National Forest Foundation

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Request for Quotes
Shaheen Creek Restoration Project Phase 3
Tongass National Forest, Alaska

Background and Statement of Work:

The National Forest Foundation, in coordination with the Tongass National Forest on the Prince of Wales Ranger District, is requesting proposals for a contractor to add large wood to the stream channel and floodplain along three stream reaches of Shaheen Creek on Prince of Wales Island, totaling approximately 0.38 miles, with the goal of improving channel stability, instream habitat, and riparian productivity. The stream reaches are locally referred to as South Fork Reach 4 – "SF4" (0.27-miles), South Fork Reach 2 Downstream – "SF2 DS" (0.06-miles), and South Fork Reach 1 Downstream – "SF1 DS" (0.05-miles). Actions will include harvesting, transporting, and staging trees; opening closed roads and creating puncheon trails for access; strategically placing large wood into the stream channel and floodplain; road prism material removal; water crossing culvert removal; and road maintenance activities.

Information Requested

If interested in submitting a bid for this project, please provide a quote for the above statement of work by providing:

- technical approach
- work experience
- cost
- capacity for this project
- experience in similar projects

Specific requirements are detailed below.

I. PROJECT OVERVIEW AND REQUIREMENTS

General Specifications

(a) Description of Work – This Request for Quotes is for services related to stream channel and floodplain restoration. Heavy equipment will be used to harvest and transport wood, such as cut logs and whole trees with rootwads attached, from designated source areas to stream-side staging locations. Wood will be sourced from nearby riparian stands and roadside areas. Decommissioned roads will be reopened, and puncheon trails will be

constructed for stream access and tree harvesting needs. During the instream timing window (June 15-August 1), wood will be strategically placed within the channel and floodplain of South Fork Shaheen Creek as individual pieces and constructed logjams. Road storage activities will also occur within the project area, including road fill and culvert removal. Road maintenance and cleanup tasks may also be required. Project tasks include the following:

1. Complete any necessary site preparation and pre-haul road maintenance needs, including but not limited to:
    i. Reopening up to 3000 feet of decommissioned FS road by removing existing berms and clearing vegetation.
    ii. Constructing and/or expanding equipment and vehicle turnaround areas on haul routes.
    iii. Preparing and/or expanding tree staging areas.
2. Harvest approximately 105 whole trees with rootwads attached. Rootwad trees will be tipped and left whole. If used, cut logs will be felled and cut to a minimum length of 60 feet.
3. Transport wood from off-site source areas to designated staging areas near the SF4, SF2 DS, and SF1 DS restoration sites.
4. Construct up to 600 feet of puncheon trail/floatation mat to access instream restoration sites and transport trees.
5. Construct logjam structures at 14 instream sites by placing, stacking, entangling, and entrenching rootwad trees and/or cut logs. Place individual pieces of wood in the channel, side channels, and floodplain of the restoration reaches.
6. Remove culverts along NFS Road 2051040. Activities include but are not limited to:
    i. Reopen up to 5700 feet of closed FS road by removing existing berms and clearing vegetation.
    ii. Remove up to 9 water crossing culverts and construct low water crossings.
    iii. Install traffic barrier for limited motorized vehicle access.
7. Remove road prism material on NFS Road 2050890 (mainstem Shaheen Creek) and on NFS Road 2051000_1.75L (SF1). Activities include but are not limited to:
    i. Reopening up to 500 feet of closed NFS Road 2050890 by removing existing berms and clearing vegetation.
    ii. Remove approximately 800 cubic yards of road prism material on NFS Road 2050890.
    iii. Remove approximately 700 cubic yards of road prism material on NFS Road 2051000_1.75L (SF1).
8. General labor and timber felling, as necessary to support all other tasks.
9. If option item 1 is exercised, it will be for the removal of road prism material from the South Fork Shaheen Creek floodplain. Activities include but are not limited to:
    i. Reopening up to 500 feet of decommissioned FS road by removing existing berms and clearing vegetation.
    ii. Remove approximately 400 cubic yards of road prism material used as bridge abutment on downstream right bank. Material will be spread along existing decommissioned FS road prism and the surfacing shall reasonably conform to the road profile.
10. If option item 2 is exercised, complete road rehabilitation and maintenance.

The Contractor shall identify what they can supply in terms of materials, labor, equipment, supplies, supervision, quality control, and incidentals required to complete the work described. The Contractor shall perform all work in a safe and conscientious manner.

(b) Project Location – The general project location is approximately two and a half miles south of the Winter Harbor boat launch and recreation area on Prince of Wales Island. The stream restoration sites are on the South Fork of Shaheen Creek; SF4 is located approximately 0.50 miles downstream of the bridge crossing on NFS Road 2051000 at milepost 0.28, SF2 DS is located immediately downstream of the bridge crossing on NFS Road 2051000 at milepost 1.42, and SF1 DS is located approximately 0.20 miles down a closed NFS road starting on NFS Road 2051000 at mile post 1.75 (Map 1). Additional work is planned to remove fill material from NFS Road 2050890 along the mainstem Shaheen Creek (Map 5).

(c) Work Schedule – Work is expected to begin in late April or early May of 2024. All instream work shall be completed within the designated fish timing window, **June 15 through August 1, 2024**. Out-of-stream work may be completed without any specific timing window, including mobilization, demobilization, tree sourcing, tree hauling, road work, and access trail construction. Contractor shall complete all work by **September 30, 2024**

Other Project Requirements and Specifications

(a) Utilities – A camping permit is required. If the Contractor plans to camp on FS lands during the performance of this contract, Contractor shall request a written copy of the camping provisions from the FS representative and obtain the necessary permits before the start of work. The FS reserves the right to refuse or terminate a camping permit at any time. Contractor shall not begin any camp development, either land-based or floating, until a plan for development, occupation, and cleanup is submitted and approved by the NFF or FS and a camping permit is obtained

(b) Specifications – Detailed specifications are included in Attachment A. Major specifications include:

- The Best Management Practices (BMP) Soil and Water Conservation Handbook, FSH 2509.22 can be accessed at https://www.fs.usda.gov/detail/r10/landmanagement/?cid=fsbdev2_038796.
- The Forest Service National BMP Practices for Water Quality Management on National Forest System Lands can be accessed at: https://www.fs.fed.us/biology/resources/pubs/watershed/FS_National_Core_BMPs_April2012.pdf
- Tongass Forest Plan Invasive Species Standards and Guidelines and FSM 2900 provide policy for minimizing spread of invasive species.

Insurance Requirements

Upon selection of the winning bid, the Contractor agrees that it has and shall maintain the following insurance coverage indicated below. The effective date of all coverage shall precede the start of any work.

a. State minimum workers' compensation insurance coverage for its employees, if any.

b. Broad form general liability, property damage, and automotive liability insurance in the minimum amount of $1,000,000 for bodily injury, death, or damage to property of any person and $2,000,000 for bodily injury, death, or damage to property of more than one person. The Contractor shall name NFF an Additional Named Insured and provide NFF with a certificate of insurance evidencing such coverages, prior to the initiation of the Scope of Services.

c. If the Scope of Services includes professional services as identified herein, Contractor shall also provide professional errors and omissions liability insurance. Professional services for purposes of this section include, but are not limited to performing architecture, engineering, landscape architecture, land surveying or planning, preparation and signing or stamping of drawings, maps, surveys or construction specifications, or design and development of computer software, programs or websites by the Contractor or by subcontractors on behalf of the Contractor, for which professional liability insurance would typically be required. The minimum coverage limits required are $1,000,000 for each claim and $1,000,000 annual aggregate.

Prohibited Telecommunications Services and Equipment

The Contractor is responsible for compliance with the prohibition on certain telecommunications and video surveillance services or equipment identified in 2 CFR 200.216.

Payment/Performance Security

Contractor shall post cash, a letter of credit, bond, or other financial security that is easily convertible into cash in a form acceptable to the NFF, in its sole determination, to assure completion of the work required under any subsequent agreement and payment of all amounts lawfully due to all persons supplying or furnishing to the Contractor or Contractor's subcontractors with labor, laborers, materials, rental machinery, tools or equipment used or to perform the work. Contractor may incorporate required associated costs into mobilization costs or other approved expenses.

a. Work that is classified as construction in accordance with the Miller Act or Little Miller Act or if required per conditions of the funding source, payment and performance bonding will be required in the full amount of any Agreement. For the purposes of this Request for Quote, construction is defined as "any contract greater than $100,000 for the construction, alteration, or repair of any public building or public work where the federal government is the owner", or

b. If Contractor is not self-performing at least 85% of the total contract value or if the cost of materials is in excess of the larger of $100,000 or 50% of the contract total, payment and performance bonding will be required in the full amount of the agreement, or

c. If the value of the agreement is in excess of $250,000, Contractor will be required to post financial security in a form acceptable to the NFF in the amount of 5% of the total agreement value up to $250,000 in total financial security.

American Made Products. The work associated with this RFQ is subject to Build America, Buy America Act. P.L. 117-58, Secs 70911-70917, and as such, domestic content procurement preference requires all iron and steel, manufactured products and construction materials used within the scope of this Agreement, be produced in the United States.

Federal Exclusion Verification

The selected Contractor will be required to affirm that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

Federal Flowdown Provisions

Flowdown Requirements: Any Agreement associated with this RFQ may be subject to flowdown requirements under associated federal or state funding agreements, which are included and made part of by this reference.

II. REQUIRED COMPONENTS

Technical Quote

Please provide a detailed technical approach to the work.

Contractor Qualifications

I. Past Experience – Please provide a brief explanation of previous work experience with land management agencies.

II. References – Please provide three professional references that can speak to past performance.

Pricing Schedule

Contractor shall price work according to the schedule below. Prevailing wages are required per conditions of funding sources.

Base Bid: All tasks associated with restoration of SF4 Sites 1-9, SF2, SF1, 2050890 fill removal from floodplain, 20501040 and 2050896 road storage

	Task/Item	Units	Unit Cost	Extended Cost
	Mobilization	Lump Sum	1	
	Hydraulic Fluid Conversion	Lump Sum	1	
	Pollution Control, Erosion, and Traffic Control Materials	Lump Sum	1	
	Tree Sourcing and Haul	Lump Sum	1	
	Access Roads and Puncheon	Lump Sum	1	
	Floodplain Fill Removal	Lump Sum	1	
	Road Storage	Lump Sum	1	
	Small Hydraulic Tracked Excavator (In-stream)	Hour	129	
	Large Hydraulic Tracked Excavator (In-stream)	Hour	196	
	General Labor/Feller (In-stream)	Hour	195	
	Road Rehabilitation and Site Cleanup	Lump Sum	1	
			Total Bid	

Option 1: All tasks associated with removing SF4 abutment road fill

	Task/Item	Units	Unit Cost	Extended Cost
	Large Hydraulic Tracked Excavator	Lump Sum	1	
			Total Bid	

Option 2: Post-project road maintenance

	Task/Item	Units	Unit Cost	Extended Cost
	Unclassified borrow	CY	100	
	Crushed aggregate	CY	100	
			Total Bid	

III. SUBMISSION, EVALUATION, AND CONTACTS

Contractor Selection Process

The NFF will use the Evaluation Factors below to review each submitted bid. Based on the outcomes of that selection process, the NFF will notify successful and unsuccessful bidders by March 20, 2024 and will prepare a separate contract document.

- Price
- Previous Work History
- References
- Contractor availability / Project timeline

Point of Contact

Please submit any questions about the project in writing to the Point of Contact.

Carolyn Auwaerter (they/them)
National Forest Foundation Tongass Stewardship Coordinator
cauwaerter@nationalforests.org

Responses will be shared with known interested parties by email or otherwise posted at https://www.nationalforests.org/rfp.

Bid Submission

Submit bids in size 11 Arial font in Word Document or PDF via email to cauwaerter@nationalforests.org by March 12, 2024.

Equal Opportunity Provider

In accordance with Federal law and U.S. Department of Agriculture policy, the National Forest Foundation is prohibited from discriminating on the basis of race, color, national origin, sex, age, religion, political beliefs, or disability.

Appendix A – Project Specifications

Contents

Purpose

The purpose of the Shaheen Creek Phase 3 Restoration Project is to improve channel stability, instream habitat, hydrologic connectivity, and riparian productivity within the Shaheen Creek watershed. Large wood will be added to the stream channel and floodplain along three stream reaches, totaling approximately 0.50 miles of Shaheen Creek on Prince of Wales Island, AK. The stream reaches are locally referred to as South Fork Reach 4 – “SF4” (approximately 0.30-miles), South Fork Reach 2 Downstream – “SF2 DS” (approximately 0.10-miles), and South Fork Reach 1 Downstream – “SF1 DS” (approximately 0.10-miles). Actions will include harvesting, transporting, and staging trees; opening closed roads and creating puncheon trails for access;

strategically placing large wood into the stream channel and floodplain; road prism material removal; water crossing culvert removal; and road maintenance activities.

Location

The general project location is approximately two and a half miles south of the Winter Harbor boat launch and recreation area. The stream restoration sites are on the South Fork of Shaheen Creek; SF4 is located approximately 0.50 miles downstream of the bridge crossing on NFS Road 2051000 at milepost 0.28, SF2 DS is located immediately downstream of the bridge crossing on NFS Road 2051000 at milepost 1.42, and SF1 DS is located approximately 0.20 miles down a closed NFS road starting on NFS Road 2051000 at milepost 1.75 (Map 1). Additional work is planned to remove fill material from NFS Road 2050890 along the mainstem Shaheen Creek (Map 5).

Summary Of Work

Contractor will provide heavy equipment to harvest and transport wood, such as whole trees with rootwads attached, from designated source areas to stream-side staging locations. Wood will be sourced from nearby riparian stands and roadside areas. Decommissioned roads will be reopened, and puncheon trails will be constructed for stream access and tree harvesting needs. During the instream timing window (June 15-August 1), wood will be strategically placed within the channel and floodplain of South Fork Shaheen Creek as individual pieces and constructed logjams. Road storage activities will also occur within the project area, including road fill and culvert removal. Road maintenance and cleanup tasks may also be required.

Contractor shall provide all equipment, materials, and labor necessary to complete the work described below.

- Complete any necessary site preparation and pre-haul road maintenance needs, including but not limited to:
    - Reopening up to 3000 feet of decommissioned FS road by removing existing berms and clearing vegetation.
    - Constructing and/or expanding equipment and vehicle turnaround areas on haul routes.
    - Preparing and/or expanding tree staging areas.
- Harvest approximately 105 whole trees with rootwads attached. Rootwad trees will be tipped and cut to a minimum length of 60 feet. Treetops shall maintain limbs and remain either on-site as ground cover, used instream, or as directed by FS or NFF personnel.
- Transport wood from off-site source areas to designated staging areas near the SF4, SF2 DS, and SF1 DS restoration sites.
- Construct up to 600 feet of puncheon trail/floatation mat to access instream restoration sites and transport trees.
- Construct logjam structures at 14 instream sites by placing, stacking, entangling, and entrenching rootwad trees. Place individual pieces of wood in the channel, side channels, and floodplain of the restoration reaches.
- Remove culverts along NFS Road 2051040. Activities include but are not limited to:
    - Reopen up to 5700 feet of closed FS road by removing existing berms and clearing vegetation.
    - Remove up to 9 water crossing culverts and construct low water ATV crossings.

    - Install traffic barrier for limited motorized vehicle access.
- Remove road prism material on NFS Road 2050890 (mainstem Shaheen Creek) and on NFS Road 2051000_1.75L (SF1). Activities include but are not limited to:
    - Reopening up to 500 feet of closed NFS Road 2050890 by removing existing berms and clearing vegetation.
    - Remove approximately 800 cubic yards of road prism material on NFS Road 2050890.
    - Remove approximately 700 cubic yards of road prism material on NFS Road 2051000_1.75L (SF1).
- General labor and timber felling, as necessary to support all other tasks.
- If Option Item 1 is exercised, it will be for the removal of road prism material from the South Fork Shaheen Creek floodplain. Activities include but are not limited to:
    - Reopening up to 500 feet of decommissioned FS road by removing existing berms and clearing vegetation.
    - Remove approximately 400 cubic yards of road prism material used as bridge abutment on downstream right bank. Material will be spread along existing decommissioned FS road prism and the surfacing shall reasonably conform to the road profile.
- If Option Item 2 is exercised, complete road rehabilitation and maintenance.

Timing
Work is expected to begin in late April or early May of 2024. All instream work shall be completed within the designated fish timing window, **June 15 through August 1, 2024**. Out-of-stream work may be completed without any specific timing window, including mobilization, demobilization, tree sourcing, tree hauling, road work, and access trail construction. Contractor shall complete all work by **September 30, 2024**.

Shaheen Creek Bridge Weight Limit
No equipment or load greater than 32 tons shall cross the Shaheen Creek bridge (NFS Road 2051000 milepost 0.28) at any time. If equipment is expected to be over this weight, additional permitting and timing restrictions may be required to bypass the bridge via an instream crossing. Refer to Task 3: Stream Access Routes for more details.

Coordination of Work
Additional work is expected to occur in the project area, along NFS Roads 2050000 and/or 2051000, that may limit access to the work site. Contractor shall coordinate with other contractors to adapt scheduling and accommodate the additional work. Specific locations and timelines of construction projects will be provided when known, likely before work on this contract commences. Contractor shall be given advance notice of road closures that might affect access to the work site.

Pre-work Requirements
Before any work commences, the Contractor must provide and have detailed documents describing both an **Erosion Control Plan** and a **Traffic Control Plan** approved by FS or NFF personnel. Refer to the **Additional Provisions** section below for further details. A pre-work meeting (virtual or in person) between a representative of the Contractor, NFF, and FS, in which the final service agreement and the Contractor's plan of work are discussed in detail, must also

occur prior to mobilization. At the meeting, the Contractor shall provide the name and phone number of the Contractor's onsite representative and their contract responsibilities and authority.

Contractor Representative

Contractor shall provide an onsite representative who will oversee the performance of the work specified in the service agreement. The name of the contractor representative and an alternate(s) who shall have the authority to act for the Contractor on all contract matters relating to the daily operation of this contract shall be provided to NFF and FS representatives before work begins.

Responsibility to Notify

The contractor must notify the designated FS representative at least three working days prior to the commencement of work to provide a work schedule and coordinate inspection activities during FS business hours, unless otherwise approved in writing by the FS or NFF. The work schedule shall outline, at a minimum, completion dates of major tasks/objectives as outlined in detailed tasks below.

Contractor must notify the designated FS representative when leaving the project area for three or more days (unless due to Government holiday) and within 24 hours before returning to the project area.

Service Interruptions

If any service must be interrupted (even temporarily) due to maintenance of contract work, the Contractor shall notify FS or NFF personnel at least three working days in advance. If the service interruption is due to an emergency breakdown, the Contractor shall notify FS or NFF personnel as soon as practicable.

Government Regular Working Hours:

The Government's regular working hours are from 0700 to 1700, five days per week, Monday through Friday, except observed Federal holidays. Exceptions to regular working hours will be considered on an as-needed basis, depending on the schedule provided by the Contractor. A FS representative will typically be on-site but is only required to match contractor hours during instream restoration.

Federal Observed Holidays

The Government observes the following holidays:

New Year's Day
Martin Luther King Jr.'s Birthday
President's Day
Memorial Day
Independence Day
Juneteenth
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

Detailed Work Tasks

Tasks associated with completing the Shaheen Creek Phase 3 Restoration project are described in detail below. Tasks may occur simultaneously or in an order other than listed. The following descriptions are provided as an outline of major work items and shall not be construed as an inclusive or a complete listing of all work items.

Task 1: Site and Road Preparation

The site preparation and pre-haul road maintenance activities described below are necessary for safe and sustainable access to tree-sourcing areas and the stream restoration sites. They may

be completed without any timing restrictions so long as a pre-work meeting has been held and other pre-work requirements have been met.

Reopening Decommissioned Roads
Contractor will reopen two sections of decommissioned FS road for equipment access. All routes will be flagged by FS personnel prior to hauling.

Road number 2051000_1.75L is the main access route to the SF1 DS site within Tree Source Area 03 (Map 3). Work on this road will include removing the existing berm at the entrance, clearing vegetation, harvesting designated trees, removing bridge abutments, and re-installing the traffic barrier and waterbars upon exit. This road must be accessible to excavators and a dump truck and will be decommissioned immediately after use.

Road number 2051000_0.34R is the main access route to the SF4 site and is within Tree Source Area 01. This road must be temporarily reopened to a standard that will accommodate the high amount of use expected to transport the necessary trees to the staging area/restoration sites. Work on this road will include removing existing berms, clearing vegetation, installing temporary stream crossings, harvesting designated trees, and placing puncheon (Task 3). Two 18-inch plastic culverts shall be temporarily installed for stream crossing along this road. Fill material will be placed 12 inches above the culverts and sourced from the existing road prism on-site. Upon completion of the work, the Contractor shall remove temporary structures and re-install an earth mound traffic barrier and waterbars where appropriate. All removed culvert materials shall become the Contractor's property and be removed from National Forest land per all federal, state, and local laws.

Preparation of Tree Staging Areas
Designated tree staging areas are located near and along NFS roads and access routes to the restoration sites. These locations may need to be cleared of vegetation or otherwise expanded to allow for staging of trees that are hauled from off-site. The Contractor shall determine the need to allow adequate space in these designated staging areas for the required number of trees based on their anticipated harvest, haul, and access route construction timelines. FS personnel shall approve plans for expansion before work commences.

Trees shall not be staged along roadways in any way that would impede traffic and shall not be placed in ditches. Trees of adequate size (e.g., ≥ 7" DBH) that are removed from staging areas and not meant for in-stream use shall be used as puncheon material on the site access routes (See Task 3).

NFS Road 2050000 and 2051000 Repair
Project tasks along roads 2050000 and 2051000 can potentially damage road prisms and existing ditches. Allowances for road repair and post-project road and drainage system maintenance are required. This work could include road grading and rolling, ditch cleaning, spot surfacing, culvert cleaning, and repair. If road improvements are necessary to facilitate this project, FS or NFF personnel must be consulted before any modifications or changes to existing open roads are made. Tracked or cleated heavy equipment use on existing open roads shall be kept to the minimum necessary to achieve project goals. Spot surfacing on roads 2050000 and 2051000 shall consist of contractor furnished crushed aggregate up only to the mainstem Shaheen bridge along NFS Road 2051000 MP 0.28. All other spot surfacing shall consist of Government-furnished unclassified borrow from an existing nearby quarry.

Turnaround Areas and Rock Pits
An existing rock pit on NFS Road 2051040 has been designated as a turnaround area for the log truck and other equipment, as necessary (Maps 4). The Contractor may use alternative

turnaround areas with FS approval. These areas may need to be cleared of vegetation, rock, or other debris for safe use. The Contractor shall inspect these areas to determine the needs for preparation and use and then notify FS personnel of expected preparation needs. Contractor is responsible for completing any actions required to allow these areas to be accessible for use. The Contractor may use Government-furnished unclassified borrow from a nearby quarry to complete road maintenance and site preparation tasks associated with this project. Material sources shall be approved by FS or NFF personnel prior to any removal or use.

Any trees of adequate size removed from these areas shall be used as puncheon material on the site access routes (See Task 3).

Task 2: Tree Harvest, Hauling, and Staging

Approximately 105 rootwad trees for instream structures shall be sourced from on-site and off-site tree source areas (Maps 2-3, and 6). The SF1 DS and SF2 DS tree source areas (Areas 03-04) include approximately 59 rootwad trees along the NFS Decommissioned Road 2051000_1.75L and closed unit access trails. The SF4 tree source area (Area 01) is along the NFS Decommissioned Road 2051000_0.34R and access trail and includes approximately 51 rootwad trees. Additional rootwad trees are located along the closed NFS 2051040 Road (Area 05) and along 2051000_0.67R (Area 2) and may be sourced if additional instream trees are needed.

The remaining staged trees not utilized in FY23 include approximately 29 trees. Of these remaining trees, about 11 are rootwad trees that are to be used instream at the SF4 site. The remaining 18 are cut trees and will be utilized for placement instream as directed by FS or NFF personnel.

Additional trees, as identified by FS or NFF personnel, may be sourced for use as puncheon material. Trees cleared for extraction will be marked by FS personnel.

Rootwad trees will be a minimum of 60 feet in length and have a minimum diameter at breast height (DBH) of 16 inches. Rootwad extraction involves excavating the root area of a tree and tipping or pushing the tree over to preserve the rootwad.

An excavator shall be used for tipping over rootwad trees, extracting trees and logs from harvest sites, and, in off-site source areas, staging trees and logs near the road, which shall then be loaded for transport.

Contractor shall use a log truck (see equipment requirements for definition) to transport trees from off-site source areas to on-site staging areas. Sixteen trees from source areas 03-04 will require haul. Haul routes will include sections of NFS road 2051000 (Map 3). The maximum round trip haul distance is approximately 1 mile, and the average distance is about 0.80 miles.

One excavator shall extract trees from the off-site source areas and load them onto the log truck, which will haul them to the restoration site. Another excavator shall be used to unload the trees and deck them at the on-site staging areas.

Tree Harvest and Staging Provisions

Trees shall be harvested, hauled, and staged with the following provisions:

a) If the Contractor determines a tree to be unsafe for rootwad harvest, then the tree may be substituted for another tree in consultation with FS or NFF personnel. Contractor shall notify NFF or FS personnel of any tree deemed unsafe for extraction.

b) Only conifer trees marked for use as rootwad trees shall have their roots extracted. Exceptions include decommissioned road clearing and puncheon trail construction.

c) Contractor shall not harvest more trees than are needed to complete the project.

d) For any trees that will be felled with a chainsaw, stumps shall be kept as low to the ground as possible and not more than 12 inches in height.

e) Cut the small, non-merchantable trees. Leave the stumps of these trees intact and use the wood for slash to support equipment and cover exposed mineral soils.

f) Slash material shall be bucked and limbed to within 3 feet of the ground into maximum 16-foot lengths to accelerate decomposition.

g) Rootwad tree harvest shall comply with the following guidelines:

    a. Rootwads shall be shaken or scraped to remove as much dirt from the rootwad at the harvest site as possible. Care shall be taken not to pinch logs, causing them to shatter.

    b. Rootwad trees shall be cut 60 feet from the root collar, and care should be taken to minimize damage to limbs and roots.

    c. Minimize handling the trees by the rootwad or dragging rootwads on the ground to maintain as much of the rootwad surface as possible.

h) For trees that will be hauled in the log truck, the tops of the trees may be broken off by the excavator or cut to a minimum length of 60 feet (excluding the rootwad). Treetops greater than 30 feet in length shall maintain limbs and be hauled for instream use or as directed by FS or NFF personnel.

i) Trees not hauled in the log truck shall be left at full length or as long as possible.

j) Care shall be taken to avoid disturbing or injuring live trees.

    a. Trees shall be tipped or felled toward the road in any situation that can be done safely to minimize damage to surrounding trees.

    b. Felled or tipped trees and branches shall not be left leaning on, entangled in, or covering any live tree.

k) Heavy equipment will operate from existing roads and constructed puncheon trails as much as possible. Exceptions may occur when sourcing wood for the project immediately adjacent to these surfaces.

l) Trees not immediately loaded for transport shall be decked clear of the road surface and associated ditches and drainage structures. Trees shall not be stacked against any unmarked/left trees.

m) When feasible, leave treetops less than 30 feet in length, cull logs, and limbs on site for a future source of organic matter, especially in areas of exposed mineral soil, unless otherwise directed by FS or NFF personnel.

    a. Bare mineral soils with erosion potential shall be covered 100% with slash or other organic material before the machinery leaves the vicinity of the harvest location.

Roads, including pull-outs and other staging areas, must be returned to the same or better condition after use. Contractor shall be held liable for any damage to existing roads, bridges, culverts, or signs caused by the Contractor's personnel or equipment. Refer to Task 9 and Additional Provisions for further details on road maintenance, road repair, and traffic control requirements.

Task 3: Stream Access Routes

All access trails and streamside staging area locations will be flagged by FS personnel. Equipment shall only operate on designated roads and trails.

Approximately 3000 feet of decommissioned road shall be temporarily reopened (See Task 1), and up to 600 feet of new puncheon trail shall be constructed to provide access to the SF4 restoration site (Map 2). Puncheon material may be sourced off-site from designated sourcing areas (See Task 2).

Rootwad trees shall be harvested from designated source areas along these access routes. These trees may be temporarily staged along the access routes or transported directly to the streamside staging locations. Trees in these areas shall be harvested with all the same provisions listed in Task 2 above.

Access Route and Puncheon Trail Provisions

Equipment access routes shall comply with the following provisions:

a) Access routes shall be constructed using non-merchantable wood, treetops, and limbs and be kept to the minimum width and length necessary for safe operations.

    a. Non-merchantable wood within the access route boundaries shall be felled with a chainsaw and used as puncheon material whenever feasible.

    b. If adequate material is unavailable within the designated access route boundaries, the Contractor will notify FS personnel to discuss alternative options and ensure the protection of soil resources. Options may include sourcing additional puncheon material from off-site or using other erosion and compaction control methods such as ground protection mats.

b) Access routes shall be constructed in compliance with all applicable Best Management Practices, which will require puncheon material or a slash mattress to provide adequate bearing strength and prevent rutting on poorly drained soils. Contractor's strategy for the use of these materials must be adequately described in the **Erosion Control Plan**.

c) Equipment operators shall avoid wet areas as much as possible to prevent rutting.

d) Natural drainages (e.g., ephemeral streams and side channels) shall be protected, maintained, or reestablished through strategic use and removal of slash.

e) Puncheon material shall be de-compacted and scattered upon completion of activities unless otherwise instructed by NFF or FS personnel.

f) Areas of disturbed soil shall be covered with organic material/slash as instructed by FS personnel to minimize erosion and the spread of invasive plants. See **Additional Provisions** for further details.

Mainstem Shaheen Creek Machinery Crossing

No equipment or load greater than 32 tons shall cross the Shaheen Creek bridge, located at NFS Road 2051000 milepost 0.28, at any time. If the excavator(s) proposed for use exceed this weight limit, the equipment may be required to cross instream and along a floodplain trail instead. In such a case, the crossing would occur immediately upstream of the bridge and along an existing floodplain access trail. This trail will require additional puncheon material to be added, which would likely be sourced off-site. Contractor will be responsible for sourcing and placing this puncheon material.

Because all species of salmon are present at the site, the designated timing window for this crossing is **July 15-Aug 1, 2024**. In the past (Phases 1 and 2), the Alaska Department of Fish

and Game (ADF&G) granted a variance to the instream timing window to allow a crossing of a large excavator, subject to the following conditions: temporary rip rap or puncheon will be used to armor the stream banks where machinery will enter and exit the stream. Puncheon will also be used on the stream substrate to minimize disturbance to the streambed. Steelhead redd surveys will be conducted in the area of the proposed crossing. If redds or spawning fish are observed, the equipment crossing will be postponed. The FS will request a variance to the timing window be granted to allow equipment to cross on or after June 1, 2024. The return trip will take place before the timing window closes on August 1, 2024.

Task 4: Instream Restoration Work

Instream work shall consist of clearing streamside vegetation for equipment access, transporting trees from staging areas to the designated work sites, and constructing large wood structures (Exhibits 01-03). Large wood structures of trees, rocks, and other on-site materials will be constructed. A portion of each structure may be buried below the streambed or trenched into the stream banks. Trees shall be "woven" together to form interlocked logjams to mimic natural stream structures. Smaller wood pieces and slash shall be packed into the voids on the upstream side of the structure. Pools located adjacent to these log structures may be excavated, and the stream bed materials shall be incorporated into adjacent bars and riffles and/or placed on the upstream side of the slash packed into the structure.

The number of trees may vary from what is shown in the drawings. The final structure design will be determined in the field based on local site conditions, available trees, and structure objectives, including target dimensions and elevations. Large wood structures will be constructed under the direction of FS or NFF personnel. After access trails are constructed and trees are stockpiled for a given site, the FS representative will delineate the tasks, select logs to use from staging areas, approve excavation and orientation of trenches, designate alignment, orientation, and elevations of the structure, and inspect the work as it proceeds. The Contractor will excavate located trenches to the size, length, and depth required, according to FS or NFF personnel direction, pick, move, and orient the logs, backfill trenches, and entangle the trees in the adjacent trees along the banks.

The timing window to complete this instream restoration work is **June 15th through August 1, 2024**. All instream work shall be completed by the end of the day on **August 1st, 2024**.

A tracked excavator shall construct log jams and large wood complexes along stream channels, gravel bars, and floodplains. In the past, contractors have successfully used one excavator to complete out-of-stream work, including transporting trees from stockpile locations to the structure sites, while another excavator works instream building the structures. The stream shall be accessed by equipment only via the constructed puncheon trails or designated floodplain access routes.

Instream Work Provisions

Transport of trees and equipment to the stream shall comply with the following provisions:

a) Cut trees shall be used to "bridge" entry from the streambank to the streambed, with extra puncheon material to minimize impacts to the streambank.

b) Prior to each entry into the stream channel, in consultation with FS or NFF personnel, the excavator's tracks shall be shoveled free of excessive soil accumulation.

c) The number of passes over the streambank shall be minimized to the greatest extent possible.

The instream work site shall be accessed, and the instream wood structures shall be built under the supervision of NFF or FS personnel and shall comply with the following provisions:

a) Locations shall be flagged and confirmed with the FS prior to construction.

b) Care shall be taken to minimize or prevent soil disturbance and damage to streambank vegetation while moving equipment and trees.

c) The FS may identify individual alders that can be removed to improve site access. Streamside trees shall be felled with a chainsaw, and root masses shall be left intact.

d) Disturbance to existing large wood in the stream channels shall be avoided unless approved by FS personnel.

e) The excavator shall work in and around flowing water. Work may be required to halt if stream flow is determined to be too high to permit safe operation, impedes digging to place log structures, or threatens water quality.

f) Equipment crossings within the wetted stream channel will be required to access and construct the wood complexes. FS Best Management Practices, including the **Erosion Control Plan**, shall be incorporated into the project to minimize potential impacts to water quality.

g) All heavy equipment operating within the active stream channel or on the floodplain shall utilize an approved, non-toxic, biodegradable hydraulic fluid.

Task 5: Road Storage

Road storage will be required on NFS Road 2051040 before contract termination. Road storage must meet the standards for off-highway vehicles (OHV) and includes: waterbar installations, culverts removed, or any other stream crossing features must conform to typical OHV crossing design slope ratios of 1V:3H per typical drawing (Fig. 01). Traffic barriers shall be installed to allow access to motorized vehicles that meet the <50" in. width requirements for OHV trails. Up to 9 water crossing culverts shall be removed, and up to 200 feet of ditch cleaning and reconstructing shall occur to remove approximately 15 cubic yards of material. Structure locations will be flagged by FS personnel. All removed culvert materials shall become the contractor's property and shall be removed from National Forest land per all federal, state, and local laws.

Task 6: Road Prism Material Removal

Remove approximately 600 cubic yards of road prism material used as bridge abutment on the downstream right bank and 200 cubic yards of road prism material used as bridge abutment on the downstream left bank on NFS Road 2050890 (Map 5). At site SF1 DS, remove approximately 345 cubic yards of road prism material used as bridge abutment on the downstream left bank on NFS Road 2051000_1.75L and approximately 330 cubic yards of road fill material used as bridge abutment material on the downstream right bank on NFS Road 2051000_1.75L. Area limit of material to be excavated will be flagged by FS personnel prior to the commencement of work. The material will be spread along the existing decommissioned FS road prism and, upon completion, the surfacing shall reasonably conform to the road profile. This excavated material shall be spread and placed up to three feet in height on the existing road prism.

Task 7: General Labor

General labor and timber felling may assist in Tasks 1-6 above. General labor tasks may include, but are not limited to:

a) Felling trees

b) Delimbing, bucking, or otherwise manipulating downed trees or slash material

c) Cable yarding trees such that they are within reach of the excavator

d) Placing and removing erosion and pollution control materials

e) Placing and removing traffic control materials

f) Removing excess soil from rootwads using hand tools

g) Placing slash material over exposed soils

Felling of trees with diameters up to 36 inches will be required. Work shall require directional felling through narrow openings to preserve the surrounding stand. Feller shall have adequate experience to work with that size material safely and efficiently.

Minimum required supplies include:

a) Multiple chainsaws with spare bars, chains, oil, fuel, chaps, wedges, eye protection, ear protection, and hard hat. Biodegradable bar oil shall be used to minimize impacts to streams.

b) Ground working tools, including shovels, pulaskis, pry bars, etc.

c) Handheld or 2-way radios to communicate between the equipment operator, general laborers, and FS or NFF personnel.

Task 8: Road Prism Material Removal (Option Item 1)

Reopen up to 500 feet of decommissioned NFS Road 2051000_0.67R and remove approximately 400 cubic yards of road prism material used as bridge abutment on the downstream right bank (Map 6). Area limit of material to be excavated will be flagged by FS personnel prior to the commencement of work. Material will be spread along the existing decommissioned FS road prism, and upon completion, the surfacing shall reasonably conform to the road profile. Excavated material shall be placed back approximately 20 feet from the top edge of the excavation. This excavated material shall be road spread and maintained back from the road shoulder. Do not side-cast material over the fill slopes.

Task 9: Post-Project Road Maintenance (Option Item 2)

Following project completion, roads should be returned to a pre-project condition, or better, as described in Additional Provisions 3 Clean-Up and 13 Use and Maintenance of Existing Roads.

Government-furnished unclassified borrow from nearby quarry may be used to complete post-project road maintenance tasks if needed. Material sources shall be approved by FS or NFF personnel prior to any removal or use. Spot surfacing on NFS roads 2050000 and 2051000 (up to only the Shaheen bridge along NFS Road 2051000 MP 0.28) shall consist of Contractor furnished crushed aggregate of up to 100 cubic yards. All other spot surfacing shall consist of Government-furnished unclassified borrow of up to 100 cubic yards from an existing nearby quarry. Material sources shall be approved by FS or NFF personnel prior to any removal or use. If the FS or NFF requests, the Contractor shall use a grader to recontour the road surface and shoulder of up to 2 miles of the NFS Road 2051000 within the project area. Equipment hours associated with grading will only be paid if FS or NFF representatives request that this task be completed.

Equipment Requirements

The Contractor shall provide the following equipment, at a minimum, to complete the work as described above. Excavators shall have qualified operators with timber and forest pioneering experience.

Small Excavator: One small excavator shall be a 200-series excavator or equivalent. The small excavator shall be between 20,000 GVW minimum and 50,000 GVW maximum and equipped with a general-purpose excavation bucket with a hydraulic thumb. The Contractor shall also supply multiple sets of log tongs and chokers for the excavator to manipulate trees up to 36 inches in diameter. The small excavator shall be used to load and unload rootwad trees and logs from the log truck, transport rootwad trees and logs using partial suspension along roads and puncheon trails, perform in-stream equipment work, including moving and placing trees for structures, excavate pools in the stream channel, constructing gravel bar structures, decommissioning access routes and rehabilitating all work areas under the guidance of NFF or FS personnel.

Large Excavator: One large excavator shall be a 300-series excavator or equivalent. The large excavator shall be between 45,000 GVW minimum and 90,000 GVW maximum and equipped with log tongs and a choker to manipulate trees up to 36 inches in diameter. The large excavator shall be used to harvest trees by tipping over rootwad trees and any of the tasks described above for the small excavator.

Log Truck: One truck with a trailer capable of legally hauling cut trees and rootwad trees up to 36 inches in diameter with a length of at least 60 feet. This item may include a conventional or modified log truck, truck with a lowboy trailer, dump truck, or other equipment capable of transporting trees of this size on the road. The log truck shall have a qualified operator with timber experience. The log truck shall transport rootwad trees and cut trees from the off-site tree source areas to the on-site tree staging areas at the restoration reaches.

Dump Truck: One 10 – 12 CY dump truck not to exceed 60,000 GVW. Dump truck shall primarily be used for road prism material removal, culvert removal hauling, and road maintenance activities.

Grader (Option Item): One motor grader with a minimum 12-foot-wide moldboard. A grader will only be needed, and equipment hours associated with grading will only be paid if FS or NFF representatives request that the road recontouring work related to Task 9 be completed.

Equipment Provisions

The following provisions shall be applied to heavy equipment:

a) All heavy equipment entering any stream channel shall be power-washed prior to mobilization on FS lands.

b) Equipment shall be inspected for compliance prior to entering the worksite.

c) Equipment working in or near the stream channel shall use approved, non-toxic biodegradable hydraulic fluid. “Fish-friendly” hydraulic fluid is defined as a synthetic thermally stable biodegradable hydraulic oil (ISO 32/46). Verification of bio-degradable hydraulic fluid conversion shall be required with a receipt or other proof of conversion as accepted by the NFF.

d) All heavy equipment shall carry a supply of oil-absorbent pads capable of containing a failed hydraulic line or fitting and method of affixing pads.

e) Each excavator working in the stream shall carry oil-absorbent booms in sufficient quantity to cover the width of the wetted channel twice. Booms shall be deployed downstream during all instream work.

f) Refueling shall occur only at FS-approved locations. Refueling shall occur at least 150 feet away from active channels, wetlands, and floodplains.

g) When any heavy equipment is not in use, it shall be stored away from the stream in an area designated by NFF or FS personnel.

h) Multiple cable chokers, chains, tongs, and shackles shall be available on-site. Each of these items shall be of sufficient capacity and length for the trees to be handled and of sufficient quantity such that failure of one piece does not delay progress or reduce productivity.

Due to the limited work window imposed by state permitting agencies, it is imperative always to have functioning equipment. Delays in equipment operation due to repair or maintenance shall not exceed 48 hours. Contractor shall maintain sufficient backup equipment and parts to avoid delays exceeding 48 hours. If, after repair, the machine continues to be inoperable or requires continued maintenance, a replacement shall be provided within 48 hours.

All equipment shall be in good working condition. NFF or FS personnel have the right to reject any equipment and request a replacement. Potential reasons for rejection of equipment include, but are not limited to, the following:

a) Visual leakage of fuel, oil, excessive grease, or any fluid from the machine;

b) Equipment components are loose or unstable, such as tracks, track pads, bucket, hydraulic thumb, etc.;

c) Visual presence of vegetation, mud, petroleum products, or other foreign debris that should have been cleansed and removed during required power wash.

The contractor shall furnish fuel, oil, and other operating supplies. Time spent warming up, fueling, maintaining, or repairing equipment is incidental and will not be paid by NFF or the FS.

Additional Provisions

1. Archaeological or Historic Sites

If a previously unidentified archaeological or historic site(s) are encountered, the Contractor shall discontinue work in the general area of the site(s) and notify the NFF or FS personnel immediately.

2. Camping Provisions

A camping permit is required. If the Contractor plans to camp on FS lands during the performance of this contract, contractor shall request a written copy of the camping provisions from the FS representative and obtain the necessary permits before the start of work. The FS reserves the right to refuse or terminate a camping permit at any time. Contractor shall not begin any camp development, either land-based or floating, until a plan for development, occupation, and cleanup is submitted and approved by the NFF or FS and a camping permit is obtained.

3. Clean-Up

Before final acceptance, all areas occupied by the Contractor in connection with the work shall be cleaned of all Contractor's rubbish, excess materials, temporary structures, and equipment, and all parts of the work area shall be left in a neat and presentable condition.

The Contractor shall clean all dirt and debris off FS roads resulting from contract work. As determined by FS personnel, roads shall be returned to an acceptable state before project completion. Refer to Additional Provision 13 Use and Maintenance of Existing Roads.

4. Erosion and Sedimentation Control

Work is being performed adjacent to sensitive fish streams; erosion and sediment controls are paramount. Contractor shall be responsible for supplying and implementing temporary erosion and sediment controls, such as silt fences, straw wattles, and slash material per current best management practices (see Technical Specifications) and as instructed by NFF or FS personnel.

The Contractor will develop an **Erosion Control Plan** outlining the erosion control measures that will be utilized during contract execution. This plan must be approved by FS personnel prior to the start of work. The plan shall include site-specific details of which materials will be used and how, when, and for how long those materials will be placed.

Additional measures may be required during construction if methods do not mitigate sedimentation or erosion. Such measures may include stopping work if/when rainfall or stream flow rapidly increases to near bankfull heights.

Contractor shall remove all erosion and sediment controls once the construction site has been stabilized. Contractor shall stockpile any native topsoil and vegetation mats excavated within the project limits away from the stream banks and reuse to cover disturbed stream banks and other areas as instructed by NFF or FS personnel.

5. Equipment Operation and Skill

Operators shall have sufficient skill and experience to perform the assigned work properly and safely. Any operator who, in the opinion of the NFF, does not perform the work in a proper, safe, and skillful manner will be removed and replaced within 24 hours by the Contractor upon written request of NFF.

6. Fire Prevention

The Contractor shall be required to comply with the fire regulations governing National Forest System (NFS) lands when this Contract is in effect. The Contractor is responsible for complying with minimum fire prevention requirements on NFS lands. During periods of high fire danger, the FS may suspend operation until the risk is passed. An adjustment in Contract time may be made for this period.

7. Landscape Preservation

Contractor shall comply with the following provisions related to landscape preservation.

a) Confine operations within the clearing limits or other areas designated in contract documents and prevent the depositing of rocks, excavated materials, stumps, or other debris outside these limits.

b) Contractor shall schedule and conduct operations to minimize erosion of soils and to prevent silting and muddying of streams, rivers, and impoundments (lakes, ponds, etc.). Install silt fencing, straw wattles, slash, or other erosion control materials according to the erosion control plan, as needed or as instructed by NFF or FS personnel, around areas immediately next to streams and ponds to mitigate suspended sediments.

c) Contractor shall only cross live streams with the approval of NFF or FS personnel.

d) There shall be no machine instream work if fish eggs are present in the gravel or adult fish are present and spawning in the stream. Work windows shall be determined through permit stipulations from the Alaska Department of Fish and Game (ADFG). These work windows are defined in the Tasks section above and shall be communicated to the Contractor upon permit receipt from ADFG.

8. Other Contracts

The NFF or FS may undertake or award other contracts for additional work at or near the Work Site(s) under this contract. The Contractor shall fully cooperate with other contractors and with NFF or FS personnel and shall carefully adapt scheduling and performing the work under this Contract to accommodate the additional work, heeding any guidance that NFF or the FS may provide. The Contractor shall not commit or permit any act interfering with the work performance of any other contractor, NFF, or FS personnel.

9. Personal Protective Equipment

Personal protective equipment, including personal protective equipment for eyes, face, head, and extremities, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary because of hazards or processes encountered which may cause injury or impairment in the function of any part of the body. Defective or damaged personal protective equipment shall not be used.

a) Contractor shall provide chain saw chaps to each employee who operates a chain saw at no cost to the employee. These chaps must be approved by an underwriters laboratory or meet FS specification 6170-47. The chaps shall cover the thigh's full length and extend to the top of the boot on each leg.

b) Contractor shall ensure that each employee wears foot protection that provides adequate traction and ankle support. Employees operating chain saws shall wear foot protection constructed with cut-resistant material, which will protect the employee against contact with a running chain saw.

c) In any area where the worker is exposed to the potential for flying or falling objects, the Contractor shall provide a hard hat at no cost to the employee, and the Contractor shall ensure that the employee wears the hard hat. The hard hat must meet the minimum requirements of American National Standards Institute (ANSI) standard Z89.1-1997.

d) Contractor shall provide, at no cost to the employee, eye protection where there is potential for eye injury due to flying objects. This eye protection must meet the minimum requirements of ANSI standard Z87.1-2003.

e) Contractor shall provide, at no cost to the employee, hearing protection for use during chainsaw operation and other activities where there is a potential for hearing loss due to high-intensity noise.

10. Pollutants and Spills

Contractor shall comply with the following provisions related to pollutants and spills:

a) Pollutants such as fuels, lubricants, bitumen, raw sewage, and other harmful materials shall not be discharged on the ground, into or near rivers, streams, impoundments, or into natural or human-made channels.

b) Contractor shall maintain storage facilities for oil and oil products in the project area and take appropriate preventive measures to ensure that any spill does not contaminate soils or enter any streams or other waters.

c) Tarps and absorbent pads shall be utilized at fuel storage areas to capture minor spills in areas where the transfer of oil products from container to container is commonplace.

d) <u>If the total oil or oil products storage exceeds in aggregate 1,320 gallons in containers 55 gallons or greater, the Contractor shall prepare a Spill Prevention Control and Countermeasures Plan</u> to be submitted and approved by the FS before work starts. Such a Plan shall meet applicable EPA requirements (40 CFR 112). No single oil or oil products storage area shall exceed 660 gallons, 12- 55-gallon drums. Oil or oil products storage

areas shall not be within 100 feet of a stream or body of water and shall be approved by NFF in consultation with the FS.

e) Contractor shall notify appropriate agencies, including NFF or FS inspectors, of all reportable (40 CFR 110) spills of oil or oil products on or in the vicinity of the contract area the Contractor's employees cause. The Contractor shall take whatever initial action may be safely accomplished to contain all spills.

f) Any used motor oils, fuels, lubricants, and absorbent pads shall be collected, removed from FS lands, and properly disposed of at an approved facility.

11. Best Management Practices (BMPs) for Maintaining Water Quality

Below are links to Alaska and National Best Management Practices applicable to this project:

a) The Best Management Practices (BMP) Soil and Water Conservation Handbook, FSH 2509.22 can be accessed at https://www.fs.usda.gov/detail/r10/landmanagement/?cid=fsbdev2_038796.

b) The Forest Service National BMP Practices for Water Quality Management on National Forest System Lands can be accessed at: https://www.fs.usda.gov/naturalresources/watershed/pubs/FS_National_Core_BMPs_April2012.pdf

c) Tongass Forest Plan Invasive Species Standards and Guidelines and FSM 2900 provide policy for minimizing the spread of invasive species.

12. Traffic Maintenance

Contractor shall coordinate traffic control and road work notifications with the public to minimize access and safety conflicts. Contractor shall provide a **Traffic Control Plan** to be approved by FS personnel before work starts.

a) During operations, traffic delays of up to 30 minutes may occur on FS Roads 2050000 and 2051000.

b) Other commercial and public traffic, construction work, and logging will occur in the vicinity of the project area. Contractor is responsible for coordinating traffic control and road work notifications with the general public and other Contractors to minimize access and safety conflicts.

c) Contractor shall keep existing roads open to all traffic during road improvement work and maintain them in a condition that will adequately accommodate traffic. Perform no work that interferes or conflicts with traffic or existing access to the roadway surface until a plan for satisfactory traffic handling has been approved.

d) The Contractor shall ensure all signage and traffic requirements will be in accordance with the Manual of Uniform Traffic Control Devices. Only proceed with work on the project once all required signs are in place and approved. Signage will include orange and black retro-reflective construction warning signs, traffic cones, and hand-held signs available above and below road junctions and at each end of the road section when work is in progress. The signs will be kept in place at all times and shall be moved or removed as necessary as work progresses.

e) Before shutting down any operations, the Contractor shall take all necessary precautions to prevent damage to the project, such as temporary detours, approaches, crossings, or intersections, and provide for normal drainage and minimization of erosion. Unless otherwise stated, leave all travelways in a condition suitable for traffic.

f) The Government may permit the use of portions of the project when operations have shut down. All maintenance attributable to permitted use during periods of work suspension will be provided by the Government, except for maintenance needed through the fault or negligence of the Contractor. The Contractor shall be responsible for any maintenance not attributable to the use that is necessary during suspensions through the fault or negligence of the Contractor.

g) Submit a written traffic control plan 14 days in advance of construction operations for approval by NFF. The plan shall show, at a minimum, a sign plan showing the types and locations of construction signs. Work shall not proceed until the NFF notifies the Contractor that the plan is approved. The Contractor is advised that safety is a prime concern for all traffic coming in and out of the construction sites.

h) In the case of a dead-end road, the contractor will also ensure that no campers or other forest users will be trapped beyond the work area. Road signs indicating the closure or heavy equipment traffic shall be placed at the beginning of the road and before and after the construction site. The Contractor is authorized to use roads under the jurisdiction of the Forest Service for all activities necessary to complete work under this service agreement, subject to the limitations and authorizations described in this document, when such use will not damage the roads or National Forest resources, and when traffic can be accommodated safely.

13. Use and Maintenance of Existing Roads

The Contractor is authorized to use roads in the immediate project area to perform work under this contract. Such roads are necessary for direct access to designated wood collection sites, wood staging locations, quarries, waste areas, campsites, equipment loading/unloading areas, and other approved work areas. The roads authorized for use shall be subject to the following provisions:

a) The Contractor shall be responsible for and perform road maintenance on NFS roads in the construction area commensurate with his/her use. Road maintenance activities shall be conducted at intervals that prevent roadway deterioration or as instructed by NFF or FS personnel.

b) Such road maintenance requirements for existing roads shall be performed as follows:

    1. Maintain existing roadbed by blading and shaping the traveled way and shoulders. Do not undercut banks.

    2. Maintain established drainage structures and/or berms and place additional drainage structures/berms where necessary to protect embankments.

    3. Perform all seasonal weather cleanup, including removal of bank sloughs, minor slides, and fallen timber, which can be accomplished by a motor patrol grader equipped with a front-end blade or comparable equipment and using hand tools.

    4. Replace material eroded from fill slopes and clean out drainage ditches and culverts subject to the above equipment limitations.

    5. Deposit the material removed from slides or other sources in locations approved by the FS.

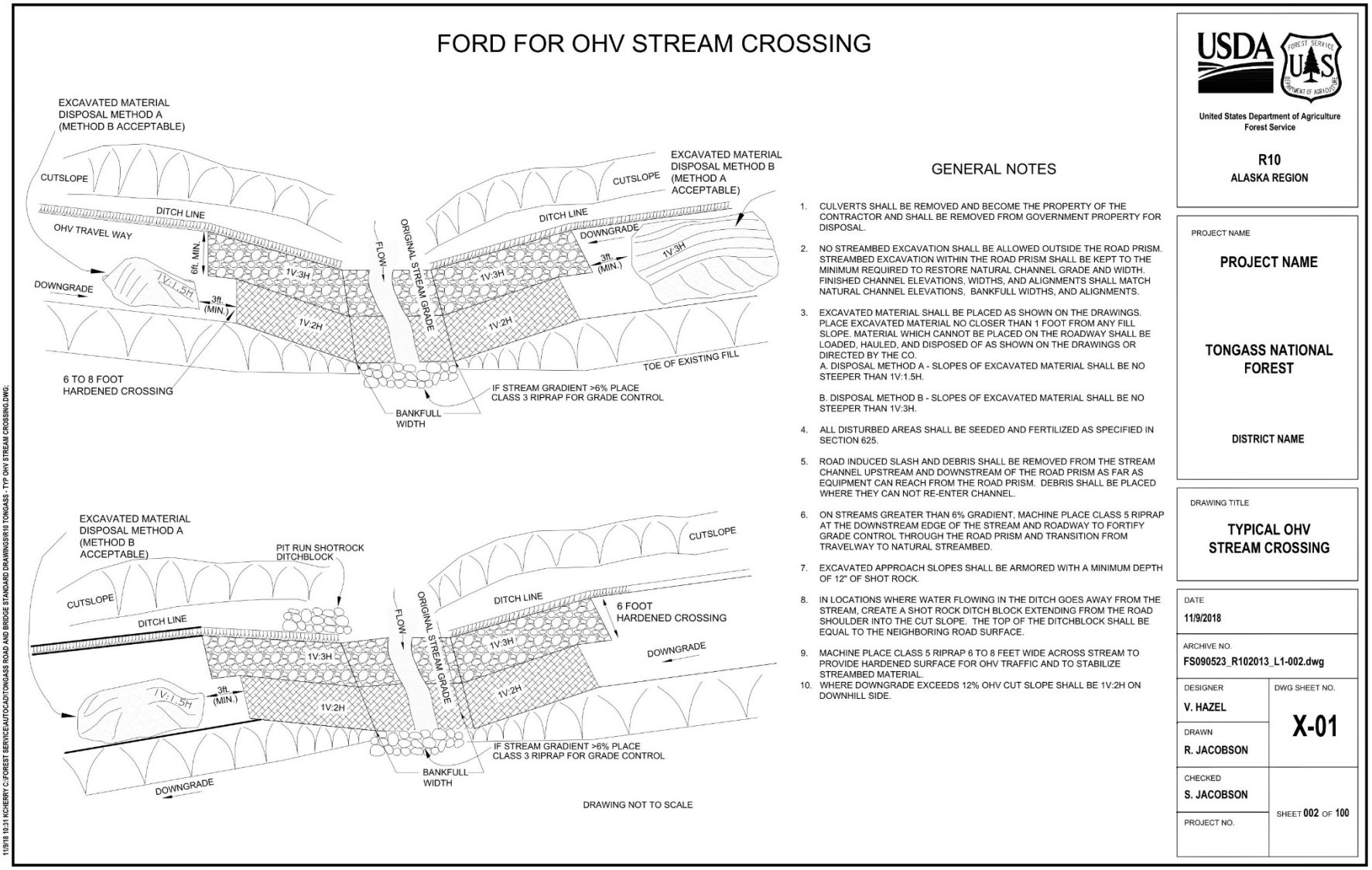
c) Contractor shall follow Federal Regulations contained in 36 CFR 261.12; vehicle weight will not exceed that of AASHTO HS20-44 and/or U80 Loading. Submit written requests to the FS for approval to use L90 and U102 overload Loadings on roads authorized for use.

d) Roads will not be snowplowed for the Contractor's use. The Contractor may snowplow any road designated for his use. A permit defining snowplowing requirements is required and will be issued by the FS upon request by the Contractor. Repair any damage to the road structure caused by snow removal operations.

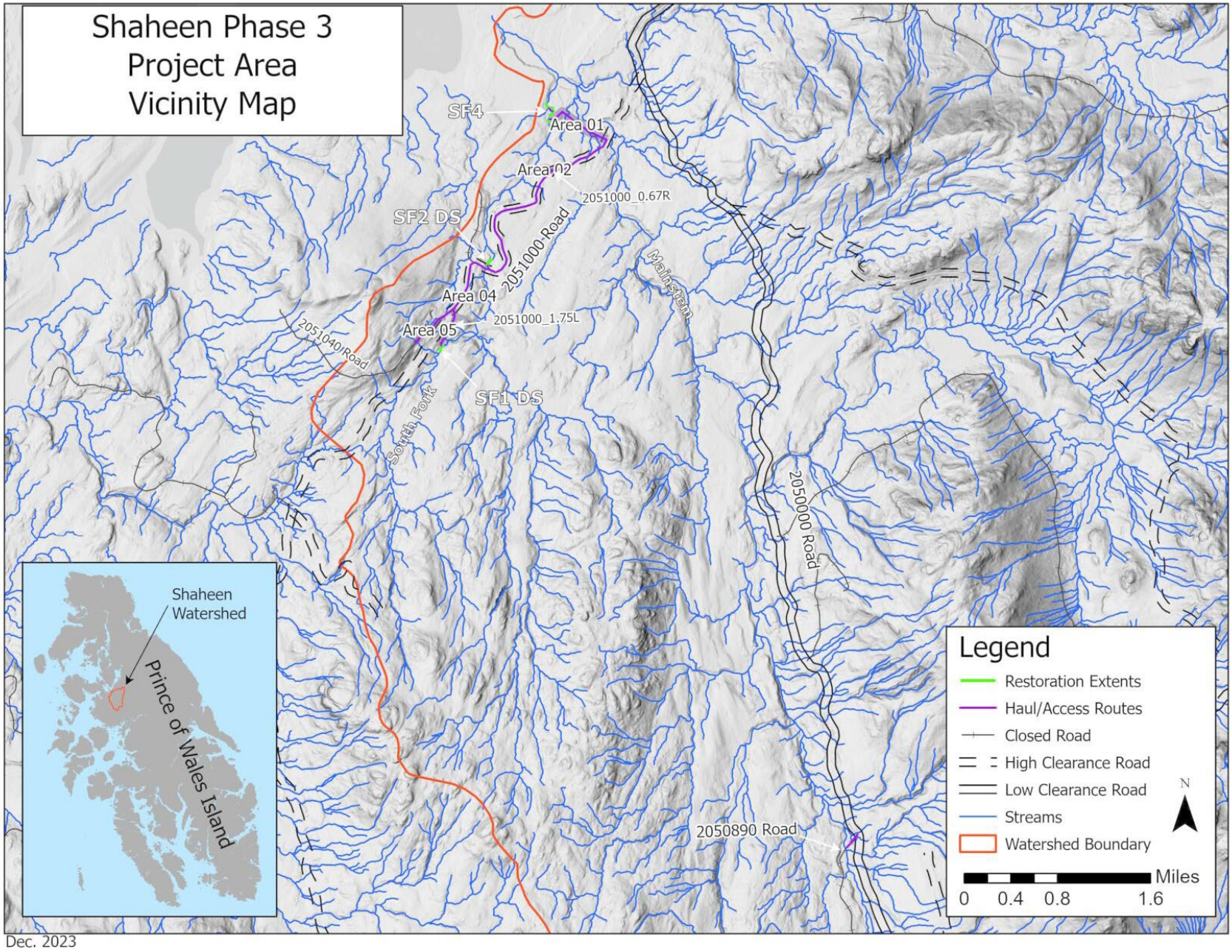
e) Vehicles other than conventional over-the-snow vehicles (snowmobiles), will not be permitted to use roads when there is an average of more than 4” of snow unless the road has been snowplowed.

f) Contractor shall be held liable for any damage caused by his/her personnel or equipment to any existing roads, bridges, ditches, culverts, signs, or riprap at culvert inverts. Repair of structures damaged by the Contractor’s operations shall be the Contractor’s responsibility and shall occur at no cost to the NFF or the FS.

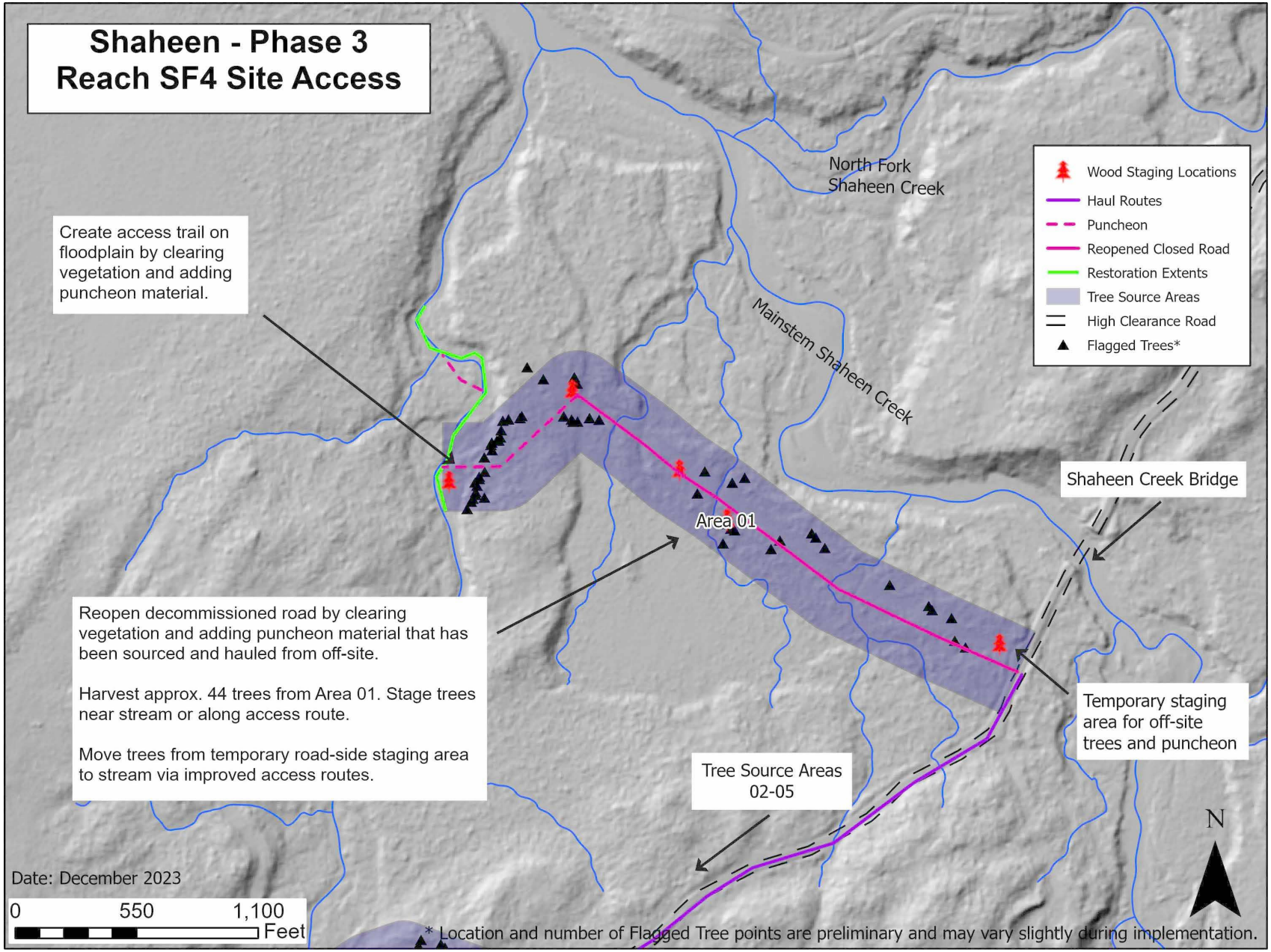
Figure 1: OHV Stream Crossing



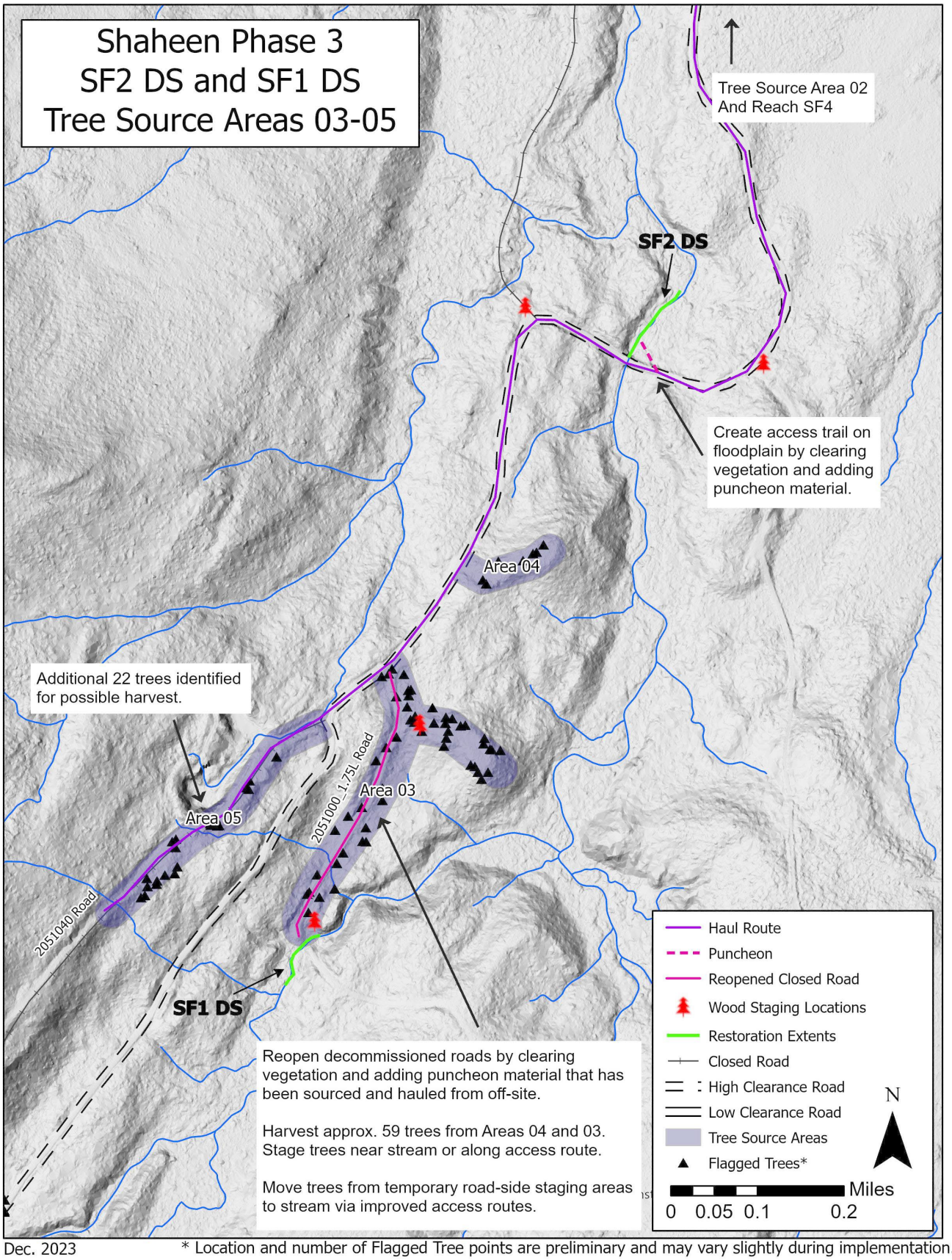
Map 1: Project Area Vicinity



Map 2: Site Access and Source Area 01



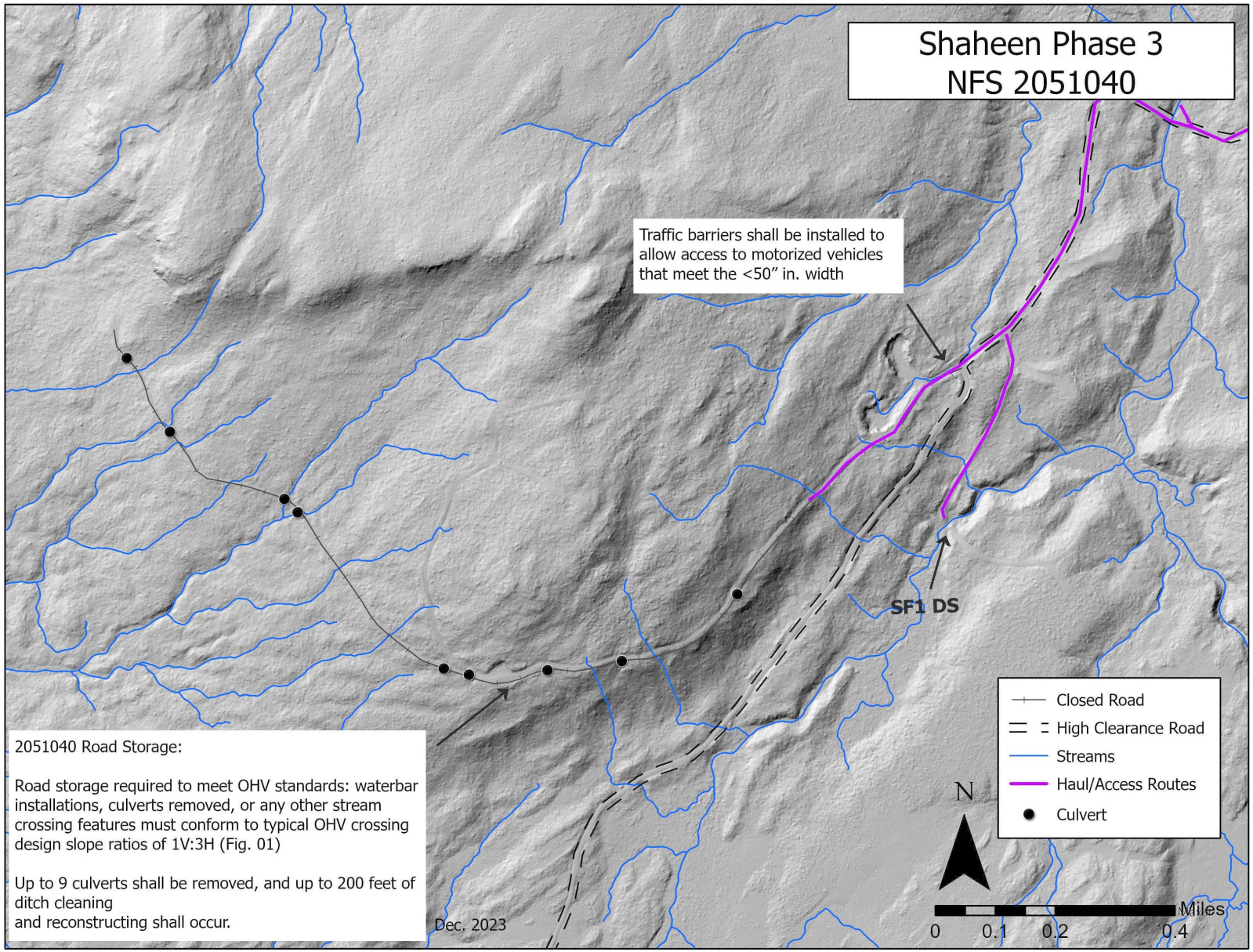
Map 3: Site Access SF1 DS and SF2 DS and Source Areas 03-05



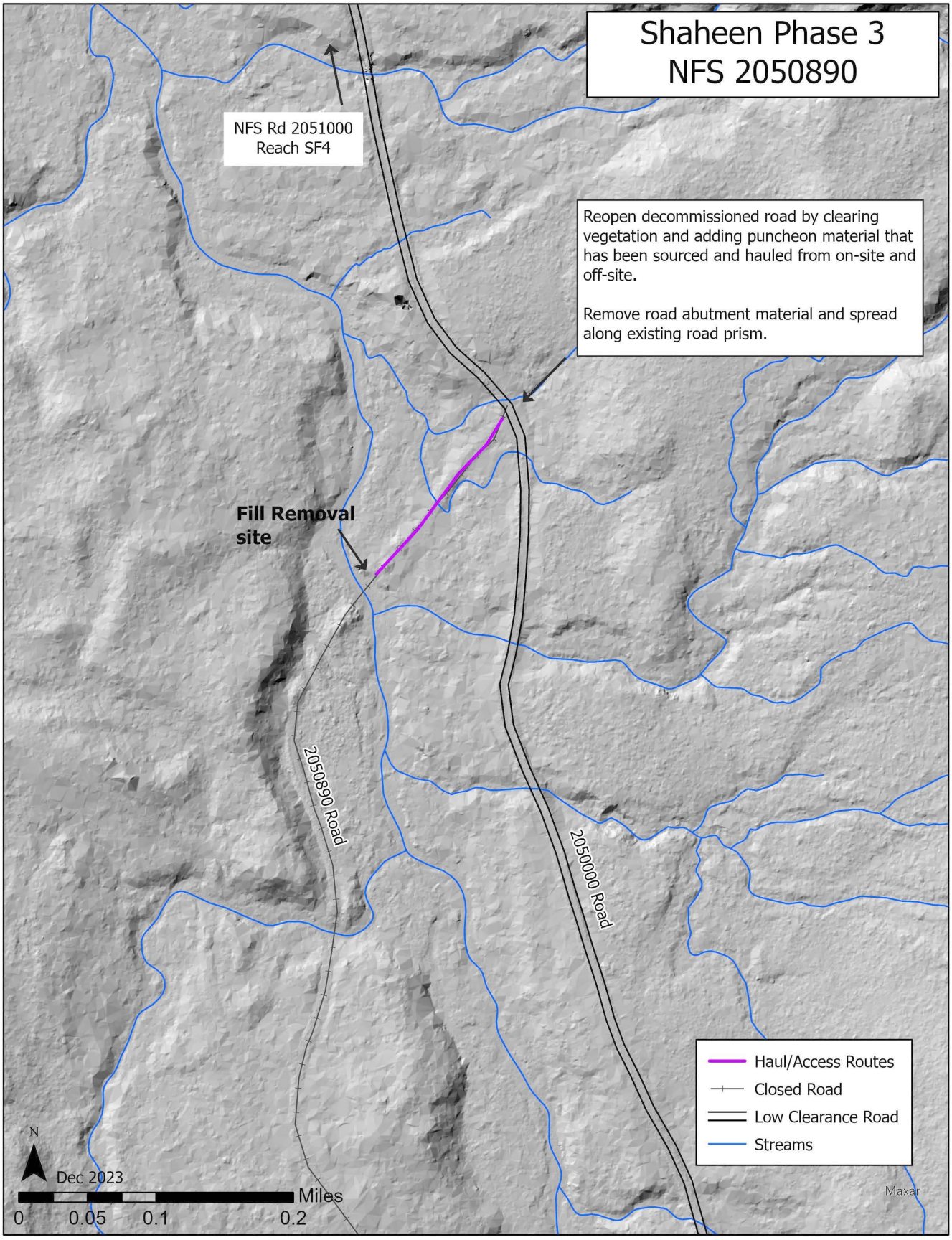
Dec. 2023

* Location and number of Flagged Tree points are preliminary and may vary slightly during implementation.

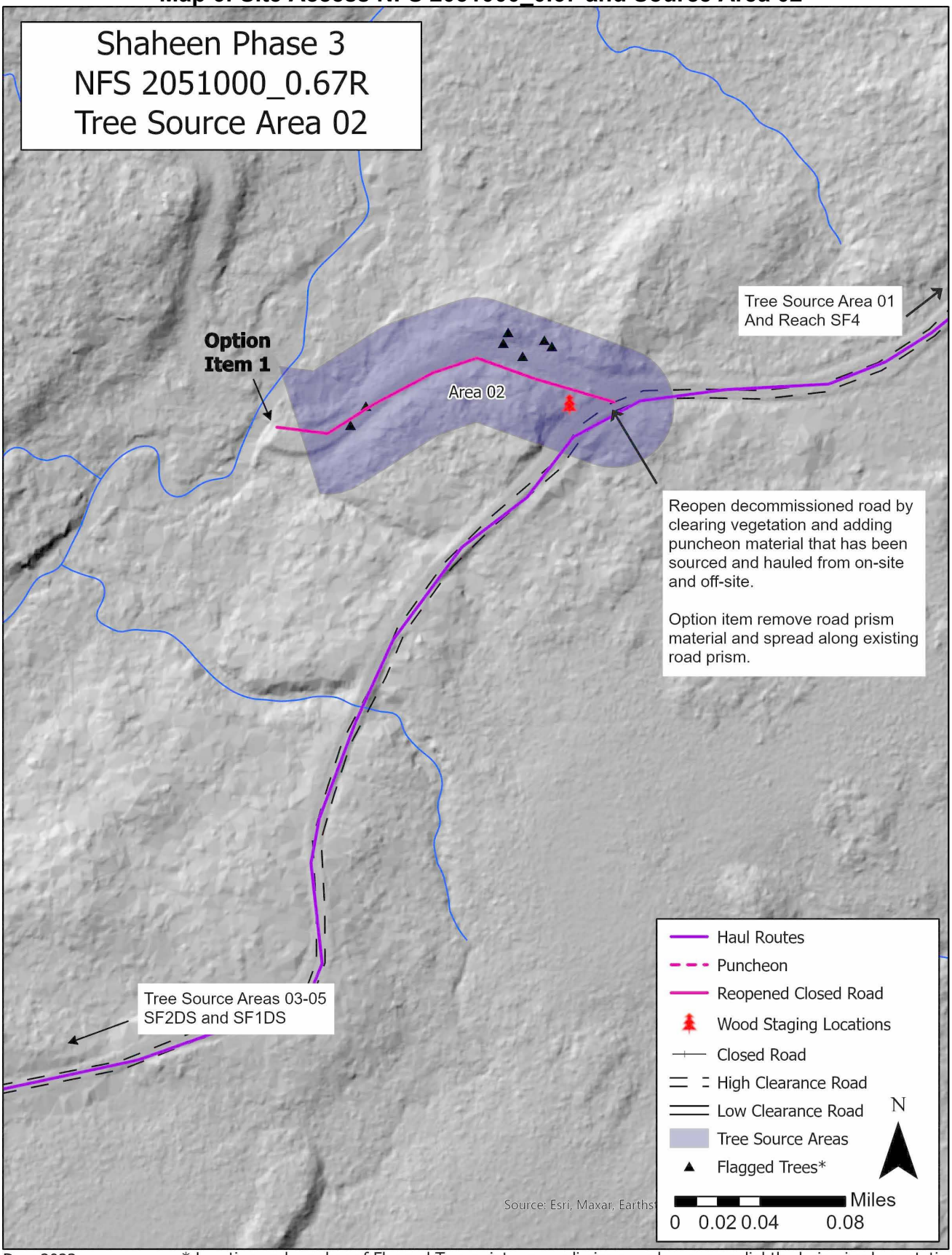
Map 4: Access NFS 2051040



Map 5: Site Access NFS 2050890



Map 6: Site Access NFS 2051000_0.67 and Source Area 02



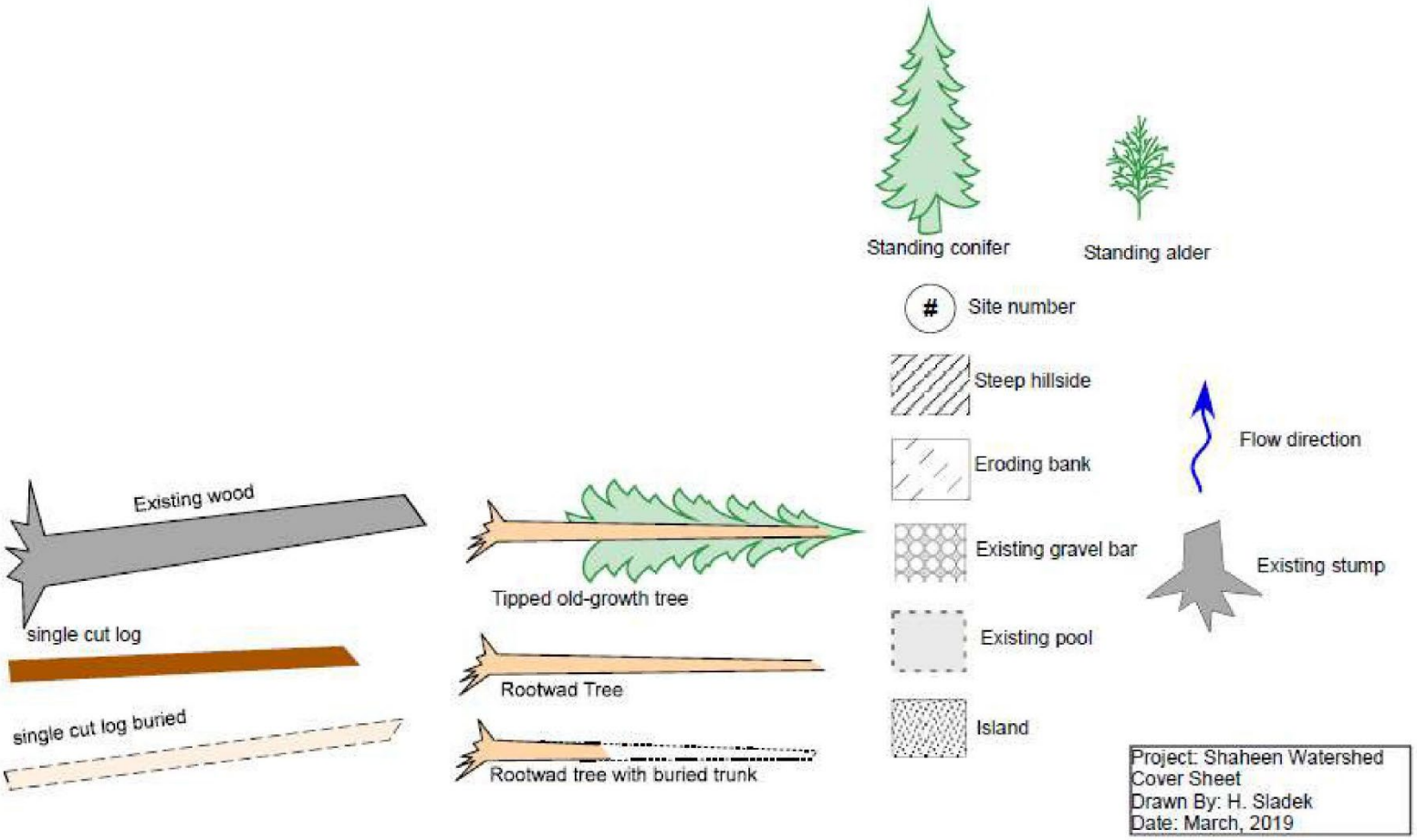
Dec. 2023

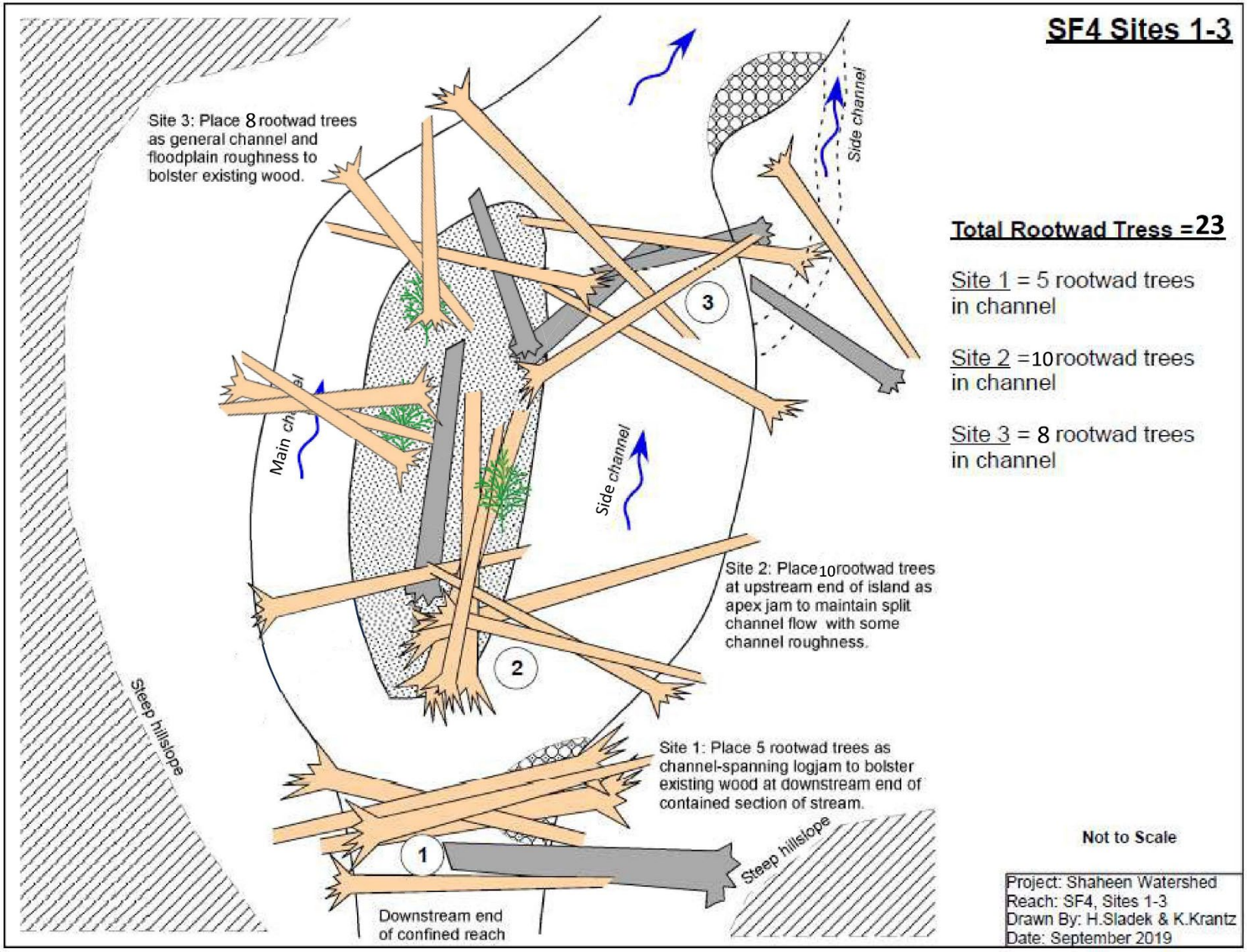
* Location and number of Flagged Tree points are preliminary and may vary slightly during implementation.

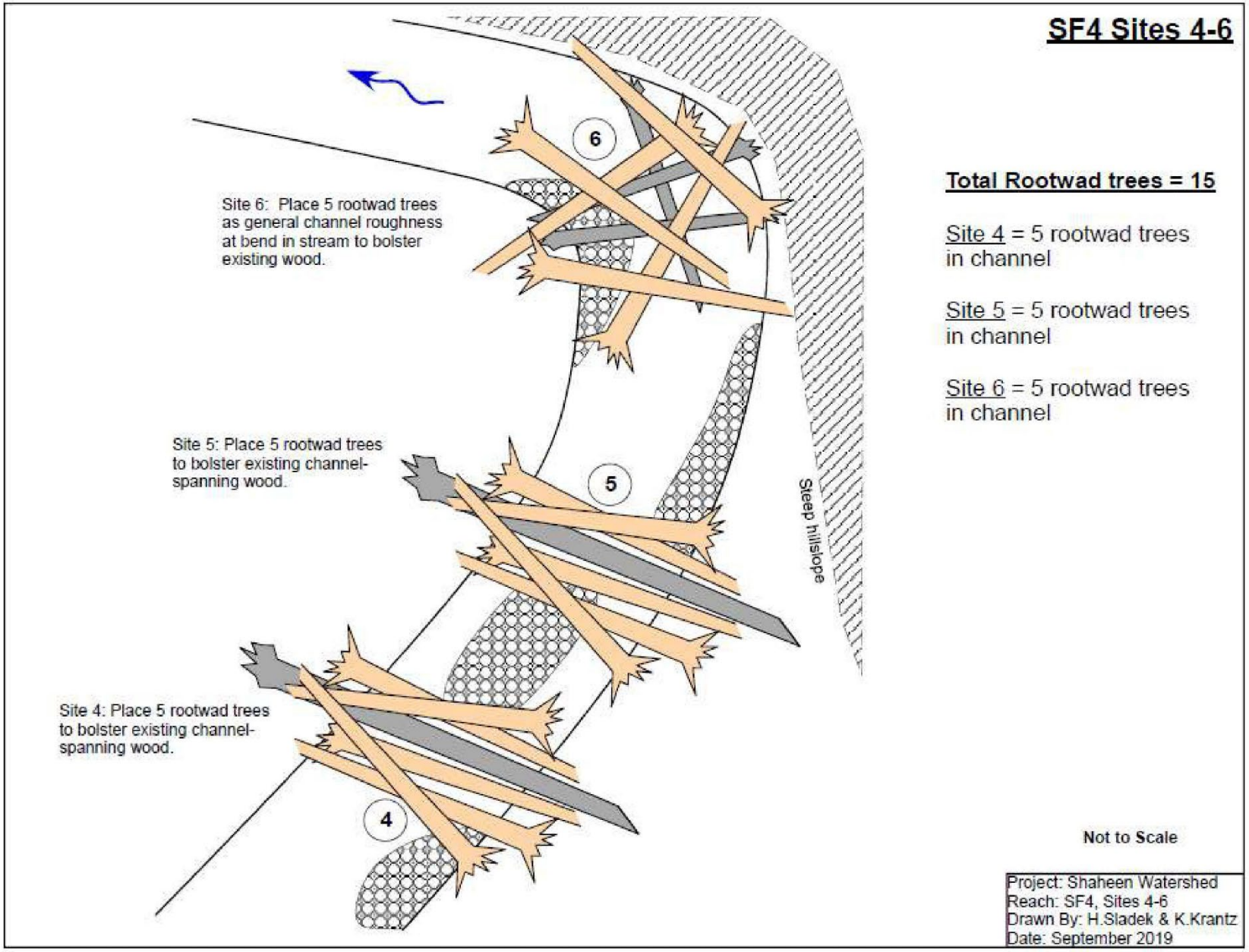
Shaheen Creek Watershed - Instream restoration site sketches and field notes

The purpose of these sketches is only to provide a conceptual idea of what could happen at each site to meet the stated objectives. Original sketches were made to provide an *estimate* of material needed to complete the project.

These drawings are *not* meant to be taken to literally as they are **not to scale** and therefore not all pieces may not fit together or in the channel as depicted.




SF4 Sites 1-3
Site 3: Place 8 rootwad trees as general channel and floodplain roughness to bolster existing wood.
Side channel
Total Rootwad Tress =23
Site 1 = 5 rootwad trees in channel
Site 2 =10 rootwad trees in channel
Site 3 = 8 rootwad trees in channel
3
Main channel
Side channel
Site 2: Place 10 rootwad trees at upstream end of island as apex jam to maintain split channel flow with some channel roughness.
2
Steep hillslope
Site 1: Place 5 rootwad trees as channel-spanning logjam to bolster existing wood at downstream end of contained section of stream.
1
Steep hillslope
Downstream end of confined reach
Not to Scale
Project: Shaheen Watershed
Reach: SF4, Sites 1-3
Drawn By: H.Sladek & K.Krantz
Date: September 2019


SF4 Sites 4-6
Total Rootwad trees = 15
Site 4 = 5 rootwad trees in channel
Site 5 = 5 rootwad trees in channel
Site 6 = 5 rootwad trees in channel
Site 6: Place 5 rootwad trees as general channel roughness at bend in stream to bolster existing wood.
Site 5: Place 5 rootwad trees to bolster existing channel-spanning wood.
Site 4: Place 5 rootwad trees to bolster existing channel-spanning wood.
6
5
4
Steep hillslope
Not to Scale
Project: Shaheen Watershed
Reach: SF4, Sites 4-6
Drawn By: H.Sladek & K.Krantz
Date: September 2019

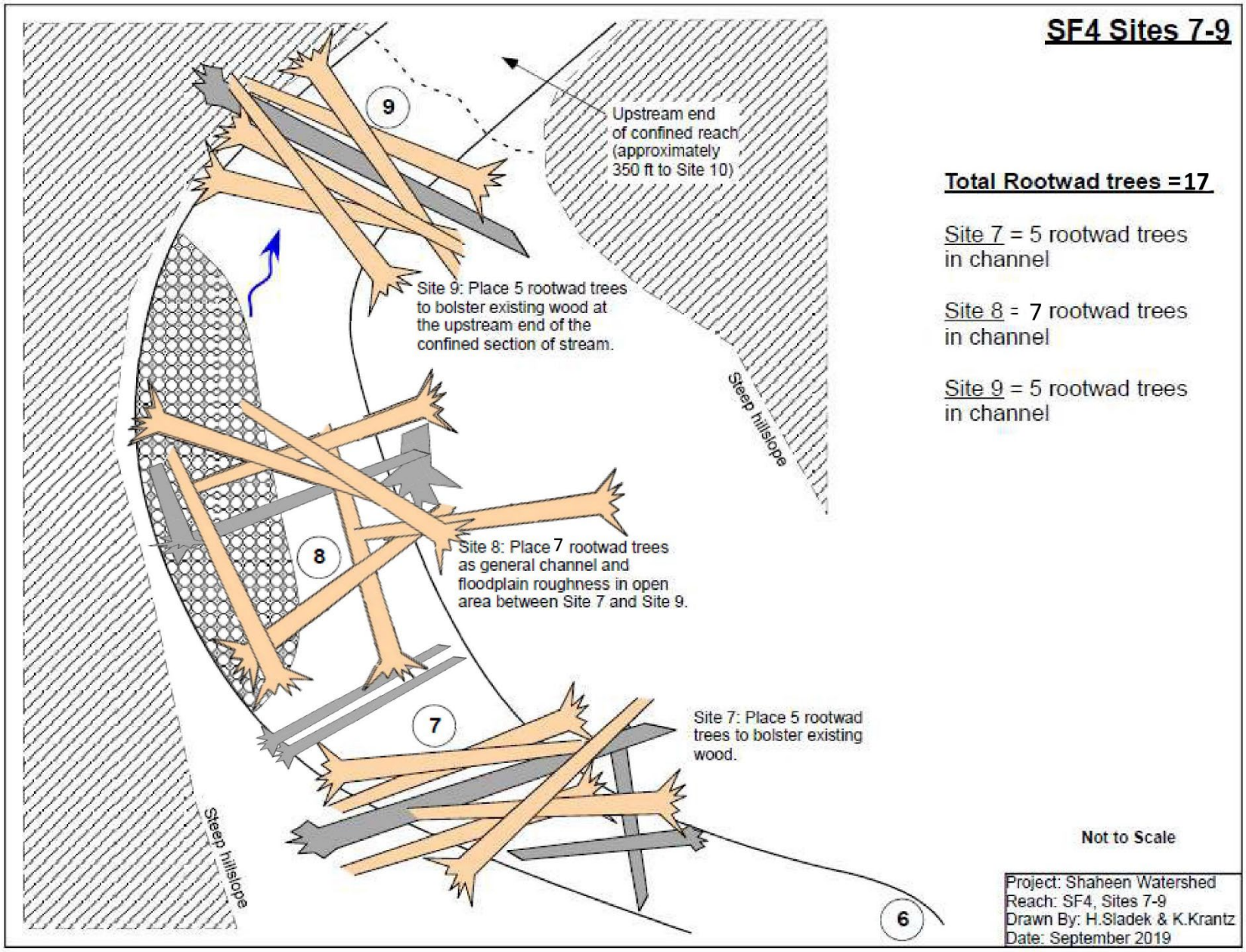

SF4 Sites 7-9
Total Rootwad trees =17
Site 7 = 5 rootwad trees in channel
Site 8 = 7 rootwad trees in channel
Site 9 = 5 rootwad trees in channel
9
Upstream end of confined reach (approximately 350 ft to Site 10)
Site 9: Place 5 rootwad trees to bolster existing wood at the upstream end of the confined section of stream.
Steep hillslope
8
Site 8: Place 7 rootwad trees as general channel and floodplain roughness in open area between Site 7 and Site 9.
7
Site 7: Place 5 rootwad trees to bolster existing wood.
Steep hillslope
6
Not to Scale
Project: Shaheen Watershed
Reach: SF4, Sites 7-9
Drawn By: H.Sladek & K.Krantz
Date: September 2019

Exhibit 2: SF2 DS Designs

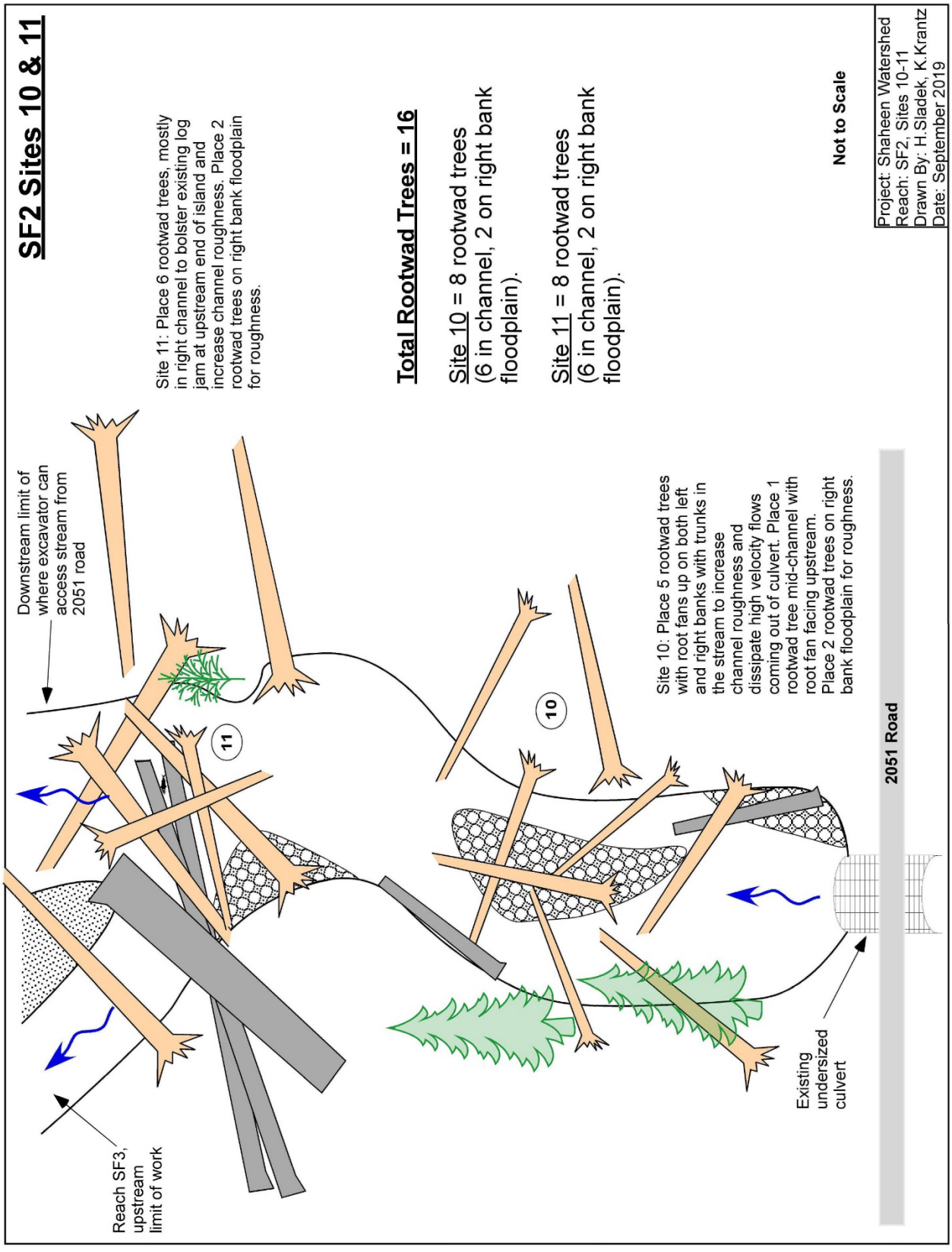
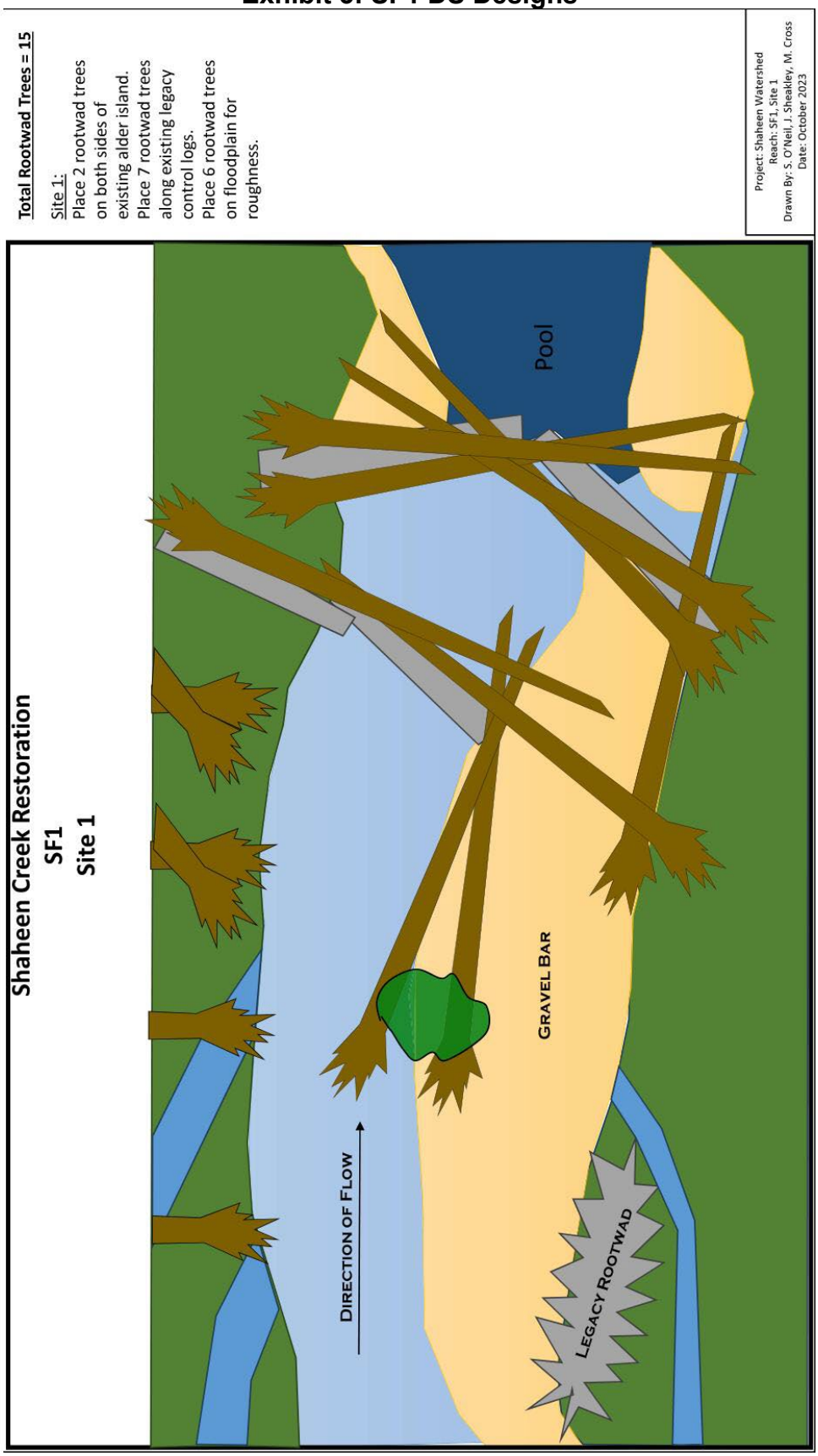
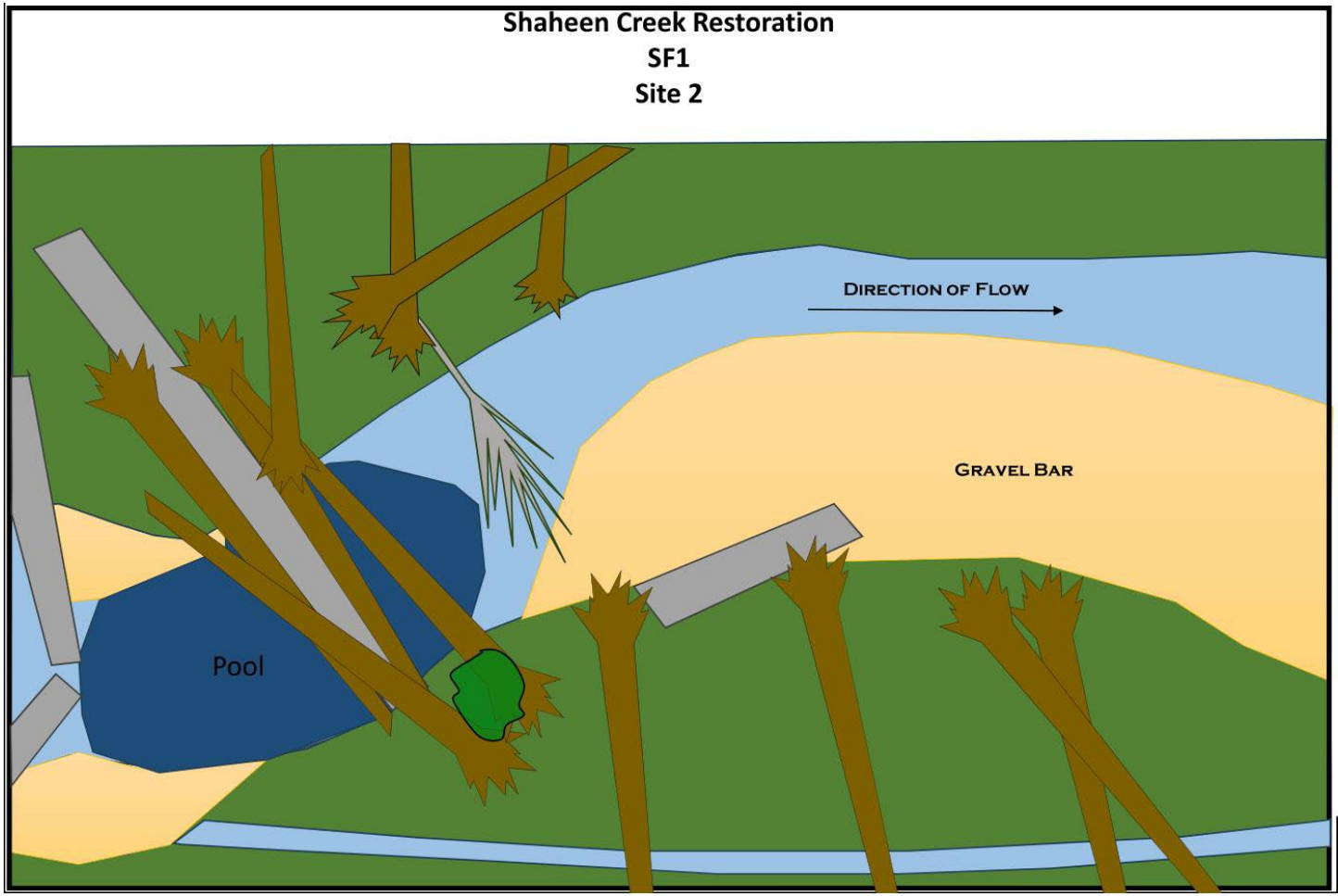


Exhibit 3: SF1 DS Designs

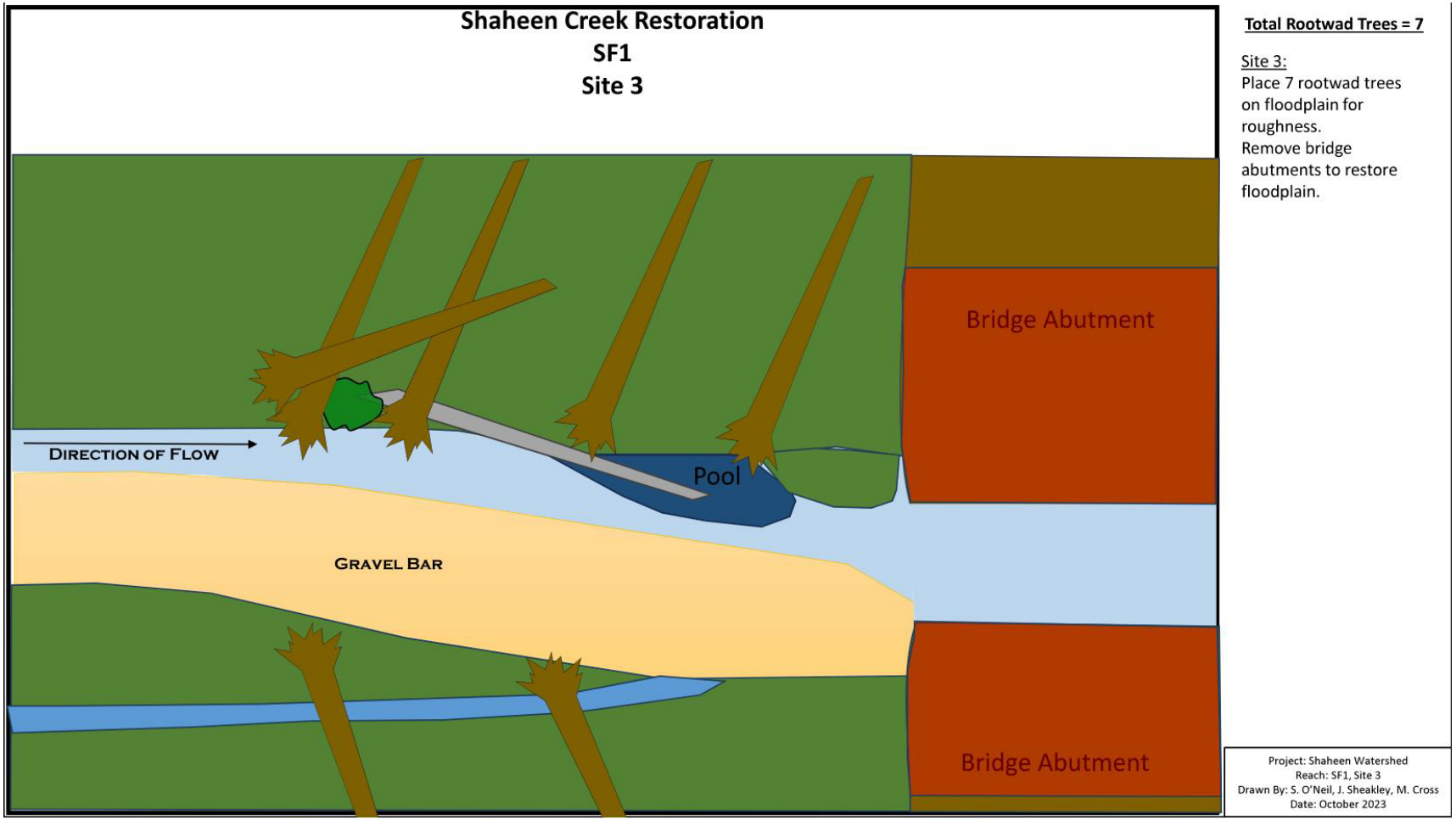




Total Rootwad Trees = 12

Site 2:
Place 5 trees to bolster legacy control log.
Place 7 trees on the floodplain for roughness.

Project: Shaheen Watershed
Reach: SF1, Site 2
Drawn By: S. O'Neil, J. Sheakley, M. Cross
Date: October 2023


Shaheen Creek Restoration
SF1
Site 3
Total Rootwad Trees = 7
Site 3:
Place 7 rootwad trees on floodplain for roughness.
Remove bridge abutments to restore floodplain.
Bridge Abutment
Direction of Flow
Pool
Gravel Bar
Bridge Abutment
Project: Shaheen Watershed
Reach: SF1, Site 3
Drawn By: S. O'Neil, J. Sheakley, M. Cross
Date: October 2023