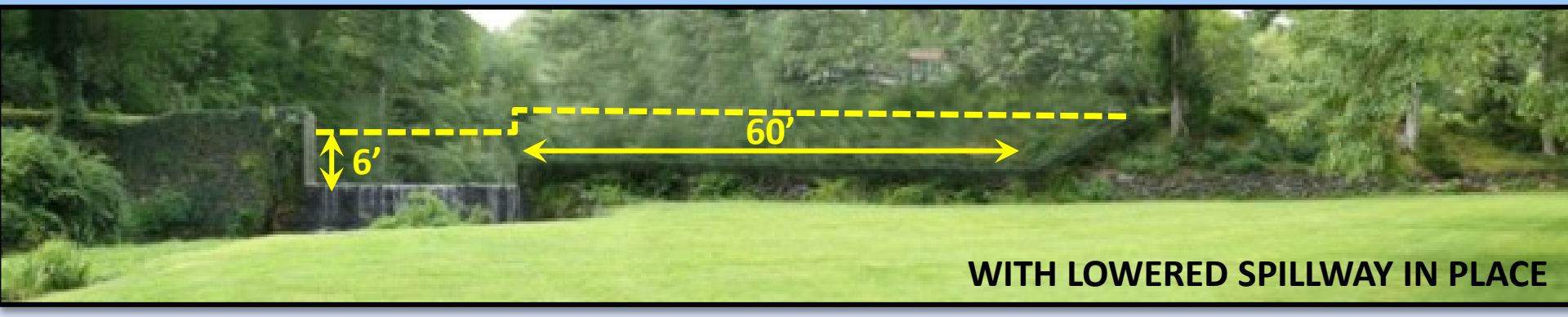
EAST GOSHEN TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA
HERSHEY'S MILL DAM (DEP ID NO. D15-125)

DECOMMISSIONING OF HERSHEY'S MILL DAM
BOARD OF SUPERVISORS MEETING
JANUARY 17, 2017

Gannett Fleming

East Goshen Township
Incorporated 1817
Chester County, Pennsylvania

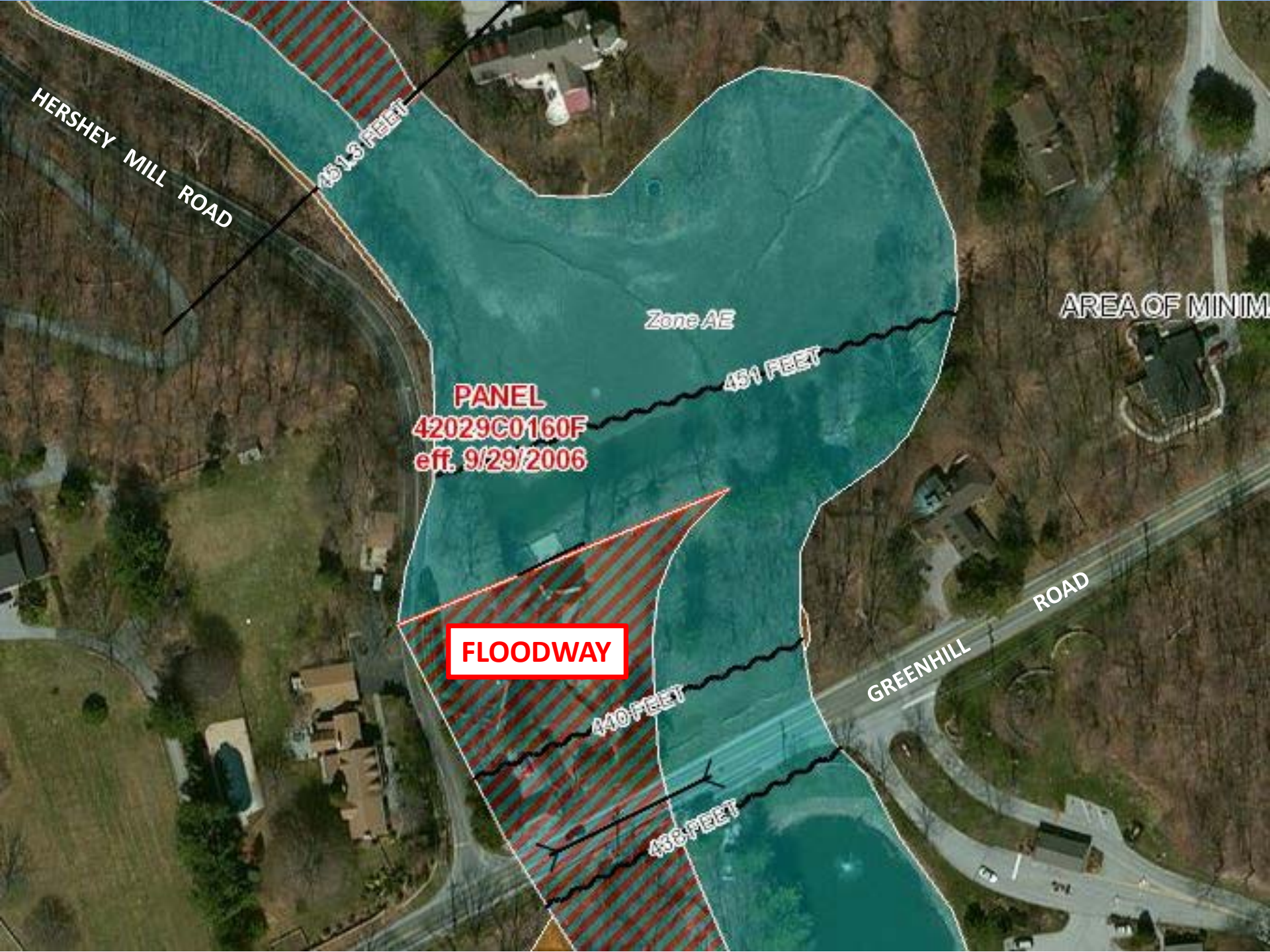
OPTION TO LOWER SPILLWAY AND ADD SECONDARY SPILLWAY



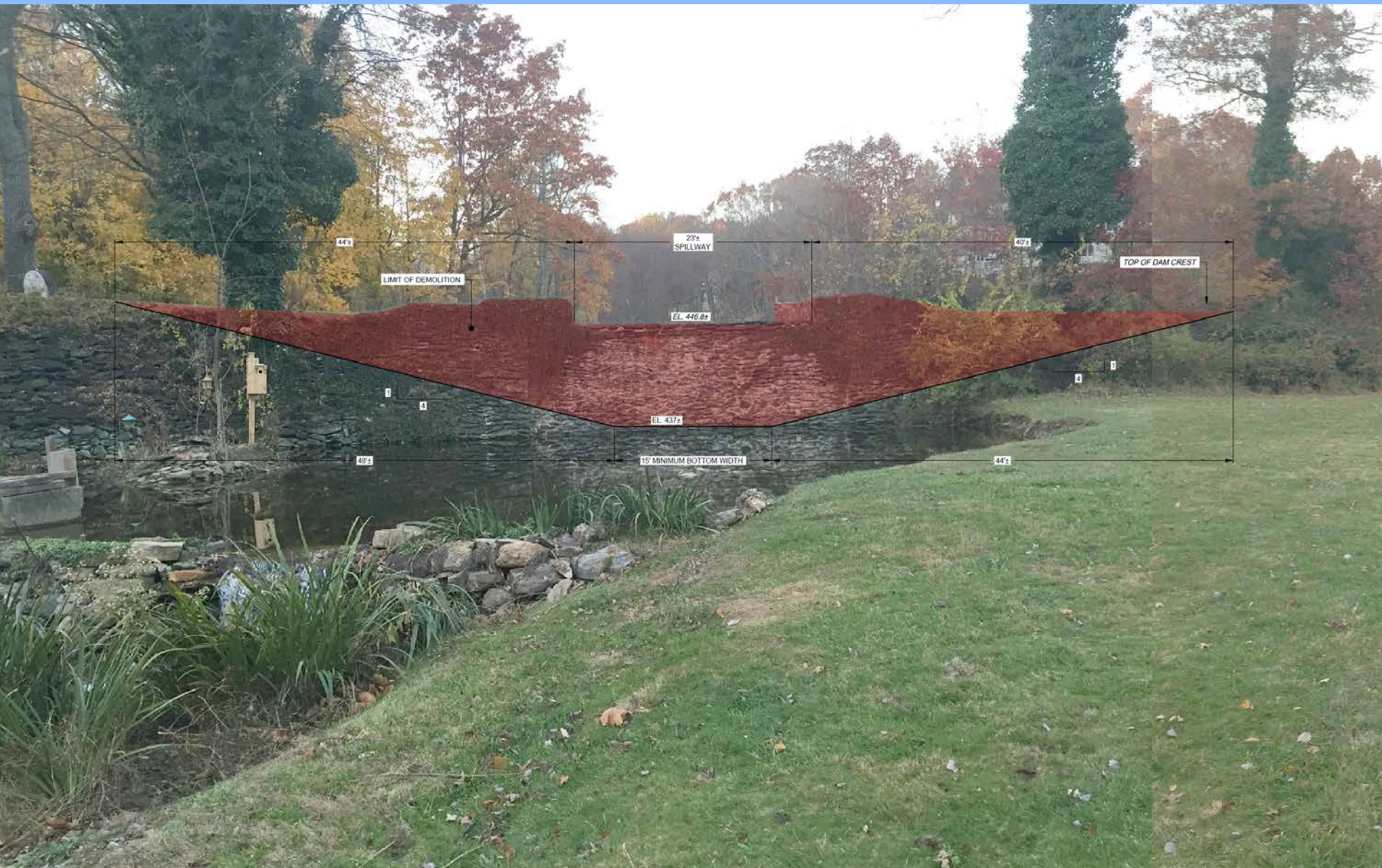
<u>OPTION SUGGESTED BY DEP IN 2009</u>

- **LOWER SPILLWAY CREST BY 6-FEET (ELIMINATES RESERVOIR POOL)**
- **ADD 60-FOOT SECONDARY SPILLWAY**


Unnamed Tributary of Ridley Creek
Hershey Mill Road
Construction Access
Spoil Area 1,400-2,350 cy
Haul Road
1
3
2
Greenhill Road


HERSHEY MILL ROAD
451.3 FEET
Zone AE
451 FEET
PANEL
42029C0160F
eff. 9/29/2006
FLOODWAY
440 FEET
438 FEET
GREENHILL ROAD
AREA OF MINIM

OPTION 1
BREACH AT EXISTING SPILLWAY



OPTION 1

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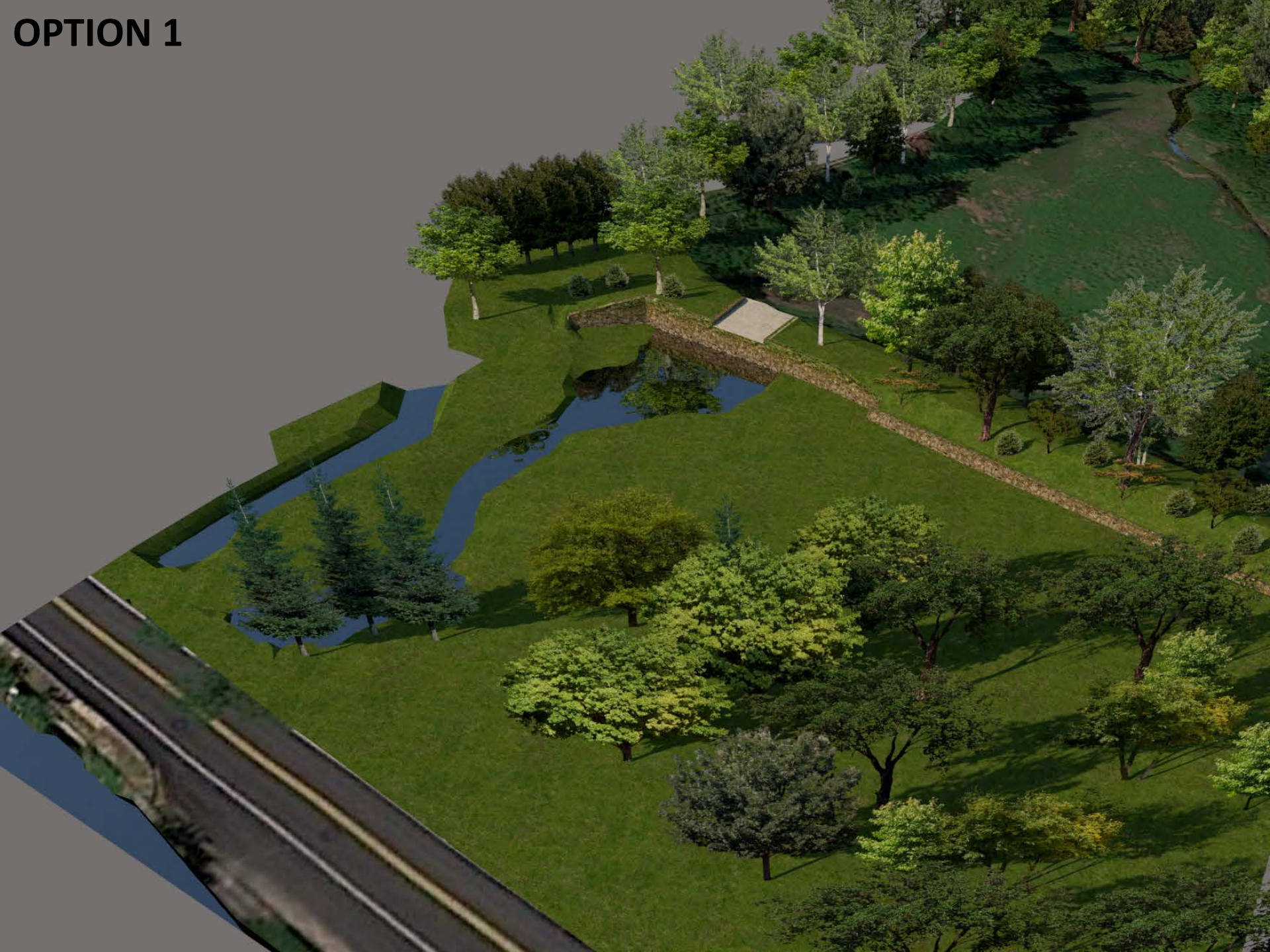


Existing Flow Patterns Maintained

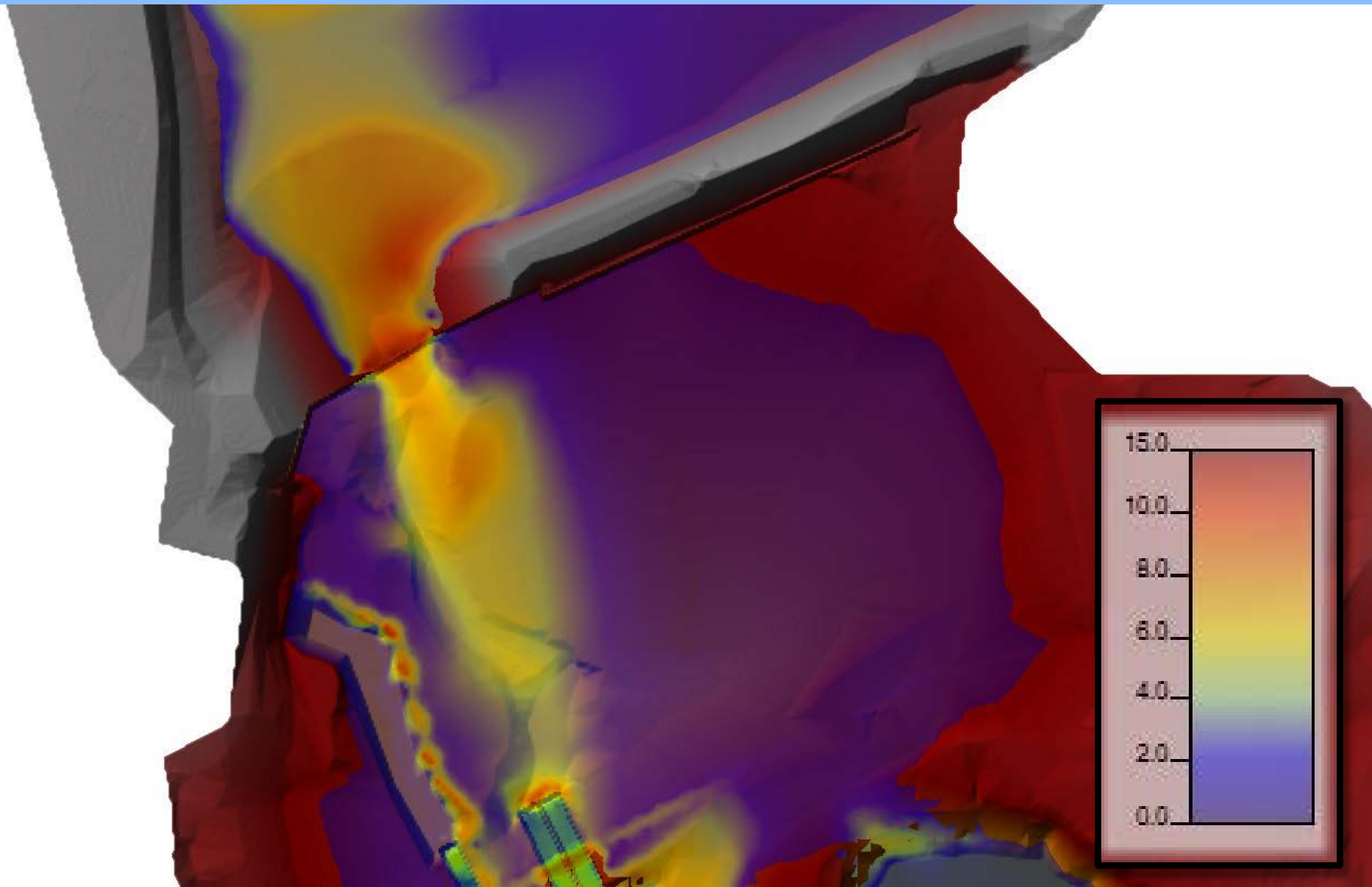
No Impacts to Downstream Wetlands or Waterways

No Increase in Downstream 100-Year Floodplain Elevation

Temporary Easement Needed on Private Property

Construction Cost: $200,000 - $240,000

OPTION 1 - ESTIMATED VELOCITIES (100-YEAR STORM)



RIPRAP SLOPE PROTECTION

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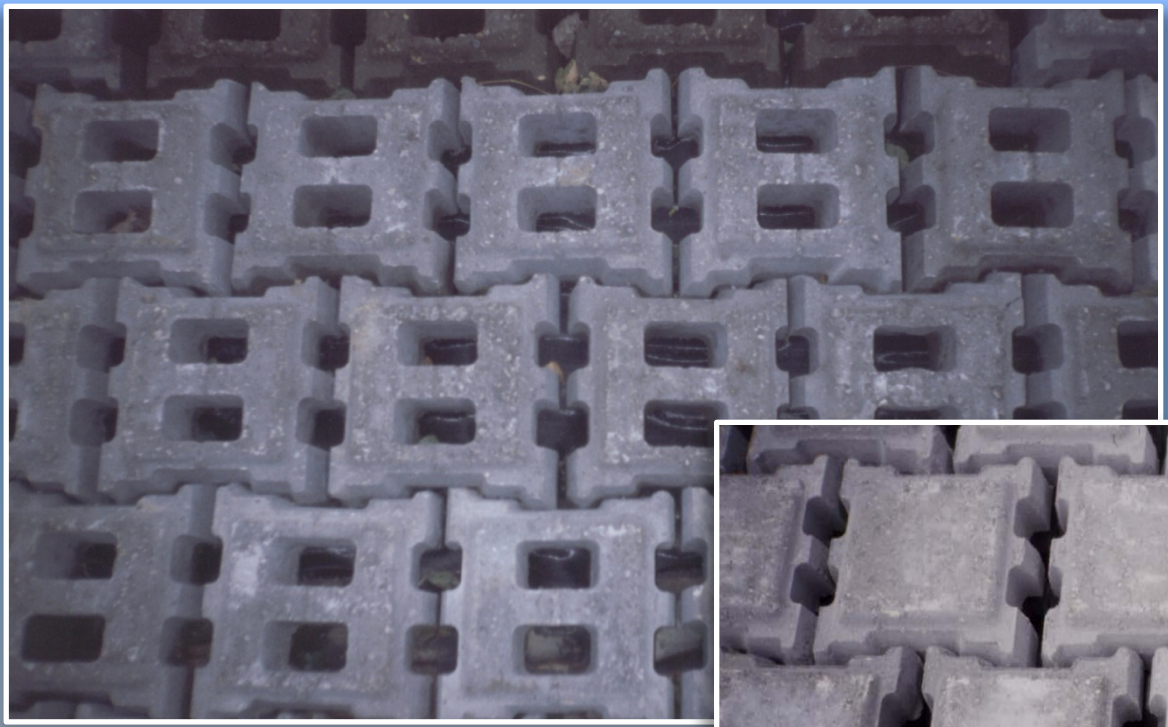
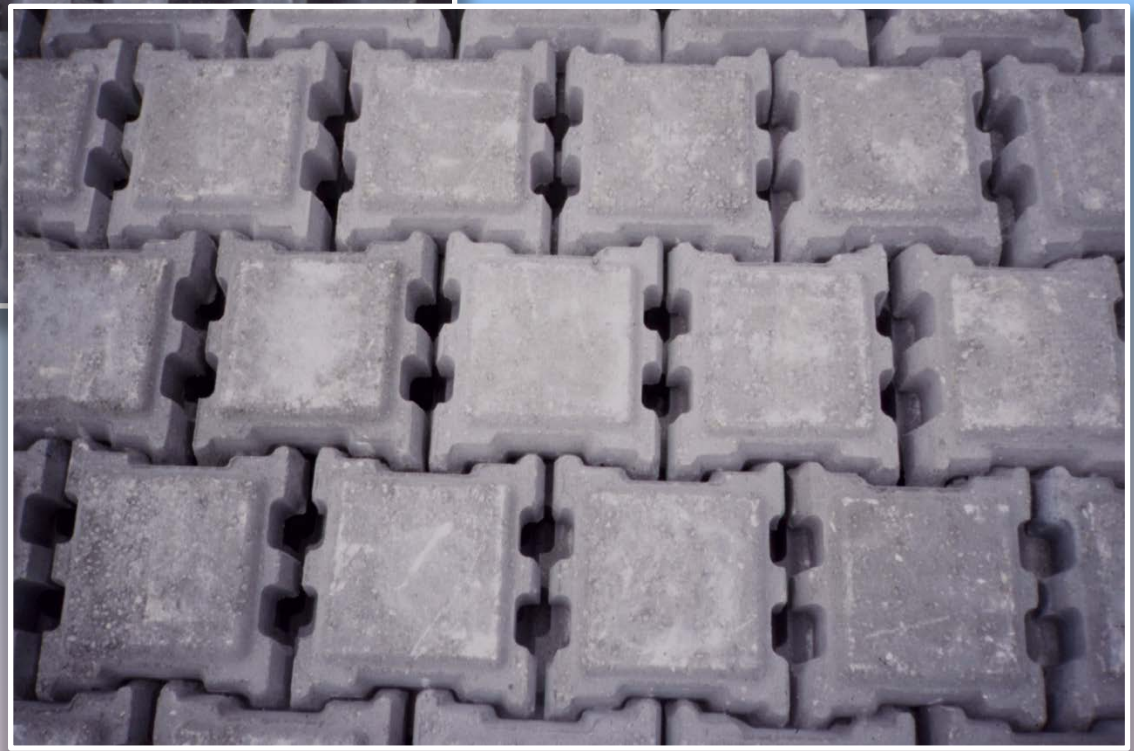
ARTICULATED CONCRETE BLOCK



OPEN CELL BLOCKS
(20% OPEN AREA)



CLOSED CELL BLOCKS
(10% OPEN AREA)

LAKE NATALIE DAM, PENNSYLVANIA

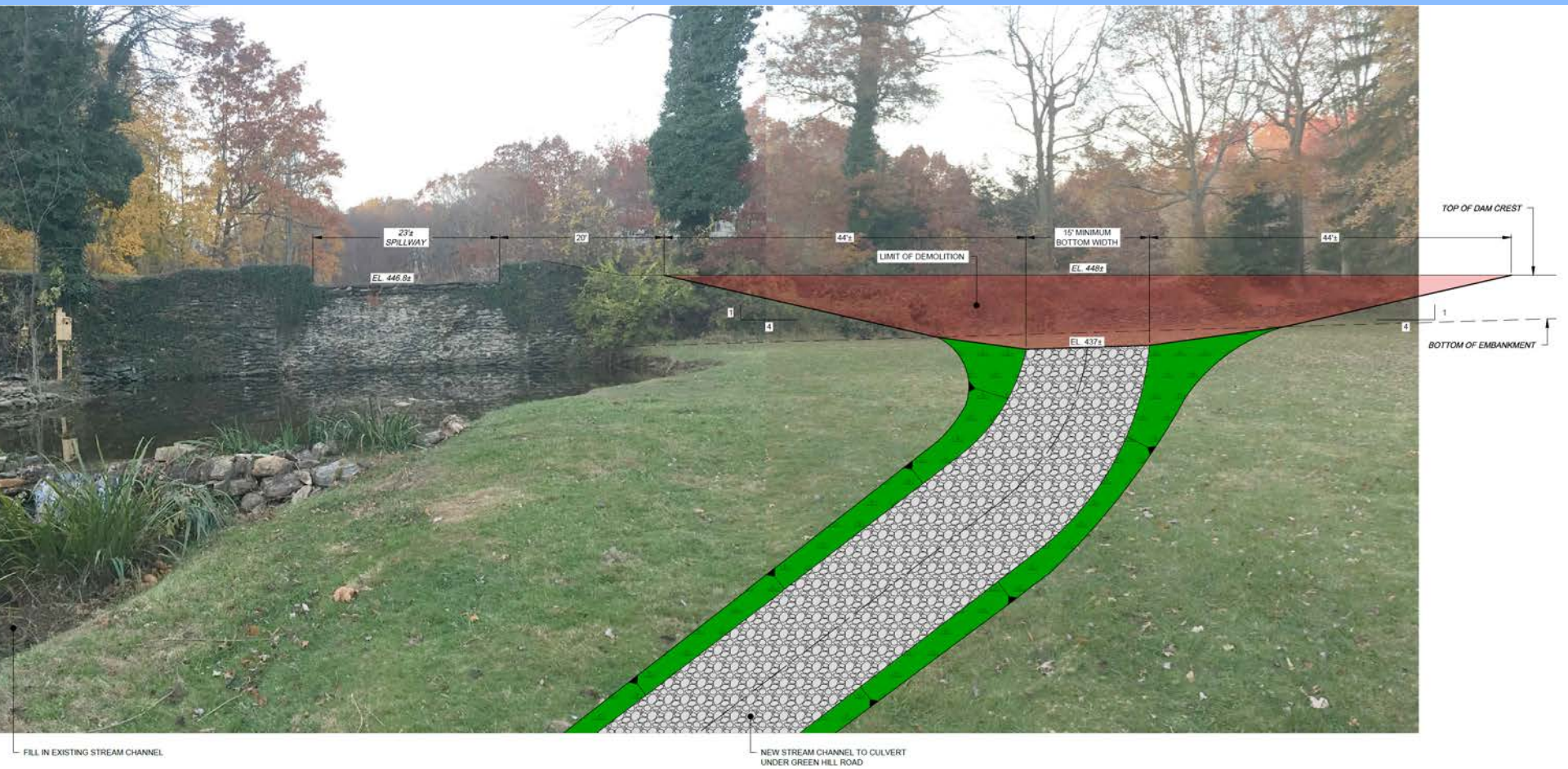
LAKE NATALIE DAM, PENNSYLVANIA

LAKE NATALIE DAM, PENNSYLVANIA


LAKE NATALIE DAM, PENNSYLVANIA


LAKE NATALIE DAM, PENNSYLVANIA

OPTION 2
BREACH TO LEFT OF EXISTING SPILLWAY



OPTION 2

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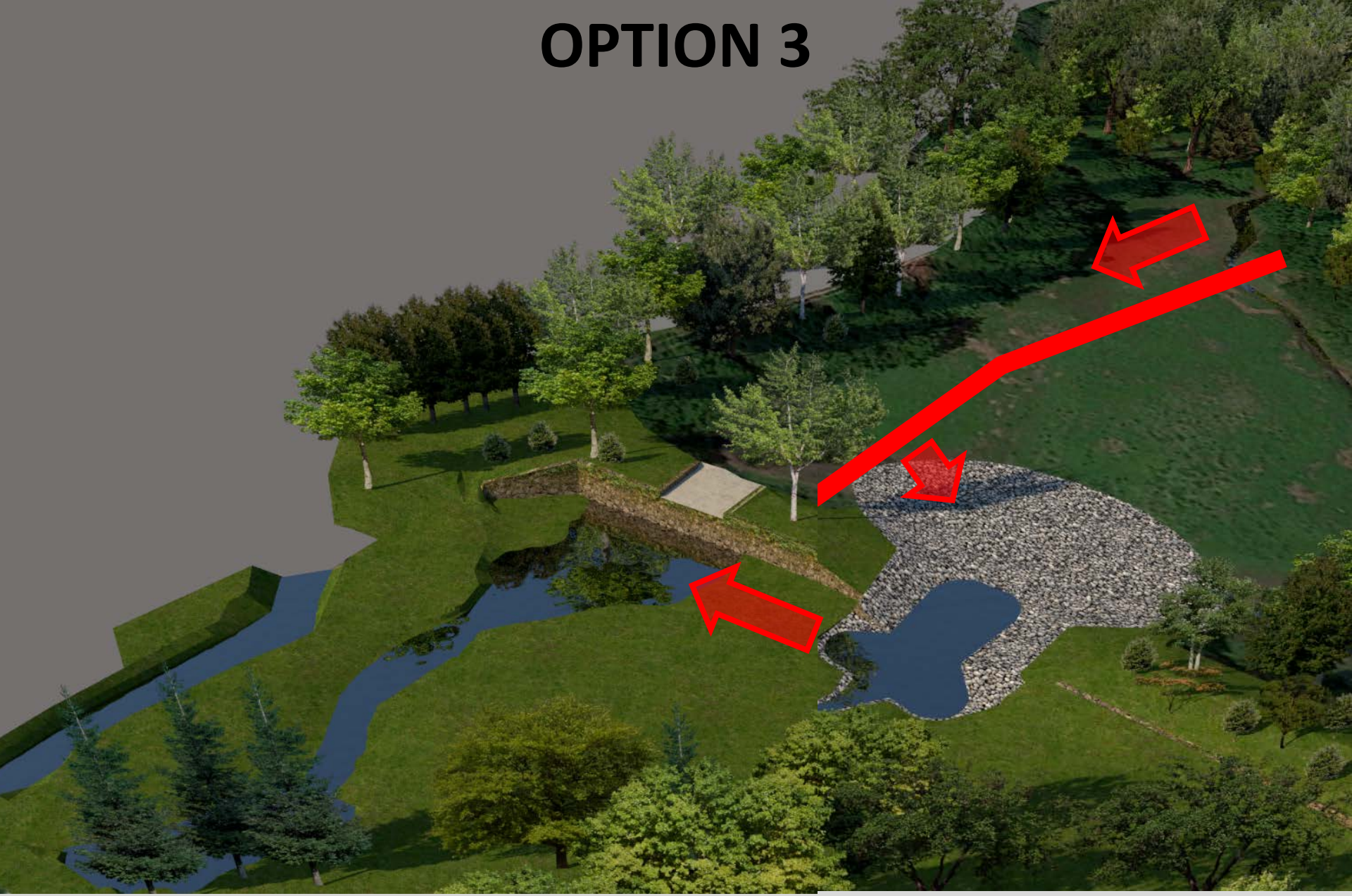
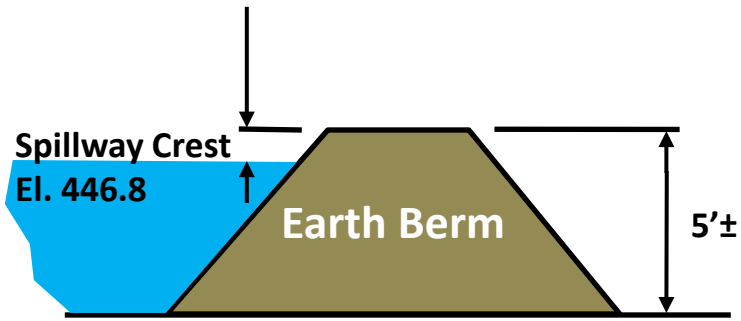
Existing Spillway Wall Maintained
Filling of Existing Channel Impacts Wetlands and Waterways
New Discharge Channel Bisects Private Property
Downstream Lawn Area Subject to Higher Velocity Flows
No Increase in Downstream 100-Year Floodplain Elevation
Temporary Construction & Permanent Drainage Easement Needed on Private Property
Construction Cost: $215,000 - $260,000

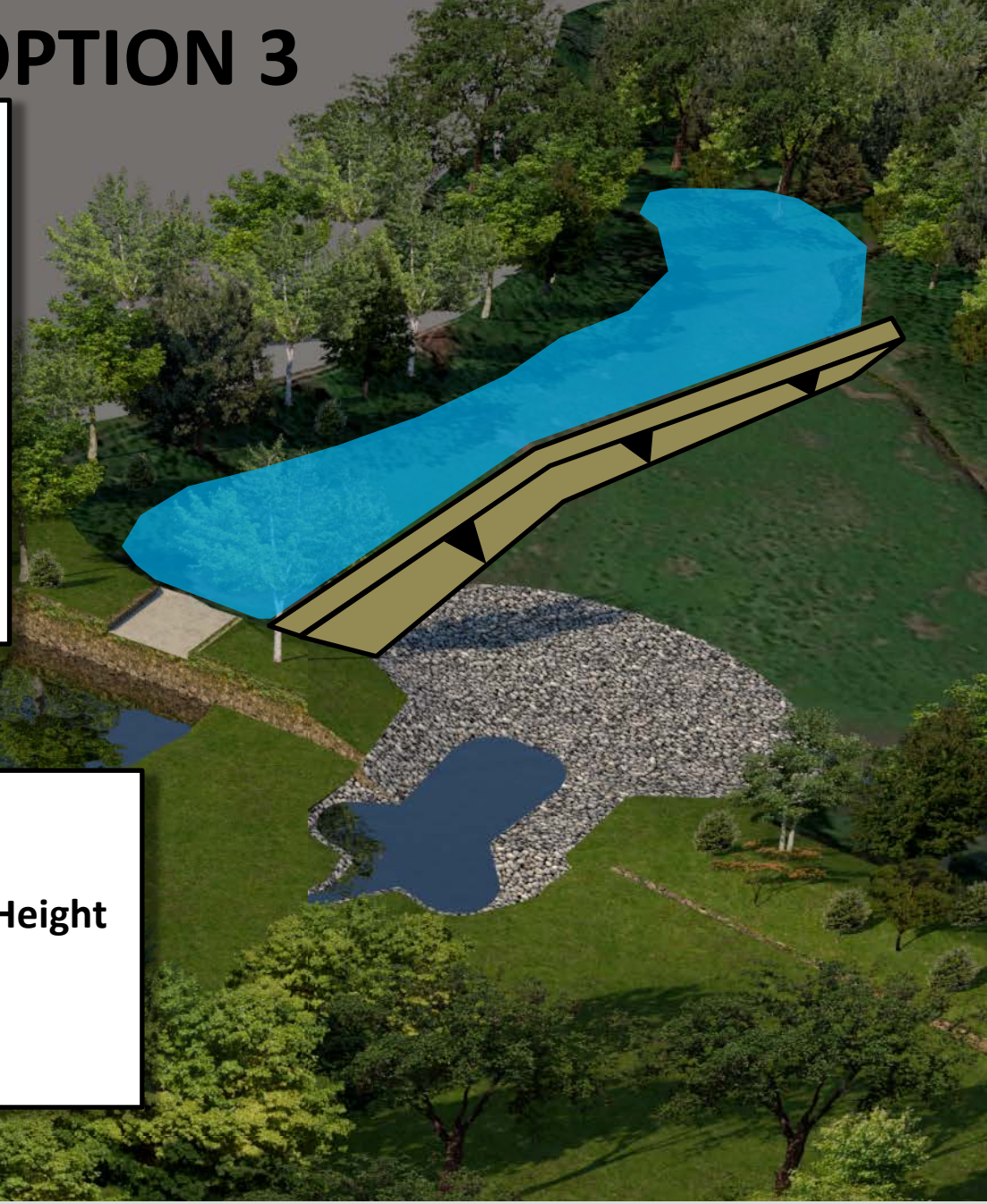
OPTION 3



ADD BERM IN RESERVOIR TO DIRECT FLOW TO SPILLWAY
DIRECT FLOW BACK INTO EXISTING STREAM CHANNEL

OPTION 3



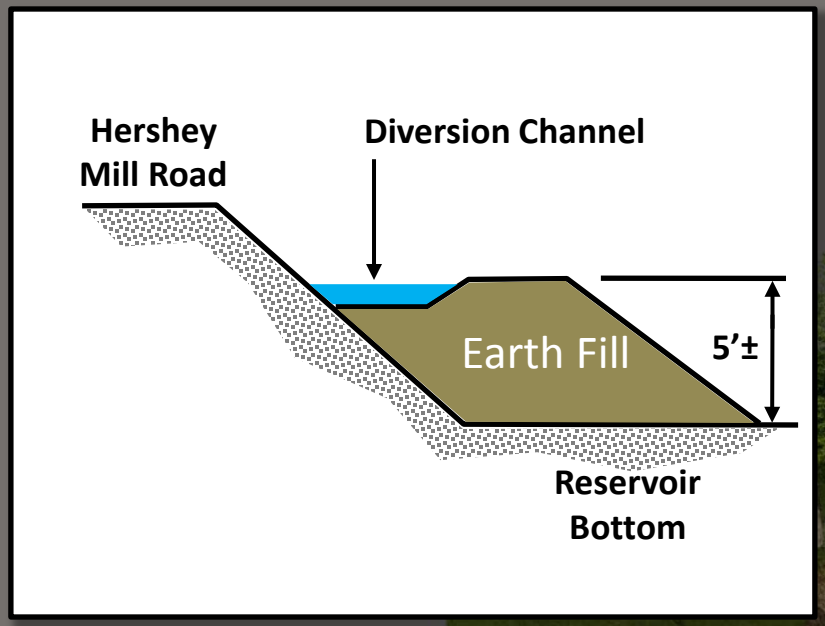


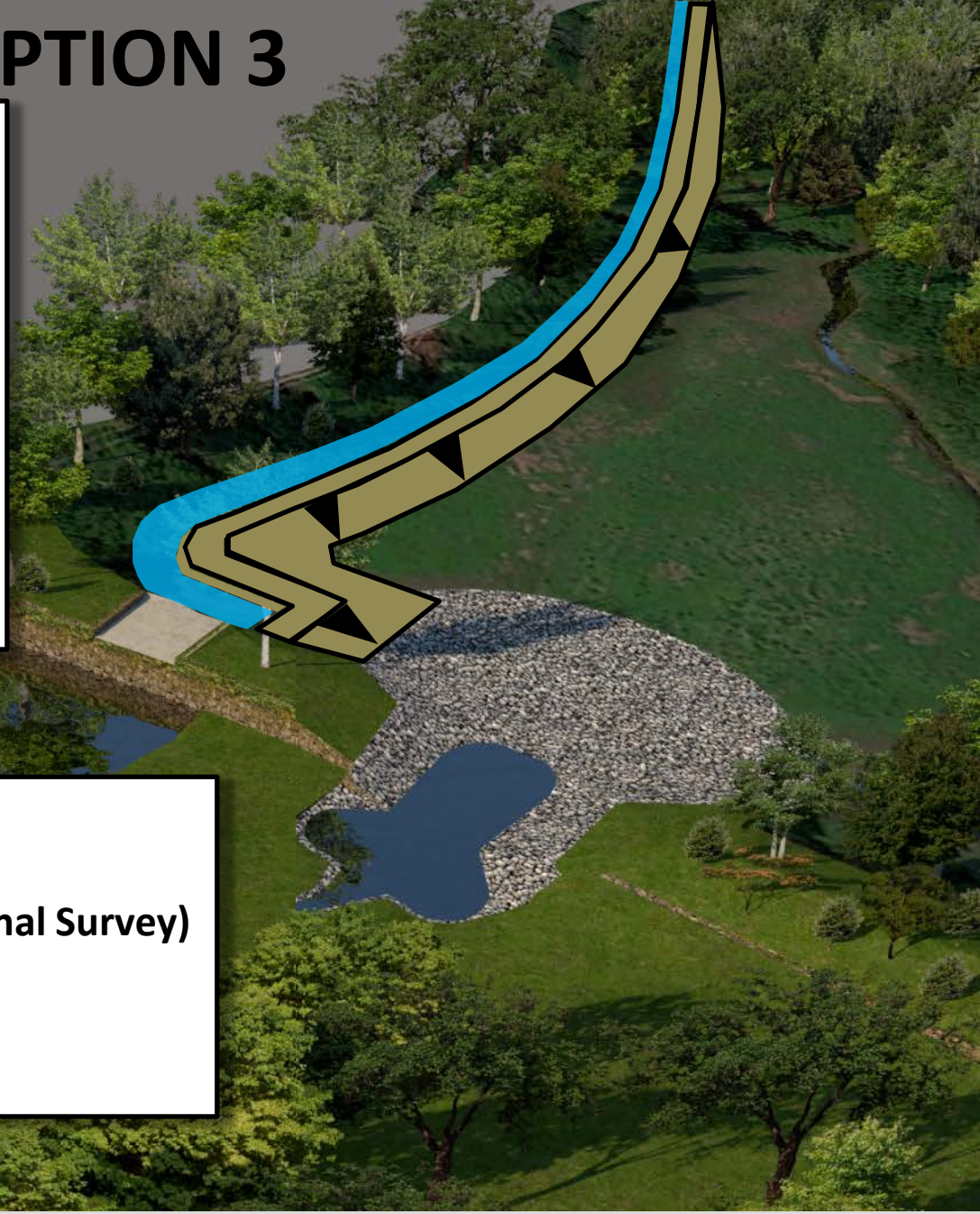
<u>Chapter 105 Dam Criteria</u>

- **Embankment is Greater than 15’ in Height**
- **Impounds more than 50 Acre-Feet**
- **Drainage Area More than 100 Acres**

ADD BERM IN RESERVOIR TO DIRECT FLOW TO SPILLWAY

OPTION 3



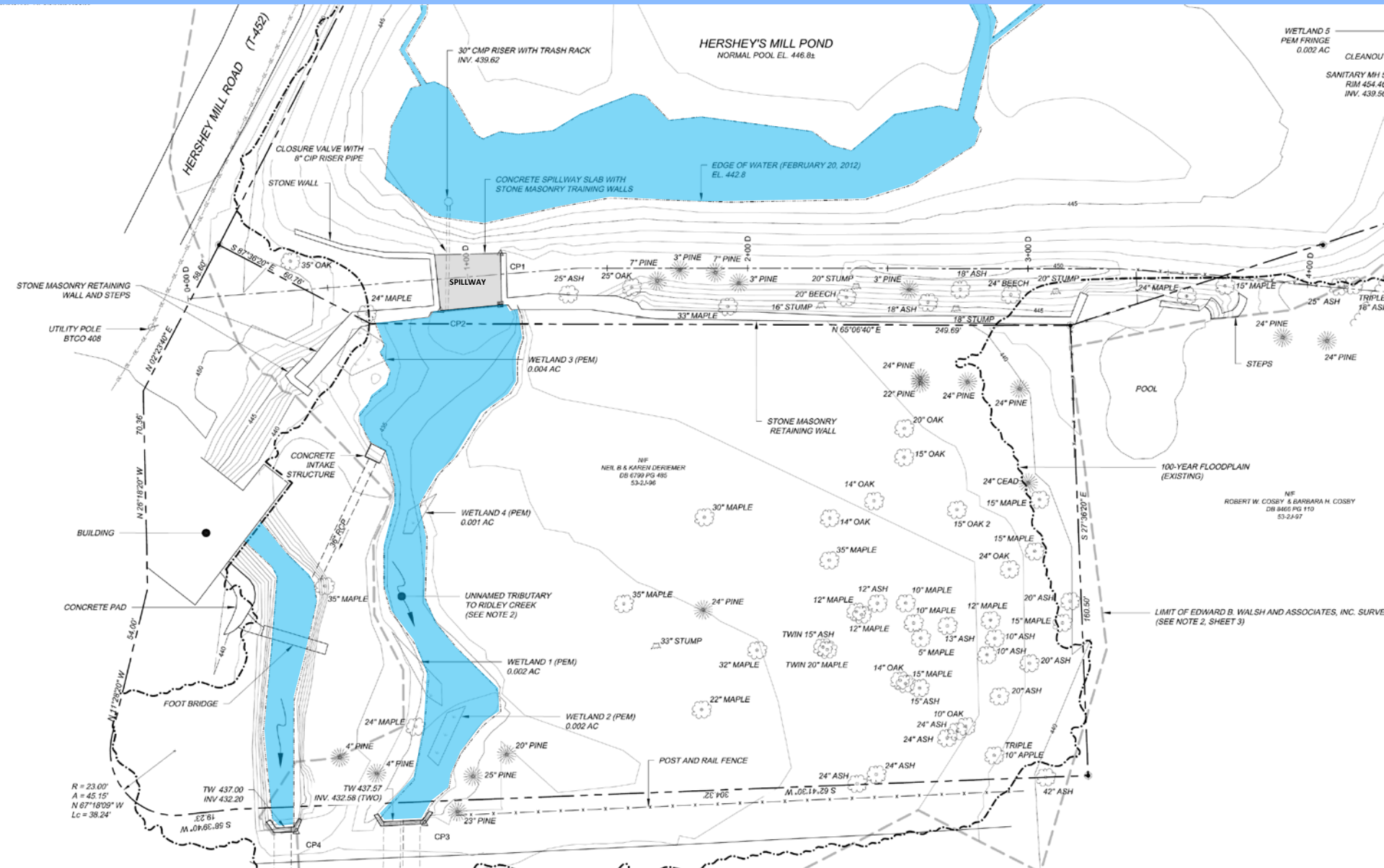


<u>Potential Impacts of Diversion Channel</u>

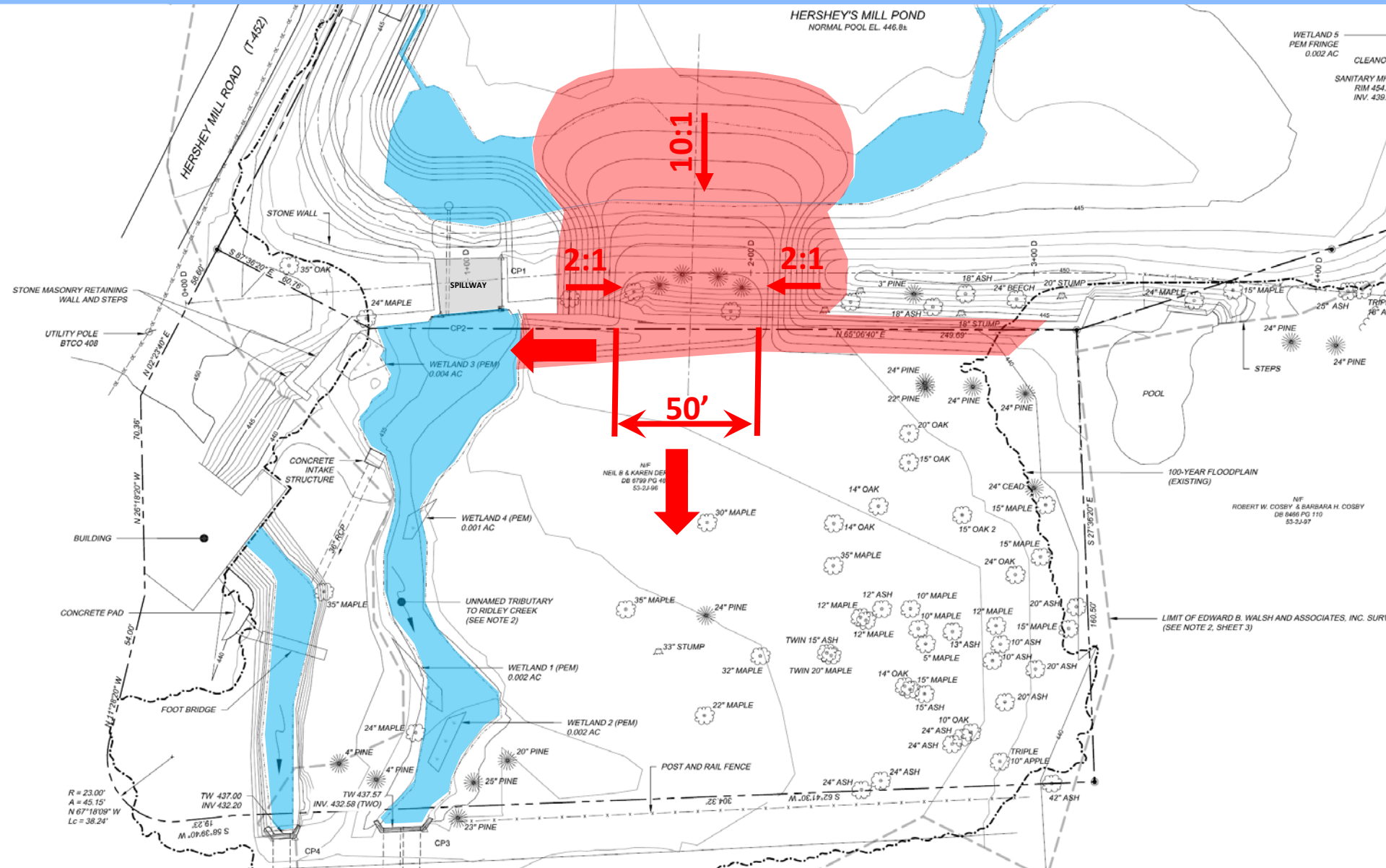
- **Length over 800-Feet (Need Additional Survey)**
- **Tree Clearing**
- **Wetland and Waterway Impacts**

DIVERSION CHANNEL TO DIRECT FLOW TO SPILLWAY

OPTION 3
ENLARGED BREACH TO LEFT OF SPILLWAY



OPTION 3
ENLARGED BREACH TO LEFT OF SPILLWAY



OPTION 3

OPTION 3

OPTION 3

OPTION 3

Existing Spillway Wall Maintained

No Impacts to Downstream Wetlands and Waterways

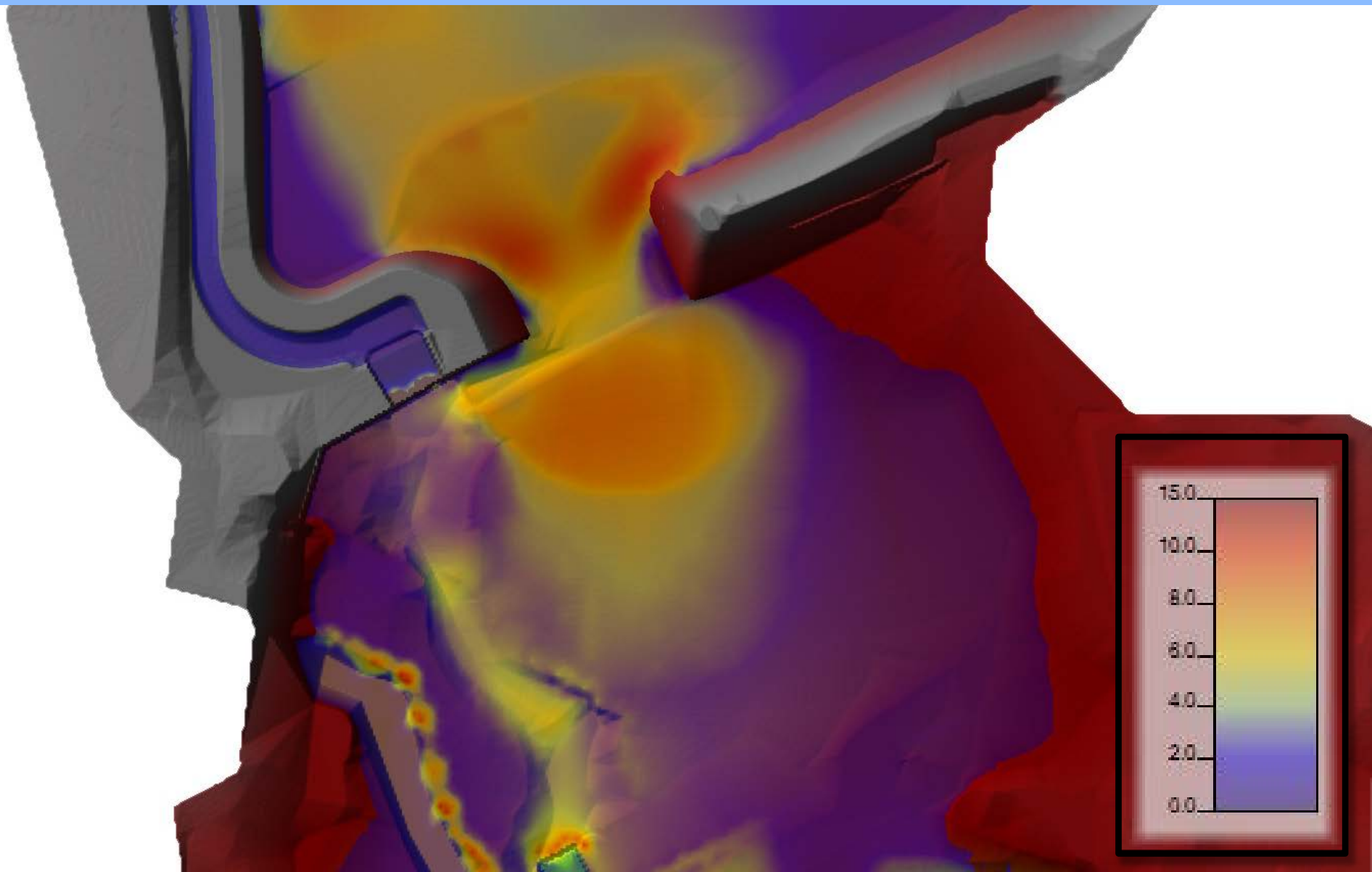
Downstream Lawn Area Subject to Higher Velocity Flows

No Increase in Downstream 100-Year Floodplain Elevation

Temporary Construction & Permanent Drainage Easement Needed on Private Property

Construction Cost: $230,000 - $280,000

OPTION 3 - ESTIMATED VELOCITIES (100-YEAR STORM)



COMPARISON OF OPTIONS

Item	Option 1	Option 2	Option 3
Construction Cost	$200,000 - $240,000	$215,000 - $260,000	$230,000 - $280,000
Retain Masonry Spillway Wall	No	Yes	Yes
Maintain Existing Flow Patterns	Yes	No	No
Downstream Wetland & Stream Impacts	No	Yes	No
Need for Temporary Construction Easement	Yes	Yes	Yes
Need for Permanent Drainage Easement	No	Yes	Yes
Impacts to Downstream 100-Year Flood Elevation	No	No	No

QUESTIONS