

Federal Mitigation Plan
2022 Woods Woolen Mill Restoration Project
23-25 West Mill Street, Hillsborough



Former Woods Woolen Mill site and location of floodplain restoration in Hillsborough, New Hampshire.



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Acronyms

ARM	Aquatic Resource Mitigation
CFR	Code of Federal Regulations (Compensatory Mitigation for Losses of Aquatic Resources; 33 CFR Parts 325 and 332)
DCCR	Declaration of Covenants and Conservation Restrictions
EPA	United States Environmental Protection Agency
ILF	In-Lieu Fee
IRT	Interagency Review Team
ISCP	Invasive Species Control Plan
LTMP	Long-term Management Plan
NHDES	New Hampshire Department of Environmental Services
NHFG	New Hampshire Fish and Game
QP	Qualified Restoration Professional
SSC	Site Selection Committee
SVAP	Stream Visual Assessment Protocol
Town	Town of Hillsborough, NH
USACE	United States Army Corps of Engineers
WAP	New Hampshire Wildlife Action Plan

1. General Information

Compensation for unavoidable wetland impacts has been a part of the New Hampshire Department of Environmental Services (hereinafter "NHDES") Wetlands Bureau program since the mid-1980s and serves as a critical way the program addresses impacts under the federal Clean Water Act, Sections 401 and 404 which result in the discharge of dredged or filled materials within "waters of the U.S." Under the U.S. Army Corps of Engineers, (hereinafter "Corps") General Permit for New Hampshire, compensatory mitigation for proposed wetland dredge and fill impacts is required for projects having more than 5,000 square feet of wetland impact, and for minor projects when deemed appropriate by the Corps, to comply with federal standards. During the 2006 legislative session, the General Court enacted Senate Bill 140, known as Aquatic Resource Compensatory Mitigation Fund (hereinafter "ARM Fund"). These provisions are codified at RSA 482-A:28-33. The law creating the ARM Fund Program became effective on August 18, 2006, and NHDES adopted implementing rules, Env-Wt Chapter 800 which was effective on June 20, 2007. Successive amendments were adopted in 2016 and 2019.

The operation of New Hampshire's In-Lieu Fee (ILF) program is carried out pursuant to 33 CFR Parts 325 and 332 known as the federal "mitigation rule." The NH ARM Fund Final In-Lieu Fee Program Instrument was executed in March 2012 to comply with the federal mitigation rule. The document can be found at the Federal Instrument link: <http://www.nae.usace.army.mil/Portals/74/docs/regulatory/Mitigation/NHinstrument051812.pdf>

NHDES is the qualified program sponsor and administrator for the ARM Fund Program. NHDES works with the Corps to ensure that the requirements for aquatic resource mitigation are being met. NHDES is solely responsible for providing compensatory mitigation for projects which have paid into the ARM Fund. The procedures and guidelines for coordinating compensatory mitigation requirements for permits issued by the Corps in New Hampshire are specifically addressed in the Program Instrument. The ARM Fund may be used for permit actions involving (a) Corps General Permits, (b) NHDES permits, and (c) Corps and NHDES individual permits.

The Department issued the request for proposals for ARM Funds available in the Contoocook River Service area in February 2022 and received an application from the Town of Hillsborough (Town) on August 31, 2022. The Woods Woolen Mill Restoration Project (Project, Figure 1) was recommended for funding by the ARM Fund Site Selection Committee to offset permitted impacts to aquatic resources that occurred in the Contoocook River watershed. On November 7, 2022, the New Hampshire Wetland Council approved funding the project and a review by the Corps resulted in full support of the recommendations. On August 23, 2023, the NH Governor and Executive Council authorized an ARM Fund grant (PO # 1094771, item #124) to the Town of Hillsborough, NH (Vendor Code #177407-B002) in the amount of \$258,285 to restore and protect aquatic resource areas and functions on the 2.6 acre former Woods Woolen Mills Site in Hillsborough.

Upon receipt of the ARM grant in 2023, the Town of Hillsborough conducted design and permitting for the Project. Project planning and bidding revealed the budget for the restoration project scope was insufficient to cover the restoration scope, adaptive management, and long-term monitoring required to satisfy the state and federal requirements associated with in-lieu fee program funded compensatory mitigation projects.

In 2026, NHDES requested approval to amend the ARM grant by increasing the grant amount by \$150,000 to \$408,285 from \$258,285, and extending the completion date to December 31, 2031, from December 31, 2029,

effective upon G&C approval. The additional funding will support the completion of the restoration scope and required monitoring. The extension to the completion date from December 31, 2029, to December 31, 2031, will accommodate the five (5) year post-construction monitoring period required to document success of the Project and fully meet the ARM Fund program goals.

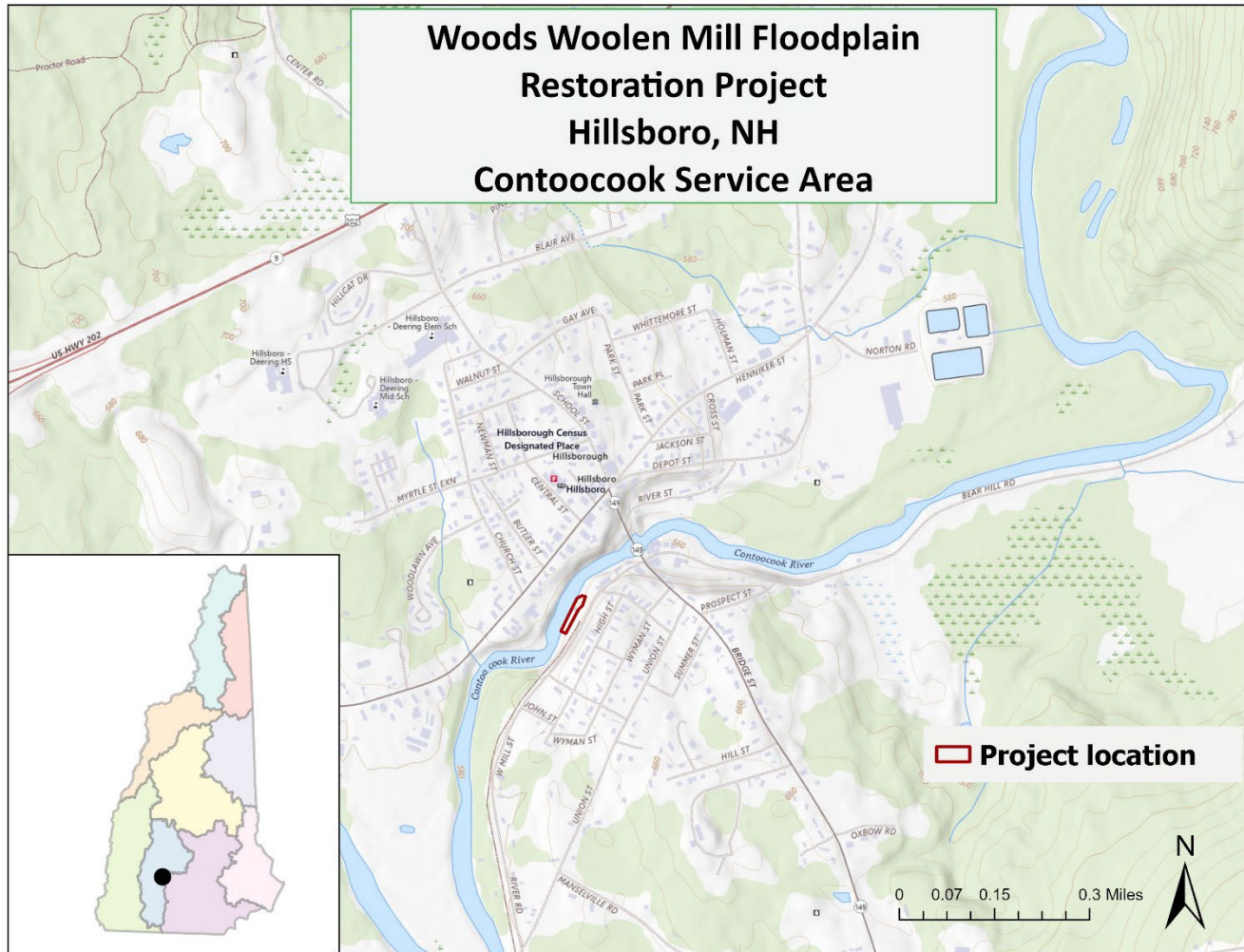


Figure 1. The Project location within the Contoocook River watershed/Service Area.

2. Goals and Objectives

The objectives of this project are to restore aquatic resource functions lost or degraded because of historic mill construction and associated fill within the floodplain of the Contoocook River. The proposed project is floodplain restoration – specifically re-establishment and rehabilitation – through removal of the former mill foundation/fill and lowering of an existing retaining wall to the Ordinary High Water (OHW) elevation of the river, paired with native riparian planting and invasive species management.

Primary restoration goals:

- Develop floodplain engagement by reducing constructed fill elevations to a maximum elevation of 574.5' (matching the OHW of the Contoocook River), restoring floodplain functions including flood attenuation, sediment deposition, and groundwater connectivity.
- Restore riparian buffers to natural, self-sustaining conditions through native planting in two distinct planting zones (High Floodplain and Low Floodplain), invasive species management, and removal of fill and compacted substrate.
- Establish self-sustaining, stable stream banks by lowering the existing shoreline retaining wall (former mill foundation, granite stacked stone, ~374 feet long, 1-2 feet of lowering) to proposed design elevations shown in Project cross-sections and "softening" the bank to allow floodplain access.
- Restore floodplain wetlands by removing approximately 11,925 sq ft of fill and concrete from the floodplain to create conditions suitable for wetland formation, comprising 6,859 sq ft palustrine forested (PFO) and 4,945 sq ft palustrine scrub-shrub (PSS) wetlands.
- Rehabilitate overall stream channel condition from a baseline SVAP2 score of 2.6 ("Severely Degraded") to a final score of 7.0 or above ("Good"), demonstrating three-step functional lift across the five SVAP2 elements assessed at baseline.

3. Site Selection

The Project will provide compensatory mitigation for losses in the Contoocook River watershed that were authorized by State of New Hampshire and Department of the Army permits. These include functional losses of shoreline anchoring, wildlife and aquatic habitat, flood storage, sediment and nutrient retention, and water quality. Restoration objectives align with regional ARM Fund priorities for restoring floodplain wetlands and riparian buffers on legacy industrial sites along Designated Rivers in southern NH. The former Woods Woolen Mill site is a 2.6-acre site in the Town of Hillsborough on the eastern bank of the Contoocook River in the Contoocook River Service Area.

The compensatory mitigation site was selected based on the following factors:

- **Watershed scale:** The site is located within the Contoocook River sub-basin and the Contoocook River ARM Service Area, ensuring no-net-loss of aquatic resource functions at the watershed scale.
- **Documented impairment:** Site shows clear, addressable causes of impairment (retained fill, compacted soils, undersized retaining wall) with measurable baseline scores.
- **Ownership and control:** The site comprises three parcels (Tax Map 25, Lot 28): two parcels owned by the Town of Hillsborough and one parcel (the former rail line bisecting the site) held under NH DOT easement, allowing site protection in perpetuity through coordinated conservation instruments. Total project parcel area (incl. NH DOT easement) is 2.2 acres; 1.4 acres will be placed into conservation.
- **Practicability:** Project is supported by a NHDES ARM Fund grant (\$250,000 in 2022 plus \$150,000 in 2025) and NHDES Brownfields funding (~\$600,000) for the parallel EPA Removal Action that addresses contaminated material on site, in addition to \$65,000 currently raised by the Town.
- **Regional and ecological significance:** The site lies within a Designated River corridor (Contoocook River) and is positioned to connect two patches of "Highest Ranked Habitat in NH" mapped under the NH

Wildlife Action Plan (Figure 2). The proposed restoration activities will improve stream function and channel integrity, provide shade to river, reduce sediment loading and increase aquatic and upland habitat which support the goals of the [Contoocook and North Brank Rivers Corridor Management Plan](#) (2011). The site connects to multiple riverfront conservation parcels downstream of the Project (Figure 3). Existing on-site wildlife use is limited by the degraded condition of the substrate; restoration will reconnect the corridor and provide nesting and foraging habitat for riparian-associated species.

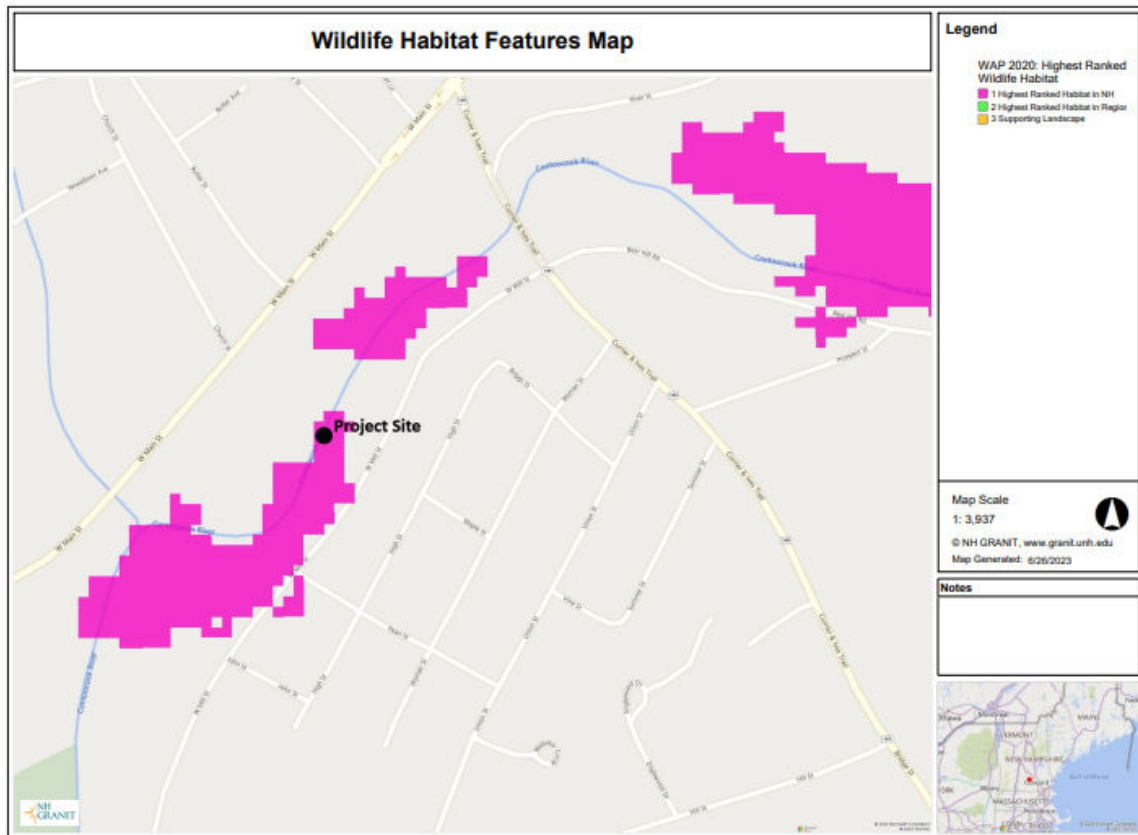


Figure 2. Project proximity to “highest ranked habitat” for wildlife in NH.

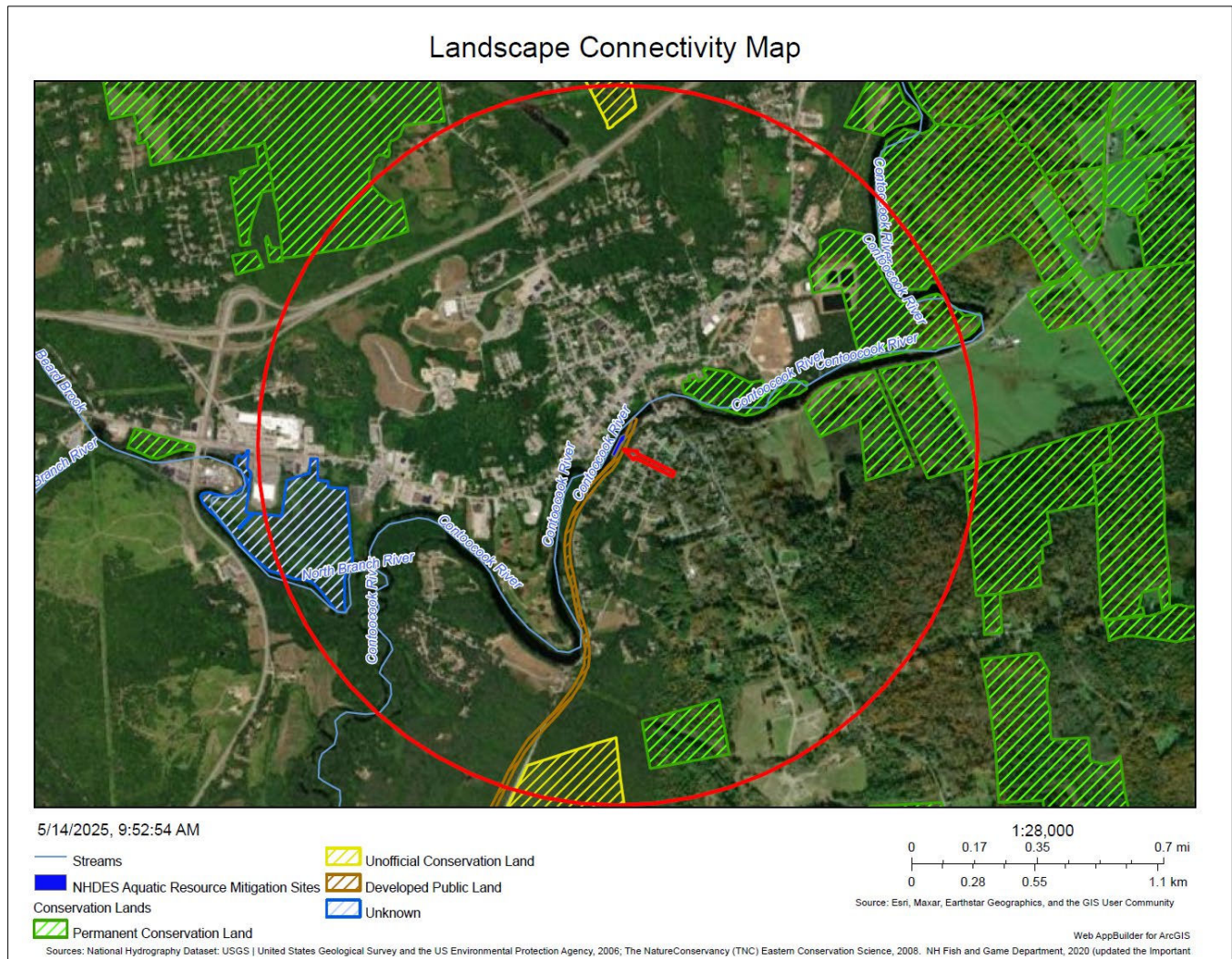


Figure 3. Conservation lands in vicinity of Project.

4. Site Protection Instrument

As defined in the ARM grant agreement, ARM funding to support the Project is contingent upon the fulfillment of the requirements of 33 C.F.R. § 332.7 and establishment of a long-term site protection mechanism and long-term management plan (LTMP) for the aquatic habitats, riparian areas, buffers, and uplands that comprise the overall compensatory mitigation project area (Project Area). The intent of the original ARM grant was to provide site protection through a conservation easement. In 2024, ARM learned that the limited size of the Project Area (1.13 acres) and lack of interest from qualified conservation entities made this pathway non-viable. Additionally, ARM sought to understand whether a recorded “activity and use restriction” (AUR) for the site, as required by NHDES Administrative Rules [Env-Or 600](#) for Soil Remediation Standards, could be expanded to satisfy federal site protection requirements. NHDES’ legal counsel advised against a dual purpose AUR for both AUR restrictions and conservation restrictions due to the potential to undermine the enforceability of the conservation restrictions. Through 2025 and 2026, ARM has coordinated with USACE and the Town on an alternative conservation instrument.

The Project Area will be permanently protected through the establishment and recordation of a Declaration of Covenants and Conservation Restrictions (DCCR). The draft DCCR demonstrates that the Town of Hillsborough as owner of the property situated on Tax Map 25, Lot 28, located in the Town of Hillsborough, County of Hillsborough, State of New Hampshire, agrees to adopt and establish protective covenants and conservation restrictions for the Conservation Restriction Area (Attachment 1).

The “Holder” of the conservation restrictions is the Hillsborough Conservation Commission. The conservation restrictions will be enforceable by the Holder and by the State of New Hampshire acting through its Department of Environmental Services (the “Third Party Holder”), an administrative agency duly organized and existing under the laws of the State of New Hampshire.

The Conservation Restriction Area shall be preserved as conservation land subject to conservation restrictions as defined in RSA 477:45 in perpetuity; and in compliance with the New Hampshire Aquatic Resources Mitigation Fund Final In-lieu Fee (ILF) Program Instrument (U.S. Army Corps of Engineers, New England District, Regulatory Division, File Number NAE-2022-02707) to preserve, protect and prevent any future degradation or destruction of the compensatory mitigation areas in perpetuity. The conservation instrument shall limit future encroachment on aquatic resources for any future residential, commercial or industrial use.

Please refer to the draft DCCR provided in Attachment 1 for the defined terms and use limitations. In accordance with CFR§ 332.7(a)(3), the draft language in 6.B. requires 60-day advance notification to the district engineer before any action is taken to void or modify the instrument, management plan, or long-term protection mechanism, including transfer of title to, or establishment of any other legal claims over, the compensatory mitigation site.

5. Baseline Conditions

The Project is located along the banks of the Contoocook River. The site consists of three parcels totaling approximately 2.8 acres and includes a former railway right-of-way owned by the New Hampshire Department of Transportation. The site formerly operated as a textile mill manufacturing complex for almost 100 years and consisted of seven buildings to support the manufacturing of textiles. The Woods Woolen Mill was constructed in 1880 and produced a variety of textiles such as cloth, fabrics, overcoat products and yarn. The mill changed ownership various times throughout the early 20th century and ultimately became 2000 abandoned in the mid-1980s. The Project site is a USEPA Brownfields site that is undergoing a USEPA Removal Action parallel with the aquatic resource restoration project. The Removal Action will fully remove or cap any contaminated material remaining on site. In the past 30 years, the site has been home to crumbling foundations and soils primarily consisting of urban fill and debris (highly porous and isolated from frequent inundation). The banks of the Contoocook River were built up to form the foundations of the former mill buildings. Building foundations remaining at the site have narrowed the channel, disconnected the floodplain, and limited habitat for terrestrial and amphibious species. The site is primarily the footprint of a former mill building which has been subject to two rounds (one in the 1990s and again in 2022) of EPA cleanup. Existing vegetation is limited and documented under Section 5, Baseline Conditions. There is a former foundation of the building at the east side which is 200'

long and 12' tall which is mortared masonry, otherwise the footprint is mostly backfilled loam, rubble, and concrete.

Aquatic Resources and Functions

The Performance Monitoring Summary (Table 3) in Section 9 identifies the pre-restoration baseline condition by restoration performance target.

The Contoocook River is a perennial (R2UB1) tributary of the Merrimack River with a 347.25 square mile watershed at the site (Figure 4). Upstream channel conditions at the site are natural, but the river at the site is influenced by backwatering caused by the Hosiery Mill Dam 500 feet downstream and the bank consists of a stone retaining wall due to the former mill building. The stream is confined within a steep, narrow valley (natural mostly) with D50 cobble bed material. In a natural state and across the overall reach, the stream is likely Rosgen type Bc3. However, the project site is more like a pool or pond. The average slope of the stream is around 1% through to the downstream dam and the upstream slope is slightly less. According to New Hampshire's statewide flood hazards geodatabase, this site is identified as being prone to flooding and is located within the 100-year flood zone as designated by the Federal Emergency Management Agency's Flood Insurance Rate Maps. The site has an extensive history of development and alteration. As part of the NH state permitting process, a wetland delineation was conducted as shown on the Design Plan Sheet 4, Existing Conditions Plan. No wetlands were identified in the vicinity of the project. The top of bank of the river was demarcated.

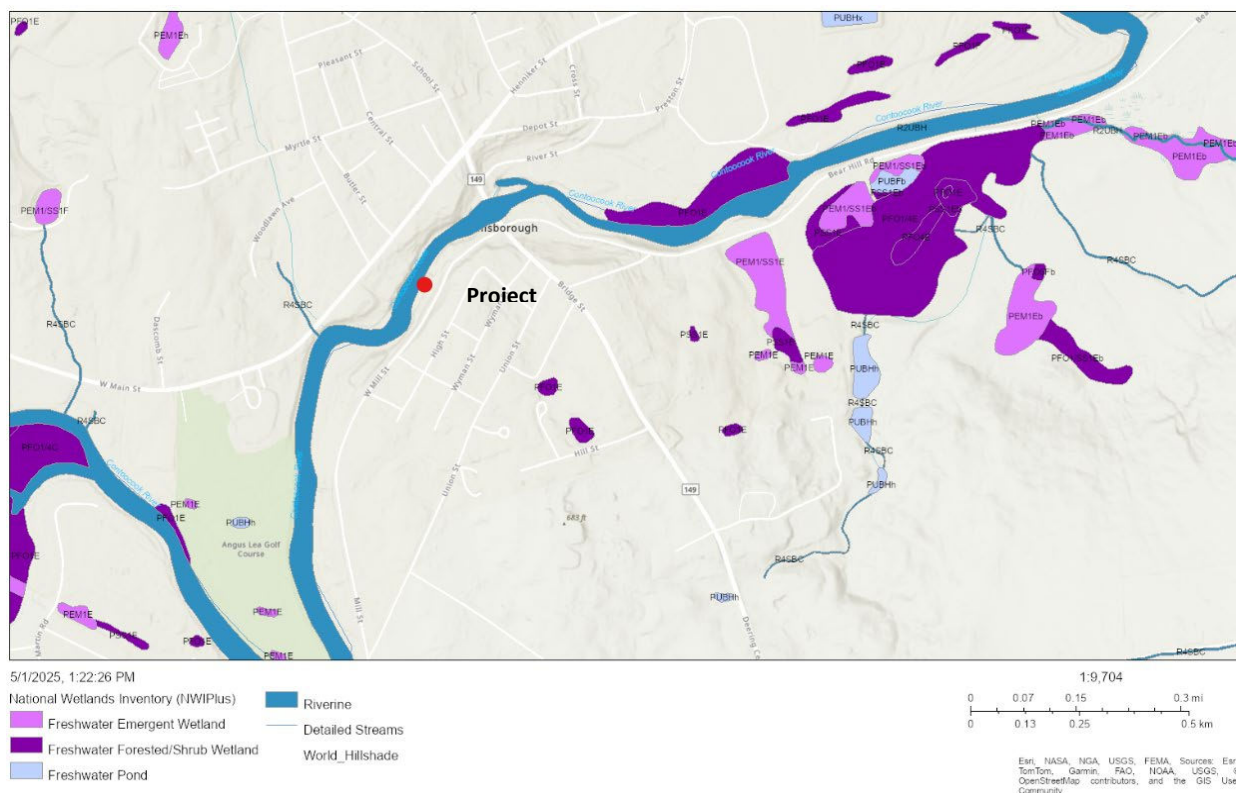


Figure 4. Aquatic resources in the vicinity of the Protect, mapped by the National Wetlands Inventory. No wetlands were identified by the wetland delineation.

Reference Reach

The reference reach for this project is located approximately 200 feet upstream of the project site on the Contoocook River. The reference reach is identified on the 100% Design Plans, Sheet 9/12. Please see Attachment 2 for photos of the reference reach. The reference reach was selected because it represents the desired post-restoration condition: a near-natural floodplain immediately upstream of the project, with the same watershed contributing area, channel slope, and substrate conditions as the project reach.

Reference Reach Documentation:

Location	Approximately 200 feet upstream of the project site, on the Contoocook River left bank
SVAP2 Score	Not formally scored
Vegetation Cover	90–100% (combined native vegetative cover)
Large Woody Vegetation Density	1 tree per 200 sq ft
Smaller Shrub-Tree Density	1 plant per 100 sq ft
Photographic Documentation	Photographs of the reference reach provided in Attachment 2
Use in Performance Calibration	The vegetation cover and woody vegetation density observed at the reference reach are reflected in the long-term density targets for the Project performance standards.

SVAP Results

The ARM Fund Program completed a baseline stream condition assessment using the Stream Visual Assessment Protocol 2 (SVAP) in 2024 to support credit determinations. The completed SVAP form is provided in Attachment 3 of this plan. Please refer to Section 6, Determination of Credits, for the baseline SVAP scores and projected target score/performance standards to support credit releases. A post-construction SVAP will be conducted at the end of performing monitoring prior to ARM's final credit release request. ARM scored the five elements anticipated to improve from rehabilitation and re-establishment activities. The overall condition score for the right bank and buffer was 2.6 (severely degraded). The right bank is armored and lacks host substrate to establish vegetation, however, scattered trees and shrubs represent multiple age classes and species: red maple (*Acer rubrum*), American elm (*Ulmus americana*), white pine (*Pinus strobus*), raspberry (*Rubus idaeus*), silver maple (*Acer saccharinum*), dogwood (*Cornus sp.*), meadowsweet (*Spiraea alba*), staghorn sumac (*Rhus typhina*), bigtooth aspen (*Populus grandidentata*) and gray birch (*Betula populifolia*). The Project area is otherwise comprised of gravel, concrete blocks, loose boulders and various forbs such as hairy vetchling (*Lathyrus hirsutus*). Invasive honeysuckle (*Lonicera sp.*) and knotweed (*Reynoutria sp.*) are present.

Upland Buffer for Preservation

The Project includes permanent protection of an undeveloped, high-quality segment of forested riparian buffer ranging from approximately 19 to 120 feet in width 1,005 linear feet along the bank of the Contoocook River in addition to the compensatory mitigation areas. ARM intends to pursue credits for the forested riparian buffer segment measuring approximately 50 feet in width by 180 linear feet along the bank. ARM will provide a summary report of the SVAP results, photos and buffer characteristics to support existing baseline conditions in the riparian buffer proposed for preservation credit. ARM will provide this buffer characterization report to USACE in 2026 following submittal of the draft mitigation plan.

6. Determination of Credits

The Project has the potential to generate 398.00 stream credits and 0.14 wetland credits for the Contoocook River Service Area. The credit area map (Figure 5) and credit summary table provide the credit classifications, multipliers, calculation method, and justification for each credit type. Stream credit generation is anticipated for removal of bank armoring, re-grading of the bank and floodplain to the reference elevation, natural bank stabilization and performance monitoring as well as permanent protection of a high quality 50-foot riparian buffer. 1,005 linear feet of riparian upland buffer will be permanently protected as part of the project but credit is not being sought since the property boundary in this area is less than 50 feet in width. Wetland credit generation is anticipated for floodplain fill removal, regrading, native plantings, performance monitoring and permanent protection. Credit multipliers are based on Appendix C of the *New England District Compensatory Mitigation Standard Operating Procedures*, April 26, 2024. The total mitigation credits reflect ARM funding 100% of the total restoration costs for the Project.

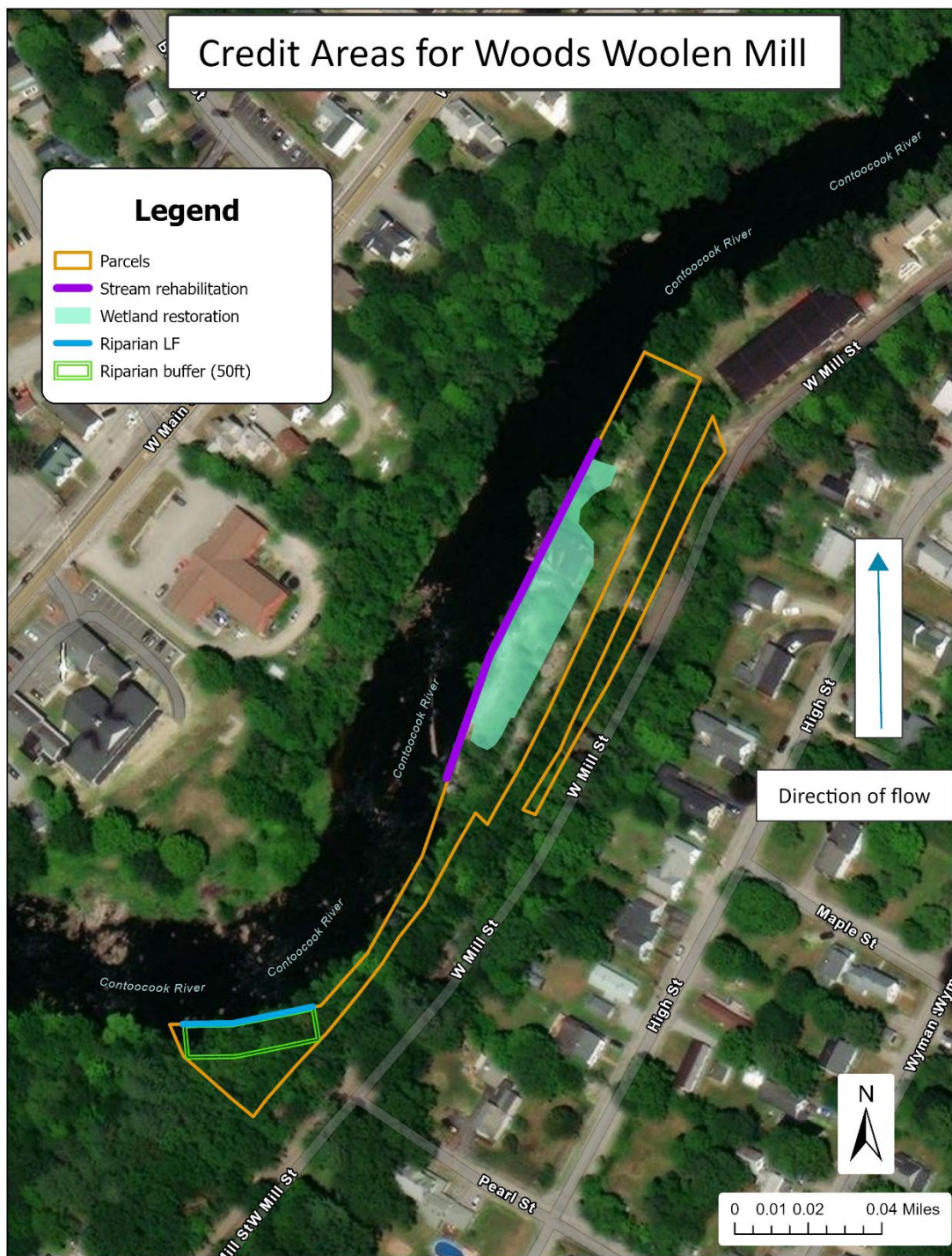


Figure 5. Locations of proposed credit-generating areas in Project footprint.

Credit Summary Table

Stream Credit Generation Table (Non-tidal)							
Cowardin Resource Classification	Credit Classification/Mitigation Activity	Stream (miles)	Stream (LF)	Credit Multiplier	Credit Potential (length * multiplier)	ARM Credits (credit potential * ARM 100% funding)	Assumptions/ Ratio Rationale
R2UB1	Linear feet of Stream Rehabilitation - one side of river resulting in a 2-step improvement in channel condition.		380	1.00	380.00	380.00	Removal of bank armoring, re-grading bank and floodplain to reference elevation, natural bank stabilization and performance monitoring. Anticipated 2-step increase in overall SVAP2 score for five elements from baseline score of 2.6 (Severely Degraded) to >5 (Fair). (Table C5)
Riparian Buffer	Linear feet of Stream Buffer Preservation - One side, Good Condition, ≥50' width		180	0.1	18	18	Preservation of 50' riparian buffer through Site Protection Instrument. A 0.1 multiplier is used for preservation of one side that is in "good" condition. ARM to submit SVAP documentation of buffer baseline condition in 2026.
Total Stream Credits						398.00	
Wetland Credit Generation Table (Non-tidal)							
Cowardin Resource Classification	Credit Classification/Mitigation Activity	Wetland (SF)	Wetland (acres)	Credit Multiplier	Credit Potential (area * multiplier)	ARM Credits (credit potential * ARM 100% funding)	Assumptions/ Ratio Rationale
PEM/PSS	Acreage of Wetland Re-establishment with Permanent Protection	11,804	0.27	0.50	0.14	0.14	Restoration of low and high floodplain wetland zones through fill removal, contamination removal, regrading and planting to reference floodplain elevations, performance monitoring and site protection (1:2 ratio, Table C1)
Total Wetland Credits			0.27		0.14	0.14	

Credit Release Schedule

The proposed credit release schedule is provided in Table 1. Once the information requirements for Release 1 are met, ARM will request 50% of the total stream restoration credits associated with removal of bank armoring, re-grading of the bank and floodplain to the reference elevation and natural bank stabilization as documented in the as-built plan and a requirement of Release 1. ARM will not request a release of credits until a final mitigation plan for the project has been approved. Release 2 will be requested after site protection is secured and will include a request for 50% of the total wetland re-establishment credits associated with floodplain fill removal, regrading, native plantings, performance monitoring and permanent protection. The remaining credit release percentages in the proposed schedule are based on the cumulative credit totals for mitigation activities, including the 50-foot riparian buffer preservation and performance monitoring documenting success.

Table 1. Credit Release Schedule		
Release	Information Required	Percent Credit Release
1	_ Signed approval of the Mitigation Plan. _ The Project Sponsor has obtained all permits, authorizations and other approvals necessary or appropriate to construct, operate, and maintain the Project, including but not limited to those of any IRT agency. _ Completion of hydrologic modification & planting as shown in the Mitigation Plan. _ USACE approval of the As-Built Plan. _ Documentation demonstrating EPA Removal Action is complete.	50% of stream restoration credits
2	_ Proof of property ownership, title report or title insurance commitment, and title insurance policy or certificate of title. _ Copy of signed, approved, and recorded conservation instrument that protects site in perpetuity is provided to USACE. _ USACE approval of Long Term Management Plan.	50% of wetland restoration and buffer preservation credits
3	_ Project is meeting interim standards or showing progress towards meeting final performance standards in the year 3 monitoring report.	25% of total remaining credits for stream restoration, wetland restoration and buffer preservation
4	_ Documentation of completion of any required Adaptive Management. _ Final Performance Standards have been attained in the fifth monitoring year. _ USACE approval of changes required to the final long-term management plan, if applicable.	Total remaining credits

7. Mitigation Work Plan

Overview

This work plan outlines restoration of 390 feet of riverbank and 13,765 square feet of floodplain and riparian buffer at the former Woods Woolen Mill site along the Contoocook River. The approved design plans are provided in Attachment 4 of this plan. Construction involves lowering the riverside retaining wall to the river's ordinary high-water mark, grading it into a new floodplain bench, removing concrete and rubble fill, and finishing the area with loam and native plantings. These actions will improve floodplain connectivity, habitat, and water quality while continuing prior restoration efforts by the Town of Hillsborough, EPA, and NHDES Brownfields. Restored areas will be permanently protected and open to the public. This plan covers ARM-funded construction occurring alongside, but separate from, the EPA Removal Action. Construction of both phases is expected to begin in June 2026 and finish within the season. ARM funding supports *only* the restoration phase activities.

Regulatory Accords

- USFWS / NMFS ESA Section 7: An IPaC Biological Assessment was prepared June 6, 2025. Effect determinations: Northern Long-eared Bat - NLAA; Monarch Butterfly - excluded from analysis.
- NH SHPO / THPO Cultural Resource Clearance: NHHPO letter dated June 13, 2025 (Project ID 2025PR00625) determined the project will result in "No Historic Properties Affected".
- NH Natural Heritage Bureau (NHB DataCheck): NHB ID NHB25-1654; no recorded occurrences of state- or federally listed species in the project area.
- NH Wetlands Permit 2025-03134 issued February 10, 2026 (expires February 10, 2031).

Construction Monitoring and Adaptive Management

The ARM grant agreement (as amended June 2026) describes site monitoring, reporting and communication to ARM between the project engineer, construction contractor and project partners. Monitoring and adaptive management activities will be informed by the ARM grant agreement, as amended June 2026. The grant agreement requires construction oversight by a qualified restoration professional, weekly reporting to ARM and procedures for communication between the contractor, engineer, ARM and project partners, including the decision-making process for adaptive management during construction.

Please refer to Section 11 for the adaptive management plans for both the construction phase and performance monitoring phases of the Project.

Site Preparation

Please refer to Attachment 4, which provides the contractor's approved Work Plan Summary. The reports details the construction sequence, schedule, construction work plan and updated temporary water control and erosion and sediment control specifications. Site preparation includes the pre-construction removal/treatment of Japanese knotweed (*Reynoutria japonica*) and honeysuckle (*Lonicera spp.*)

Phase 1: EPA Brownfield Remediation

An EPA Removal Action led by Sanborn Head is being implemented in parallel with this restoration project. As noted below in Table 2. Project Schedule, the EPA Removal Action scope of work will commence as the first phase of construction. The Removal Action will fully remove or cap any contaminated material remaining on site. One component of the Removal Action is placement of an approximately 10' x 20' rock cap immediately adjacent to the river just north of the restoration limits, to cap residual contaminated material; this cap is permitted under Env-Wt 309.02(k). The restoration scope of work will commence as the second phase of construction once the remediation phase is complete.

Phase 2: Riparian/Floodplain Restoration and Enhancement

Following the EPA Removal Action, the project will grade the site to the floodplain elevations in the design plans. Of the 15,000 square-foot former building footprint, about 12,000 square feet will be restored by lowering the ground 2–4 feet to the bankfull stage. Unnatural material will be removed and replaced with suitable fill, including invasive removal, and the entire area will be revegetated with native riparian seed, shrubs, and trees. This grading will also reconnect a currently fragmented wildlife corridor at the south end of the site. Floodplain contour details are shown on sheets 6–9 of the design plans. Plant species, zones, and minimum long-term densities are defined in the design plans. The planting strategy includes two zones:

- High Floodplain Zone: native trees; three 600 sq ft monitoring plots; minimum long-term density of 1 plant per 200 sq ft.
- Low Floodplain Zone: native herbaceous and shrub species; three 400 sq ft plots; minimum density of 1 plant per 100 sq ft.

Attachment 4, Design Plans, Sheet 1, Planting Notes 36, 38 and 39 provide proposed plant species. New England Wildflower Mix and New England Conservation/ Wildlife Mix from New England Wetland Plants, Inc. are the recommended seed mixes. Seed application is allowed April 1–June 1 or August 15–October 15, without fertilizer. Mulch will be coir-based (no plastic netting). All plant material will be native, installed as container stock or live stakes, with a one-season contractor guarantee, and planted in natural, heterogeneous patterns.

Construction Completion

Within 60 days following construction completion, the project engineer will provide ARM with an as-built survey of the site to establish post-construction topography and dimensions and elevations of key restoration features. The survey will be accompanied by an as-built report that identifies plan deviations, documents the status of site stabilization, plantings and anticipates issues that may require adaptive management and include photos of all restoration areas.

Project Timeline

The pre-construction meeting for the Project was held June 17, 2026. In attendance were the contractor, lead engineer for EPA Brownfields Removal Action, lead engineer for the aquatic restoration, the Town of Hillsborough, and NHDES staff including the ARM Program. The project timeline for the remaining key mitigation milestones is in Table 2.

Table 2. Project Schedule	
Mitigation Activity	Timing
Construction Phase	
Site preparation, erosion/siltation controls	Late June 2026
PHASE 1 - EPA Brownfields Removal Action (parallel, led by Sanborn Head) contaminated soil removal and disposal down to proposed subgrade elevation <i>Coordinated with restoration access; restoration work begins after EPA Removal Action completion</i>	July 2026
PHASE 2 - Restoration begins: removal and reinforcement of riverside retaining wall	Early August 2026
Floodplain backfill and grading: from the upstream (south) end working north	Mid August to September 2026
Deconstruction of access; stabilization of upland retaining wall; demobilization	Mid to Late September 2026
Plantings, final vegetation of floodplain, final site stabilization	October 2026
ARM Program site walk	October 2026
Construction substantial completion	End October 2026
Post-construction Phase	
P.E. stamped as-built survey and report	60 days post-construction
Signage and fencing installed to restrict access to restoration areas	Early spring 2027
Set annual monitoring stations	Spring 2027, or concurrent with Year 1 monitoring
Site Protection	<i>*Deed recordation to be timed after FMP approval and LTMP approval. Recordation may occur concurrently with construction phase.</i>
Monitoring, Site Maintenance and Adaptive Management Phases	
Year 1 monitoring	Summer 2027, Report due by December 15
Years 2-4 monitoring	Summer 2028, 2029, 2030, Reports due by December 15 each year
Year 5 final assessment, SVAP and wetland delineation	Summer to Fall 2031, Report due by December 15
<i>*Monitoring period may be extended to complete adaptive management to meet performance standards.</i>	
Long-term Management	
LTMP activation (post-Year 5)	January 2032 onward. 10-year review cycle thereafter.

8. Maintenance Plan

Overview

The town will continue to own and maintain the project site. The site is currently restricted to public access due to the ongoing remediation activities. Following restoration, the site will be open for public access to the waterfront. The grant agreement with ARM establishes unrestricted access by ARM to the aquatic habitats, riparian areas, buffers, and uplands through the performance monitoring period. ARM will refer any deficiencies in site maintenance to the grantee to address.

Site maintenance includes routine, planned maintenance activities during the 5-year post-construction performance monitoring period (Years 1–5), prior to activation of the Long-Term Management Plan (LTMP). Site maintenance is distinct from adaptive management, which describes reactive measures triggered when monitoring identifies a performance standard concern.

Routine Maintenance Activities (Years 1–5):

- Maintenance of site boundary signage and Conservation Restriction Area markers.
- Maintenance of fencing, gates, and access controls (public access is not permitted to the restored floodplain during the monitoring period).
- Annual invasive species monitoring (within all vegetation monitoring plots and across the restoration area) and treatment of any singular/small instances by hand; treatment of >10% invasive cover by professional applicator with replanting.
- Inspection and maintenance of erosion and sediment controls until removal.
- Protection of the site from other unauthorized use.
- Annual reporting to NHDES ARM Fund Program and to USACE-NAE.

Maintenance Roles

Streamworks will manage the maintenance program in coordination with the Town of Hillsborough. The Town of Hillsborough is the Permittee/Grantee and ultimately the responsible party.

Site Maintenance Schedule

Activity	Frequency	Responsible Party
Site boundary signage inspection	Annual	ARM (field) / Town (replacement)
Fence / access control inspection	Annual	ARM (field) / Town (repair)
Invasive species inspection within vegetation plots and restoration area	Annual	ARM

Activity	Frequency	Responsible Party
Invasive species treatment ($\leq 10\%$ cover, hand removal)	As needed	Engineer, Town
Invasive species treatment ($> 10\%$ cover, professional)	As needed	Town (with ARM/Engineer support)
Erosion control inspection / removal	Through Year 3 growing period	Town (with ARM/Engineer support)

Invasive Species Control Plan (ISCP)

The invasive species control plan consists of the following activities:

- Pre-construction removal of Japanese knotweed and honeysuckle.
- Annual monitoring of invasive species presence in all vegetation monitoring plots and across the restoration area through Year 5.
- Treatment of any re-establishment exceeding the performance standard trigger ($> 10\%$ cover) using approved methods; treatment to be documented in annual monitoring reports.
- Only native and locally sourced (where practicable) seed and plant stock shall be used for all restoration and revegetation activities.
- Vehicle inspection and (where appropriate) wash stations to prevent introduction of non-native plant propagules.
- Long-term invasive species management is anticipated to continue in perpetuity under the LTMP.

Herbicide use within Waters of the U.S. or Waters of the State requires NHDES authorization. The project will not use fertilizer within the floodplain limits. Herbicide and pesticide use during construction are prohibited unless specifically directed by the Hydraulic Engineer to manage invasives not fully removed during clearing and grubbing.

9. Monitoring and Performance Standards

Overview

Performance monitoring is necessary to inform adaptive management needs and to support credit generation for ILF-funded projects. The ARM grant designates \$45,456 for annual monitoring and adaptive management. Following construction completion, a topographic survey will be conducted by the grantee's contractor, and as-built plans will be developed to document post-construction elevations and locations of restoration features. The as-built plans and annual monitoring reports will be provided to the IRT each year. Monitoring reports will be reviewed collaboratively between the grantee, ARM Program and project partners to evaluate whether the

site is maintaining target aquatic resource functions and meeting performance standards. If adaptive management actions are required after Year 3 of monitoring, then the monitoring period will be extended as necessary and agreed upon by NHDES and ARM.

Performance monitoring will occur for five full growing seasons, post-construction, in accordance with the project's monitoring plan developed collaboratively between Streamworks, PLLC and ARM, in Attachment 5 of this plan. Performance monitoring will assess site stability, vegetation, hydrologic conditions, aquatic habitat, and overall riparian floodplain function. ARM will conduct annual boots-on-ground field monitoring, sampling, and data collection. Streamworks will conduct annual review and assessment of monitoring reports and will manage the maintenance/adaptive management program in coordination with the Town of Hillsborough.

The following performance standards are consistent with NAE guidance to be SMART (Specific, Measurable, Attainable, Reasonable, Trackable). Performance targets have been calibrated to the reference reach as described in Section 5, Baseline Conditions.

Table 3. Performance Standards Summary Table

Restoration Goal	Purpose	Pre-restoration Baseline Condition	Post-restoration Performance Standard
1. Develop hydrologic floodplain engagement through the assessment area.	To restore floodplain functions such as flood attenuation.	Natural flow regime is altered due to retaining wall “bank” and fill/development within the floodplain that is on average 2 to 3 feet above the OHW of river. SVAP hydrologic alteration score of 3	P.E. Record Drawing or As-Built Survey Plan and baseline project completion report with photos demonstrate that the elevation of the constructed floodplain has been reduced to a maximum elevation of 574.5’ to match the OHW of the river and concrete and rubble have been removed from the floodplain. Visual assessment demonstrates that constructed floodplain is stable with no signs of concentrated flows from stormwater runoff. Visual assessment of physical indicators (such as alluvial soil deposits; debris wrack or wash lines; water marks; debris lodged in trees and shrubs; and floodplain vegetation with flood-adapted features (e.g., buttressed tree trunks; adventitious or suckering roots) demonstrate that the stream engages the floodplain at the 2-3 year flood event. (<i>*inundation frequency data will be collected via crest stage gauge but is not a formal performance standard due to uncertainty introduced by downstream dam.</i>) By end of monitoring period, the SVAP2 score for Element 2, Hydrologic Alteration increases from baseline score of “3” to a score of “5” or above.
2. Restore riparian buffers to natural, self-sustaining conditions.	To restore natural stream processes, improve stream health, and provide wildlife habitat.	Riparian buffer lacks suitable substrate for vegetation due to fill and compaction. Scattered small trees, shrubs and forbs are present. Documented invasives include Japanese knotweed and honeysuckle. SVAP riparian area quantity score of 1 SVAP canopy cover score of 2	Baseline project completion report confirms that plantings in constructed floodplain have been installed in accordance with permitted planting plan. Annual vegetative survey (stem density; 3 plots @ 600 sq ft each) in the High Floodplain Planting Zone demonstrates: native tree species cover >80%; invasive species cover <10%; bare ground cover <10%. Long-term minimum density of 1 plant per 200 sq ft in the High Floodplain Planting Zone. Annual vegetation monitoring (3 plots @ 400 sq ft each, stem density) in the Low Floodplain Planting Zone demonstrates: native herbaceous and woody shrub cover >80%; invasive species cover <10%; bare ground cover <10%. Long-term minimum density of 1 plant per 100 sq ft in the Low Floodplain Planting Zone. By end of monitoring period, the SVAP2 score for Element 4, Riparian Area Quantity, increases from baseline score of “1” to a score of “5” or above.
3. Establish self-sustaining stream banks.	To ensure new stream bank is advancing toward a stable condition where potential for bank failure, unnatural mobilization of sediment and water quality degradation are minimized.	Bank consists of a vertical stone wall that is on average 2 to 3 feet above the OHW of the river and prevents hydrologic connectivity with the floodplain. SVAP bank conditions score of 2	P.E. Record Drawing or As-Built Survey Plan and baseline project completion report with photos demonstrate that the shoreline retaining wall has been lowered to proposed elevations shown in cross sections. Cross-section monitoring at five permanent locations on odd years (1, 3, 5) demonstrates the bank is stable with no signs of excessive erosion or failure. Annual visual assessment with photo documentation, with particular attention to photographs; documented incidents of collapse or voids from loss of rock; visual signs of ground subsiding at the upstream wall indicating erosion from soil piping. By end of monitoring period, the SVAP2 score for Element 3, Bank Condition, increases from baseline score of “2” to a score of “5” or above.
4. Restore floodplain wetlands.	To restore absent wetland functions such as floodflow alteration, groundwater recharge, and production export.	Floodplain area consists of fill/development that is on average 2 to 3 feet above OHW and lacks natural substrate.	By the end of the monitoring period, a wetland delineation per the USACE Wetland Delineation Manual (1987) and the Northcentral and Northeast Regional Supplement shall demonstrate that a new floodplain wetland has formed within the restored floodplain area. (<i>*Interim annual documentation of hydrology indicators (saturation, inundation, water marks), hydric soil indicators, and vegetation community development using Cowardin classification. Hydrophytic species cover assessed within Low Floodplain quadrat plots.</i>)
5. Rehabilitation of the overall stream channel condition	To increase the overall stream condition three steps from “severely degraded” to “good”.	Overall baseline SVAP2 score of 2.6 (Severely Degraded)	By the end of the monitoring period, the overall SVAP2 score shall increase from the baseline of 2.6 (Severely Degraded) to a score of 7.0 or above (Good), assessed across the same five scoring elements as the baseline assessment.

10. Long-term Management

To meet the terms of the ARM grant agreement, it is expected that the Town of Hillsborough Conservation Commission will monitor the conservation restriction area on an annual basis in accordance with the approved LTMP and the *Standards and Practices for Stewardship* of the Land Trust Alliance, to ensure that the terms of the DCCR are being adhered to, and to ensure that no actions are occurring which could be detrimental to the conservation attributes of the Project.

The Hillsborough Conservation Commission, the Holder/Steward of the conservation restrictions, will develop and submit the LTMP to ARM and the USACE for review and approval. An approved LTMP is a requirement for the Project to generate wetland credits. ARM will not request wetland credits until the approved site protection instrument is recorded and USACE has approved the LTMP.

The LTMP will include the proposed stewardship activities and specifics on site protection compliance inspections. The steward will implement the following long-term management:

1. Annual monitoring, with accompanying reports, to ensure consistency with the DCCR to ensure there are no violations or encroachments from abutters.
2. Maintenance of signage and boundary markers.
3. Monitoring and maintenance of restoration project areas.
4. Removal and cleanup of existing man-made debris and other materials as necessary.

The steward will submit a copy of the annual monitoring report to the ARM Fund by December 31 of each year to document the monitoring actions taken. The LTMP shall be updated every five years by the Holder of the restrictions and submitted to the ARM Fund for review and record.

11. Adaptive Management

Table 3 and Table 4 of this section provide the adaptive management plans for both the construction phase and performance monitoring phases of the Project. The adaptive management plan identifies reasonably foreseeable issues, monitoring frequency, triggers for action, responsive actions, and responsible parties. The adaptive management plan describes REACTIVE measures triggered when monitoring identifies a performance concern, distinct from the routine, planned activities covered under the Maintenance Plan.

Table 4. Construction Phase Adaptive Management Plan

Potential Issue	Potential Contributing Factor	Monitoring Frequency	Trigger	Action	Responsible Party
Flooding during construction	High flow events in the adjacent Contoocook River	Daily	Flood flow expected to cause water elevations higher than the 1.5-yr event ($\approx$ elevation 573.5')	Improve and/or augment flow diversion; increase roughness around work area (e.g., fencing); stabilize bare soils; augment stabilization measures (e.g., add layers of coir fabric); halt work if necessary; notify Corps	Contractor / Engineer
Site erosion during construction	Heavy precipitation; bare or unstable soils; failed E&S measures	Daily	Documented erosion or deposition	Repair impacted area; stabilize as specified; remedy source of erosion (e.g., add/repair E&S measures, reroute concentrated upland flow)	Contractor
Upland runoff	Heavy precipitation; poor water management; failed E&S measures	Event-based, during regular E&S inspection	>0.1" precipitation event	Increase upland E&S measures; reroute flow around construction; increase storage/retention time	Contractor
Unsuitable subsurface conditions (voids, bedrock above design grade)	Unforeseen subsurface conditions - voids in rubble backfill or bedrock above lowest backfill elevation	Ongoing	As encountered	For voids: fill with a graded filter and cover with coir fabric. For bedrock: remove as necessary until backfill subgrade elevation is reached; revise grading plan if elevation cannot be met; notify Engineer and Corps	Contractor / Engineer
Rock wall instability or failure during construction	Over-excavation of wall; construction activity adjacent to wall	Daily	As encountered	Immediately cease construction and stabilize wall: replace boulders; fill gaps with smaller rocks; fill smaller gaps with mortar; consult Engineer	Contractor / Engineer

Potential Issue	Potential Contributing Factor	Monitoring Frequency	Trigger	Action	Responsible Party
Plant material procurement failure	Supply chain issues; seasonal unavailability of approved species	Prior to planting season	Approved species unavailable within 30 days of planting window	Substitute with Engineer-approved native species of equivalent function (matched on hydrologic regime, life form, and wildlife habitat function); document change in As-Built	Contractor / Engineer
Unexpected archaeological or cultural resources	Subsurface cultural materials present; SHPO predicted "No Historic Properties Affected" but unanticipated discovery possible	During ground disturbance	Any discovery of potential cultural material	Halt work immediately; notify NH SHPO and Corps within 24 hours; do not resume work in affected area until SHPO clearance is provided	Contractor / Engineer
Encountering hazardous waste outside Removal Action footprint	Contamination present beyond areas characterized in EPA Removal Action	During ground disturbance	Visual or olfactory evidence of contamination; staining; debris from former mill operations	Halt work; coordinate with Sanborn Head, NHDES Brownfields, and EPA; do not resume in affected area until coordination is complete	Contractor / Engineer / NHDES

Table 5. Performance Monitoring Phase Adaptive Management Plan

Potential Issue	Potential Contributing Factor	Monitoring Frequency	Trigger	Action	Responsible Party
Plant predation	Deer or rodent browse on planted material	Annual	Survival rate: stem density falls below 1 plant/200 sq ft (High) or 1/100 sq ft (Low)	Install protective tree tubes or exclosures; replace lost plants; consider dormant-season replant if discovery occurs late season	Town / Engineer
Poor growing conditions - too dry	Drought; grading too high above OHW; soil moisture deficit	Annual	Visible drought stress; native cover <50%; bare ground >10% in plot	Supplemental watering; replant with drought-tolerant native species	Town / Engineer
Poor growing conditions - too wet	Grading too low; unexpected hydrology; trapped water above wall	Annual	Plant mortality due to prolonged inundation; no emergent regrowth by Year 2	Evaluate grading; consider selective re-grading if ponding is excessive; consider water control structures only if necessary; replant with hydric species	Town / Engineer
Invasive species re-establishment	Existing seed bank; flood transport from upstream sources; adjacent land use	Annual	Invasive cover >10% in any monitoring zone in any year; documented presence of new invasive species	Singular/small instances: removed by hand. >10% invasive cover: mechanical and/or chemical treatment per approved ISCP by professional applicator, plus replanting of natives; document treatment	Engineer (small treatments); Town with Engineer support (>10% / professional)
Site erosion (post-construction)	Heavy precipitation; recurring concentrated flow; subsurface soil piping	Annual; event-based after significant storms	Precipitation >4" single event; notable instances of gullying along floodplain; depressions forming in surface	Repair/fill eroded areas; replant and seed as necessary; address erosive cause (redirect upland runoff; fill gaps in retaining wall where piping is occurring)	Town with Engineer support

Potential Issue	Potential Contributing Factor	Monitoring Frequency	Trigger	Action	Responsible Party
Ice damage / scour	Freeze-thaw; high-flow events	After major storm events and after spring thaw	Bank erosion or plant loss exceeding 20% of zone	Bioengineered bank repair (live stakes, brush layering, biologs); replant; consult Engineer if structural concerns at retaining wall	Engineer / Town
Rock wall instability or failure	Erosion; large flood flow	Annual; event-based	Flow >Q10 ($\approx$ 8,900 cfs at downstream USGS gage); voids in wall; ground subsidence at upstream wall (soil piping evidence)	Repair and reinforce rock wall; repair and revegetate any erosion at floodplain; stabilize with seed and coir fabric	Town with Engineer support
Poor floodplain connectivity (As-Built)	Floodplain or wall built too high (>0.25' above proposed)	Once, during As-Built survey	Floodplain (especially near water) and/or rock wall >0.25' higher than proposed	Scrape lands to lower surface elevation; reseed, replant, and restabilize; remove additional rocks at rock wall	Engineer / Town / Contractor
SVAP2 score not improved	Multiple factors	Once	Overall SVAP2 < 7.0 by Year 5	Enhanced invasive management; supplemental planting	Engineer / Town

12. Financial Assurances

Financial assurances are required to cover: (1) mitigation construction; (2) monitoring including remedial actions; (3) contingency procedures; and (4) long-term stewardship. Because this project is delivered through the NH ARM Fund, construction and 5-year monitoring are funded by the ARM grant agreement between NHDES and the Town of Hillsborough, with additional match provided by the Town.

The ARM Fund Program is administered by the NHDES. As sponsor of the NH In-Lieu Fee Program, the ARM Fund is responsible for ensuring successful completion of compensatory mitigation projects to meet the obligations outlined in the NH ARM Fund Final In-Lieu Fee Program Instrument. All grants from the ARM Fund must be approved by the New Hampshire Governor & Executive Council (G&C) and the applicant must enter into an agreement with the State. The grant agreement specifies project tasks, funding allocations per task and deliverables that must be provided to ARM for a grantee to seek reimbursement. ARM funded projects are required to allocate funds for contingency (20% recommended). For this project, up to \$45,456.00 (Task 5) is held by the ARM Fund for performance monitoring, maintenance and adaptive management. This reimbursement structure, backed by the agreement with the State, plus a 20% administrative fee assessed on all in-lieu fee mitigation payments which can be used to ensure the project performance standards are successfully achieved, minimizes the financial risk to the ARM Fund.

Long-term stewardship will rely solely on Town commitments. The Town has identified that long-term stewardship of the conservation restrictions will be funded by the Conservation Commission's operating budget (primary) with additional funding available through the Town's conservation fund.

13. Attachments (Separate Cover)

- 1a Draft Declaration of Covenants and Conservation Restrictions (future submittal)
- 1b Conservation Restrictions Map (June 17, 2026)
- 2 Reference Reach Documentation
- 3 SVAP Form for Restoration Area; SVAP Form for Buffer Preservation (future submittal)
- 4a Project Design Plans
- 4b TFord, Inc. Plan of Work
- 4c TFord, Inc. Water Control Plan
- 5 Performance Monitoring Plan; Monitoring Figure
- 6 Long Term Management Plan (future submittal)
- 7 ESA Biological Assessment and NH DNCR No Effects Letter