



BASIS OF DESIGN REPORTS FOR STORMWATER INFRASTRUCTURE PROJECTS (CWSRF FUNDED)

November 2021

- 1) Basis of Design Report (BDR) Overview.
 - (a) The owner shall submit a Basis of Design Report (BDR) to the NHDES Watershed Management Bureau for review and approval prior to final design.
 - (b) The BDR shall include the following sections:
 - (1) Project Description.
 - (2) Existing Conditions.
 - (3) Surface Water Quality/Quantity Improvement Alternatives.
 - (4) Recommended Project Scope.
 1. Sections 2-5 describe required content for each BDR section.
 - (c) Required Meetings.
 2. The owner and design firm shall meet with NHDES Watershed Management Bureau and Wastewater Engineering Bureau review staff:
 - (1) At, or prior to, project initiation for the purpose of outlining project scope and goals; and
 - (2) Upon completion of the draft BDR for the purpose of reviewing report recommendations, NHDES comments on the report, and project schedule.
- 2) BDR: Project Description. This section shall include a description of:
 - (a) Project background;
 - (b) Conditions requiring improvements, and
 - (c) Project goals and clearly defined deliverables, as applicable:
 - (1) Water quality improvements;
 - (2) Aquatic habitat restoration;
 - (3) Flood mitigation;
 - (4) Climate change adaptation/resiliency;
 - (5) Other.
- 3) BDR: Existing Conditions. This section shall include a description of:
 - (a) Location, boundaries and topography of the project area, including:

- (1) Scale maps and topographical maps depicting all water bodies in the affected project area; and
 - (2) Existing infrastructure; and
 - (3) Photographs of the project area; and
 - (4) Environmental Assessment (endangered species, hazardous waste, historic resources, etc.); and
 - (5) Ownership.
 - (b) Site characteristics:
 - (1) Existing uses of the receiving waters within and downstream of project area;
 - (2) Hydrologic Soil Group;
 - (3) Impervious cover;
 - (4) Land use;
 - (5) Pre-construction pollutant loading; and
 - (6) Other.
 - (c) Summary of available data for receiving water, as applicable:
 - (1) Flow data for past (10) years;
 - (2) 7Q10 data;
 - (3) Flood elevation data (25 year, 50 year, 100 year, 500 year);
 - (4) Other.
 - (d) Summary of available water quality data, as applicable:
 - (1) NHDES available data: Environmental Monitoring Database (EMD); TMDL; VRAP; VLAP; most current, EPA approved 303(d) and 305(b) assessment lists; Watershed-based plans.
 - (2) Local water assessments: Lakes Lay Monitoring Program, other.
 - (3) Site specific reports.
 - (4) Other.
 - (e) Future Conditions, as applicable.
 - (f) Site constraints.
- 4) BDR: Surface Water Quality/Quantity Improvement Alternatives - This section shall include a description of:

- (a) Each surface water quality/quantity improvement alternative considered, including a no action alternative;
 - (b) Comparison of alternatives, including:
 - (1) Ability to meet project goals (pollutant load reductions, etc.);
 - (2) Estimates of capital and operating costs;
 - (3) Long term operation and maintenance requirements and responsible parties.
- 5) BDR: Recommended Project Scope - This section shall include a description of:
- (a) The recommended surface water quality/quantity improvement alternative, explaining justification for recommendation over other available alternatives;
 - (b) Design criteria to meet project goals
 - (c) Anticipated permitting;
 - (d) Cost summary;
 - (e) Project schedule.