BSC GROUP

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Nature-Based Solutions Implementation Resource Guide

Nature-based Solution (NbS): Dam Modifications/Controls

Project Number per matrix: **16**

PREREQUISITES

- Obtain approval from Town or City Conservation Commission, DPW, and/or landowners.
- Obtain appropriate permits, e.g. Chapter 91 license for navigable waters.
- Conduct analysis of water flow.
- Assess flood control of related structures.
- Complete/review structural analysis of dam report.
- Assess feasibility of structure alterations.
- Assess wildlife/plant species impacts.
- Obtain electrical and data access.
- Note: dam removal is beyond the scope of this project and requires additional analysis.

RECOMMENDED IMPLEMENTATION STEPS

- **Project Planning and Administration**
  - Assess upstream flood/downstream flow impacts.
  - Assess potential erosion contamination impacts.
  - Plan for post-construction period environmental monitoring.
  - Assign and train controls manager/office control and monitoring facilities and staff.
- **NbS Installation**
  - Conduct site preparation to include erosion control and stockpile/mobilize staging area.
  - Reconstruct stream channel, parallel stream bypass fish ladder, or backfill.
  - Replace standard manual dam weir elevation controls with automated controls to allow for greater control of permanent flow levels and preemptive storm control and post-storm calibration.
  - Reconstruct associated roadway/dam.
  - Reconstruct abutting wetlands (see also Construction of New Wetlands).
  - Temporarily divert flow.
- **Maintenance**
  - Annual or “as needed” maintenance or monitoring may be required.

NATURE-BASED SOLUTION SPECS

- Typical project size: N/A

BUDGET ESTIMATE

- Typical project budget (order of magnitude): N/A
- Use the BSC Group Nature-based Solutions budget tool to develop more detailed concept budgets

SCHEDULE ESTIMATE

- Varies by unit.
- Requires continuous monitoring.