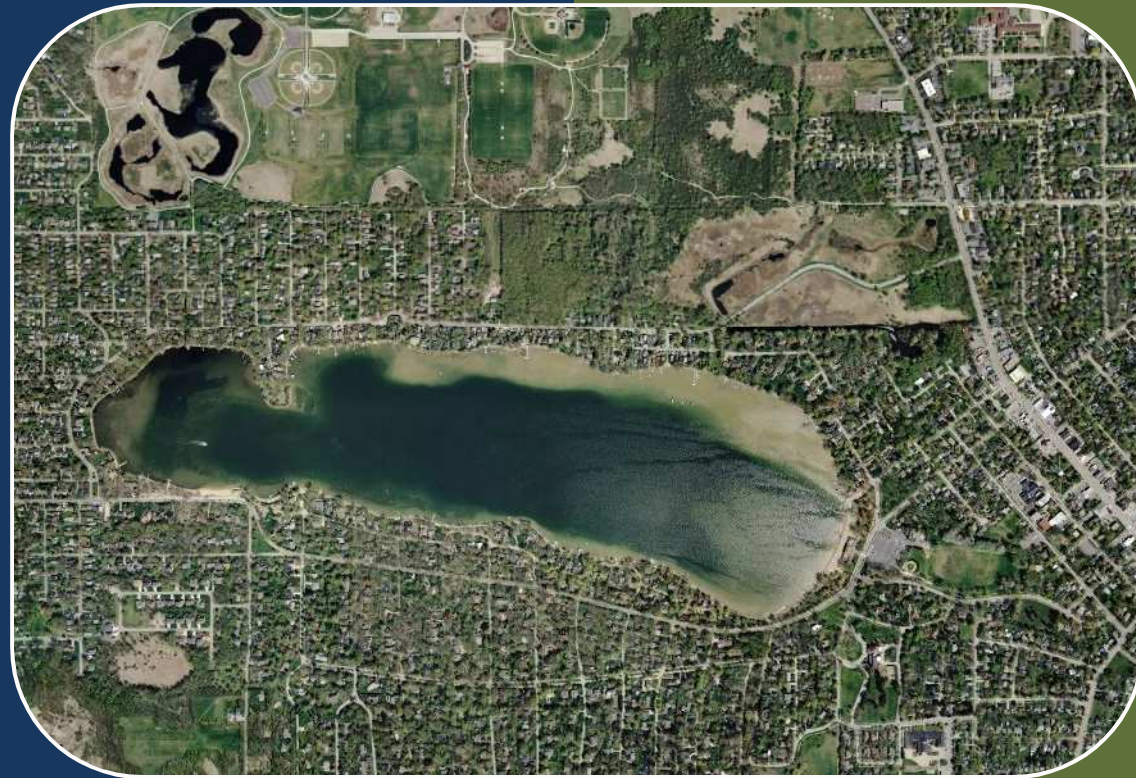


FLOODING STUDY UPDATE



**Areas 1 and 2
North of Crystal Lake**

June 23, 2009

Introductions



City of Crystal Lake
Engineering Division Staff

Hey & Associates

Hey and Associates, Inc.

Purpose of Tonight's Presentation



- + Recap of the Crystal Lake Flooding Study for Areas 1 & 2 North of Crystal Lake
- + Schedule of Projects
- + Status of Current Projects
- + Question & Answer Session

Crystal Lake Flooding Study - SUMMARY



- ✓ City contracted Hey & Associates in Fall of 2008
 - Reviewed August 2007 Flooding Complaints & other data
 - Identified causes of flooding based upon four general “areas”
 - Developed conceptual solutions
 - Assessed level of protection and benefit & cost of each solution
- ✓ Study findings were presented at the February 17, 2009 City Council Meeting
- ✓ Final Report Approved on March 19, 2009

Crystal Lake Flooding Study – AREA 1



Divided into three subareas:

Area 1A

Sycamore Ln & Green Oaks Dr
(north of Crystal Lake Ave & west of US 14)

Area 1B

Around North Shore Dr -
Cove Pond, Woodland Channel,
North Shore Dr, Woodland Dr

Area 1C

Pine St & Oriole Trail
(east of US 14)

Crystal Lake Flooding Study – AREA 1A



Main Flooding Causes

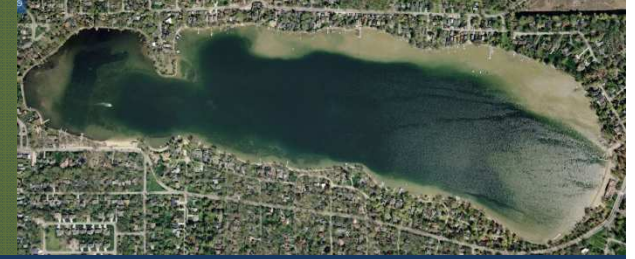
- High Groundwater
- Lack of Minor & Major Drainage System
 - Inadequate Outlet Capacity from Cove Pond

Solutions

- Improve conveyance from Cove Pond
 - Replace Field Tile System
 - Improve Overland Flow Route



Crystal Lake Flooding Study – AREA 1B



Main Flooding Causes

- High Groundwater
- Lack of Adequate Outlet from Woodland Channel
- Inadequate Outlet Capacity from Cove Pond

Solutions

- New Culverts Under North Shore Drive, and
- Connection out of Woodland Channel, and
- Expanded Open Channel from North Shore Dr. to the Lake



Crystal Lake Flooding Study – AREA 1C



Main Flooding Causes

- High Groundwater
- Inadequate Sewer Capacity
- Inadequate Outlet Capacity from Cove Pond
- Inadequate Minor & Major Drainage Systems from Depression



Solutions

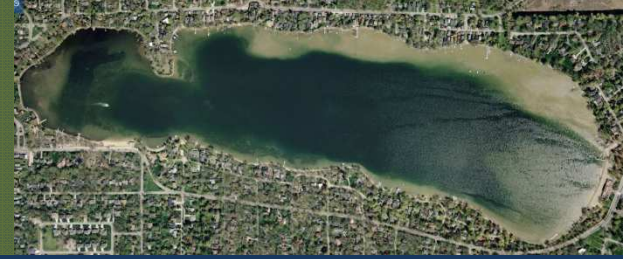
- Improve conveyance from Cove Pond
- Relief Storm Sewer from Depression to Crystal Lake Avenue Sewer
- Addition of a Pumping Station

Crystal Lake Flooding Study – AREA 2



North Shore of the Lake
from East End Avenue
to Edgewood Drive

Crystal Lake Flooding Study – AREA 2



Main Flooding Causes

- High Groundwater
- Lack of Adequate & Maintained Minor Drainage System
 - Lack of Major Drainage Path from Depression



Solutions

- Replace Existing Drainage Network along Greenfield Rd & East End Ave
- Divert CLPD Detention Discharge to the Lippold Wetland
- New Field Tile along Southern Edge of Lippold Park

Schedule of Future Projects



- ✓ Construction of projects prioritized based on Cost-to-Benefit ratio
- ✓ Funding schedule provides for significant improvements first
- ✓ Funding schedule expanded to five budget years in consideration of funding constraints
- ✓ Project schedule subject to funding availability

Fiscal Year 2009-2010



Engineering & Construction for Improvements to Area 1B

- New Culverts Under North Shore Drive, and
- New Culverts or an Open Channel out of Woodland Channel, and
- Expanded Open Channel from North Shore Dr. to the Lake

Engineering for Downstream Study – Crystal Creek

Engineering for Improvements to Area 2

- Replace Existing Drainage Network along Greenfield Rd & East End Ave
- Divert CLPD Detention Discharge to the Lippold Wetland
- New Field Tile along Southern Edge of Lippold Park

Fiscal Year 2010-2011



Construction for Improvements to Area 2

- Replace Existing Drainage Network along Greenfield Rd & East End Ave
- Divert CLPD Detention Discharge to the Lippold Wetland
- New Field Tile along Southern Edge of Lippold Park

Engineering for Improvements to Area 1A

Replace Field Tile System Adjacent to
Sycamore Ln & Green Oaks Dr.

Fiscal Year 2011-2012



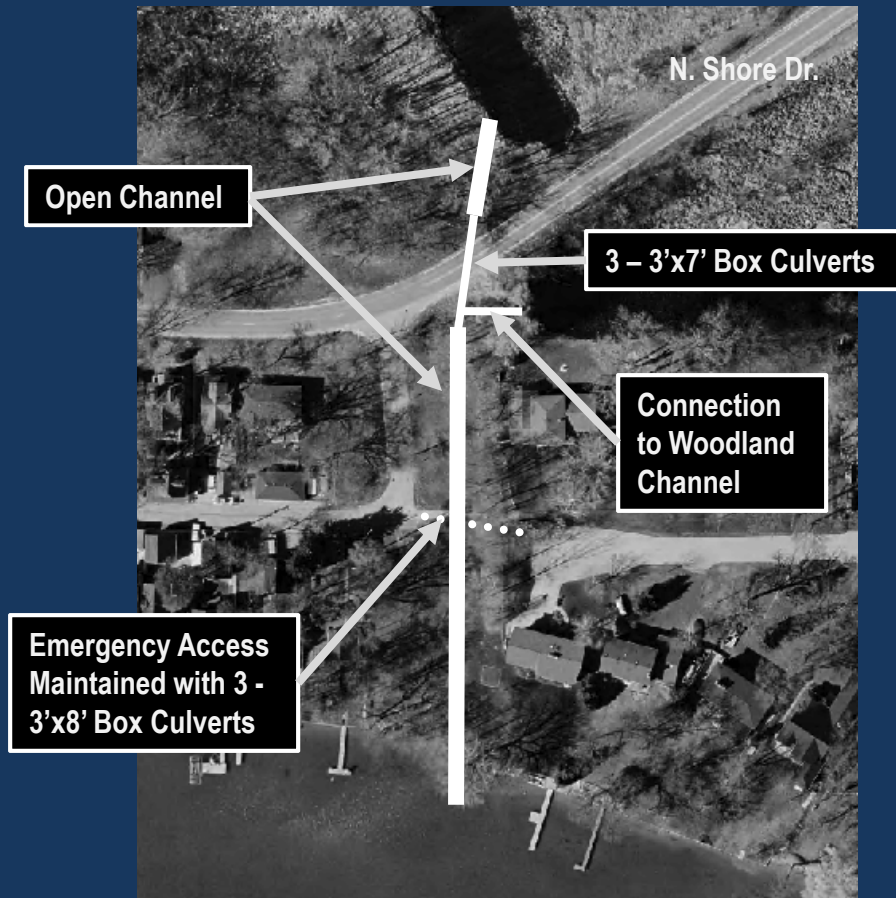
Construction for Improvements to Area 1A

Replace Field Tile System Adjacent to
Sycamore Ln & Green Oaks Dr.

Engineering & Construction for Improvements to Area 1C

- Relief Storm Sewer from Depression to
Crystal Lake Avenue Sewer
 - Addition of a Pumping Station

North Shore Drive Project Summary

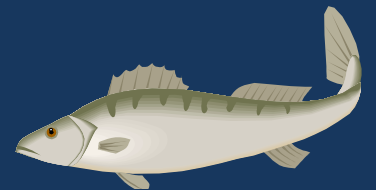


- ✓ Hey & Associates is completing the engineering
- ✓ Plans are 80% complete
- ✓ Construction commence early Fall 2009
- ✓ Completion of Project by End of 2009

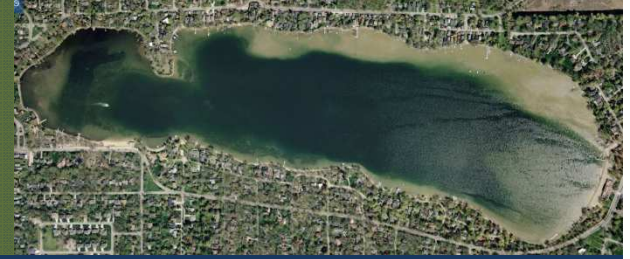
Benefits of North Shore Drive Project



- More Moderate Water Level Fluctuations in Woodland Channel
- Improved Habitat for Fish Spawning
- Maintain Restricted Water Access to Woodland Channel
- No Cost or Increased Maintenance to Nearby Residents
- Maintain Existing Emergency Roadway Access



Downstream Study Crystal Creek



- ✓ Hey & Associates is working on the study
- ✓ Purpose of Study:
 - Analyze various options to stabilize the lake level while removing numerous residents from the floodplain
- ✓ Coordination has commenced between
 - City and the Crystal Lake Country Club
 - City and School District 47
- ✓ Study is about 90% complete
- ✓ Study is anticipated to be completed this summer
- ✓ Follow completion of report, City will further assess actions regarding specific options.

Area 2 Project Summary



Engineering is anticipated to commence this summer.

Question & Answer Session



QUESTION & ANSWER

Please come up to the podium to ask your questions.
State your name & address for our records.