Sugar Creek Restoration Project

By:
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For:
Sugar Creek Golf Course
Villa Park, Illinois
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Living Waters Consultants, Inc.

- Eco-Engineers, Hydrologists, Ecologists
- Stream, Lake & Wetland Restoration
- 17 Project Awards (Local, State, National and International)
- Grant Acquisition Services
- Environmentally Sound Solutions

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Outline

- Past Pond Conditions
- Existing Impacts
- Sugar Creek Restoration - Concept Plan
- Example Future Conditions
- Options for Grant Funding

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1990 Shoreline Erosion

- Early Shoreline Erosion (1990)
- Pond Built in 1975

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Sheet Pile Installed 1992

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Sheet Pile (2700 Linear Feet of Shore)

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2005: Sheet Pile Heaving

- Sheet Pile Heaving
- 2700 Linear Feet

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2015: Some Sheet Pile Failure

- Holes # 1 and # 2 (300+ Linear Feet)
- Rusting and Corrosion

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2010: Algae Blooms

- Algae Blooms
- Aesthetic Impacts

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2013: Silt Impacts

- Exposed Mud Flats (2013)

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Shallow Water Depths (2011) (Water Level Lowered 0.7 Foot)

- Loss of Water Irrigation Volume (2011)

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2017: Exposed Mud Flats

- Expansion of Mud Flats (2017)

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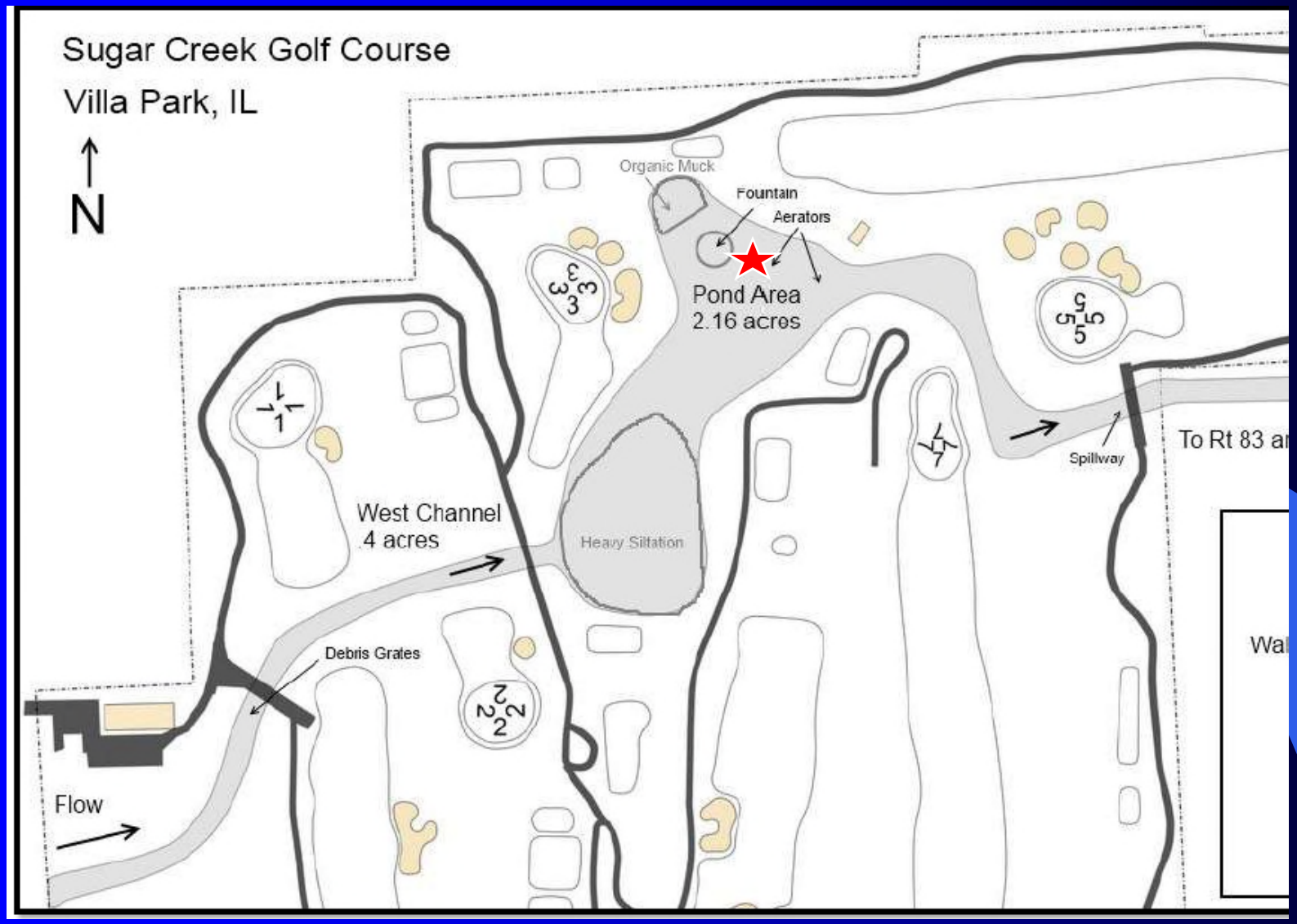

- Fountains / Aerators Installed
- But Algae and Silt Impacts Continue

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Future Options

- Sheet Pile Repair?
- Dredging?
- Costly & Temporary.
- (Sediment Must Pass IEPA Standards. If Standards Not Met, Dredging Is Exorbitantly Expensive.)
- Versus Environmentally Sound Solutions
- Long-Term
- Cost-Effective
- Possible Grant Funding (Environmentally Sound Solutions)

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Sugar Creek Restoration Plan

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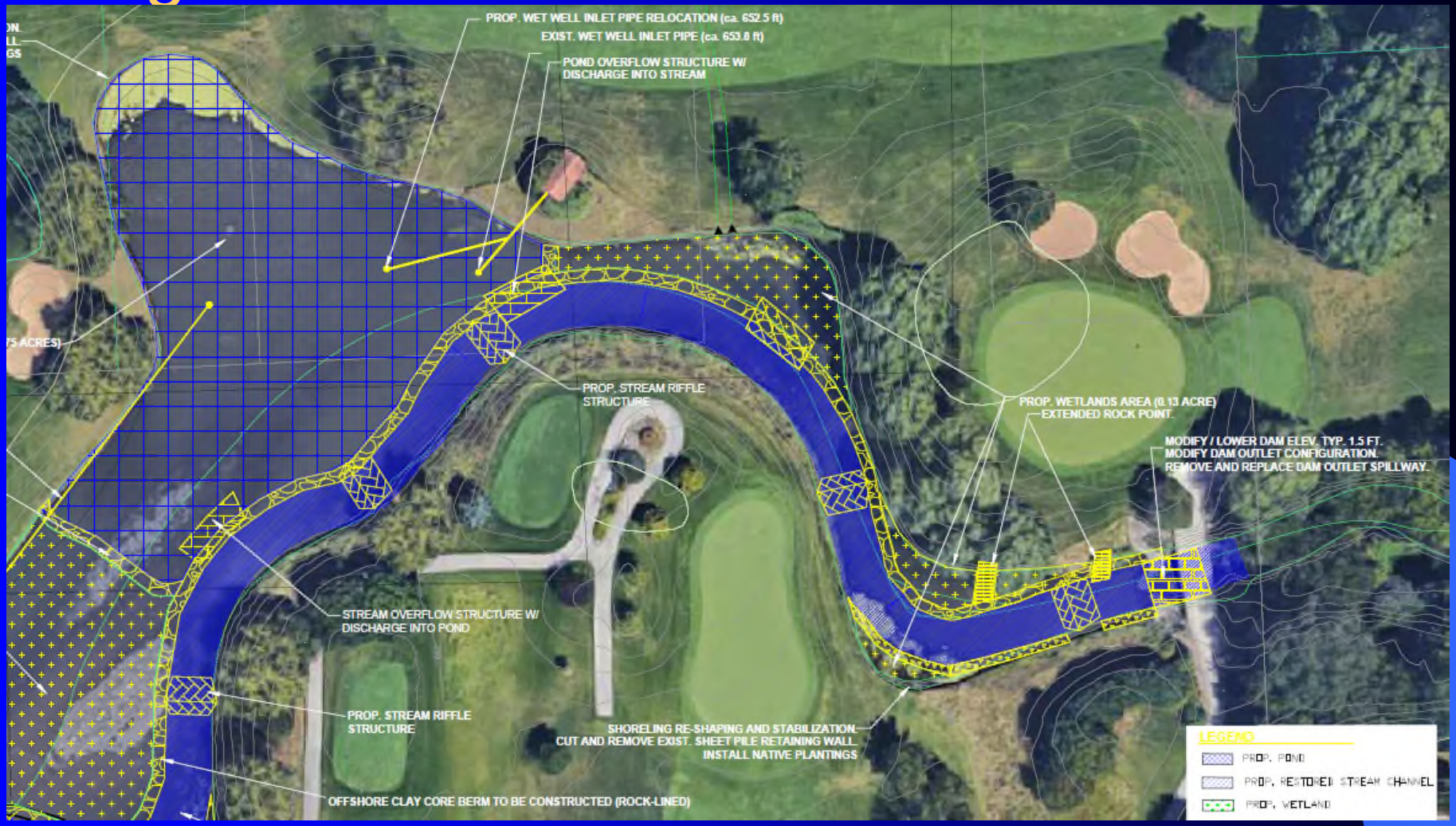

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Before: Aesthetic & Safety Impairment, Debris Jams, Poor Water Quality, Erosion

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Bank Stabilization, Trail Aesthetics

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Before – Partially Vegetated

- Partially Vegetated Sediment Deposits
- Carp Habitat / Carp Population
- Water Quality Impacts
- Odors
- Dying Mussels

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After - Wetlands

- Narrow Channel
- Floodplain Connectivity
- Water Quality Filtration
- Wildlife Diversity
- Less Carp Habitat
- Sediment Stabilization

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Wetlands: Off-Bank Rock Toe

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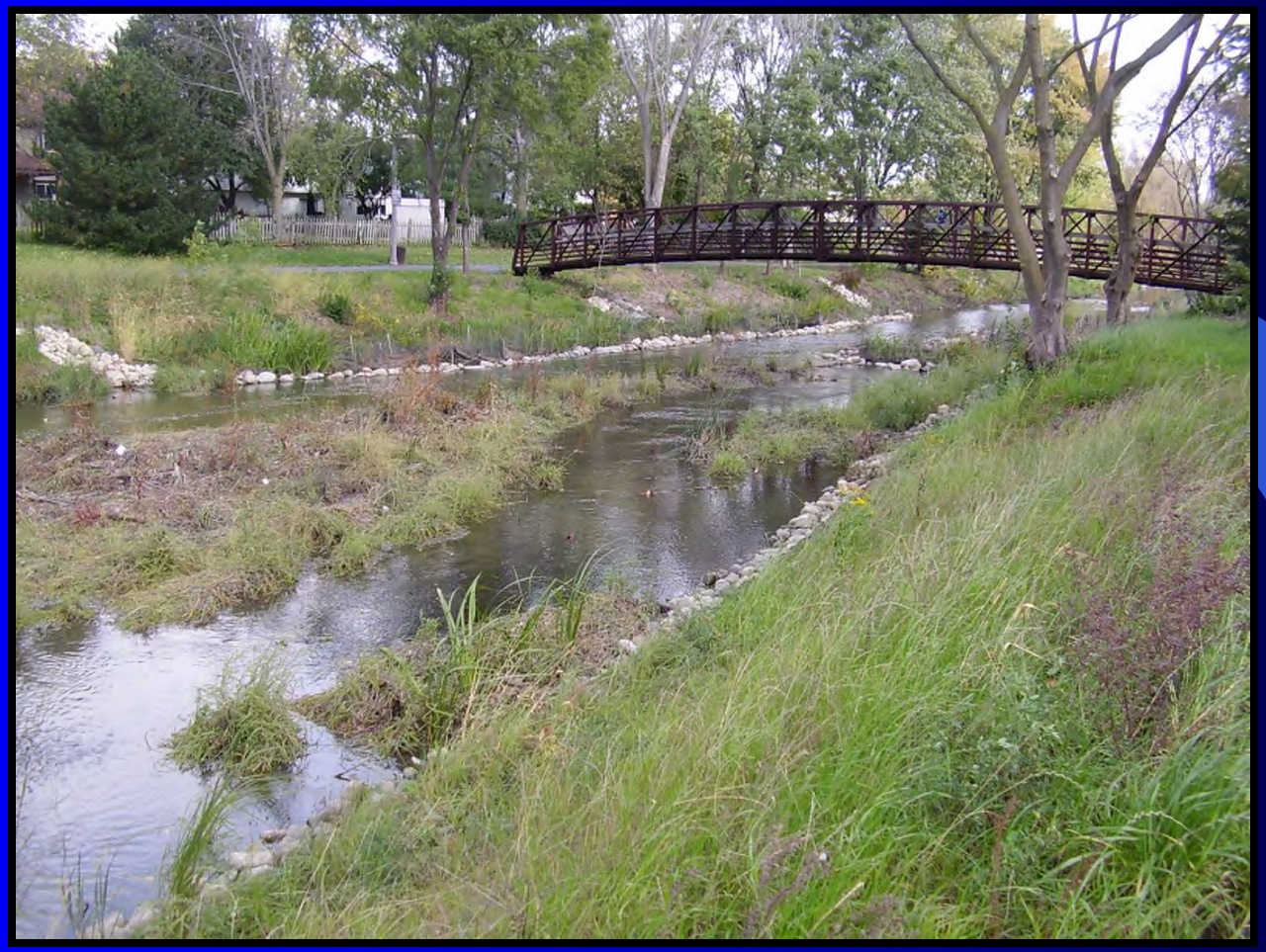
County Stormwater Community of the Year



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Detention Basin Naturalization

Project Team

- Living Waters Consultants, and Bedrock Earthscapes

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Silt Impacts

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Construction & Stabilization

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Post Construction Channel

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Year 1 Native Plant Growth

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Restoration (Bedrock Base)

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Wetland Habitat

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Rock Riffle Structures - Examples

Dam Modification Project

Before: Mud Flats, Flooding, Poor Water Quality, Carp

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After: Fish migration, mussel survival, lower water levels, better water quality, sediment control, aesthetics, reduced odors, flood storage.

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Prairie / Wetland Streambanks

-Rock Points

- Off-Bank Rock Toe

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Off-Bank Rock Toe / Wetland

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After: Fish Species Increased 55%

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Federal Grant Funding:

- Illinois EPA - Section 319 (60% Grant)
- Illinois Clean Energy
- U.S. Fish & Wildlife Grants

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Local Grant Funding:

- DuPage County WQIP Grant
- Soil & Water Conservation District SSRP

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Natural Stream Channel Benefits

- Recreational Enhancement
- Alternative to Dredging
- Aesthetic Benefits
- Grant Funding Opportunities
- Water Quality
- Protects Property Value
- Protects Pond Irrigation Volume
- Reduced Flooding
- Shoreline Stability Increases Over Time
- Habitat Restoration
- Wildlife Diversity
- Reduced Sediment Maintenance

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Questions?

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