

# Town of Chapel Hill Legion Pond Dam

## Presentation Summary of a Preliminary Engineering Report











Dam Crest Facing East from West Abutment





Overflow Device Outlet,  
Erosion Cavities





Pipe Culvert at Clover Drive



# Concerns/Issues regarding the Dam:

1. Based on a review of dam safety criteria, the dam is regulated under the NC Dam Safety Act.
2. Based on classification criteria, the dam is classified as High Hazard: “Economic damage of More than \$200,000.”
3. Technical Concerns:
  - a. Extensive Tree Growth
  - b. Overly Steep Slopes
  - c. Extensive Erosion at Outlet Pipe
  - d. Downstream Culvert at Clover Dr. (The Meadows)



# Options to bring the dam into compliance with the NC Dam Safety Law:

1. Repair the dam.

2. Remove the dam.

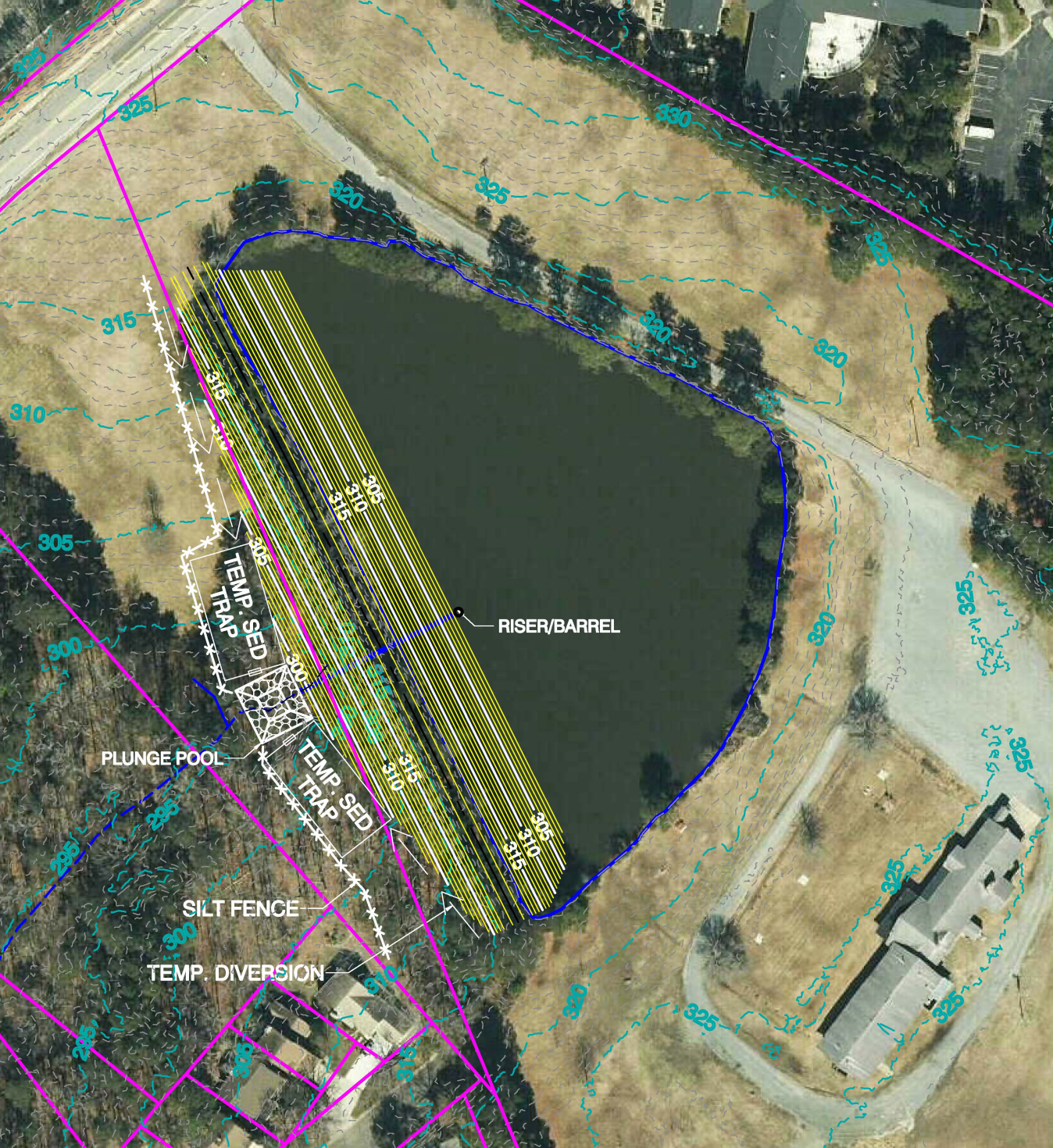


# Repair Option

## Construction Work includes:

- Draining the pond
- Erosion and sediment controls
- Tree removal
- Breach the dam
- New riser and barrel outlet pipe
- Backfill at 3:1 slopes
- Outlet energy dissipater





RISER/BARREL

PLUNGE POOL

SILT FENCE

TEMP. DIVERSION

TEMP. SED.  
TRAP

TEMP. SED.  
TRAP



# Removal Option

## Construction Work includes:

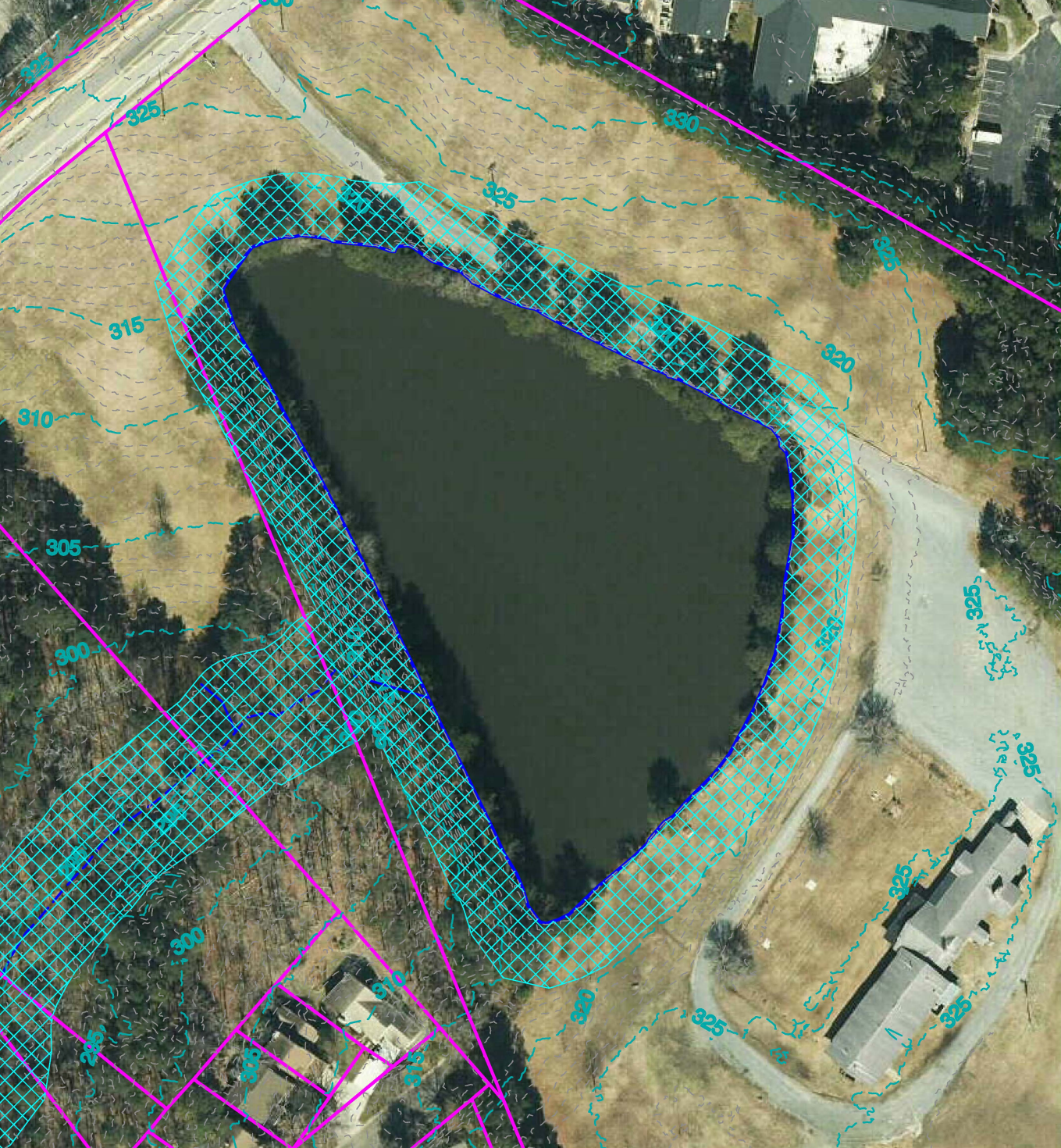
- Draining the pond
- Erosion and Sediment Controls
- Tree removal
- Breach the dam
- Excavate dam down to natural grades
- Vegetation/Stabilization



# Environmental Rules

- Section 404 Permitting (US Army Corps of Engineers)
- Section 401 Water Quality Certification (NCDEQ DWR)
- Jordan Lake Riparian Buffer Rules, 15A NCAC 02B .0267.
- Resource Conservation District







# Environmental Rules

- Repair option:
  - Will likely require individual permits (approximately a 12-month review period)
  - May require mitigation for fill placement in Water of the US (mitigation cost of \$100,000 is included in the budget)
  - Will depend on the final design and COE interpretation of “minimal”
- Remove option:
  - Will likely qualify for nationwide permit (approximately a 4-month review period)
  - May require mitigation for impacts to a Water of the US (mitigation cost of \$25,000 is included in the budget)
  - Will depend on the final design and COE interpretation of “minimal”



# Cost Estimates

- The cost estimates are limited to the work specifically required to bring the dam into compliance with dam safety regulations.
- Cost estimates do not address any mitigation costs associated with future projects that would include impacts to the pond or stream beyond the immediate dam repair.
- In following the State's procedures for the work, both the Repair and the Removal options will require that the pond be drained, and the dam be breached



# Cost Estimates/Schedule Summary

## Repair Option

- Will cost about \$800,000
- Will take about 24 months from initiation of the RFQ for engineering services.

## Removal Option

- Will cost about \$600,000
- Will take about 24 months (includes a minimum 6-month post-construction phase for re-emergence of a stream/wetland feature).



# Future Development Considerations

- Repair Option
  - Repair option may be preferred if the pond would be beneficial regarding future use of the site.
- Removal Option
  - Removal option may be preferred if the pond would hinder future use of the site
  - The extent to which a stream or wetland would re-emerge would need to be evaluated after completion of the dam removal project.