

Figure 3: Example On-site Mitigation Plan Scope

North Carolina Department of Transportation
Project Development and Environmental Analysis Branch
██████████ On-site Stream Mitigation Plan
██████████, North Carolina

PROJECT DESCRIPTION

This scope of work provides for documentation of the existing site conditions, design of the stream mitigation and preparation of a stream mitigation plan for the ██████████ on-site stream mitigation in ██████████ County, North Carolina. The project area is located along the ██████████. There are 14 sites within the project corridor that were identified as having potential to provide on-site stream mitigation credit ██████████ impacts.

Task 1: Project Administration

██████████ will provide administrative tasks including attendance at meetings, coordination with the NCDOT, resource agencies, and property owners, quality assurance/quality control, project tracking, scheduling, progress reports, and administrative services (phone calls, letters, etc.). One meeting will be required to discuss each of the following items:

- 1.) Draft review (with NCDOT)
- 2.) Agency comments (on-site with agencies and NCDOT)

Task 2: Stream Assessment

██████████ will utilize DTM and survey data provided by the NCDOT to assess existing conditions and provide a Rosgen Level II classification. ██████████ will perform a site investigation to provide a geomorphic analysis of the existing channel at each site identified for restoration or relocation. Aerial survey, topographic survey including survey of existing channel, top-of-bank, and bed elevation, along with base mapping of the site, and box culvert designs will be provided by the NCDOT. ██████████ will also provide NCDOT's Locations and Surveys with the areas that may require additional surveys.

Task 3: Reference Reach Survey

██████████ will identify streams in the immediate project vicinity that can be used as reference reaches. A survey of the stream morphology of three reference reaches will be conducted to serve as a guide for the design. ██████████ will install a crest gauge and scour chain, as well as conduct bar samples on each reference in order to assist in the calibration of the sediment analyses.

Task 4: Stream Design

The stream channel design will include analysis of the hydrology, hydraulics, shear stress, sediment transport, and appropriate channel dimensions. The hydrology and hydraulics will include analysis of the bankfull discharge along with the 10-year, 50-year and 100-year discharge. The hydraulic analysis will consist of preparing a single section analysis of the existing and proposed stream geometry. The bankfull discharge will be used to develop the proposed channel dimension and to assess performance while the larger discharges will be used to assess alteration to the flood stages.

Task 5: Draft Stream Mitigation Plan

██████████ will also prepare a mitigation plan. Within the mitigation plan document a brief description of existing site conditions will include stream morphology (Rosgen classification), degrading factors, physiography, land use, plant communities, aquatic communities, soils, hydrology, and wetland delineation. The description of the proposed site will include proposed stream morphology, community types, special treatments such as aquatic or wildlife habitat enhancement, and recommended mitigation ratios. The planting plan will describe appropriate species and planting specifications for reforestation of the riparian and upland areas. ██████████ will coordinate with NCDOT's Roadside Environmental Division with regards to the planting plan. A post-construction monitoring plan of the hydrology and vegetation will be included in the narrative as well as success criteria for the site. Three hard copies of the draft report will be provided to the NCDOT.

Task 6: Prepare Final Stream Mitigation Plan

██████████ will address the comments expressed by NCDOT and agencies on the draft plan and incorporate into the final plan as required. ██████████ will provide fifteen hard copies and an electronic copy of the final plan to NCDOT.