirement of $25,000.

II. Narrative:

The LCMR funding will be used to investigate the potential for enhancing and enriching the recreational opportunities between the Mississippi National River and Recreation Area (MNRRA) and the communities adjoining the MNRRA corridor. Building on the existing National Park Service (NPS) MNRRA study, this project will take the supplemental next step, expanding beyond the MNRRA study, to investigate in more detail areas contained in the municipalities and townships abutting the MNRRA corridor. This project will produce a comprehensive, integrated plan for developing environmental and recreational opportunities that can aid cities in capitalizing on their unique position along the MNRRA corridor. This project will also empower the local communities to take maximum advantage of

their proximity and connection to MNRRA for recreational and environmental resource planning.

The MNRRA Management Plan prepared by the NPS will cover a long narrow corridor that is an average of two miles wide. By necessity, the MNRRA Management Plan is limited to the area inside of the linear corridor only. This LCMR funded project will study the land **outside the MNRRA corridor** to assess the implications for and connections between the corridor and the surrounding communities. It will explore ways in which recreational and environmental "green fingers" can extend from MNRRA into those surrounding communities, crossing municipal boundaries as many natural systems do.

The project will be carried out in cooperation with the Metropolitan Council and will provide information which will assist the Council in integrating their policies and plans in response to MNRRA opportunities.

III. Statement of Objectives:

A. Identify, inventory, and map relevant data in the municipalities and townships which are adjacent to the MNRRA corridor.

B. Conduct education workshops in communities along the MNRRA corridor to present findings on recreational and environmental resource opportunities.

C. Prepare a recreational/environmental resource planning study for a minimum of three case study regions along the MNRRA corridor.

D. Develop design principles, strategies, and recommendations for recreational/environmental projects in communities adjoining the MNRRA corridor.

E. Provide information and education to communities on recreational and environmental resource planning in the metro Mississippi corridor.

IV. Objectives:

A. Identify, inventory, and map relevant data in the municipalities and townships which are adjacent to the MNRRA corridor.

A.1. Narrative:
This objective is an overall inventory of physical features in local communities adjoining the MNRRA corridor. The study area of this project is the 69 local units of government bordering or near the MNRRA corridor. This project will build upon the previous National Park Service (NPS) MNRRA work. This project will not repeat the inventory and analysis work the NPS has previously completed on MNRRA; rather it will work with the assistance of NPS. Composite maps will be prepared of all existing land use and community development plans, including the identification and inventory of the recreational and environmental resources of communities along the corridor. Mapping of the information will identify opportunities to protect, enhance, and enrich those community connections to recreational and environmental resources. Analysis will also identify planning and development implications of MNRRA for surrounding

communities. Every effort will be made during all steps of this project to involve MNRRA staff.

A.2. Procedures:
Review information previously collected and mapped by the NPS for MNRRA. New data will be collected as necessary to supplement MNRRA data in the form of aerial photographs, maps, planning reports, and policy documents from local and state units of government for the study area, which is that area adjacent to the MNRRA corridor. From the collected data, an inventory and composite maps will be prepared of the NPS MNRRA data and the data from communities to identify significant and critical environmental resources outside the MNRRA corridor, but within the project study area. The maps will also depict all data necessary to identify significant and critical recreational and civic resources within the study area and the connections and linkages to the MNRRA data. Composite summary maps and a report will be prepared to illustrate opportunities for recreational and environmental planning, connections, and linkages related to the MNRRA corridor.

A.3. Budget

	LCMR Funds	Matching Funds
a. Amount budgeted:	$30,000	$5,000
b. Balance:	$ 0	$ 0

A.4. Timeline:

7/93 1/94 6/94 1/95 6/95

Review information previously collected and mapped by the NPS for MNRRA.
xxxx

Collect additional aerial photographs, maps, planning reports, and policy documents, as necessary, for the study area from the local units of government adjacent to the MNRRA corridor.
xxxx

Prepare set of study area maps illustrating the information.
xxxx

Prepare composite summary maps and a report which illustrates opportunities for recreational and environmental planning, connections, and linkages related to the MNRRA corridor.
xxxx

A.5. Status:
The Design Center has collected maps, documents, and geographic information system data from the National Park Service staff, the Minnesota Geological Survey, the Minnesota DNR, the Metropolitan Council, libraries at the University of Minnesota, local units of government, and local newspaper articles identifying recreational, environmental, historic, and cultural urban-design resources within the communities adjacent to the river corridor. In addition, we have collected aerial-photographic inventory

information, both low-level and high-level, of the communities along the river corridor and selected intersecting community corridors which had recreational, environmental, and/or urban design significance. The design center has explored and continues to explore the use of computer technology to visualize urban design opportunities within the environment of those communities adjacent to the river. The investigation of these methods focuses on the portrayal of the physical attributes of the inventory data.

The preliminary physical inventory and MNRRA public meeting information indicated that there are three distinct regions or "reaches" to the Mississippi River within the metropolitan area. Reaches are river domains which share common physical and cultural characteristics. We have adopted this language as a way to structure the analysis and to begin investigating community recreational and environmental urban design opportunities. Those reaches are the Anoka Sand Plain and River Terrace Reach; the Minneapolis Falls and St. Paul Canyon Reach; and the Hastings Valley and Prairie Plain Reach (working titles for each reach were the Sand Plain Reach; the Historic Falls and Gorge Reach; and the Floodplain Valley Reach).

Exploratory mapping of the Minneapolis Falls and St. Paul Canyon Reach communities of Minneapolis, Saint Paul, Mendota Heights, West St. Paul and South St. Paul was completed early in the process of collecting information. Information from these communities was mapped and synthesized because the communities contain many of the components which are found in the northern and southern reaches, as well as urban design elements which are unique to Minneapolis and St. Paul. This preliminary work focused on establishing a framework and language for Objectives C and D. The resulting investigation took an academic look at the urban design relationships inherent in these river communities and began to explore how these existing relationships form a recreational and environmental urban fabric which can be built upon and expanded to make connections to the Mississippi River. Many of these connections do not stop at city boundaries, but extend into neighboring communities.

The Design Center also interviewed officials involved in recreation and environmental planning in the metro area. Jack Mauritz, former Parks Coordinator for the Metropolitan Council, provided information on regional preserve and recreation programs, the natural history of the river and metropolitan area, and the political nature of park planning in the metro area. Al Singer, Park Planner for the Minneapolis Park Board, provided a summary of projects and ideas in Minneapolis. Natural Resources staff for Hennepin Parks provided information on watershed and habitat preservation and restoration efforts in and near parks. And Michael Opat, Hennepin County Commissioner, provided information on parks and infrastructure projects he would like to discuss in North Minneapolis and the northern suburbs.

The Design Center produced and submitted a report summarizing work completed above (Objectives A, C, and D) to the Minnesota Department of Natural Resources. Contact: Steve Johnson.

Based on the preliminary investigations discussed above, the inventory mapping proceeded on the three reaches of the river discussed above. The

scale chosen is 1 inch = 2000 feet (US. Geological Survey, 7.5 minute quadrangle scale). Utility corridors (sanitary sewer, oil pipelines, gas pipelines, electric transmission lines, active and abandoned railroad lines) have been mapped. A composite map is completed for federal, state, regional, and municipal park, conservancy and open space lands. In addition, schools, libraries, municipal buildings and land, airports, colleges and universities, state lands and other public lands are also included on this map. This is the only composite map of its kind. Information for the composite mapping was collected from approximately 35 to 40 city, county, and state maps. In addition, Capital Improvement Project plans (CIP) have been collected for many of the communities adjacent to the Mississippi River and a series of 1 inch = 4000 feet resource overlays has been created for the entire study area for use in the educational workshops.

To understand the current status of river connections, a Community Trails Map gathers information from over 100 documents and interviews to show existing and proposed municipal, county, regional and state pedestrian and bicycle trails and routes. To understand and communicate the underlying natural resource systems that can structure future connections to the river, the following natural resource layers were compiled and reproduced:

Physiography: An Interpretation of Surface Relief. Based on USGS topographic contours and county geological surveys, this map shows the patterns of plains, hills, valleys and other features that could be highlighted along a recreational or open space system to the river.
Wet Soils: Soils with a Seasonal High Water Table Within 1-3 feet of the Surface. Based on county soil survey data, this map highlights areas where soil conditions may limit the long-term viability of structures such as basements and septic systems due to wetness or instability of organic materials. These soils typically occur in striated patterns, where in the future open space corridors may be a preferred development option.
Buried Wet Soils: Fill Material Over Wet and Organic Soils. In urbanized areas, county soil survey map units are aggregated into broader categories. This map shows where filled materials have been placed over wet, organic soils. These places may be future restoration sites for new habitat and trail connections in cities, since many buried wetlands follow valleys that are currently underutilized rail corridors.
Watersheds. This map shows the study area in relationship to boundary lines from the Board of Water and Soil Resources map of metropolitan watershed management organizations. It suggests a river-relationship based on surface water flow that transcends municipal and county borders.

Key findings from research in objective A are as follows:

1. The river passes through three distinct regions in the metropolitan area, each with its own set of opportunities to connect to the river.

2. Communities have many public parks and facilities that are near the Mississippi, but are not connected to the river or are not developed for recreational or habitat use.

3. Many potential access-ways to the river cross municipal boundaries and extend far into the landscape: both natural paths such as streams or glacial valleys and built paths such as roads or power lines.

4. While many communities and counties are gaining computerized GIS technology, the type of information gathered and file formats are not consistent, therefore for a study area that crosses municipal boundaries, recreational planning data such as soil surveys must be manually compiled and interpreted.

A.6. Benefits:
The inventory and mapping will identify underutilized recreational and environmental resources which can be reclaimed, developed, or conserved as environmental fingers to provide neighborhood connections and community access to the MNRRA corridor. This inventory will illustrate to adjoining MNRRA communities the benefits and/or liabilities of the resources mapped and the critical relationship these resources have to one another.

B. Conduct education workshops in communities along the MNRRA corridor to present findings on recreational and environmental resource opportunities.

B.1. Narrative:
This objective begins with a series of interactive community education workshops with local officials and interested citizens in communities adjoining the MNRRA corridor. The goal of these workshops is to exchange information with these communities on the issues and potential implications of MNRRA for future community recreational and environmental projects which are in the study area adjacent to but outside of the MNRRA corridor. The task of these workshops will be to present the inventory, information, and composite maps on recreational and environmental resource opportunities inherent in MNRRA and to present the preliminary implications for municipalities and townships adjacent to MNRRA. This may involve up to twenty-three community workshop presentations.

The Design Center participants will present the inventory and mapping report from Section II.A.4., the idea of a recreational/ environmental study, the relationship of this type of planning study to the MNRRA management plan, and the relationship to the Design Center's previous LCMR project, *Reclamation of Recreational Systems and Environmental Resources from Existing Urban/Suburban Neighborhoods*. Workshop participants will present their community and its resources as they see the community relating to the MNRRA corridor. These workshops will also be used to identify potential working zones for more focused research into community connections to MNRRA in objective C.

B.2. Procedures:
Organize and conduct a maximum of twenty-three (23) interactive community education workshops with local government officials and interested citizens in communities adjoining the MNRRA corridor. Invitations will be sent to all twenty-three local units of government (LUG) adjoining the MNRRA corridor. Upon acceptance by the LUG, wider notice will be extended to the public. The purpose of these workshops is to

explain the planning and development implications and opportunities of MNRRA to the bordering communities and local governments. From these workshops, the project team will produce a summary of the generic workshop format from workshop notes, a list of participating communities, and a summary of the general community responses to the workshop. Based on the workshops, prototypical recreational/environmental projects will be identified to focus on as potential case studies. A summary report will be produced outlining the selection criteria used to determine the case studies to be pursued in objective C.

B.3. Budget

	LCMR Funds	Matching Funds
a. Amount budgeted:	$25,000	$5,000
b. Balance:	$ 00	$ 00

B.4. Timeline:

7/93 1/94 6/94 1/95 6/95

Organize and conduct a maximum of 23 community education workshops in communities adjoining the MNRRA corridor.

xxxx

Produce a workshop summary report.

xxxx

Identify individual case studies and produce a summary report outlining the selection criteria used.

xxxx

B.5. Status

In August 1993, Design Center project staff began Objective B by attending public meetings scheduled by the National Park Service (NPS) to receive comment on the Park Service draft plan for the MNRRA corridor. Design Center staff attended the NPS public meetings to gain insight and to understand the public and municipal concerns related to the Mississippi River corridor in preparation for the educational workshops and design investigations in objective C. Early in this process it became clear that negative citizen comment was changing the proposed MNRRA planning schedule to afford the NPS time to redraft the plan in response to public comment. In the meantime, on the advice of the NPS and the Dept. of Natural Resources (DNR), we tabled our proposed public meeting process, scheduled for fall 1993, until a time that the NPS and the "community" reached positive consensus. Those agencies felt that to hold our LCMR educational workshops would further confuse an already tense situation.

During the interim, Design Center project staff focused our research work on those portions of the study that would not disrupt MNRRA's work effort: more extensive resource inventory; identification of case study areas for objective C; and the development of design principles and strategies for objective D (changes in the time schedules of objectives B-D reflect this reorganization).

From our research in objective A, it became clear that our study approach needed to be broadened to achieve our goal of creating a comprehensive, integrated plan for developing environmental and recreational opportunities to connect to the river. Focusing on four individual municipalities would limit us to studying connections within community boundaries, losing the opportunity to plan a larger system with the river as its centerpiece. Instead, using the three reach regions as case study areas would allow us to identify opportunities for multiple communities to work across boundaries, developing both natural system and built paths with a common strategy for connecting to the river. By taking this regional approach, 69 communities will see how they fit into a Mississippi River recreational and environmental framework. This shift in approach directly involves and serves a greater number of communities and addresses the cross-jurisdictional nature of river connection opportunities.

Two newsletter documents have been completed as a summary of the synthesis of our inventory information and will be used in the educational workshops. Maps were created from information contained in collected documents, maps, city plans and capital improvement projects, and aerial photographs of the public and selected semi-public land existing within the study area. The synthesis of this information revealed: 1. The river's influence extends very deep into the neighborhoods and communities surrounding the river; and 2. There is a very diverse palette of component pieces connecting or having potential to connect neighborhoods and communities to the river.

The first newsletter document, *Redefining the River Corridor as a River Community: Using the Mississippi River as a Development Framework for Twin Cities Metropolitan Communities*, summarizes design principles for recreational and environmental opportunities in the 72 mile metropolitan river corridor. The newsletter focuses on point 1. above, proposing the Mississippi River as the "backbone" of a community-building network that extends inland, far beyond the river's shoreline, into the fabric of each nearby community. The first half of the newsletter is a discussion of the inventory mapping component of the project, while the second half of the newsletter highlights the three urban-design "reaches" to the Mississippi River in the metropolitan area, ending with a summary of design principles associated with each reach. The "reaches" are Anoka Sand Plain and River Terrace Reach; the Minneapolis Falls and St. Paul Canyon Reach; and the Hastings Valley and Prairie Plain Reach.

The second newsletter document, *Corridors, Networks and Watersheds: Neighborhood Connections to the Mississippi River in the Twin Cities Region*, studied nineteen existing and potential recreational and environmental connections to the Mississippi River and the wide variety of forms that those connections can take, given local resources (point 2. above). These mini case studies of recreational and environmental connections are organized in the newsletter using the urban-design components of corridors, networks and watersheds summarized on the last page of newsletter document A.

A community education workshop, entitled "Building a River Community," was held on December 15, 1994. Over 300 invitations had been mailed to communities, agencies, and groups representing all twenty-three local units

of government adjoining the MNRRA corridor, additional cities and counties included in our research area, state agencies, metropolitan agencies, federal agencies, foundations and funding sources interested in river related work, state and local politicians with river constituencies, and river neighborhood representatives. Over eighty representatives of these groups were in attendance, receiving copies of newsletters one and two. Following a slide presentation of the three reaches and urban design principles, attendees participated in one of three reach workshop sessions.

In workshop sessions, attendees identified areas with upcoming projects, local connections or gaps in connections to the river. These locations will begin to define "working zones," places where there is physical change or potential reinvestment. In these places, a strategic addition of enhancements to capital improvement projects could complete a missing link to the river or create a new river-related identity for surrounding communities. Working zones will be future developed in future workshops and in newsletters outlined in objective C.

The Design Center produced and submitted a workshop summary report to the Minnesota Department of Natural Resoures. Contact: Steve Johnson. Those invitees that were unable to attend but who requested information on the workshops were mailed workshop summary reports as well as newsletters one and two.

B.6. Benefits:
The input of local officials and citizens will facilitate response to local issues in the project. The presentation will illustrate to each municipality or township the implications that MNRRA will have on their community outside of the MNRRA boundaries from a recreational and environmental planning viewpoint and illustrate opportunities for recreational and environmental opportunities in areas adjacent to MNRRA. This objective will help local units of government understand the opportunities that MNRRA presents to their communities so that this information can inform their short and long term community plans.

C. Prepare a recreational/environmental resource planning study for a minimum of three case study regions along the MNRRA corridor.

C.1. Narrative:
This objective will identify a minimum of three case study regions for the production of a recreational/environmental resource planning study that will enhance and enrich connections between the case study communities and MNRRA. Case study regions will include multiple communities because many connections to the river move across municipal boundaries and extend further into the landscape than the cities or townships that border the river's edge. The project team will prepare a planning study for each case study that is coordinated with MNRRA Management Plan and with local and metropolitan plans. Working zones within the region will be selected based upon local government interest in the project, the nature of the resource, the need for stewardship of the resource, the prototypical nature of the community, and geographic location.

C.2. Procedures:
Select a minimum of three case study locations. For each of the three case studies the following procedure will be used: The project team may lead local government officials and interested citizens on a walking/driving tour of the recreational and environmental sites within the community. The team will lead a series of community planning workshop sessions which will focus on identifying physical linkages and connections to MNRRA that strengthen community recreational and environmental resources. A summary recreational/environmental design scenario will be developed for each case study to test assumptions and to identify design principles for the communities studied. A newsletter format summary document of each case study, available for public distribution, will be produced.

C.3. Budget:

	LCMR Funds	Matching Funds
a. Amount Budgeted	$60,000	$7,000
b. Balance	$ 0	$ 0

C.4. Timeline:

	7/93	1/94	6/94	1/95	6/95
Select case study locations and initiate working relationships with case study communities.	xxx				
Case Study A					
Finalize working relationship with community.		xxx			
Tour of community recreational and environmental sites.			xxx		
Conduct workshop design sessions.				xxxxxxxxx	
Develop summary recreational/environmental design scenario.				xxxxxxx	
Develop and produce summary newsletter document.					xxxxx
Case Study B					
Finalize working relationship with community.		xxx			
Tour of community recreational and environmental sites.			xxx		
Conduct workshop design sessions.				xxxxxxxxx	
Develop summary recreational/environmental design scenario.				xxxxxxx	
Develop and produce summary newsletter document.					xxxxx
Case Study C					
Finalize working relationship with community.		xxx			
Tour of community recreational and environmental sites.			xxx		
Conduct workshop design sessions.				xxxxxxxxx	
Develop summary recreational/environmental design scenario.				xxxxxxx	
Develop and produce summary newsletter document.					xxxxx

C.5. Status:

Community Contacts:
As described in Status B.5., the 69 local governments and 5 counties within the study area were invited to our first workshop, as well as other agencies and organizations. Of those communities participating, a high proportion represented the Minneapolis Falls and St. Paul Canyon Reach (middle reach). We therefore contacted city and county planners from communities who did not attend the workshop, concentrating our efforts on developing additional working relationships with communities in the Anoka Sand Plain and River Terrace Reach (north reach) and Hastings Valley and Prairie Plain Reach (south reach).

In this process Design Center staff conducted 18 mini-workshops with individual city or county planning staff, discussing the resource maps and concepts of connections to the Mississippi; local development issues that help or hinder these connections; and local recreation and trail priorities that could add to a system of river connections. Over 20 more cities, townships and watershed organizations were contacted and briefed on the project through phone interviews covering the same topics. All cities and counties within the study area received copies of newsletters one and two, and were contacted to request updated planning documents, particularly trail and recreation plans. To gain additional natural resource information, particularly on plant and animal corridors in the reaches, local DNR and Fish and Wildlife staff were briefed on the project and interviewed.

Recreational and Environmental Sites
During these workshops, it became clear that while our composite resource map as described in Status A.5. was good starting point, several gaps were apparent in the inventory and analysis of recreational and environmental sites. In lieu of tours of community recreational and environmental sites, we concentrated on creating resource map layers showing less visible yet important environmental patterns and corridors that could be connected to the river, such as wet soils, buried wet soils, physiographic relief and local watersheds, for use in future community workshops. In addition we compiled a map layer of all local, county, regional and state existing and proposed trails within the study area, as a base for our draft framework of Mississippi River connections. These resource layers are more fully described in Status A.5.

Workshop Design Sessions
In March, three workshop design sessions were held, one in each reach. Participants from neighborhoods, cities, counties and resource agencies attended. Building on information gained from workshops, interviews and resource mapping, the design center drafted a framework of river connections and suggested working zones - places where there is change occurring or reinvestment happening as a matter of course or areas where reinvestment should happen but is not at the present time. These materials, along with a review of corridor, network and watershed design principles, were presented as a basis for comment and discussions. Observations and comments were recorded on the framework map and in note form. A summary of these workshops was delivered to our DNR contact, Steve Johnson. The summary was also mailed to those who were unable to attend but requested information.

Summary Environmental/Recreational Design Scenarios
An urban design framework of river connections was drawn for the entire study area, reflecting the observations and comments from the previous workshop. Design scenarios for two more detailed study areas, or working zones, were also developed for each reach. These case study areas represent key river-connection issues or resources in the reach and examine in greater detail how several communities can integrate corridor, network, and watershed connections into an urban design framework that uniquely suits their river neighborhood or reach. In the Minneapolis Falls and St. Paul Canyon Reach the Bassett and Shingle Creek area of Minneapolis, and the Trout Brook Neighborhoods of St. Paul were the two working zones studied, while nine other areas were identified as additional priority working zones. The northern creeks area between Elk River and Anoka and the sand plain neighborhoods along 109th Ave. N.E. were the two working zones studied in-depth in the Anoka Sand Plain and River Terrace Reach, with nine additional working zones identified as priorities. In the Hastings Valley and Prairie Plain Reach, the Pine Bend area and the Vermillion River were the two working zone examples, with ten additional priority working zones identified.

Summary Newsletters
One newsletter for each reach was created: *The Sand Plain and Terrace Reach: Extending and Protecting Systems*; *The Falls and Canyon Reach: Reinvesting and Connecting*; *The Valley and Prairie Plain Reach: Preserving and Enhncing Assets*. Each newsletter summarized the recreational and environmental planning issues that were identified during this study; showed the framework map of river connections, focused on the two working zone design scenarios and concluded with a map and brief description of priority working zones within the reach. This newsletter was distributed at the final community presentation, described in E.5., and has been delivered to our DNR contact, Steve Johnson.

C.6. Benefits:
The local unit of governments and interested citizens will learn ecologically based strategies and design principles for connecting their community to the Mississippi River. Communities will receive a summary document which will provide its citizens with a vision for developing, protecting, and enhancing recreational and environmental amenities. This project will empower the communities to make environmentally sensitive planning decisions that will increase recreational/environmental connections to the Mississippi River and MNRRA. These case study documents will also provide a step by step approach to recreational and environmental planning and design which other river communities can use to make similar decisions.

D. Develop design principles, strategies, and recommendations for recreational/environmental projects in communities adjoining the MNRRA corridor.

D.1. Narrative:
This objective will develop common and specific design principles for community recreational/environmental projects adjacent to the MNRRA corridor. The purpose of developing these design principles is to provide ecologically sensitive tools to community planners and decision makers. These tools will be developed from the recreational/environmental design studies of objectives A, B and C.

D.2. Procedures:
Evaluate all studies in objective A , B and C for common themes defining regional differences and commonalities. Using the evaluation of the studies and the objective A inventory summary, develop both common corridor-wide urban design principles and specific local community urban design principles for recreational/environmental projects. (The local principles relate to the specific situations within the community being studied. The corridor-wide principles are those which connect the study area river communities to the metro area and the MNRRA corridor.) Prepare a working draft which illustrates both corridor-wide and local specific environmental design principles, strategies, and recommendations in an easily understood graphic format.

D.3. Budget

	LCMR Funds	Matching Funds
a. Amount Budgeted	$35,000	$3,000
b. Balance	$ 00	$ 00

D.4. Timeline:

7/93 1/94 6/94 1/95 6/95

Define regional differences and commonalities of the study area.
xxxxxx

Define local principles derived from regional case studies.
xxxxxxx

Define corridor wide urban design principles for recreational and environmental projects within the study area.
xxxxxxx

Develop a working draft of final publication.
xxxxxxx

D.5. Status:
In response to the change in MNRRA's process, this portion of the study was completed ahead of our original work plan schedule. This reorganization proved useful, as the urban design principles were

formulated and summarized in two newsletter publications that have been valuable tools in our meetings with citizens, city and county planners and Metropolitan Council staff.

The investigations in Objectives A, B and C have revealed the following urban design principles for making community recreational and environmental connections to the river: *Corridor Principle*- Communities can extend the Mississippi River to inland neighborhoods by constructing green corridors using stream branches, coulees and environmentally enhanced infrastructure; *Network Principle*- Communities can capitalize on the Twin Cities tradition of making recreational and environmental loops or "rounds" by constructing a composite network of river connections; *Watershed Principle*- Each river community is a headwaters to the Mississippi River--a watershed that unites neighborhoods through shared aquatic and habitat resources which underpin community and identity (see newsletter documents one and two for a more in depth discussion of these principles).

As noted in the newsletter documents, each of the three reaches of the river, noted in A.5., more strongly highlighted one of the principles above, but all reaches, to some degree, contained elements of all three.

Newsletter Two expanded on the three principles above, identifying six specific examples of each principle. As with the principles above, each specific example, to some degree, contained elements of all three principles. Corridor examples are: landform and institutional corridors, residential greenway corridors, river bluff corridors, broad greenway and creek corridors, utility-line greenway corridors, and new boulevard corridors. Network examples are: parallel riverfront networks, neighborhood network hubs, historic sites and recreational networks, parkways and commercial networks, neighborhood recreation interchange, natural and cultural networks, and river loops. Watershed examples are: headwater pools, urban ecological systems, headwater valleys, storm sewer pathways, neighborhood of habitats, and streams as habitat corridors.

The work above was preceded by a preliminary list of river-related corridor and network elements or types, based on aerial-photographic inventories and mapping from Objective A and the initial community or neighborhood areas mapping from Objective C. (Working titles for this list of urban design elements/types were: the focal point or hub, the commercial loop, the neighborhood round, the linear crossroads, the industrial coulee, the highland lattice, the neighborhood overlook, the river gateway and the terrace corridor.)

Much of the research above builds upon the urban-design language developed for the Design Center's previous LCMR project, M.L. 91, Ch. 254, Sec. 14, Subd. 3(g): *Reclamation of Recreational Systems and Environmental Resources from Existing Urban/Suburban Neighborhoods.*

D.6. Benefits:
In addition to benefitting the three case study regions, this portion of the project will provide prototypical recreational and environmental planning examples to those Mississippi River communities which are not included as

case studies in this work plan, so that these communities can better understand the opportunities and process to develop linkages and connections to the MNRRA corridor. This objective will assist the Met Council in the ongoing updates of its metropolitan planning in relationship to its infrastructure investments and future planning and development decisions about recreation and environment. The objective will identify potential linkages to the Mississippi River for communities which are beyond the study area at a greater distance from the river. It will identify endangered and critical areas in need of protection and enhancement.

E. Provide information and education to communities on recreational and environmental resource planning in the metro Mississippi corridor.

E.1. Narrative:
An important priority of this project will be the provision of quality information and education from a generalist point of view about the impact of MNRRA on related environmental and recreational planning for communities. This information must be presented so that it clearly and forcefully communicates to citizens and local officials and assists their efforts to make environmentally sound planning and development decisions. To accomplish this priority the project team will produce informational and educational materials describing design principles, case study examples, and implementation steps for the use of local units of government and the public.

E.2. Procedures:
Develop publication package of presentation and educational materials to illustrate and explain both the methodology, lessons learned, and findings of the project. This will take the form of a summary covering work developed under objective A; a synthesis of the three case study newsletters prepared for objective C; and a project summary document presenting the findings, conclusions, and recommended principles to be applied in the study area. The summary document will address the enrichment and enhancement of recreational and environmental resources and connections to communities along the MNRRA corridor.The summary document will be available to the public, local units of government, and metropolitan officials. In addition, a brochure and slide show will be developed for presentation of the summary report to the public. A minimum of three community forums will be scheduled to present the study findings.

E.3. Budget:

	LCMR Funds	Matching Funds
a. Amount Budgeted	$25,000	$5,000
b. Balance	$ 0	$ 0

E.4. Timeline:

7/93	1/94	6/94	1/95	6/95

Creation and publication of a summary report that explains the methodology, case study design scenarios, and recreational/ environmental design strategies and principles.

xxxx

Creation and publication of a brochure for distribution to public groups.

xxx

Develop a slide show for presentation of summary report to the public.

xxx

Present study findings at community forums.

xxxxx

E.5. Status:

The following work has been completed and documented, with copies delivered to our DNR contact, Steve Johnson:

1. A summary report has been completed that explains the methodology, case study design scenarios, and recreational/environmental design strategies and principles. This summary is designed to be distributed with the set of five newsletters.

2. Work has been completed on the creation and publication of a brochure for distribution to public groups and interested individuals as part of the invitation to the first workshop on December 15, 1994.

3. A slide show has been developed for presentation of summary findings to the public.

4. The study findings have been presented at three community forums, one in each reach. A slide show review of the project was followed by a discussion of study process and future implementation ideas. Each participant received copies of the newsletters described in C.5. as well as reductions of the urban design framework resource maps produced during this project. A summary report of the presentation contents and comments was produced.

Design Center project staff have participated in the following meetings and workshops to present study findings to community groups, agencies and organizations and to provide information and education to communities on recreational and environmental resource planning in the metro Mississippi corridor:

1. Project staff participated in the planning of the conference: Restoration of Aquatic Ecosystems, June 21-23, 1994. The conference grew out of two other conferences dealing with the 1993 flood of the Mississippi River.

2. Design Center project staff for this grant participated in a Design Center organized workshop for the Hennepin Community Works Commission, an appointed commission of Hennepin County, the City of Minneapolis, the Minneapolis Park Board, and Hennepin Parks. The workshop began with a presentation of a set of base maps that explained the physiography of the county, the network of built systems, and the social and economic conditions of the county. This LCMR project was presented with its opportunities map as a component of the presentation. Commission members then divided into small groups that analyzed three specific geographic areas. This LCMR project was the catalyst for one commission work group which was interested in strengthening community connections to the river.

3. Project staff participated with the mayor of St. Paul and the director of the St. Paul Riverfront Development Commission, in a series of preliminary urban design discussions and meetings in preparation for a workshop and potential case study. Design Center staff are also participating with the mayor of St. Paul and the mayor's staff in the planning of the Mayor's Workshop on the Future of the Mississippi River. Staff participation was to help the commission identify, preserve, and create neighborhood connections to the Mississippi riverfront. The first two newsletters were tested in these forums and found to be very effective as an educational tool.

4. Project staff participated with the St. Paul Dept. of Public Works, the Mayor's Office, the Dept. of Planning and Economic Development, the Division of Parks and Recreation, the St. Paul Riverfront Development Commission and city consultants in a parkway design workshop for Shepard Road in the West 7th Neighborhood of St. Paul. Again, staff participation was to help the work group identify opportunities to make neighborhood connections to the Mississippi River and help redesign Shepard Road as a parallel parkway to the river. The first two newsletters were also tested in this workshop and again found to be an effective educational tool.

5. Project staff reviewed the Bottineau neighborhood plan and is assisting the community in seeking local nonprofit funding for a joint case study investigating neighborhood recreation and environmental connections and networks to the Mississippi River and surrounding communities.

6. Project staff participated with MNRRA staff to review their proposed grant program and help plan a workshop discussing river related project grants from the National Park Service and other federal agencies.

7. Design Center hosted a meeting of 30 metro planners from the local chapter of the American Planning Association and presented this project for comment and discussion. City planners appreciated the comprehensive look at environmental systems that go beyond municipal boundaries and the potential for connecting to the river.

8. Design Center staff presented this work to the Winter Seminar, an organization of volunteer-based civic leaders in the metropolitan area.

9. Newsletters were used as part of an urban design course curriculum in the College of Architecture and Landscape Architecture, University of Minnesota.

10. Design Center staff presented this project to a training session of the Metropolitan Council Department Heads.

11. A selection of helicoptor slides and resource maps were used by MNRRA staff for presentation to the International Outdoor Recreation Conference this spring.

12. Following up earlier work with the city of St. Paul, a task force of the Planning Commission and Riverfront Corporation commissioned the Design Center to apply the planning approaches in this study to help the city better connect the Mississippi to neighborhoods and new development projects.

E.6. Benefits:
Local units of government surrounding MNRRA will need to update their community plans once the MNRRA Management Plan is complete. This project will provide resources which will assist local communities and governmental agencies by informing and enabling the local planning process adjacent to the MNRRA corridor as well as help the communities redevelop their recreational and environmental design plans.

The informational materials will assist local units of government in the development of community plans which are more responsive to ecological, recreational, and environmental concerns. Informational materials will empower local units of government and interested citizens with a methodology and a series of case studies demonstrating strategies for integrating recreational/environmental amenity into communities adjoining MNRRA.

The information materials distributed will provide the public with a range of options and an increased awareness of the recreational and environmental opportunities which can be introduced within existing communities along the MNRRA corridor.

IV. Evaluation

This project can be evaluated by its ability to: 1) identify underutilized recreational and environmental resources which can be reclaimed, enhanced, or conserved as environmental "fingers" for existing neighborhoods and communities which adjoin the MNRRA corridor; 2) assess community access and connection to the MNRRA corridor; 3) identify opportunities for communities to cooperate with MNRRA in the making of neighborhood connections to the river; 4) provide local units of government and community groups with a methodology for and examples of reclamation, conservation and development of "greenway corridors" linking their neighborhoods to the river.

The ultimate test of its success, however, will only be known over time. The project will develop tools that communities can use to tie their communities to the Mississippi River through planning decisions and physical design. The true

measure of this project will be its ability to influence community planning decisions in the years to come. In the 100 year long term, evaluation of this project's success will be the replication in other Mississippi River communities of the visionary thinking evidenced by the Minneapolis "Grand Round" park system linking community to the chain of lakes and the Mississippi River.

V. Context

In November 1988 Congress added the Mississippi National River and Recreation Area (MNRRA) to the National Park System. The 72 mile long corridor which parallels the Mississippi River, runs from Dayton to southeast of Hastings, conforming to the boundaries of the Mississippi River Critical Area.

Congress gave the National Park Service responsibility to prepare a comprehensive Management Plan for the corridor. The Plan to be completed in 1993 will outline a strategy to preserve, protect, and enhance the recreational, natural, cultural, and economic values within the corridor. An implementation plan will be the final component of the comprehensive Management Plan.

By July of 1993 when the work outlined under this LCMR funded project begins, the MNRRA Management Plan will be essentially complete. This project will build on the MNRRA work in the following ways.

A. The MNRRA Management Plan will cover a long narrow corridor that is an average of two miles wide. By necessity, the MNRRA Management Plan is limited to the area inside of the corridor only. This proposal will study the land outside the corridor to assess the implications for and connections between the MNRRA corridor and the surrounding communities. It will explore ways in which recreational and environmental "green fingers" can extend from MNRRA into those surrounding communities. Every effort will be made during all steps of this project to include MNRRA staff.

B. Local units of government surrounding MNRRA will update their community plans once the MNRRA Management Plan is complete. This project will provide resources which can assist local communities and governmental agencies in that effort.

C. The Metropolitan Council (and potentially other state agencies) will also have to update its plans and policies in light of the MNRRA Management Plan. This project will assist that effort.

This project will research in detail a minimum of three case study regions. Future LCMR funds, as well as other federal and foundation funds such as the McKnight Foundation's Upper Mississippi River Demonstration funds, could be used to continue to assist the other communities along the MNRRA corridor with their recreational and environmental planning studies. Future LCMR funds could be used to implement the recommendations of this project in the communities through the acquisition of land for easements and public access; acquisition of trails for general use; and the development of recreational and commuter bicycle trails, etc. In addition, this project is a prototype for community action in other river towns in the Mississippi River corridor. In the future, this project could be used as the basis for a

community education workbook on recreational and environmental planning.

VI. Qualifications

1. Program Manager:

William Rees Morrish
Director, Design Center for American Urban Landscape
Associate Professor, College of Architecture and Landscape Architecture

M. Arch in Urban Design, Harvard University, 1978
B. A. Architecture, University of California, Berkeley, 1971

Professor Morrish is the Director of the Design Center for American Urban Landscape and holds the Dayton Hudson chair in urban design. Under his leadership, the Design Center is developing a research center on issues of urban design and planning. Mr. Morrish has twenty years of professional experience as an architect and urban designer working on community design issues. He is the principal investigator for the LCMR funded project, *Reclamation of Recreational Systems and Environmental Resources from Existing Urban/Suburban Neighborhoods*. The Mississippi River is a research interest of Mr. Morrish and in 1990 he organized and led an eight week study of towns and cities along the entire length of the river. Mr. Morrish's primary role will be as program manager for all project objectives.

2. Cooperators/Other Investigators

A. Catherine R. Brown
Research Fellow, Design Center for American Urban Landscape

M. Landscape Architecture in Urban Design, Harvard University, 1978
B.A. Landscape Architecture, Louisiana State University, 1973

Ms. Brown, Coordinator of Special Projects at the Design Center, is a founding principal in the urban design firm CITYWEST. She has more than 15 years experience working with complex development and planning projects involving cultural and educational organizations, local governments, private developers and citizen groups. Among the CITYWEST projects she directed was the Phoenix Public Arts Plan, which established the organizing structure for the aesthetic enhancement of a one billion dollar capitol improvement plan for the city. She was the project director and the author of *Building for the Arts: A Guidebook for the Design and Planning of Cultural Facilities*. Ms. Brown's primary role will be as project coordinator and to prepare work under all objectives.

B. Mary Vogel
Research Fellow, College of Architecture and Landscape Architecture

M. Architecture, University of Minnesota, 1982
B.A. English, University of Minnesota, 1963

Ms. Vogel, Research Coordinator for the College of Architecture and Landscape Architecture, is a former Commissioner on the Mississippi River Coordinating Commission. Ms. Vogel's primary role will be as principal researcher responsible for data collection for objective A, liaison with public agencies, and community outreach.

C. Thomas A. Hammerberg
Research Fellow, Design Center for American Urban Landscape

M. Landscape Architecture, University of Minnesota, 1992
B.A. Landscape Architecture, Iowa State University, 1979

Mr. Hammerberg, a registered landscape architect and research fellow with the Design Center, is currently working on the LCMR funded project, *Reclamation of Recreational Systems and Environmental Resources from Existing Urban/Suburban Neighborhoods*. Mr. Hammerberg's primary role on this project will be as researcher and recreational/ environmental planner. (Worked on this project from July 1993-December 1994.)

D. Regina E. Bonsignore
Research Fellow, Design Center for American Urban Landscape

B. and M. Landscape Architecture, University of Minnesota, 1992
B.A. English and Studio Arts, Trinity College, Hartford CT, 1982

Ms. Bonsignore worked as researcher and designer on the LCMR funded project *Reclamation of Recreational Systems and Environmental Resources from Existing Urban/Suburban Neighborhoods*. Ms. Bonsignore's primary role on this project will be as writer, researcher and recreational/ environmental planner. (Worked on this project from July 1994-June 1995.)

VII. Reporting Requirements

Semiannual status reports will be submitted not later than Jan. 1, 1994, July 1, 1994, Jan. 1, 1995 and a final status report by June 30, 1995.

1993 Project Abstract
FOR THE PERIOD ENDING JUNE 30, 1995
This project was supported by MN Future Resources Fund

TITLE:	Recreational Resource Planning in the Metro Mississippi Corridor
PROGRAM MANAGER:	William Morrish, Director
ORGANIZATION:	Design Center for American Urban Landscape
LEGAL CITATION:	M.L. 93, Ch. 172, Sec. 14, Subd. 8(c)
APPROPRIATION AMOUNT:	$175,000

Statement of Objectives

A. Identify, inventory, and map relevant data in the municipalities and townships which are adjacent to the Mississippi National River and Recreation Area (MNRRA) corridor.
B. Conduct education workshops in communities along the MNRRA corridor to present findings on recreational and environmental resource opportunities.
C. Prepare a recreational/environmental resource planning study for a minimum of three case study regions along the MNRRA corridor.
D. Develop design principles, strategies, and recommendations for recreational/environmental projects in communities adjoining the MNRRA corridor.
E. Provide information and education to communities on recreational and environmental resource planning in the metro Mississippi corridor.

Overall Project Results

This project produced a comprehensive, integrated plan for developing environmental and recreational opportunities that can aid cities in capitalizing on their unique position of being near the MNRRA corridor. The sixty-nine municipalities within the study area were provided with a base of resource information, a planning language and a set of diagrams that illustrate planning principles and processes. These tools will facilitate planning work across municipal boundaries, on a sub-regional level, emphasizing how development and environmental systems can work together to create a series of green linkages and networks that extend from the Mississippi River, connecting to upland neighborhoods. Covering an area approximately 10-15 miles on either side of the metropolitan river, resource maps were created that show both environmental opportunities such as wetlands buried in the course of urbanization and cultural patterns such as a compilation of all existing and planned pedestrian and bicycle routes. Three river reaches were identified as areas that share natural and cultural patterns. Based on workshop discussions and local plans, a framework map of river connections was created, emphasizing corridor, network and watershed connections. Within each reach, key connections were identified as priorities because they have the potential to leverage impending land-use changes or infrastructure investment; highlight under-appreciated natural resources in the area; complete links in a trail or habitat system; and/or connect to existing or planned river crossings.

Project Results Use and Dissemination:

Representatives from over 60 neighborhood organizations, cities, counties, resource agencies (including MNRRA) and environmental groups participated in a series of seven public workshops. At these workshops, Design Center staff presented river connection opportunities, also summarizing these ideas in materials distributed at workshops and/or sent to all municipalities within the study area: a brochure, five newsletter reports and a summary document. Workshop participants discussed these ideas and, often for the first time, shared information with other municipalities on their communities' open space and development plans. In response to participant requests, Design Center has offered to facilitate meetings between representatives of cities, counties and agencies, to move forward river-connection projects. This process has already occurred for the city of St. Paul. McKnight Foundation is interested in presenting this work to a forum of environmental groups to discuss future Mississippi River initiatives. The work can also assist MNRRA to develop design guidelines for cities participating in their grant program and will be presented to Metropolitan Council staff responsible for the creating a handbook on comprehensive planning for local governments. The work has also been presented to numerous groups such as a meeting of the local chapter of the American Planners Association. Copies of resource maps and newsletters will be available at the Design Center, MNRRA and Metropolitan Council. A slide show is available for future presentations.