

Lake Bronson Dam Rehabilitation Project EAW Figures

Figures 1 through 11

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Figure 1: Lake Bronson Dam Rehabilitation Project, County Map and Project Location.

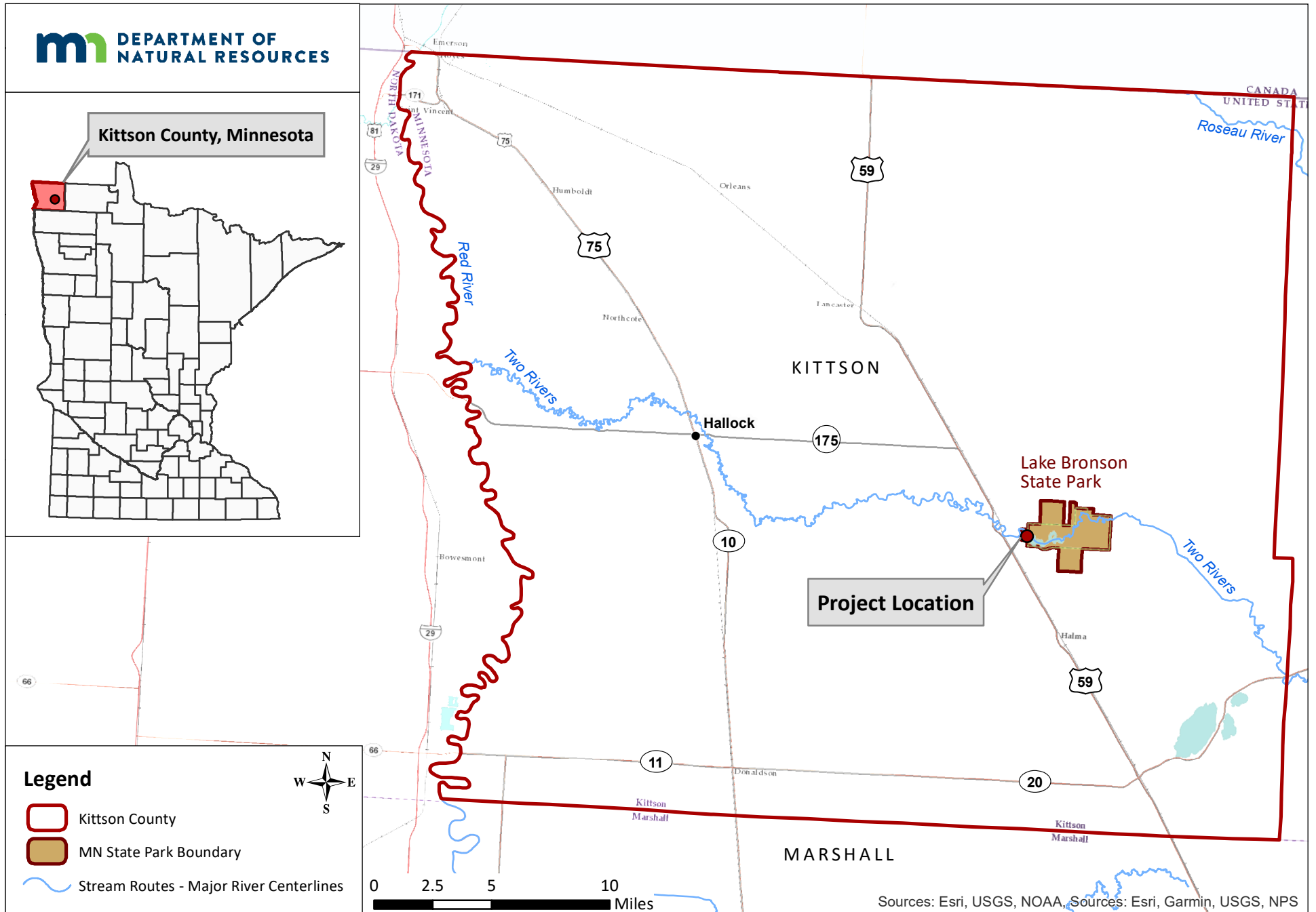


Figure 2: Lake Bronson Dam Rehabilitation Project, USGS 1:24,000 Scale.

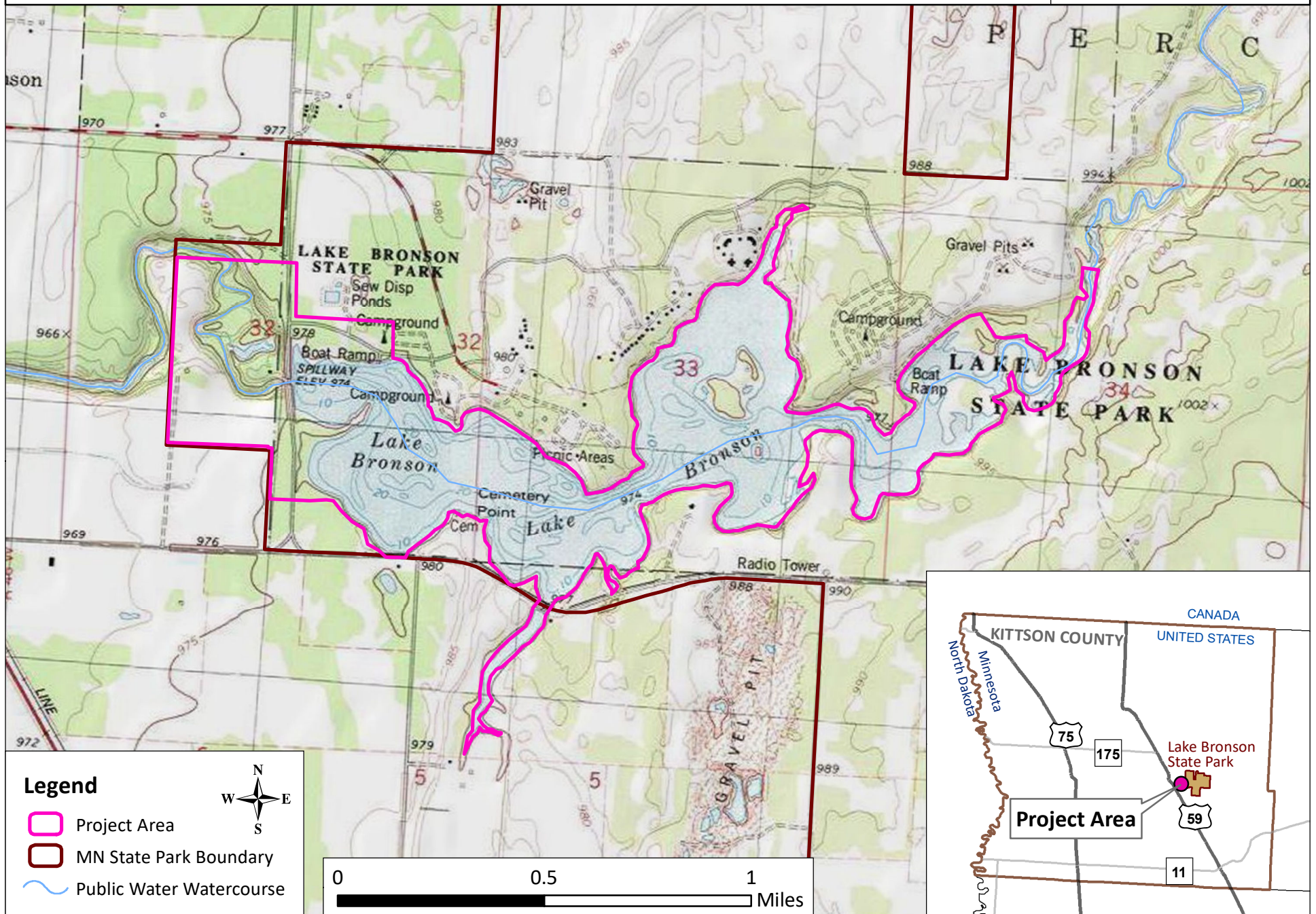


Figure 3. Lake Bronson State Park Visitor Map.

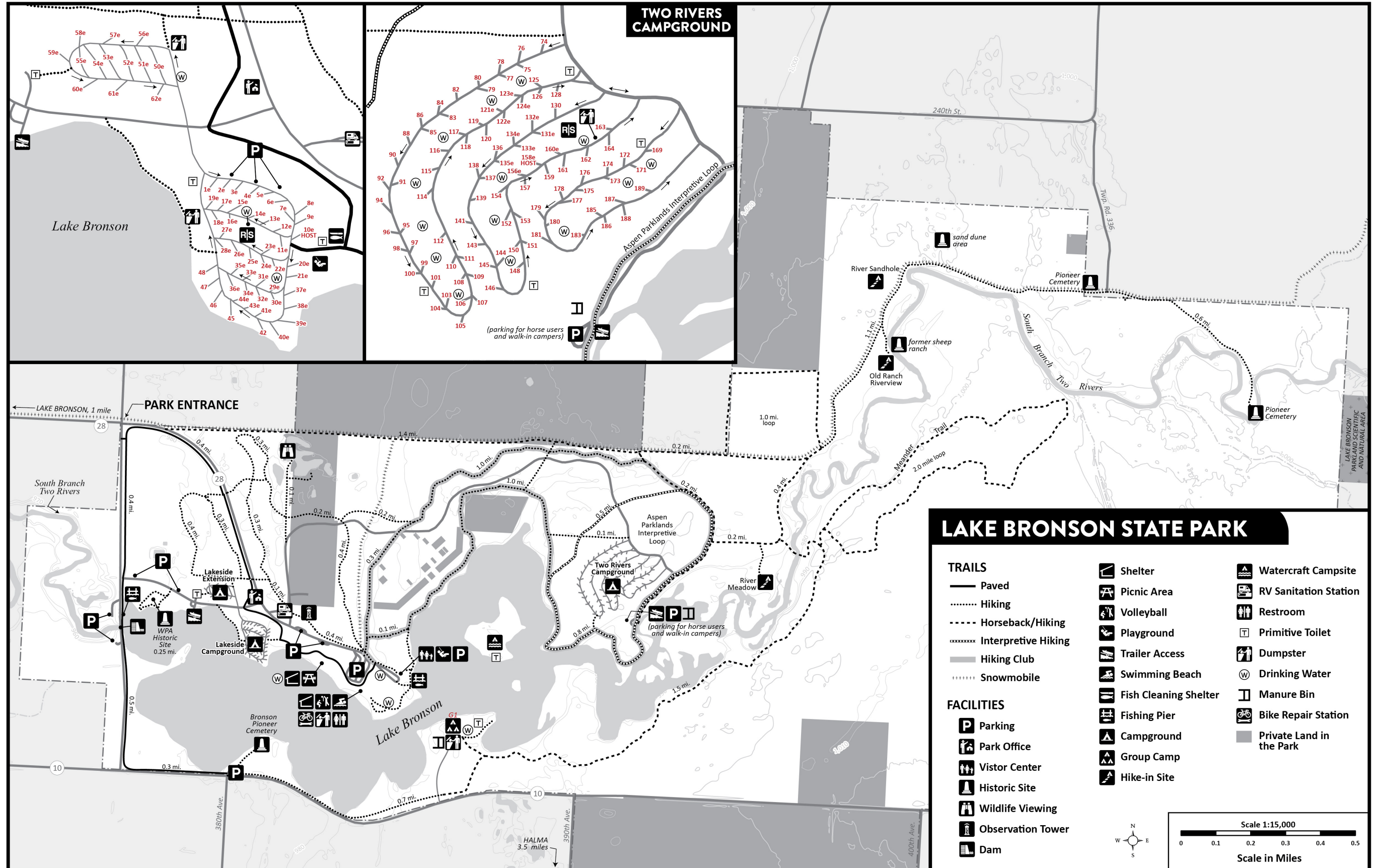
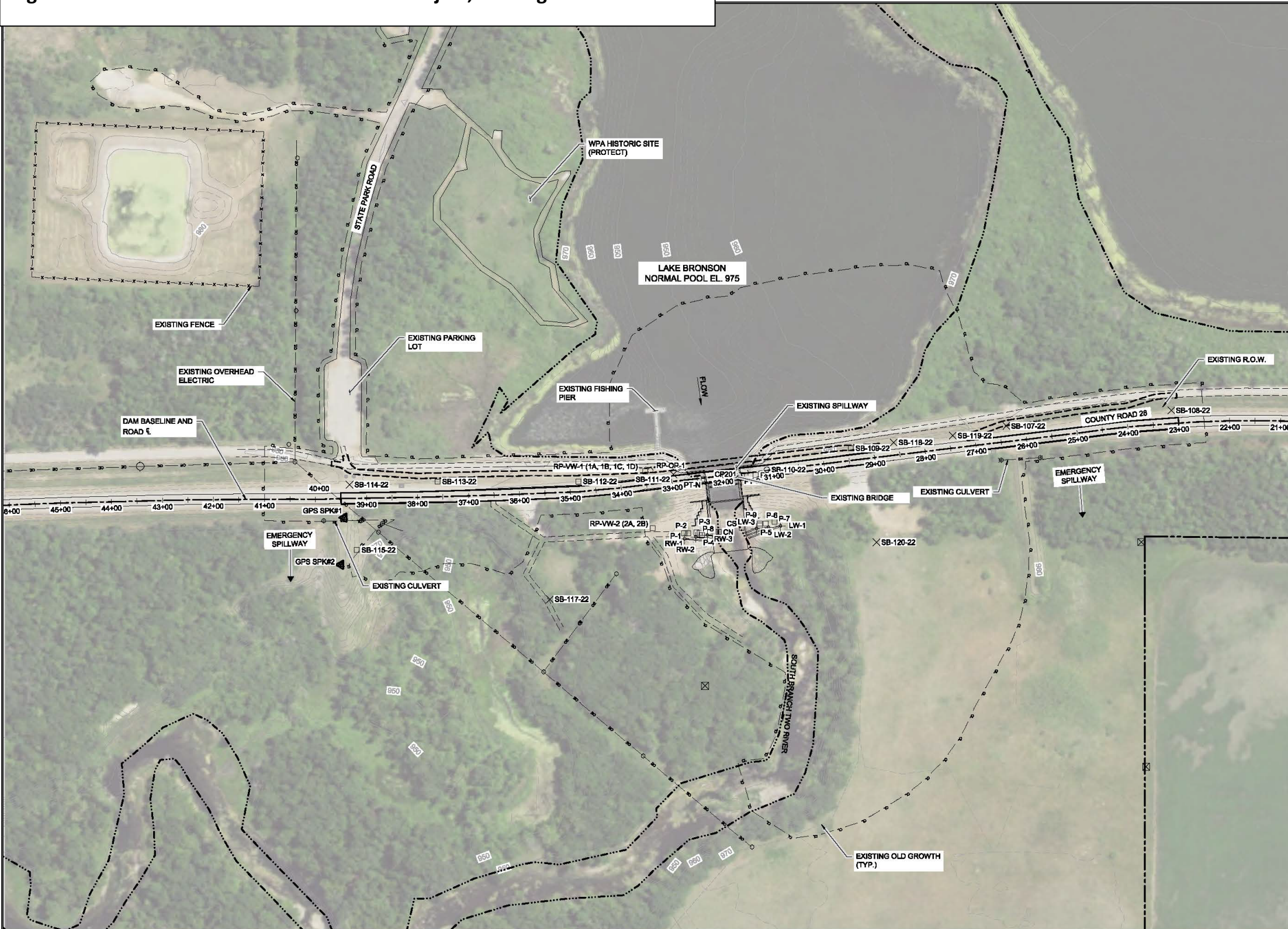


Figure 4. Lake Bronson Dam Rehabilitation Project, Existing Site Conditions.



LEGEND

- EXISTING 2-FT INTERMEDIATE CONTOUR
- EXISTING 10-FT INDEX CONTOUR
- - - - CONSTRUCTION LIMITS
- x - x - x - x - EXISTING FENCE
- ==== EXISTING ROAD
- - - - EXISTING TRAIL
- - - - EXISTING RIGHT OF WAY
- · - · - · - EXISTING EDGE OF WATER
- ⊕ EXISTING OVERHEAD ELECTRIC
- EXISTING UNDERGROUND COMMUNICATION
- - - - PARK BOUNDARY
- - - - EXISTING STORMWATER CULVERT
- ⊕ EXISTING STORMWATER STRUCTURE
- EXISTING RIPRAP
- × SB-108-22 EXISTING SOIL BORING
- B-1 EXISTING OPEN STANDPIPE
- P-1 EXISTING VIBRATING WIRE PIEZOMETER
- + RW-1 EXISTING RELIEF WELL
- △ CP201 CONTROL POINT
- - - - EXISTING OLD GROWTH
- ⊗ EXISTING SIGN

NOTES:

1. REFER TO ATTACHMENT X, BARR ENGINEERING CO., GEOLOGICAL DATA REPORT, DATED AUGUST 2022, FOR BORING LOGS AND ADDITIONAL INFORMATION.
2. CONDITIONS MAY VARY FROM THOSE SHOWN HEREIN. CONTRACTOR TO VERIFY AND NOTIFY ENGINEER OF ANY SIGNIFICANT SITE CONDITION DIFFERENCES.

TABLE 1: SURVEY CONTROL POINTS

NAME	NORTHING	EASTING	ELEVATION
CP201	185881.17	383103.74	979.81
GPS SPK#1	186459.02	383026.62	980.56
GPS SPK#2	186465.50	382934.06	979.89



PRELIMINARY DRAFT - 60%
NOT FOR CONSTRUCTION

CAD USER: Joe K. File: \\BARR\DESIGN\3381012\02258\1012_00_004_EXISTING CONDITIONS.DWG PLOT SCALE: 1:2 PLOT DATE: 12/16/2022 8:21 AM



BARR
Project Office:
BARR ENGINEERING CO.
4300 MARKETPOINTE DRIVE
SUITE 200
MINNEAPOLIS, MN 55435
Corporate Headquarters:
Minneapolis, Minnesota
Ph: 1-800-632-2277

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision, and that I am a duly licensed professional engineer under the laws of the state of Minnesota.
Name: _____ License #: XXXX
Date: _____

Operations Services
Safety
Facilities
Materials
Equipment
Field Operations
Information Management

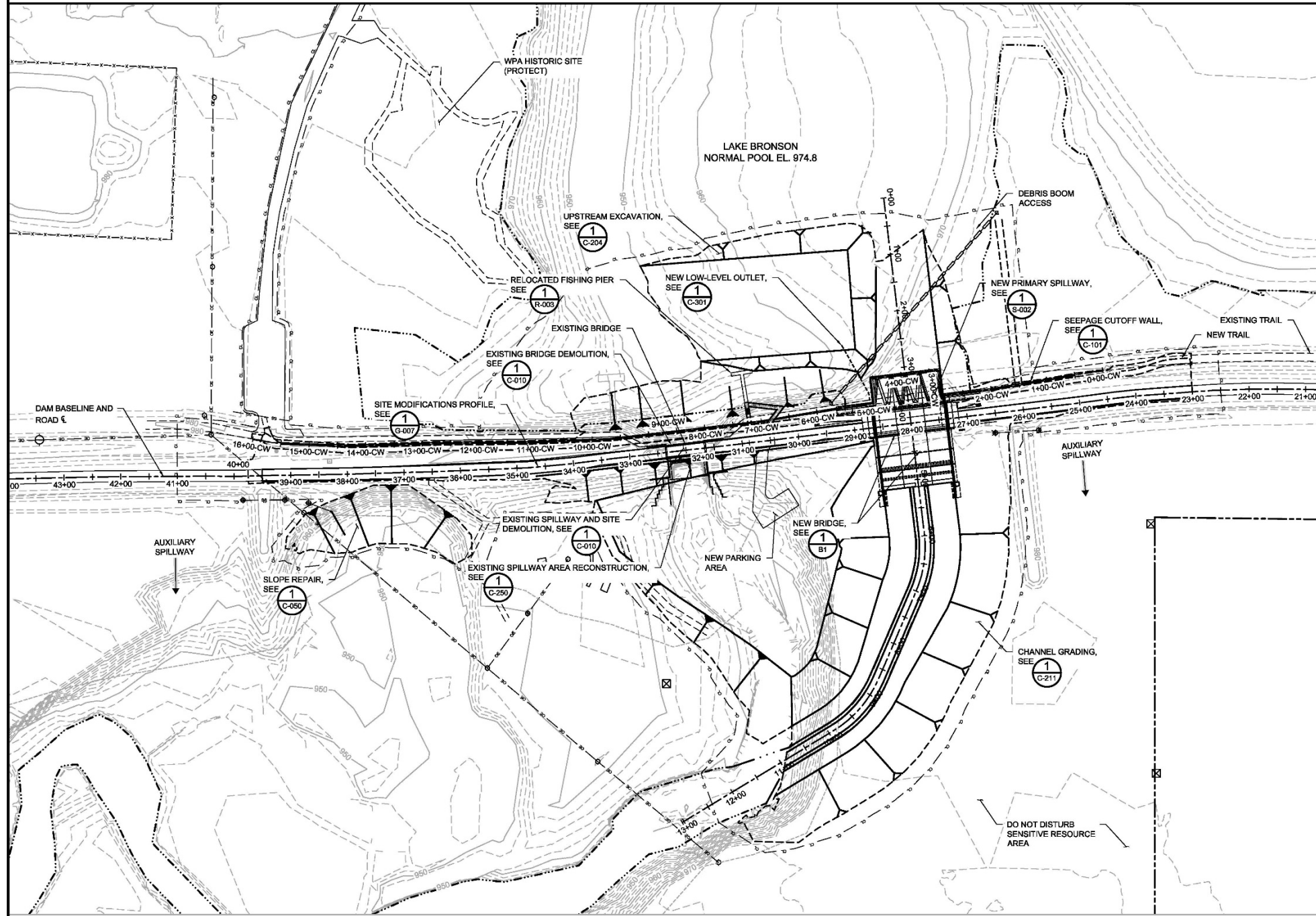
LAKE BRONSON DAM RECONSTRUCTION
KITTSOON COUNTY, MINNESOTA
Minnesota Department of Natural Resources
Kitson County
Section: 32 Township: 161N Range: 46W

Revisions	
Date [DATE]	By INITIALS

Title: EXISTING CONDITIONS - PLAN
Survey: XXX ##### Designed: XXX #####
Drawn: XXX ##### Drawn: XXX #####
Checked: XXX ##### Checked: XXX #####
Horz. datum: Kitson County Coord Vert. datum: NAVD88

Sheet: **G-004**
CC2: _____
File #: _____

Figure 5. Lake Bronson Dam Rehabilitation Project, Draft Concept Plans and Proposed Modifications.
 (DRAFT, design details subject to change.)

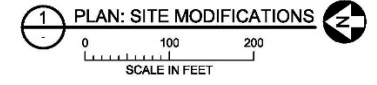


LEGEND

- EXISTING 2-FT INTERMEDIATE CONTOUR
- EXISTING 10-FT INDEX CONTOUR
- x-x-x-x-x- EXISTING FENCE LINE
- - - - - EXISTING WATER EDGE
- o o o EXISTING OVERHEAD ELECTRIC
- EXISTING UNDERGROUND COMMUNICATION
- EXISTING TRAIL
- EXISTING ROAD
- EXISTING ROW
- EXISTING PARK BOUNDARY
- EXISTING STORMWATER CULVERT
- ◆ EXISTING STORMWATER STRUCTURE
- EXISTING RIPRAP
- EXISTING SIGN
- CONSTRUCTION LIMITS
- SEEPAGE CUTOFF WALL
- GRADING EXTENTS
- LOW-LEVEL DRAWDOWN PIPE
- BOOM ACCESS
- ▲ CP201 CONTROL POINT
- GRADING (FILL)
- GRADING (CUT)
- NEW ROAD
- NEW TRAIL

NOTES:

1. GROUND MAY ONLY BE DISTURBED WITHIN CONSTRUCTION LIMITS.
2. CLEAR AND GRUB AS NECESSARY TO COMPLETE THE WORK. CLEAR AND GRUB ONLY WITHIN THE CONSTRUCTION LIMITS. OBTAIN APPROVAL FROM OWNER PRIOR TO REMOVING ANY TREES.
3. CONTRACTOR IS RESPONSIBLE FOR STAKING AND SURVEY VERIFICATION REQUIREMENTS. ENGINEER WILL REVIEW AND APPROVE CONTRACTOR'S SURVEY VERIFICATION INFORMATION. SEE MINIMUM VERIFICATION POINTS ON SHEETS C-201 AND C-205.
4. LOCATION OF CONSTRUCTION LIMITS ARE APPROXIMATE. OWNER OR ENGINEER WILL VERIFY IN THE FIELD.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING STRUCTURES, UTILITIES, AND SITE FEATURES NOT MARKED FOR DEMOLITION.
6. SEE SHEET C-010 FOR TREE CUTTING RESTRICTIONS, OLD GROWTH REMOVAL AREAS AND LIMITS.
7. SEE SHEET C-001 FOR SITE ACCESS AND PROJECT STAGING AREAS.



PRELIMINARY DRAFT - 90%
 NOT FOR CONSTRUCTION

CADD USER: Joe K. Herra FILE: M:\DESIGN\235\012\2023\0112_00_G-006_SITE MODIFICATIONS.DWG PLOT SCALE: 1:2 PLOT DATE: 11/02/23 1:38 PM

 BARR Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435 Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com	I hereby certify that this plan, specification or report was prepared by me or under my direct supervision, and that I am a duly licensed professional engineer under the laws of the state of Minnesota. Name: _____ License #: XXXX Date: _____	Operations Services Safety Facilities Materials Equipment Field Operations Information Management	LAKE BRONSON DAM RECONSTRUCTION KITTSON COUNTY, MINNESOTA Minnesota Department of Natural Resources Kittson County, near Lake Bronson, Minnesota Section: 32 Township: 161N Range: 46W	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Revisions</th> </tr> <tr> <th>Date [DATE]</th> <th>By [INITIALS]</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	Revisions		Date [DATE]	By [INITIALS]							Title: SITE MODIFICATIONS - PLAN Survey: SRF 10/22 Designed: BARR 08/22 Drawn: MJF 11/22 Drawn: JKH2 08/22 Checked: DED 11/22 Checked: JDA 05/23 Horz. datum: Kittson County Coords Vert. datum: NAVD83	Sheet: G-006 CC2: 8E065 File #: SPK00208.30.09 Site #: R290036
					Revisions											
Date [DATE]	By [INITIALS]															
 DEPARTMENT OF NATURAL RESOURCES																

Figure 6. Lake Bronson Dam Rehabilitation Project, Native Plant Communities and Land Cover.

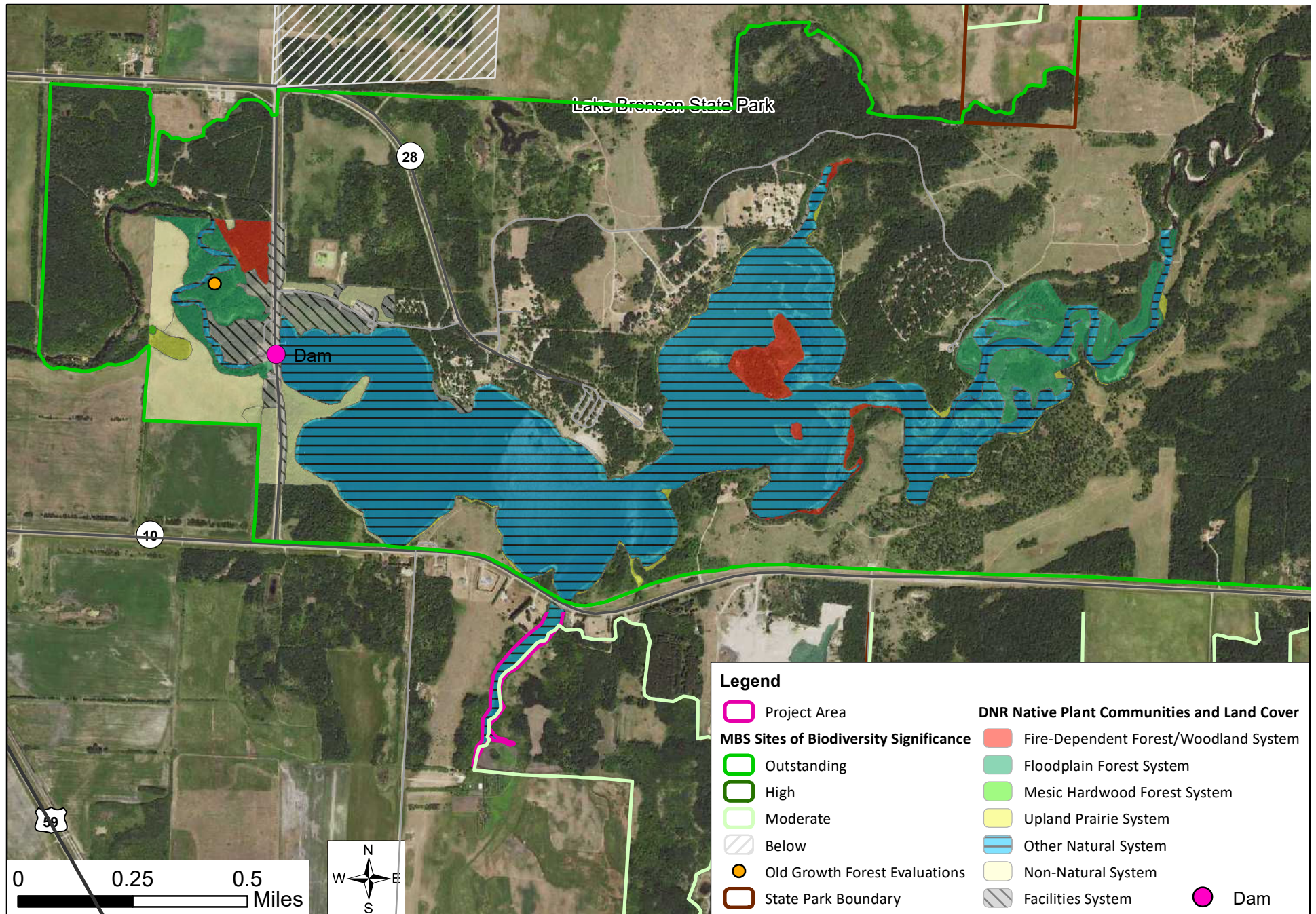


Figure 7. Lake Bronson Dam Rehabilitation Project, NRCS Soil Map Units.

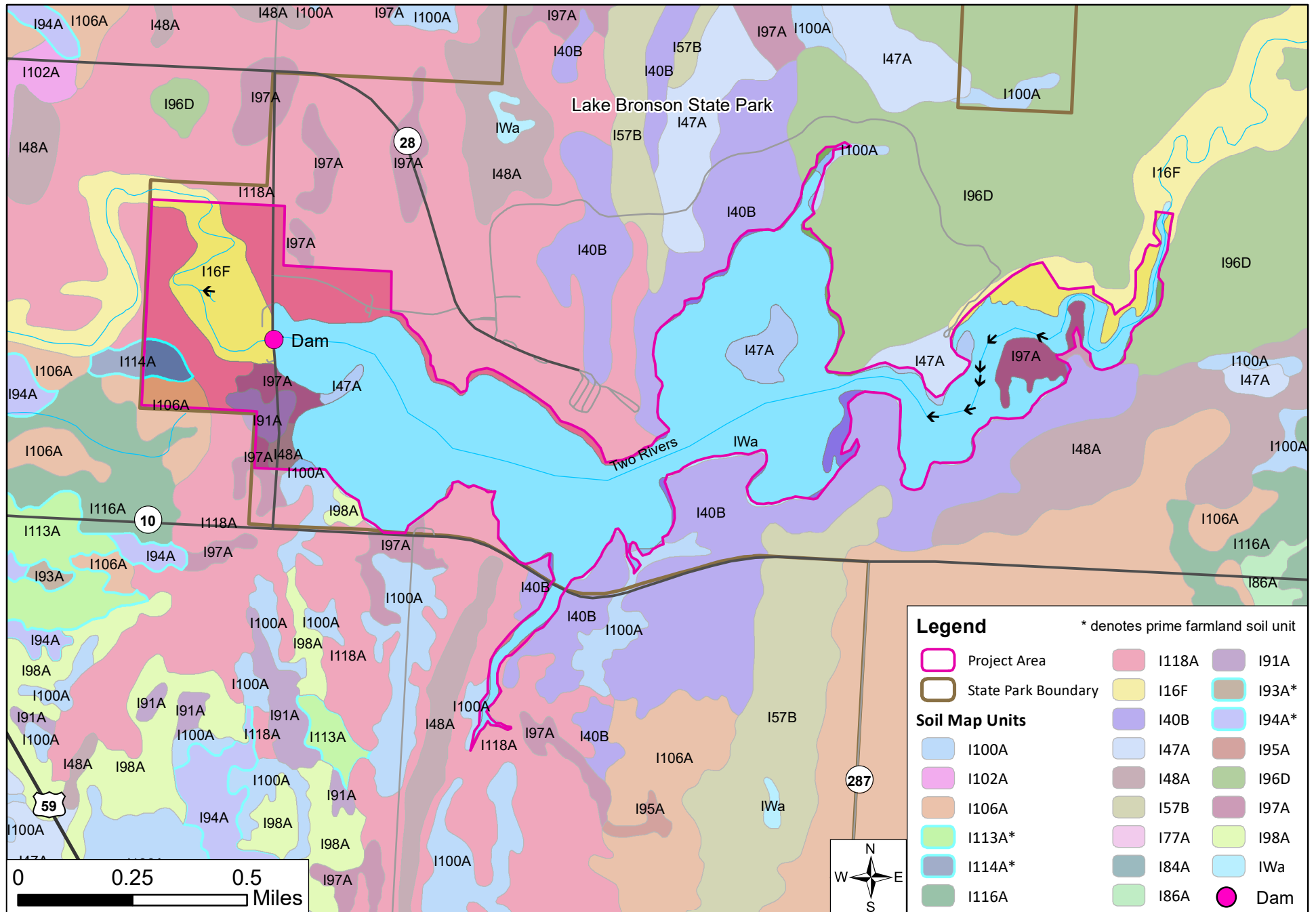


Figure 8. Lake Bronson Dam Rehabilitation Project, Hydrological Features.

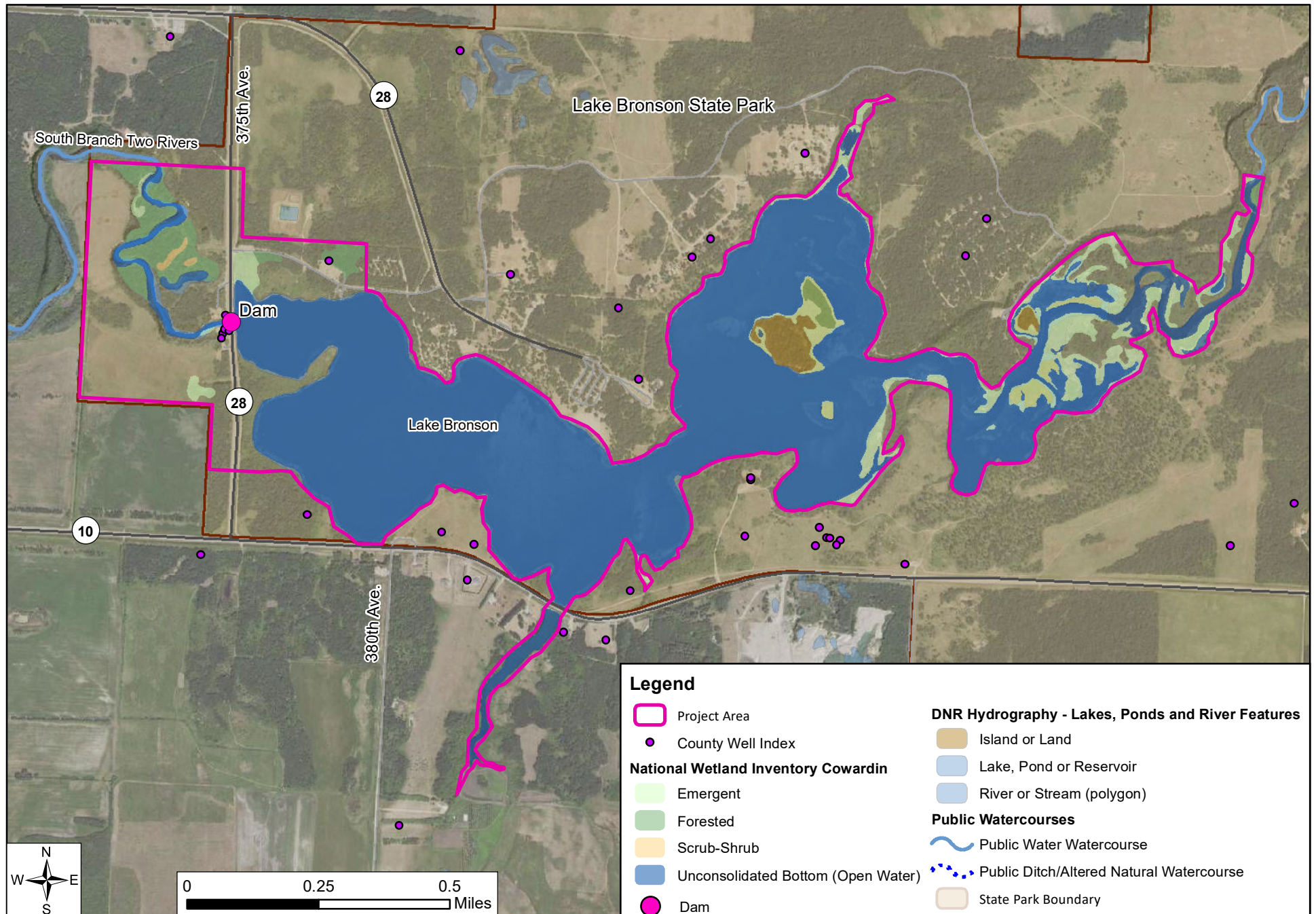


Figure 9. Lake Bronson Dam Rehabilitation Project, Cultural Resources

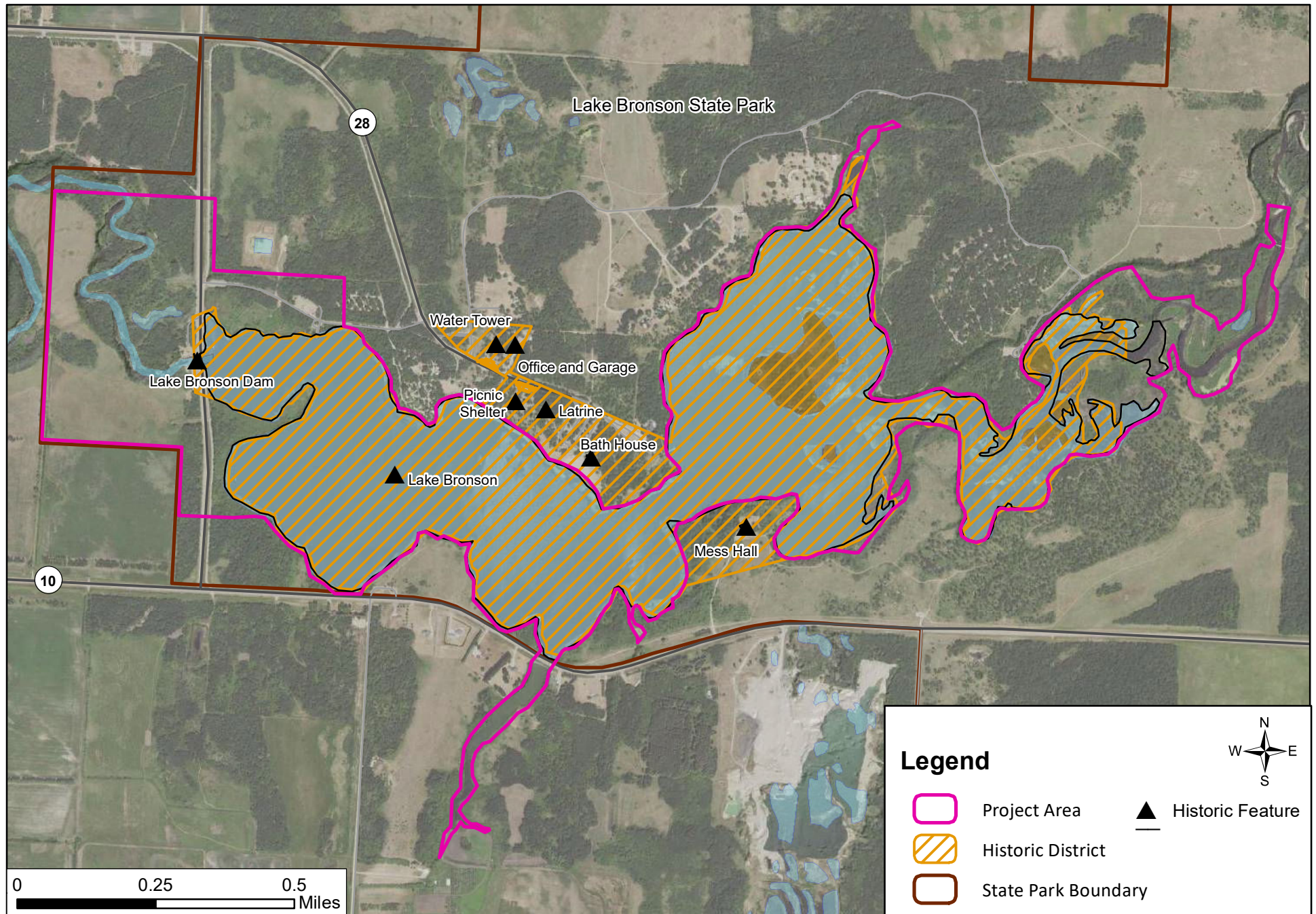


Figure 10: Lake Bronson Dam Rehabilitation Project, Photos of Existing Dam, Lake Bronson State Park.



Left: Aerial view facing south. (Barr Engineering, 60% design plans draft, 2023.)

Right: Viewing northeast, from below the dam. (Photo by Anderson Engineering of Minnesota, LLC. October, 2022.)



Left: Two Rivers Viewing west from top of dam. (Photo by Anderson Engineering of Minnesota, LLC. October, 2022.)

Figure 11. Lake Bronson Dam Rehabilitation Project, Post-Construction Concept Plan Rendering

