

I. INTRODUCTION

The North Carolina Forest Service (NCFS) requested a Master Plan be developed to identify potential stream restoration projects with the goals of improving water quality and ecological functions of the Linville River and tributaries on the Gill State Forest in Avery County, North Carolina. The Linville River comprises the upper reaches of the Catawba River Basin; upstream of Linville Gorge. The Gorge is part of 13 river miles designated as a State Natural & Scenic River. The Linville River Nursery is located on both sides of the river within Gill State Forest. The NCFS Mountain Training Facility, which serves numerous state agencies and affiliates, is located on the left bank of the river within the State Forest.

Once completed, river restoration projects within Gill State Forest could serve as a catalyst to encourage other property owners to participate in similar restoration work. Projects would provide the potential to increase visibility of the partnering agencies and their commitment to restoring and enhancing the water resources of the state. The proximity of the targeted river reaches to the NCFS Mountain Training Facility also represents an ideal classroom and outdoor laboratory opportunity for state agency training events pertaining to water quality, river ecology and restoration practices.

The NCFS has contracted with Stantec to complete the following Scope of Services:

TASK 1: Existing Conditions Data Collection

- Assemble any readily available existing data (aerial imagery, 2-5 foot contour topography, soils, land use/cover, and other relevant GIS files) related to watershed and stream conditions within the Gill State Forest property and contributing watersheds.
- Perform geomorphic assessments of streams and floodplains to evaluate existing fluvial conditions and restoration potential. Also, obtain supplemental detailed stream crossing data (inverts, pipe size, edge of road/crown, upstream/downstream sections).
- Assess and document existing riparian conditions, including: 1) stream morphology, 2) streambed substrate, 3) streambank erodibility (BEHI), 4) floodplain land uses, 5) vegetation composition, and 5) equipment accessibility for treatment.

TASK 2: Stakeholder Engagement

- Meet with NCFS personnel (and any other stakeholders as identified and invited by NCFS) to identify specific objectives and constraints for future stream restoration efforts.
- Maintain ongoing communication regarding project progress, matters of concern and path forward.
- Identify and analyze limiting factors for stream restoration project efforts based on stakeholder input.
- Present the plan completed in Task 3 to revisit objectives and elaborate on how specific concerns were addressed and incorporated.

TASK 3: Restoration Project Elements

- Using existing topographic data and supplemental detailed stream crossing data (from Task 1), Stantec will develop and produce conceptual sketch plan figures for feasible restoration project elements, including plan view, longitudinal profile, typical cross-sections, and planting zones.
- Based on the above evaluation and a single design concept, Stantec will assemble a preliminary engineering opinion of cost to include approximation of design fees, construction cost plus contingency.
- Additionally, Stantec will develop a prioritization matrix of feasible restoration project elements using qualifiers for project feasibility, conceptual opinion of quantities and cost, and benefit qualifications as basis of comparison.

TASK 4: Final Report

- Assemble an electronic Final Report consisting of all deliverables from Tasks 1, 2, and 3 to be delivered to NCFS.
- Meet with Project Managers to present findings included in Final Report.