WHITNEY POND DAM – REPAIR ALTERNATIVES

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BACKGROUND

- **Whitney Pond Dam**
  - Constructed in 1880 with significant modifications in 1936 and 1957; industrial purpose
  - Earthen embankment length of 887 feet with spillway 82 feet long; max height of 27 feet
  - Stoplogs used to control pool elevation
  - DCR Classification: *Large Sized, High Hazard* (Class I) potential dam in *Poor Condition* (2006)
- **Phase II Inspection**
  - Ordered by DCR in 2007
  - Recommended “necessary repairs” to improve the condition of the dam
  - In addition, recommended two alternatives to improve ability of dam to pass *Spillway Design Flood (SDF)*
    - Overtopping Protection
    - Crest Gate

NECESSARY REPAIRS (DUE TO POOR CONDITION)

- **Embankment**
  - Remove Trees & Brush
  - Place Riprap and Install Seepage Cutoff (upstream)
  - Flatten Slopes (downstream)
- **Spillway**
  - Remove steel stanchions and walkway
  - Repair deteriorated concrete
  - Inject grout to mitigate for seepage
- **Training Walls**
  - Repair deteriorated concrete
  - Repair falling portion of stone masonry (downstream)
- **Channel**
  - Clear debris and woody vegetation (downstream)

Necessary Repairs OPCC: $3,000,000*

*Engineer's Opinion of Probable Construction Cost (OPCC) was compiled in 2009. OPCC was adjusted for inflation from 2009-2022 based on the ENR Construction Cost Index (CCI). Prices were then adjusted for inflation from 2022-2025 using an annual rate of 3.5%.

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SPILLWAY CAPACITY ALTERNATES

- **Overtopping Protection - $3,100,000***
  - Place Articulated Concrete Blocks (ACBs) on Downstream Slope of Earthen Embankment

    (+) No alteration of existing spillway
    (+) No operation of gate(s) prior to storm events
    (+) No long-term maintenance burden
    (+) Lower construction cost
    (-) No ability to manipulate water elevation
    (-) Potential for downstream impacts during SDF

- **Crest Gate - $7,200,000***
  - Rebuild the Spillway and Install a Mechanical Gate

    (+) Allow for return to historic normal pool elevation
    (-) Operation & Maintenance burden (in perpetuity)
    (-) Longer design & permitting process
    (-) Higher construction cost

Construction Cost = $3,000,000 + Selected Alternate

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