



**SPRING HARBOR
OUTFALL WALL REPAIR &
HARBOR MAINTENANCE
DREDGE**



play
**MADISON
PARKS**

OUTFALL WALL REPAIR

- **Proposed Retaining Wall Repair**
- **Storm Sewer Replacement**
- **Parking Lot Paving**
- **Proposed Schedule**

HARBOR DREDGING

- **Existing Conditions and need for dredging**
- **Proposed dredge limits**
- **Yahara Hills South dewatering site**
- **Proposed Schedule**



An aerial photograph of a residential neighborhood. A road, Lake Mendota Dr, curves through the scene. To the right, Spring Ct branches off. Several houses with brown roofs are visible. A boat launch is located on the left side of the road. Three white callout boxes with blue text are overlaid on the image, pointing to specific areas: 'BOAT LAUNCH PAVEMENT' near the boat launch, 'RETAINING WALL REPLACEMENT' near a wall along the road, and 'STORM SEWER REPLACEMENT' near a house on the left. The area is surrounded by green grass and trees.

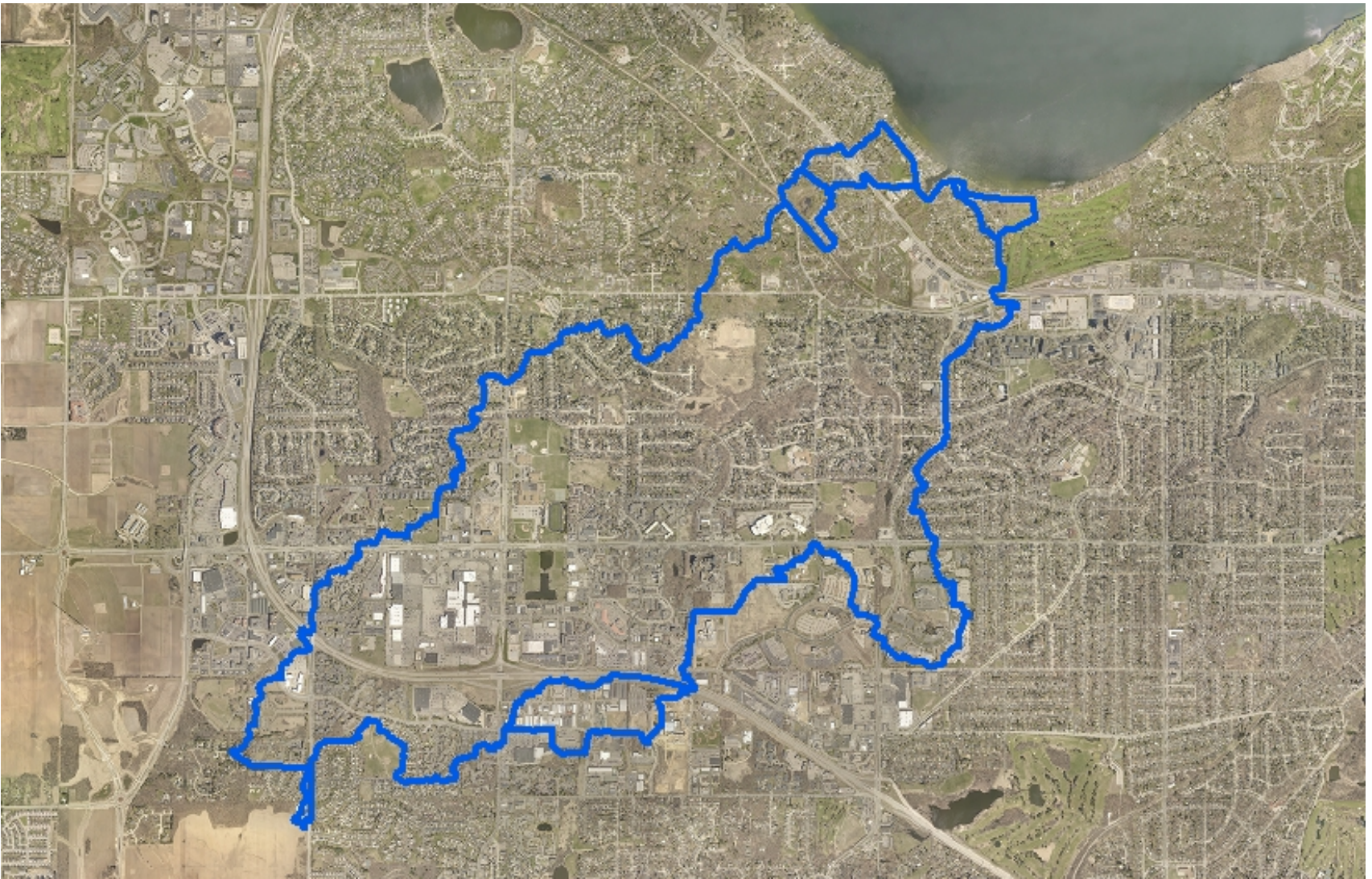
**BOAT LAUNCH
PAVEMENT**

**RETAINING WALL
REPLACEMENT**

**STORM SEWER
REPLACEMENT**

LAKE MENDOTA DR

SPRING CT



SPRING HARBOR WATERSHED

- **Approximately 2,340 acres of the City of Madison drains to the Spring Harbor Outfall. The discharge pipe is a 19ftx6ft box culvert.**

EXISTING CONDCTIONS: WALL

- August 20, 2018 rain damaged backfill and foundation of the existing retaining wall
- Scour beneath the footing resulted in rotational failure of the retaining wall



EXISTING CONDCTIONS: WALL

- Damaged wall was removed in fall 2018
- Temporary sheet piling and limestone riprap placed to stabilize the shoreline



EXISTING CONDITIONS: BOAT LAUNCH

- Unknown age of existing pavement
- Multiple repairs and “alligatored” surface



EXISTING CONDCTIONS: BOAT LAUNCH

- Existing launch lacks curb and gutter



EXISTING CONDITONS: STORM SEWER

- Metal Pipe Installed in 1955
corroded and failed
- Sink hole opened in Lake
Mendota Drive





ASPHALT
BOAT LAUNCH

EXISTING STONE
SHORELINE STABILIZATION

MAXIMUM SCOUR

SCOUR

BREAK IN RETAINING WALL

EXISTING LANDSCAPE BED

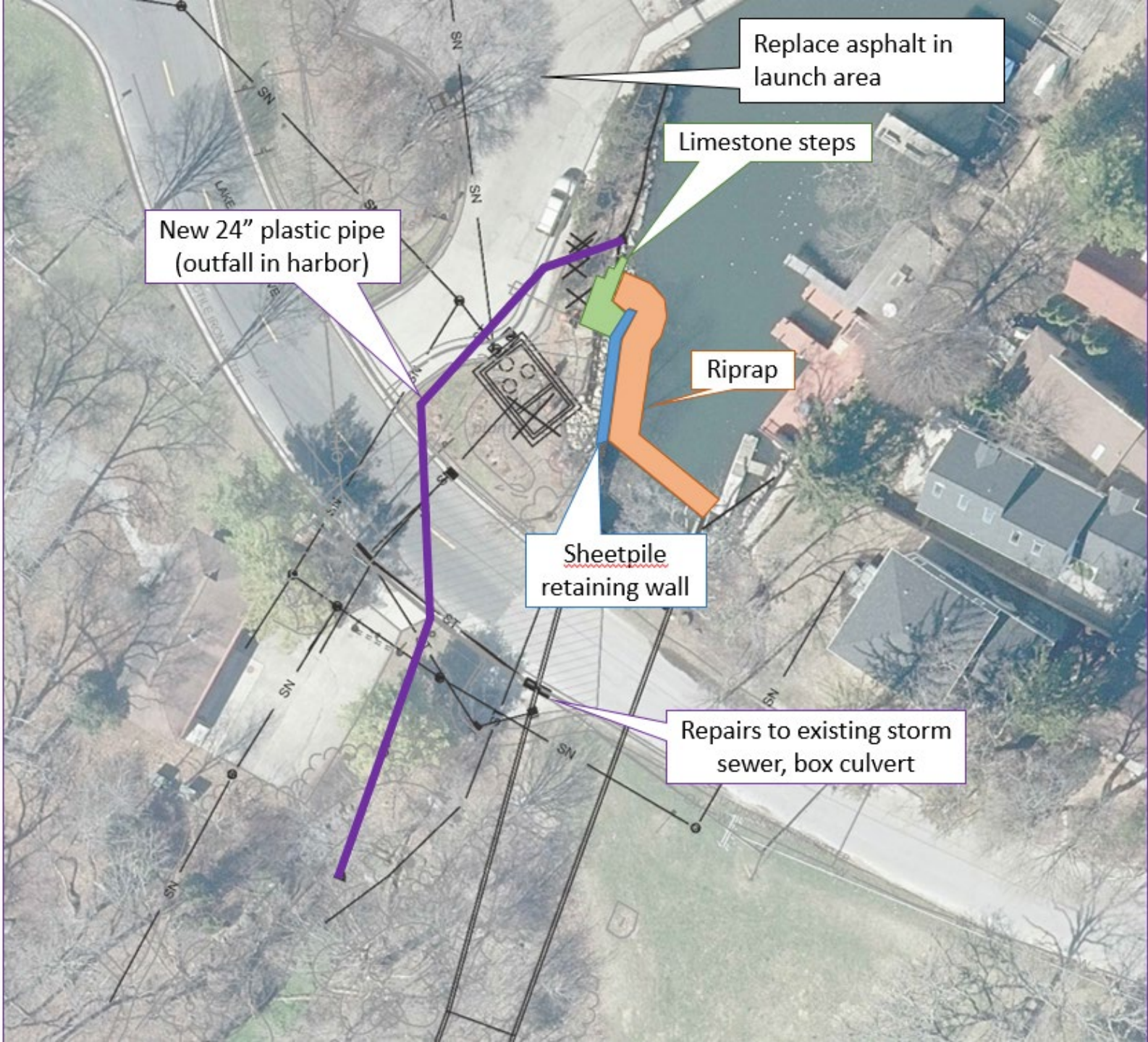
EXISTING RETAINING WALL

RETAINING WALL REPAIR

Design Considerations

- Wall Stability
- Volume of Water
- Depth of Water & Safety
- Shoreline Access





Replace asphalt in launch area

Limestone steps

New 24" plastic pipe (outfall in harbor)

Riprap

Sheetpile retaining wall

Repairs to existing storm sewer, box culvert

PULVERIZE AND RESURFACE
ASPHALT BOAT LAUNCH
ADD CURB AND GUTTER

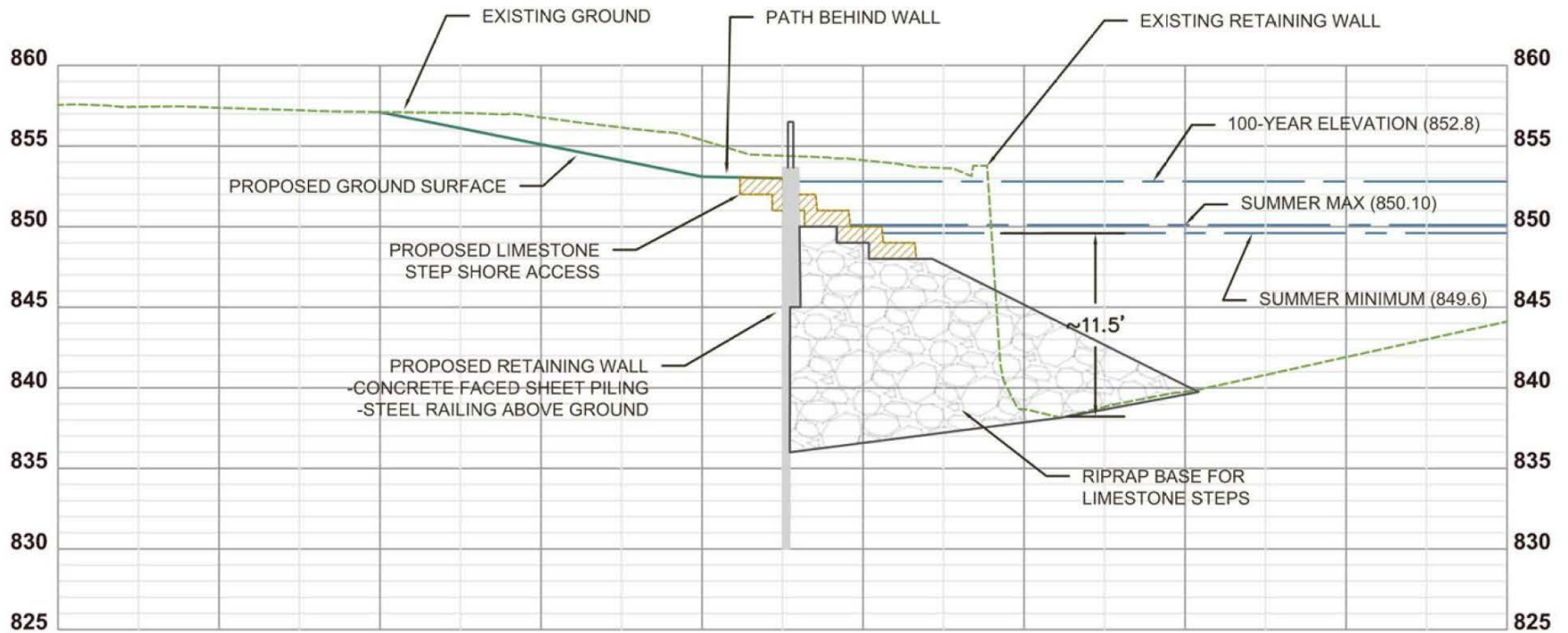
EXISTING SHORELINE
STABILIZATION TO REMAIN

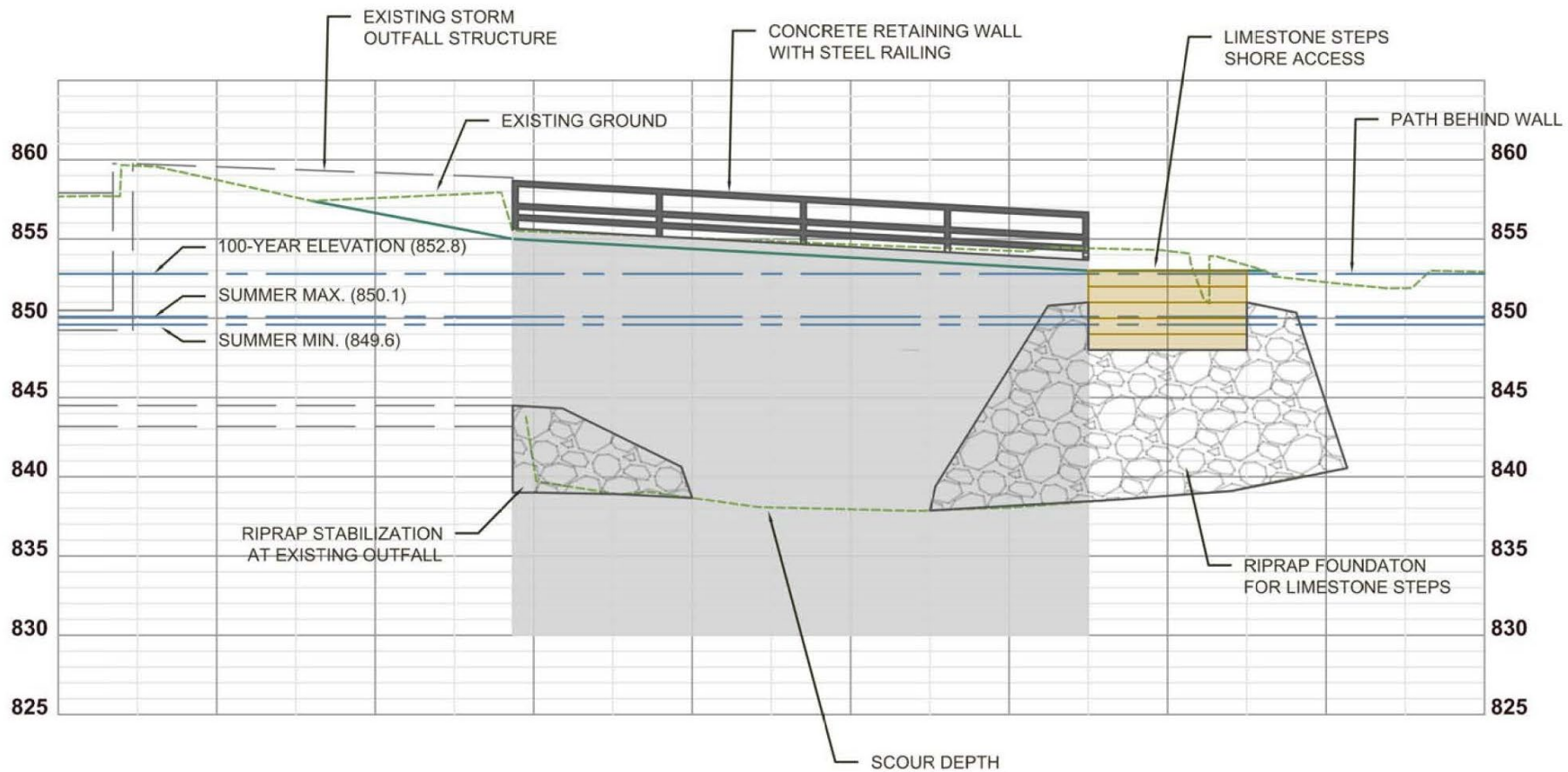
TURFMAT
PATH

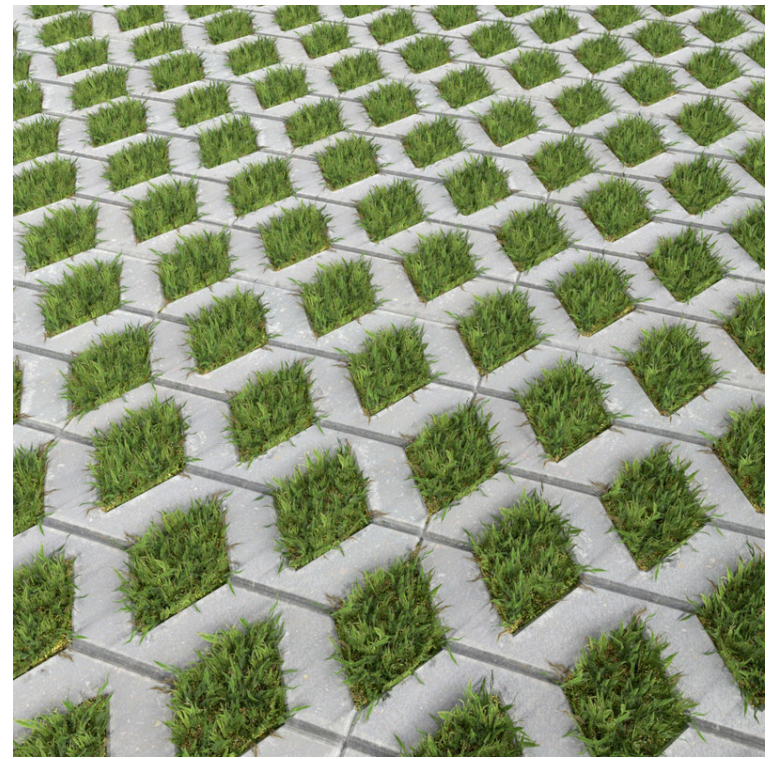
LIMESTONE STEPS-
SHORELINE ACCESS

RIPRAP STABILIZATION

CONCRETE FACED
RETAINING WALL WITH
STEEL RAILING

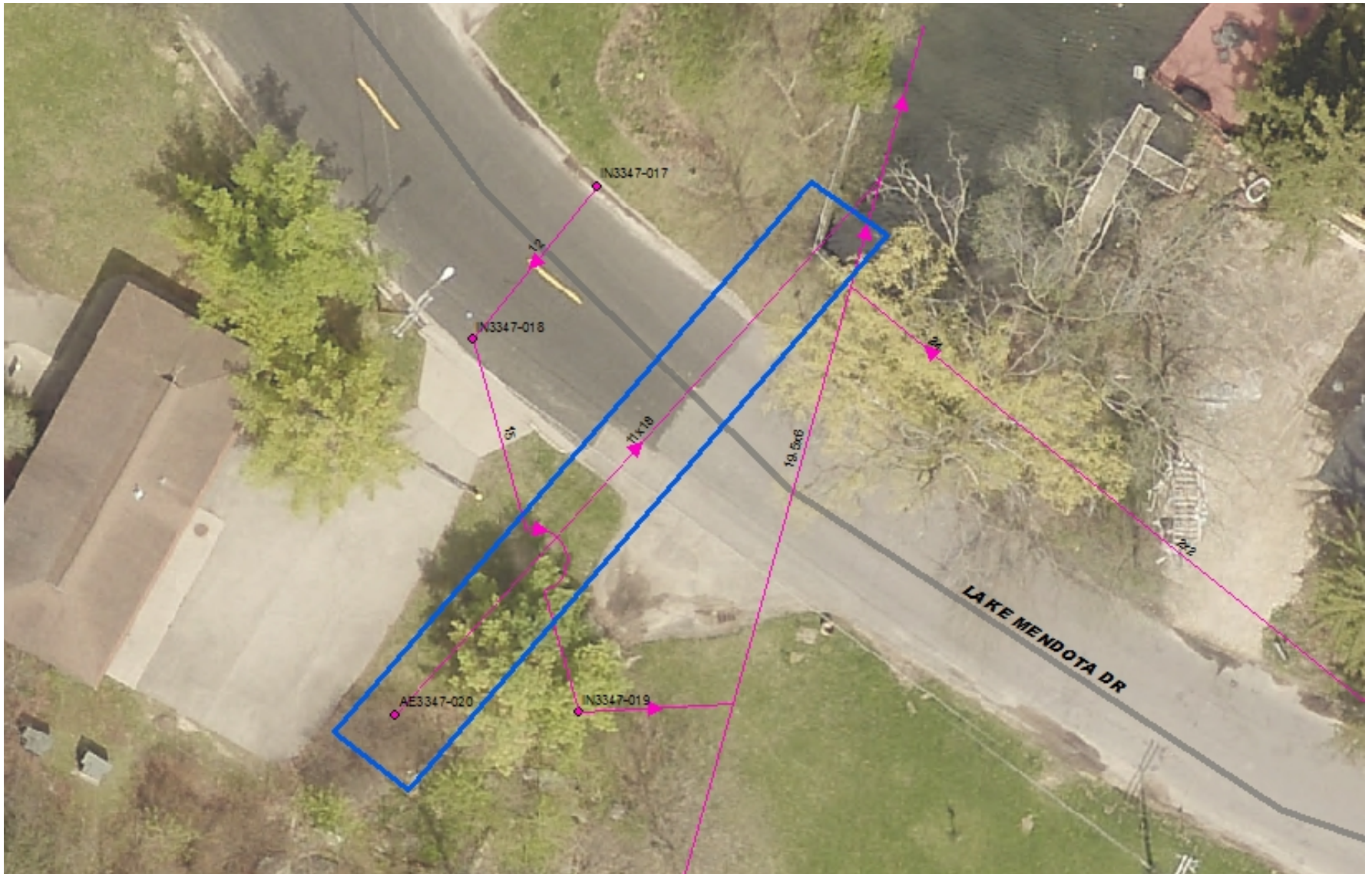






The path will be stabilized with permeable pavers.

The retaining wall will have a similar appearance to the former wall, but will not be as tall.



The storm sewer replacement will result in traffic disruptions and loss of trees and shrubs on the south side of Lake Mendota Drive.

PROJECT SCHEDULE – OUTFALL WALL REPLACEMENT

- **City Approvals**
 - **Board of Parks Commission**
 - **Board of Public Works**
 - **Common Council**
- **Project Bid in late August or September**
 - **Estimated cost is \$350,000**
- **Work to begin in November**
 - **Removal of temporary sheetpiling**
 - **Placement of permanent wall**
- **Project Work to Continue through Spring 2021**

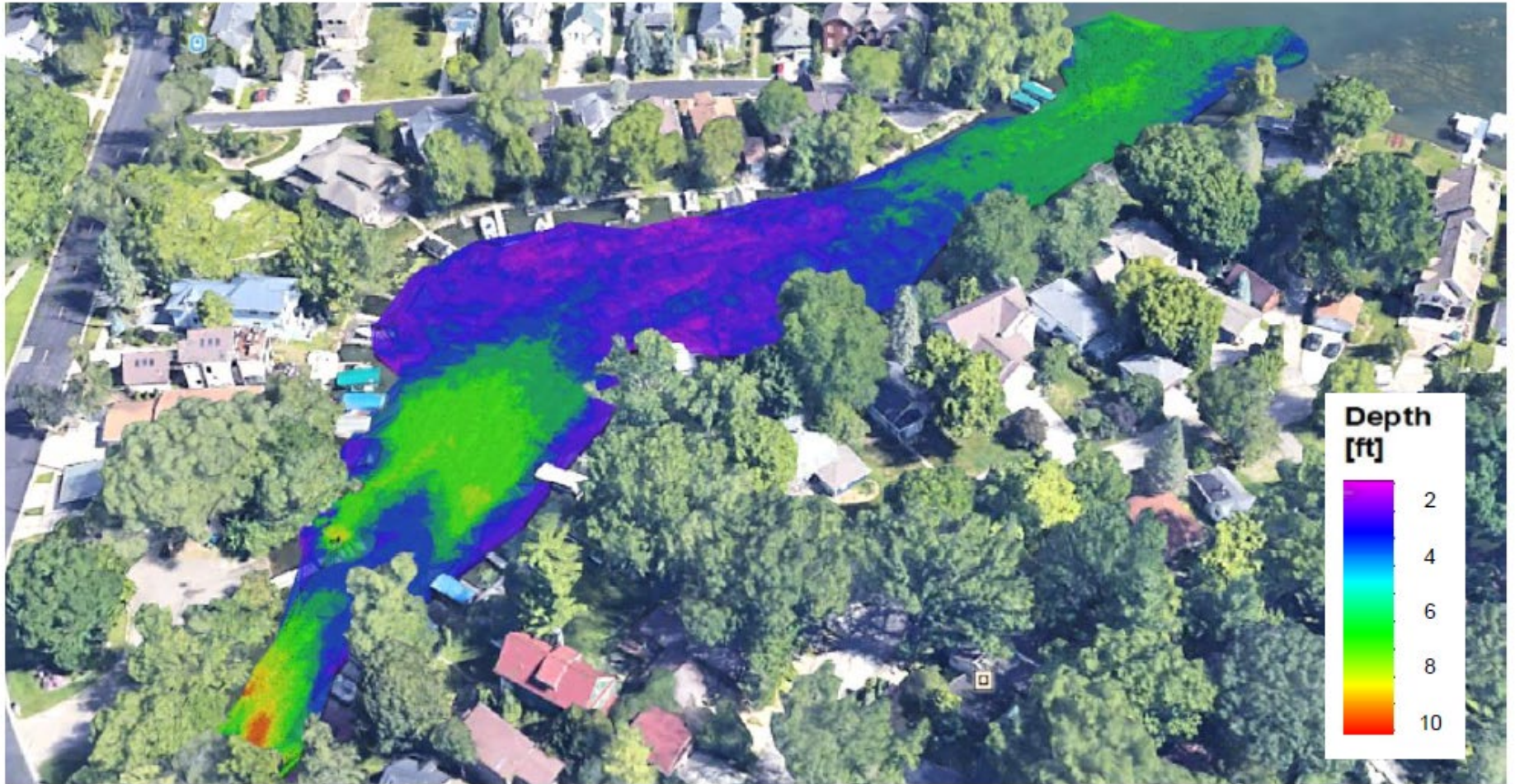


Figure 3. Visualization of the hydrographic survey data collected by FreshWater Engineering on 29 May 2020 in Spring Harbor.

Why we are dredging Spring Harbor?

Harbor depth is averaging only 2.5 feet due to accumulating sediment coming in from a major outfall located just east of the boat launch and directly discharges to Spring Harbor. Last dredge performed only near ramp in 2011.

This sediment is impacting recreational use of this boat launch and impacting the general use, water quality and aquatic habitat of the harbor.

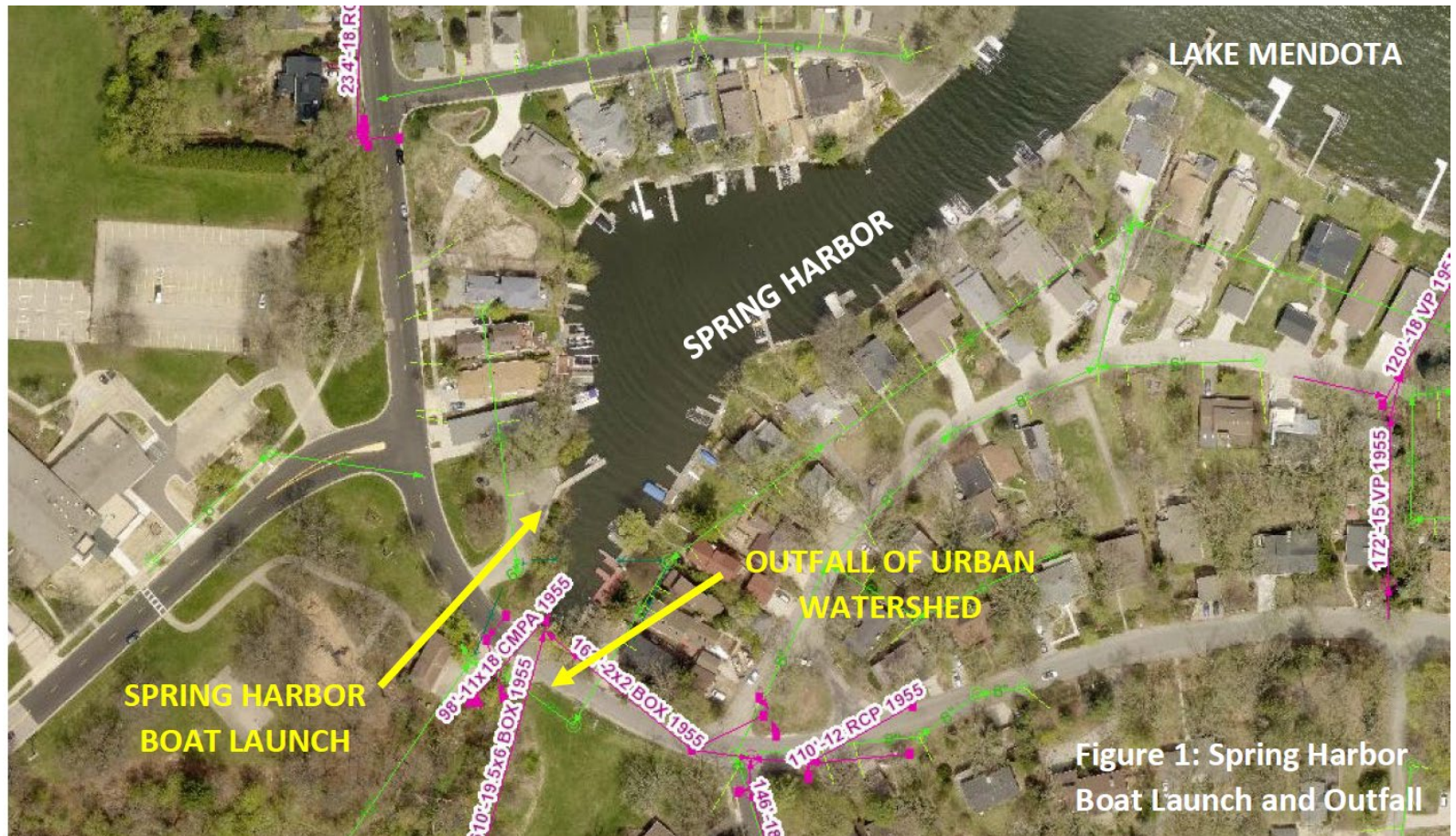
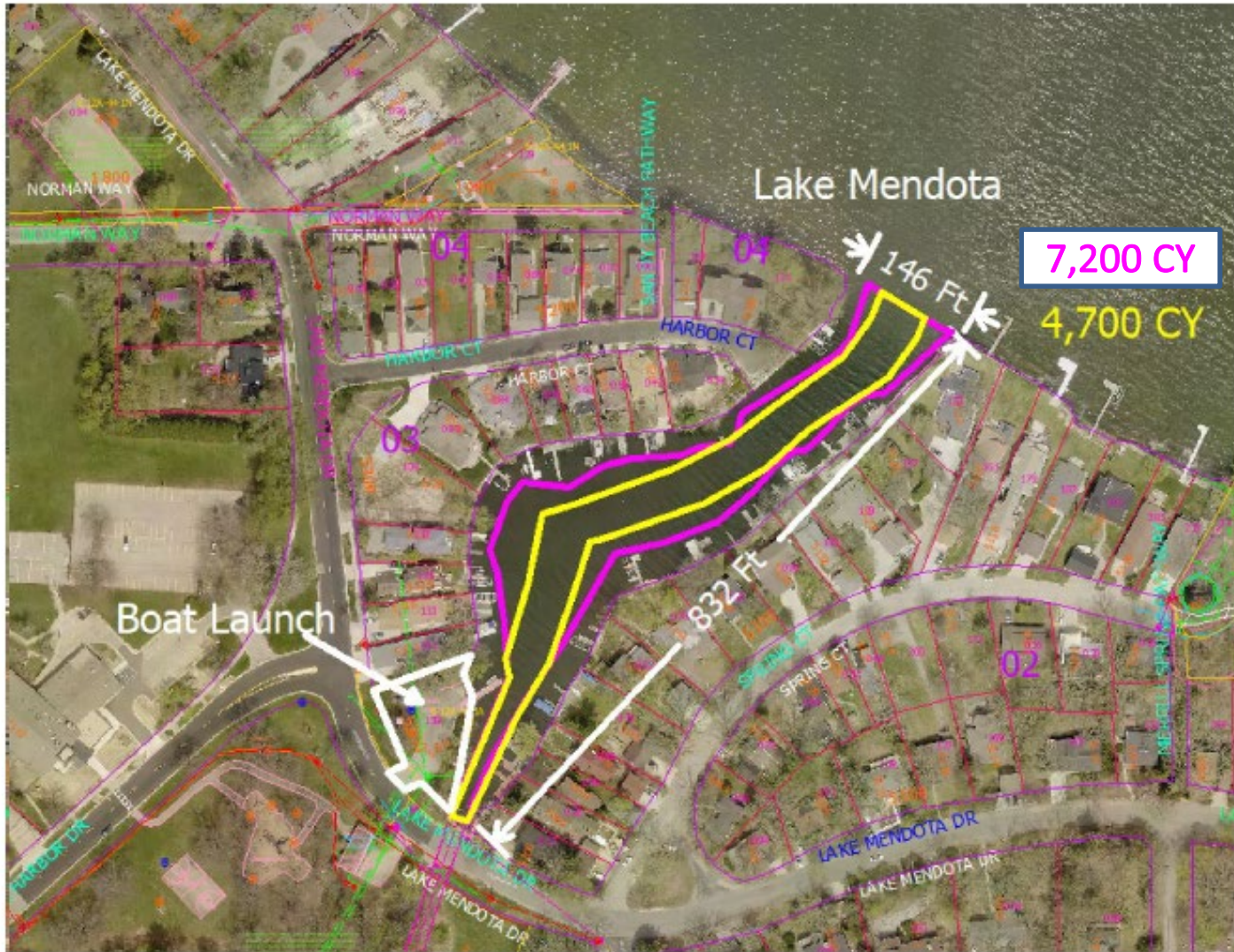


Figure 1: Spring Harbor Boat Launch and Outfall



PROJECT OPTIONS DEPENDING ON FUNDING:

- 7,200 CY dredge material if dredged within 10ft of docks
- 4,700 CY dredge material if only dredged to 25ft either side of channel

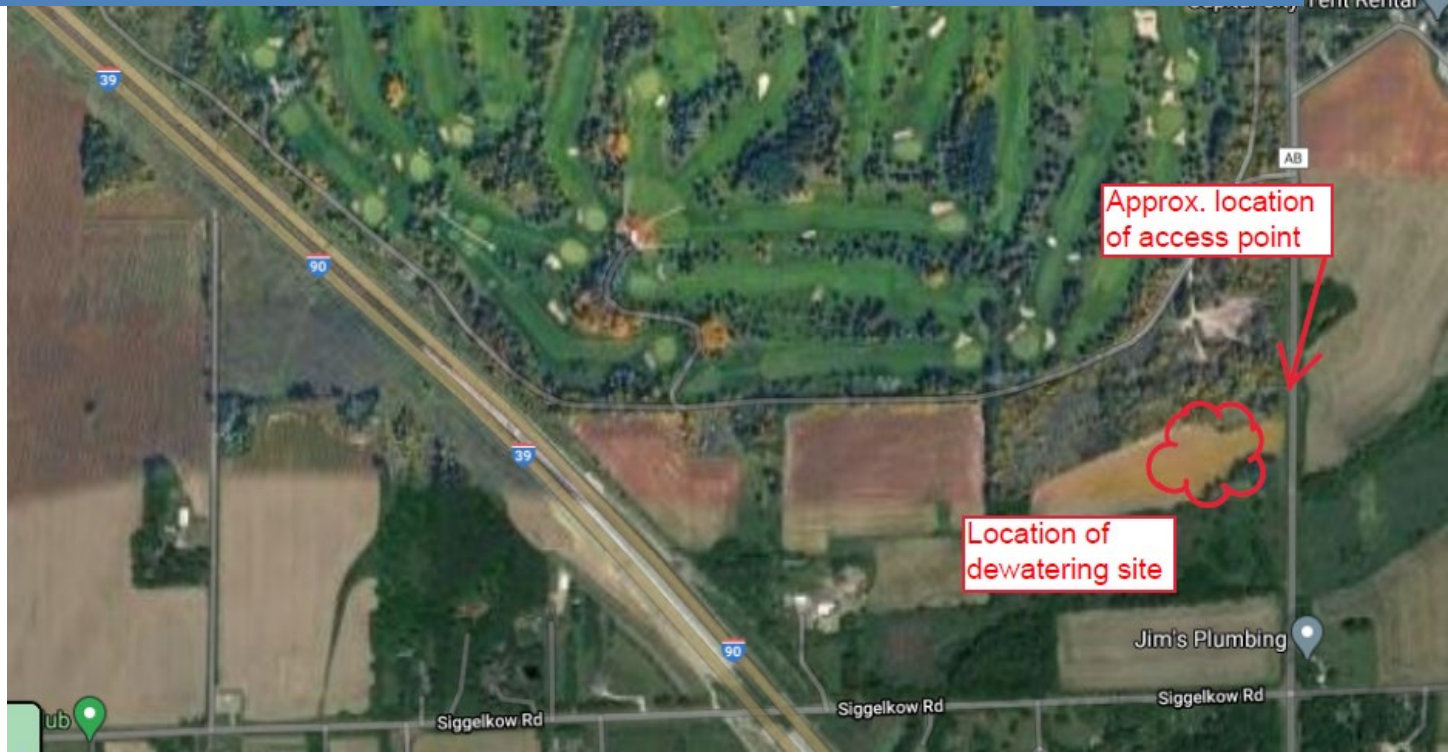
De-watering Site Location



De-watering Site Location



- Currently a leased parcel
- Can continue farming thru 2021 season
- Approx 1.5 – 2 acres to allow materials to dewater prior to landfilling
- Sediment is being tested for contamination
- Dane County will not allow wet dredge at landfill
- Hauling costs will be less due to proximity to land fill
- Will not require to pay Contractor to haul to a separate location



PROJECT SCHEDULE – SPRING HARBOR MAINTENANCE DREDGE

- **City Approvals**
 - **Board of Parks Commission**
 - **Board of Public Works**
 - **Common Council**
- **Project Bid in late August or September**
 - **Estimated cost is \$725,000**
 - **Applied for USFWS Sport Fish Restoration –Boat Access Grant for \$250,000**
 - **Will apply for Recreational Boating Facilities Grant in June**
 - **Size of project will be dictated by available funding**
- **Work to begin in late November**
 - **Haul dredge materials to Yahara Hills to dewater**
- **Project Work to Continue through Spring 2021**
 - **Remove dewatered materials and haul to landfill**