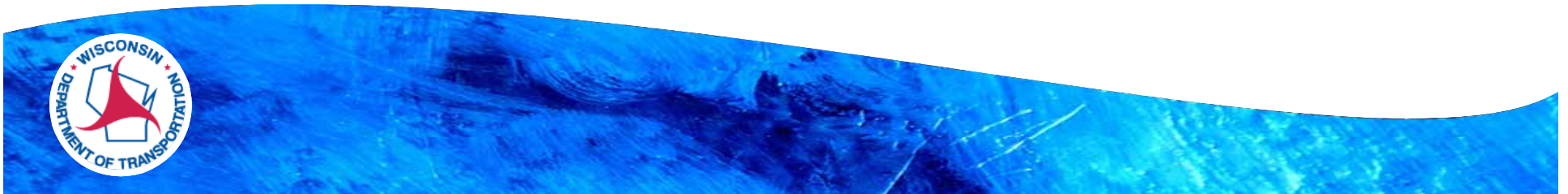


# Oneida Wetland Mitigation Bank

Wisconsin Dept. of Transportation  
November 2017



# Presenters

- ▶ Jennifer Gibson – WisDOT Environmental Coordinator
- ▶ Mike Helmrick – WisDOT Environmental Coordinator



# Overview

- ▶ Background on compensatory wetland mitigation
- ▶ Site purpose and need
- ▶ Intergovernmental agreement and collaboration
- ▶ Site design and construction
- ▶ Monitoring and maintenance
- ▶ Lessons learned and successes



# Compensatory Wetland Mitigation

- ▶ Compensates for wetland loss through on-the-ground replacement
- ▶ Restoration, establishment, enhancement, preservation
- ▶ 2008 EPA/USACE Mitigation Rule
  - Mitigation banks – generate credits for future use
  - In-lieu fee – purchase advance credits; projects completed later in time
  - Permittee-responsible – concurrent project-specific wetland sites



# Federal Requirements

- ▶ Watershed approach
- ▶ Interagency review team
- ▶ Prospectus
- ▶ Public notice
- ▶ Bank instrument
- ▶ Compensation site plan
- ▶ Long-term site protection

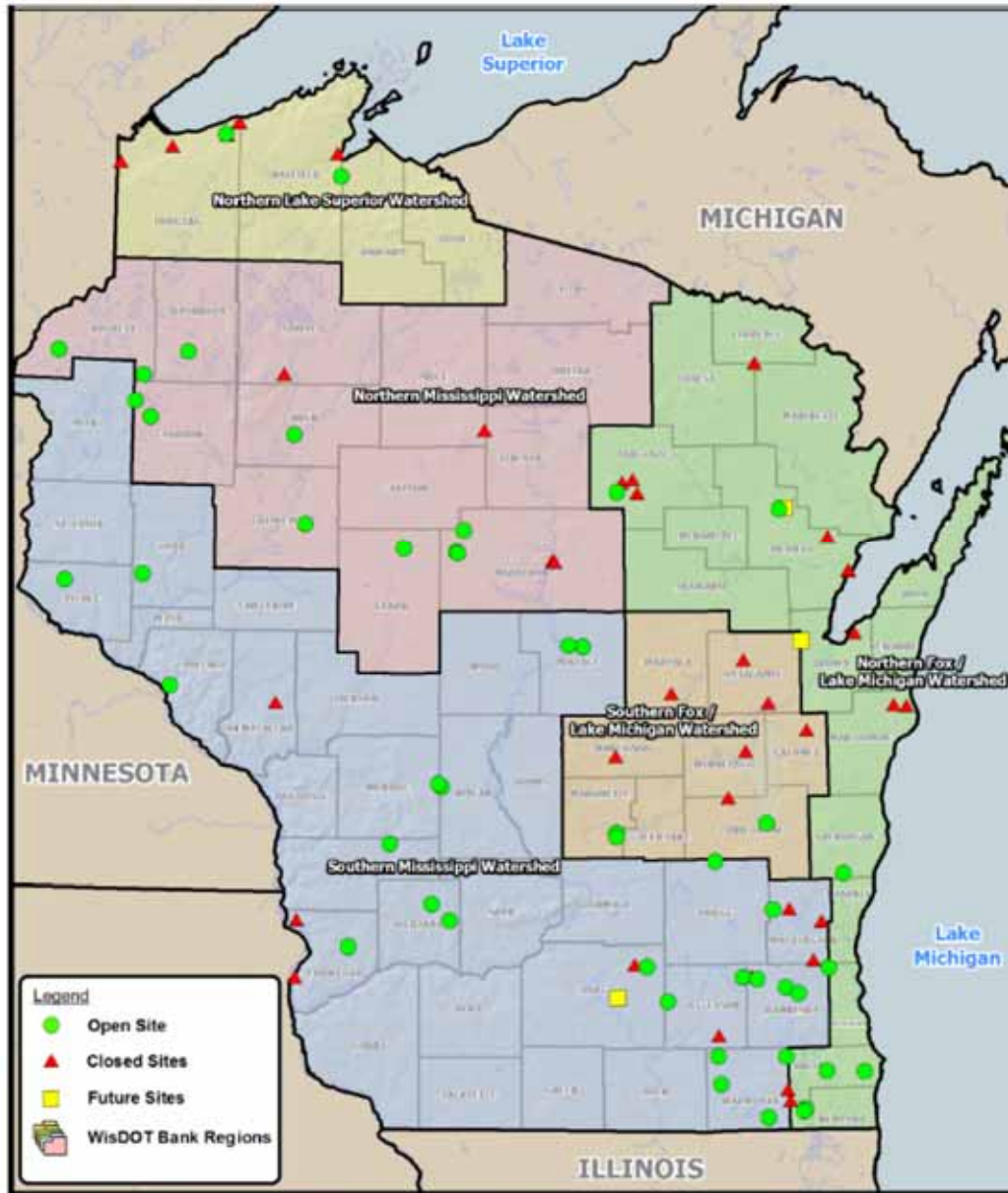


# WisDOT's Wetland Program

- ▶ Established in 1990 through the WisDOT/WDNR cooperative agreement
- ▶ Federal participation in 1993
- ▶ WisDOT wetland mitigation technical guideline
- ▶ WisDOT or WisDOT-supervised projects



# WisDOT Wetland Bank System Overview



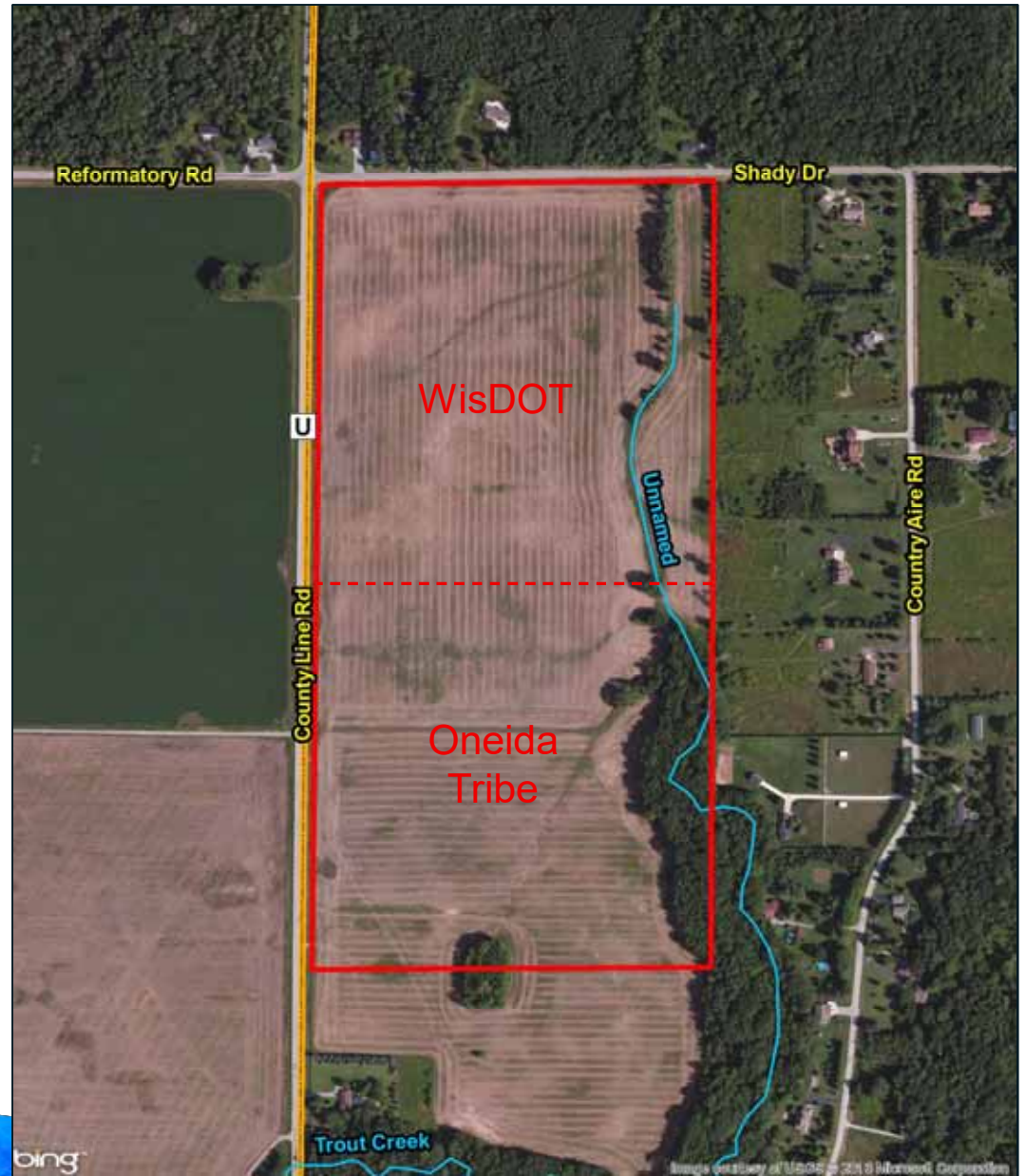
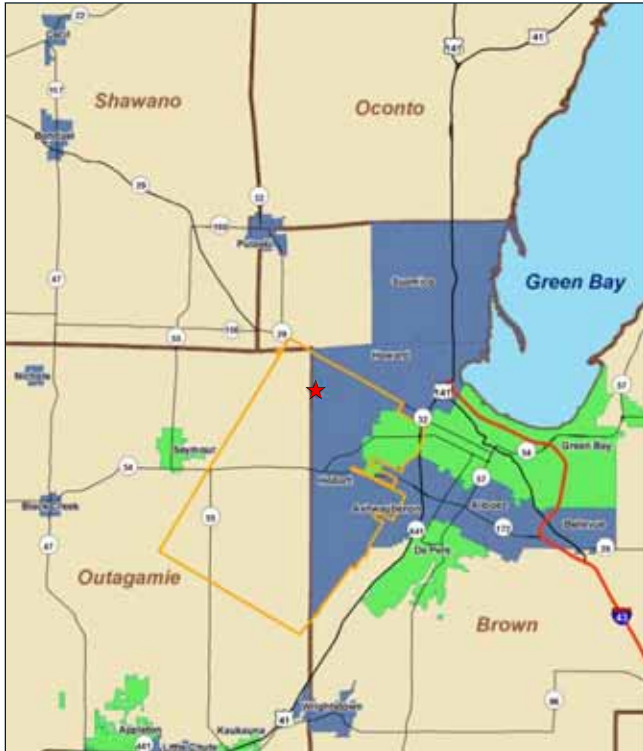
# Project History

- ▶ WIS 29 & CTH FF interchange project was planned to impact 11.17 acres of wetland
- ▶ Completed a 2.5 mile buffer search around the project for suitable mitigation properties
- ▶ The search yielded several potential sites:
  - 40-acre parcel Oneida Tribe parcel
  - Adjacent 40-acre privately-owned parcel





# Project Location



# Project History

- ▶ Contacted the Oneida Tribe to see if they had interest in partnering for a mitigation project
- ▶ Highway project schedule wouldn't allow enough time for mitigation site design process and concurrent construction
- ▶ WDNR and USACE agreed that the highway project wetland impacts could be debited to an existing WisDOT Wetland Mitigation Bank



# Project Purpose & Need

- ▶ Duck Creek Watershed
  - Impaired due to agriculture and urbanization
- ▶ WisDOT agreed to pursue development of the site as a bank site to help offset impacts to the watershed
- ▶ WisDOT's Northern Fox River/Lake Michigan bank region is a priority for wetland credit establishment



# Cost/Benefit Analysis

- ▶ Real estate costs
- ▶ Construction costs – restoration vs establishment
- ▶ Maintenance required – invasives, structures
- ▶ Monitoring duration – wooded vs non-wooded
- ▶ Likely number of credits generated
- ▶ Need for credits in bank service area



# Intergovernmental Agreement

- ▶ Establish WisDOT wetland bank on tribal parcel
- ▶ Transfer ownership of parcel to Oneida Tribe
- ▶ Transfer maintenance responsibility at the end of 10 year monitoring
  - WisDOT maintains catastrophic failure responsibility
- ▶ Establish protections to maintain bank as wetland in perpetuity



# Intergovernmental Agreement

- ▶ General public access for non-motorized outdoor recreational activities
- ▶ No hunting, fishing, trapping, shooting, ect
- ▶ Limited waiver of sovereign immunity for enforcement of agreement



# Intergovernmental Agreement

- ▶ Multi-year process during site design
- ▶ Reviewed by WisDOT, Oneida Tribe and USACE legal staff
- ▶ Signed by Oneida Tribe's Environmental, Health and Safety Division/Land Management Division Director and WisDOT's Secretary



# Site Goals and Objectives

- ▶ Passively managed wetland and upland complex that will provide credits to mitigate for unavoidable impacts to wetlands by WisDOT projects
- ▶ Restore wetland functions and values lost by historic land use changes within the Duck Creek watershed
- ▶ Create an upland area to buffer the site





# Plant Communities

- ▶ Wetland Establishment
  - Wet meadow – 18.35 acres
  - Shallow marsh – 7.8 acres
  - Deep marsh – 4.5 acres
- ▶ Wetland Enhancement
  - Wet meadow & deep marsh – 0.35-acre
- ▶ Upland Buffer
  - 18 acres





LEGEND

 Wet Meadow (Soil Saturation) 18.6 AC	 Shallow Marsh (0-6") 7.8 AC	 Deep Marsh (6-36") 4.6 AC	 Wooded Swamp (0-6") 10.3 AC	 Existing Trees	 Creditable Upland Buffer
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DRAINAGE AREA TO WETLAND RATIO: 3:1  
 PROPOSED WETLAND ACREAGE: 40.25  
 EXCAVATION: 147,800 C.Y.  
 EMBANKMENT: 149,500 C.Y.

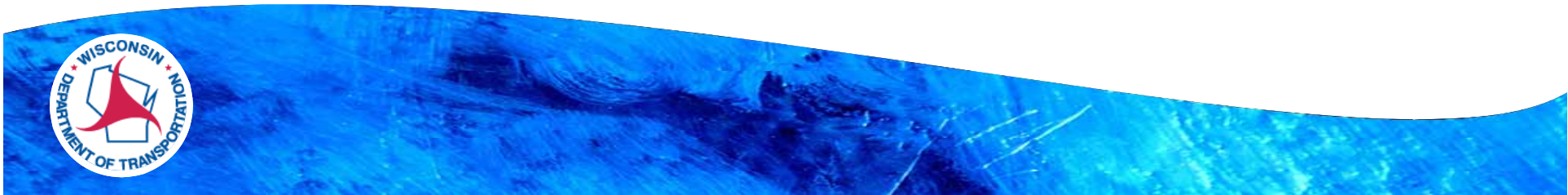
3:1  
 40.25  
 147,800 C.Y.  
 149,500 C.Y.

TYPICAL SIDE SLOPE: 10:1  
 WETLAND WATER ELEVATION: 751.00  
 SUBGRADE EXCAVATION ELEVATION: 750.50  
 CONTROL STRUCTURE INVERT: 751.00  
 EMERGENCY SPILLWAY ELEVATION: 751.50  
 TYPICAL TOP OF BERM: 753.00

**Oneida Bank Wetland Mitigation**  
 Proposed Vegetative Communities Map



Wisconsin Department of Transportation  
 September 2013



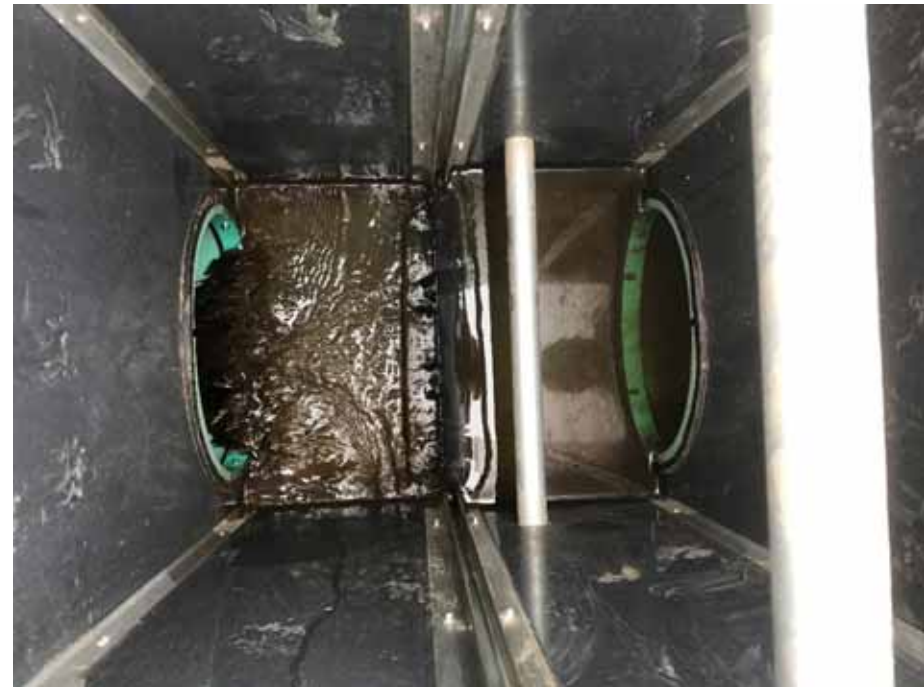
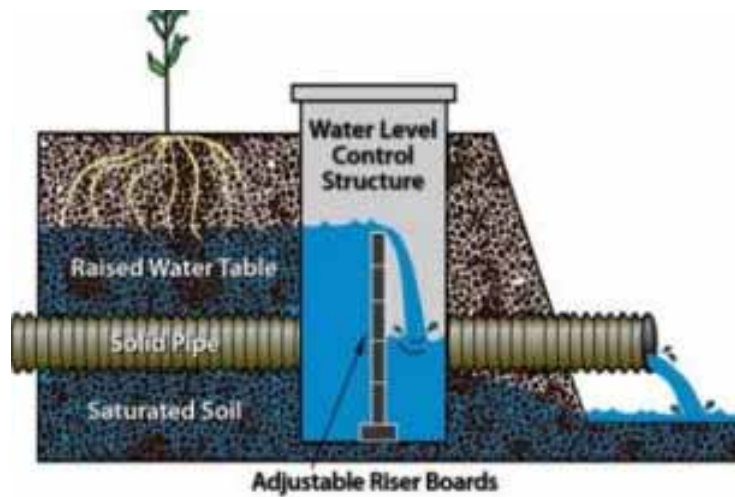
# Collaboration

- ▶ Meetings and updates throughout the design process
- ▶ Design features:
  - Parking area
  - Future upland walking trails
  - Incorporating wild bergamot into upland seed mix



# Design Features

- ▶ Adjustable water control structure



# Design Features

- ▶ Articulated Concrete Mat



# Tribal Coordination & Involvement

- ▶ Section 106
  - Corina Williams, Oneida THPO
- ▶ Native American hiring provision in construction contract
- ▶ Oneida Tribe visit during construction activities



# Site Construction

▶ August 2015



# Tree Planting

▶ October 2015





# Tree Planting

- ▶ Contractor had difficulty obtaining species and quantities
- ▶ Container grown
- ▶ Planted 9 native, wetland species
- ▶ 904 trees over 8.9 acres



# Performance Standards

- ▶ Targets established in the site plan to ensure wetland and upland areas are successful
- ▶ Attainment of standards allows for credits to be released for use



# Performance Standards

- ▶ Vegetation
  - Hydrophytic species in wetlands
  - Prevalence of native vegetation
  - Limited non-native/invasive cover
  - Diversity
  
- ▶ Hydrology
  - Depth to ground water and surface water inundation
  - Duration requirement



# Post-Construction Monitoring

- ▶ Minimum of 10 years
- ▶ Wetland delineations
- ▶ Plant community assessments
- ▶ Shallow wells and staff gauges
- ▶ Tree surveys
- ▶ Photos



# Hydrology Monitoring



# Vegetation



Photo Credit: Steve Eggers



# Vegetation



# Trees



Photo Credit: Steve Eggers





# Wildlife



- ▶ Many species of birds, waterfowl, amphibians, and mammals observed
- ▶ Nesting pair of Dickcissels - WI special concern bird

# Maintenance

- ▶ Herbicide applications
  - Reed canary grass
  - Phragmites (common reed grass)
  - Purple loosestrife
  - Narrow-leaf and hybrid cattail
- ▶ Mow upland buffers
- ▶ Adjust water elevation at outlet



# Long-Term Obligations

- ▶ Oneida Tribe responsible for maintenance after monitoring ends
- ▶ WisDOT's long-term requirements
  - Wetland in perpetuity
  - Catastrophic failure
- ▶ Invasives



# Lessons Learned

- ▶ Invasive management
  - Preconstruction
  - Early, often
  
- ▶ Tree plantings
  - Maturity
  - Elevated mounds
  
- ▶ Gained understanding of new mitigation rule



# Successes

- ▶ Partnering with Oneida Tribe
- ▶ Native American hiring provision utilized in contract
- ▶ Positive review by USACE on native wetland diversity and cover



# Thank You

- ▶ Oneida Tribe
- ▶ Jeremy Ashauer – WisDOT Project Manager
- ▶ URS – Site design



# Contacts

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