

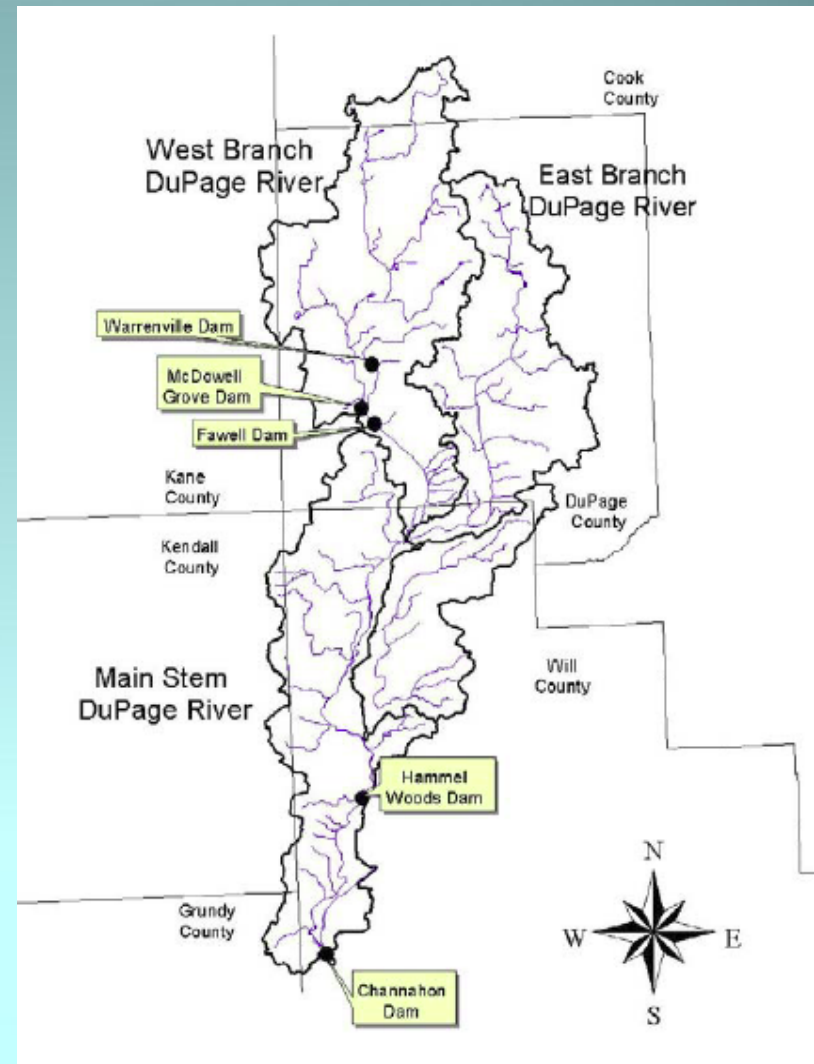
McDowell Grove Dam Removal and River Restoration



West Branch DuPage River Sub-watershed

Dams can present significant barriers along the West Branch DuPage River. They can:

- Impede the Natural Ecological Functions of a Free Flowing River
- Create Upstream Impoundments that support, High Algae Content, High Water Temperatures, and Substandard Dissolved Oxygen Levels
- Create a Barrier to Fish and Mussel Dispersion



Graphic Courtesy of "The Conservation Foundation"

McDowell Grove Dam Removal and River Restoration

- **The West Branch DuPage River Watershed Plan Identified Removal of Low-head Dams as a Priority**
- **In March 2008, USDA-NRCS Congressional Funds were Identified and Received to Remove/Modify the McDowell Grove Dam**
- **Great News for the West Branch DuPage River!**

McDowell Grove Dam Removal and River Restoration

THE CHALLENGE:

- **Design, Permit, and Construct in 6-months!!**

McDowell Grove Dam Removal and River Restoration

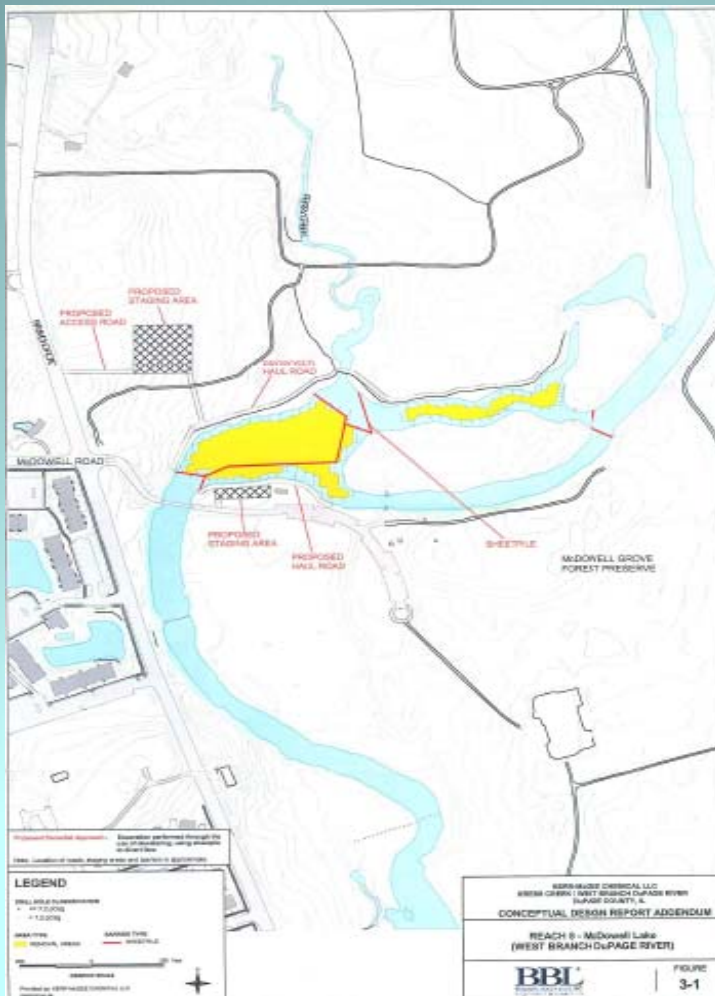
Design Objectives:

- **Restore natural ecological functions and processes of a Free-flowing river segment**
- **Eliminate the Upstream Impoundment**
- **Eliminate barrier to fish and mussel dispersion**
- **Improve functional aquatic habitat**
- **Improve sediment transport within the river segment**

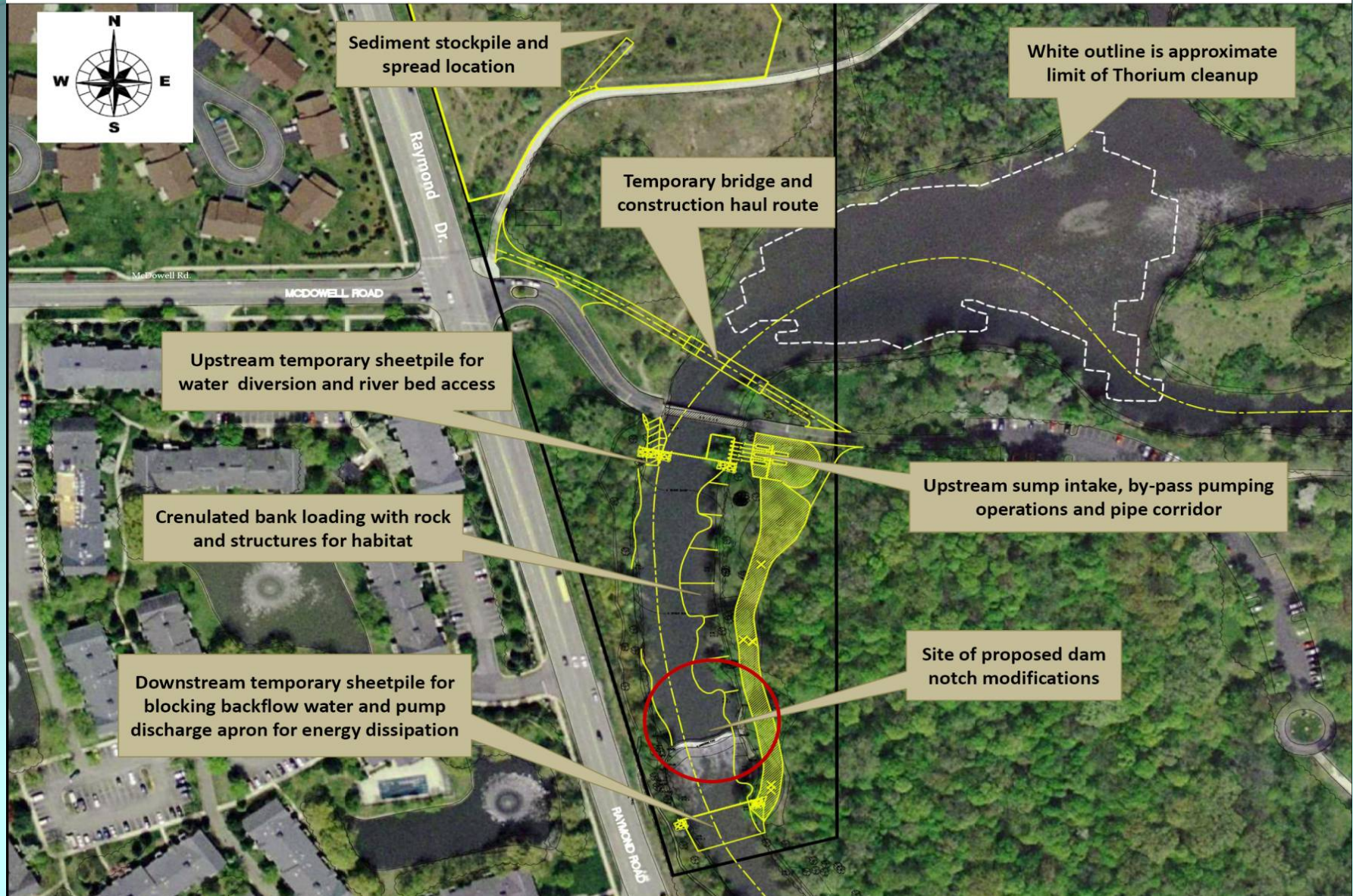
McDowell Grove Dam Removal and River Restoration

Sediment removal and/or stabilization is often the most challenging and expensive part of dam removal.

Yellow areas indicate the extent of thorium contaminated sediments within the impoundment to be cleaned up as part of an on-going CRCLA remediation.



McDowell Grove Dam Modification Construction References



McDowell Grove Dam Removal and River Restoration

Permitting Requirements:

- **Local (DuPage County, Kane-DuPage Soil and Water Conservation District)**
- **State (IDNR-OWR, IHPA, IEPA, Threatened & Endangered)**
- **Federal (USACOE, USFWS, Historic Preservation-Section 106)**

McDowell Grove Dam Removal and River Restoration



DuPage County Stormwater Management and the
Forest Preserve District of DuPage County invite you to a

Public Information and Comment Open House

for the

Proposed Dam-Modification Projects

on the West Branch of the DuPage River at

Warrenville Grove and McDowell Grove Forest Preserves

Thursday, June 12

7 – 9 p.m.

Warrenville City Hall

Council Chamber, 28W701 Stafford Place, Warrenville

Please stop by any time between 7 and 9 p.m. to review related materials, speak
with local experts and offer your comments in a relaxed, informative atmosphere.
Your input is important to us!

**For additional information, call Sarah Ruthko
at (630) 407-6800.**

~ over ~

McDowell Grove Dam Removal and River Restoration

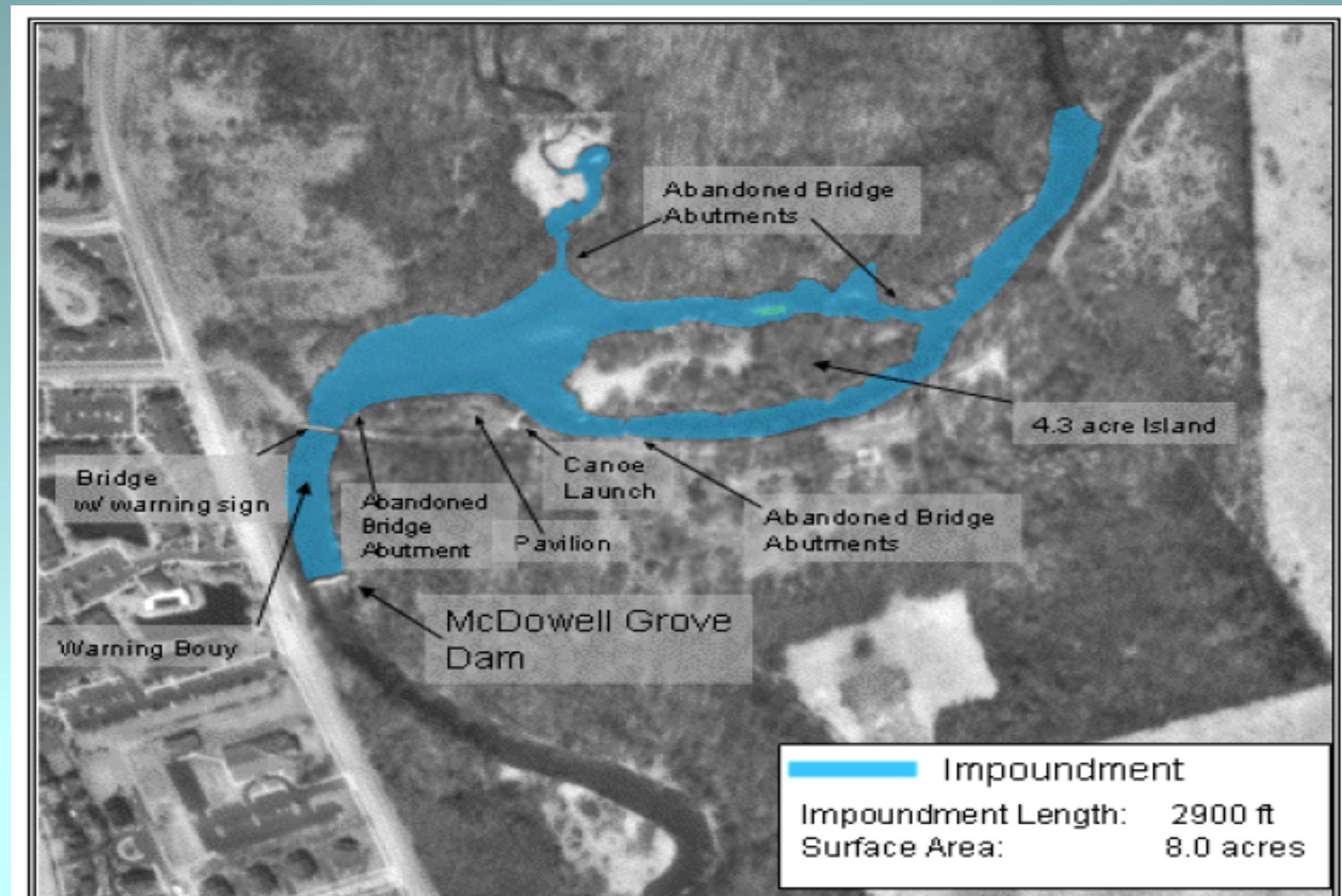


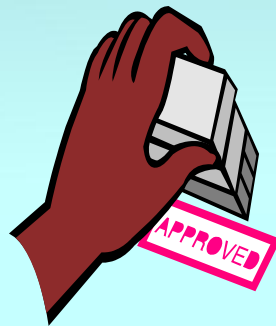
Figure 3.4: Aerial photograph depicting the extent of the impoundment created by the McDowell Grove Dam.

Historic Preservation



McDowell Grove Dam Removal and River Restoration

Design Completed, Permits Secured Allowing Construction to Begin August 2008 (4 Months after Notice to Proceed)

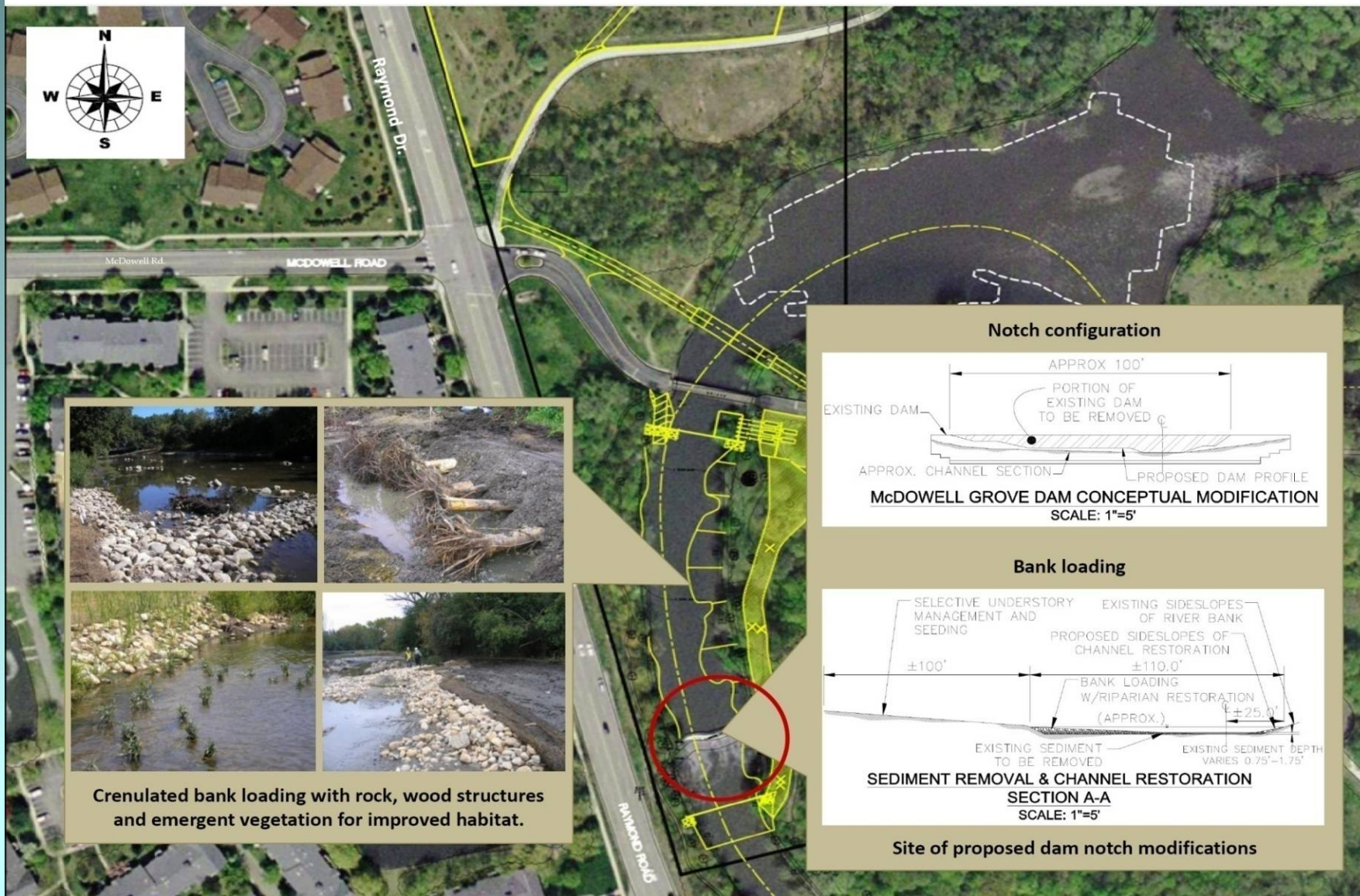


McDowell Grove Dam Modification Construction References

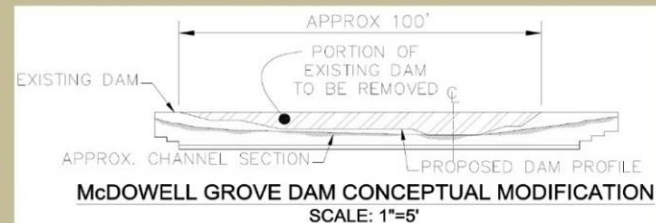
Step B: Notch dam * Remove sediment * Reconstruct river bed and bank



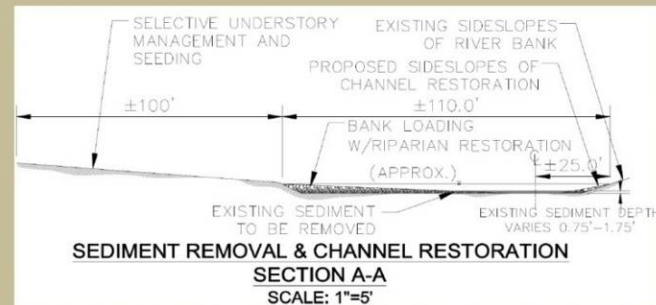
United States Department of Agriculture
Natural Resources Conservation Service



Notch configuration



Bank loading



Site of proposed dam notch modifications



Crenulated bank loading with rock, wood structures and emergent vegetation for improved habitat.

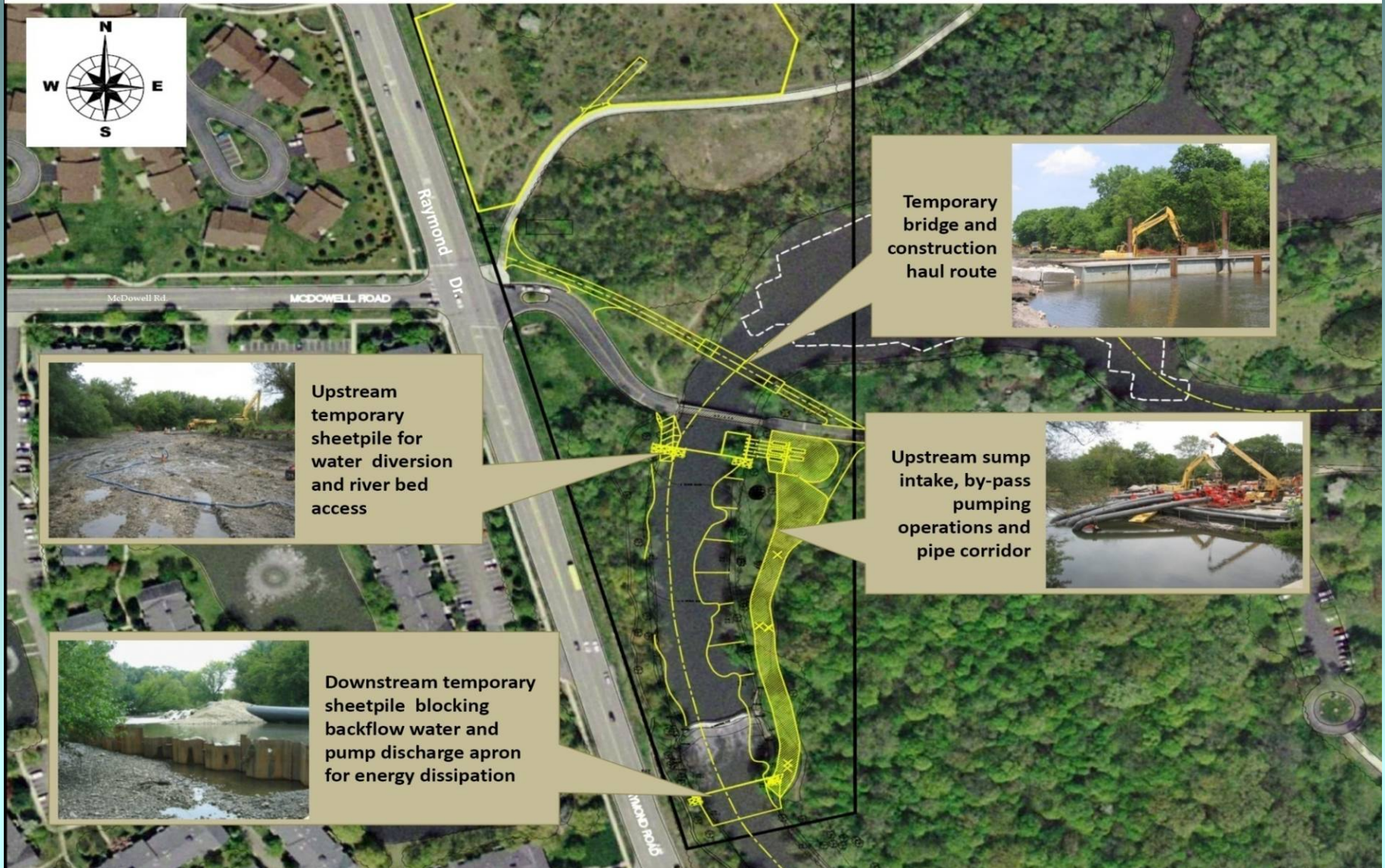
McDowell Grove Dam Modification Construction References

Step C: Restore river flow * Plant and restore disturbance areas



McDowell Grove Dam Modification Construction References

Step A: Install by-pass system and manage water



Temporary bridge and construction haul route



Upstream temporary sheetpile for water diversion and river bed access



Upstream sump intake, by-pass pumping operations and pipe corridor



Downstream temporary sheetpile blocking backflow water and pump discharge apron for energy dissipation



By-Pass Pump System



- **By-Pass requirements minimum 150 CFS**
- **By-Pass pipe length ~500 feet**
- **Must provide adequate sediment & erosion control**

September '08 Flood



Fish & Mussel Relocation

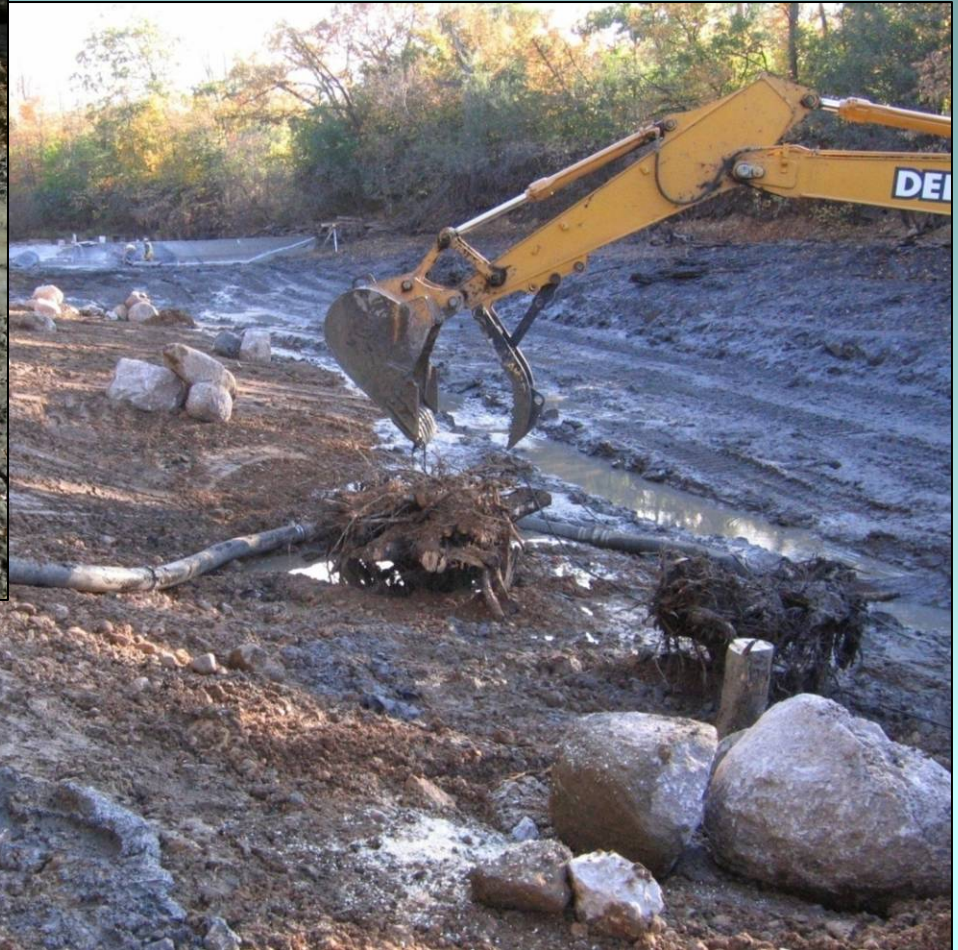


Dam Modification



“Mushroom cap” or Inverted Root Wad

Example within bank loaded sinus area to create functional undercut bank habitat for fish and invertebrates



McDowell Grove Today





...a future Forest Preserve District of DuPage County Project will:

- **Remove the upstream sheetpile exposing the historical channel and new floodplain sediments**
- **Use Adaptive Management practices to restore the emergent floodplain, wetlands and marsh habitats**



McDowell Grove Dam Removal and River Restoration

QUESTIONS??