

DAKOTA COUNTY MINNESOTA RIVER GREENWAY CULTURAL RESOURCES INTERPRETIVE PLAN

Adopted by the Dakota County Board

AUGUST 1, 2017



This project has been financed in part with funds provided by the State of Minnesota from the Arts and Cultural Heritage Fund through the Minnesota Historical Society.

TEN X TEN

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ACKNOWLEDGMENTS

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OVERVIEW + GOALS

From earliest times, the Minnesota River has been a thriving home for people and a well-traveled route between the Mississippi River and the western plains. Today's highways and railroads are still aligned with the curve of the Lower Minnesota, following trails established centuries before. And nearly every story of the region—from ancient to present day—is somehow tied to the river and its bountiful valley.

Decades of settlement, commerce, and urban development have significantly changed the river, often in destructive ways. Nevertheless, the power of the water and the seasonal cycles of diverse ecosystems remain. Today the Lower Minnesota River continues to attract wildlife and people. But while park and trail visitors immerse themselves in magnificent views and natural settings, there are few opportunities to discover and explore the area's extraordinary history and cultural legacy.

The purpose of this interpretive plan is to describe a compelling and comprehensive vision for engaging trail visitors in the history, nature, and culture of the Lower Minnesota River Valley. This plan describes and illustrates a connected set of experiences for the Minnesota River Greenway, a trail that connects 17 miles of parks and trails from Burnsville through Eagan, Mendota Heights, Mendota, and Lilydale before landing at St. Paul's Lilydale Regional Park. This greenway connects to the larger Minnesota Valley State Trail planned by the Minnesota Department of Natural Resources to connect St. Paul to Le Sueur, Minnesota.

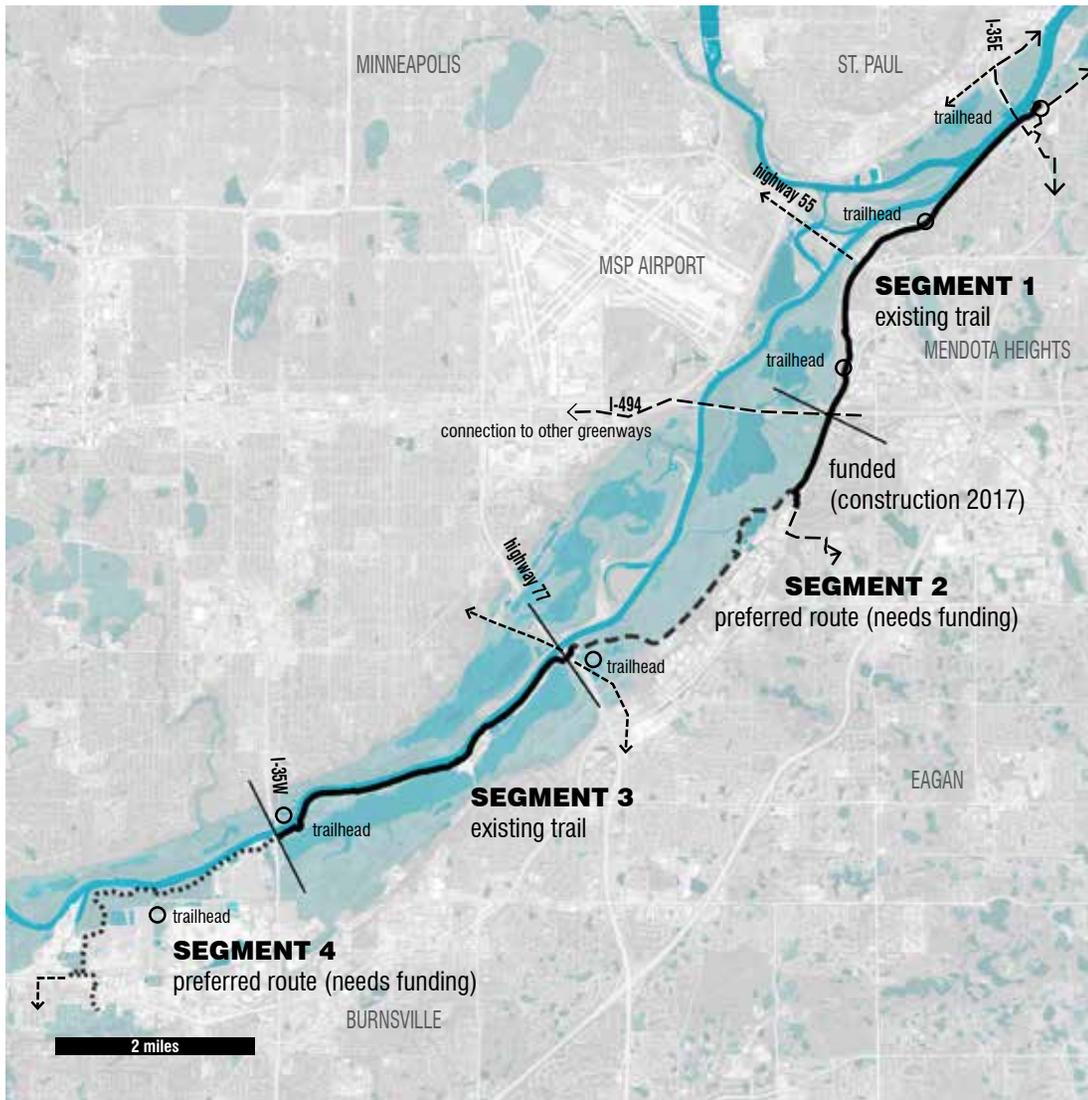
The Minnesota River Greenway includes a variety of evocative settings—places for discovery, reflection, and learning—and places where trail visitors can see and feel change over time and be immersed in thriving ecosystems. And while this stretch of river has endured great changes over time, it has long been and still is Dakota homeland.

The development of this plan was guided by a set of goals that were reviewed by project advisors, stakeholders, and Dakota County staff:

- Provide a compelling vision and plan that can be implemented in sections as funding becomes available
- Generate excitement among stakeholders about the possibilities for interpreting the stories and landscapes of the river
- Draw renewed attention to the Lower Minnesota River Valley as a valuable asset in the heart of the Twin Cities
- Improve accessibility and create a greater sense of welcome for Native people who call this home
- Engage trail visitors with interactive, inclusive, and interesting interpretive installations that are relevant and memorable to diverse audiences
- Support the development of the corridor as a high-quality regional tourism destination

OVERVIEW + GOALS

TRAIL DEVELOPMENT & PLANNING CONTEXT



Locally, the Mississippi River has gained considerable stature in the life of the Twin Cities, already attracting hundreds of thousands of recreational visitors each year, while the Minnesota River is only recently emerging into the planning spotlight. With growing interest and enthusiasm for the region's riverfronts, it is highly likely that interest and involvement in the Minnesota River will increase in the years ahead.

The 17-mile Minnesota River Greenway Trail connects five municipalities, Fort Snelling State Park and the Minnesota Valley National Wildlife Refuge. Like all Dakota County greenways, this trail is envisioned to integrate transportation and recreational activities with wildlife habitats, water quality, and interpretation. A **2012 Dakota County Minnesota River Greenway Master Plan** outlines a general approach to interpretation in the corridor and interpretive themes and subthemes. This interpretive plan builds on that master plan.

The Minnesota River Greenway is comprised of four segments:

- Lilydale Regional Park to I-494, Big Rivers Regional Trail (five miles open)
- I-494 to Cedar Avenue/TH 77 (four miles, with a one-mile segment from I-494 to Lone Oak Road planned for 2018 construction, leaving a three-mile segment undeveloped)
- Cedar Avenue/TH 77 to I-35W (three and a half miles open)
- I-35W to Scott County border (four miles for future integration into the Greenway)

OVERVIEW + GOALS

TRAIL DEVELOPMENT & PLANNING CONTEXT



The Minnesota River Valley has a high regional and state profile. Current and planned investment position the area to become one of the best trail-based recreation destinations in the Twin Cities Metropolitan Area. Trails on both sides of the river are being planned and built to increase connectivity. Existing connections to Dakota County's Minnesota River Greenway include:

- Lilydale Regional Park and St. Paul's Sam Morgan Regional Trail;
- Highway 55 Bridge to trails along the Mississippi River in Minneapolis and St. Paul;
- Cedar Avenue/TH 77 Bridge to the Nokomis-Minnesota River Regional Trail through Bloomington, Richfield, and Minneapolis (2017 construction); and
- I-35W to the Minnesota State Trail from Bloomington Ferry Bridge to the Minnesota Valley National Wildlife Refuge Visitor's Center in Bloomington (scheduled for 2017 construction).

Several major projects will greatly enhance visitors' experience of the Lower Minnesota River Valley. These projects include restoration of the Old Cedar Avenue Bridge as a pedestrian crossing (connecting the Minnesota River Greenway to the Minneapolis Grand Rounds and Lake Nokomis); a new pedestrian crossing over the river with the I-35W bridge reconstruction; and an extension of the existing Minnesota River Greenway Trail from I-494 to Cedar Ave. These projects represent the major investments being made along the Minnesota River corridor.

Cultural and natural-resource interpretation along the greenway will be highly visible to residents and visitors. Today more than 140,000 people visit the four-mile Big Rivers Regional Trail. And as the Minnesota River Greenway is completed and connected to the regional and state trail systems, overall visitation is expected to exceed 500,000.

OVERVIEW + GOALS

NATIONAL ASSOCIATION OF INTERPRETATION PLANNING GUIDELINES

The National Association of Interpretation (NAI) Standards and Practices for Interpretive Planning (January 2009) outlines a comprehensive set of benchmark practices developed primarily for sites with established audiences and existing exhibits and programs. Many of the described practices, however, are highly relevant and applicable to this phase of planning for the Minnesota River Greenway. The following benchmark practices provided a useful planning framework for this project:

AUDIENCE ANALYSIS. Desired audiences were identified (demographics, group composition, interests, and motivations), and existing and relevant audience research was analyzed. (see pages 10 - 11)

EVALUATION. The planning team recommends that Dakota County implement storyline testing of visitor-experience concepts with park and trail visitors during the early phases of future design development.

MANAGEMENT OBJECTIVES. Dakota County has recently completed a comprehensive Visitor Services Strategic Operations Plan in which management objectives for system wide facilities have been recommended and studied.

MARKETING FACTORS. Dakota County regularly surveys park and trail audiences and identifies points of alignment with local and regional tourism marketing initiatives.

MEDIA DESCRIPTIONS. The plan describes a mix of location-based interpretive media and identifies placement of media in the overall plan for exhibits and programs.

MESSAGE ELEMENTS. The plan articulates a central theme, sub-themes, and stories that clearly convey what this place is about and why is it significant.

PARTNERSHIPS. Given that many of the proposed interpretive locations are on property not owned by Dakota County, implementation will depend on partnership with other government entities. The County is already working closely with its many partners on the Minnesota River Greenway.

STAKEHOLDER INVOLVEMENT. The design team and Dakota County engaged with stakeholders throughout the planning process. Preliminary drafts of planning documents were posted on the Dakota County website for public comment and feedback.

- Technical Advisory Group (four meetings)
- Interviews with Dakota County Historical Society, Eagan Historical Society, Burnsville Historical Society, Lower Minnesota River Watershed District, Upper River Services, Minnesota Valley National Wildlife Refuge, and Minnesota Department of Natural Resources
- Consultations with the Tribal Historic Preservation Officers for Shakopee Mdewakanton Sioux (Dakota) Community, Prairie Island Indian Community, Upper Sioux Community, and Lower Sioux Community
- Public open house at the Mendota Overlook, April 18, 2017

VISITOR EXPERIENCE. The plan describes a holistic and compelling set of visitor experiences for the Greenway that includes: signage and wayfinding, exhibits, media, programs, and historical settings.

OVERVIEW + GOALS

PLANNING APPROACH

The project team was encouraged to look beyond traditional modes of interpretation—trail signs and linear narratives—and develop a mix of experiences that also includes more interactive, visionary concepts that open up new ways to attract future audiences to the landscapes and cultural legacy of the Lower Minnesota River Valley. A highly visitor-centered and forward-looking approach has resulted in a set of concepts that promises to engage trail visitors in the land and its stories through a range of perspectives.

Early phases of planning focused on historical research and listening sessions with Dakota people to learn more about the meaning of this place and about specific locations on and near the river. The project team was encouraged to study the natural world of the Minnesota River Valley and consider it, along with human history, as parts of a whole.

The research phase (books, articles, photos, site analysis, and interviews) resulted in a set of themes that together provided an interpretive framework for the many stories of the Lower Minnesota River Valley. The final selection of stories was guided by the following considerations, which in turn informed the selection of interpretive locations and design strategies for each node.

- Available historical and cultural resources
- Respect for this place as Dakota homeland
- Feedback from Dakota County’s Technical Advisory Group
- Opportunities for place-based storytelling
- Potential level of interest from a wide range of trail visitors
- Local, regional, and national relevance to the Minnesota River
- Stories that work together as a set

OVERVIEW + GOALS

AUDIENCE ANALYSIS

Understanding audiences—who they are and what they like to do—is the cornerstone of interpretive planning. For this project, the planning team has relied on existing audience research reports and individual interviews with staff from agencies working in the Lower Minnesota River Valley.

WHO WILL LIKELY VISIT THE MINNESOTA RIVER GREENWAY?

- Adult individuals and small groups biking, running, or walking the trails
- Families with children biking or walking the trails
- Adults and families with children visiting destination parks along the Greenway
- School groups visiting destination parks
- Wildlife watchers on trails or in destination parks

NEW AUDIENCES

- By 2015 estimates, the population of Dakota County is about 85% white and the largest minority group is Latino/Hispanic at about 7%. These demographics are expected to change significantly in the next 15 years, by which time 25% of residents will likely be non-white.
- Dedicated wildlife watchers continue to be a core audience for the parks and trails of the Lower Minnesota River Valley. While some agencies offer public programs, these guided experiences tend to be held in or nearby facilities, not on the trails.
- School groups—as a parks-and-trails audience—have not been studied or surveyed in any significant way. Many of the bigger parks have well-attended programs designed for K12 students, but trails are seldom considered good destinations for school visits. For this project, however, the planning team is looking at school-group audiences as potential visitors. The first opportunity is for schools that might visit a destination park along the greenway; the second is for schools that are in close proximity and may build a regular relationship with the Minnesota River Greenway.

WHAT DO VISITORS LIKE TO DO AND WHAT ARE THEY LOOKING FOR?

- Nature education activities for all ages and abilities
- Informal play areas (nature play and adventure)
- Self-guided technology (location-based media)
- Places for relaxation, peace and quiet (benches, overlooks, shade structures)
- Trail signs for wayfinding and interpretation
- Health and fitness (food, exercise, being outdoors)

Hiking, walking, and biking are the most popular activities in the area's regional parks, accounting for 58% of all activity. Park and trail visitors are looking for a range of nature experiences—from wild to not so wild. There is also some demand for more informal play and exploration areas—places that are less untamed, somewhere between a developed city park and trails through preserved wilderness. Currently, Dakota County Parks provides fewer play areas than its peers regionally and nationally.

DAKOTA COUNTY RESIDENTS VALUE OUTDOOR RECREATION

Outdoor recreation is a personal priority for more than 80% of Dakota County residents. It's the most highly rated aspect of living in the County. In fact, when compared to 30 other counties across the country, Dakota County comes in second in the importance of outdoor recreation among its residents. Also, among the services provided by the County, residents give parks and recreation the highest ratings, a measure that's increased consistently over the past 10 years.

OVERVIEW + GOALS

AUDIENCE ANALYSIS

When it comes to outdoor education, residents want to see more attention given to:

- Invasive species, climate change, trail etiquette, and ecology;
- Environmental education programs and outdoor recreation skill-building for all ages;
- Interpretive signs that provide more than wayfinding, such as ecosystem identification; and
- Putting more naturalists and rangers in the parks.

WHAT WILL PARKS AND TRAILS VISITORS EXPECT IN THE FUTURE?

Looking forward, Dakota County Parks will likely see some current trends continuing to shape the expectations of park visitors, including:

- Parks and trails experiences enhanced by technology;
- Increasing focus on equity, community engagement, placemaking, and other topics of social relevancy;
- Addressing nature-deficit disorder by helping youth develop a relationship with nature; and
- Increasing attention to the connection between parks, community gardening, and healthy food.

Especially pertinent to this project, a majority of County residents said they would likely use self-guided technology to learn more about the places they visit and would like to see more trail-oriented programs—from nature education to fitness. Program staff working in the Lower Minnesota River Valley are seeing evidence of this trend almost daily.

AUDIENCE ENGAGEMENT GOALS

- A better experience for people who already use the trail
- A reason for more people to use the trail
- An invitation to users to stay longer on the trail
- An experience that invites them to do something else or explore
- A reason to return to the trail
- A place to learn about Native people and values – past and present

REFERENCED REPORTS

- *Dakota County, Minnesota, Resident Survey, Report of Results*, National Research Center Inc., 2016 (Resident Survey, 2016)
- *Dakota County Parks 2004 Public Opinion Survey*, Ingraham & Associates, May 21, 2004 (Public Opinion Survey, 2004)
- *Dakota County Parks Visitor Services Strategic Operations Plan*, Research Report, PROS Consulting, Inc. May 18, 2016 (VSSOP, 2016)
- *Metropolitan Council: Regional Parks System Visitor Study Report*, Information Specialists Group, Inc., November, 2016 (Met Council, 2016)

INTERVIEWS

Matt Carter, Dakota County Historical Society
Dan Dressler, Mississippi National River and Recreation Area
Andrew Fox, Sibley Historic Site
Judy Geck, Minnesota Valley National Wildlife Refuge
Autumn Hubbell, Dakota County Parks
Katie Pata, Dakota County Parks
Kao Thao, Fort Snelling State Park

A top-down view of a sandy beach. In the center, there are several handprints of varying sizes and orientations, some appearing to be made in the sand. Below the handprints, a long, narrow animal track, possibly a raccoon or a similar mammal, stretches across the width of the frame. The sand is a light grayish-brown color. Scattered around are some small pieces of debris, including sticks, twigs, and a few dried, brown leaves. The text "INTERPRETIVE THEMES" is overlaid in the center in a bold, white, sans-serif font.

INTERPRETIVE THEMES

An interpretive theme answers the question, “What’s this place about?” It’s also an idea that has the capacity to hold many different stories, pulling them together along a common thread.

“**The Land Remembers**,” a Dakota adage, serves as an overarching interpretive theme for the Minnesota River Greenway. It emerged from stories and conversations that describe a human relationship to the land that transcends time. This main theme is supported by a set of subthemes, each of which draws together a selection of related stories with the places where they happened.

“THE LAND REMEMBERS”

What we see, hear, and feel in the land around us opens views into the past and reveals changes over time. In Dakota tradition, the earth holds memories of what’s happened through time.

SUB-THEMES:

DAKOTA HOMELAND

TRAILS THROUGH TIME

BRIDGING AND CROSSING

WORKING RIVER

ECOSYSTEMS OF THE RIVER

GEOLOGICAL TIME

COMMUNITIES PAST AND PRESENT

THEME #1

DAKOTA HOMELAND

For thousands of years, the Minnesota River Valley has been home to the Dakota. Today it's an important spiritual center, a place of healing and homecoming.

Starting in the late 1600s, the Dakota were visited by European expeditions seeking to lay claim to the region through trade, by establishing relationships, and by mapping what was for them a new territory. These early records describe the Dakota as a nation living over a wide region, encompassing most of present-day Minnesota and part of Wisconsin, Iowa, and the Dakotas. At first came the French, followed by the British, and finally the Americans.

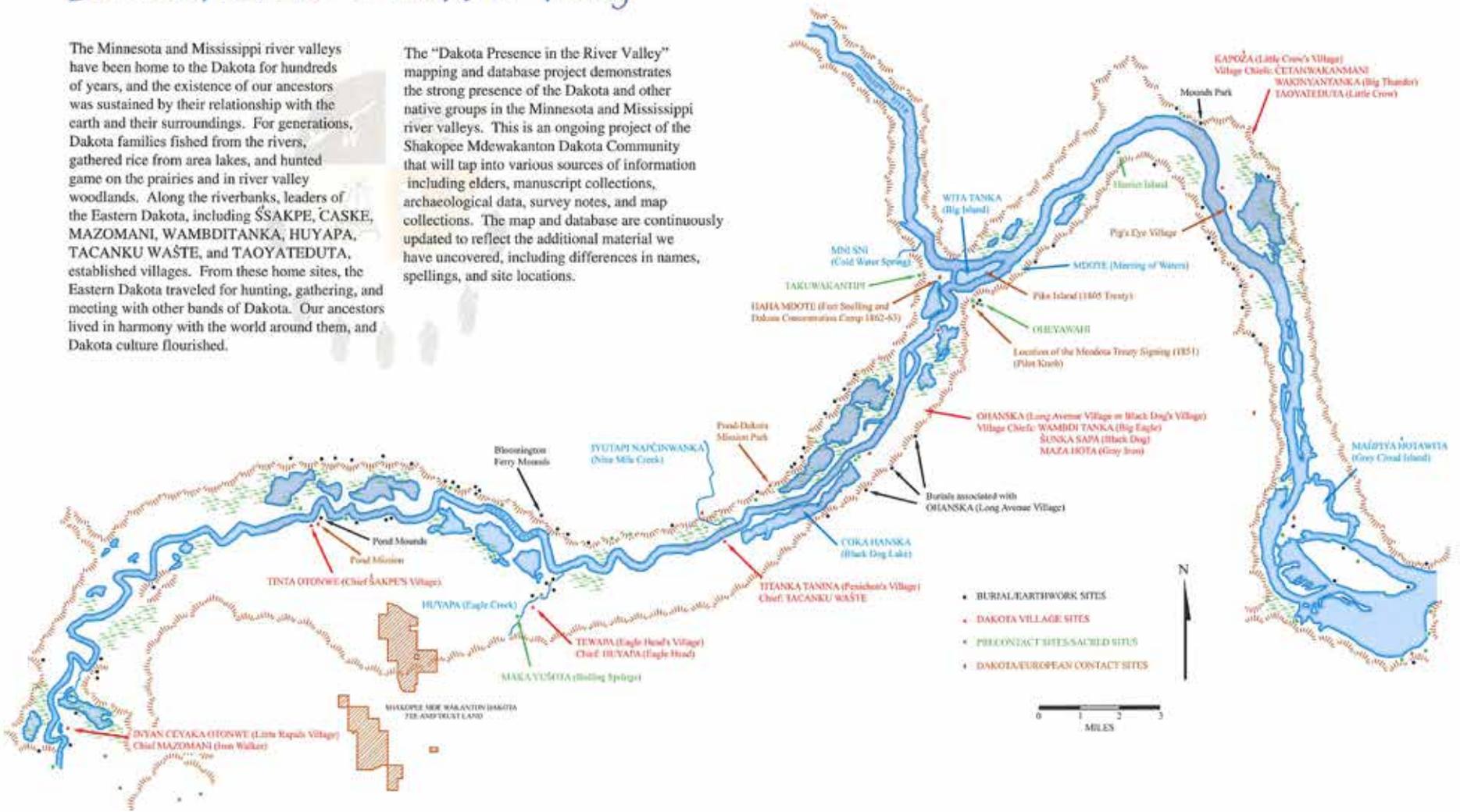
The place-based narratives, as told to French explorers in the early 1700s, revealed extensive knowledge of the Upper Mississippi Valley that extended far

back in time. Dakota narratives passed on through generations reinforce the relationship between this place, the people, and the ancestors buried throughout this region. Today, historians, archaeologists, and Dakota scholars are re-examining historical accounts and material evidence through the lens of Dakota tradition. For some, a new picture is emerging of this Dakota homeland. Many Dakota have known it all along.

Dakota Presence in the River Valley

The Minnesota and Mississippi river valleys have been home to the Dakota for hundreds of years, and the existence of our ancestors was sustained by their relationship with the earth and their surroundings. For generations, Dakota families fished from the rivers, gathered rice from area lakes, and hunted game on the prairies and in river valley woodlands. Along the riverbanks, leaders of the Eastern Dakota, including ŠSAKPE, ČASKE, MAZOMANI, WAMBDITANKA, HUYAPA, TACANKU WAŠTE, and TAOYATEDUTA, established villages. From these home sites, the Eastern Dakota traveled for hunting, gathering, and meeting with other bands of Dakota. Our ancestors lived in harmony with the world around them, and Dakota culture flourished.

The “Dakota Presence in the River Valley” mapping and database project demonstrates the strong presence of the Dakota and other native groups in the Minnesota and Mississippi river valleys. This is an ongoing project of the Shakopee Mdewakanton Dakota Community that will tap into various sources of information including elders, manuscript collections, archaeological data, survey notes, and map collections. The map and database are continuously updated to reflect the additional material we have uncovered, including differences in names, spellings, and site locations.



For more information about the Shakopee Mdewakanton Sioux (Dakota) Community, please visit www.shakopeedakota.org or contact the Shakopee Mdewakanton Sioux (Dakota) Community, Cultural Resources Department, 2330 Sioux Trail NW, Prior Lake, MN 55372, E-mail: culturalresources@shakopedakota.org.



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 For additional classroom resources, please visit the Shakopee Mdewakanton Sioux (Dakota) Community web site: www.shakopeedakota.org.

THEME #1 DAKOTA HOMELAND



The St. Peters River near its Confluence with the Mississippi, 1848, Minnesota Historical Society

THEME #1 DAKOTA HOMELAND



THEME #2

TRAILS THROUGH TIME

Today's hikers and bicyclists on the Minnesota River Greenway are moving along the same route that Native peoples have walked for thousands of years.

Almost all of Minnesota's early roads and railroads followed patterns of movement established thousands of years before, across the land and along the water.

Bdote has been a gathering place for generations. It's where paths cross, people meet each other, and stories are exchanged. This geological and human confluence isn't just the result of historical patterns of livelihood and settlement—it's the nature of the place. There is always great energy where the Mississippi and Minnesota Rivers join.

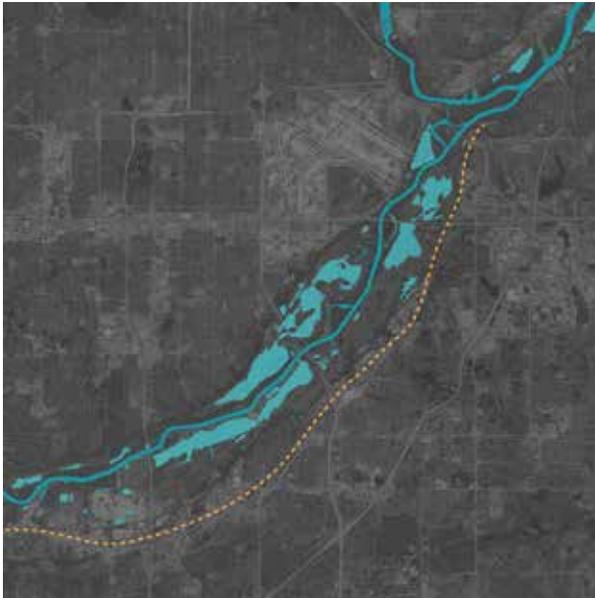
A network of trails once spread out in all directions from Bdote, often along waterways that provided the earliest means of travel. What we now call the Minnesota Valley Trails started as a series of connected trails that loosely followed the Minnesota River, eventually linking up with other trails heading

north up the Red River and west to places such as *lyanska K'api* (Pipestone) and the headwaters of the Des Moines River.

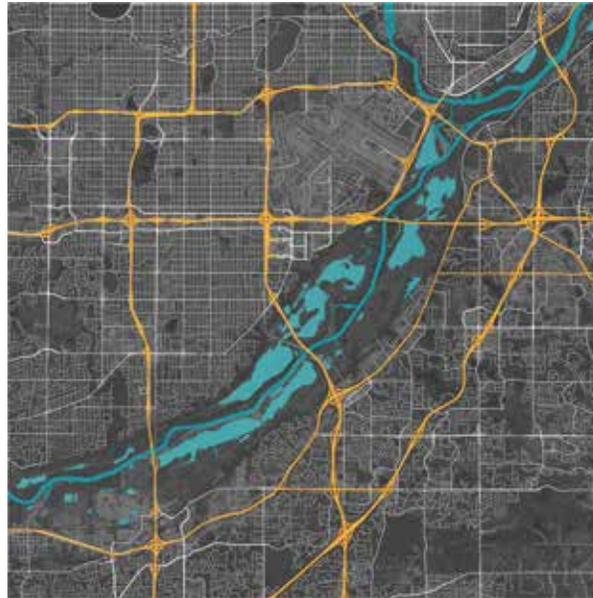
The paths that comprised this early transportation network changed according to the seasons, flood and fire conditions, and the changing location of villages and later trading posts. Today, those paths have become permanent park trails, rail lines, and even highways.

Visitors to the Minnesota River Greenway will have opportunities to experience their own sense of confluence, meeting up with places that have an engaging energy and a story to tell. It's a place where a trail can lead to different perspectives on the river valley—not just by setting up great views, but by offering new ways to see into the past.

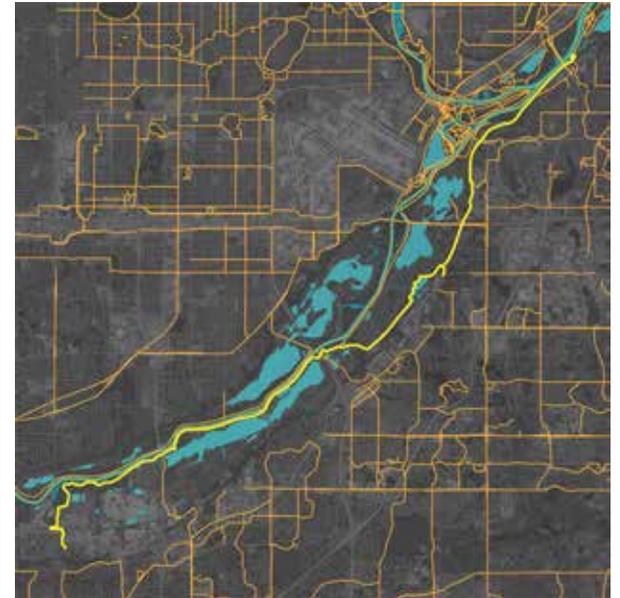
**HISTORIC MN VALLEY TRAIL /
RED RIVER OXCART TRAIL**



PRESENT DAY HIGHWAY/ROADS



**PRESENT DAY BIKE /
PEDESTRIAN TRAILS**



THEME #2 TRAILS THROUGH TIME



Mendota Road, 1880s, Minnesota Historical Society

FRAMING QUESTIONS FOR THIS THEME:

- How do historical routes relate to present ones?
- How are routes shaped by their context: terrain, weather, flooding, habitation?
- How do routes shape or alter a terrain, ecosystem, pattern of habitation?

“It passed several Dakota villages, among them Good Road’s and Black Dog’s... On the approximate route of present State Highway 13, the cart caravans passed through the “rich luxuriance” of the Minnesota Valley and the “small clustering groves” on its bluffs, winding their way to their last destination - the American Fur Company’s stone warehouse near Henry Sibley house nestling below the bluff at Mendota.”

-- Rhoda R. Gilman, *The River Trails*, 1979

THEME #2 TRAILS THROUGH TIME



MinnCentral, 1940s, Minnesota Historical Society



Highway 13, Burnsville, 1953, Minnesota Historical Society

THEME #3

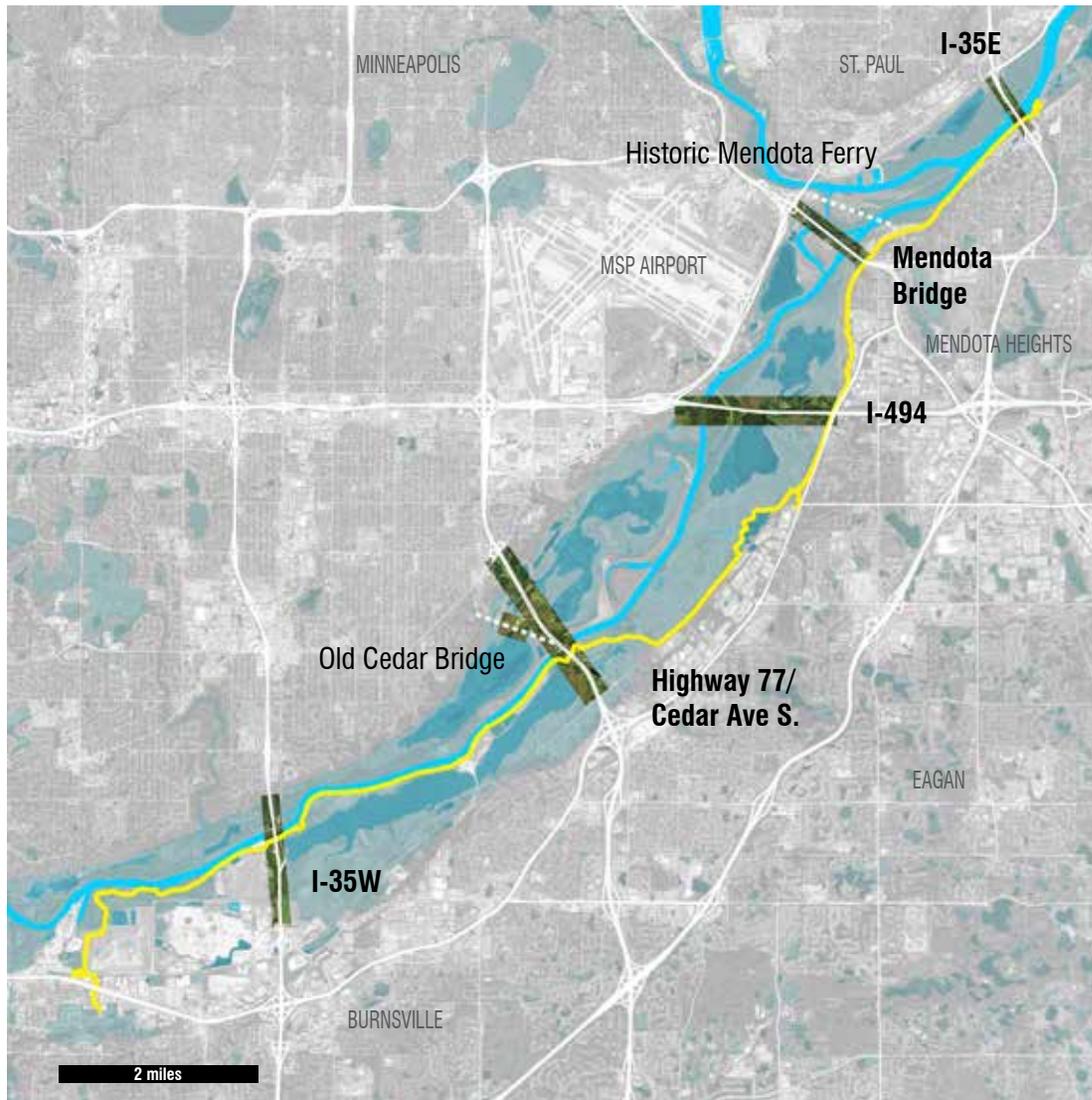
BRIDGING AND CROSSING

Rivers are natural boundaries, until bridged or crossed. There's a technology story here, but also an opportunity for historical reflection about the changes that result from simply getting out over the water and across the river.

Technological innovations have changed how we live with and think about rivers. Today we're more likely to think of a river as something to get across rather than a means to get some place and back again. Long before there were bridges and ferries, a river's current was what carried people across to the other side. Today's bridges can be enthralling and we see rivers differently because of them. They have also become landmarks and community icons, especially the distinctive ones that have been around long enough to gather memories and stories.

Along the 17 miles of the proposed Minnesota River Greenway, bridges are an imposing and often disturbing presence. But for people on the trail they can also provide an evocative contrast to bridges from the past. The history of Minnesota River crossings takes us from two lanes to six, from just above the water to high above the valley, and most notably from haltingly slow to very fast. Imagine driving across the river one day on the old Lyndale Avenue lift bridge, then, the very next day, flying over the new I35 freeway crossing at 60 mph.

HISTORIC AND CURRENT CROSSINGS



HISTORIC CROSSINGS:

- Cedar Avenue Bridge (old and new)
- Mendota Ferry (1830s to 1926)
- Mendota Bridge
- Mendota Dam

CURRENT CROSSINGS:

- I-494
- Mendota Bridge
- Highway 77/Cedar Ave S
- I-35W
- I-35E

THEME #3 BRIDGING AND CROSSING



Mendota Swing Bridge, 1920s, Dakota County Historical Society



Mendota Ferry, 1900, Minnesota Historical Society

THEME #3 BRIDGING AND CROSSING



Mendota Bridge, 1920s, Dakota County Historical Society



Mendota Bridge, 1994, Minnesota Historical Society

THEME #4

WORKING RIVER

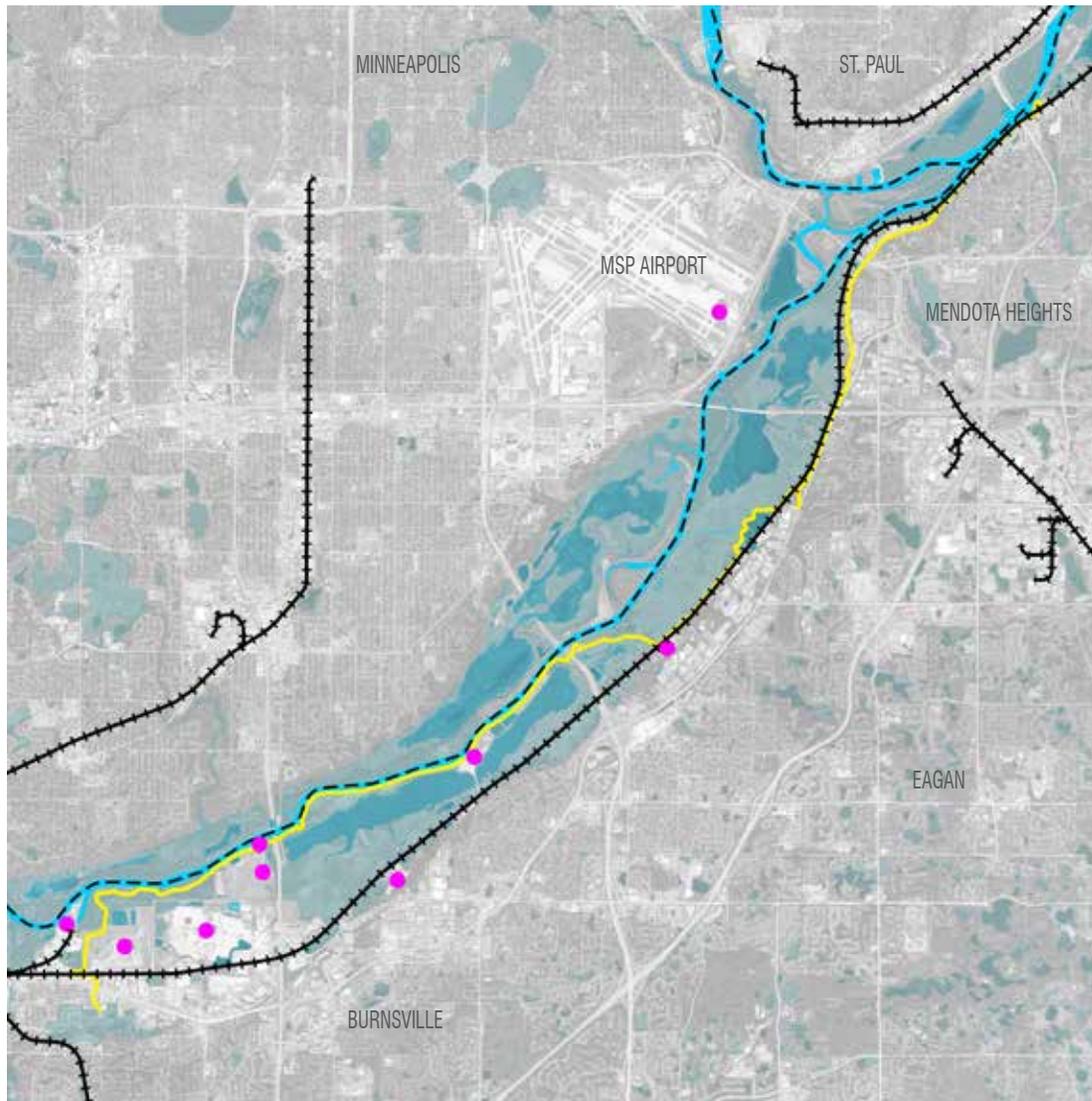
This waterway shaped trading and commerce for thousands of years. It moved people and resources. Today's railroads and highways reveal a pattern of movement that still follows the river.

Many people see this stretch of the river as a wildlife refuge, a recreational destination, and a cultural attraction. So how does this view change when they see and hear a towboat and barge while hiking a riverside trail? The contrast between the natural river and the working river has been seen differently, and valued differently, over time.

For Dakota people the river is a relative and its water, like all water, is a gift. This perspective hasn't changed in millennia. For the past 180 years, however, the dominant view has been that this river has a job to do. It's a resource to be utilized.

Over the years, work has been hard on the Minnesota. But even as commercial river traffic has increased, the river is demonstrating resilience. Seeing and hearing the stories of this changing river can help people make sense of the natural and working river they see today.

THE WORKING RIVER



TRANSIT ALONG THE RIVER

- Canoe
- Steamboats
- Railroads
- Shipping, river freight, barges, boats
- Trade routes
- Power and industry
- Time and distance

WORKING LANDSCAPE

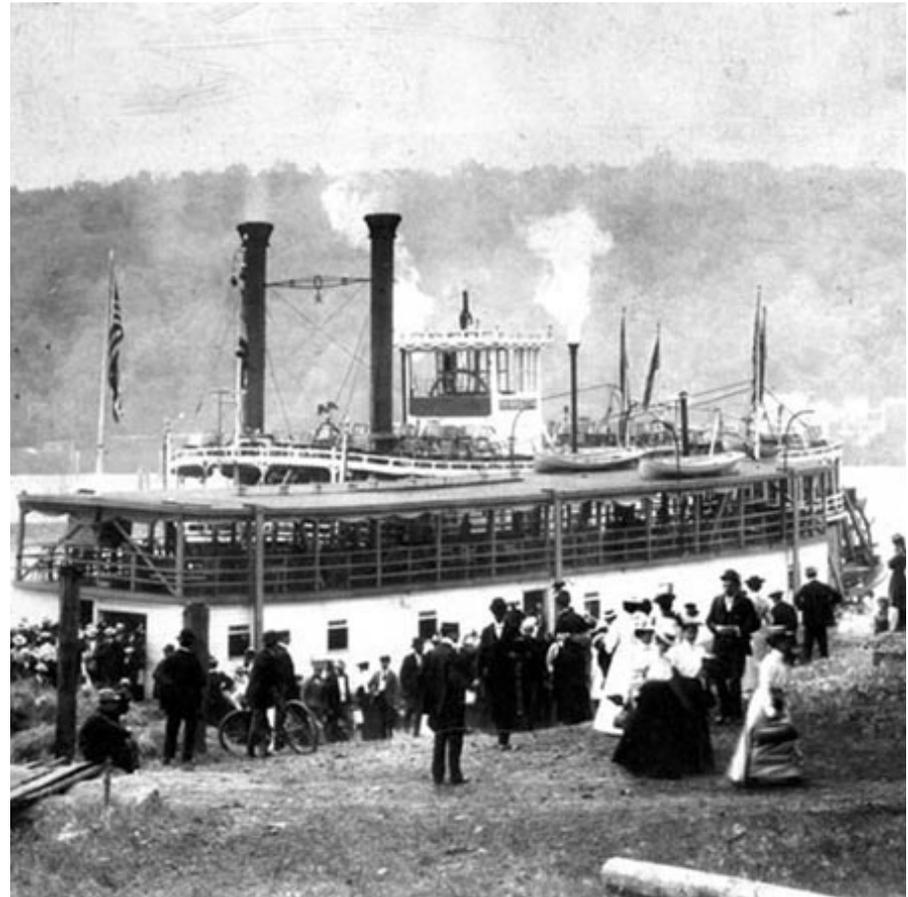
- Fur trade
- Dredging and sediment flows
- Fishing
- WWII shipbuilding
- Power plant
- Onion farming and drainage ditches

- Industrial sites
- Rail lines
- - Shipping channel
- Trail

THEME #4 WORKING RIVER



Indians Spearing Fish 3 Miles below Fort Snelling, Seth Eastman, 1846 -1848, Minnesota Historical Society



The Henrietta, 1897, Minnesota Historical Society

THEME #4 WORKING RIVER



Agawam under the Mendota Bridge, 1943, Dakota County Historical Society



Black Dog Power Plant, 1960s, Dakota County Historical Society

THEME #5

ECOSYSTEMS OF THE RIVER

The back and forth tension between natural systems and human intervention is easily observed in today's landscape. Natural changes such as floods and droughts have influenced what we see today.

In the early 1800s, the area around the confluence featured many different landscapes. On the high ground above the rivers there was a mix of upland prairie and small groves of burr oaks interspersed with brush prairie. In places there were probably thickets of shrubby dogwood, sumac, and edible fruits and nuts, including hazel, plum, chokecherry, raspberry, and Juneberry. Fires, occurring naturally or set by the Dakota, helped maintain this mix.

In the river valley were well-developed floodplain forests, dominated by cottonwood, silver maple, elm, green ash, and black willow. Extensive areas of wet prairie and marshlands surrounded shallow lakes and ponds that attracted migrating waterfowl. These ecosystems, well adapted to floods and periods of drought, appear today much like they did before European settlement, with a somewhat different mix of species.

Perhaps the biggest change to the Minnesota River has been in the quality of its water. Today, the river flows through more than 300 miles of agricultural lands before reaching the confluence. These farmlands, along with cities and towns along the way, all contribute pollutants. But their development also changed the hydrology of the river. Where once there had been vast marshlands to absorb and slow stormwater runoff, now there are fields with drain tiles and urban areas with parking lots and storm drains that carry runoff to the river with remarkable speed.

This means that water levels rise and fall faster than they did even a century ago, scrubbing sediments from the banks and increasing the turbidity of the water. Many of the floodplain lakes near the confluence are groundwater fed, so remain clearer than the river.



Upland prairie and oak



Flood, 1965, Dakota County Historical Society



Open water



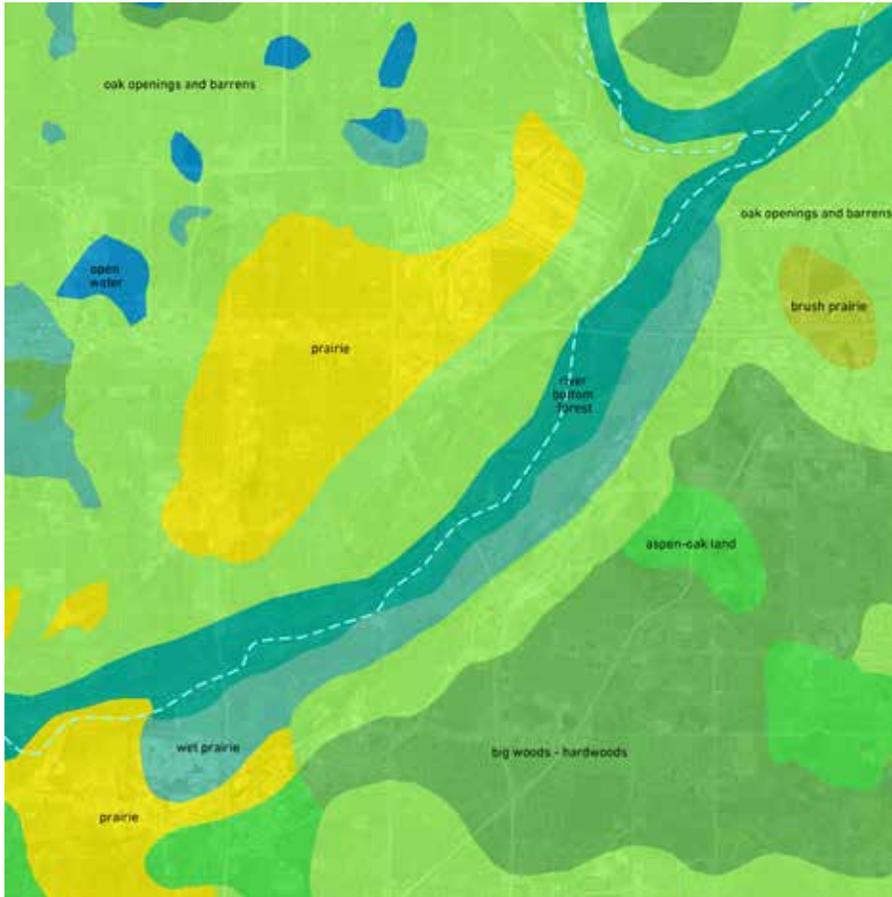
Pilot Knob, 1920s, Dakota County Historical Society

LANDSCAPE CHANGE:

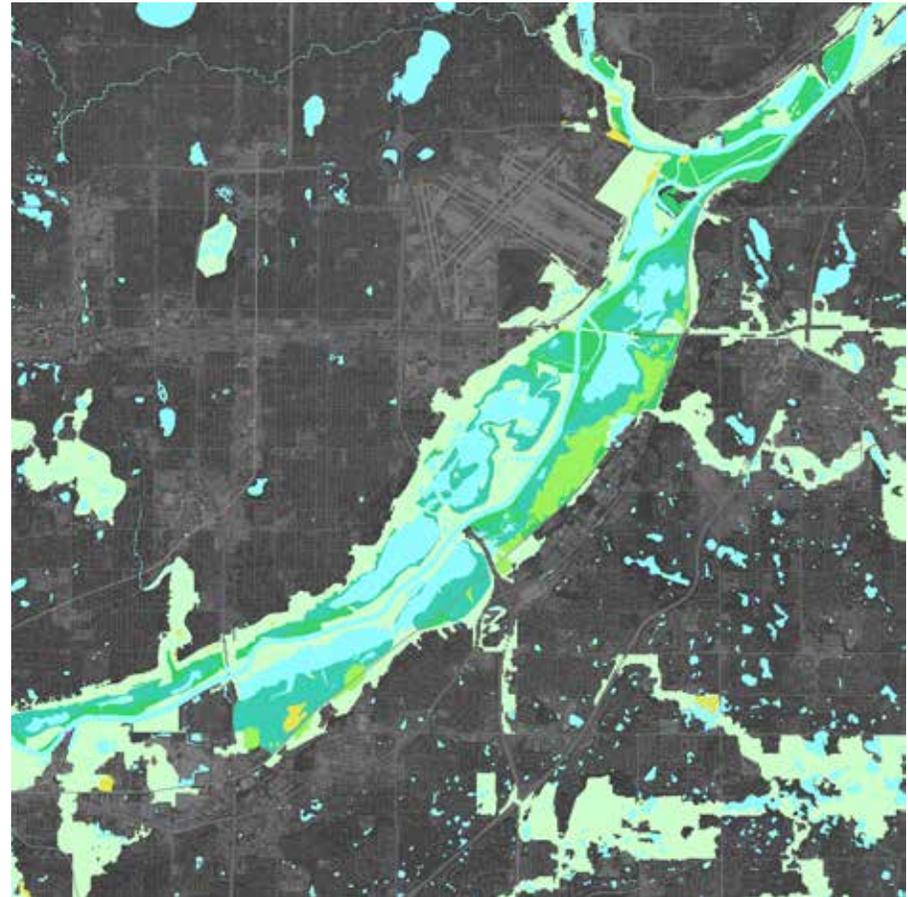
- Fens and historic vegetation
- Valuable ecology
- Floodplain
- Erosion and sediment flows
- Development
- Pollution
- Stormwater and sewer outfalls
- Altered streams
- Woodlands once harvested for fuel, now regrown

THEME #5 ECOSYSTEMS OF THE RIVER

HISTORIC VEGETATION



PRESENT DAY VEGETATION



- Typical waterway
- Open water
- River bottom forest
- Wet prairie

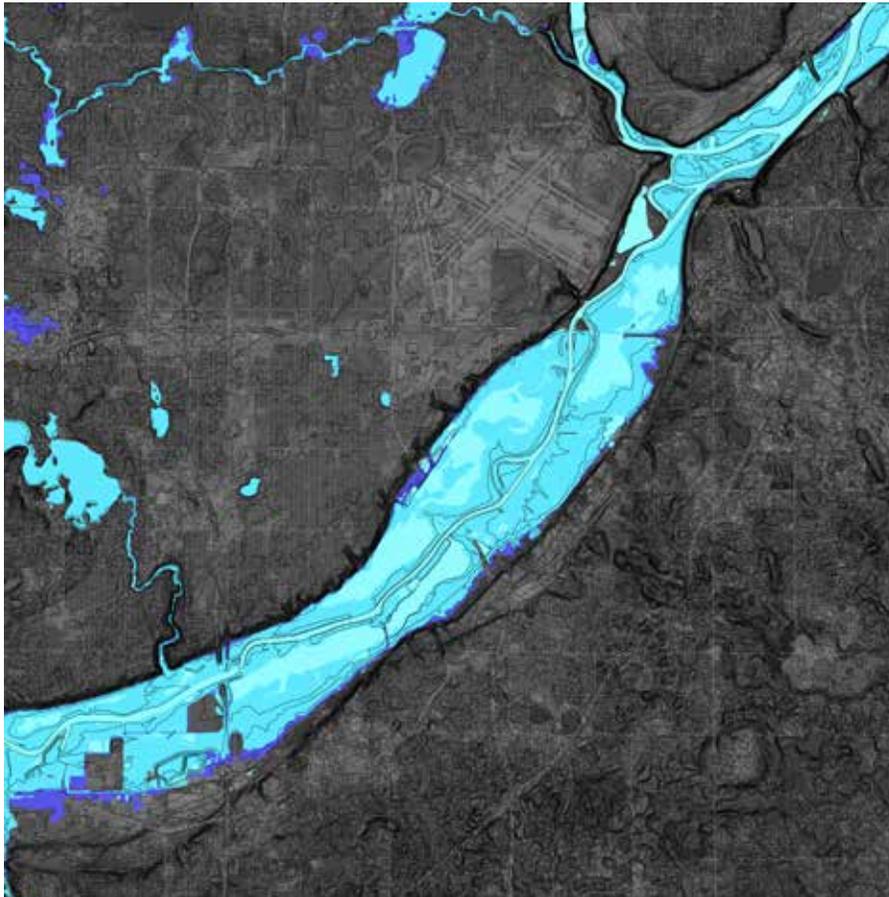
- Prairie
- Brush Prairie
- Oak openings and barrens
- Aspen-oak land
- Big woods - hardwoods

- Typical waterway
- Floodplain forest
- Marsh

- Open peatland
- Prairie
- Ecological corridor

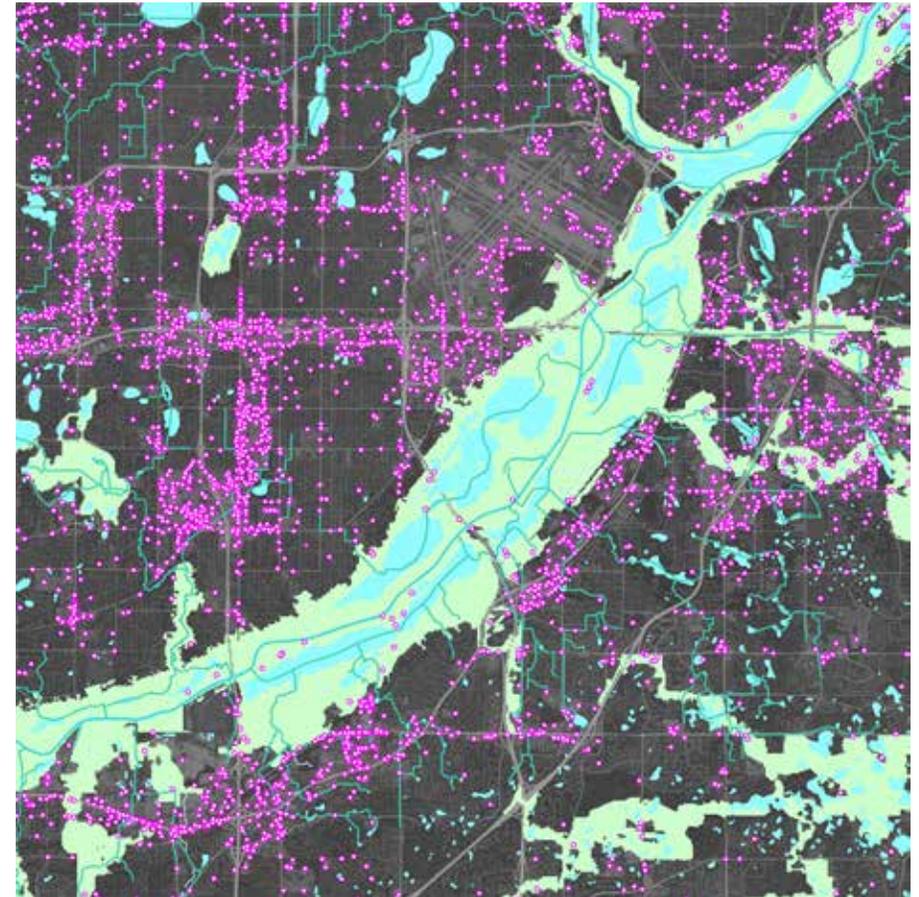
THEME #5 ECOSYSTEMS OF THE RIVER

FLOOD PLAIN + THE RIVER VALLEY



- Typical water level
- 100 year flood
- 500 year flood

HUMAN EFFECT ON THE RIVER



- Pollution sites
- Altered streams

THEME #6

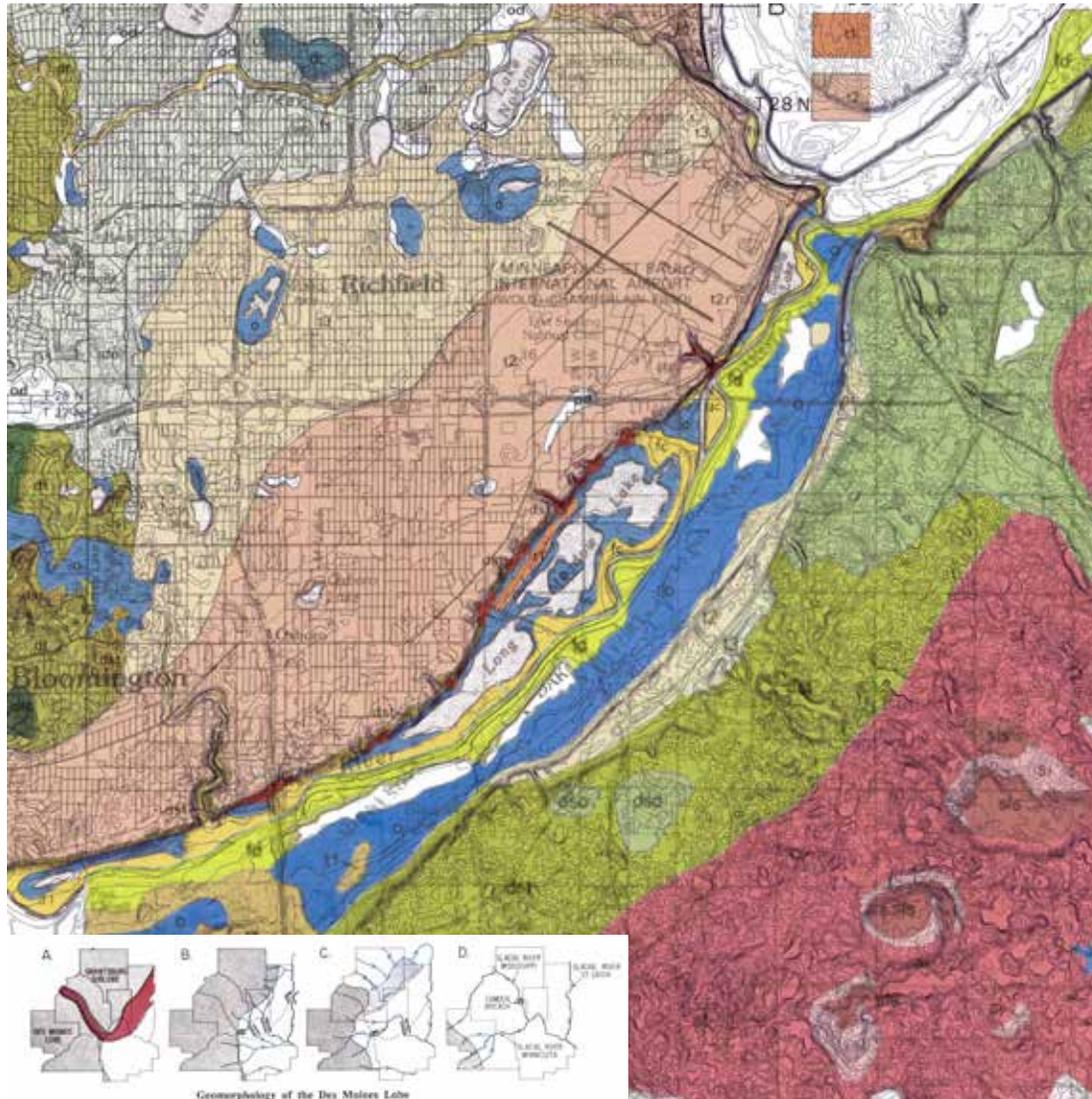
GEOLOGICAL TIME

*Evidence of the events that shaped this valley is still visible in today's landscape.
Deep time is at the surface, within view.*

Almost all of Minnesota is an erosional landscape, meaning that it's been scrubbed by glaciers and worn by rivers and weather—in places, right through bedrock. So rather than sitting atop great depths of sediment, we can stand alongside river-sculpted bluffs that reveal a timeline of life in this place going back more than 500 million years.

When bicyclists and runners on the Minnesota River Greenway stop to look at a structure built from stone quarried in the 1930s, they're seeing back in time more than 400 million years when this was all beneath the sea. And when they witness high-water events on the river and compare them to the great flood of 1965, they're seeing the land recall a miles-wide river that drained a vast inland lake 12,000 years ago.

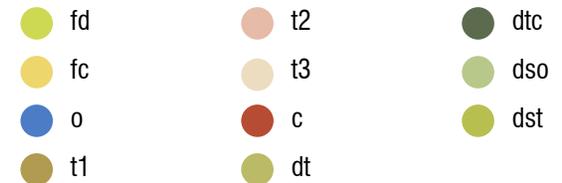
GEOLOGIC HISTORY



Geologic history has shaped the Minnesota River Valley. Traces are still visible on the site today.

STORIES:

- Mendota WPA Camp and Quarry, 1930s
- Connect quarried stone to geological history (deep time)
- The best molding sand in the country, foundry work
- Floods revealing the shape (bedrock bluffs) of the river valley
- Glacial history of the valley, the river that drained Lake Agassiz



THEME #6 GEOLOGICAL TIME



Mendota Camp #1, 1930s, Minnesota Historical Society

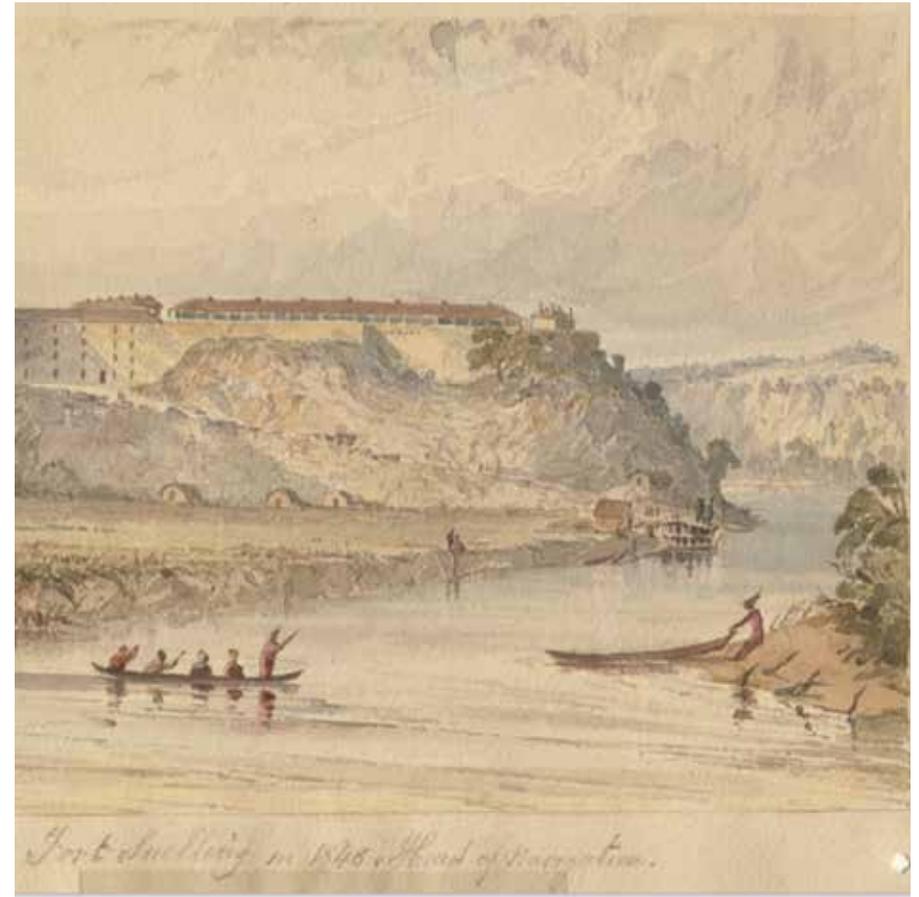


Site photos, 2016

THEME #6 GEOLOGICAL TIME



Confluence Aerial, 1940, Minnesota Historical Society



Fort Snelling in 1848. Head of Navigation, Seth Eastman, 1848, Minnesota Historical Society

THEME #7

COMMUNITIES PAST AND PRESENT

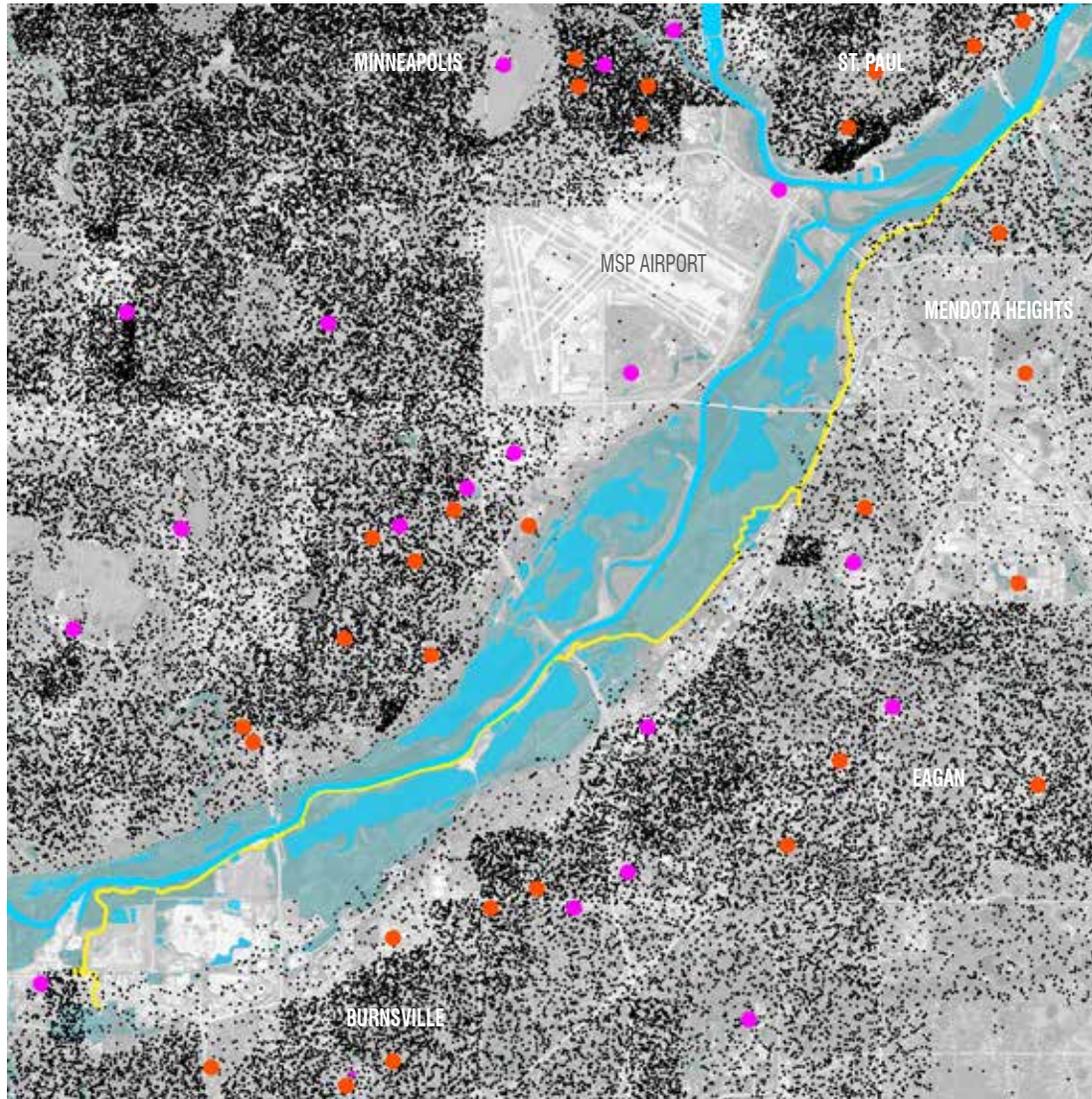
Only a few traces remain from the many villages, farms, and camps that once occupied this stretch of the river. Today they've been replaced with wide highways, industrial parks, and suburban developments.

Today it's not easy to live on this stretch of the Minnesota River, especially since much of it is public park land. Now, when people describe feeling close to the water it's usually about recreation—taking a walk or a boat ride, fishing, or riding a bike. But having the river just out the back door is another story—in fact, many stories.

Visitors to the Minnesota River Greenway could easily pass through places that are rich in historical and cultural significance to many communities and not know it. But a few pieces of history can help recall stories of the relationships that people have had with these places.

A Seth Eastman painting of Dakota men playing *Takapsicapi* (lacrosse) on the frozen river recalls the everyday friendships between villages and other tribes. Drainage ditches that once cut through farm fields are still visible in the wetlands of the national refuge. The fireplace where African-American men gathered after a day's labor in a riverside quarry is still a place to talk about what's happening on the river.

PRESENT DAY COMMUNITIES



WHO LIVES AROUND THE RIVER NOW?

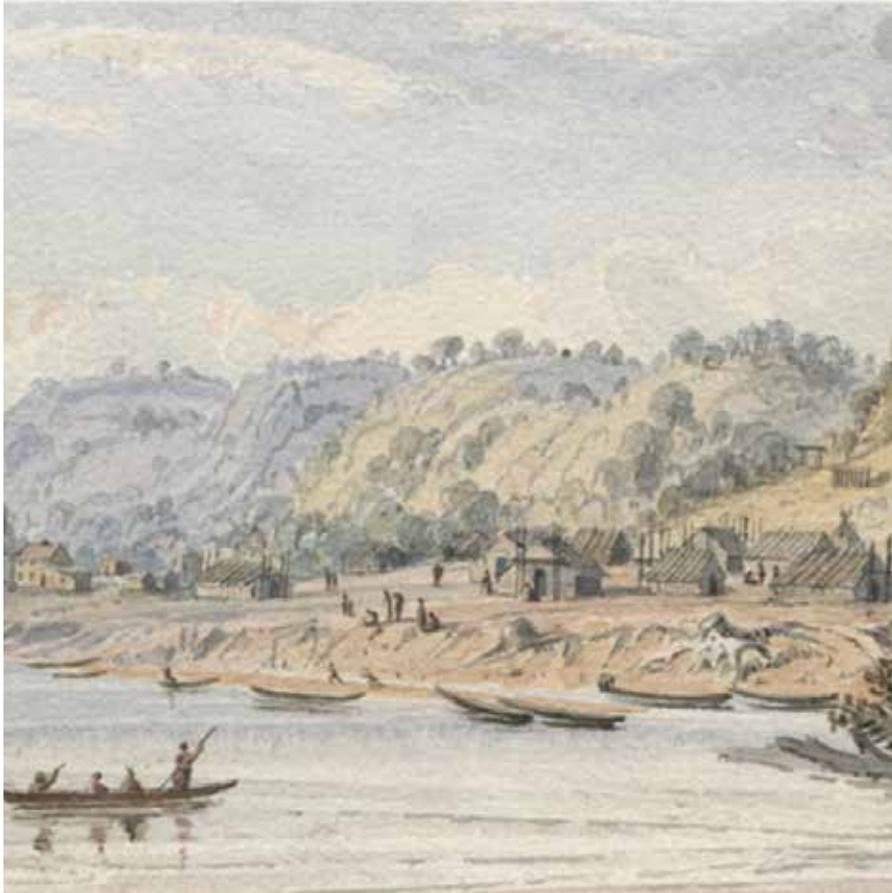
- Population distribution and demographics
- Neighborhood names and locations
- Cultural and civic-center locations

COMMUNITIES THROUGHOUT TIME

- *Hohaanske*: Black Dog Village
- Mendota Camp No.1 - WPA
- Farming on Black Dog Lake (Finks)
- Nicols (Union Pacific Line)

- Civic spaces
- Schools
- Population density
- Trail

THEME #7 COMMUNITIES PAST AND PRESENT



Village on the Minnesota River, Seth Eastman, 1841-1848, Minnesota Historical Society



Fishing Black Dog Lake, 1950s, Burnsville Historical Society

THEME #7 COMMUNITIES PAST AND PRESENT



Racing on the frozen river, 1930s, Dakota County Historical Society



Minnesota River flood, 1952, Minnesota Historical Society



INTERPRETIVE DESIGN FRAMEWORK

As a trail for walking, running, and bicycling, the Minnesota River Greenway offers a scenic route that passes through diverse landscapes, which at times feels wild and natural and at other times very urban. There are clues in all of these landscapes that open up surprising perspectives into the recent and distant past. But without a few hints, or welcoming invitations, the important stories of the Lower Minnesota River Valley remain largely hidden. By knowing more about the Greenway's historical and cultural legacy, visitors can deepen their relationships with the land and discover even more in these resources to value and preserve.

This plan describes a comprehensive set of interpretive experiences that promise to transform a trail through woods and marshlands into a trail through the history, culture, and ever-changing ecosystems. The plan is organized around three kinds of interpretation—trailwide signage and interpretation, interpretive nodes, and parklike destinations. With each feature, the objective is to encourage pause and reflection. Specifically, the interpretive elements will prompt trail visitors to:

- Slow down and seek out specific points of interest in the surrounding landscape,
- Ask what's changed over time and why,
- Awaken their sense of curiosity and imagination,
- Share their own stories about the river, and
- Keep learning through online sources and location-based media.

The interpretive design includes three elements:

TRAILWIDE IDENTITY AND INTERPRETATION. These features combine wayfinding with specific points of engagement along the trail—reasons to stop and discover something new about the riverfront. The interpretive content focuses on trailwide stories, places and subjects that are bigger in scope than historic sites and locations.

DAKOTA HOMELAND INTERPRETATION. A series of spaces and structures will carry the Dakota Homeland theme by framing views, prompting sensory interactions with the landscapes, and be an invitation to learn from these places in ways that are inspired by Dakota traditions.

INTERPRETIVE NODES AND DESTINATIONS. Nodes are an initiation to pull over and pause for a bit. They offer places to rest with additional design elements that help visitors line up remarkable views or locate historical traces in the land. Destinations correlate with Greenway trailheads and incorporate vehicle and bicycle parking, restrooms, water, picnicking facilities, and connections to other trails. They are more parklike in their layout and offer a greater variety of interactive learning activities. Here, visitors might arrive in a group and stay for a few hours, have lunch, and even go fishing.

INTERPRETIVE DESIGN FRAMEWORK

INTERPRETIVE PLANNING GUIDELINES

The Minnesota River Greenway holds many stories and many histories, including deep-history geological processes and ecosystem dynamics. The project team developed the following guidelines for evaluating potential sites and stories for inclusion in the plan:

THIS IS A DAKOTA PLACE. All interpretation will acknowledge the relationship between the Minnesota River Valley and the Dakota people.

LEARNING FROM THE PLACE. Visitors will be prompted to engage, listen, and truly see their surroundings along the Greenway.

RESPECTING THESE PLACES. Interpretive components will not identify or encourage visitors to explore Indian burial mounds or village sites.

PARTS OF A BIGGER STORY. Interpretive stops along the Greenway will present the opening scenes of deeper historical narratives. These brief but compelling stories will engage visitors' curiosity and imagination but will not convey comprehensive historical narratives.

NATURE IN HISTORY. Through the lens of history, natural systems such as ecology, hydrology, and geology can provide engaging, visible records of change and continuity.

IT'S WHAT HAPPENED HERE. Interpretive themes and stories must clearly relate to what visitors are seeing and doing along the Greenway. The most engaging stories are site specific.

MORE STORIES JUST AROUND THE CORNER. All primary interpretive experiences will be located adjacent to the trail with wayfinding elements that direct visitors to off-trail sites such as the Sibley complex in Mendota.

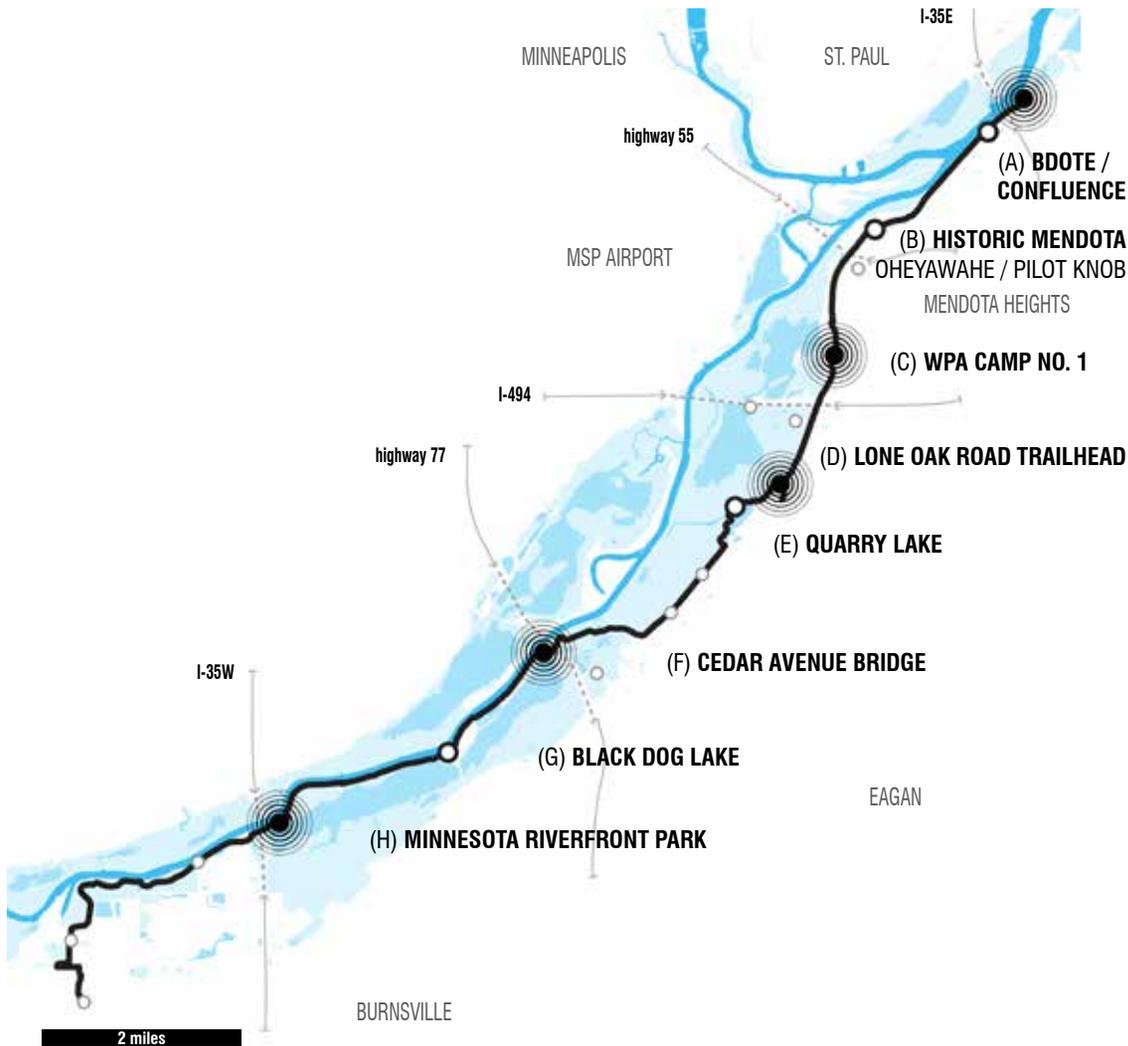
CONNECTED SITES AND STORIES. The planning team will be mindful of the planning efforts of other agencies along the Greenway, including Fort Snelling State Park, Dakota County Historical Society, Minnesota Valley National Wildlife Refuge, Historic Fort Snelling, and others.

FUTURE DIGITAL MEDIA. Voices and soundscapes can provide an up-close and personal dimension to otherwise muted interpretive components. Location-based media can fill out the immersive experiences framed by the sites and their stories.

SPOKEN WORDS. Language can do more than simply deliver information to trail visitors. It's important to explore how written and spoken words can enhance the relationship between visitors and the people, places, and stories of the Lower Minnesota River Valley.

INTERPRETIVE DESIGN FRAMEWORK

INTERPRETIVE EXPERIENCES



Eight interpretive sites, along with trail-wide interpretation spanning the entire Minnesota River Regional Trail's length were identified as part of an initial phase of planning. Along with trail-user accessibility, the nodes offer substantial and engaging cultural and historical opportunities for interpreting stories and content and engaging trail users.

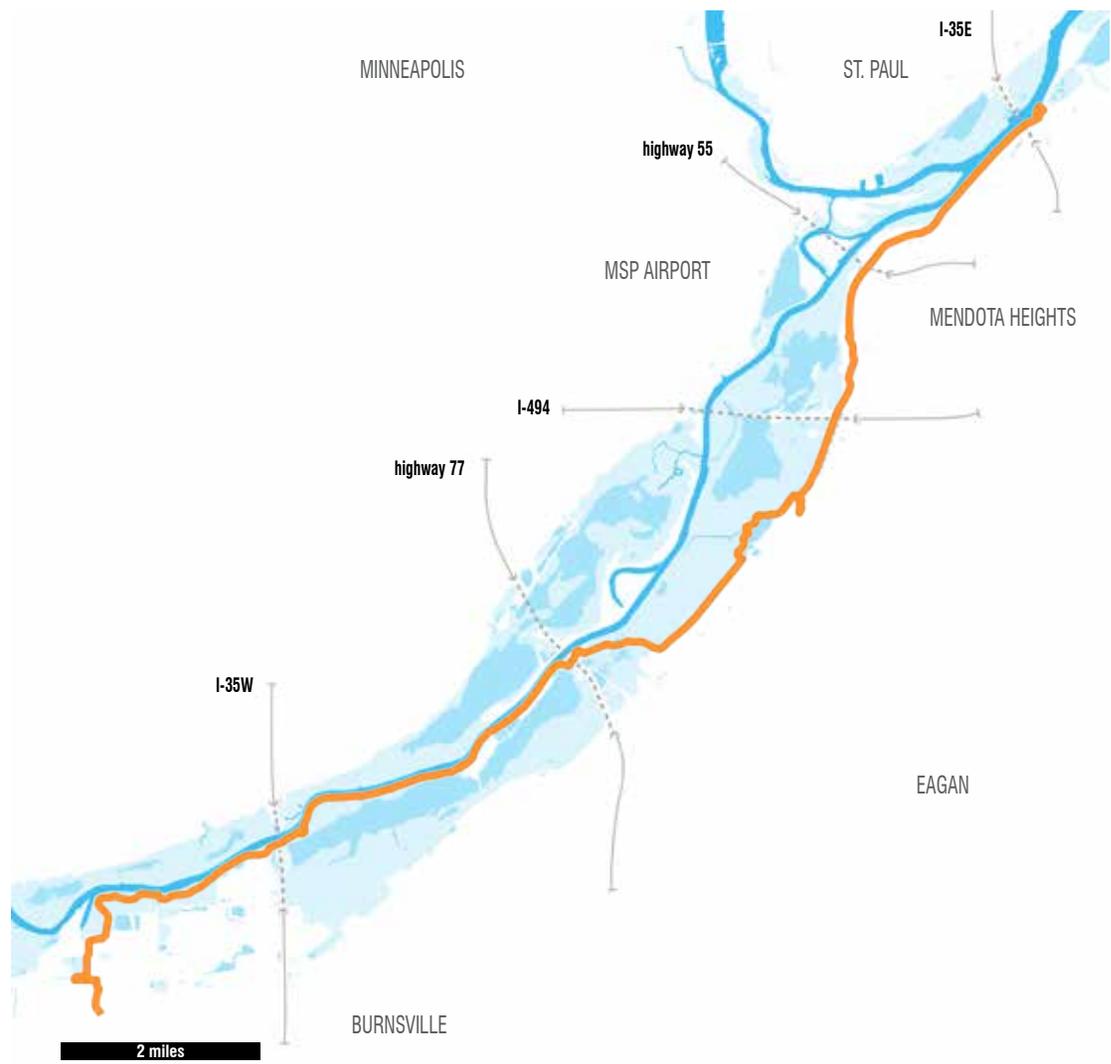
The sites from Lilydale to Burnsville are:

- Trail-wide / Dakota Homeland
- (A) Bdote / Confluence
- (B) Historic Mendota
- (C) Big Rivers Trailhead / WPA Camp #1
- (D) Lone Oak Trailhead
- (E) Quarry Lake
- (F) Cedar Avenue Bridge
- (G) Black Dog Lake
- (H) Minnesota Riverfront Park

Oheyawahe / Pilot Knob is located adjacent to the Greenway, south of Highway 55. This is a traditional sacred site to the Dakota people. The site is managed by the City of Mendota Heights in cooperation with the Pilot Knob Preservation Society.



**TRAILWIDE
INTERPRETATION + IDENTITY**



While many stories of the Lower Minnesota River are site specific, many others convey cultural and geographical relationships within the greater Upper Mississippi River Valley. These stories of the land will be gathered into thematic threads that can be explored deeply and in many ways along the entire length of the Greenway.

This section presents a common design language for features that will be found along the greenway: ecological restoration and plantings, wayfinding elements, furnishings (benches, bike racks, trash cans), interpretive signage, pavement markings, flood-level markers, and fence treatments. The goal is to create a unique identity for the trail that fits within the Dakota County Parks brand. Greenway features will meet ADA requirements, integrate universal design principles, and be designed for user comfort and safety.

Design features that prompt trail visitors to pause and reflect are at the heart of this interpretive approach. What begins with an invitation to listen and observe will quickly open into new perspectives on the history and culture of the Lower Minnesota River Valley.

TRAILWIDE INTERPRETATION + IDENTITY

INTERPRETIVE STORIES



Red River carts and drivers in camp, 1850s, Minnesota Historical Society



Nicols Station, 1964, Dakota County Historical Society



Pilot Knob, 1920s, Dakota County Historical Society



Mendota, 1885, Minnesota Historical Society

The Minnesota River Greenway follows and traverses historical trails and diverse ecosystems throughout its length. The themes **Trails through Time** and **Ecosystems of the River** and the stories they hold are parts of a continuous narrative visitors can expect to encounter at many points along the trail.

RED RIVER OXCART TRAILS

The business of trade between St. Paul and the early settlements and fur posts of the Red River Valley turned well-established American Indian trails into the major highways of their day. From the 1830s through the 1850s, drivers with single-axle carts typically pulled by an ox followed various routes from northern outposts into St. Paul, then the head of navigation on the Mississippi River. Oxcart traffic through Mendota and St. Paul peaked in the 1840s and 1850s, eventually supplanted by steamboats and railroads. One of the most heavily traveled routes in and out of St. Paul was through Mendota along what is now the Sibley Memorial Highway.

FROM GLACIERS TO A GREAT RIVER

It's been about 13,000 years since the last glaciers receded from this region. A warming climate eventually transformed immense ice sheets into Lake Agassiz, which drained southward through Glacial River Warren forming what is now the Minnesota River Valley.

WORKING RIVER TO PARKLAND

By the 1950s, the Lower Minnesota River Valley had developed into an unattractive industrial corridor. But with the state's centennial in 1958, Minnesotans began to see the valley as an important historical

TRAILWIDE INTERPRETATION + IDENTITY

INTERPRETIVE STORIES



Black Dog Power Plant, 1960s, Dakota County Historical Society



Confluence Aerial, 1940, Minnesota Historical Society



USS Agawam passing Lyndale Avenue Bridge, 1943, Minnesota Historical Society



George Hays on the Minnesota River, about 1900. Minnesota Historical Society

asset. While archaeological digs focused on recreating Fort Snelling, the state's Department of Natural Resources looked below the bluff to establish Fort Snelling State Park in 1961. Growing interest in the critical habitats of the river valley eventually led to the establishment of the Minnesota Valley National Wildlife Refuge in 1976. Today, Fort Snelling State Park is visited by almost a million people annually, and the Refuge continues to acquire land for conservation and public access.

STRAIGHTENING THE MINNESOTA

Following the 1870s' decline in steamboat traffic on the Minnesota, business at ports from Savage upriver to Carver continued but on a much smaller scale. In the 1890s, a four-foot channel was established from the confluence to Shakopee. And today, a nine-foot navigation channel extends only from the Mississippi up to the terminals at Savage, a distance of 14.7 river miles.

The 1960s brought the greatest visible change to the river. A rise in grain shipments from the terminals at Savage and the 1956 opening of the Black Dog Power plant led to an increase in river traffic. In 1958, the River and Harbor Act authorized historic changes to the Minnesota River, primarily to improve commercial navigation. Not only was a permanent nine-foot-deep, 100-foot-wide channel established, the river was widened in places and straightened. The most notable of these changes happened at the confluence, where the Army Corp of Engineers cut a new channel through a tight meander, leaving behind what is now Picnic Island. These navigational improvements were completed by 1968.

TRAILWIDE INTERPRETATION + IDENTITY

DESIGN FRAMEWORK

INTERPRETIVE THEMES

THEME #2 TRAILS THROUGH TIME

THEME #5 ECOSYSTEMS OF THE RIVER

INTERPRETIVE STORIES

RED RIVER OXCART TRAILS

**FROM GLACIERS TO A GREAT RIVER
WORKING RIVER TO PARKLAND
STRAIGHTENING THE MINNESOTA**

INTERPRETIVE FEATURES

PAVEMENT MARKINGS

RHYTHM BRANDING, NODE WARNING, MILE MARKER

Grooves and markings in the asphalt trail provide interactive and tactile ways of marking speed and distance, and provide safety alerts, track distance, and wayfinding.

PAVEMENT TREATMENT

SLOW DOWN! LOOK UP!

Sandblasted patterns in concrete paving can be used strategically along the trail to highlight the presence of nature (water, unique plant communities, or habitat), mark time passing, and notify and remind users to look up and notice their surroundings.

NODE/INTERPRETIVE SIGN

Signs with moveable panels frame views, offer a place to sit, and encourage people to extend one's time in a place.

SEATING

DIRECTIONAL BENCH, TIMBER BENCH

Benches will be angled towards a specific view, will always face away from the trail, and can facilitate different sized groups for gathering (individual, small, large).

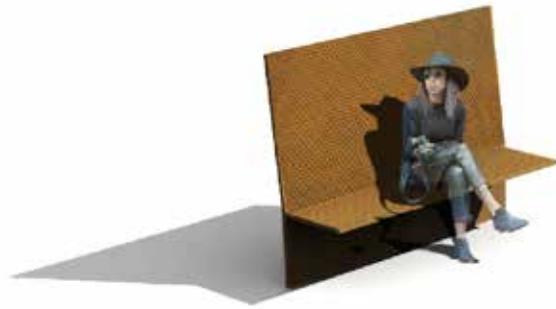
FENCE TREATMENT

INTERPRETIVE, SOUND, TRANSPARENT, LENTICULAR

Replacing strategic fence panels allows for a more immersive, interpretive, and interactive experience.

TRAILWIDE INTERPRETATION + IDENTITY

CUSTOM FENCE SECTIONS AND BENCHES



DIRECTIONAL BENCH

These benches have high backs to help in removing distractions. They will be angled towards a specific view and will always face away from the trail.



TIMBER BENCH // SMALL GROUP SEATING

These benches are made from nominal 15-inch square planed timber or reclaimed barn beams roughly 96 inches long with 2-3-inch square box-tube or strap-steel feet.



INTERPRETIVE FENCE

The inserted panel allows for copy, graphics, and images to be easily integrated into the trail experience.

SOUND FENCE

Custom wind chimes can be inserted into a fence section to create a way to experience the wind generated by bikes passing by.

TRANSPARENT FENCE

A transparent fence sections allows user to experience the river and cliff edge without any distractions.

LENTICULAR FENCE

Vertically segmented images reveal two different photographs—one in each direction.

TRAILWIDE INTERPRETATION + IDENTITY

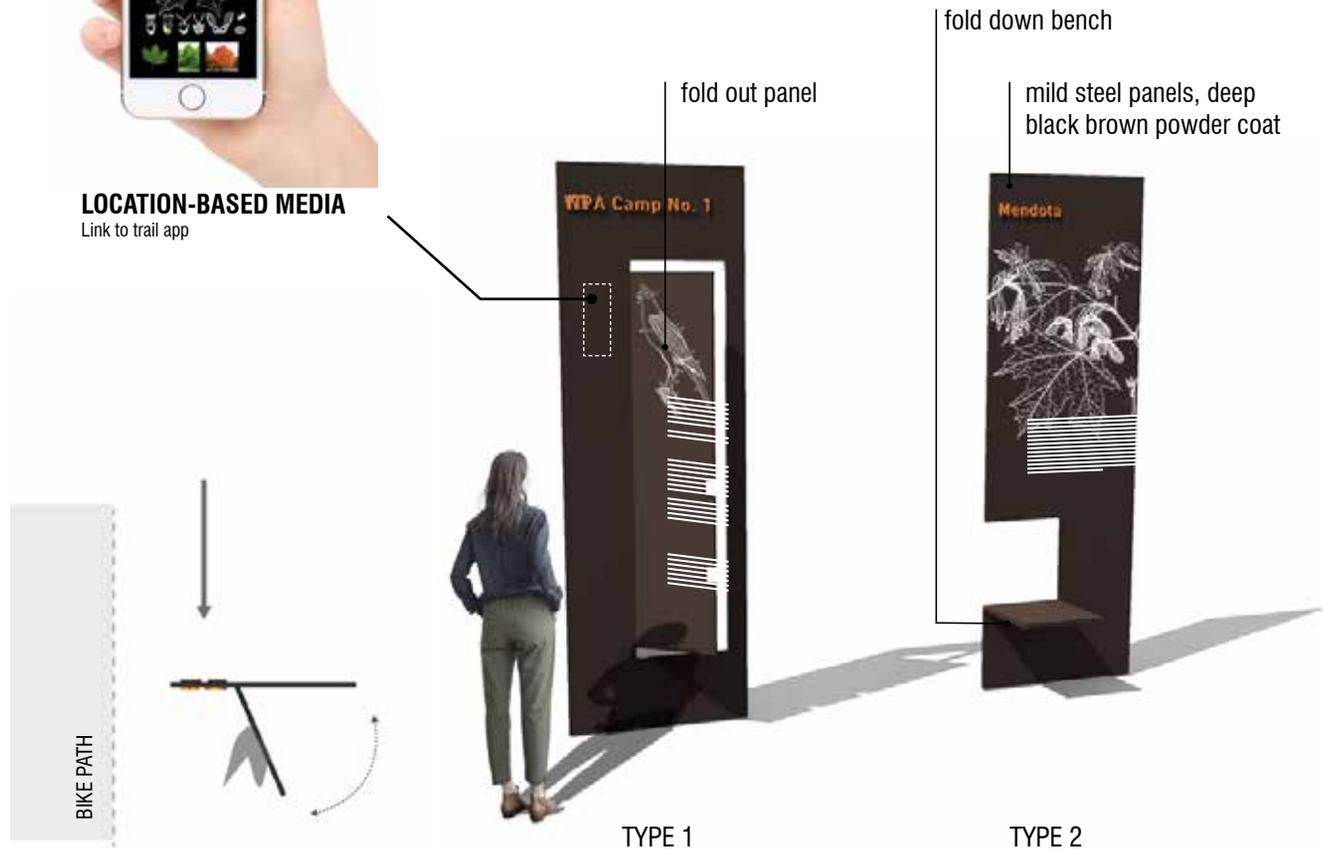
WAYFINDING AND INTERPRETIVE SIGNAGE



LOCATION-BASED MEDIA
Link to trail app



E ENTRY MONUMENTS (NIC)
Dakota County Standard, located at trailheads only.



N NODE/INTERPRETIVE SIGN
A panel folds towards the path for better legibility (Type 1), or folds down for a resting place (Type 2). Signs are made from 1/2"-5/8" mild steel, galvanized, and powdercoated brown-black.

TRAILWIDE INTERPRETATION + IDENTITY

WAYFINDING AND INTERPRETIVE SIGNAGE

DAKOTA HOMELAND WAYS OF SEEING (CUSTOM): Elements and stories with specific Dakota meanings and relevance

ENTRY MONUMENT (DAKOTA COUNTY STANDARD): Trailwide map and general orientation

NODE INTERPRETIVE SIGN (CUSTOM): Historic image drawings and summaries of all interpretive stories for each node

DIRECTIONAL SIGN (DAKOTA COUNTY STANDARD): Wayfinding and distance indications

SMALL INTERPRETIVE PANEL (DAKOTA COUNTY STANDARD): Descriptions of interpretive elements within a node (interactive components, native plants)

MILE MARKER (DAKOTA COUNTY STANDARD): Distance indicators



D DIRECTIONAL SIGN (NIC)
Dakota County Standard



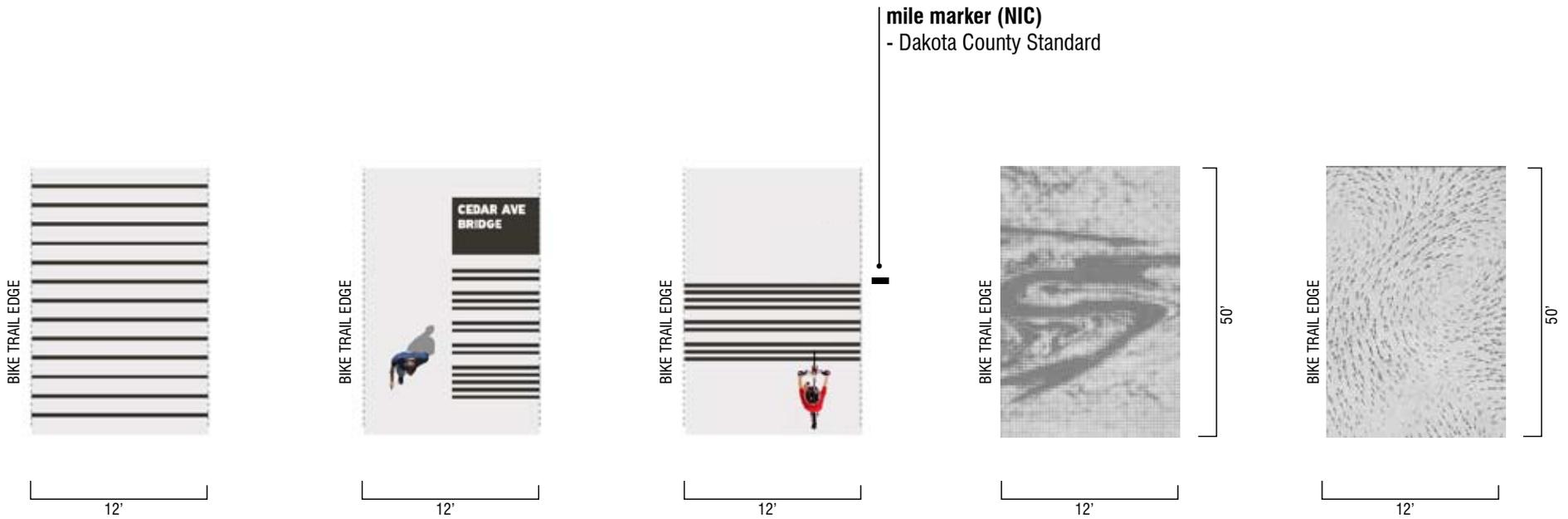
S SMALL INTERPRETIVE PANELS
Dakota County Standard



M MILE MARKER (NIC)
Dakota County Standard

TRAILWIDE INTERPRETATION + IDENTITY

WAYFINDING AND INTERPRETIVE MARKINGS



mile marker (NIC)
- Dakota County Standard

RHYTHM BRANDING

Grooves in the pathway are an interactive and tactile way of marking speed and distance while providing safety alerts along the trail.

NODE WARNING

Markings will be placed 100' before each node and destination.

MILE MARKER

Mile markings will be placed at every mile to help track distance traveled and as a wayfinding tool.

SLOW DOWN!

Sandblasted patterns can be used along the trail to highlight the presence of nature (water, unique plant communities, or habitat) and mark time passing.

LOOK UP!

Directional sandblasted patterns can be used along the trail to notify and remind users to look up and notice their surroundings.

TRAILWIDE INTERPRETATION + IDENTITY

PRECEDENT IMAGES



SOFT SURFACE // SECONDARY PATH



FRAME VIEWS



PAVEMENT MARKINGS



MILE MARKERS



NATIVE / SEASONAL PLANTING



WAYFINDING

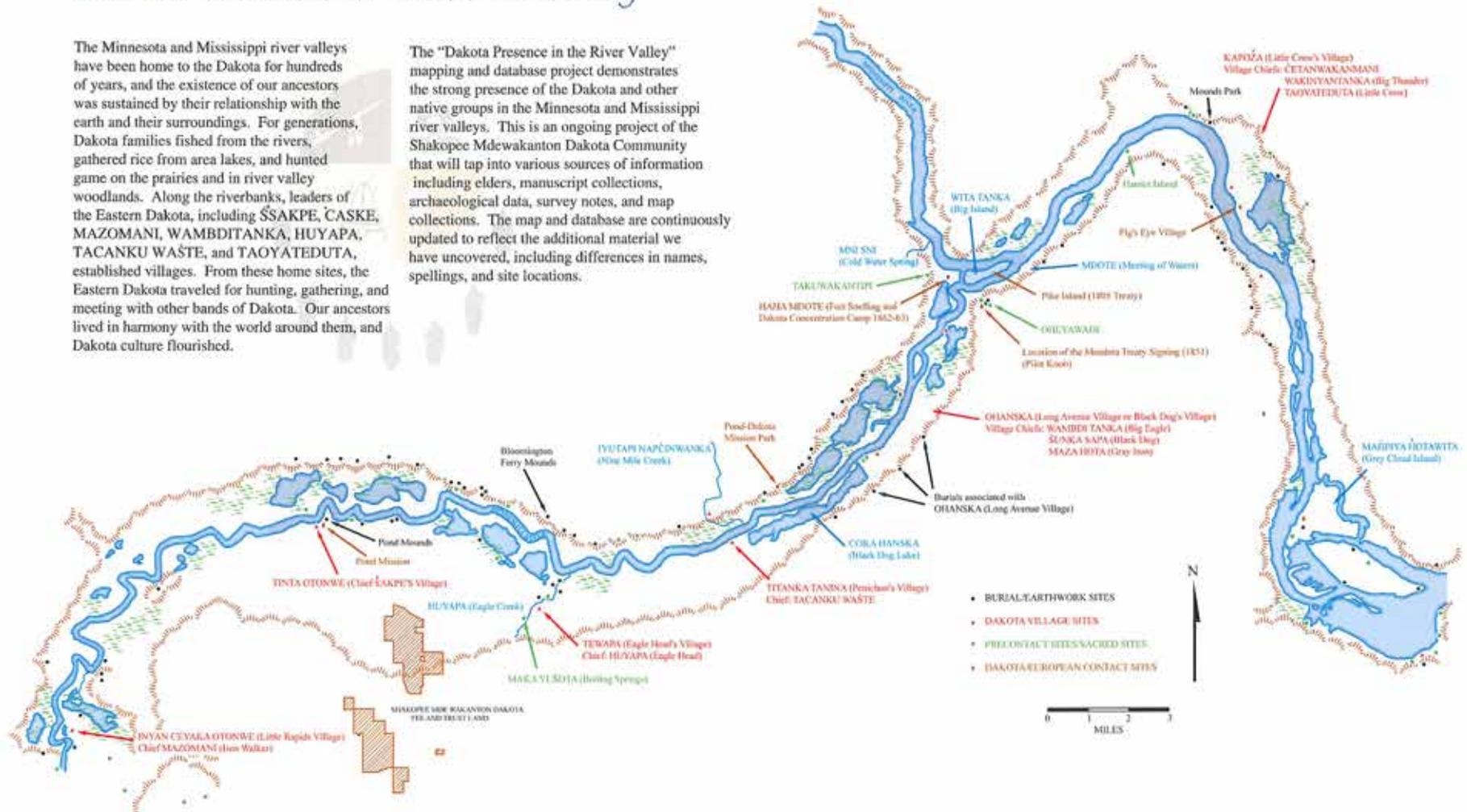


DAKOTA HOMELAND INTERPRETATION

Dakota Presence in the River Valley

The Minnesota and Mississippi river valleys have been home to the Dakota for hundreds of years, and the existence of our ancestors was sustained by their relationship with the earth and their surroundings. For generations, Dakota families fished from the rivers, gathered rice from area lakes, and hunted game on the prairies and in river valley woodlands. Along the riverbanks, leaders of the Eastern Dakota, including ŠŠAKPE, ČASKE, MAZOMANI, WAMBDITANKA, HUYAPA, TACANKU WAŠTE, and TAOYATEDUTA, established villages. From these home sites, the Eastern Dakota traveled for hunting, gathering, and meeting with other bands of Dakota. Our ancestors lived in harmony with the world around them, and Dakota culture flourished.

The "Dakota Presence in the River Valley" mapping and database project demonstrates the strong presence of the Dakota and other native groups in the Minnesota and Mississippi river valleys. This is an ongoing project of the Shakopee Mdewakanton Dakota Community that will tap into various sources of information including elders, manuscript collections, archaeological data, survey notes, and map collections. The map and database are continuously updated to reflect the additional material we have uncovered, including differences in names, spellings, and site locations.



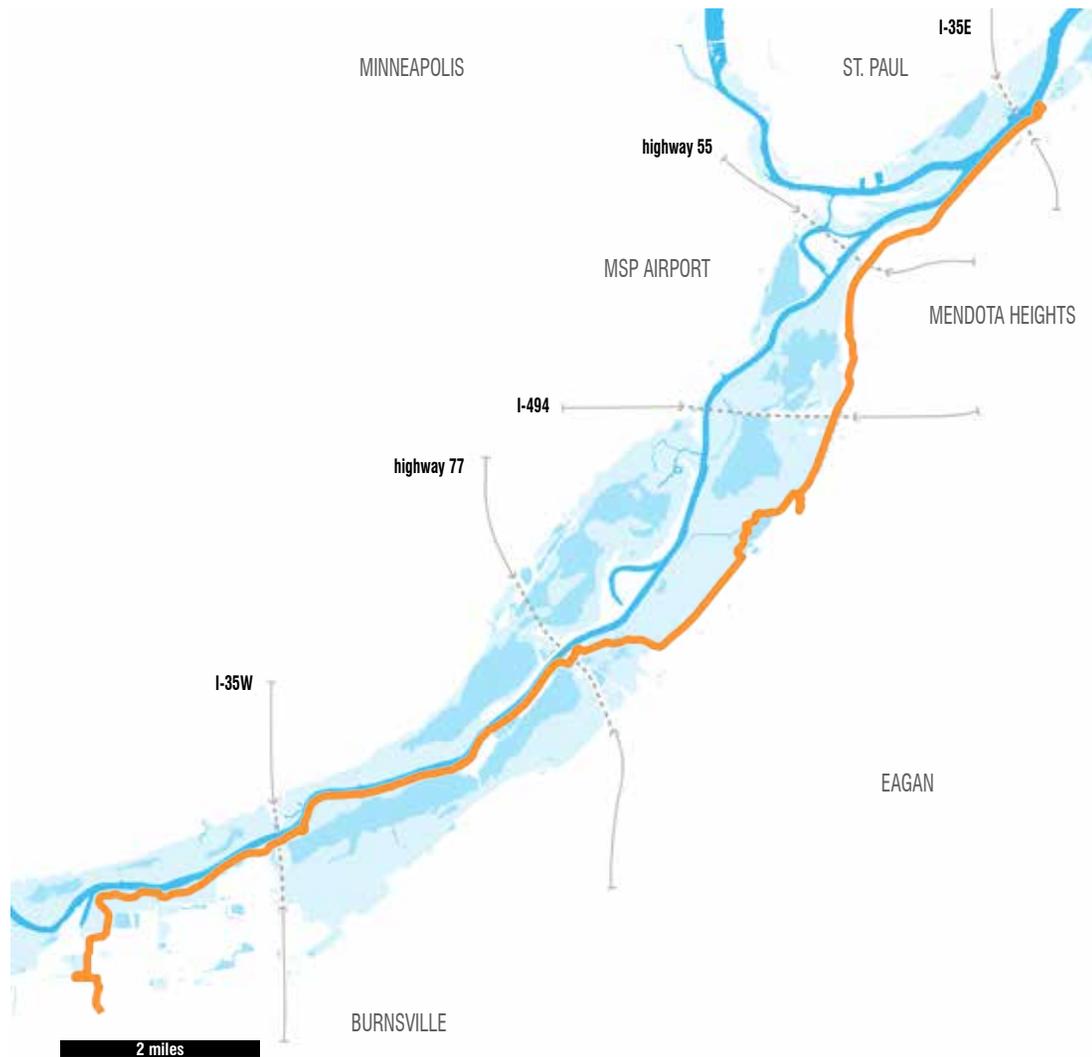
For more information about the Shakopee Mdewakanton Sioux (Dakota) Community, please visit www.shakopeedakota.org or contact the Shakopee Mdewakanton Sioux (Dakota) Community, Cultural Resources Department, 2310 Sioux Trail NW, Prior Lake, MN 55372, E-mail: culturalresources@shakopeedakota.org.



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 Printed for Big River Journey Program, National Park Service
 For additional classroom resources, please visit the Shakopee Mdewakanton
 Sioux (Dakota) Community web site: www.shakopeedakota.org.

DAKOTA HOMELAND INTERPRETATION

EXISTING CONDITIONS



EXISTING CONDITIONS:

- Incomplete trail running along the Minnesota River
- Views to Bdote, the confluence of the Minnesota and Mississippi Rivers, a place of spiritual and cultural importance to the Dakota
- Little evidence of cultural history or early settlements
- Overgrown with native and non-native/invasive vegetation
- Oheyawahe/Pilot Knob was added to the National Register of Historic Places on March 14, 2017

OPPORTUNITIES:

- Reconnecting the trail to the Minnesota River
- Ecological plant survey of existing species
- Designing and developing flexible gathering spaces for individuals, small groups, and large groups—a need expressed by Dakota advisors
- Large scale planting of native and restoration vegetation
- Planting traditional edible, spiritual, and medicinal vegetation—a desire expressed by Dakota advisors
- Use Dakota language on all signs and audio recordings
- Stewardship and community involvement in establishing and maintaining the trail
- Work with Mendota Heights and Pilot Knob Preservation Association to provide a walking path from the Greenway Trail to the exiting walking path on Oheyawahe/ Pilot Knob

CONSIDERATIONS:

- Spiritual, cultural, and historical significance of the river valley
- Current interpretation at the Oheyawahe/ Pilot Knob site is managed by the Pilot Knob Preservation Association and the City of Mendota Heights
- A survey of cultural resources by a Tribal Historic Preservation Officer (THPO) is needed.

DAKOTA HOMELAND INTERPRETATION

INTERPRETIVE STORIES



Dakota girl, 1880s, Minnesota Historical Society



Map of the Minnesota Territory and Red River Region, detail, 1849, Minnesota Historical Society



Ball Play of the Dahcotah Indians, Seth Eastman, 1850s, Minnesota Historical Society



Dakota tepees, Mendota, about 1862, Minnesota Historical Society

DAKOTA HOMELAND

No one location along the Minnesota River Greenway can hold the idea of Dakota Homeland. Instead, it's recalled in the water, trees, rock formations, wetlands, and wildlife that visitors will encounter many times all along the trail.

A series of 19 similarly designed structures will carry the Dakota Homeland theme by framing views, prompting sensory interactions with the landscapes, and introducing a broad and deep selection of audio stories. Each of these structures will be an invitation to learn from these places in ways that are inspired by Dakota traditions. Each will be a reminder that this is Dakota Homeland.

As venues for hearing stories, these frames will emphasize spoken words and song over written words and images. Selections of audio recordings will be accessed either directly through built-in playback systems or through visitors own mobile devices. Trail visitors will have the opportunity to hear many different Dakota voices representing many different perspectives on this place in Dakota culture.

DAKOTA HOMELAND INTERPRETATION

DESIGN FRAMEWORK

INTERPRETIVE THEMES

THEME #1 DAKOTA HOMELAND

INTERPRETIVE STORIES

EXTENDING ONE'S TIME IN A PLACE

INTERPRETIVE FEATURES

DAKOTA HOMELAND FRAMES

A family of gateways and frames reveal the landscape in specific ways to focus views downwards, upwards, sideways, or ahead.

GATHERING SPACES

Trail visitors will find new perspectives on the world around them, physically and culturally. They will move up, out, over, through, down, and into. They will frame views and listen to sounds in new ways. They will see and hear the Dakota language in media and interpretive signage. Wherever possible, design features will heighten the sounds, smells, colors, and seasonality of every setting. Trails will provide invitations to extend one's time in a place with secondary loops, gathering areas, and accessible seating.

TRACES

Interpretive elements will reveal traces of time made by plant, animal, and human movements left behind in water, shadows, rhythms, and distances measured in time and speed.

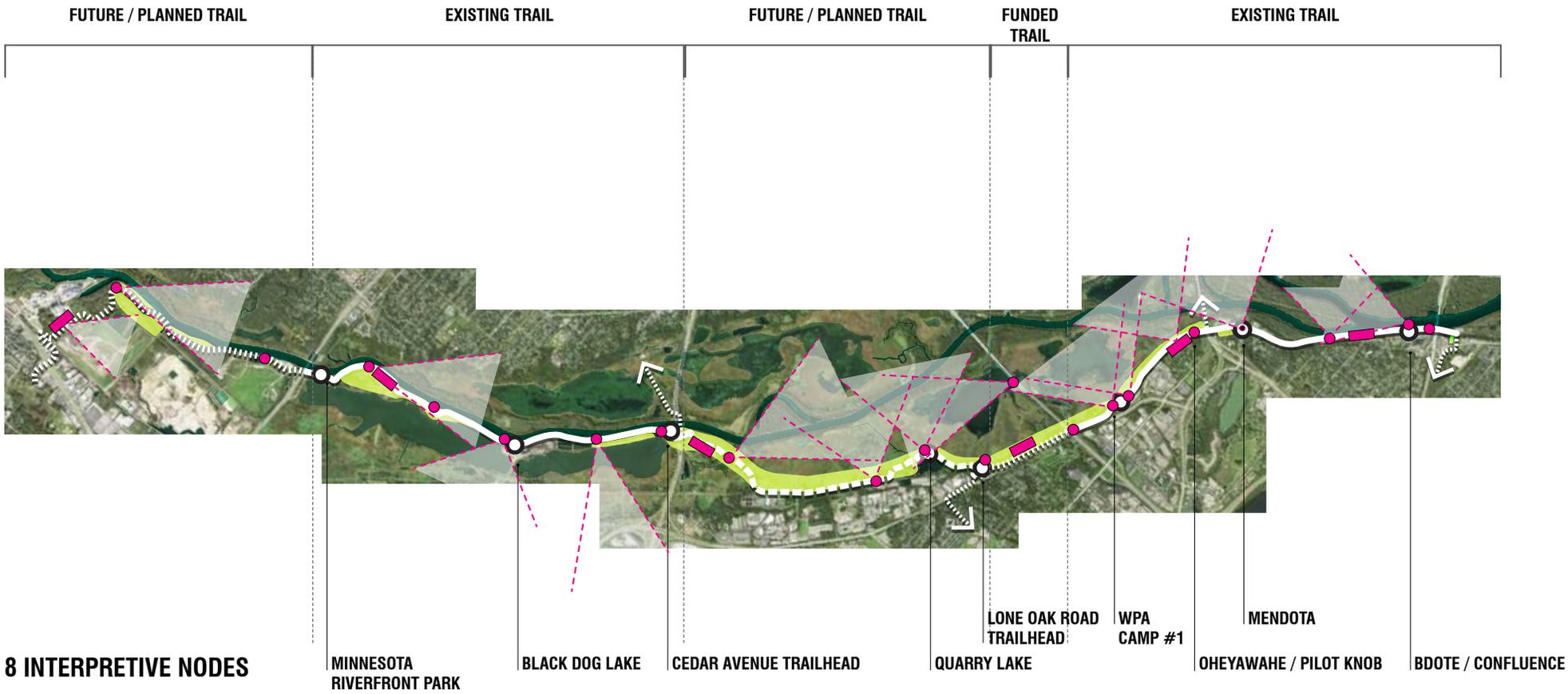
PLANTINGS

Nature will be brought into focus through ecological restorations, native plantings, and healing plants.

OHEYAWAHE / PILOT KNOB

The County will work with the City of Mendota and Pilot Knob Preservation Society to provide signage and a resting area along the greenway at the base on Pilot Knob and to create a connection from the greenway trail to the existing the walking path on Oheyawahe/Pilot Knob.

DAKOTA HOMELAND INTERPRETATION CONCEPT PLAN



- regional trail connections
- existing trail
- funded trail
- future / planned trail, preferred alignment

- Dakota Homeland frames
- gathering areas
- framed views
- plantings

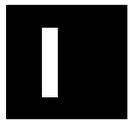
DAKOTA HOMELAND INTERPRETATION

INTERPRETIVE CONCEPT

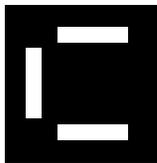
GATHERING SPACES



Pauses along the trail



individual



medium
informal gathering
small groups



large
school groups
gatherings

Heightened sensory experiences



edible, spiritual,
native, medicinal



olfactory
fragrant



sound
attract birds



visual / time
seasons

DAKOTA HOMELAND INTERPRETATION

INTERPRETIVE CONCEPT



Offer new perspectives



frame landmarks



frame ephemera



frame horizons

Primary to the idea of this place as Dakota Homeland is the idea of building respect for and deepening relationships with this landscape. Across the length of the trail, gathering spaces of different types and scales will be incorporated to allow for pause and reflection, heighten sensory experiences, and offer new perspectives. Gathering spaces are important for bringing people together and seeing the world through a communal lens. Shared experiences within the landscape help foster stewardship and a deepened sense of identity.

The Minnesota River Valley has seen dramatic changes over time and is affected by development, erosion, invasive species, and climate change (increased temperatures, flooding, storm events, and shifting plant hardiness zones). Large-scale native planting strategies that include edible, medicinal, and spiritual plants are important trailwide to carry Dakota values forward. Forward-thinking management and stewardship practices that anticipate pests, invasives, and other effects of climate change will be essential for these native communities to thrive.

Individual tribes have developed or are in the process of developing their own plant identification guidebooks with plant names in both English and Dakota and could be a great resource for developing native planting strategies for the trail further.

DAKOTA HOMELAND INTERPRETATION

INTERPRETIVE CONCEPT

DAKOTA WAYS OF SEEING

A family of gateways and frames reveals the landscape in specific ways to focus views downwards, upwards, sideways, or ahead. Each frame will describe a particular animal, plant, element, or viewshed important to this place as Dakota Homeland and will orient the viewer differently to the surrounding landscape. The frames could utilize beacon technology or be tied to an app for access to audio recordings of Dakota voices telling various stories about these elements. These frames are an invitation to linger, to hear Dakota stories, and learn new ways of seeing.

through (T)



down (D)



ground (G)



horizon (H)



sky (S)

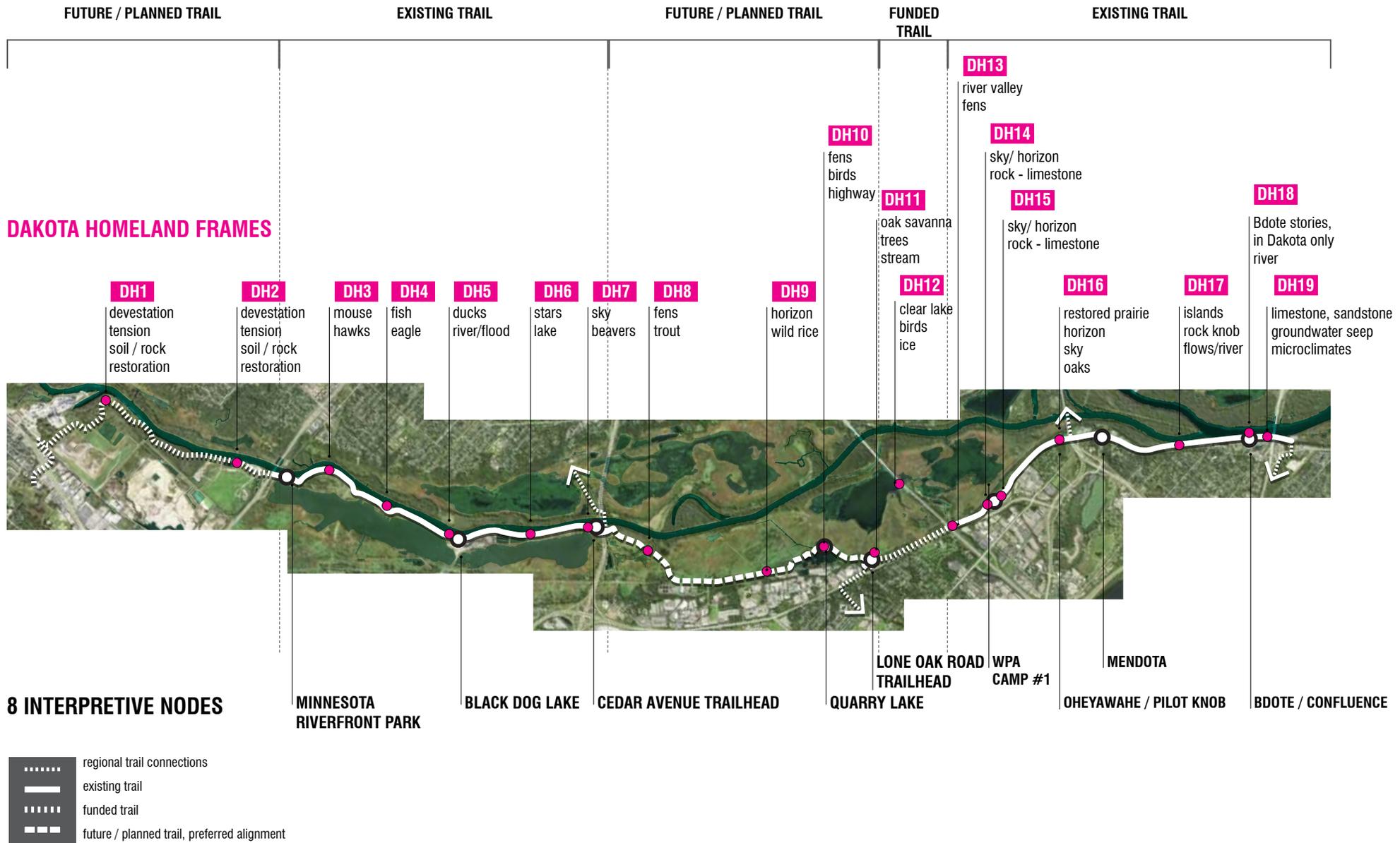


DAKOTA HOMELAND FRAMES

1/2"-5/8" mild steel, galvanized, and powdercoated brown-black.

DAKOTA HOMELAND INTERPRETATION

INTERPRETIVE CONCEPT



DAKOTA HOMELAND INTERPRETATION

SUGGESTED SITE IMPROVEMENTS AND FEEDBACK

STAKEHOLDER FEEDBACK

Stakeholder feedback on the concepts will be considered in future projects as the designs are further developed for implementation.

- ADA accessibility to the Dakota Homeland Frames is recommended.
- Consider user comfort and safety in design; tall backed benches facing away from the trail reduce visibility. Refine the design to provide more visibility to deter crime and increase safety.
- Use multimedia tools to tell multiple and diverse viewpoints.
- An ecological plant survey of existing species around the trail is recommended.
- There is a need for flexible “learning spaces” large enough for a school group, with seating and shade.
- Places for both group and individual gathering/meditation are recommended.
- The Dakota Homeland frames should be sized to fit more than one person.
- The Dakota Homeland frames should be made from natural materials, such as stone and wood.
- Native plant restoration (including edibles, pollinators, and healing plants) as an integral and large-scale trailwide strategy is recommended.
- Maintenance strategies that anticipate pests, climate change, compost, and bee keeping are recommended.
- It is recommended that artificial light, solar or otherwise, shall be limited.
- The idea of orthography is unsettled, but it has been confirmed acceptable to use the University of Minnesota’s orthography for the spelling system of the Dakota language for the Interpretive signage components.
- Recommend a survey of cultural resources be conducted by a Tribal Historic Preservation Officer (THPO).

SUGGESTED SITE IMPROVEMENTS

- Secondary walking paths
- Trail map with locations of all interpretive nodes
- Native, edible, and/or sensory planting
- Boot brush station to reduce the spread of invasive species
- Stream restoration
- Rain garden / stormwater management of new parking area
- Trash and recycling receptacles
- Bike racks
- Bike fix-it station
- Shade structures and informal gathering areas
- Nature play features

DAKOTA HOMELAND INTERPRETATION

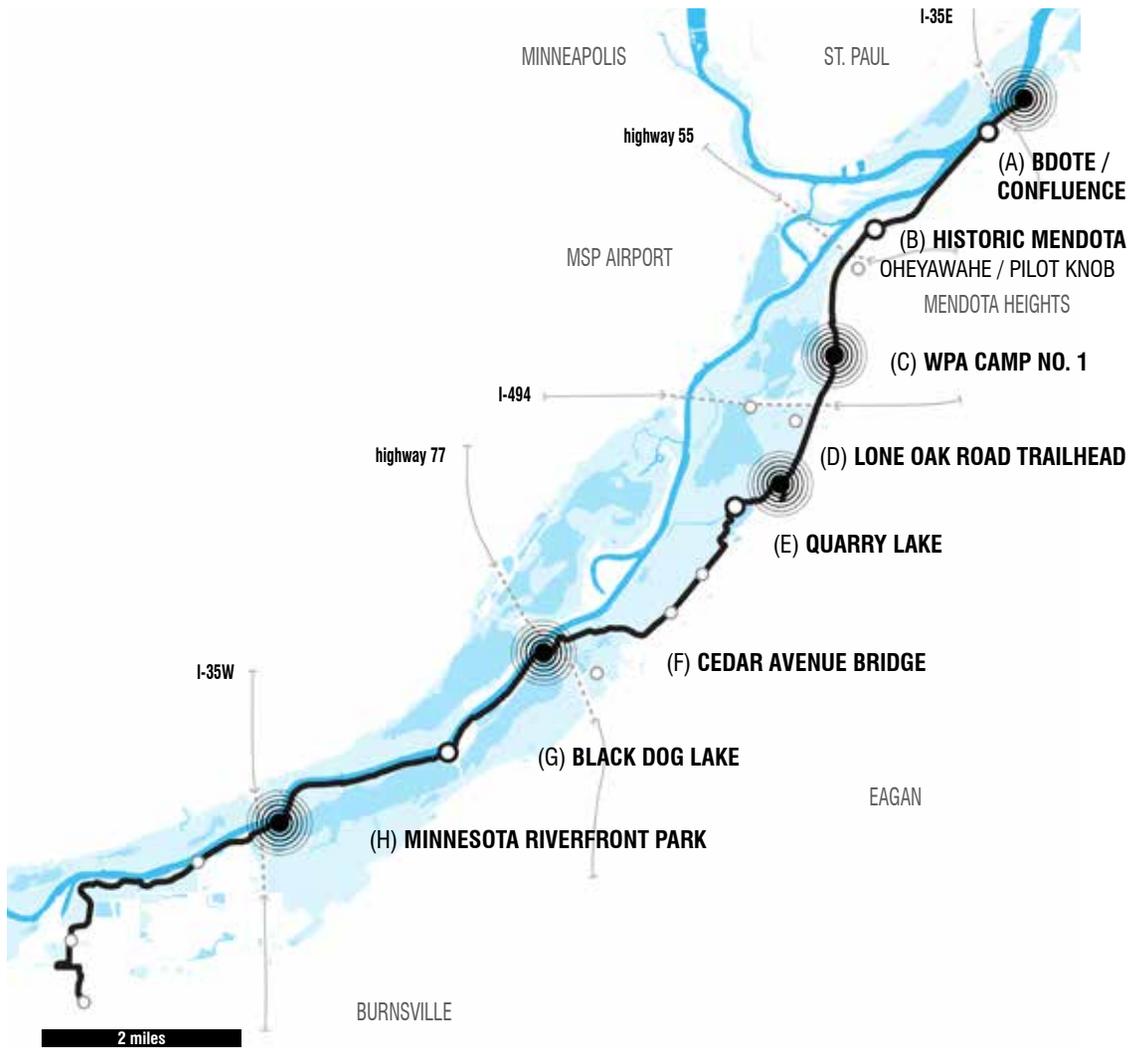
COST ESTIMATE

	COST ESTIMATE	ASSUMPTIONS
DAKOTA HOMELAND FRAMES	\$140,000 - \$175,000	<ul style="list-style-type: none"> • 19 frames
GATHERING AREAS	\$35,600 - \$45,000	<ul style="list-style-type: none"> • 6 gathering areas
TOTAL *	\$175,000 - \$220,000 *	

* Cost estimate for interpretive features only. Professional fees for design and exhibit development not included in cost estimate.
 Ongoing maintenance costs will be considered prior to implementation and will be incorporated into the Greenway maintenance program and budget.



INTERPRETIVE NODES AND DESTINATIONS



This section presents place-specific interpretive design concepts located at destinations and nodes.

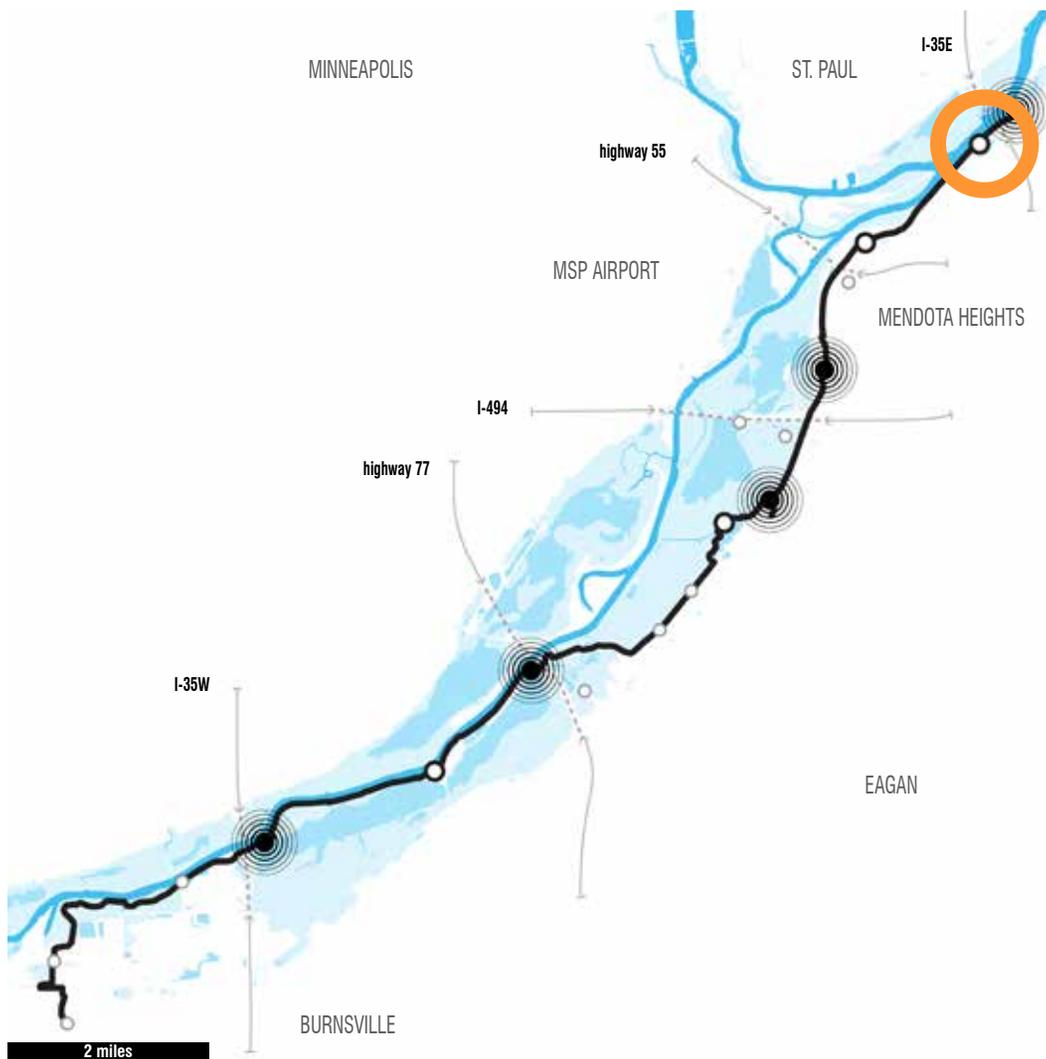
Destinations correlate with greenway trailheads and incorporate vehicle and bicycle parking, restrooms, water, picnicking facilities, and connections to other trails. These are typically medium to large sites, and interpretation will integrate multiple themes.

Nodes are smaller areas adjacent to the trail with space for bike parking and seating. At least one theme will be interpreted at each node.

The interpretive concepts in this plan illustrate the stories to be told and the interactive features at each node. These concepts are the starting point for design. Prior to implementation, the interpretive concepts will be further developed and refined. Final designs will be ADA accessible and incorporate universal design principles. User comfort and safety will be a priority in design. In addition, stakeholder feedback noted in this plan for each interpretive node or destination will be integrated into final designs prior to implementation.

A. BDOE / CONFLUENCE

BACKGROUND INFORMATION



EXISTING CONDITIONS:

- The node is 0.5 miles from the Big Rivers Gateway trailhead.
- The Big Rivers Gateway connects the Sam Morgan Regional Trail, the Big Rivers Regional Trail, and the River to River Greenway.
- Existing site amenities at Big Rivers Gateway include benches, signage, wayfinding, an information kiosk, and porta-potties.
- The node is integrated into an existing overlook with two benches, interpretive signage, a widened trail, and a trash receptacle.
- The site is above the Union Pacific Railroad (UP) and the Minnesota River, with clear views to the confluence of the Minnesota and Mississippi Rivers (Bdote), along the bluff with extensive exposed sandstone and limestone rocks.
- The UP easement includes a 25' clearance above the rail embankment, a 5' feet setback from the property line, and a minimum of 35' setback from centerline of the nearest track.
- The typical MN River greenway trail easement is 30' wide and includes a 10'-wide asphalt trail.
- This section of trail is in good condition.
- Locations are owned by City of Lilydale and Mn DOT.

OPPORTUNITIES:

- The existing overlook is within a wider section of trail and provides more opportunities for an intervention.
- Strategic replacement of black fence increases views and visibility of Bdote.

CONSIDERATIONS

- Coordination and review by structural, geotechnical engineers and Mn DOT is needed to determine feasibility of the overlook structure and locations for footings.
- ADA accessibility for overlook requires further study.
- This could be a place for Dakota Ceremonies, but without separation from trail.

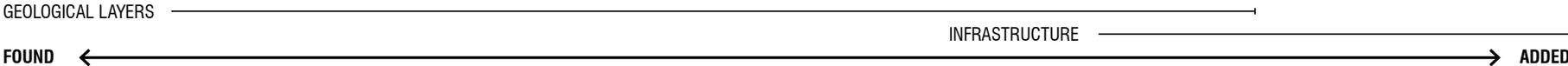
A. BDOT / CONFLUENCE

EXISTING CONDITIONS



A. BDOT / CONFLUENCE

SITE IMAGES



A. BDOTE / CONFLUENCE

SITE IMAGES



A. BDOTE / CONFLUENCE

INTERPRETIVE STORIES



Valley of the St. Peter's, Seth Eastman, 1848, Minnesota Historical Society.

BDOTE

Bdote, also called Mdote, is where the Minnesota and Mississippi Rivers join. Dakota people think of Bdote not so much as a point on a map but as a geographical area around the confluence, sometimes including *Mni Sni* (Coldwater Spring), *Oheyawahe* (Pilot Knob), *Taku Wakan Tipi* (Carver's Cave in Bruce Vento Nature Sanctuary), and others. Dakota villages near Bdote included *Hohaanskae* (Black Dog Village) and *Kap'ozza* (Kaposia) on the Mississippi River near downtown St. Paul.

THE TREATIES OF TRAVERSE DES SIOUX AND MENDOTA

Broken agreements from the treaties of 1851 led to the Dakota-U.S. War of 1862, and the aftermath of that war resulted in the Dakota's exile from their homeland. Almost all of what's taken place in the Lower Minnesota Valley in the past 180 years is connected to the 1851 treaties.

The Dakota communities in what came to be Minnesota represent four of seven Council Fires or "bands." The Treaty of Traverse des Sioux was between the United States and the Sisseton and Wahpeton Dakota living on the upper river. The Treaty of Mendota, with the Mdewakanton and Wahpekute Dakota of the lower river, was conducted beneath an arbor on *Oheyawahe* (Pilot Knob). Altogether, the Dakota ceded more than 24 million acres in what is now southern Minnesota.

After the treaties were ratified in 1853, almost all Dakota were removed to a reservation on the Upper Minnesota River. Here they were expected to adopt white ways of living, while receiving modest payments from the U.S. government. In the summer of 1862, after years of struggle and

A. BDOT / CONFLUENCE

INTERPRETIVE STORIES



Site Photo, 2016



Site Photo, 2016

starvation, a delayed payment from the federal government, drove some of the Dakota into a war with the U.S. The Dakota were defeated after less than two months of fighting. About 2,000 Dakota were gathered in a camp near Montevideo where the men were separated from the women and children. The men were tried quickly (many of the trials taking no more than 5 minutes), and 303 were condemned to die. The 1,700 women, children, and elderly were force-marched 150 miles to a concentration camp at Fort Snelling. By the following spring, several hundred Dakota had died in the camp. Those who survived were transported by steamboat to the Upper Missouri River. Thirty-eight Dakota men were hanged in Mankato on December 26, 1862, and two more were hanged at Fort Snelling in 1865.

BEDROCK OF THE MINNESOTA RIVER VALLEY

Much of the visible bedrock near the confluence was formed about 450 million years ago when the Ordovician sea moved over the land. Perhaps the two most prominent bedrock types in this area are Platteville limestone and the underlying St. Peter sandstone. St. Peter sandstone, a rock so crumbly it hardly qualifies as bedrock at all, was formed from eroded sediments washed and blown into the water and along the shoreline of the Ordovician Sea.

Over time, as sea levels rose, this layer of sand was submerged beneath a shallow ocean swimming with diverse and abundant marine life. As animals lived and died, their bones and shells accumulated, layer upon layer, at the bottom on top of the sand. Time and pressure turned these animal remains into a 30-foot thick layer of fossil-bearing limestone called Platteville. This is an erosional landscape—instead of standing on top of sediment, we can see down into layers from over 500 million years ago.



Site Photo, 2016



Site Photo, 2016

A. BDOE / CONFLUENCE

DESIGN FRAMEWORK

INTERPRETIVE THEMES

INTERPRETIVE STORIES

INTERPRETIVE FEATURES

THEME #1 DAKOTA HOMELAND

BDOE
THE TREATIES OF TRAVERSE DES SIOUX AND MENDOTA

OVERLOOK PLATFORM

A raised platform gives trail visitors a better view of Bdoe, where the waters of the Mississippi and Minnesota Rivers swirl together. The overlook is large enough to hold a gathering of 5-20 people and is oriented along the convergence of the two rivers. It replaces the existing overlook and fits within the trail right-of-way.

While an overlook large enough for a gathering is desired by Dakota people, the narrow site and the need for accessibility may result in a smaller overlook.

THEME #6 GEOLOGICAL TIME

BEDROCK OF THE MINNESOTA RIVER VALLEY

THEME #1 DAKOTA HOMELAND

BDOE

FENCE ENHANCEMENT

Currently, a five-foot fence protects trail visitors from a steep bluff and railroad tracks below. Replacing sections of fence with secure but transparent materials will help diminish the barrier between visitors and Bdoe.

THEME #6 GEOLOGICAL TIME

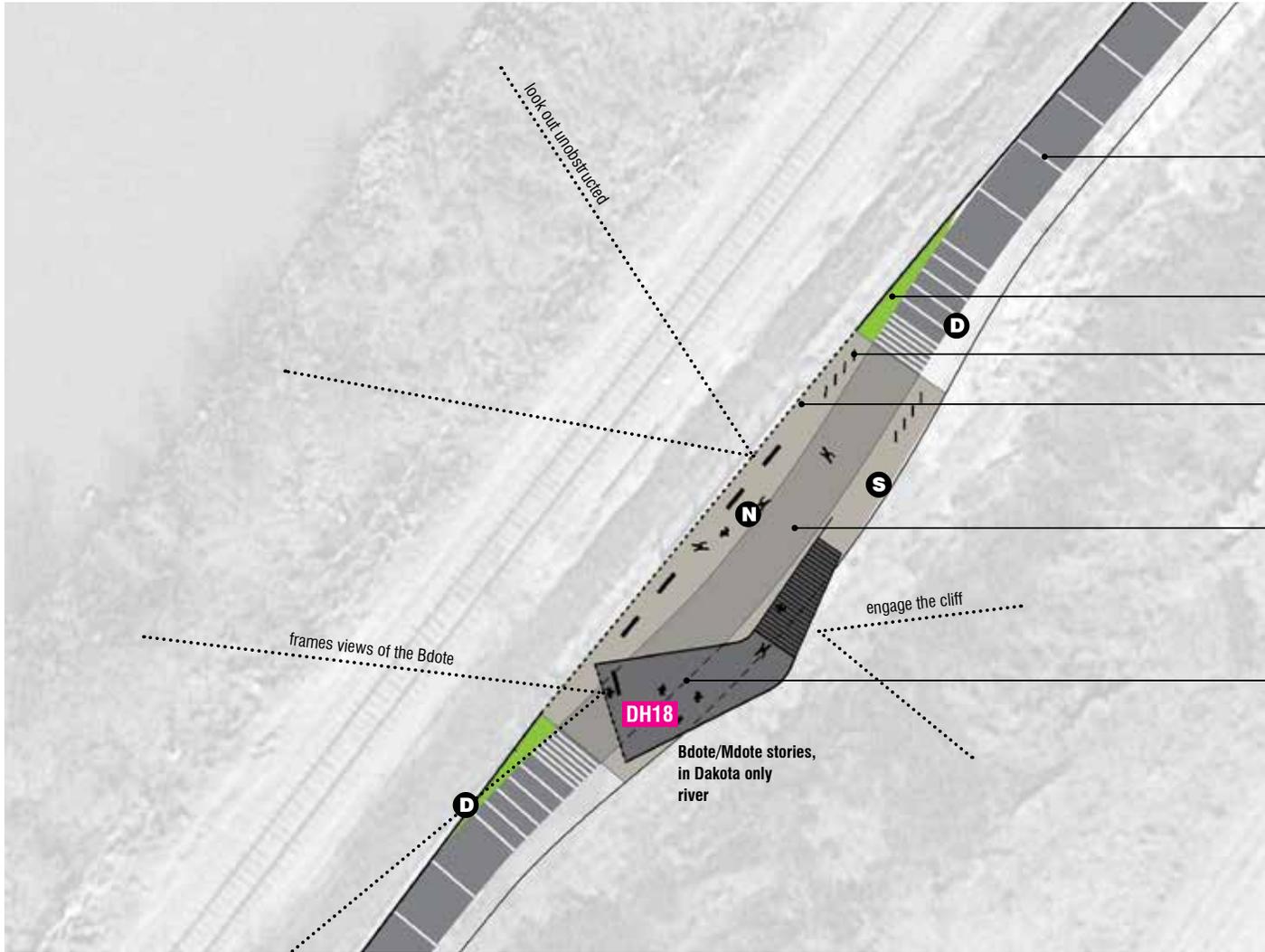
BEDROCK OF THE MINNESOTA RIVER VALLEY

PAVEMENT MARKINGS

A rhythmic pattern of groves in the trail surface—ahead of and behind the feature—will alert bikers and walkers that a feature is ahead.

A. BDOTE / CONFLUENCE

CONCEPTUAL SITE PLAN



pavement texture
alert! something's ahead!

spiritual and medicinal planting

bike parking

fence enhancement
glass / transparent

pavement change
slow down!

overlook / group gathering

- DH10** Dakota Homeland Frame
- N** node interpretive sign (1)
- D** directional sign (2)
- S** small interpretive panel (1)

A. BDOE / CONFLUENCE

INTERPRETIVE CONCEPT



frame views of Bdoe



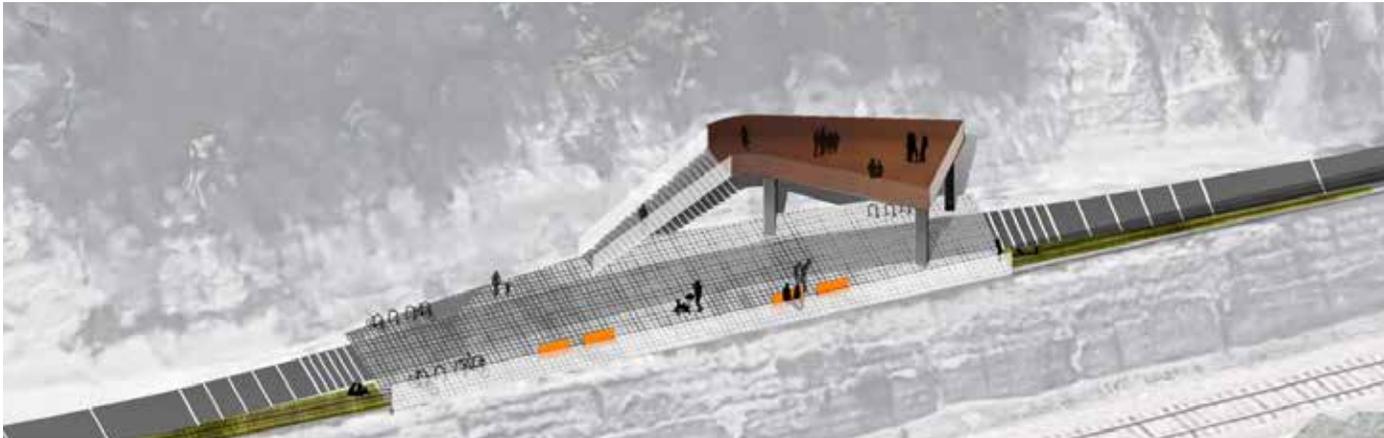
group gathering



pavement change
slow down!



pavement texture
alert! something's ahead!



A. BDOTE / CONFLUENCE

PRECEDENT IMAGES



A. BDOE / CONFLUENCE

SUGGESTED SITE IMPROVEMENTS AND FEEDBACK

STAKEHOLDER FEEDBACK

Stakeholder feedback on the concepts will be considered in future projects as the designs are further developed for implementation.

- ADA accessibility for the overlook must be considered.
- The feasibility of foundations/footings in the bluff in this location needs review.
- Possible alternate scheme would remove the large overlook structure in lieu of a smaller platform feature along the railing that is universally accessible.
- Shade structures along the trail are encouraged by the Dakota community.
- Learning spaces at a range of scales, both at cultural locations such as this and elsewhere, are important to the Dakota community.
- Gathering spaces located on the trail with less privacy are not preferred; however the constraints of the trail here and the importance of this site make it a valuable place to gather.
- Medicinal plants near the Bdote node are recommended.
- Concern about the appropriateness of the location for a ceremony or group gathering because of distance from trailhead and accessibility. Consult with Dakota spiritual advisor to explore other locations for gatherings that may be more suitable.

SUGGESTED SITE IMPROVEMENTS

- Bike fix-it station
- Directional signage and wayfinding that orients to the nearby Mississippi River Trail and Lilydale
- Bike racks
- Trail map with locations of interpretive nodes
- Native, edible, and/or sensory planting
- Boot brush station to reduce the spread of invasive species

A. BDOT / CONFLUENCE

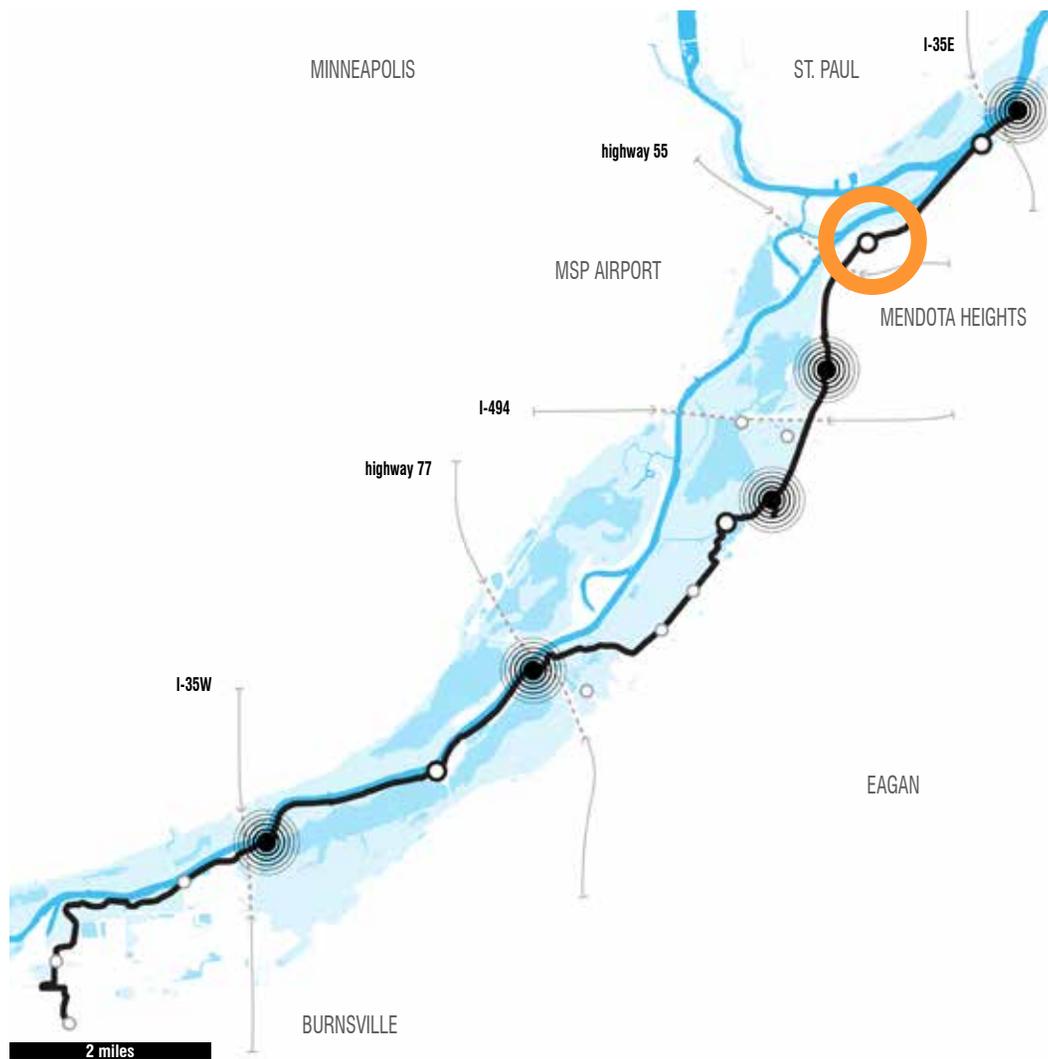
COST ESTIMATE

	COST ESTIMATE	ASSUMPTIONS
GRADING AND SITE PREP	\$25,000 - \$35,000	
SPECIALTY STRUCTURES Overlook	\$115,000 - \$140,000	
HARDSCAPE	\$3,000 - \$5,000	
SOFTSCAPE	\$2,000 - \$3,000	<ul style="list-style-type: none"> • prairie seeding and planting soil
TRAILWIDE INTERPRETIVE ELEMENTS Node Interpretive Signs Small Interpretive Panels Directional Benches Transparent Fence Pavement Marking: <i>Slow down!</i>	\$55,000 - \$70,000	<ul style="list-style-type: none"> • quantity: 1 • quantity: 1 • quantity: 4 • quantity: 5 • per 20' segment of new concrete, quantity: 5
TOTAL *	\$200,000 - \$253,000 *	

* Cost estimate for interpretive features only. Site improvements and professional fees for design and exhibit development not included in cost estimate. Ongoing maintenance costs will be considered prior to implementation and will be incorporated into the Greenway maintenance program and budget.

B. HISTORIC MENDOTA

BACKGROUND INFORMATION



EXISTING CONDITIONS:

- The site is 3.6 miles from the Big Rivers Gateway/Bdote Node and 1.6 miles from the Big Rivers Trailhead/WPA Node.
- The City of Mendota provides adjacent commercial development, cultural amenities, and the historic Sibley House.
- The trail is in good condition and its width varies from 12'- 30'.
- The trail crosses D Street, which is a very wide intersection with limited ped / bike safety features.
- Existing amenities include basic signage and an information kiosk.
- Easy access to the trail from D Street and Sibley Memorial Highway/ HWY 13.
- This land is within the existing County Trail Right-of-Way.
- The location is owned by the City of Mendota.

OPPORTUNITIES:

- Consider ways to integrate an interpretive node within the wider trail.
- There is potential for a larger interpretive opportunity to connect the trail to downtown Mendota, the Sibley House, and the Minnesota River through interpretive signage, a clear gateway, and wayfinding.
- D Street is wide enough to accommodate pedestrian and safety improvements to connect the trail to downtown Mendota.
- Consider creating spaces for present-day gathering and exchange such as farmers markets, food trucks, and public and outdoor programming.
- Along the trail, selectively remove unhealthy or non-native trees to frame key views to the Sibley House and St. Peter's Church and potentially across the river to Fort Snelling.

CONSIDERATIONS:

- There are safety concerns with the D Street right-of-way and vehicular cross traffic.
- Potential partnerships with City of Mendota, Sibley House, and local businesses for programming and activity.
- Trail is disconnected from Historic Mendota and the Minnesota River

B. HISTORIC MENDOTA

EXISTING CONDITIONS



B. HISTORIC MENDOTA

SITE PHOTOS



MATERIALS

B. HISTORIC MENDOTA

INTERPRETIVE STORIES



Permanent Residence, Sioux, Seth Eastman, 1846-1848, Minnesota Historical Society



Mendota from Fort Snelling, Seth Eastman, 1848, Minnesota Historical Society



Mendota Ferry, about 1925, Minnesota Historical Society



Mendota Bridge, 1925, Minnesota Historical Society

INDIAN TRADE AND MENDOTA

Connected by Ha-ha Wakpa (Mississippi River) and its many tributaries, the Dakota traded widely with other indigenous tribes long before they traded animal skins with Europeans. Bdote, the place name for the larger region around the confluence of rivers, included several villages and many sacred sites. This is where the Dakota met visitors from other tribes, often to trade. European traders, and later Americans, no doubt understood the importance of this place, making it a regular destination in their travels into the Upper Mississippi River Valley. The name Mendota comes from Bdote, or Mdote—likely how French traders first misheard and then transcribed it.

In the 1830s, the American Fur Company established a trading post across the river from Fort Snelling in what is now the City of Mendota. The post was managed by Henry Hastings Sibley (1811 – 1891), who would eventually enter politics and become Minnesota’s first governor.

MENDOTA FERRY

This was one of the longest running ferries across the Lower Minnesota River. From the late 1830s to 1927, it connected Fort Snelling to Mendota and many of the well-traveled south- and west-bound roads and trails. The ferry, a flat-bottomed boat open on both ends, was guided across the river by a rope and in later years a steel cable. By the 1920s, the ferry was powered by a motor and was large enough to carry automobiles. Bridges eventually put the ferries out of business. Not long after the opening of the Mendota Bridge in 1926, the Mendota Ferry made its last crossing. The Mendota Bridge was listed on the National Register of Historic Places in 1978.

B. HISTORIC MENDOTA

DESIGN FRAMEWORK

INTERPRETIVE THEMES

INTERPRETIVE STORIES

INTERPRETIVE FEATURES

THEME #1 DAKOTA HOMELAND**INDIAN TRADE AND MENDOTA****TRACE TABLE**

Layers of movement over thousands of years—foot, hoof, wheel, and track—are cast in a table of iron, highlighting different modes of travel through time.

MENDOTA GATEWAY

At the intersection of Highway 13 and D Street, a set of markers welcomes visitors to one of the most historic places in Minnesota.

THEME #2 TRAILS THROUGH TIME**MINNESOTA VALLEY TRAILS AND RAILROAD****RAILROAD CROSSROADS**

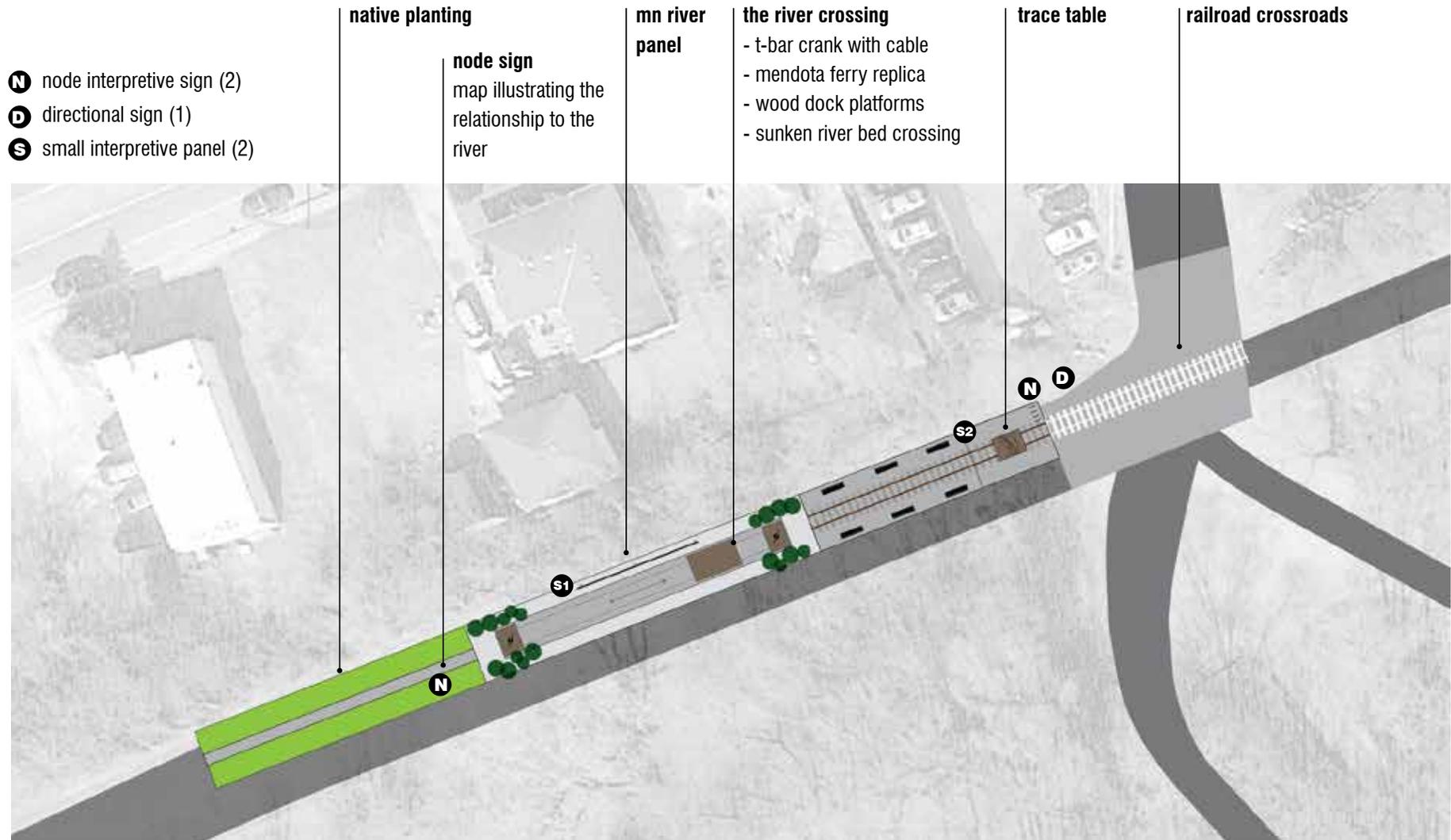
Where the Greenway trail is crossed by a road (D Street) leading to the Sibley Historic Site, traces of movement are painted on the surface, recalling Mendota's place in history as an important crossroads for travel and commerce.

THEME #3 BRIDGING AND CROSSING**MENDOTA FERRY****THE RIVER CROSSING**

This feature replicates the mechanism that moved the Mendota Ferry from shore to shore. While some visitors ride the ferry, others turn the wheel that moves the platform. An interpretive panel includes a map explaining the site's relationship to the river.

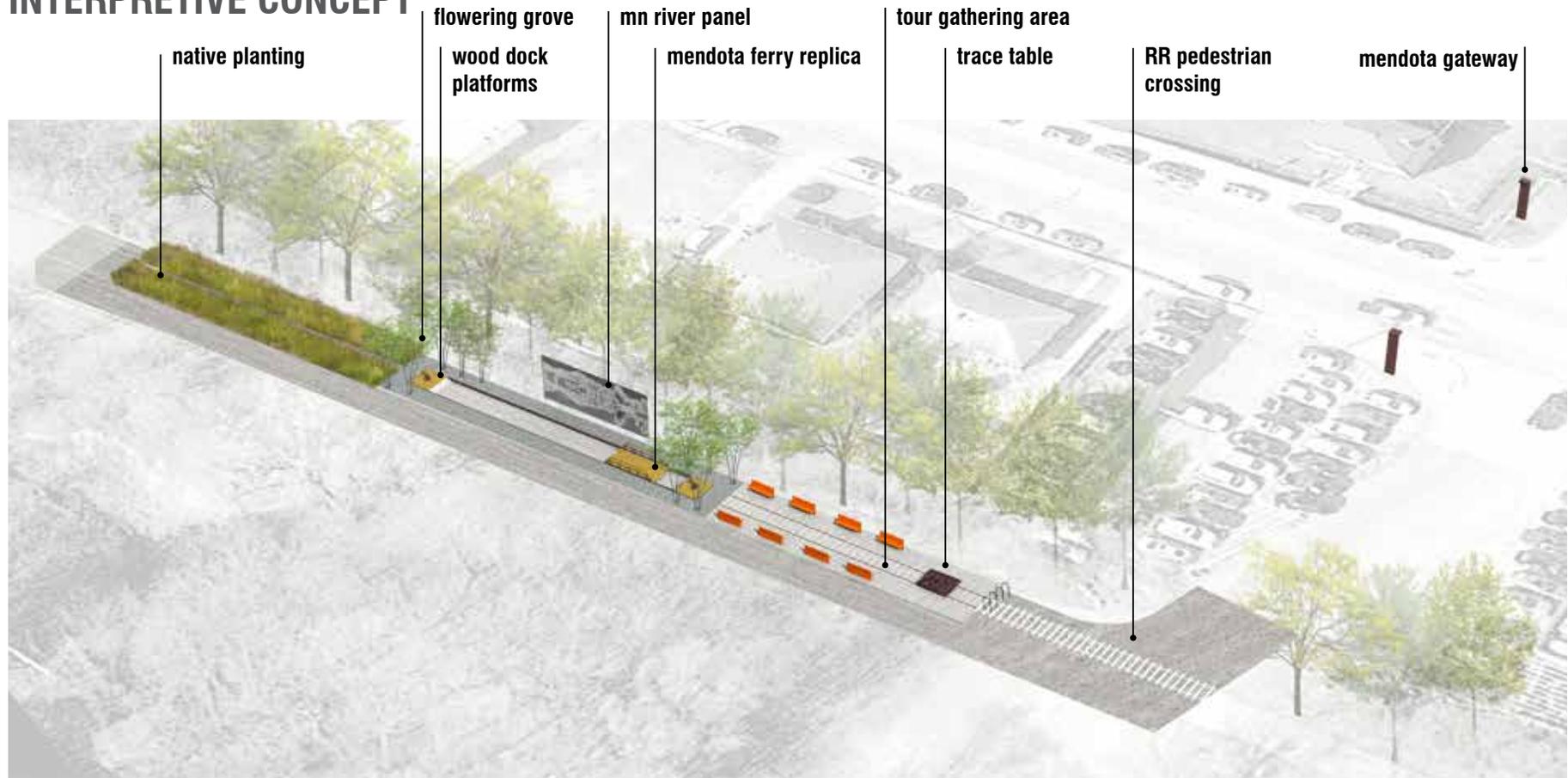
B. HISTORIC MENDOTA

CONCEPTUAL SITE PLAN



B. HISTORIC MENDOTA

INTERPRETIVE CONCEPT



Mendota Depot, about 1900. Minnesota Historical Society

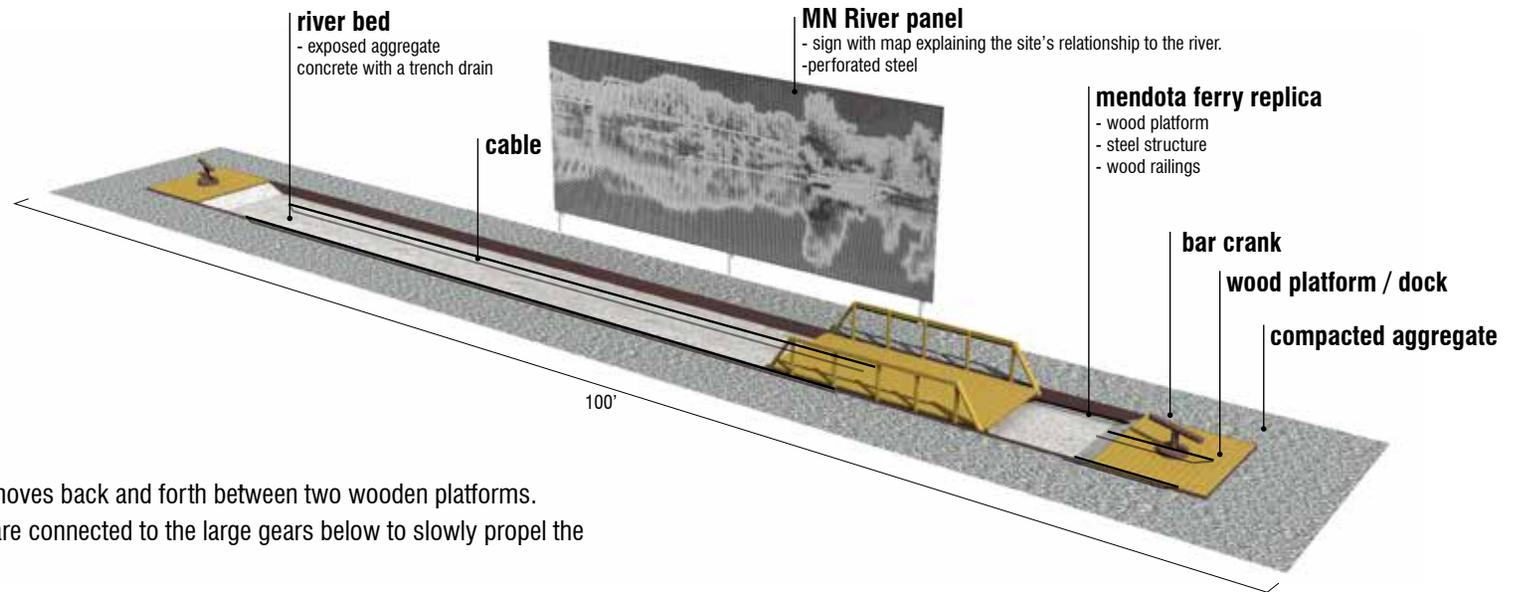


Mendota Ferry, 1920, Dakota County Historical Society



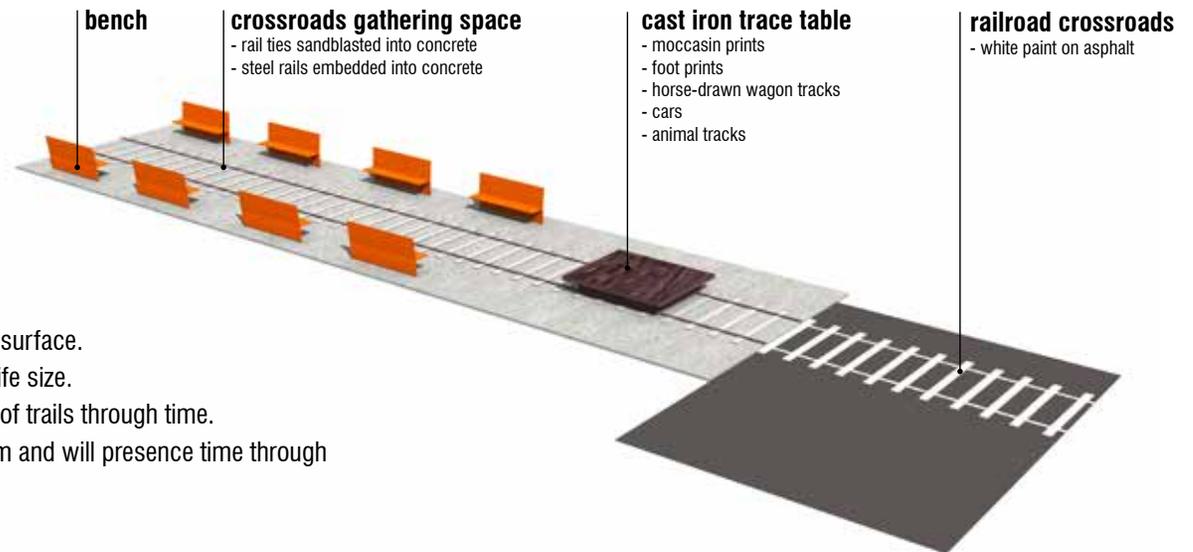
Mendota, 1885, Minnesota Historical Society

B. HISTORIC MENDOTA INTERPRETIVE CONCEPT



THE RIVER CROSSING

- A replica ferryboat element moves back and forth between two wooden platforms.
- Manual cranks with a T-Bar are connected to the large gears below to slowly propel the ferry back and forth.
- The crossing is 1/4 the width of the MN River at the site of the Mendota ferry.



TRACE TABLE

- Traces of movement overtime are cast into the table's surface.
- The table sits 30" from the ground and the tracks are life size.
- The traces are impressionistic yet reveal the presence of trails through time.
- The grooves will hold water slightly longer after a storm and will presence time through slightly extending weather events.

B. HISTORIC MENDOTA

INTERPRETIVE SIGNAGE

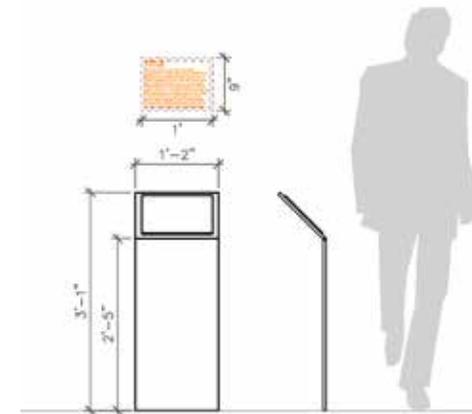
SMALL INTERPRETIVE PANEL INFORMATION

S1 MINNESOTA RIVER PANEL

Mendota is a river settlement but views of the river are obscured by mature trees, a railroad bed, and buildings. You can hear the river if a speed boat passes by, so it is very close. How far away is the river? Did it always look like this? Historic photos show a more barren landscape. A map or other technique is needed to show where the river is relative to the interpretive node.

S2 TRACE TABLE

Trails through time have been dynamic. The railroad that crossed under the Mendota Bridge is now gone and no longer apparent. The river follows a new course as a meander was cut through for easier navigation in the 1960s. Where was the ferry crossing? Highway 13 was realigned to a new intersection with Highway 55. A map, or traces in the concrete, could be used to show where the river, road, and railroad used to be and where they are now.



B. HISTORIC MENDOTA

PRECEDENT IMAGES



TRACES



CROSSROADS GATHERING SPACE



GATEWAY

B. HISTORIC MENDOTA

SUGGESTED SITE IMPROVEMENTS AND FEEDBACK

SUGGESTED SITE IMPROVEMENTS

- Trail map with locations of all interpretive nodes
- Directional signage and wayfinding that orients to Downtown Mendota destinations, the Sibley House, and the Minnesota River
- Native, edible, and/or sensory planting
- Bike racks
- Bike fix-it station
- Increased safety and visibility of pedestrian and bicycle trail crossing at D Street
- Boot brush station to reduce the spread of invasive species
- Shade structures and informal gathering areas

B. HISTORIC MENDOTA

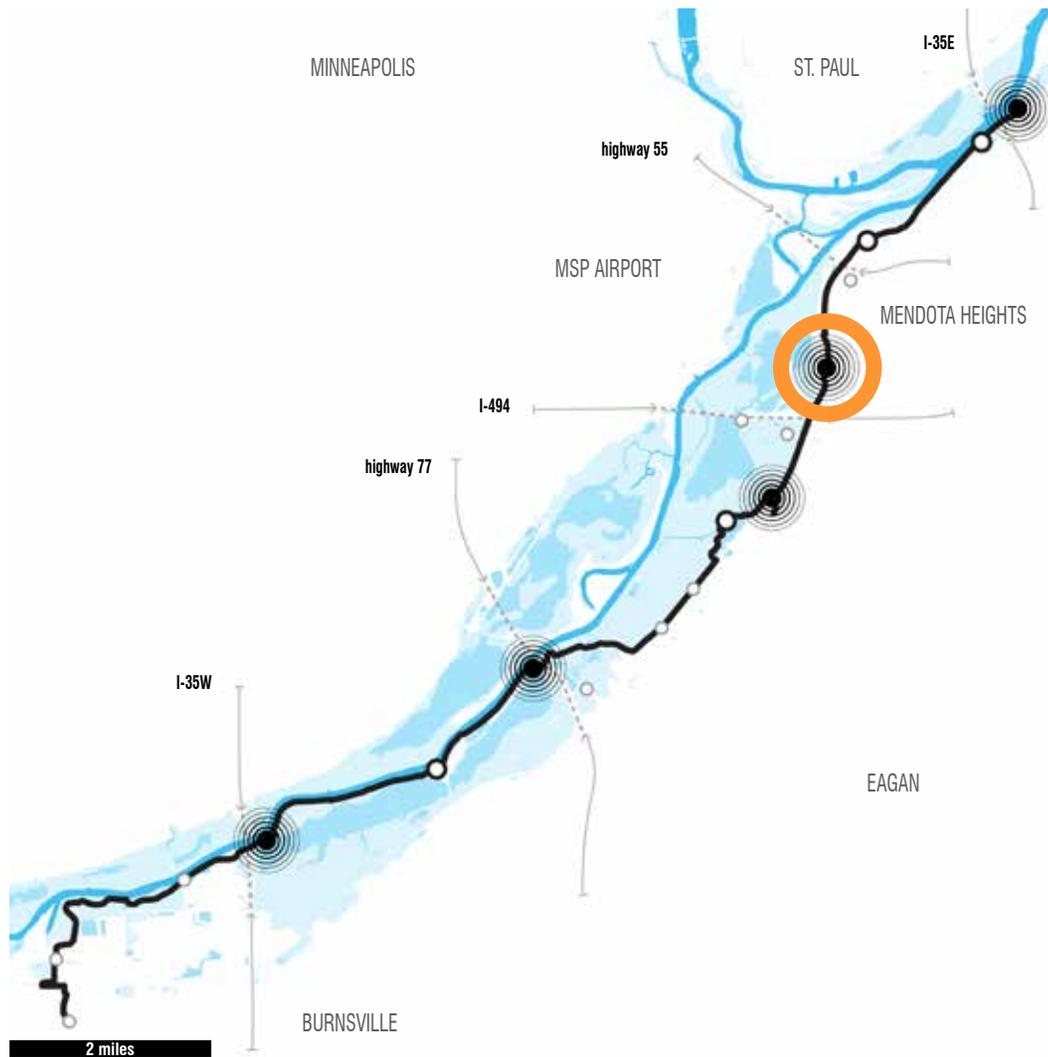
COST ESTIMATE

	COST ESTIMATE	ASSUMPTIONS
GRADING AND SITE PREP	\$20,000 - \$26,000	
SPECIALTY STRUCTURES	\$100,000 - \$122,000	
River Crossing	\$74,000 - \$90,000	
Trace Table	\$18,000 - \$22,000	
Mendota Gateway	\$8,000 - \$10,000	
HARDSCAPE	\$45,000 - \$56,000	
SOFTSCAPE	\$8,000 - \$11,000	
TRAILWIDE INTERPRETIVE ELEMENTS	\$37,000 - \$45,000	
Node Interpretive Signs		• quantity: 2
Small Interpretive Panels		• quantity: 2
Directional Benches		• quantity: 8
TOTAL *	\$210,000 - 260,000 *	

* Cost estimate for interpretive features only. Site improvements and professional fees for design and exhibit development not included in cost estimate. Ongoing maintenance costs will be considered prior to implementation and will be incorporated into the Greenway maintenance program and budget.

C. WPA CAMP NO.1

BACKGROUND INFORMATION



EXISTING CONDITIONS:

- The node is located along Sibley Memorial highway, between Mendota and Lone Oak Road Trailhead.
- The node integrates three distinct interpretive areas: the existing WPA overlook (Big Rivers Trailhead), former limestone quarry, and the historic WPA Work Camp No. 1.
- Existing site amenities at the Big Rivers Trailhead / WPA overlook include an information kiosk, porta-potties, paved parking lot, entry monument sign, picnic tables, bike parking, lawn, overlook with views of the river valley, and the historic limestone wall.
- The former limestone quarry is overgrown and indistinguishable.
- Existing conditions at the work camp include a 30' - 40' tall historic stone chimney, worn signage, overgrown vegetation, and hidden building foundations.
- The existing asphalt trail is in good condition and 12' wide.
- The location is owned by Dakota County (WPA overlook), Fort Snelling State Park/ Minnesota Department of Natural Resources (camp and quarry), and City of Mendota Heights.

OPPORTUNITIES:

- Interviews and research gathered from relatives of workers, historians, and community members will help to better understand who the workers were, what activities they engaged in at the camp and quarry, and the impact of the camp.

CONSIDERATIONS:

- LIDAR and/or a survey would determine location, extent, and condition of historic building foundations.
- A geotechnical report and/or borings would determine extent of limestone quarry.
- Employ historic-structures expertise for stabilization of the chimney and overlook wall if necessary.

C. WPA CAMP NO.1

EXISTING CONDITIONS



C. WPA CAMP NO.1

SITE PHOTOS



MATERIALS
 STONE ————— CONCRETE ————— PLANTING —————



Existing trail to the Overlook



Existing signage



The old chimney



View to the river



WPA CAMP #1

C. WPA CAMP NO.1

SITE PHOTOS



View to the river over the historic wall



The Overlook Lawn



View to the parking and existing amenities



OVERLOOK

C. WPA CAMP NO.1

INTERPRETIVE STORIES



Mendota WPA Camp #1, 1930s, Minnesota Historical Society



Mendota WPA Camp #1, 1930s, Minnesota Historical Society



Fireplace, Mendota Camp Recreation Hall, 1960s, Dakota County Historical Society



Wold Chamberlain Field, 1953, Minnesota Historical Society

QUARRIES FILLED WITH OCEAN LIFE

Starting about 550 million years ago, over what is now Minnesota, changing sea levels began a cycle of advances and retreats that lasted hundreds of millions of years. Depending on the moment in time, this was ocean floor, beachfront, or dry land. This cycle of changing sea levels accounts for the layering of bedrock we see along the banks of the Minnesota and Mississippi Rivers today. Time and pressure turned marine animal remains into a 30-foot thick layer of fossil-bearing limestone called Platteville.

Platteville limestone was a common building material in the Lower Minnesota River Valley, especially from the 1820s into the 1880s. This useful stone, buried for millennia under layers of glacial till, was revealed and made readily accessible by the erosional forces of Glacial River Warren 12,000 years before.

FLIGHT PATH TO MSP

When the first sightseers arrived at the new Mendota Overlook in the late 1930s, something other than the view would have caught their attention. The low rumble of propeller-driven airplanes flying into what was then called Wold Chamberlain Field heralded the arrival of commercial air travel in Minnesota.

Since then, the planes have changed and so have the names. For many decades Northwest Airlines dominated the skies over the river. Started here in 1926, Northwest eventually connected Minnesota with cities around the world. Over the years, many airlines have displayed their logos over River Valley. In 2016, more than 16 million passengers arrived at MSP, making it the 12th busiest airport in the country.

C. WPA CAMP NO.1

INTERPRETIVE STORIES



University of Minnesota

MENDOTA CAMP #1: AFRICAN AMERICANS IN THE WPA

Mendota Camp #1 was built in May 1935, within months of the establishment of the Works Progress Administration (WPA). It had the distinction of being Minnesota's only WPA camp for African Americans, a distinction that lasted less than a year.

Racial segregation was standard practice within the federal-relief programs, and both the WPA and Civilian Conservation Corp were segregated. And although African Americans in the 1930s were disproportionately affected by the Depression, only a small percentage of them were given work through federal relief programs. In 1935, Mendota Camp #1 enrolled 171 African Americans, average age of 40.

The camp was best known for building the nearby Mendota Overlook in 1938. The original group of African-American workers, however, did not take part in this project, as they had been moved to other camps long before. Within a year of the camp's opening, local residents raised objections to the camp and its black workers, demanding their removal. In March 1936, 93 men, probably most of the camp's population, were transferred to the Paul Bunyan Camp in Becker County in northern Minnesota. The camp was closed in 1941 and the buildings taken down shortly thereafter.

C. WPA CAMP NO.1

DESIGN FRAMEWORK

INTERPRETIVE THEMES

INTERPRETIVE STORIES

INTERPRETIVE FEATURES

THEME #6 GEOLOGICAL TIME

QUARRIES FILLED WITH OCEAN LIFE

WORKING THE QUARRY

Large limestone blocks mark the old quarry site, providing visitors a vivid sense of the scale and topography of the operation. A series of walkable, staggered plateaus descends from the top of the limestone ledge, calling attention to the layers of stone, how it was cut, and how it was removed from the quarry.

THEME #7 COMMUNITIES PAST AND PRESENT

MINNESOTA AIRLINES

THE OVERLOOK

In the space of the existing overlook, the informal path between the parking area and the wall will be paved and lounge-like chairs and picnic tables will be lined up with the flight pattern of planes arriving at MSP airport.

**MENDOTA CAMP #1:
AFRICAN AMERICANS IN THE WPA**

CONNECTING PATHS

A series of paths and platforms invite visitors to retrace the daily movements of WPA laborers who lived and worked at the same location. Location-based media will help fill in the sounds and voices of people who worked in the camp.

**MENDOTA CAMP #1:
AFRICAN AMERICANS IN THE WPA**

CAMP LIFE

The layout of the once-bustling camp is outlined in walkable paths and landscape elements. The demolished camp buildings are given presence as voids in a densely planted forest.

C. WPA CAMP NO.1

CONCEPTUAL SITE PLAN

THE OVERLOOK

- socializing / community
- existing overlook lawn to remain
- flight-path lounge chairs

CONNECTING PATHS

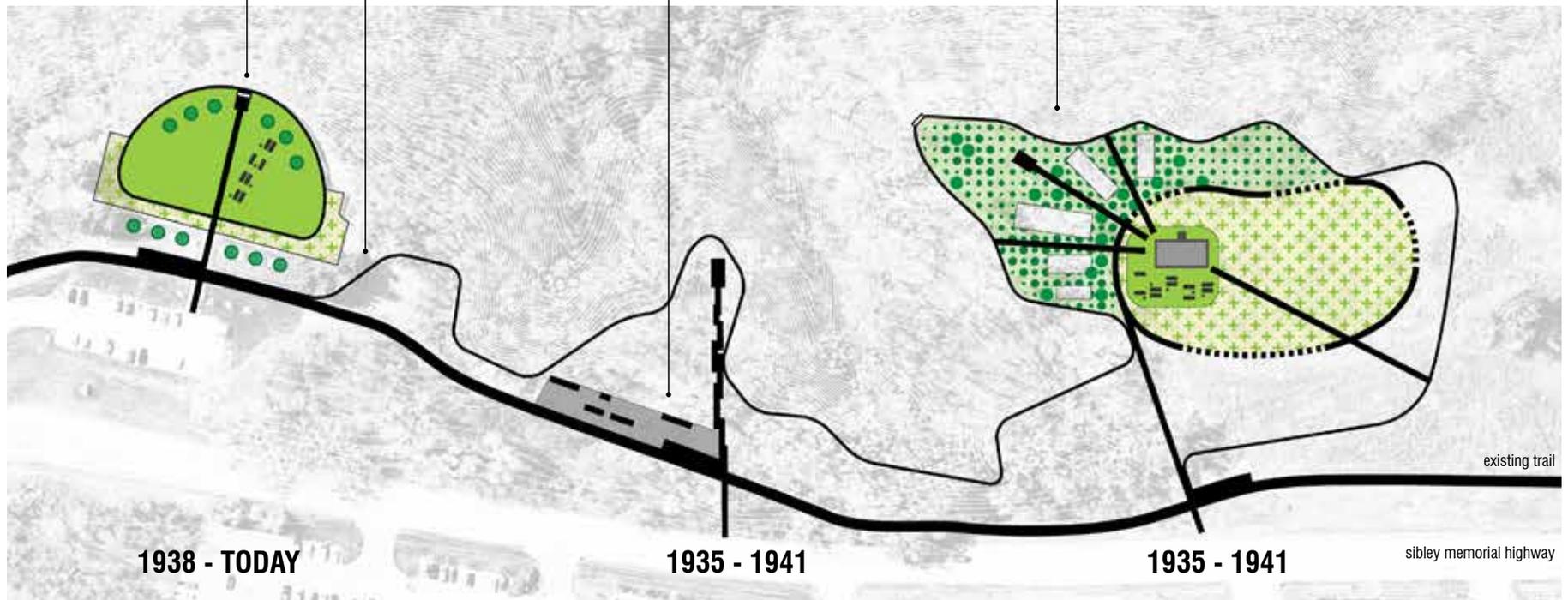
- soft surface secondary path and platforms

WORKING THE QUARRY

- carrying / cutting / stepping
- excavated quarry
- limestone block and steel benches
- quarry overlook

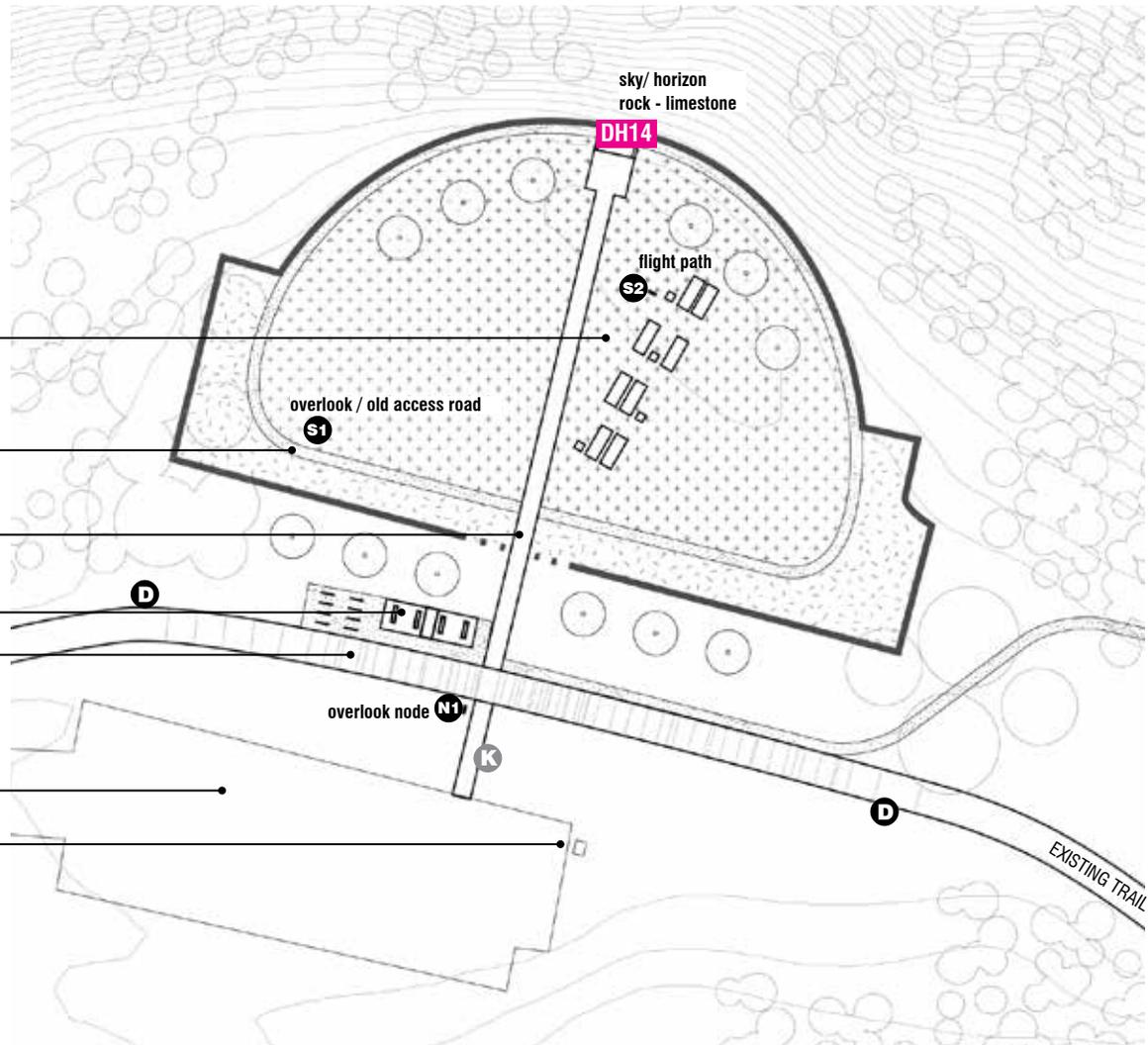
CAMP LIFE

- displacement / relocation
- picnic lawn around the old chimney
- rebuild paths in historic location
- presence the foundations through voids with gravel and metal edging in a densely planted forest



C. WPA CAMP NO.1

SCHEMATIC SITE PLAN - THE OVERLOOK



flight path lounge chairs
with airline panel on chair describing historic airlines and years of operations

Old Access Road Path
3' wide secondary gravel path with interpretive sign

6' wide concrete path

bike parking and seating
pavement texture

existing parking lot

existing porta-potties

D directional sign (2)

S1 small interpretive panel (2)

N1 node interpretive sign (1)

DH14 Dakota Homeland frame (1)

K existing kiosk (1)

*count at overlook



C. WPA CAMP NO.1

INTERPRETIVE CONCEPT - THE OVERLOOK



AIRLINE LOUNGE CHAIRS

- screenprint white interpretive graphics
- logos of airlines
- dates of operations or passengers per year for the airline's operations
- information / text

MINNEAPOLIS - ST. PAUL HISTORIC AIRLINES

years in operation

**NORTH
CENTRAL**



1944 - 1979



Southern

1944 - 1979



1979 - 1986



1926 - 2008

MINNEAPOLIS - ST. PAUL LARGEST AIRLINES

passengers per year

DELTA

17,042,000

SkyWest
AIRLINES

3,204,000

ENDEAVOR AIR

2,224,000

American Airlines

2,145,000

Southwest

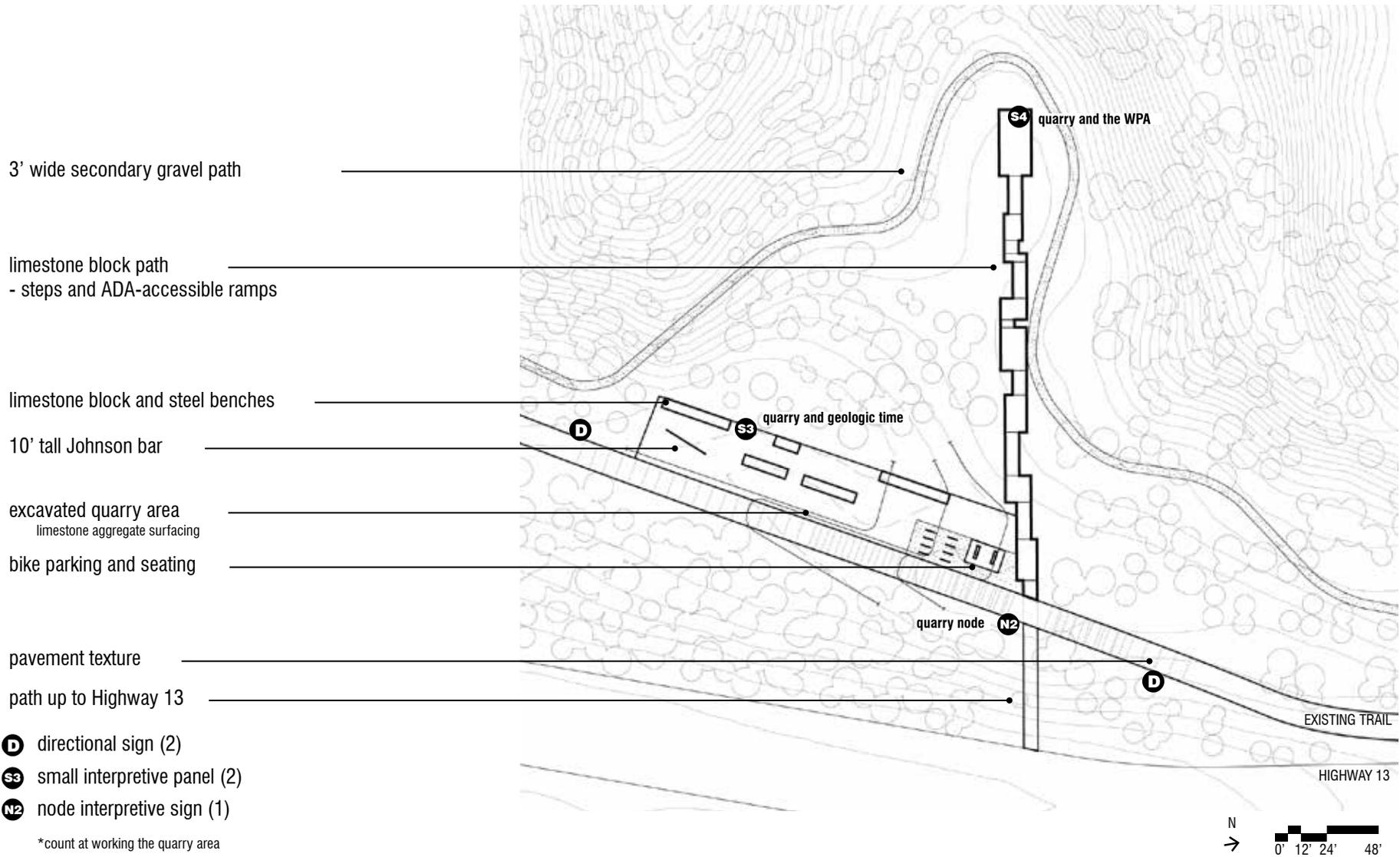
2,115,000

**sun country
airlines.**

2,051,647

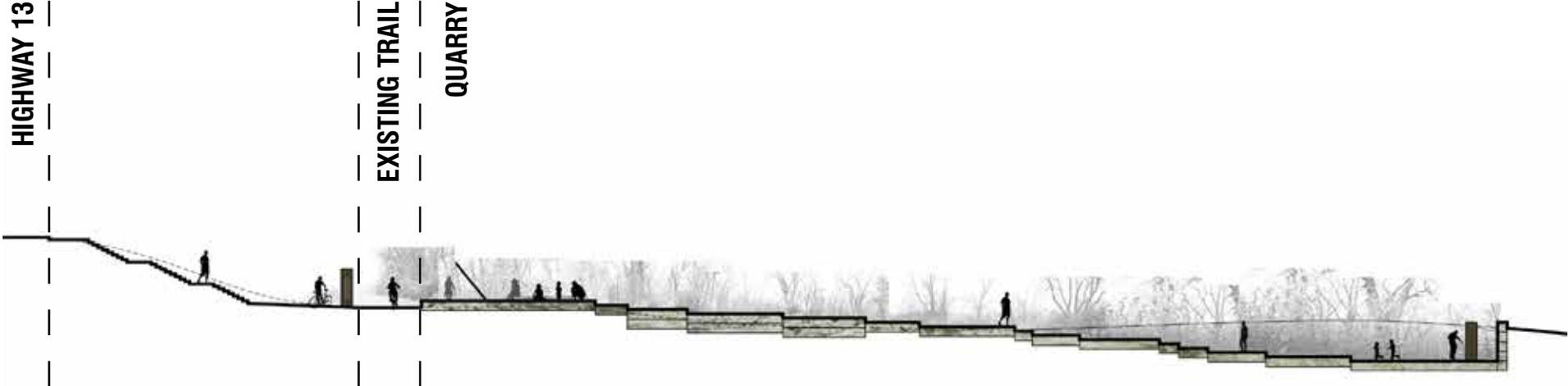
C. WPA CAMP NO.1

SCHEMATIC SITE PLAN - WORKING THE QUARRY



C. WPA CAMP NO.1

INTERPRETIVE CONCEPT - WORKING THE QUARRY



High Rock Island Quarry, 1982, Dakota County Historical Society



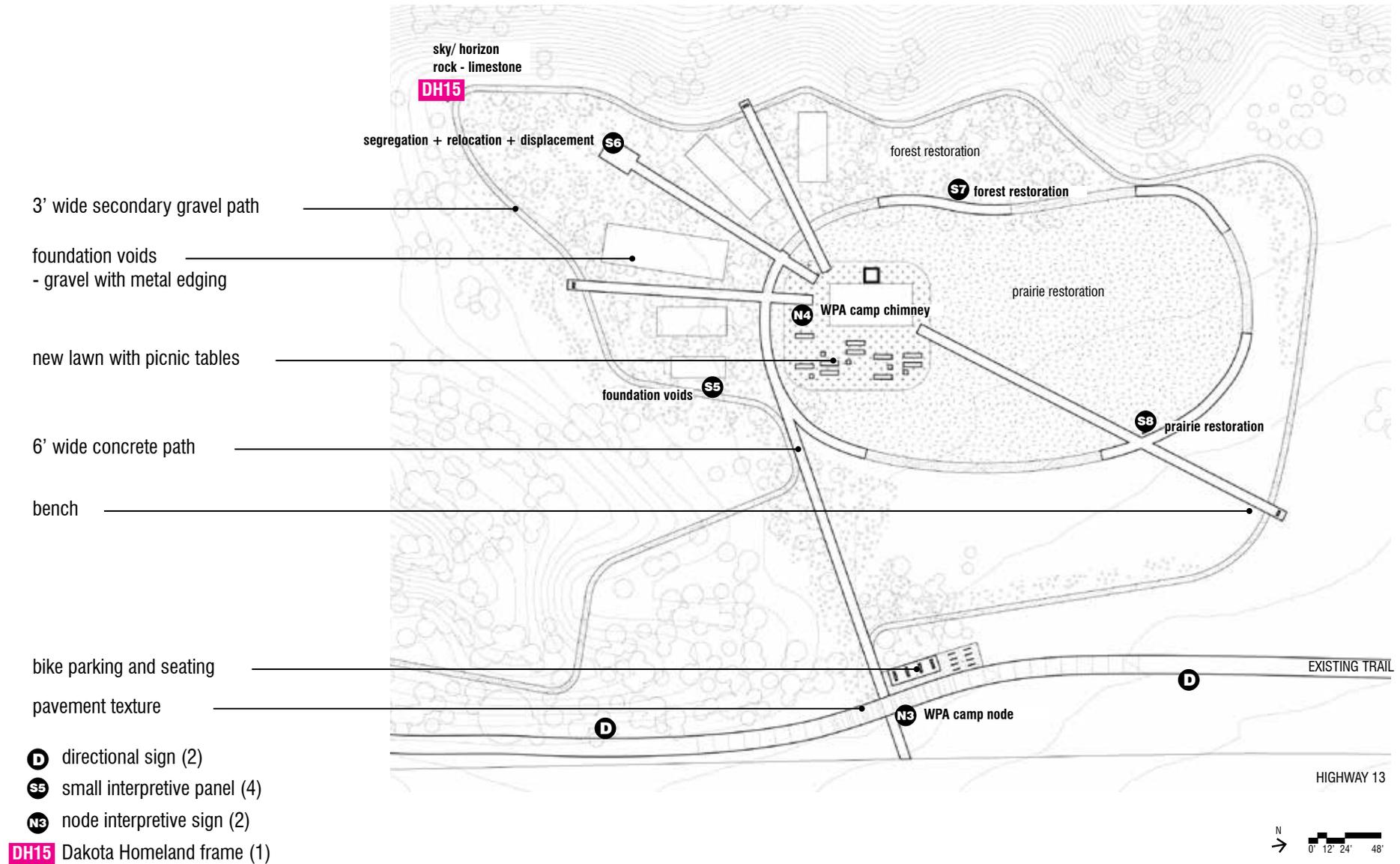
Mendota Camp, about 1935, Minnesota Historical Society



Mendota quarry, about 1940, Minnesota Historical Society

C. WPA CAMP NO.1

SCHEMATIC SITE PLAN - CAMP LIFE



C. WPA CAMP NO.1

INTERPRETIVE CONCEPT - CAMP LIFE



1937 Aerial, University of Minnesota



Fireplace, Mendota Camp Recreation Hall, 1960s, Dakota County Historical Society



Mendota WPA Camp #1, 1930s, Minnesota Historical Society

C. WPA CAMP NO.1

INTEPRETIVE SIGNAGE

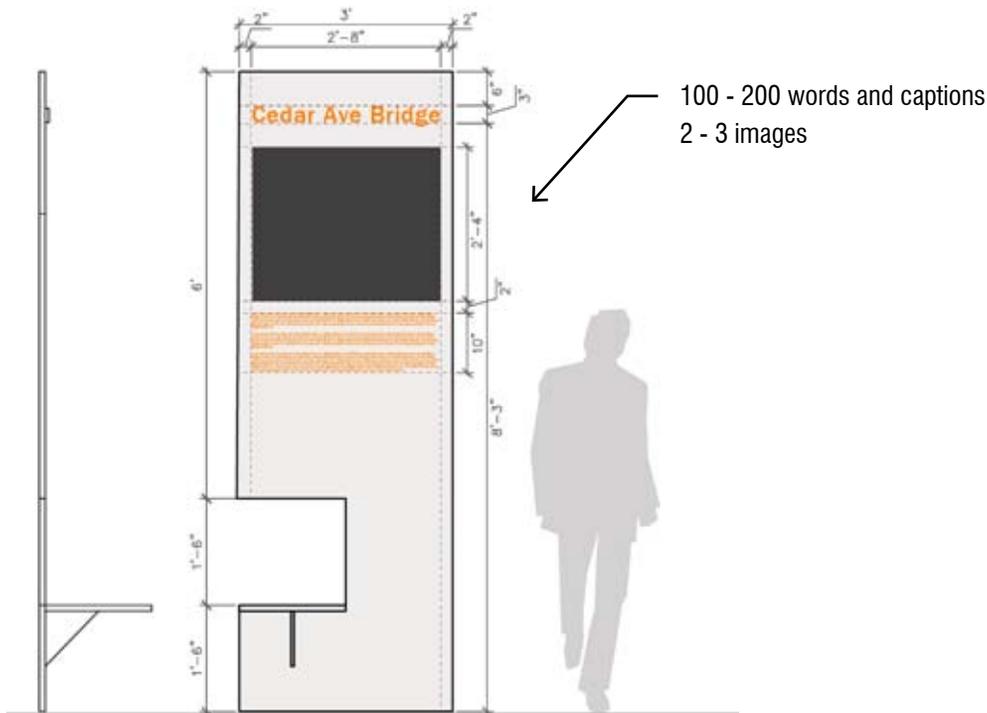
N2 NODE INTERPRETIVE SIGN

AFRICAN AMERICANS IN THE WPA

Mendota Work Camp #1 was built within months of the establishment of the Works Progress Administration (WPA) in 1935. It was Minnesota's only WPA camp for African Americans, a distinction that lasted less than a year.

Racial segregation was standard practice within the federal-relief programs—both the WPA and Civilian Conservation Corp (CCC) were segregated. And although African Americans in the 1930s were disproportionately affected by the Depression, only a small percentage of them were given work through federal relief programs. In 1935, this camp enrolled 171 African American men—average age 40—who worked extracting and cutting blocks for highway-related projects.

The camp was best known for building the nearby Mendota Overlook in 1938. The original group of African-American workers, however, did not take part in this project, as they had been moved to other camps long before. Within a year of the camp's opening, local residents raised objections to the camp and its black workers, demanding their removal. In March 1936, 93 men, probably most of the camp's population, were transferred to the Paul Bunyan Camp in Becker County in northern Minnesota.

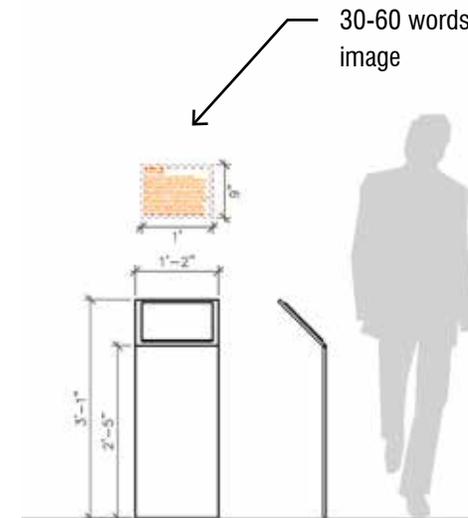


S2 SMALL INTERPRETIVE PANEL

QUARRIES FILLED WITH OCEAN LIFE

In the limestone quarried in the 1930s, you can see back in time more than 400 million years, when all of this landscape was beneath the sea.

As animals lived and died, their bones and shells accumulated, layer upon layer, at the bottom of the ocean. Time and pressure turned these animal remains into a 30-foot thick layer of fossil-bearing limestone called Platteville.



C. WPA CAMP NO.1

PRECEDENT IMAGES



C. WPA CAMP NO.1

SUGGESTED SITE IMPROVEMENTS AND FEEDBACK

SUGGESTED SITE IMPROVEMENTS

- Bike fix-it station and bike racks
- Trash and recycling receptacles
- Picnic tables at WPA Camp
- Wayfinding signage
- Remove damaged existing interpretive sign at WPA Camp
- Create a secondary walking path through the forest to connect all three interpretive areas within the larger node
- Trail map with locations of all interpretive nodes
- Boot brush station to reduce the spread of invasive species
- Native, edible, and/or sensory planting
- Forest restoration planting
- Trees
- Planting soil
- Irrigation at lawn area
- Restoration of chimney to working fireplace

C. WPA CAMP NO.1

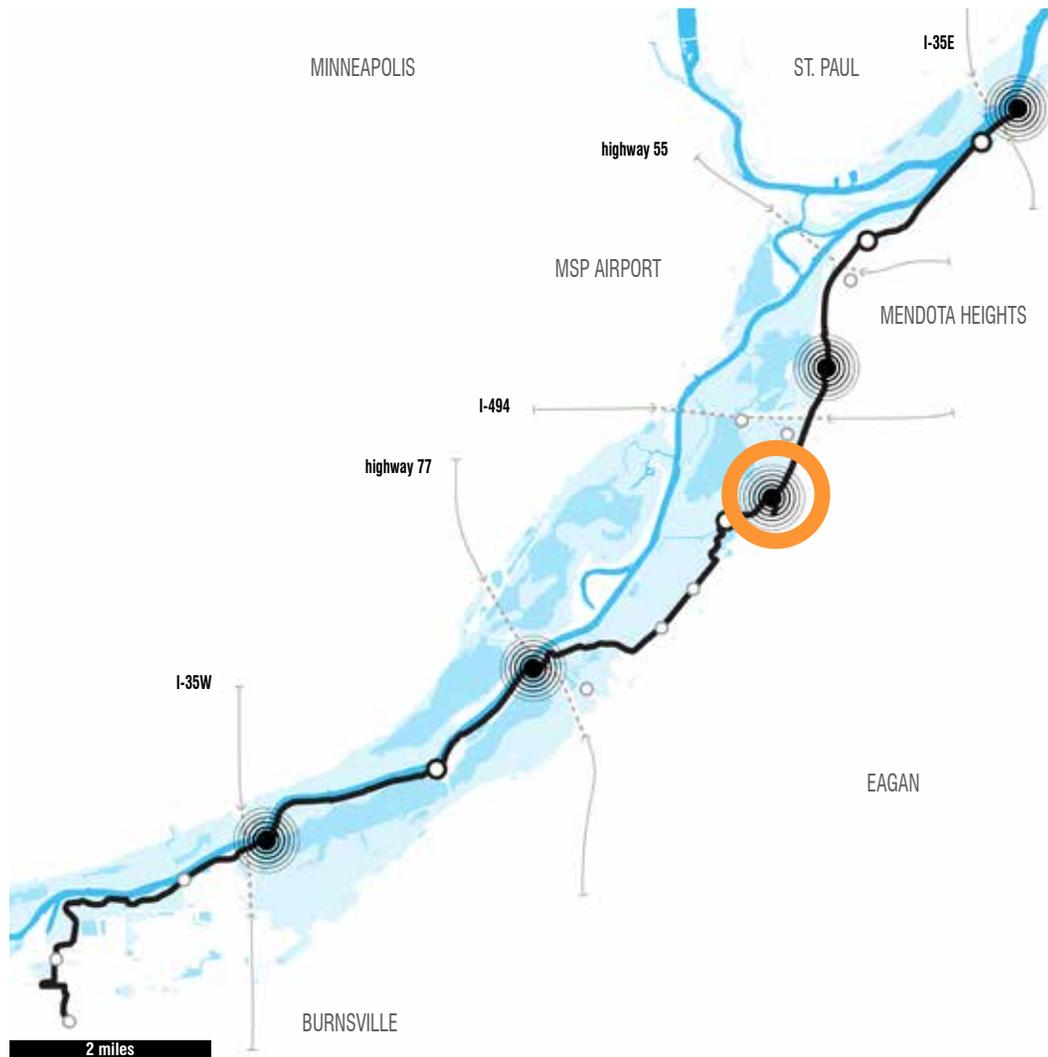
COST ESTIMATE

	COST ESTIMATE	ASSUMPTIONS
GRADING AND SITE PREP	\$2,000 - \$3,000	
FURNITURE	\$26,000 - \$31,000	
Flight path Lounge Chairs	\$7,000 - \$8,000	• quantity: 7
Limestone Block Benches	\$19,000 - \$23,000	
HARDSCAPE	\$155,000 - \$190,000	
SOFTSCAPE	\$12,000 - \$15,000	
TRAILWIDE INTERPRETIVE ELEMENTS	\$55,000 - \$66,000	
Node Interpretive Signs		• quantity: 4
Small Interpretive Panels		• quantity: 8
Directional Benches		• quantity: 3
Timber Benches		• quantity: 6
TOTAL *	\$250,000 - \$305,000 *	

* Cost estimate for interpretive features only. Site improvements and professional fees for design and exhibit development not included in cost estimate. Ongoing maintenance costs will be considered prior to implementation and will be incorporated into the Greenway maintenance program and budget.

D. LONE OAK ROAD TRAILHEAD

BACKGROUND INFORMATION



EXISTING CONDITIONS:

- The site is located between Quarry Lake and WPA Camp No. 1 nodes.
- Lone Oak Road is a proposed future trailhead.
- The Big Rivers Trail has not been built through this area yet, but design of the future preferred alignment is in progress by Dakota County.
- The future trail will need to cross the active Union Pacific Railroad, which has a vertical easement of 26'.
- There is a significant grade change between the future parking area down to the railroad.
- The site is overgrown, with a mix of native and non-native vegetation.
- The upper area is an upland forest and oak savannah, moving down through floodplain forest and wet prairie.
- An existing stream flows to the south of the proposed node and is highly eroded with steep edges.
- The location is owned by City of Eagan and Dakota County.

OPPORTUNITIES:

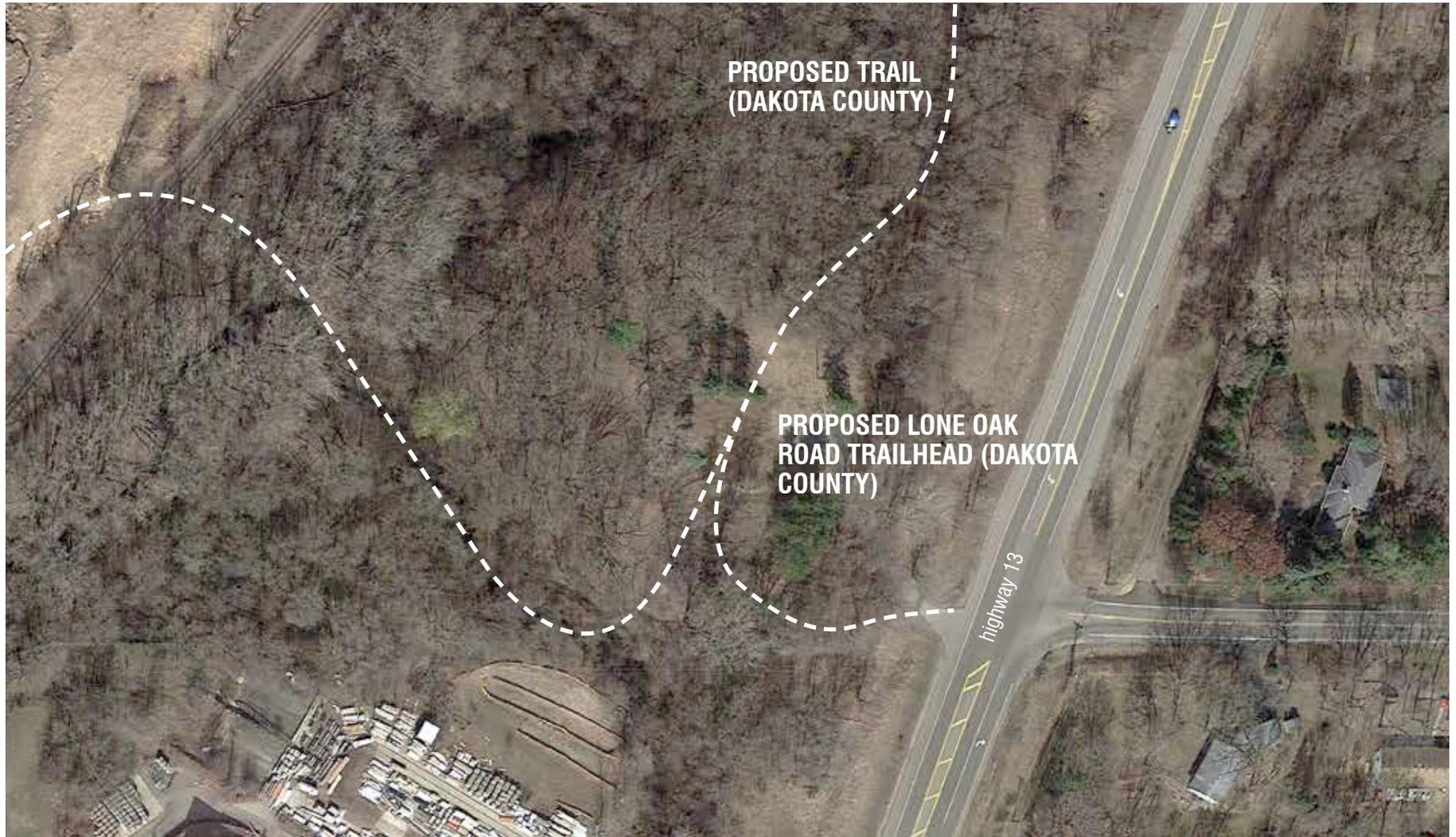
- Construct a new bridge to cross the stream and railroad.
- The site is close to the Quarry Island fen.
- Moves through a wide range of ecologies and habitats

CONSIDERATIONS:

- Dakota County is planning a trailhead with amenities (paved parking lot, trailhead, entry signage, and wayfinding).

D. LONE OAK ROAD TRAILHEAD

EXISTING CONDITIONS



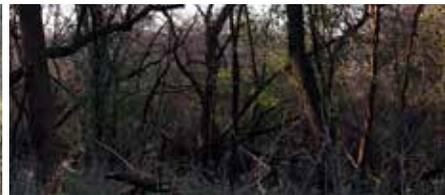
D. LONE OAK ROAD TRAILHEAD

SITE PHOTOS



STREET —→ FOREST

RAILROAD —→



BELOW ←—————→ ABOVE

D. LONE OAK ROAD TRAILHEAD

INTERPRETIVE STORIES



Minnesota River, 2016



Minnesota River, 2016

MINNESOTA RIVER WATERSHED

The channel that was first excavated by a torrent of glacial melt water was later more finely sculpted by the seasonal hydrological cycle. The river we know today is fed by a network of smaller rivers and streams that drain the uplands of western and southern Minnesota and small areas of South Dakota and Iowa. The Minnesota is a relatively small, slow moving river that flows through a wide, level valley. This is why it's such a meandering river, slowly and steadily shifting its course over time.



Mendota Depot, about 1900. Minnesota Historical Society



Nicols Station, 1964, Dakota County Historical Society

MINNESOTA VALLEY RAILROAD

One of the earliest railroads in the state was built along the southern banks of the Minnesota River. In 1865, the Minnesota Valley Railroad completed 22 miles of track that ran from Mendota to a point near Shakopee, paralleling the path of the Minnesota Valley Trails. A link to St. Paul was made a year later, and within three years the line reached Mankato. Farmers along the river valley, who had relied on steamboats to haul their wheat crop to St. Paul, were now the primary customers for this early line. Today's Union Pacific rail line closely follows the route of the original Minnesota Valley Railroad, running the entire length—and often in view—of the proposed Minnesota River Greenway.

D. LONE OAK ROAD TRAILHEAD

DESIGN FRAMEWORK

INTERPRETIVE THEMES

THEME #2 TRAILS THROUGH TIME
THEME #5 ECOSYSTEMS OF THE RIVER

INTERPRETIVE STORIES

MINNESOTA VALLEY RAILROAD
MINNESOTA RIVER WATERSHED

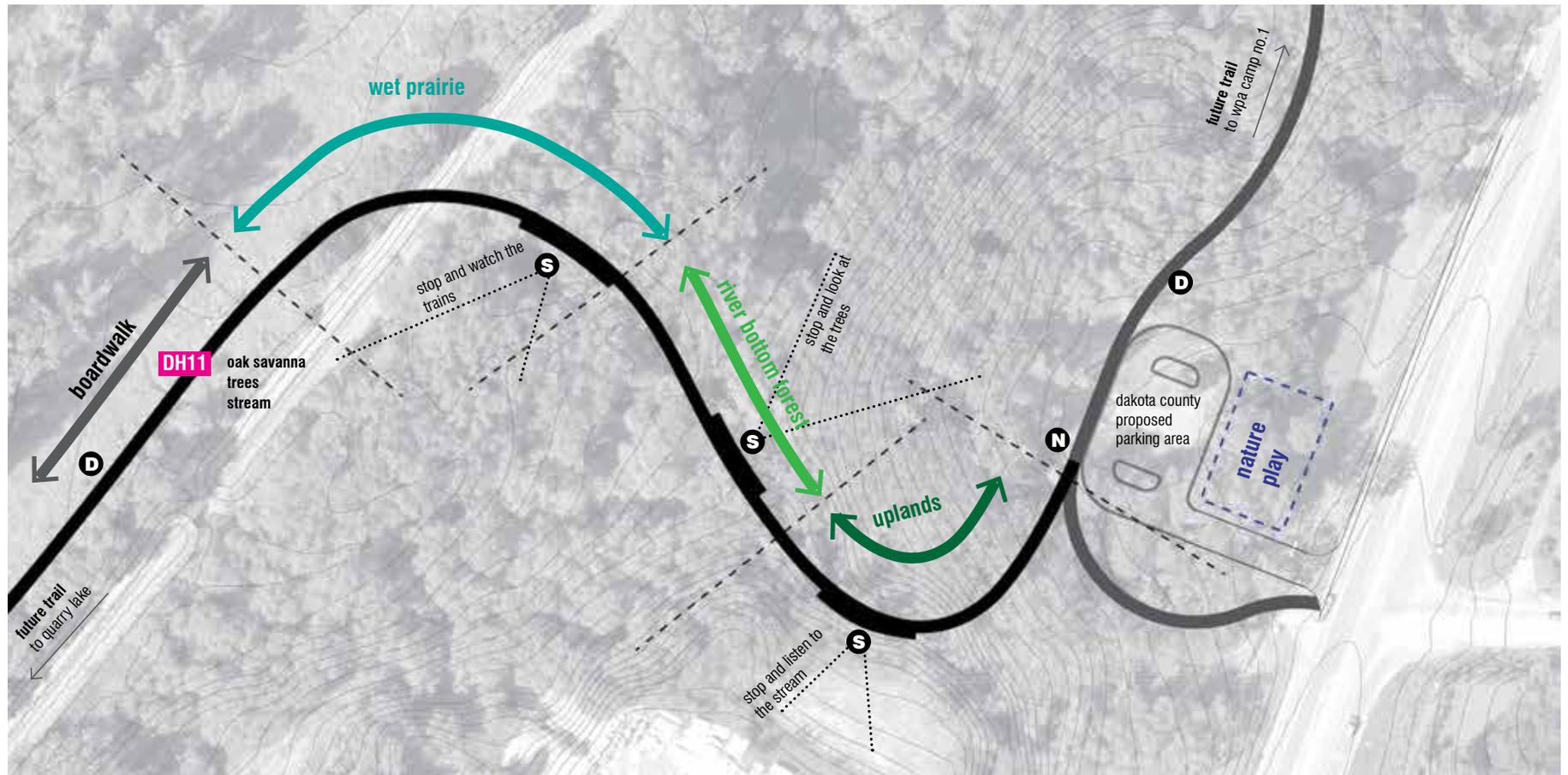
INTERPRETIVE FEATURES

ECO-TRANSECT

This section of the Greenway—which has yet to be built—presents an opportunity to give trail visitors unexpected perspectives on the transition from upland forest to the wet prairies of the floodplain. The elevated trail will feature surfaces and railing systems that encourage specific experiences with the surrounding ecology.

D. LONE OAK ROAD TRAILHEAD

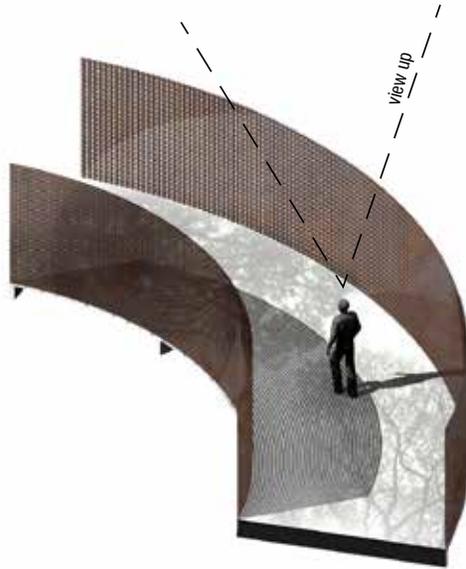
CONCEPTUAL SITE PLAN



- D** directional sign (2)
- S** small interpretive panel (3)
- N** node interpretive sign (1)
- DH11** Dakota Homeland frame (1)

D. LONE OAK ROAD TRAILHEAD

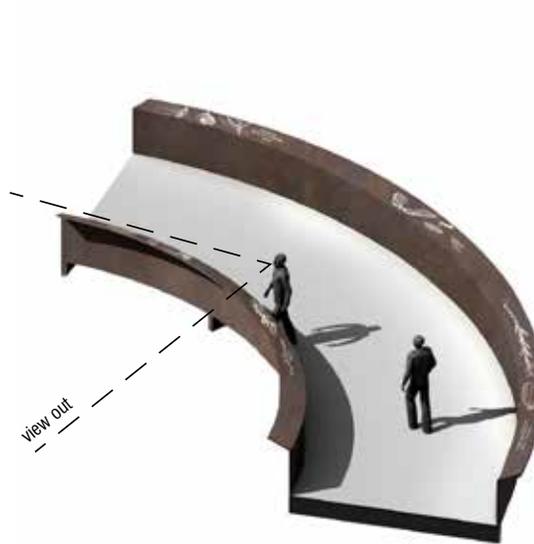
INTERPRETIVE CONCEPT



UPLANDS

The trail would start out at ground level; the bridge section along this part encourages you to look up at the canopy.

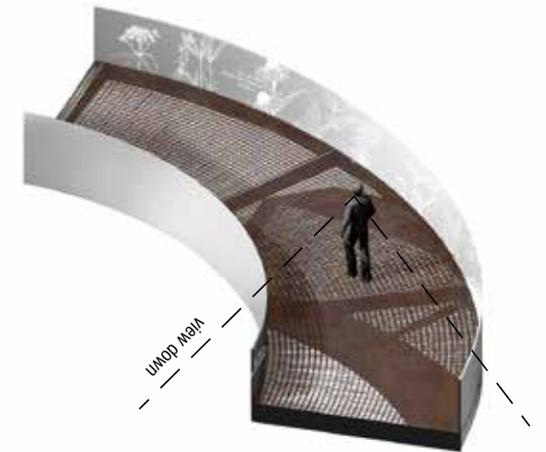
materials: powdercoated dark brown perforated steel, concrete with canopy graphics sandblasted or etched into walking surface



RIVER-BOTTOM FOREST

This part of the trail would be elevated and rise up into the tree canopy. The bridge section along this part encourages you to look out as the ecology changes to river-bottom forest. Interpretive graphics, highlighting ecology and habitat, can be integrated into the sides of the bridge.

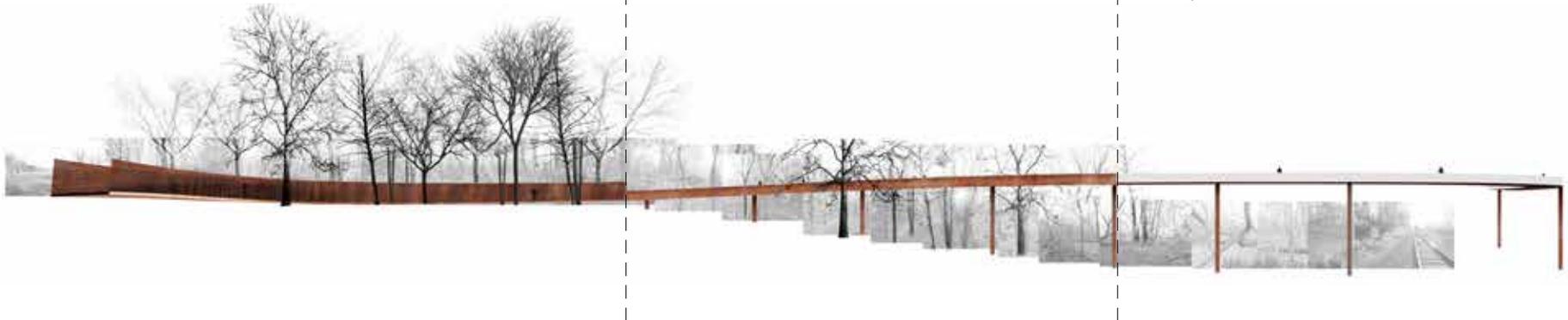
materials: powdercoated dark brown steel with interpretive graphics screenprinted in white, concrete walking surface



WET PRAIRIE

This part of the trail would be elevated to cross the railroad tracks, moving out of the forests and into wet prairie. The bridge section along this segment encourages people to look down. Interpretive graphics highlighting ecology and habitat can be integrated into the sides of the bridge.

materials: powdercoated dark brown metal bar grating (ADA-compliant), powdercoated grey steel with interpretive graphics screenprinted in white



D. LONE OAK ROAD TRAILHEAD

PRECEDENT IMAGES



D. LONE OAK ROAD TRAILHEAD

SUGGESTED SITE IMPROVEMENTS AND FEEDBACK

STAKEHOLDER FEEDBACK

Stakeholder feedback on the concepts will be considered in future projects as the designs are further developed for implementation.

- Consider user comfort in bridge design; open grating on the bridge and high walls may make some users uncomfortable.

SUGGESTED SITE IMPROVEMENTS

- Secondary walking paths
- Trail map with locations of all interpretive nodes
- Native, edible, and/or sensory planting
- Boot brush station to reduce the spread of invasive species
- Stream restoration
- Rain garden / stormwater management of new parking area
- Trash and recycling receptacles
- Bike racks
- Bike fix-it station
- Shade structures and informal gathering areas
- Nature play features

D. LONE OAK ROAD TRAILHEAD

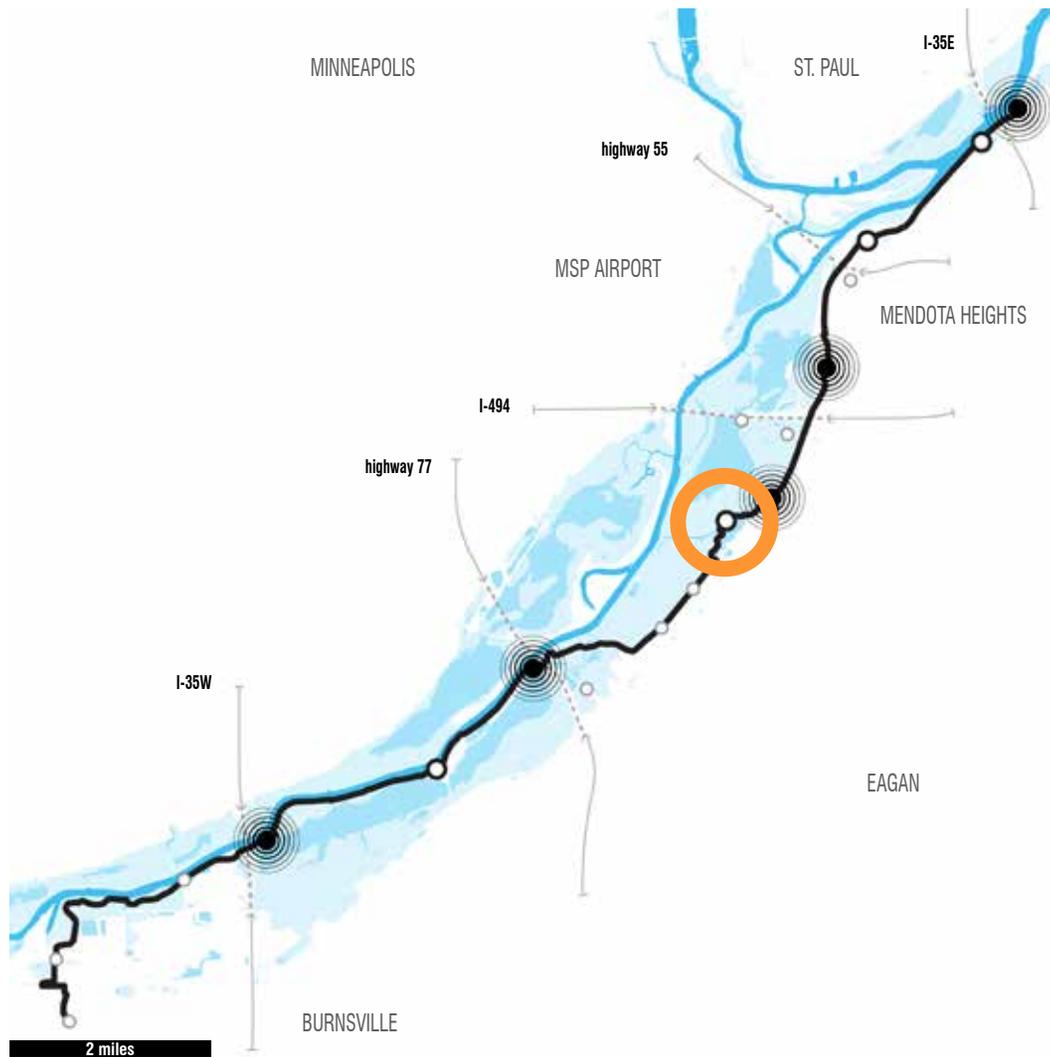
COST ESTIMATE

	COST ESTIMATE	ASSUMPTIONS
SPECIALTY STRUCTURES	\$135,000 - \$165,000	
Eco-Transect Interpretation		
TRAILWIDE INTERPRETIVE ELEMENTS	\$25,000 - \$30,000	
Node Interpretive Signs		• quantity: 1
Small Interpretive Panels		• quantity: 3
Directional Benches		• quantity: 3
Timber Benches		• quantity: 4
TOTAL *	\$160,000 - \$195,000 *	

* Cost estimate for interpretive features only. Site improvements and professional fees for design and exhibit development not included in cost estimate. Ongoing maintenance costs will be considered prior to implementation and will be incorporated into the Greenway maintenance program and budget.

E. QUARRY LAKE

BACKGROUND INFORMATION



EXISTING CONDITIONS:

- The site is 0.4 miles from the Lone Oak Road Trailhead.
- Adjacent commercial and light-industrial fabric is comprised of low, big-box office park-type buildings.
- The Big Rivers Trail has not been built through this area yet, but design of the future preferred alignment is in progress by Dakota County.
- Vehicular and pedestrian access from Highway 13 is limited given private property and the Union Pacific Railroad as barriers for connections.
- The site is not publically accessible currently.
- The location is owned by City of Eagan and Minnesota Valley National Wildlife Refuge.

OPPORTUNITIES:

- The site is close to the Quarry Island fens
- It features sweeping views across the river and lake.

CONSIDERATIONS:

- The seemingly remote location makes it necessary for lighting and additional safety precautions. It is anticipated that safety concerns will be reduced once the trail is built and more people move through and visit the site.

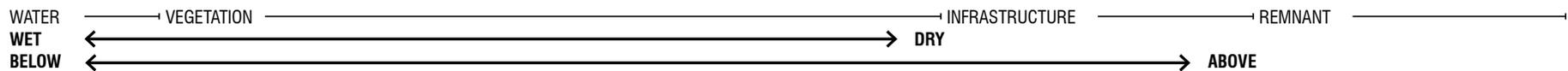
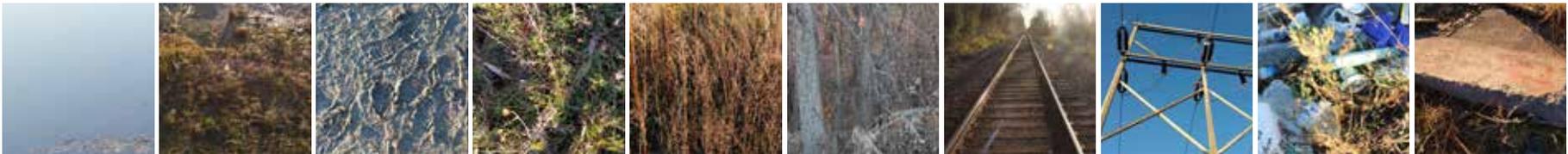
E. QUARRY LAKE

EXISTING CONDITIONS



E. QUARRY LAKE

SITE PHOTOS



E. QUARRY LAKE

INTERPRETIVE STORIES

NICOLS AND THE SAND QUARRIES

Just east of where Cedar Avenue crosses the Minnesota, in the river bottoms along the Union Pacific line, there used to be a town called Nicols. At one time it was known as the onion-shipping capitol of America. It was also famous for its molding sand, a natural material used in creating molds for casting steel machinery. And it was called “quaketown” because it sat on a deep, but unsteady foundation of peat soils lifted by upwellings of mineral-rich groundwater. With every passing train, the buildings jiggled and shook as if they were built on jello. The town started with just a train depot, built in 1867, but didn’t really begin to take shape until about 1900. After a couple of prosperous decades farming onions and digging for molding sand, the people of Nicols began to see their fortunes fade. A few found a living on the river; but by the late 1950s, onion farming was no longer profitable, and the market for molding sand vanished as manufactured products replaced the natural sand. And while the railroad passed by on the same tracks, it no longer stopped at Nicols.

GLACIERS AND THE RIVER WARREN

The Great Ice Age, also known as the Pleistocene Epoch, covered a period from 2.6 million to 11,700 years ago. The most recent period of glaciation impacting this region began about 75,000 years ago with a succession of ice lobes that descended and retreated over most of present-day Minnesota. This process of erosion, transport, and deposition of glacial sediment is what shaped the central Great Lakes Region of the U.S. and especially the Upper Mississippi River Valley.

E. QUARRY LAKE

DESIGN FRAMEWORK

INTERPRETIVE THEMES

INTERPRETIVE STORIES

INTERPRETIVE FEATURES

THEME #5 ECOSYSTEMS OF THE RIVER

NICOLS AND THE SAND QUARRIES

CASTING SANDBOX

A shallow box is filled with molding sand, the kind that was quarried from this very site and used in metal foundries across the country. A selection of recreated foundry molds is tethered to the box inviting visitors to press different shapes into the sand, then lift them out to reveal the objects.

THEME #6 GEOLOGICAL TIME

GLACIERS AND THE RIVER WARREN

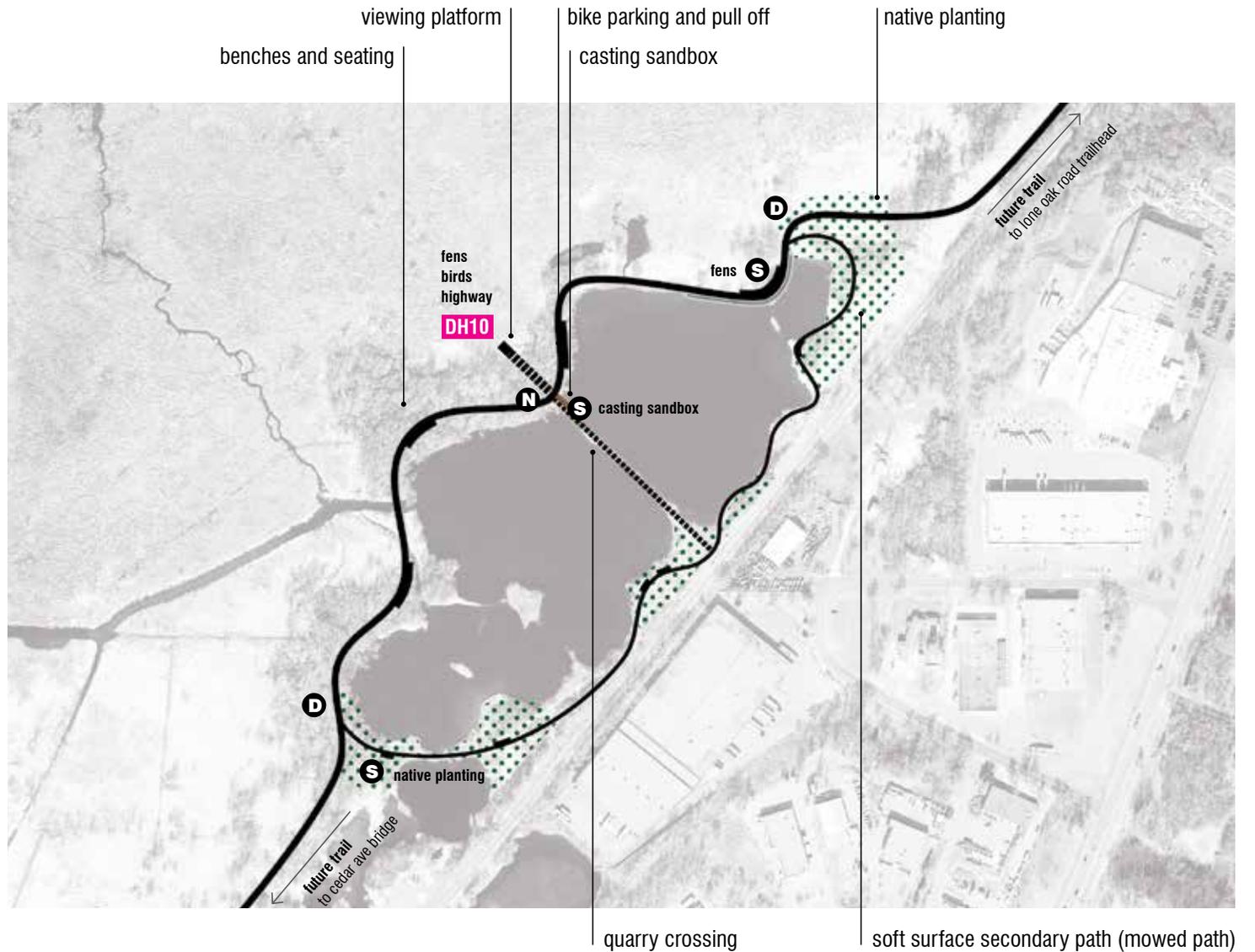
QUARRY CROSSING

A path across the lake draws attention to changing water levels and life in the aquatic shallows.

VIEWING PLATFORM

Trail visitors will hear the sounds of the fens amplified—birds, insects, rustling breezes, and even the nearby highway.

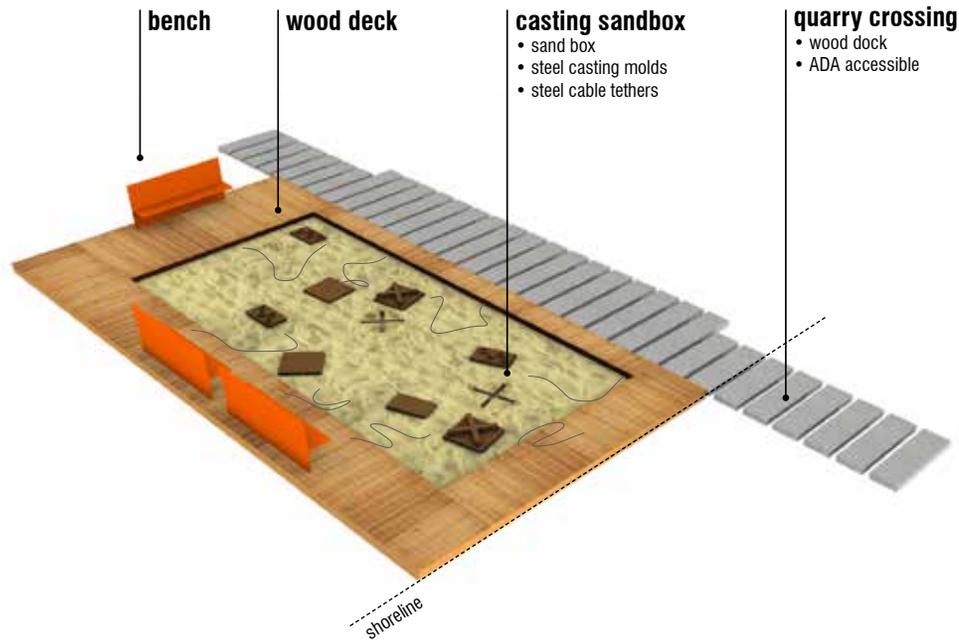
E. QUARRY LAKE CONCEPTUAL SITE PLAN



- DH10** Dakota Homeland Frame
- N** node interpretive sign (1)
- D** directional sign (2)
- S** small interpretive panel (3)

E. QUARRY LAKE

INTERPRETIVE CONCEPT



DAKOTA HOMELAND FRAME

- gathers and amplifies sounds from across the fens
- focuses views across river valley
- requires prototyping and sound testing to ensure sounds are being amplified at a safe level

CASTING SANDBOX

- sandbox filled with sand that was quarried here, or similar
- interpretive play - casting, digging, moving, molding, excavation

QUARRY CROSSING



E. QUARRY LAKE

PRECEDENT IMAGES



E. QUARRY LAKE

SUGGESTED SITE IMPROVEMENTS AND FEEDBACK

STAKEHOLDER FEEDBACK

Stakeholder feedback on the concepts will be considered in future projects as the designs are further developed for implementation.

- ADA accessibility for the Quarry crossing is recommended.
- Maintenance for the sand box shall be considered.

SUGGESTED SITE IMPROVEMENTS

- A secondary walking path along the perimeter of the lake to connect the lake and interpretive features with the community
- Trail map with locations of all interpretive nodes
- Boot brush station to reduce the spread of invasive species
- Native, edible, and/or sensory planting
- Lake edge restoration and wetland planting
- Lighting for safety
- Emergency / blue light phone

E. QUARRY LAKE

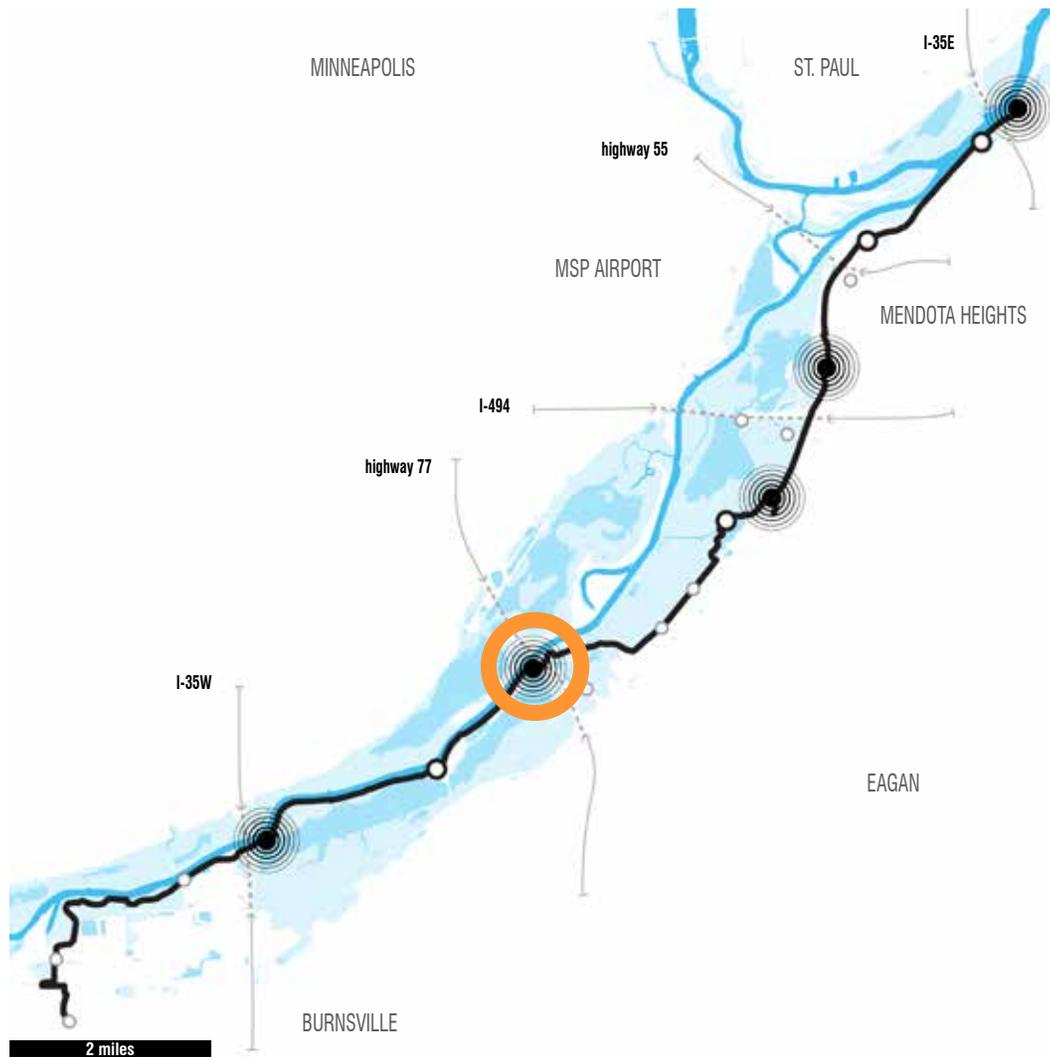
COST ESTIMATE

	COST ESTIMATE	ASSUMPTIONS
GRADING AND SITE PREP	\$29,000 - \$36,000	
SPECIALTY STRUCTURES	\$171,000 - \$209,000	
Viewing Platform	\$23,000 - \$28,000	• Wood platform with Dakota Homeland frame at end
Casting Sandbox	\$38,000 - \$46,000	• Wood deck, sandbox, and casting station
Quarry Crossing	\$110,000 - \$135,000	• ADA accessible wood piling dock across lake; 500 linear feet
TRAILWIDE INTERPRETIVE ELEMENTS	\$25,000 - 30,000	
Node Interpretive Signs		• quantity: 1
Small Interpretive Panels		• quantity: 3
Directional Benches		• quantity: 4
Timber Benches		• quantity: 2
TOTAL *	\$225,000 - 275,000 *	

* Cost estimate for interpretive features only. Site improvements and professional fees for design and exhibit development not included in cost estimate. Ongoing maintenance costs will be considered prior to implementation and will be incorporated into the Greenway maintenance program and budget.

F. CEDAR AVENUE BRIDGE TRAILHEAD

BACKGROUND INFORMATION



EXISTING CONDITIONS:

- The site is located adjacent to the current Cedar Avenue Bridge and is approximately 18 acres in size.
- Existing site amenities include a large paved parking area, views of the Minnesota River, river access, and boat launch.
- The site provides access to the US Fish and Wildlife Service's Minnesota Valley National Wildlife Refuge, Black Dog Unit (MN Valley NWR), MnDNR Fort Snelling State Park across the river.
- The site connects across the MN River to Bloomington via the old Cedar Avenue Bridge over the Long Meadow Lake and Cedar Avenue Bridge ramp.
- The location is owned by U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge, MnDOT, MnDNR, and City of Burnsville.

OPPORTUNITIES:

- This site is a planned trailhead that includes planned trail connections, picnic tables, grills, porta-potties, information kiosk, interpretative signage, wayfinding, a fishing platform and docks, stream restoration, parking area reduction, bike parking and bike fix-it station, lighting, and trash and recycling receptacles.

CONSIDERATIONS:

- How should proposed amenities and other trailhead features specified by Minnesota River Greenway Master Plan be integrated?
- The seemingly remote location makes it necessary for lighting and additional safety precautions. It is anticipated that safety concerns will be reduced once the trail is built and more people move through and visit the site.

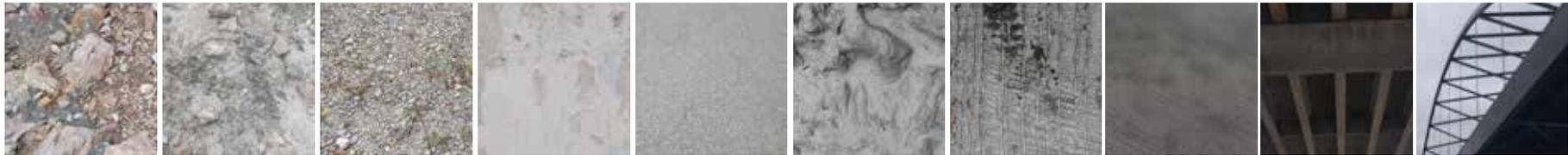
F. CEDAR AVENUE BRIDGE TRAILHEAD

EXISTING CONDITIONS



F. CEDAR AVENUE BRIDGE TRAILHEAD

SITE IMAGES



DRY GROUND ————— WET GROUND ————— INFRASTRUCTURE —————
 BELOW ←—————→ ABOVE

F. CEDAR AVENUE BRIDGE TRAILHEAD

SITE IMAGES



F. CEDAR AVENUE BRIDGE TRAILHEAD

INTERPRETIVE STORIES



Mendota Swing Bridge, 1920s, Dakota County Historical Society



Old Cedar Avenue Bridge, 1970s, Dakota County Historical Society



Racing on the frozen river, 1930s, Dakota County Historical Society



Nass Creek, Dan Callahan, 2016, Trout Unlimited Minnesota

CEDAR AVENUE BRIDGES

Today's Cedar Avenue Bridge traverses the entire Minnesota River Valley with one continuous structure. But for 90 years travelers made their way across the valley on two bridges—one to get over the river, then another to cross Long Meadow Lake. The best known of these was the swing bridge, which crossed the main channel of the river. It opened in 1890 and was only 18 feet wide curb-to-curb, one lane each way.

To accommodate occasional river traffic, the bridge pivoted on a center pier. At one time, there were many bridges of this type on the Minnesota. By 1962, however, it was considered a novelty—the last human-powered swing bridge in Minnesota. In later years the mechanism was automated; but still in the 1960s, barges and other river traffic were asked to give 24 hours notice for opening. Perhaps what's most remarkable is that this bridge—designed for horse-drawn wagons—remained in service until 1980, sometimes carrying more than 8,000 vehicles a day.

LOST TROUT STREAMS

Constantly flowing cold water still wells up from the ground beneath the river bluffs, forming streams that once supported healthy populations of trout. A few local residents still remember catching trout in these streams in the 1920s and 1930s, but today most are severely altered or lost altogether. While the cold, clear water required by trout still bubbles up out of the ground in countless locations, many streams have been blocked, dammed, or diverted. Some have been converted into stormwater outlets for nearby neighborhoods. Today, if any of these streams still maintain a constant flow of clear, cold water, which some do, they probably won't support many trout without further restoration efforts.

F. CEDAR AVENUE BRIDGE TRAILHEAD

INTERPRETIVE STORIES



The Hennietta, 1897, Minnesota Historical Society



USS Agawam under the Mendota Bridge, 1943, Dakota County Historical Society



Pilot Knob, 1920s, Dakota County Historical Society



Fort Snelling, 1870, Minnesota Historical Society

STEAMBOAT COMMERCE

Over a short period of time, from about 1850 to 1870, the business of hauling people and freight on the Minnesota River grew into a thriving enterprise and then rapidly declined into a sporadic service largely overtaken by the railroads. The Minnesota was not an easy river to navigate in the 1850s. Better suited to canoes than steamboats, this was a natural waterway—not dammed, dredged, or engineered in any way. It was a narrow, shallow channel with hazards around every bend—from shifting currents and sandbars to fallen trees. Despite this, on any given spring or early summer day, steamboats would have been a common sight on the lower river. In 1855, the levee at St. Paul saw more than 100 arrivals; and by 1862, steamboat traffic hit its peak at 412.

WOOD THAT FUELED THE RIVER VALLEY

Photographs from the 1850s and 1860s reveal a very different landscape from what we see today. Most noticeable, there were far fewer trees. During that time, wood was the primary fuel source—not just for heating homes and cooking but for powering steamboats and early locomotives. In the 1830s and 1840s, Fort Snelling consumed 2,000 cords of firewood annually. (A cord is four feet high, four feet deep, and eight feet long.) Steamboats on the Minnesota couldn't carry enough firewood for even short trips up and back on the river, so they relied on farmers along the way to provide “wooding stations,” stacks of four-foot logs left along the banks—for a price. The great appetite for firewood in the mid-1800s meant that miles of woodlands fell to the ax.

F. CEDAR AVENUE BRIDGE TRAILHEAD

DESIGN FRAMEWORK

INTERPRETIVE THEMES

INTERPRETIVE STORIES

INTERPRETIVE FEATURES

THEME #3 BRIDGING AND CROSSING

CEDAR AVENUE BRIDGES

SWING BRIDGE OVERLOOK and ROTATING LENTICULARS

The original swing bridge took six people to operate. The lenticulars rotate 180 degrees, with the help of six people, mimicking the movement of the historic bridge that swung open for barge traffic on the Minnesota. The overlook is a replica of the swing bridge structure in the historic location which allows visitors to get over the water.

MINI SWING BRIDGES

Long pivoting beams close to the ground can be pushed and pulled, like bridges that opened and closed across the river. Each beam will be engineered to move slowly and safely regardless of force.

THEME #4 WORKING RIVER

STEAMBOAT COMMERCE

WATER TROUGHS

Visitors can pump water and move sand in a meandering channel to see how rivers transport and deposit sediment. Here's where they find out about dredging the river.

WOOD THAT FUELED THE RIVER VALLEY

WOODING STATIONS

Each of the wood rounds in this play area represents an amount of wood it would take to fuel a particular operation—heat a house for a day, power a steamboat for 5 miles, or power a steam locomotive for an hour.

THEME #5 ECOSYSTEMS OF THE RIVER

LOST TROUT STREAMS

NATIVE PLANTING // STREAM RESTORATION

This is an area once known for its trout streams, floating fens, and diverse wet prairies. Where possible, native plant and aquatic communities will be restored and interpreted with walking paths and location-based media.

F. CEDAR AVENUE BRIDGE TRAILHEAD

CONCEPTUAL SITE PLAN

- S** small interpretive panel (8)
 - N** node interpretive sign (1)
 - K** kiosk (1)
 - D** directional sign (4)
 - E** entry monument (1)
 - DH7** Dakota Homeland frame (1)
- * grand totals, including following pages

interpretive play features

- swing bridge overlook
- rotating lenticulars
- water trough
- mini swing / play platforms
- wooding station

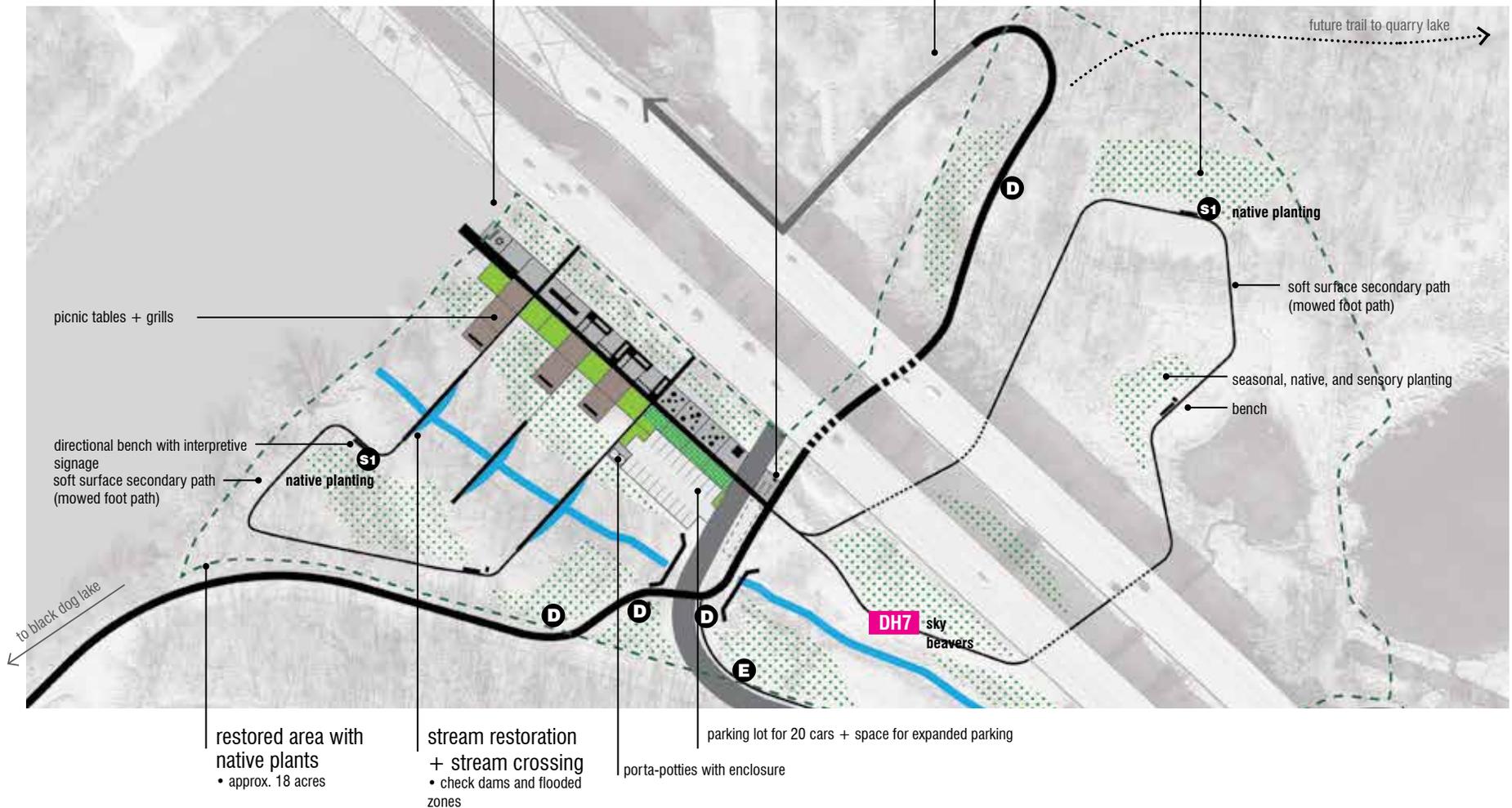
see following pages for detailed plan

bike parking and bike fix-it station

trail connection to existing ped/bike ramp connection over Minnesota River

parking lot removal and vegetation restoration

- bench
- interpretive signage
- seasonal, native, and sensory planting



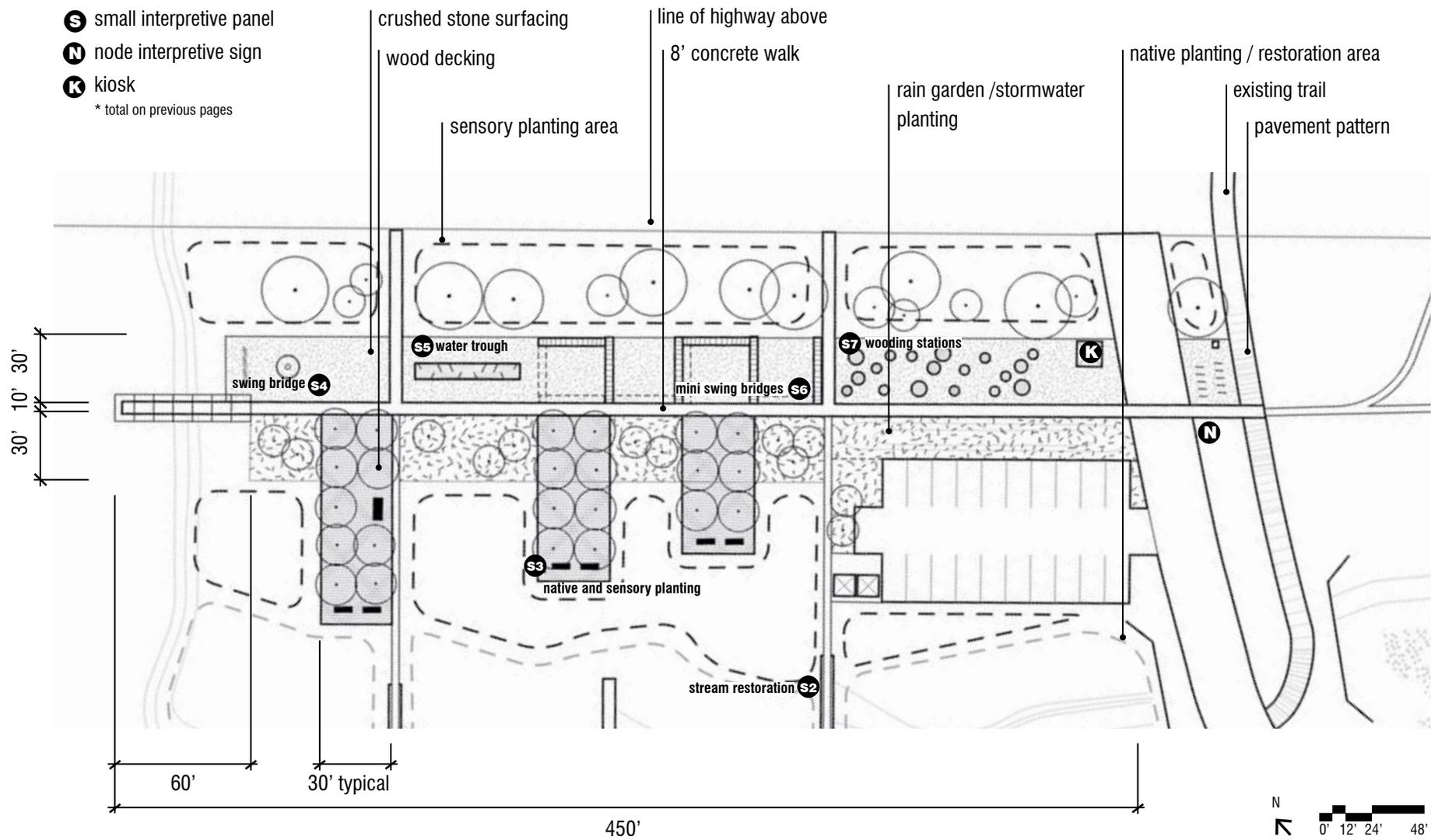
F. CEDAR AVENUE BRIDGE TRAILHEAD

INTERPRETIVE CONCEPT



F. CEDAR AVENUE BRIDGE TRAILHEAD

SCHEMATIC PLAN



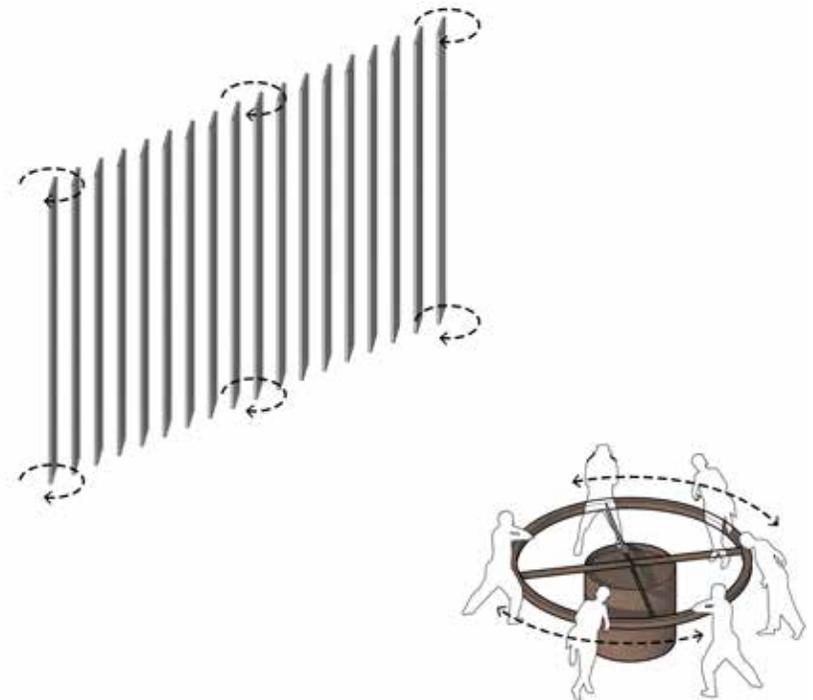
F. CEDAR AVENUE BRIDGE TRAILHEAD

INTERPRETIVE FEATURES



SWING BRIDGE OVERLOOK

- swing bridge replica
- gets visitors slightly over the water
- in the location of the historic bridge

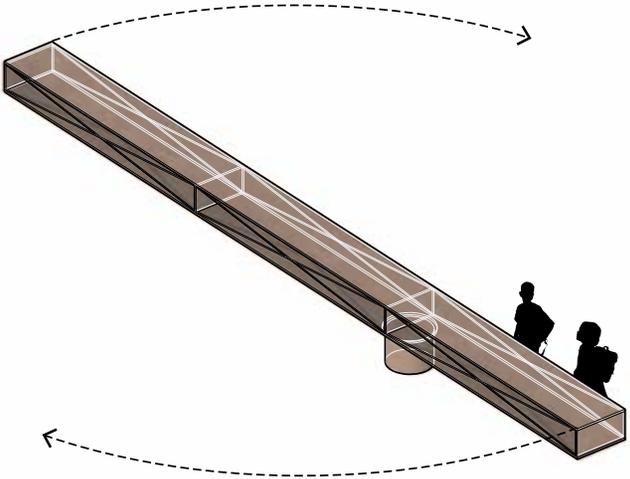
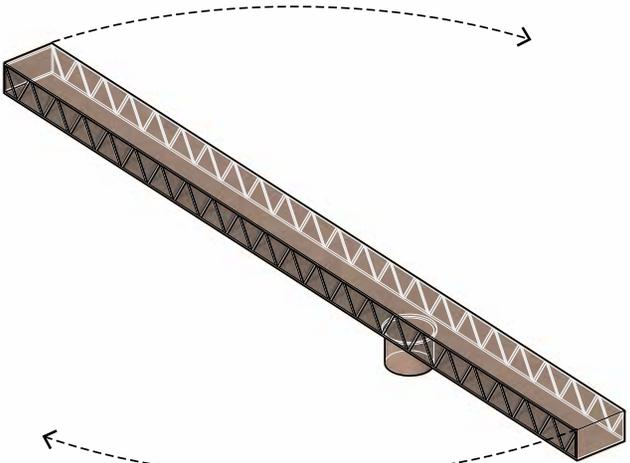


ROTATING LENTICULARS

- interpretive play - swing bridge
- takes 6 people to swing it

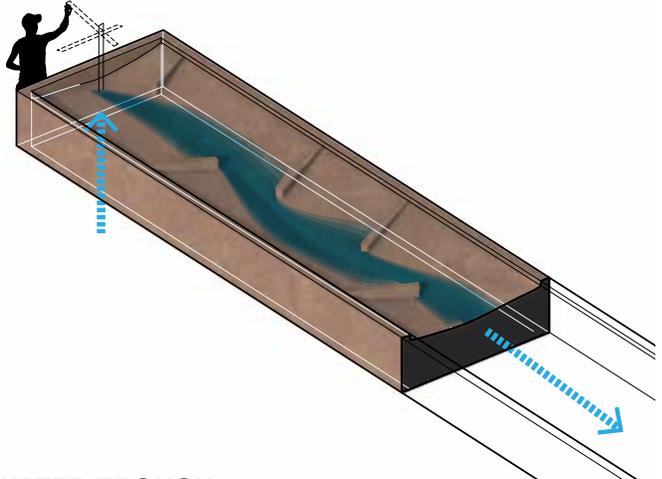
F. CEDAR AVENUE BRIDGE TRAILHEAD

INTERPRETIVE FEATURES



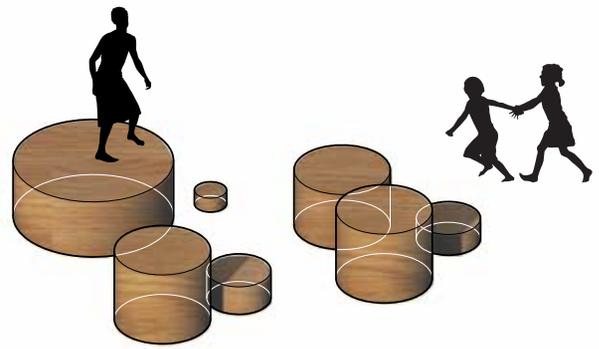
MINI SWING BRIDGES

- reclaimed steel bridge pieces



WATER TROUGH

- hand pump to water line installed by Dakota County as part of trailhead project



WOODING STATIONS

- 4 sizes: small, medium, large, x-large

F. CEDAR AVENUE BRIDGE TRAILHEAD

INTERPRETIVE SIGNAGE

N NODE INTERPRETIVE SIGN

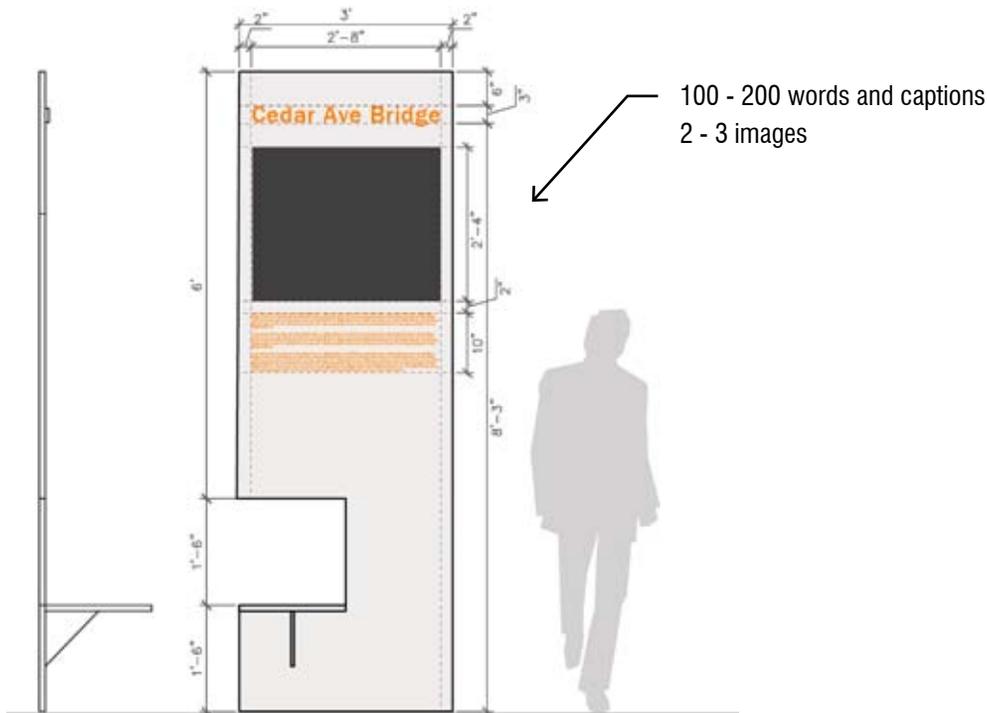
A BRIDGE TO REMEMBER

Today's Cedar Avenue Bridge crosses the entire Minnesota River Valley with one long structure. But for 90 years travelers made their way across the valley on two bridges—one to get over the river and another to cross Long Meadow Lake into Bloomington.

The best known of these was the swing bridge, which crossed the main channel of the river on this very spot. It opened in 1890 and was only 18 feet wide curb-to-curb—one lane each way. To accommodate occasional river traffic, the bridge opened by pivoting on a center pier.

There were once many swing bridges on the Minnesota. But by 1962, this was the last human-powered swing bridge in the state. It was eventually automated; and by the 1980s, carried more than 8,000 vehicles a day—not bad for a bridge originally designed for horse-drawn wagons.

The swing bridge was finally put out of service with the opening in 1980 of the twin-span bridge we know today. Within a week of the ribbon-cutting ceremony, demolition of the venerable old landmark was already underway.

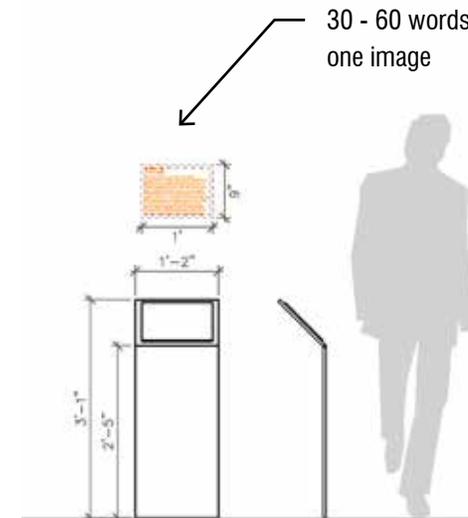


S5 SMALL INTERPRETIVE PANEL

NOT ALWAYS DEEP ENOUGH

The river's current is constantly moving sediment along the bottom—creating deep trenches and shallow sandbars. Keeping the channel deep enough for barges takes lots of dredging.

Starting in the 1890s, a four-foot deep channel was dredged from Shakopee down to the Mississippi. Today, a nine-foot channel extends from the Mississippi upriver to Savage, about 14 miles.



F. CEDAR AVENUE BRIDGE TRAILHEAD

PRECEDENT IMAGES



F. CEDAR AVENUE BRIDGE TRAILHEAD

SUGGESTED SITE IMPROVEMENTS AND FEEDBACK

STAKEHOLDER FEEDBACK

Stakeholder feedback on the concepts will be considered in future projects as designs are further developed for implementation.

- Coordinate with the DNR and US Fish and Wildlife Service for stream restoration, trail locations and sensitive habitat is required.
- Recommend a survey of cultural resources be conducted by a Tribal Historic Preservation Officer (THPO).
- All features must be designed to withstand flooding or be removable at times of flooding.

SUGGESTED SITE IMPROVEMENTS

- A series of carefully located secondary walking paths through the site to showcase the wetlands, trout streams, and Minnesota River.
- Trail map with locations of all interpretive nodes
- Boot brush station to reduce the spread of invasive species
- Native, edible, and/or sensory planting
- Shade structures and informal gathering areas
- Lifesaver / throw ring associated with any new piers or docks
- Emergency / blue light phone
- Trailhead development

F. CEDAR AVENUE BRIDGE TRAILHEAD

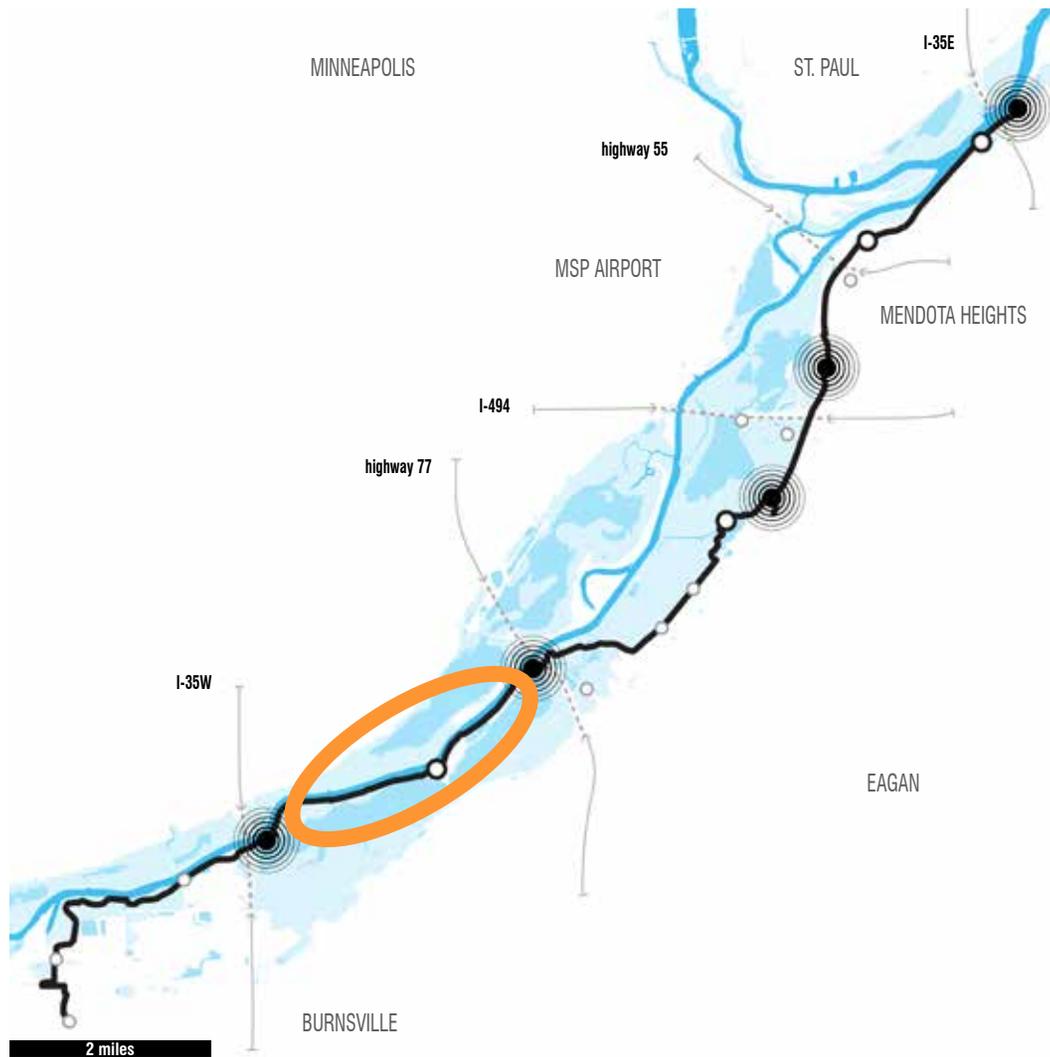
COST ESTIMATE

	COST ESTIMATE	ASSUMPTIONS
SPECIALTY STRUCTURE - SWING BRIDGE OVERLOOK	\$100,000 - \$150,000	
SPECIALTY STRUCTURES	\$70,000 - \$85,000	
Mini Swing Bridges		
Water Trough		
Wooding Stations		
Rotating Lenticulars		
HARDSCAPE	\$95,000 - \$120,000	<ul style="list-style-type: none"> concrete walkway, aggregate surfacing to connect interpretive features
SOFTSCAPE	\$25,000 - \$30,000	<ul style="list-style-type: none"> native seeding, trees, shrubs, planting soil, and irrigation
TRAILWIDE INTERPRETIVE ELEMENTS	\$35,000 - \$40,000	
Node Interpretive Signs		<ul style="list-style-type: none"> quantity: 1
Small Interpretive Panels		<ul style="list-style-type: none"> quantity: 8
TOTAL *	\$325,000 - \$425,000*	

* Cost estimate for interpretive features only. Site improvements and professional fees for design and exhibit development not included in cost estimate. Ongoing maintenance costs will be considered prior to implementation and will be incorporated into the Greenway maintenance program and budget.

G. BLACK DOG LAKE

BACKGROUND INFORMATION



EXISTING CONDITIONS:

- The site is located between the Cedar Avenue Trailhead and Minnesota Riverfront park.
- It stretches approximately 3.5 miles along the Big Rivers Regional Trail, between Cedar Avenue/Highway 77 and I-35W.
- The Minnesota River is located on north side of the site, with Black Dog Lake on the south side.
- The long, narrow site gets as narrow as 250 ft wide.
- The site is in the floodplain and is frequently inundated when water is high seasonally or during a storm event.
- Black Dog Road runs parallel to the trail and is closed to through traffic. The road only allows for private vehicular traffic going to and from Xcel Energy Black Dog Power Plant and is monitored by a gate and call box.
- This segment of trail was completed in 2017 and is in excellent condition.
- The location is owned by the City of Burnsville, Xcel Energy Black Dog Power Plant, and the Minnesota Valley National Wildlife Refuge.

OPPORTUNITIES:

- Consider a partnership with Xcel Energy for an interpretive node at the Xcel Energy Black Dog Power Plant to explore weather, wind, and power, as well as the conversion from coal to natural gas to wind energy over time.
- Audubon Minnesota has designated the Minnesota River Valley an Important Birding Area (IBA)

CONSIDERATIONS:

- There are multiple land owners and jurisdictions.
- The area floods often and is adjacent to an active power station.

G. BLACK DOG LAKE

EXISTING CONDITIONS



G. BLACK DOG LAKE

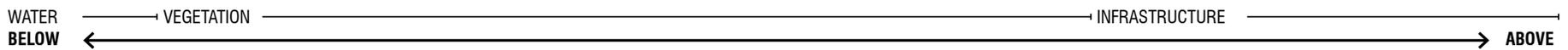
SITE IMAGES



South of the power plant

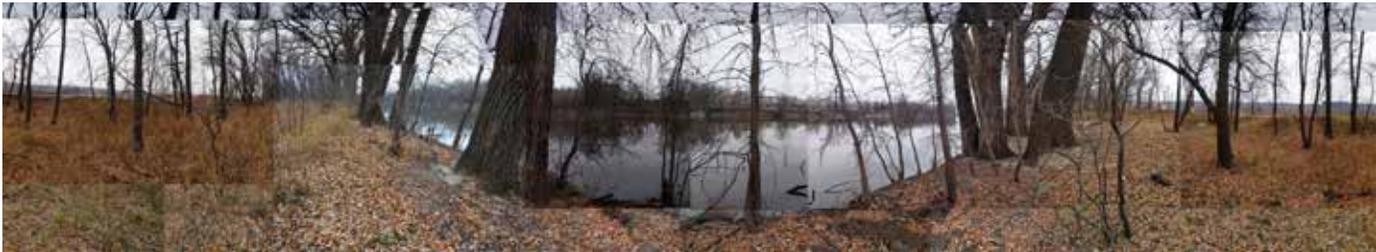


Black Dog Lake Dam



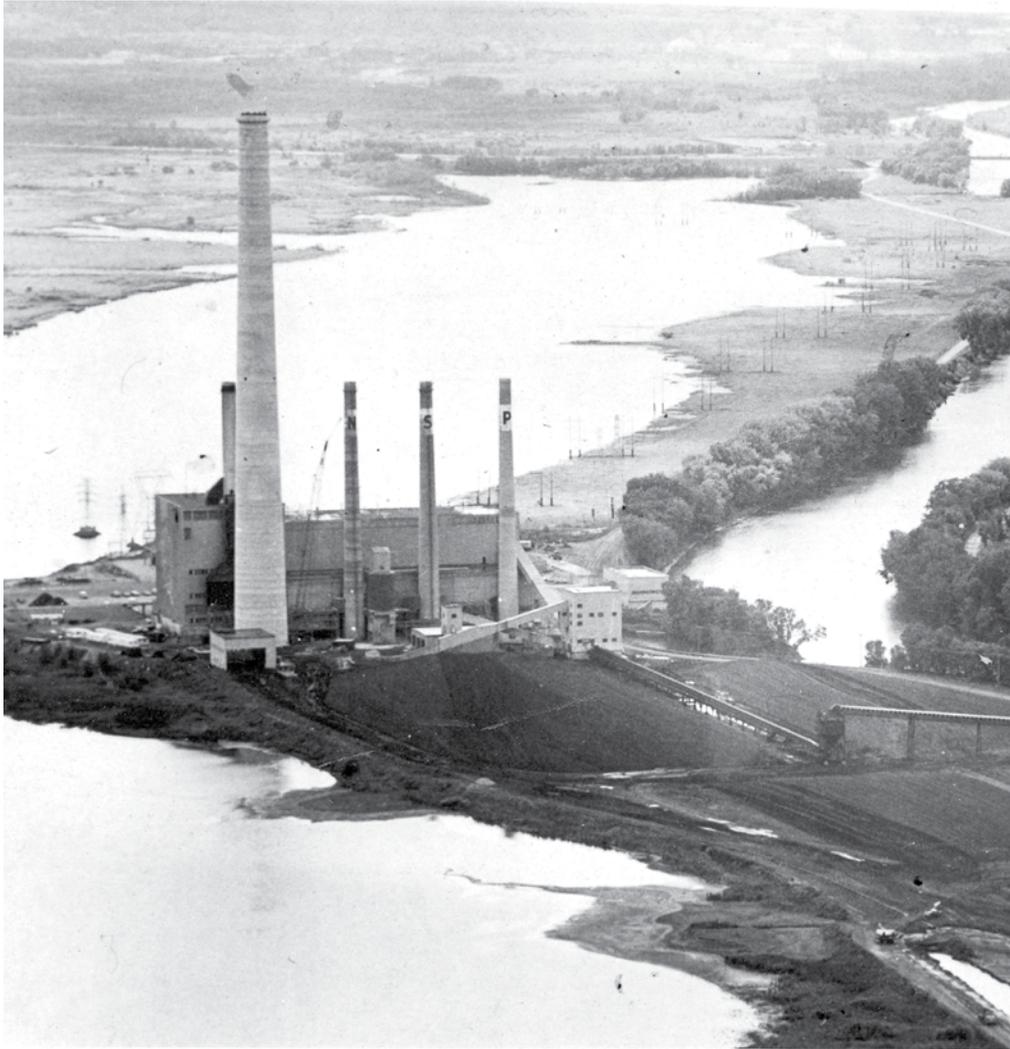
G. BLACK DOG LAKE

SITE IMAGES



G. BLACK DOG LAKE

INTERPRETIVE STORIES



Black Dog Power Plant, 1960s, Dakota County Historical Society

BLACK DOG LAKE

What appears to be an enduring floodplain lake today has changed and been changed dramatically over the past century. Until the late 1940s, Black Dog Lake was completely separated from the river, except during times of flooding. With construction of the Black Dog power plant starting in 1951, the lake was re-engineered to serve as a cooling basin for river water used in the plant. Despite these changes, the lake remains an important habitat for migrating wildlife and resident waterfowl attracted to the open water, kept ice free by warm water from the plant.

FOUNDING OF BURNSVILLE

In August of 1961 Burnsville Township residents learned that the City of Boomington, with Northern States Power's agreement, planned to annex NSP's Black Dog plant for its tax base. Township residents reacted swiftly. Just days later residents founded a 'Citizens League' and petitioned to incorporate Burnsville Township as a city. In April of 1964 the Minnesota Supreme Court ruled in favor of Burnsville and in June of that year, Burnsville Township became the Village of Burnsville.

LOWER MINNESOTA RIVER VALLEY IMPORTANT BIRDING AREA (IBA)

Audubon Minnesota has designated this area an Important Birding Area (IBA) that provides essential habitat for one or more breeding, wintering, and/or migrating bird species. The Lower Minnesota Valley regularly supports 50,000 waterfowl through spring and fall migration, including 20 duck species. More than 260 species have been recorded here, at least 100 of which are known to nest in the area.

G. BLACK DOG LAKE

INTERPRETIVE STORIES

***HOHAANSKAE*: BLACK DOG VILLAGE**

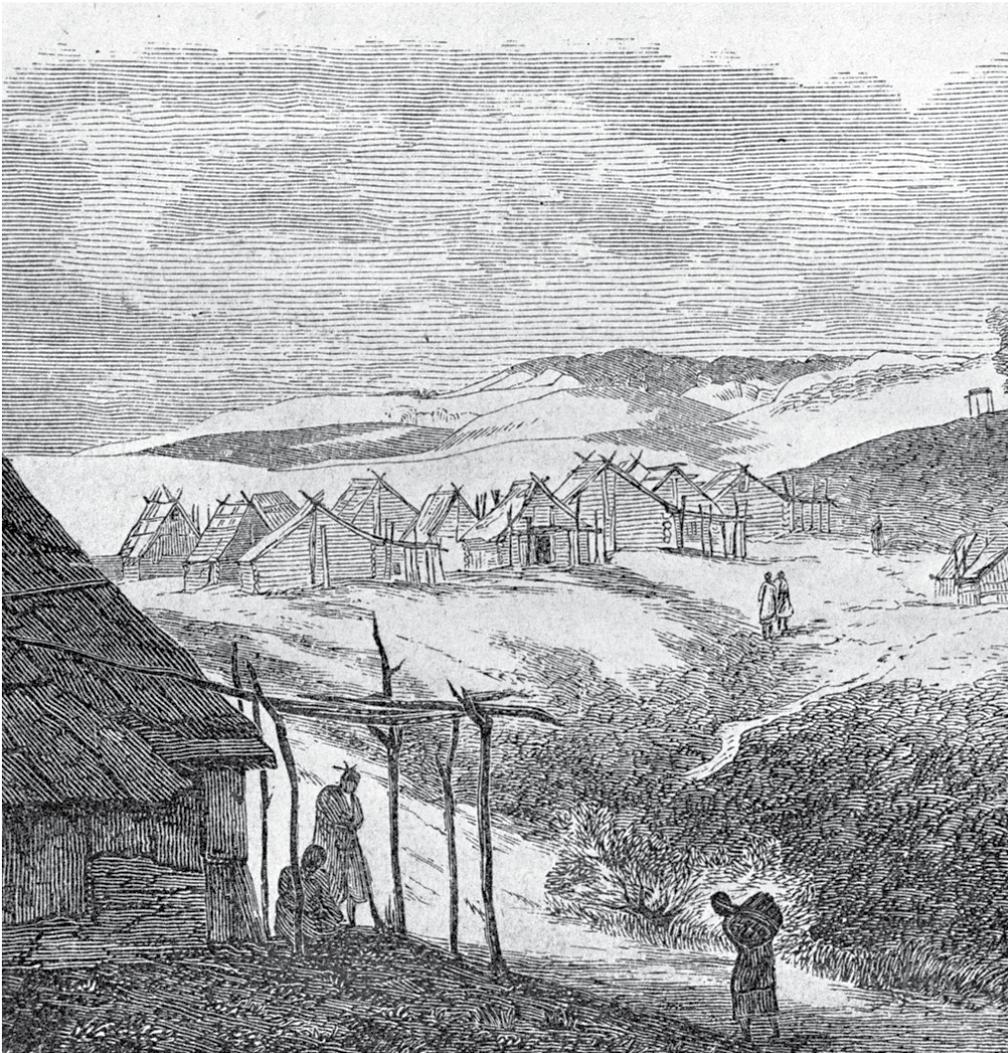
Along the southern bank of the Minnesota River, for a stretch of about five or six miles between the 494 bridge and 35W bridge, is a sloping terrace of land that sits between the valley floor and the bluffs above. No doubt it's a remnant of the dissipating Glacial River Warren as its slowing currents left behind ledges of sand and rock.

Hohaanskae was one of two Dakota villages located close to Fort Snelling. The other was *Kap'ozza* (Kaposia), known as Little Crow's Village, which was located at various sites on the Mississippi in and around what is now downtown St. Paul. Given its proximity to the fort, Black Dog Village appears often in the written and pictorial record of the area.

This was a summer village, sometimes lived in from early spring through late fall, when the band set out on hunting trips, in some years more than a hundred miles away. Like all Dakota villages, this settlement was not a set location but rather a village of people who, over the years, set up camps within a familiar area.

Hohaanskae means the "village of the long avenue," likely in reference to the long, straight part of the valley they occupied. They were also called *Maga Yute Sni*, "those who do not eat geese." Although they lived on a major flyway for migrating geese, this desirable game bird was probably more valuable in trade with soldiers and other white people than it was as dinner.

The people of *Hohaanskae*, along with all other Dakota in the area were displaced from their homeland by the 1851 Treaty of Mendota. In the following years most were taken to the Lower Sioux Agency, on the western end of the Minnesota.



Black Dog Village, 1853, based on a drawing by Adolf Hoeffel, Minnesota Historical Society

G. BLACK DOG LAKE

DESIGN FRAMEWORK

INTERPRETIVE THEMES

THEME #1 DAKOTA HOMELAND
THEME #7 COMMUNITIES PAST AND PRESENT

THEME #4 WORKING RIVER

THEME #5 ECOSYSTEMS OF THE RIVER

INTERPRETIVE STORIES

HOHAANSKAE: BLACK DOG VILLAGE

XCEL ENERGY (BLACK DOG POWER STATION)

BLACK DOG LAKE

INTERPRETIVE FEATURES

TEACHING AREAS

Program areas provide for facilitated group activities, particularly in partnership with Native educators and students. Workshops focused on native plantings and tipi construction could be among the offerings. Temporary and mobile, this installation interprets the temporality of Black Dog Village.

BIKE POWERED POLES

Here's where trail visitors turn their own energy into electricity. Two stationary bikes are connected to generators that power a set of LEDs. The faster visitors pedal, the more lights they power, setting up a challenge opportunity with other riders. This activity showcases the role of Xcel Energy's Black Dog Power Plant in powering the regional electrical grid.

XCEL ENERGY PLAZA // WEATHER SENSOR STATION

In partnership with Xcel Energy, interpretation will developed to tell the story of the plant, including its role in the founding of Burnsville and its shift from coal to natural gas. Displays will show wind speeds and real-time wind-generated power production.

HABITAT POLES

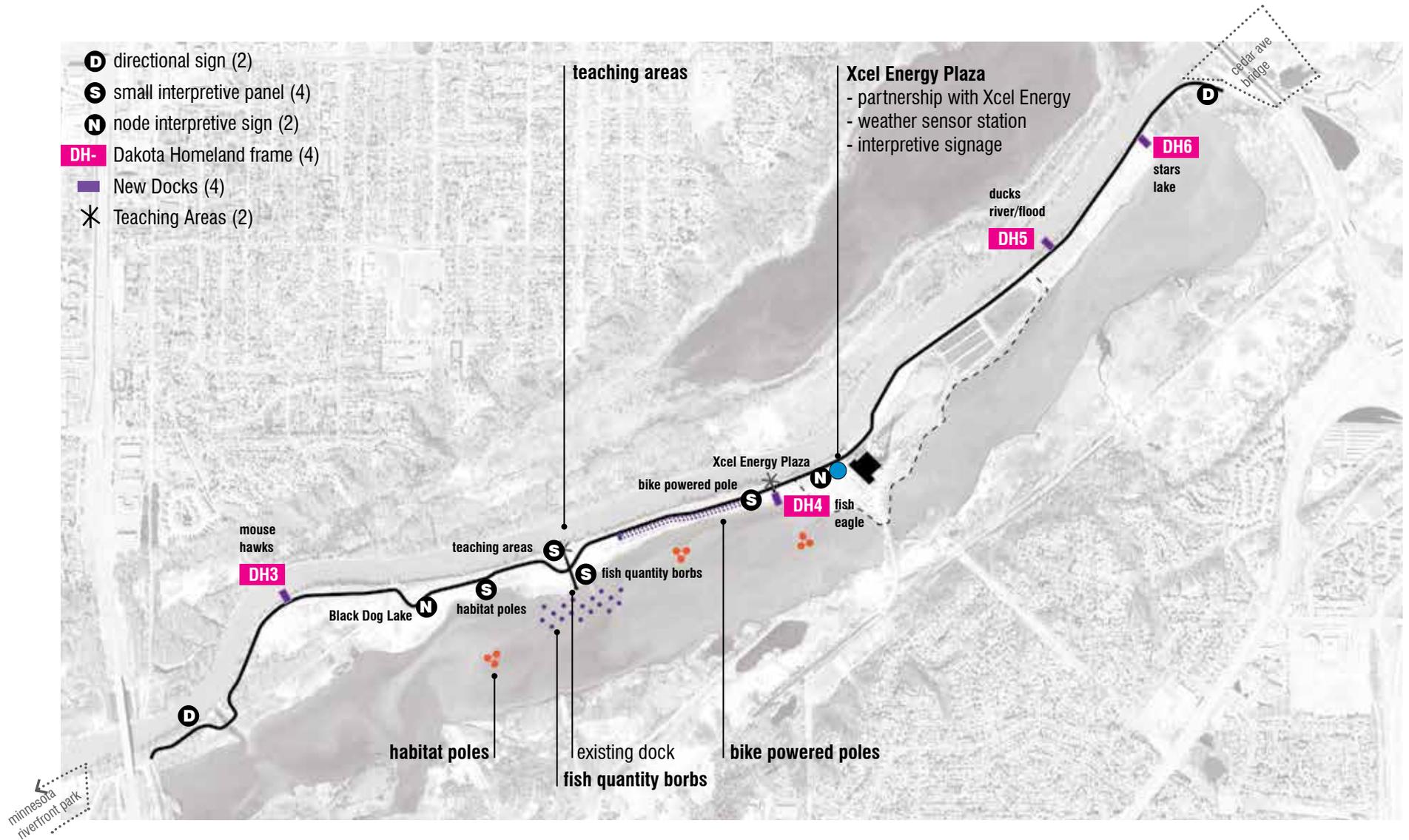
Poles with platforms or houses will be set just off shore in Black Dog Lake, encouraging bird nesting and perching. Height, size, and type will vary to attract different species.

FISH QUANTITY BORBS [BUOY / ORB]

These floating fish detectors—called borbs—have integrated LED lights that illuminate when fish swim by.

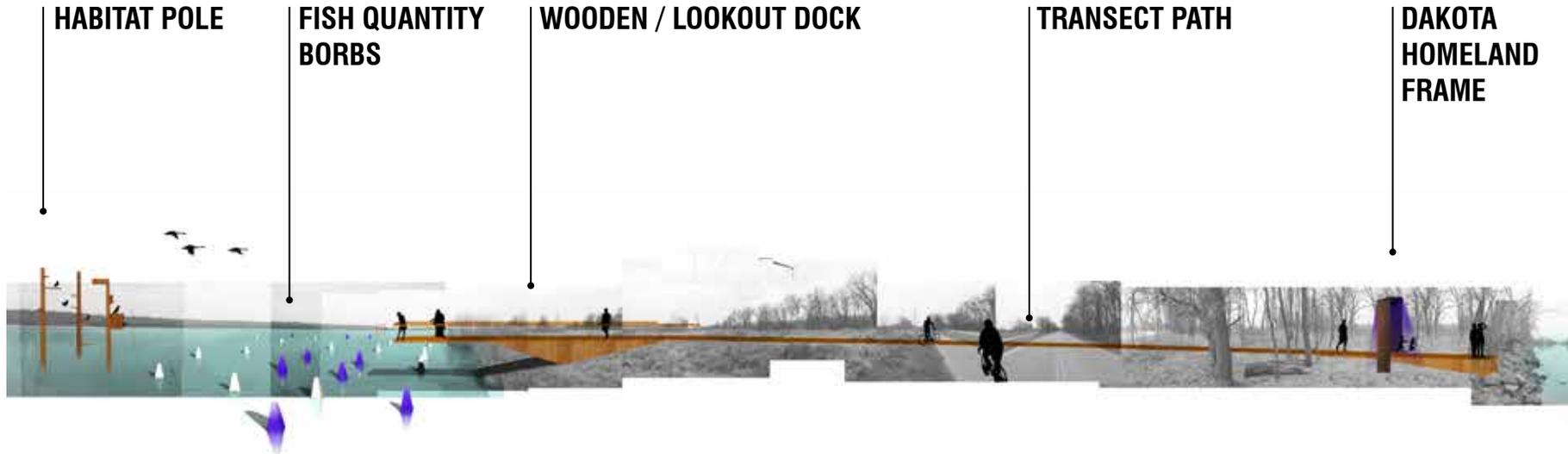
G. BLACK DOG LAKE

CONCEPTUAL SITE PLAN



G. BLACK DOG LAKE

INTERPRETIVE CONCEPT



Dakota tepees, Mendota, about 1862, Minnesota Historical Society

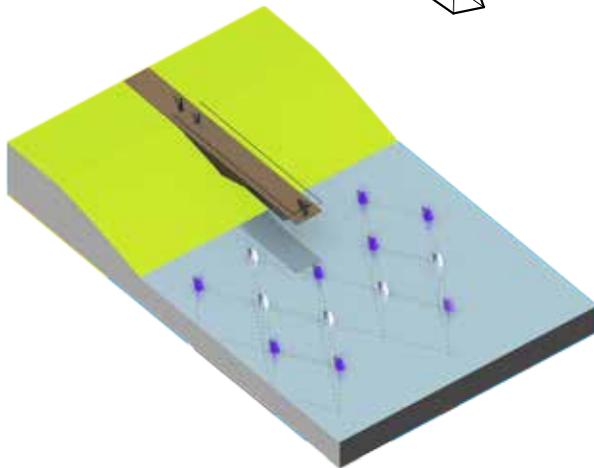
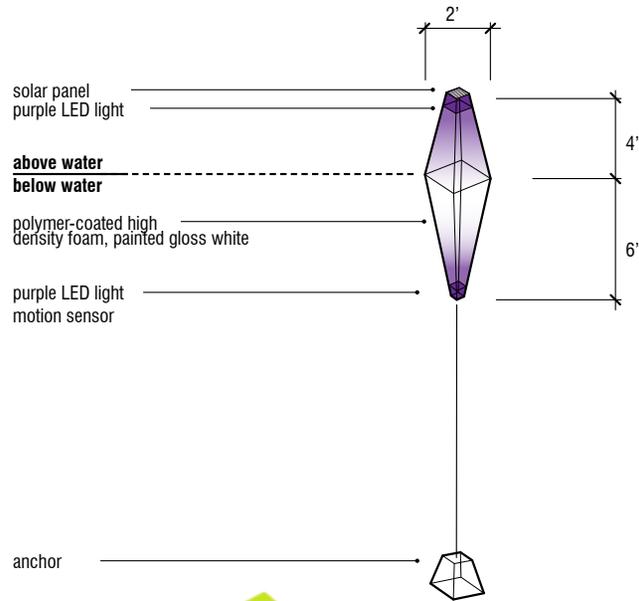


Peg and John Fink home, 1955. Burnsville Historical Society



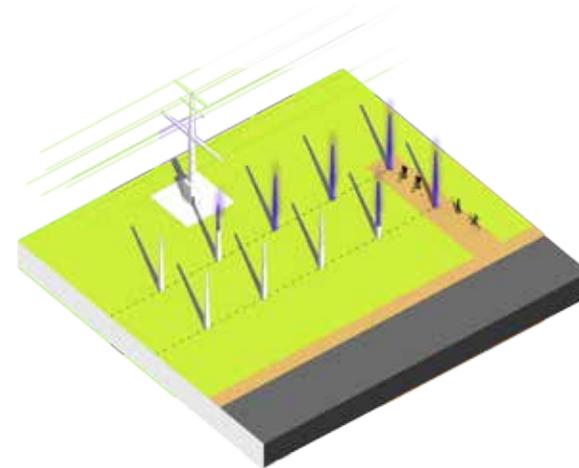
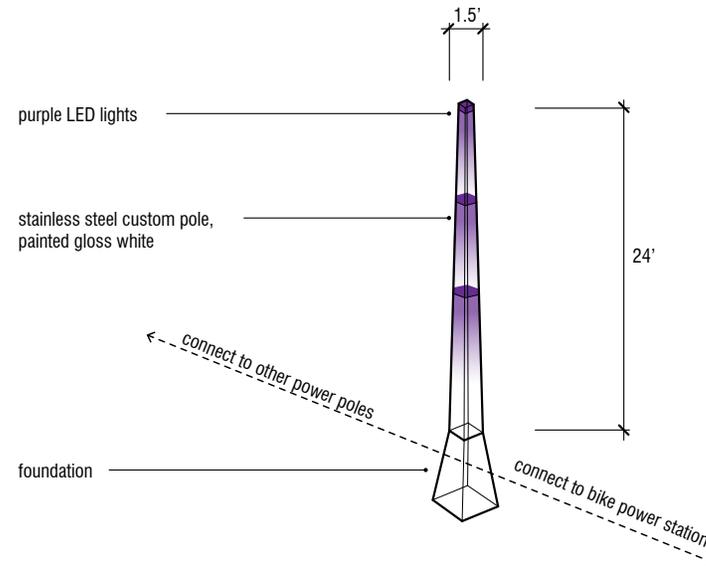
Black Dog Power Plant, 1960s, Dakota County Historical Society

G. BLACK DOG LAKE INTERPRETIVE FEATURES



BORBS

- measure fish quantity in Black Dog Lake
- each floating BORB lights up when fish pass underneath

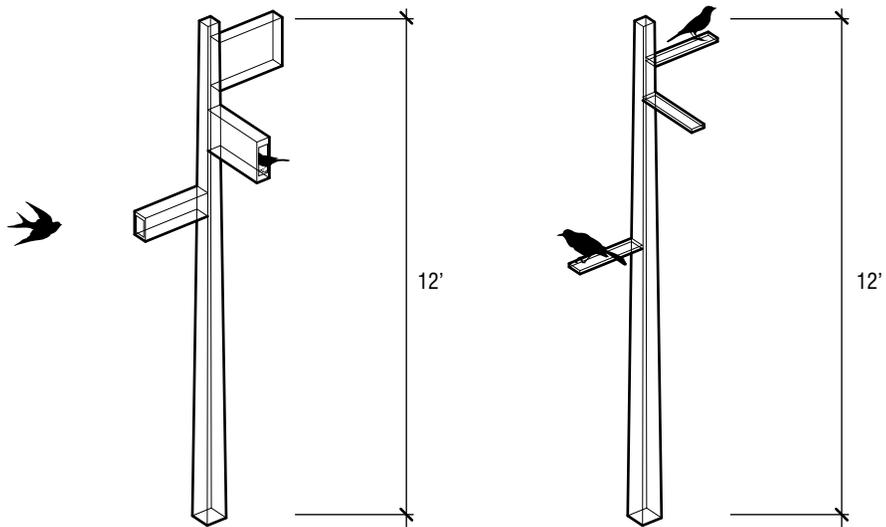


BIKE POWERED POLE

- two bike stations prompt riders to challenge each other, seeing who can produce power the quickest and light up the power poles fastest

G. BLACK DOG LAKE

INTERPRETIVE FEATURES



HABITAT POLE

- Wooden poles with platforms or houses in the water that encourage bird nesting
- Height, size, and type vary to encourage different species



G. BLACK DOG LAKE

PRECEDENT IMAGES



G. BLACK DOG LAKE

SUGGESTED SITE IMPROVEMENTS AND FEEDBACK

STAKEHOLDER FEEDBACK

Stakeholder feedback on the concepts will be considered in future projects as the designs are further developed for implementation.

- Access to the off-trail interpretive features shall be ADA accessible.
- Coordination with the US Fish and Wildlife Service and DNR for the habitat poles in Black Dog Lake is required.
- Coordination with the City of Burnsville and Xcel Energy for future programming opportunities and input is recommended.
- Obsolete coal stacks from Black Dog Power Plant could come down as early as 2019; it is recommended to retain a piece of the stack for interpretive purposes. The base circumference is 60' and the stack is 700' high, which is almost as tall as the IDS building in downtown Minneapolis.
- Coordination with the Freeway Landfill, located to the south of Black Dog Lake, during design development is recommended.

SUGGESTED SITE IMPROVEMENTS

- Wayfinding and directional signage
- Bike racks
- Bike fix-it station
- Trail map with locations of all interpretive nodes
- Native, edible, and/or sensory planting
- Boot brush station to reduce the spread of invasive species
- Secondary walking paths to connect to small interpretive features off the main trail
- Shade structures and informal gathering areas
- Docks and ways to get over the water

G. BLACK DOG LAKE

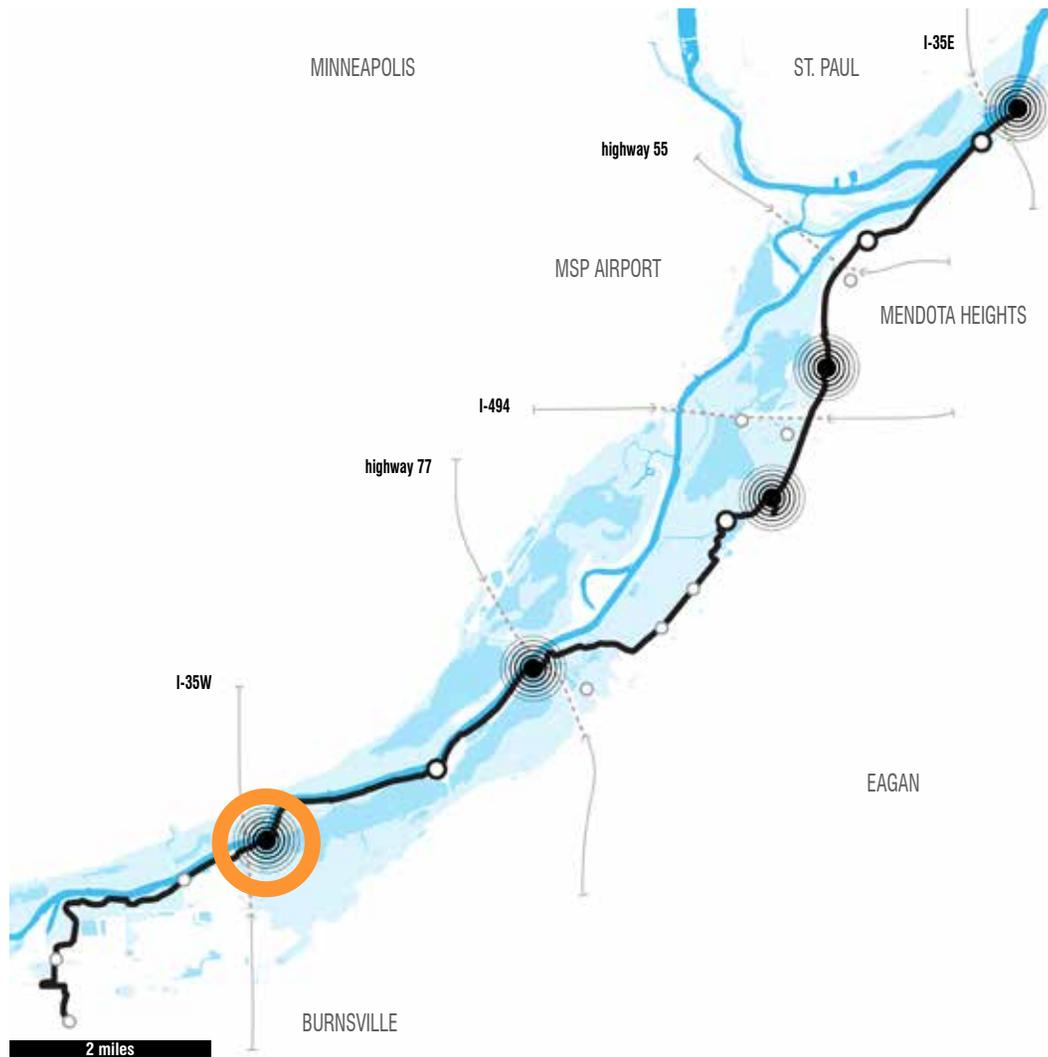
COST ESTIMATE

	COST ESTIMATE	ASSUMPTIONS
GRADING AND SITE PREP	\$10,000 - \$12,000	
SPECIALITY STRUCTURES	\$167,000 - \$210,000	
Bike Powered Poles	\$95,000 - \$120,000	
Borbs	\$52,000 - \$65,000	
Habitat Poles	\$20,000 - \$25,000	
HARDSCAPE	\$18,000 - \$20,000	<ul style="list-style-type: none"> • compacted aggregate paths, mulch learning areas
TRAILWIDE INTERPRETIVE ELEMENTS	\$35,000 - \$43,000	
Node Interpretive Signs		<ul style="list-style-type: none"> • quantity: 2
Small Interpretive Panels		<ul style="list-style-type: none"> • quantity: 4
Directional Benches		<ul style="list-style-type: none"> • quantity: 6
TOTAL	\$230,000 - \$285,000	

* Cost estimate for interpretive features only. Site improvements and professional fees for design and exhibit development not included in cost estimate.

H. MINNESOTA RIVERFRONT PARK

BACKGROUND INFORMATION



EXISTING CONDITIONS

- This node is integrated into a recently completed trailhead.
- The site is just north of I-35 and south of Black Dog Power Plant.
- The site and new parking lot are alongside Black Dog Road.
- A new trail segment connects to Cedar Ave bridge to the north.
- Black Dog Power plant access road has frequent truck and vehicular traffic.
- The site is located on a narrow swath of embankment between the MN River and Black Dog Lake.
- Existing site amenities include paved parking lot, porta-potties, information kiosk, fishing stones, stone stairs and access down to the river, picnic tables, grills, trash and recycling receptacles, bike racks, and a bike fix-it station.
- The recently completed trail is 12' wide and in excellent condition.
- The site is owned by Xcel Energy, leased to the U.S. Fish and Wildlife Service, and within the City of Burnsville.

OPPORTUNITIES:

- Large existing parking area allows for buses and large groups to gather.
- Provide access to down to the Minnesota River.
- The site is generally flat with open space along both sides of the trail.

CONSIDERATIONS:

- A recently completed trailhead provides a good starting point for further development.

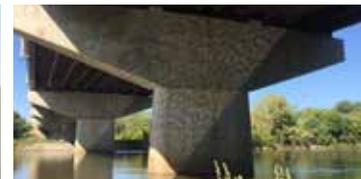
H. MINNESOTA RIVERFRONT PARK

EXISTING CONDITIONS



H. MINNESOTA RIVERFRONT PARK

SITE PHOTOS



H. MINNESOTA RIVERFRONT PARK

INTERPRETIVE STORIES

RIVER FISH AND WATER QUALITY

The Minnesota River is the state's largest tributary to the Mississippi River, increasing the flow of the Mississippi more than 50% at the confluence. It's also one of the most polluted rivers in the state, adding disproportionately to the Mississippi's pollutant load. Considerable attention and support have been given to improving water quality in the Minnesota. In recent years, there have been significant improvements in controlling point-source pollution control as well as continued adoption of conservation and best-management practices.

Two principle contaminants are PCBs (polychlorinated biphenyls) and mercury. Despite dramatic improvements in water quality, some people remain concerned about eating fish taken from the river. Fish from almost any source may contain small amounts of toxins, so recommended guidelines have been established to help reduce exposure to contaminants.

PORT CARGILL IN WORLD WAR II

The Cargill Company, based in Minneapolis, was already a global shipping giant by the start of World War II. Not only was it transporting commodities around the world, it was also building many of the ships that did the work. So it made sense that the U.S. Navy would call on Cargill soon after the U.S. entered the war. In February 1942, the company agreed to build six gasoline tankers from a yet-to-be-constructed facility on the Minnesota River at Savage. The site had many advantages: it was on the water, had easy access to a major rail line, and was close to Cargill headquarters. But it was also more than a thousand miles from the ocean.

Cargill moved fast, contracting with the Army Corps of Engineers to dredge a nine-foot channel from what became Port Cargill to the Mississippi River, a distance of about 13 river miles. The first ship to hit the water was the USS Agawam on May 6, 1943. After further outfitting lasting until November, the new tanker began its passage down the Minnesota to New Orleans. By the war's end, Cargill had built 18 oceangoing ships for the Navy and four towboats for the Army. Today, Port Cargill is used as a shipping terminal, primarily for agricultural commodities.

LYNDALE AVENUE BRIDGE

Travel time from the farming community of Burnsville into Minneapolis was shortened considerably in 1921 with the opening of the Lyndale Avenue bridge. Like most other roadways crossing the Minnesota at the time, the Lyndale approach was low—down in the valley rather than up on the bluff. Keeping the bridge deck close to the water no doubt saved on construction costs, but it also meant that the bridge had to open for river traffic. This was accomplished with a bascule-type lifting mechanism that opened the bridge at the middle of the channel. The two-lane Lyndale Avenue bridge was replaced in 1960 by the 35W bridge, which had been built alongside the old roadway. Just as soon as traffic was diverted to the new bridge, demolition began on the old lift bridge.

H. MINNESOTA RIVERFRONT PARK

DESIGN FRAMEWORK

INTERPRETIVE THEMES

THEME #5 ECOSYSTEMS OF THE RIVER

INTERPRETIVE STORIES

RIVER FISH AND WATER QUALITY

INTERPRETIVE FEATURES

BIG FISH SCULPTURES

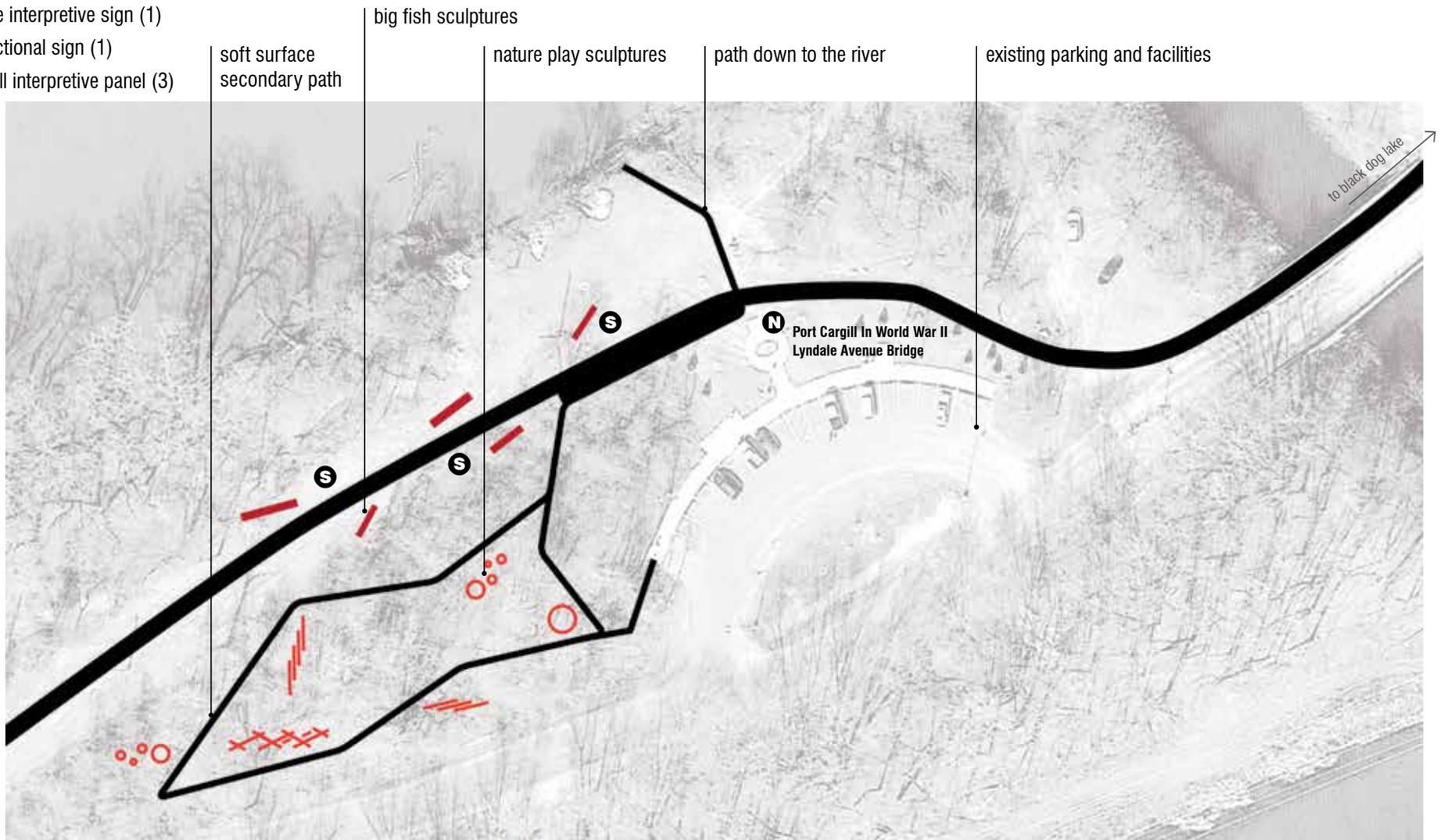
These playful sculptures showcase the top five fish species populating this section of the Minnesota River. They will be scaled in relation to one another and designed to encourage climbing, rocking, bouncing, and relaxing. Each one will be constructed differently to highlight particular information, such as habitat, native or invasive, and related guidelines for human consumption.

This area highlights the habitat and ecological restoration efforts by the DNR, Fish and Wildlife Service, and Xcel Energy. Interpretive signage will include information about the improved health of the River and ongoing management and restoration strategies.

H. MINNESOTA RIVERFRONT PARK

CONCEPTUAL SITE PLAN

- N** node interpretive sign (1)
- D** directional sign (1)
- S** small interpretive panel (3)



H. MINNESOTA RIVERFRONT PARK

INTERPRETIVE CONCEPT

EMERALD SHINER

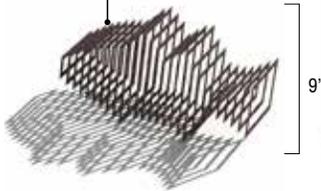
- bouncy steel ribs
- most abundant fish in the Mississippi and Minnesota rivers
- bait fish



2-3.5"

WHITE BASS

- steel ribs for climbing through
- glows turquoise once every 30 minutes as a reminder that one serving of white bass should be eaten only once a month
- fish consumption guidelines interpretive signage



15'



10-12"

GIZZARD SHAD

- rocks back and forth
- interior surface is etched with all mn river fish species and habitat information



11-15"

COMMON CARP

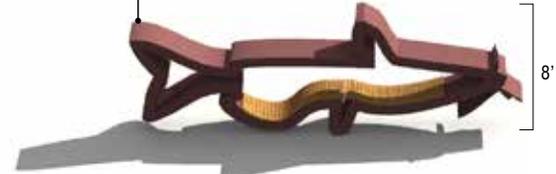
- wood bench integrated into steel base
- interior surface is etched with information about invasive species affecting the Minnesota River



15-31"

FLATHEAD CATFISH

- wood lounge integrated into steel base
- glows dark blue once every 30 minutes as a reminder that one serving of catfish greater than 30" in length should be eaten only once a month.



25'



24-36"



H. MINNESOTA RIVERFRONT PARK

PRECEDENT IMAGES



H. MINNESOTA RIVERFRONT PARK

SUGGESTED SITE IMPROVEMENTS AND FEEDBACK

SUGGESTED SITE IMPROVEMENTS

- Formalized path down to river and existing stone stairs
- Secondary walking paths
- Trail map with locations of interpretive nodes
- Native, edible, and/or sensory planting
- Boot brush station to reduce the spread of invasive species
- Rain garden / stormwater management of parking area
- Nature play sculpture area with soft surface paths

H. MINNESOTA RIVERFRONT PARK

COST ESTIMATE

	COST ESTIMATE	ASSUMPTIONS
SPECIALITY STRUCTURES	\$185,000 - \$226,000	
Big Fish Sculptures		
TRAILWIDE INTERPRETIVE ELEMENTS	\$20,000 - \$25,000	
Node Interpretive Signs		• quantity: 1
Small Interpretive Panels		• quantity: 3
Directional Benches		• quantity: 4
TOTAL *	\$205,000 - \$255,000 *	

* Cost estimate for interpretive features only. Site improvements and professional fees for design and exhibit development not included in cost estimate. Ongoing maintenance costs will be considered prior to implementation and will be incorporated into the Greenway maintenance program and budget.



IMPLEMENTATION

Implementation of the Minnesota River Cultural Resources Interpretive plan will give the Minnesota River Greenway a unique identity within the Metropolitan Regional Trail system. Implementation will occur over time, as opportunities allow. It is anticipated that implementation will occur in two primary ways: 1) integration into infrastructure projects and 2) as stand-alone projects where there are opportunities for partnerships and/or grant funding.

With eight trail miles and three trailheads yet to be constructed on the Minnesota River Greenway, there will be opportunities to integrate interpretation into future infrastructure projects. Near-term opportunities include trail construction from Lone Oak Road to Cedar Ave/TH77, trailhead development at Cedar Ave/TH77, and trailhead improvements at the Big River's Regional Trail.

The vision for interpretation along the Minnesota River Greenway presented in this plan helps position projects for partnership and grant funding. The greenway travels through five municipalities, Fort Snelling State Park, and the Minnesota River Valley National Wildlife Refuge. It has a history of State significance, is considered homeland by Dakota tribal people, and links to State and regional trails. These connections provide opportunities for implementation among partners where there are shared interests.

Like all greenway projects, cost share roles will be determined based on grant funding and the strengths of each agency and circumstances of each project. Examples of outside funding include:

- Clean Water, Land & Legacy Amendment funds
- National Park Service Rivers, Trails, and Conservation Assistance Program
- Federal Land Access Program
- Minnesota Department of Natural Resources
- Minnesota Pollution Control Agency
- The Environment and Natural Resources Trust Fund
- Watershed management organizations
- Foundations and nonprofits

Once constructed, the Dakota County Parks Department will be the lead department in operations, management, and maintenance for all interpretive features. Like all greenway features, interpretive elements will be made from durable materials with consideration of ongoing maintenance needs and costs. Maintenance is essential to protect public investment and provide recreation users clean, safe, and enjoyable year-round experiences. Interpretive elements are located at trailheads and along trail sections that will be maintained regularly along with general greenway upkeep.



TEN X TEN

JIM ROE

MONA SMITH

TROPOSTUDIO



APPENDIX

Appendix A: Annotated Bibliography

Allen, Gale. "Building the Railroad of the Minnesota Valley." [unpublished essay available at MNHS]. 1947.

Allen describes in detail the rocky start of the first railroad in the Minnesota River Valley in the 1850s and 1860s, with special attention to the effects of the economic panic of 1857.

Atkins, Annette, and Deborah L. Miller, eds. *The State We're in: Reflections on Minnesota History*. St. Paul: Minnesota Historical Society Press, 2010.

This is a useful compendium of essays that present history from particular cultural perspectives.

Bdote Memory Map. Minnesota Humanities Commission. St. Paul, MN.

<http://bdotememorymap.org>.

This Map, and the stories it leads to, are ways to learn about Bdote, the spiritual center of the Dakota world, from Dakota people. The site features video and audio pieces of Dakota people talking about and telling stories about Bdote.

Cafaro, Kris Bronars. *Cloudy-Sky Waters: An Annotated Bibliography of the Minnesota River*. Marshall, MN: The Center for Rural and Regional Studies, 2004.

Part of a series published by Mankato State University, this comprehensive survey includes published and unpublished books and articles related to the Minnesota River. Entries are organized into categories that roughly follow a chronology—from geology, archaeology, early exploration, up to contemporary environmental management topics.

Gemini Research. *Historic Roadside Development Structures Inventory: Mendota Overlook*. St. Paul: Minnesota Department of Transportation. 1998.

This report provides a concise, well-documented description of the Mendota Overlook and the historical context around its development, with particular focus on African Americans working in Mendota Camp #1.

Gilman, Rhoda R. *Red River Trails: Oxcart Routes Between St. Paul and the Selkirk Settlement 1820-1870*. St. Paul: Minnesota Historical Society Press, 1979.

Gilman's book is widely considered the definitive history of the Red River Trails. It contains maps and photos that illustrate the complex network of trails that connected early Mendota and St. Paul to distant posts and settlements.

Haller, Lisa, and Valise Brasch, Gary Phelps, Bill Wolston. "Crossings: Facts and Reflections on Historic Roadway Bridges in Dakota County." *Over the Years*. (September 1991).

This entire issue of Dakota County Historical Society's journal is dedicated to bridges, their history and lore. It features 14 distinctive bridges that connected Dakota County to cities across the Mississippi and Minnesota Rivers and across Lake Byllesby to the south. In addition to this collection of bridge histories, the society maintains research files on all of the bridges.

Hartsough, Mildred L. *From Canoe to Steel Barge on the Upper Mississippi*. Minneapolis: University of Minnesota Press, 1934.

A professor of geography at the University of Minnesota, Hartsough was best known for her work in connecting historical events and patterns in the state to business and economic development. Although the

study focused on the Mississippi River, it provides a clear overview of the changes in transportation that also influenced the business on the Minnesota River.

Kuehn, Robert. "High Rock Island: The Rediscovery of a Pioneer Sandstone Quarry in the Minnesota River Bottoms." *Over the Years*. (January 1983).

This brief article calls attention to an often-forgotten quarry on an island in the Minnesota River. The author speculates that Henry Sibley may have used stone from here to build his home in Mendota.

Lower Minnesota River Watershed District. *Watershed Management Plan for the Lower Minnesota River Watershed District: 2011 – 2020*. Chaska, MN: Lower Minnesota River Watershed District.

Watershed management plans, based on measured trends over time, can be valuable resources for recent history. This one holds a treasure of information about the river—from barge traffic analysis to water quality.

"The Minnesota Central Railroad in 1865: A Sketch of its Past History and its First Year of Operation." *Over the Years*. (2016):1-6.

A reprint of a lively article originally published in the *St. Paul Pioneer*, November 5, 1865, this piece provides great information and conveys the excitement around and importance of this new railroad to St. Paul.

Ojakangas, Richard W., and Charles L. Matsche. *Minnesota's Geology*. Minneapolis: University of Minnesota Press, 1982.

This is considered the go-to resource for concise, readable descriptions of the various epochs in our state's geological history. In clear and brief chapters, this book describes time periods and state-specific formations using illustrations and photos from today's landscape. This technique provides useful clues for interpreting geology for general audiences on the Minnesota River Greenway.

Old Cedar Avenue Bridge over Long Meadow Lake. <https://www.bloomingtonmn.gov/OCAB> and <http://oldcedarbridge.com>.

These websites provide accurate historical information and current updates on the reconstruction of this river landmark with good photos.

Owen, Howard Q. "Cedar Avenue's Minnesota River Bridge is Last Hand-operated Swing Span." *Dakota County Tribune*. August 2, 1962.

When this article appeared, planning was underway to build a new Cedar Avenue bridge. While that took another 18 years to accomplish, many people continued to enjoy the charm and personality of this aging structure. This nostalgic look at the bridge provides some great first-person accounts, possibly useful in future interpretation.

Peterson, William John. "The Early History of Steam boating on the Minnesota River." *Minnesota History* 11 (2): 123 -144. PDF available at:

<http://collections.mnhs.org/MNHHistoryMagazine/articles/11/v11i02p123-144.pdf>.

Peterson drew extensively on newspaper accounts and advertisements to create this portrait of the early steamboat business on the Minnesota. He ties this new mode of transport to the growth and characters of the first towns along the river.

Roberts, Norene, and Clark Dobbs. *A Lower Minnesota River Valley Cultural Resource Study and Interpretive Plan for the Minnesota Valley State Park & Trail*. Prepared for the Minnesota

Department of Natural Resources. June, 1993. PDF available at:
<https://www.leg.state.mn.us/docs/2015/other/155016.pdf>.

This study is focused on a stretch of the Minnesota River from Mendota to Le Sueur, MN. It contains an inventory of archaeological and historic sites and a chronological overview of the valley with suggested interpretive themes for the park.

Schreier, David. "Pike Island: Two Dakota County Families Living on the Island a Century Apart." *Dakota County History*. South St. Paul: The Newsletter of the Dakota County Historical Society (November 2000).

Sommer, Barbara W. "'We Had This Opportunity': African Americans and the Civilian Conservation Corps in Minnesota." In *The State We're in: Reflections on Minnesota History*, edited by Annette Atkins and Deborah L. Miller, 134-57. St. Paul: Minnesota Historical Society Press, 2010.

Although Mendota Camp #1 was a WPA facility, it was governed by the same rules that segregated the CCC camps of the same era. Those rules and how they shaped the experiences of Minnesota African Americans in the Corp is the focus of this article.

Spector, Janet D. *What This Awl Means: Feminist Archaeology of a Wahpeton Dakota Village*. St. Paul: Minnesota Historical Society Press, 1993.

This is an archaeologist's depiction of the daily life of women in a mid-1800s Wahpeton Dakota summer village called Inyan Ceyaka, or Little Rapids, near present-day Jordan, MN. The main story here starts with one artifact, an awl, and leads into a compelling material-culture study of a community.

Wallin, James. "Nicols, 1900-1980: 'The Life and Death of a Most Unusual Town.'" *Over the Years*. 29 (Fall 1989):1-20.

It was the author's good fortune to find and talk to former residents of this now-vanished town. Their recollections describe a community difficult to picture on the site today. The article contains many family snapshots currently in the collections of the Dakota County Historical Society.

Wendt, Keith M., and Barbara A. Coffin. *Natural Vegetation of Minnesota at the Time of the Public Land Survey: 1847 – 1907*. Biological Report No. 1. St. Paul: Minnesota Department of Natural Resources, 1988.

The often-cited map published by F. J. Marcher in 1974 shows what was growing where in Minnesota before settlement. Wendt and Coffin provide an updated version of the map, based on new research and analysis. Each of the vegetation types is described and illustrated with photos. PDF available:
http://files.dnr.state.mn.us/eco/mcbs/natural_vegetation_of_mn.pdf.

Westerman, Gwen, and Bruce White. *Mni Sota Makoce: The Land of the Dakota*. St. Paul: Minnesota Historical Society Press, 2012.

This is the story of the Dakota and their homeland told from a Dakota perspective. The authors have done a deep and critical reassessment of European and American accounts and maps that described the region and its people back to the late 1600s. They put forward the idea that the Dakota relationship to this place—their homeland—is encoded in the landscape by stories and place names.

White, Bruce. "What Happened at Black Dog in 1977, A Cautionary Tale." *Minnesota History*. Net.
<http://www.minnesotahistory.net/MHNet21.htm>

This is the 11th article in a series entitled: The Death of a Mound: Politics and Human Remains in Minnesota. The series provides histories and present-day accounts related to burial sites and mounds in the Twin Cities area, with particular focus on current construction projects that have unearthed human remains.

White, Bruce, and Alan Woolworth. "Oheyawahi/Pilot Knob: A Hill of State & National Significance in Dakota County." *Over the Years*. 45.2 (2004):1-24.

White, an accomplished and respected historian teamed up with archaeologist Woolworth to write this in-depth study of a Dakota sacred site. The article follows a chronology up through the 20th Century, including the fight to save Oheyawahi from commercial development. It contains accounts and quotes from Mendota Mdewakanton elders and spiritual leaders who describe what this site means to Dakota people today.

Withrow, Russ. "The WPA in Dakota County: Mendota Work Camp No. 1." *Over the Years*. (2003):1-6.

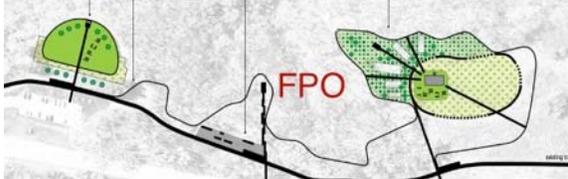
Wolston, Bill. "Port Cargill: Including 10 Acres of Burnsville and 44 Miles of Dakota County Waterway." *Over the Years*. 45.2 (2004): 25-32.

This article begins with a disclaimer that only part of Port Cargill was located in Dakota County (and subsequently not entirely a part of the Minnesota River Greenway). Nonetheless, the county deservedly claims this story as its own, for the ships and barges built here in the 1940s passed through local bridges and along the Minnesota and Mississippi River borders of Dakota County.

Appendix B: WPA Camp #1 Sample Script

WPA Camp #1 Node Section: The Overlook

<p>Node Interpretive Sign (N1)</p> 	<p>Mendota Overlook</p> <p>In the 1930s, the Works Progress Administration (WPA) left its mark on landscapes across the country. Among the dozens of government programs meant to revive the country from years of economic depression, the WPA is best known for the many civic monuments it produced, including this magnificent overlook.</p> <p>The project was completed in 1938, built from limestone quarried onsite by workers living in the nearby Mendota Work Camp #1. The camp was one of 25 Minnesota facilities built specifically for homeless men and the only one in the state designated for African Americans.</p> <p>The WPA was dismantled in the years after the U.S. entry into World War II. Mendota Camp #1 was closed in 1941 and the buildings taken down shortly thereafter. All that remains of the facility today are the stone chimney from the recreation hall and some stone building foundations.</p>
<p>Caption/credit, historical photo</p>	<p>In the original design, sightseers could drive right into the overlook and take in the spectacular view of the historic Minnesota River Valley and watch airplanes flying into what is now MSP International Airport.</p>
<p>Caption/credit, site map</p>	<p>The story of the Mendota Overlook takes place over three related sites, all within walking distance. A connecting trail from the overlook leads to the quarry—source of the limestone you</p>

	<p>see here—and to the camp site where WPA crews lived and worked from 1935 to 1941.</p>
<p>S1 Small Interpretive Panel</p> 	<p>Flight Path to MSP Standing here in the late 1930s, you could have heard the low rumbling sounds of propeller-driven airplanes making their slow decent into what was then called Wold Chamberlain Field.</p> <p>Over the years dozens of commercial airlines have displayed their logos over the Minnesota River Valley. Only a few are still flying today.</p>
<p>Caption/credit:</p>	<p>Northwest Airlines airplanes at Wold Chamberlain Field, 1951, Minnesota Historical Society</p>

WPA Camp #1 Node Section: Working the Quarry

Node Interpretive Sign (N2)



African Americans in the WPA

Mendota Work Camp #1 was built within months of the establishment of the Works Progress Administration (WPA) in 1935. It was Minnesota's only WPA camp for African Americans, a distinction that lasted less than a year.

Racial segregation was standard practice within the federal-relief programs—both the WPA and Civilian Conservation Corp (CCC) were segregated. And although African Americans in the 1930s were disproportionately affected by the Depression, only a small percentage of them were given work through federal relief programs. In 1935, this camp enrolled 171 African American men—average age 40—who worked extracting and cutting blocks for highway-related projects.

The camp was best known for building the nearby Mendota Overlook in 1938. The original group of African-American workers, however, did not take part in this project, as they had been moved to other camps long before. Within a year of the camp's opening, local residents raised objections to the camp and its black workers, demanding their removal. In March 1936, 93 men, probably most of the camp's population were transferred to the Paul Bunyan Camp in Becker County in northern Minnesota.

Caption/credit

Quarry workers at Mendota Camp #1, 1935-36. Minnesota Historical Society

S2 Small Interpretive Panel

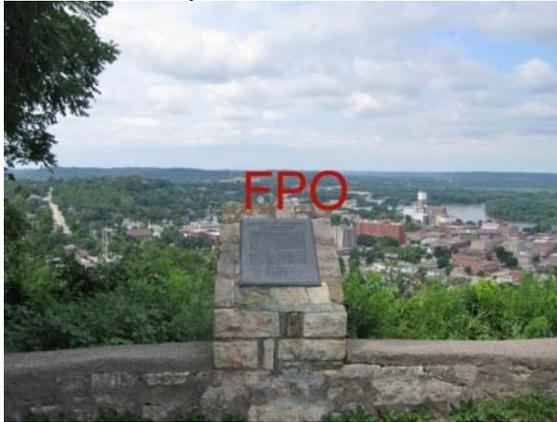


Quarries Filled with Ocean Life

In the limestone quarried in the 1930s you can see back in time more than 400 million years, when all of this landscape was beneath the sea.

As animals lived and died, their bones and shells accumulated, layer upon layer, at the bottom of the ocean. Time and pressure turned these animal remains into a 30-foot thick layer of fossil-bearing limestone called Platteville.

S3 Small Interpretive Panel



Bedrock of History

Platteville limestone was a common building material in the Lower Minnesota River Valley, especially from the 1820s into the 1880s. When the Works Progress Administration began building civic monuments in southern Minnesota, designers selected this stone because it was close to the surface and easily quarried and sculpted into building blocks.

WPA Camp #1 Node Section: Connecting Paths

Node Interpretive Sign (N3)



Mendota Work Camp #1

Between 1935 and 1941 this river-bluff site bustled with activity. On any given day about 170 men would leave their bunkhouses, stop for breakfast and head to work. Some walked to the machine shop while others followed a path to the nearby quarry where they sculpted stone into building material for projects across the region.

Mendota Camp #1—among several Works Progress Administration camps in the area—was mostly self-sufficient, much like a small village. It was designed as a place to live and work.

Small Interpretive Panel
[digital recreation of site, bird's eye view]



A Workplace and Home

Mendota Camp #1 was comprised of about 12 small, wood-frame buildings including six bunk houses, a latrine and wash room, a kitchen and dining hall, an office and storeroom, and a recreation hall. Other buildings included garages and a blacksmith shop, mainly for repairing quarrying tools.

WPA Camp #1 Node Section: Camp Life

Node Interpretive Sign (N4)



Life in Mendota Work Camp #1

The Works Progress Administration (WPA) provided work for millions of people between 1935 and its closing in 1943. Among the many programs of the WPA, one was created specifically for homeless men, giving them work and a place to live.

Mendota Work Camp #1 was one of 25 “transient camps” in Minnesota and the only one built specifically for African-American men. Within months of the camp’s opening however, local residents, alarmed by incidents at the camp, demanded that the men be transferred to another location. Less than a year after opening, the original group was moved to a camp near Brainerd and replaced by an all-white crew.

Small Interpretive Panel



Camp Life

In addition to workshops and bunkhouses, the camp featured a recreation hall and a small store where residents could buy cigarettes, beer, and candy. Workers once gathered around the fireplace of the stone chimney you see here—one of the few remnants of the original camp.

Appendix C: Cedar Avenue Bridge Trailhead Sample Script

Cedar Avenue Bridge Trailhead Node Section: Swing Bridge

<p>Node Interpretive Sign</p> 	<p>A Bridge to Remember</p> <p>Today's Cedar Avenue Bridge crosses the entire Minnesota River Valley with one long structure. But for 90 years travelers made their way across the valley on two bridges—one to get over the river and another to cross Long Meadow Lake into Bloomington.</p> <p>The best known of these was the swing bridge, which crossed the main channel of the river on this very spot. It opened in 1890 and was only 18 feet wide curb-to-curb—one lane each way. To accommodate occasional river traffic, the bridge opened by pivoting on a center pier.</p> <p>There were once many swing bridges on the Minnesota. But by 1962 this was the last <i>human-powered</i> swing bridge in the state. It was eventually automated, and by the 1980s carried more than 8,000 vehicles a day—not bad for a bridge originally designed for horse-drawn wagons.</p> <p>The swing bridge was finally put out of service with the opening in 1980 of the twin-span bridge we know today. Within a week of the ribbon-cutting ceremony, demolition of the venerable old landmark was already underway.</p>
<p>Caption/credit</p>	<p>Cedar Avenue Swing Bridge, about 1979. Dakota County Historical Society</p>
<p>Sidebar quote</p>	<p><i>The remarkable feature of the ancient span is the comparative ease with which it swings out after more than seventy years of operation. It takes just</i></p>

	<p><i>six strong backs to wind the structure out over the river. . . . When the crew prepares to open the bridge, the first requirement is to post signs at the nearest turnoffs on both sides to advise vehicular traffic of the delay. Then the gates are swung across the roadway at each bank. To compensate for a lack of proper balance, the maintenance truck is parked at a particular point on the roadway.</i></p> <p><i>Dakota County Tribune, August 8, 1962.</i></p>
<p>Caption/credit:</p>	<p>Cedar Avenue Bridge, about 1960, Dakota County Historical Society</p>

Cedar Avenue Bridge Trailhead Node Section: Mini Swing Bridges

<p>Small Interpretive Panel</p> 	<p>Barge Coming Through! Today's bridges stand high above the water, so it's easy for boats and barges to pass beneath them. But the first bridges across the Minnesota River had to lift or swing open to let river traffic pass, especially when the water was high.</p>
<p>Caption/credit:</p>	<p>USS Agawam passing under the Lyndale Avenue lift bridge, 1943, Minnesota Historical Society</p> <p>During WWII ocean-going ships were built in Savage and sent down the Minnesota and Mississippi to the Gulf of Mexico.</p>

Cedar Avenue Bridge Trailhead Node Section: Water Troughs

<p>Small Interpretive Panel</p> 	<p>Not Always Deep Enough The river’s current is constantly moving sediment along the bottom—creating deep trenches and shallow sandbars. Keeping the channel deep enough for barges takes lots of dredging.</p> <p>Starting in the 1890s a four-foot deep channel was dredged from Shakopee down to the Mississippi. Today a nine-foot channel extends from the Mississippi upriver to Savage, about 14 miles.</p>
<p>Caption/credit</p>	<p><i>George Hays</i> on the Minnesota River, about 1900. Minnesota Historical Society</p>

Cedar Avenue Bridge Trailhead Node Section: Wooding Stations

<p>Small Interpretive Panel</p> 	<p>Wood that Fueled the River Valley Steamboats on the Minnesota couldn’t carry enough firewood for even short trips up and back on the river. So they relied on farmers along the way to provide “wooding stations,” stacks of four-foot logs left along the banks—for a price. The great appetite for firewood in the mid 1800s meant that miles of woodlands fell to the ax.</p>
<p>Image caption/credit:</p>	<p><i>Mississippi River Woodyard</i>, 1848, Seth Eastman, Minnesota Historical Society</p>

Cedar Avenue Bridge Trailhead Node Section: Native Planting/Stream Restoration

<p>Small Interpretive Panel</p> 	<p>Clear Water</p> <p>All along this stretch of the river valley, just beneath the bluffs, water wells up from the ground and forms small streams that flow into the river. These springs gave Dakota people clean water and sustained a landscape of edible and medicinal plants.</p> <p>Trout once flourished in these streams and with continuing restoration might once again swim these waters.</p>
<p>Caption/credit:</p>	<p><i>Permanent Residence, Sioux</i>, Seth Eastman, 1846-1848, Minnesota Historical Society</p>