

WATER QUALITY IMPROVEMENT PROJECTS



Department of
Environmental
Conservation

Floodplain Creation/Restoration/Reconnection Engineering Design Report Outline

Engineering design reports for projects to address floodplain creation/restoration/reconnection activities must include the required elements listed below. Floodplain creation/restoration/reconnection projects include but are not limited to the following: (1) the creation of a new natural floodplain where one does not currently exist; (2) the restoration, enhancement or expansion of an existing floodplain; or (3) the reconnection of a stream to its natural floodplain as a result of stream channel entrenchment. The engineering design report must include a detailed and accurate description of the existing conditions and the proposed work that will be completed under the project. Engineering designs must meet the minimum [Protection of Waters permit requirements](#).

Required Elements

- I. **Cover Page** (project title, owner, prepared by, professional's stamp, and date)
- II. **Executive Summary:** Provide an overview of the project's purpose (i.e., what will be accomplished by implementing this proposed project?)
- III. **Projective Objectives:** Describe goals and objectives for the proposed floodplain creation/restoration/reconnection project. Please include the overall anticipated benefits that this proposed project will have on the community and how it will be effective at making the community more resilient to further extreme weather events brought about by climate change. Indicate if this is a stand-alone flood mitigation project or if it is part of a larger flood mitigation initiative.
- IV. **Existing Conditions:** Include a detailed description of the current site conditions where the proposed project is located. Please include the following: (1) a project background description and flood history of the site, along with flooding extent in the immediate and surrounding area; (2) a summary of the number and types of structures impacted by flooding; and (4) a summary of flood damages within the immediate and surrounding area.
- V. **Existing Conditions Graphic:** A site plan or diagram of the existing project site is required. It must include:
 - a. Engineer / Landscape Architect name; date and project title
 - b. North arrow / legend
 - c. Graphical scale (1 " = 10', 20', 30', 40', 50', 60' or 100')
 - d. Natural features located on site including wetlands, streams, steep slopes, and floodplains
 - e. Site features including streets, buildings, and/or other infrastructure
 - f. Site topography
 - g. Project location map / address (including nearest cross street)
 - h. Stormwater flowpath (also consider adjacent sites)

- i. Nearest receiving waterbody
- j. Location relative to the 100-year floodplain
- k. Other site considerations (hotspots, brownfield remediation or other potential design issues at the site)
- l. Location of any available boring logs, infiltration tests, or other subsurface investigations.

VI. Project Description: Provide a narrative that explains the proposed project and provides justification for the recommended floodplain creation/restoration/reconnection project and why this proposed is being proposed. Please describe how this proposed project will mitigate flooding and what specific area(s) will be benefitted as a result of implementing the proposed project. If this proposed project has been specifically identified and evaluated within a flood study (e.g., Resilient NY Streams Study or other type of flood study), please include all relevant project information.

VII. Alternatives Analysis with cost estimates: include any alternatives project(s) that were evaluated.

VIII. Anticipated Regulatory Approval and Permits (*list all that will apply, e.g. NYSDEC, NYSDOT, etc.*)

IX. Conceptual Site Plan: A site plan or diagram of the project's conceptual design is required. It must include:

- a. Engineer / Landscape Architect name; date and project title
- b. North arrow / legend
- c. Graphical scale (1 " = 10', 20', 30', 40', 50', 60' or 100')
- d. Location map
- e. Natural and site features (wetlands, nearest waterbody, floodplains, steep slopes, streets, buildings, other infrastructure etc.)
- f. Proposed floodplain creation/restoration/reconnection project location
- h. Site grading (proposed conditions)
- i. Other design considerations

X. Floodway Encroachment Analysis: Projects within a regulatory floodway require a hydrological & hydraulic (H&H) analysis conducted by a professional engineer to demonstrate no-rise (0.00 feet) in the base flood elevation, as required under the National Flood Insurance Program. Guidance can be found at <https://www.dec.ny.gov/lands/24281.html>

XI. Site Photographs: Photographs that are representative of existing site conditions.