

# N.C. Division of Water Resources

## Water Resources Development Grant – NRCS-EQIP Fall 2018 Guidelines

**Administered by:** Division of Water Resources (DWR), N.C. Department of Environmental Quality (DEQ), 1611 Mail Service Center, Raleigh, NC., 27699-1611. Contact Amin Davis at [amin.davis@ncdenr.gov](mailto:amin.davis@ncdenr.gov) or (919) 707-9132.

**Authority:** DWR is authorized to provide grants to local governments for stream restoration projects under the Natural Resources Conservation Service's Environmental Quality Incentives Program (NRCS-EQIP) by General Statutes § 143-215.70-73 and Session Law 2017-57. These statutes can be viewed online at the following web addresses:

<http://www.ncleg.net/gascripts/Statutes/StatutesTOC.pl?Chapter=0143>

<https://www.ncleg.net/enactedlegislation/sessionlaws/pdf/2017-2018/sl2017-57.pdf>

**Who is Eligible:** Units of local government, local political subdivisions, and non-governmental entities (only as co-applicants).

**Project Eligibility:** Stream restoration projects approved for NRCS-EQIP funding by the U.S. Department of Agriculture are eligible for state financial assistance. **Eligible stream practices for DWR funding consideration are those listed in the 2018 EQIP/RCPP Guidelines for Natural Stream Channel Work**, included as an Appendix at the end of this document. **Non-eligible purposes are considered any practices not listed in this EQIP guidance document. Other non-eligible purposes include projects directly associated with meeting an existing permit requirement (i.e., NPDES Phase I and Phase II Stormwater), generating nutrient credits, environmental regulatory enforcement actions and small watershed projects of the NRCS (reviewed by the N.C. Soil and Water Conservation Commission). Compensatory mitigation projects and the generation of compensatory mitigation credits for impacts to aquatic resources per the Federal Mitigation Rule (33 CFR Part 332) are non-eligible purposes.** However, compensatory mitigation projects can be located directly adjacent to an eligible project for the purposes of achieving maximum ecological benefit.

**Application Deadlines:** Applications are received throughout the year for two standard grant cycles. The current fall 2018 grant cycle began July 1 and ends December 31. The next spring 2019 grant cycle begins Jan 1 and ends July 1. **Any complete application submittals that are not received by these dates will not be eligible for review and funding until the next application review cycle.**

**Maximum Award Calculation:** NRCS-EQIP stream restoration projects are funded at an estimated 50% Federal cost and 50% non-Federal cost. Projects in North Carolina, which have been approved by the NRCS for Federal funding, are eligible for up to 100% funding by the State of the estimated 50% non-Federal cost. Essentially, **DWR can provide up to a maximum 1:1 cost-share based on the federal cost estimate of implementing eligible stream restoration practices reported on the project-specific Conservation Plan/Schedule of Operations (NRCS-CPA-1155 Forms).**

**Example:**

Federal Estimate (50%):	\$ 50,000
<u>Non-Federal Estimate (50%):</u>	<u>\$ 50,000</u>
Total Estimated Project Cost:	\$ 100,000

Maximum NC (DWR) Grant Amount for this example: \$50,000

**Grant awards are a maximum grant award, not a guaranteed payment amount – if actual project costs are less than estimated, DWR will only pay out the difference between the actual cost and the federal payment.** Actual Project Costs are the sum of all invoices submitted for the project and approved by DWR. Based on limited annual funding received for these projects, Applicants are generally encouraged to keep Administrative costs below 10% of the total project budget. See Attachment 1 for more details.

**Pre-Application Site Visits**

As part of the application review process, a pre-application site visit shall be scheduled with the DWR Grant Administrator (or designee) to gather additional information regarding the project area to assist the DWR in determining if the project meets this grant’s review criteria. **This site visit shall be scheduled with DWR prior to the end of the grant application cycle if possible. Scaled versions of the most recent NRCS Practice Code Map and associated Conservation Plan Map shall be provided to the DWR Grant Administrator prior to this site visit.** A member of the project team who is familiar with the project area and conceptual restoration plan shall join DWR staff for this site visit.

The primary objectives of this site visit are: 1) for the DWR Grant Administrator (or designee) to address any questions or concerns the project team may have about this grant program; 2) for the project team to share with the DWR Grant Administrator (or designee) information about the conceptual restoration plans associated with a proposed project, and 3) for the DWR Grant Administrator (or designee) to photo-document the project area for application review purposes.

## **Application Submittal**

An application for Water Resources Development Project Grant funding must include the five items listed below to be considered complete. All required forms and grant information can be found at the following website: <https://deq.nc.gov/about/divisions/water-resources/water-resources-grants/financial-assistance>. Please check this website frequently for updates.

**I. Application Spreadsheet (MS Excel)** - All applications should include the appropriate project information in the designated sheets including contacts, general information, narrative, stream treatment amounts, benefits and budget. Detailed instructions about how to complete this application are provided on the Instructions sheet of this application. The complete application will be included in the DEQ contract documentation should a project be recommended for grant funding so it is very important that its contents are accurate and complete.

The project narrative should be very brief and begin with a statement outlining the overall project scope (what's being proposed). This shall be followed by the project justification (why it's being proposed) and how the proposed stream treatments will mitigate the observed stream impairments. Minimum and maximum proposed riparian buffer widths shall be provided.

The project budget will serve as the basis for the financial aspects of a DEQ contract. The Federal Contribution listed on the Budget sheet of the Application shall be equal to the sum of all eligible stream restoration practices reported on the NRCS-CPA-1155 form. If the Total Contract Payment (TCP) amount listed on the NRCS 1155 form includes estimated costs for non-eligible stream restoration practices then those non-eligible practices and their associated estimated costs must be clearly referenced on the NRCS-CPA-1155 form. The TCP for eligible stream restoration practices must also be listed separately on the NRCS 1155 form if the TCP includes the estimated costs of non-eligible stream restoration practices.

**II. Project Plan and Location Maps** – Scaled versions of the most recent *NRCS Practice Code Map* and associated *Conservation Plan Map* shall be provided and must clearly depict the conceptual restoration plan as well as any additional stream treatments such as livestock exclusion fencing or stream crossings. 30% restoration design drawings shall also be provided when available.

**III. Official Resolution** - The Applicant shall include a resolution adopted by its governing board stating the amount of state aid requested and accepting the applicant's responsibilities. A representative of the Applicant with signatory authority shall sign this Resolution. For projects involving a Co-Applicant, the Co-Applicant shall provide DWR with a signed document affirming/adopting the terms of this Resolution so that it can be included with the final DEQ contract documentation. A form-fillable Official Resolution template can be downloaded from our grant [website](#). In most circumstances the responsibilities listed below shall be included in the Official Resolution. However, this resolution template can be adapted to fit the unique circumstances of a specific project. Written justification shall be provided to DWR for any responsibilities listed below that are not included in the Official Resolution.

The following responsibilities shall be included in the Official Resolution:

1. Assume full obligation for payment of the balance of project costs.
2. Obtain all necessary state and federal environmental permits.
3. Comply with all applicable laws governing the award of contracts and the expenditure of public funds by local governments.

4. Supervise construction of the project to assure compliance with permit conditions and to assure safe and proper construction in accordance with approved plans and specifications.
5. Obtain appropriate easements, rights-of-way or suitable spoil disposal areas that may be necessary for the construction and operation of the project without cost or obligation to the State.
6. Hold the state harmless for any damages that may result from the construction, operation, and maintenance of the project.
7. Accept responsibility for operation and long-term maintenance of the completed project.
8. *When there is a Co-Applicant:* Applicant identifies Co-Applicant as a responsible party and grants them authority to operate on the Applicant's behalf as project administrator, project fiduciary, etc.

**IV. No Conflict of Interest Certification** – The Applicant shall provide a certification that the applicant, applicant's subordinates and any person or persons designated to act on behalf of the applicant do not have an actual or apparent conflict of interest with respect to the project. A representative of the Applicant with signatory authority shall sign this certification. For projects involving a Co-Applicant, both the Applicant and the Co-Applicant shall sign and submit their own separate forms. A fillable Certification form can be downloaded from our [website](#).

**V. Supplementary Documentation** – Applicants shall provide the complete set of the NRCS Conservation Plan Schedule of Operations (Forms NRCS-CPA-1155). Additional supplementary documentation (reports, photos, etc.) is not required but can be provided as separate attachments via email.

**Application submittal documents shall be emailed to [amin.davis@ncdenr.gov](mailto:amin.davis@ncdenr.gov) by the close of business of the last day of the application cycle.** If a project includes a Co-Applicant, a representative of both the Primary and Co-Applicant should be included on the email application submittal.

**\*\* A summary of potential required forms is provided as *Attachment 2* near the end of this document.**

**Notes: It is the Applicant's responsibility to ensure their application is accurate and complete at the time of submission to DWR. Any application errors or modifications must be submitted by the Applicant to DWR within one month of the end of the Application Cycle in which the application was submitted. Erroneous or incomplete application information can also lead to significant delays with the issuance of a DEQ Contract should the project be recommended for grant funding.**

**DWR may not be able to grant requests for additional funding caused by inaccurate or incomplete information provided in the application or project budget. Any changes to the original project budget and/or project scope submitted with the application will require the prior written approval of DWR and may also require a DEQ contract amendment. Unapproved changes to the project scope or budget throughout the course of a project will not be eligible for cost-share funding or reimbursement.**

## **Grant Application Review and Approval**

**The following criteria will be used to approve, approve in part, or disapprove grant applications:**

1. The economic, social, and environmental benefits to be provided by the projects;
2. Regional benefits of projects to an area greater than the area under the jurisdiction of the local sponsoring entity;
3. The financial resources of the local sponsoring entity;
4. The environmental impact of the project;
5. Any direct benefit to State-owned lands and properties.

### **Applicant Obligation – Environmental Permitting**

All proposed stream restoration projects are subject to environmental review and permitting under applicable federal and state laws. It is the Applicant's responsibility to prepare, provide and remain in compliance with all applicable environmental permitting requirements associated with project implementation.

### **Review Decisions**

**This is a competitive grant program due to limited funding availability.** Review decisions and notifications for applications received during the spring application cycle are generally made in October. Review decisions and award notifications for applications received during the fall application cycle are generally made in April of the next calendar year. However, unforeseen circumstances such as legislative, policy or funding allocation changes may delay award notifications.

### **Projects Not Awarded Funding**

Applicants who are not awarded funding within one calendar year from the end date of the grant cycle in which their application was originally submitted must complete and submit a new application to DWR if they wish to re-apply. A new application will also be required if there have been significant changes to the project scope or budget. The spring grant cycle ends on June 30<sup>th</sup> and the fall cycle ends on December 31<sup>st</sup> in each year.

## **Post Grant Funding Award**

Acceptance of a grant award will require the Applicant to enter in to a grant contract with the DEQ. **Any changes to the scope of the project or project budget after submission of a grant application will require the written approval of the DEQ and may also require a DEQ contract amendment.** The minimum information that shall be supplied to DEQ for consideration includes a justification for any proposed changes, revised scope of work narrative, Revision of Plan/Schedule of Operations or Modification of a Contract (NRCS 1156 Form) and revised budget. Unapproved changes to the project scope or budget shall not be eligible for, and may result in additional reductions to, cost-share funding or reimbursement.

A DEQ grant contract is considered 'fully-executed' once it has been signed by a signatory authority of the Applicant (referred to as the Grantee upon the awarding of a grant) and the Co-Applicant (referred to as the Co-Grantee), if applicable, and DEQ Financial Services. A copy of the fully-executed contract shall be provided to both the Grantee and Co-Grantee by DEQ. **No portion of work or expenditure of funds for the project, plan or services shall begin prior to receiving a fully-executed contract from DEQ.**

### **Conflict of Interest Policy**

As per NCGS §143C-6-23(b), every Co-Grantee must file a copy of their conflict of interest policy with DEQ. This is separate from the above-referenced Conflict of Interest Certification and need only be filed once with DEQ, unless changes or updates are made to the policy. The policy must address situations in which any of the Co-Grantee's management employees and the members of its board of directors or other governing body may directly or indirectly benefit (except as the Co-Grantee's employees or members of its board or other governing body) from the Co-Grantee's disbursing of State funds. The policy must also include actions to be taken by the Co-Grantee or the individual, or both, to avoid conflicts of interest and the appearance of impropriety.

### **Contract Duration & Extension Requests**

Grant contracts are valid for two years. The contract length will be two years from the date the contract is sent to grant recipients for execution. Grant recipients can submit an extension request for one additional year beyond the grant expiration date if progress toward project completion can be sufficiently documented. An extension request shall be submitted by the Grantee or the Grantee's primary contact via email in a cover letter on official agency letterhead that shall briefly document the following items:

1. Justification for the extension request
2. Summary of the current project status
3. Anticipated project schedule moving forward

The contract extension request should be submitted electronically to [Amin.Davis@ncdenr.gov](mailto:Amin.Davis@ncdenr.gov).

### **Grant Reimbursement Payments.**

The grant award amount is the maximum possible reimbursement amount. **Allowable expenditures incurred which are associated with eligible stream practices and the project's budget after the start date of the DEQ contract are eligible for reimbursement.** Allowable expenditures are expenditures associated with the work performed for a specific invoicing cycle that are in accordance with the DWR-approved application budget sheet for the project. Reimbursement requests can be submitted no more frequently than monthly. DEQ will normally pay the grant recipient by check or electronically within 30 days of receipt of the statement of expenses, provided the expenses are in accordance with the project information shown in the initial request or as amended. If the grant recipient decides that significant changes to a project's scope from that in the original application are necessary, the grant recipient must send a request in writing to DWR and receive approval of those changes from the DWR. Unapproved changes will not be eligible for state cost-sharing.

The Cumulative State Disbursement (CSD) of grant funds to a grant recipient shall be done in a manner consistent with the Approved DWR Application Package, fully-executed DEQ Contract and the following provisions:

- a. Invoices shall be on either Grantee or Co-Grantee's letterhead and include, at a minimum, (1) the total amount spent on the project to date and the amount of the reimbursement request, (2) the names of any contractor(s) or vendor(s) responsible for the work performed during the relevant invoicing cycle, (3) the contact information for such contractor(s) or vendor(s), (4) a list of task(s) completed during the invoicing cycle and the cost associated with each task, and (5) copies of all invoices related to tasks in item (4) for contractors and vendors under item (2). Invoices submitted to DWR must be signed by both Grantee and Co-Grantee. Invoices submitted by subcontractors to the Grantee or Co-Grantee must be on the subcontractor's letterhead/invoice form and be included as an attachment to the invoice that is submitted to DWR.

- b. DWR shall withhold ten percent (10%) of the reimbursement request amount from each reimbursement payment to the Grantee or Co-Grantee. One hundred percent (100%) of each invoice submitted for actual allowable expenditures, up to a cumulative reimbursement total equal to ninety percent (90%) of the Contract Amount shall be paid out for any subsequent invoices. The final ten percent (10%) of the Contract Amount will not be paid until a close-out site visit has been completed and the project has been approved for close-out by DWR staff.
- c. The final invoice shall contain the remaining balance of project costs not submitted to DWR previously for allowable expenditures, in addition to the applicable NRCS-CPA-1245. The total of all submitted invoices approved by DWR shall be the Actual Project Cost.
- d. The final invoice, including the applicable NRCS-CPA-1245, must be received by DWR within forty-five (45) days following the date on which termination or expiration of this Agreement becomes effective. Failure to submit a final invoice within such timeframe may result in a zero-dollar (\$0) total for the cumulative State disbursement, and both the Grantee and Co-Grantee will be invoiced for the overpayment by DWR.
- e. Amended or corrected invoices must be received by the Department within six (6) months of the date on which termination or expiration of the contract becomes effective. Any invoice received thereafter shall be returned without action.

The cumulative State disbursement (CSD) amount shall be calculated as follows:

Actual Project Cost - (Total NRCS-CPA 1245 distribution amount) = \$X

If \$X is greater than or equal to the Contract Amount, CSD = \$[Max grant award amount]

If \$X is less than the Contract Amount, CSD = \$X

**The final payment amount, which shall include the ten percent (10%) retainage, will be calculated as follows:** CSD – total of all prior disbursements = final payment amount

If the final payment amount is a negative figure, both the Grantee and Co-Grantee will be invoiced for the overpayment.

**\*\* An example reimbursement summary table is provided as *Attachment 1* near the end of this document.**

**Reimbursement requests shall include:**

- 1) A Cover Memo/Letter signed and dated on the Grantee’s official letterhead that lists:
  - a) DEQ Contract Number
  - b) the amount of the reimbursement request
  - c) actual cost (expenses) by approved budget categories
  - d) total amount spent on the project to date

- 2) Copies of invoices or other documentation for materials, services and other project costs

The reimbursement request and supporting documentation should be submitted electronically to [Amin.Davis@ncdenr.gov](mailto:Amin.Davis@ncdenr.gov). DWR will normally pay a Grantee or Co-Grantee by check or electronically within 30 days of receipt of the statement of expenses, provided the expenses are in accordance with the project information shown in the initial request or as amended.

### **Requests For Additional Funding**

Grant recipients may submit a request for additional funding consideration to DWR for a maximum of 25% of total project costs, not to exceed \$100,000. This request shall be submitted by the Grantee or Grantee's primary contact on a cover letter with official letterhead via email. The following information shall be submitted by the Grantee or Co-Grantees to DWR for additional funding consideration:

- a narrative describing the circumstances/need for an increased funding award, summary of current project status and anticipated project implementation schedule.
- copies of all subcontractor invoices for design, permitting, surveying, construction, construction oversight and project administration.
- copies of the most recent version of all NRCS-CPA-1156 forms (Revision of Plan/Schedule of Operations or Modification of a Contract) associated with the specific project in which additional funding is being requested.

DWR will review this information and respond to the Grantee and Co-Grantee with a decision regarding increased funding within 30 calendar days. Funding increases are subject to the availability of funds and to DWR's actual cost reimbursement policy. **DWR may not be able to grant requests for additional funding caused by inaccurate or incomplete information in the application or project budget provided by the Applicant or Co-Applicant.**

### **Project Close-Out**

**Either the Grantee or Co-Grantee shall provide the DWR Grant Administrator with the completed NRCS Practice Approval and Payment Application (Forms NRCS-CPA-1245) and a scaled version of the most recent set of permit, as-built/record, or construction drawings electronically in an Adobe PDF format prior to the close-out inspection.** Upon notification of project completion to DWR, either Grantee or Co-Grantee will arrange an inspection of the completed project with the DWR Grant Administrator or their designated representative. However, DWR may substitute its personnel with that of other state or federal agencies that are located closer to the project to minimize the State's costs.

This inspection will verify that the project was implemented in accordance with the information provided in the grant application, along with the approved plans and specifications. The grant recipients shall address any remedial or compliance actions identified during this close out inspection prior to DWR final project approval. After the project has been inspected and approved, DWR will review the accounting statements and request DWR pay the final 10% of DWR's share of the non-federal cost, if a balance remains after applying DWR's actual cost reimbursement formula.

### **Applicable Policies**

As per SL 2017-57 and G.S.143-215.70-.73, upon the execution of a contract, the policies contained within these guidelines shall control for the duration of a project, only subject to change for compliance with a requirement of State or federal law or regulation, or upon agreement by the Co-Grantees. The applicable version of these guidelines shall be included in every grant contract. These guidelines are subject to review or revision prior to issuance of any grant contract or award.

**Attachment 1 - Grant Reimbursement Example**

**Project Cost: \$100,000**

**Federal NRCS-EQIP Cost Share: \$50,000**

**Non-Federal Cost Share: \$50,000**

**DEQ Grant Award: \$50,000**

Invoice #1	Administration	Design	Permitting	Construction Oversight	Construction
Amount	\$1,000.00	\$7,000.00	\$1,000.00		

Total Expenditure	\$9,000.00
10% Retainage	\$5,000.00
Payment Amount	\$4,000.00

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Invoice #2	Administration	Design	Permitting	Construction Oversight	Construction
Amount	\$1,000.00			\$2,000.00	\$15,000.00

Total Expenditure	\$18,000.00
Payment Amount	\$18,000.00

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Invoice #3	Administration	Design	Permitting	Construction Oversight	Construction
Amount	\$3,000.00			\$2,000.00	\$18,000.00

Total Expenditure	\$23,000.00
Remaining DWR Grant Amount	\$28,000.00
Payment Amount	\$23,000.00

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Payments	Amount
#1	\$4,000.00
#2	\$18,000.00
#3	\$23,000.00
#4 (Post close-out)	\$5,000.00
<b>Total DWR Payment</b>	<b>\$50,000.00</b>

## Attachment 2 – DWR/DEQ Required Forms Checklist

Form	Form Name	Relevance	Applicability	Signatory
<a href="#">NRCS-CPA-1155</a>	Conservation Plan or Schedule of Operations	Contract support document outlining practice amounts and costs.	Grant Application	NRCS, Landowner
<a href="#">NRCS-CPA-1156</a>	Revision of Plan/Schedule of Operations or Modification of a Contract	Contract support document for modifications to original project scope.	Submit TO DWR if completed by NRCS.	NRCS, Landowner
	Official Resolution	Adopted by the governing board stating the amount of state aid requested and accepting the applicant's responsibilities.	Grant Application	Primary Applicant (SWCD)
	Resolution Affirmation	Affirms terms/ conditions of adopted Official Resolution for contractual purposes.	Grant Application	Co-Applicant
	No Conflict of Interest Certification	Members of project team have no conflict of interest with respect to the project.	Grant Application	Applicant, Co-Applicant; sign separate documents.
	Co-Applicant's No Conflict of Interest Policy	Co-Applicant's written policies regarding conflicts of interest.	Grant Application	Co-Applicant
<a href="#">W-9 Form</a>	IRS Request for Taxpayer Identification Number and Certification	For registration in NC <a href="#">E-Procurement</a> & State Accounting System	Electronic Reimbursement Payments	Primary Applicant (SWCD)
<a href="#">MS&amp;NCD Form 0008</a>	State Grant Certification – No Overdue Tax Debts	Grantee does not have any overdue tax debts.	DEQ Contracting	Co-Grantee
<a href="#">NRCS-CPA 1245</a>	Payment Application	Used to calculate actual DEQ total reimbursement amount.	Grantee submit to DWR prior to Project Close-Out.	NRCS, Landowner

## 2018 EQIP/RCPD Guidelines for Natural Stream Channel Work

### *580 – Streambank and Shoreline Protection – Bioengineered Scenario*

This is the most common 580 scenario that will be contracted when grading and installing woody vegetation on stream banks. This scenario would include bank grading and woody vegetation establishment (live stakes, plugs, rooted material, potted material, etc.) so do not plan 342 – Critical Area Planting *below the top of bank grading*. Also, do not plan 484 – Mulching where 580 is implemented since the cost of matting is included in the Financial Assistance (FA) rate.

584 – Channel Bed Stabilization - Structural scenario will be commonly contracted for in-stream structures alongside 580 Bioengineered. The 580 Bioengineered scenario includes any of the following:

- Benching/grading with Erosion Control Matting
- Tree Revetments
- Toe Wood
- Brush Toe
- Root Wads
- Vegetated Geogrids

The 580 Bioengineered scenario would not include the following:

- Structures in the channel (log or rock vanes, cross-vanes, wing deflectors, toe boulders, etc.). Contract 584 for in-stream structures.

This 580 Bioengineered scenario will be measured by the linear foot (LF) of bank treated. If both banks on a 100 LF reach of stream are treated then measure 200 LF of this practice. This can be applied on one or both banks.

FA is quantified by the square foot (ft<sup>2</sup>). To convert from linear feet to square feet for this scenario, multiply the linear feet treated by 20 to get square feet. Example: 1,000 LF = 20,000 ft<sup>2</sup>

## *580 – Streambank and Shoreline Protection – Structural Scenario*

This 580 scenario may be contracted when installing rock structures for bank protection that do not meet the requirements of NRCS Practice Standard 584 - Channel Bed Stabilization (do not alter channel dimension or profile). The 580 Structural scenario may include any of the following:

- Rock vanes
- Rock spurs
- Boulder toe
- Any structural bank protection measures that do not alter channel dimension or profile.

The 580 Structural scenario will be measured by the ton of rock installed, therefore wood structures are not measurable. This scenario can be applied on one or both banks. There is no conversion factor for FA quantities.

Do not apply 580 Structural on any section of stream where Practice 584 is planned. These two practices must not overlap.

Do not apply 580 Structural and 580 Bioengineered on the same linear footage of stream bank.

## 584 - Channel Bed Stabilization

### Structural - J-Hook, Cross-Vane, etc. Requiring Boulders Scenario

This practice may be used for installing rock or wood structures using natural stream channel design when the work meets NRCS Practice Standard 584 - Channel Bed Stabilization. To meet Practice Standard 584 channel dimension and profile will be altered in order to stabilize the system. This scenario does not include bank grading and woody vegetation establishment. Plan 580 Bioengineered as described on the first page for bank grading, matting, and vegetation establishment.

The 584 Structural scenario may include any of the following boulder, log, or combination structures:

- J-Hooks
- Cross-vanes
- Step-pool sequences
- Wing Deflectors
- Brush runs
- Constructed riffle structures installed for the purpose of correcting dimension or profile

This scenario would not include bank grading and shaping, which is covered under 580 – Streambank and Shoreline Protection – Bioengineered Scenario, therefore 580 may be planned according to this guidance document along the same footage of stream where 584 is applied.

For natural channel design where aquatic habitat will be significantly enhanced through implementation of this practice, consider planning 395 – Stream Habitat Improvement – Rock and Wood Scenario along with 584.

This scenario will be measured by the linear foot of channel bed stabilized. Measurement will be from the upstream to downstream extent of the hydraulic effect of the structure(s) installed. Units are in stream length (do not double for both banks).

The length of 584 applied for a structure with up and/or downstream hydraulic influence and bank protection beyond grade control (J-Hook, Cross-Vane, Wing Deflector – downstream arm only, log vane, arch structure, some constructed runs, etc.) will be measured along the plan view as 1.5 times the length of the structure upstream and downstream plus the length of the structure itself along the bank. A series of structures may have overlapping effects and therefore will be measured from the upstream extent of the effect of the upstream structure to the downstream extent of the effect of the downstream structure. Constructed riffles (for the purpose of profile stabilization) and interlocking step-pool structures will be measured by the length of the actual structure with no upstream or downstream effect *no matter how far up or downstream the structure affects the water surface profile.*

FA is quantified by the cubic yard (CY). To convert from linear feet to cubic yards for this scenario, multiply the linear feet treated by 0.5 to get cubic yards. Example: 1,000 LF = 500 CY

## *395 – Stream Habitat Improvement – Rock and Wood Structures Scenario*

This practice may be planned where installed measures significantly and measurably improve stream habitat. This practice may be planned when 584 – Channel Bed Stabilization is planned to be implemented with structures that increase bed diversity, create and maintain fish holding areas, create increased food availability to fish and other species, remove barriers to aquatic organism passage, and/or correct sediment transport to coarsen the stream bed to its natural state. The Rock and Wood Scenario would be the only scenario offered because the majority of this practice incorporates both materials. If a channel is fully stable and structure is to be installed to improve habitat, plan 395 but do not plan 584 for the same section of the reach. Isolated single bank grading without instream structure installation does not qualify for 395. ***Minimum reach length to plan this practice is 20 times the bank full width of the stream or 500 feet – whichever is less.***

### ***Planning and Documentation Requirements:***

Complete the [Stream Visual Assessment Protocol](#). This is a long document with a two page scoring sheet at the end. The rest of the document is information related to assessing the stream. The existing condition of the stream will score out either as Poor, Fair, Good, or Excellent. Next, score the stream according to planned improvements. If the planned stream improvements will increase the score of the stream two levels better than existing conditions, then 395 may be planned and applied according to the design. A stream's existing conditions must score Poor or Fair in order to plan 395. At a minimum, the score must increase from Poor to Good or from Fair to Excellent.

### ***On completing the CPA 52:***

#### SECTION F: RESOURCE CONCERNS

Under Animals; INADEQUATE HABITAT FOR FISH AND WILDLIFE. Use the drop down button and select: "Habitat Degradation"

SECTION I: Effects of Alternatives; You should pick at least two sections: the NO Action column and Alternative 1. In the NO action column, describe what will happen if we do nothing and damage continues, destroying habitat, etc.

In Alternative I, describe what will be done with EQIP contract work; List practice 395- Stream Habitat Improvement here; list what tool was used to access the resource here: SVAP. Show what the SVAP score was here to indicate Poor or Fair condition that we were treating. List if possible what the score will be with improvement after 395 is implemented. Be descriptive, show amounts, tons of sediment, etc. This justifies our expenditure of federal funds to improve and protect.

FA is quantified by the acre. To convert from linear feet to acres for this scenario, multiply the linear feet applied by 0.0008 to get acres. Example: 1,000 LF = 0.8 acres

## *578 – Stream Crossing*

### *Low Water Crossing Scenario*

This 578 scenario should be planned where a standard cloth and gravel ford type crossing is needed, and is the preferred type of stream crossing for most projects. If the stream bed is coarse, cloth and gravel may not be needed in the stream bed portion of the crossing. If this is the case, do not count the square footage of the crossing in the stream bed toward the contract. This practice is measure by the square foot.

### *Culvert Installation Scenario*

This 578 scenario should be planned for any size and type of culvert unless the intent of the culvert is to meet the 396 Aquatic Organism Passage. If 396 is the goal please contact the Area Office staff for guidance. Quantity is based on diameter (inches) of the culvert x length (feet) of culvert; (ex. 30" culvert that is 40' long = 30 x 40 = 1200 in-ft.).

\* Note – Contact Area Office Staff if any barrier to aquatic organism movement exists (dam, perched culvert, etc.) to see if any practice scenario is applicable to remove the barrier.

## *572 – Spoil Spreading Scenario*

This practice may be planned when significant amounts of spoil are generated on projects with high banks. The practice is measured by the cubic yards of spoil generated from bank grading/benching that must be moved away from the stream corridor and stabilized. Do not plan this practice for any other earth moving activities other than bank excavation and spoil disposal. This practice is measured by the cubic yards of earth moved. Plan 342 Critical Area Planting along with this practice to stabilize the spoil.

## *342 – Critical Area Planting – Native and Introduced Vegetation – Moderate Grading Scenario*

This practice will be implemented to establish herbaceous cover over areas disturbed during construction activities. Do not plan this item below top of bank where 580 is applied. This practice is measured by the acre.

*612 – Tree/Shrub Establishment – Hand plant bare root hardwoods, no tubes Scenario*

This practice will be implemented to establish a woody vegetative buffer on the terrace/floodplain. Approximate planting spacing is 12'x12' grid. Do not plan this item below top of bank where 580 is applied. Use when a buffer with an average width of less than 35 feet will be established. This practice is measured by the acre.

*612 – Tree/Shrub Establishment – Hand plant bare root hardwoods, with tubes, 300 per acre Scenario*

This practice will be implemented to establish a woody vegetative buffer on the terrace/floodplain where wildlife or other concerns validate the need for tubes on the plantings. Approximate planting spacing is 12'x12' grid. Do not plan this item below top of bank where 580 is applied. Use when a buffer with an average width of less than 35 feet will be established. This practice is measured by the acre.

*391 – Riparian Forest Buffer – Bare root shrubs, 300 per acre, no tubes Scenario*

This practice will be implemented to establish a woody vegetative buffer on the terrace/floodplain where the **average width will be equal to or greater than 35 feet**. Approximate planting spacing is 12'x12' grid. Do not plan this item below top of bank where 580 is applied. This practice is measured by the acre.

*391 – Riparian Forest Buffer – Bare root hardwoods, 300 per acre, with tubes Scenario*

This practice will be implemented to establish a woody vegetative buffer on the terrace/floodplain where the **average width will be equal to or greater than 35 feet** and where wildlife or other concerns validate the need for tubes on the plantings. Approximate planting spacing is 12'x12' grid. Do not plan this item below top of bank where 580 is applied. This practice is measured by the acre.

### *390 – Riparian Herbaceous Buffer – Pollinator Habitat*

This practice will be implemented to establish pollinator habitat enhancement as a component of the vegetated stream buffer. There is no minimum width unless this practice is implemented specifically to maintain or improve water quality (ex. filter from concentrated livestock area, excessive erosion from crop field, or other identified source of pollution). If the practice is installed primarily to maintain or improve water quality then minimum buffer width shall be increased to 2.5 times stream bank full width.

This practice is measured by the acre. Do not plan 342, 612, or 391 on the same acreage as this practice.

Additional requirements: A minimum of nine (9) species MUST be included in the planting specification. Only two (2) grasses may be included in the prescribed seeding mix. At least three (3) species shall have their primary blooming period during each of the following time frames: Period 1: April 1 – June 15; Period 2: June 15 – July 31; Period 3: August 1 – October 31. The Planting Specification Worksheet and Native Pollinator Seed List OR a list that has been developed by an appropriate experienced professional (e.g., wildlife biologist, biologist, WRC biologist, entomologist, etc.; if in question, please contact the NRCS State Biologist) can be utilized to identify appropriate species for the site.

### *484 – Mulching – Erosion Control Blanket Scenario*

This practice may be planned with 612 – Tree/Shrub Establishment or 391 – Riparian Forest Buffer. This practice could be used to mulch around desirable trees planted after removal of invasive plants on a section of stream bank with stable cross-section dimensions. Do not plan this practice on the same footage where 580 is planned. This practice is measure by the square footage of area treated.