



Streamflow Rehabilitation Assistance Program

Debris Removal & Processing Recommendations

§ 139-65. Streamflow Rehabilitation Assistance Program, the authorizing legislation for StRAP, states that *“The Commission shall ensure that debris removed from streams with funds provided under this Article are either removed from the 100-year floodplain or processed in such a manner that the debris would not pose a risk of blockage or significant impairment of normal streamflow during a subsequent flood event.”*

The Soil & Water Conservation Commission has determined that processing of debris may include any of the following activities:

- Chipping
- Cabling or strapping in a secured manner outside the immediate stream area (minimum of 30 ft. from top of the stream bank)
- Burning (Must comply with all required State Forest Service permits and only under appropriate Air Quality conditions)
- Other processing options approved by the Commission

Removal from the floodplain

- Debris removed from the stream can be hauled away from the floodplain. Debris can be loaded directly into a truck for removal or debris can be floated to a location appropriate for its removal from the stream or floodplain.
- Debris can be removed to a landfill (grantees should confirm that the landfill accepts woody debris), another property, or to another location on the same property as long as it is outside of the floodplain and landowner has granted permission for the debris to be deposited on the site.
- Equipment used for hauling debris from the floodplain should be used in a manner that minimizes the impact to the banks of the stream. Boat mounted equipment may be an effective option for accessing stream debris. Tracked or wheeled equipment should be kept out of the stream channel and may be employed from the bank by using a manipulator arm or cables to drag debris out of the stream channel.¹
- If garbage (such as wooden construction materials) is contributing to blockages in the stream, it can be removed from the stream and disposed outside of the floodplain.

Chipping or Burning Debris

Debris can be left in the floodplain if it has been chipped or burned so that it does not pose a risk of contributing to future blockages if it is washed back into the stream. Wood chips can be left on site or hauled away.

- Wood chips can be placed on the floodplain starting at the top of the bank. Wood chips should not be placed below the top of the bank or in channels that drain from the floodplain into the stream.²

¹ [NRCS Clearing and Snagging Code 326 Practice Standards](#)

² [USACE Best Management Practices for Selective Clearing and Snagging](#)

- Wheeled chippers and other equipment should be used in a manner that reduces impact to soil and vegetation.
- Wood chips should be distributed across the site in as thin a layer as practical to avoid inhibiting plant growth. Wood chips can be left in a pile at the landowner's request.
- Debris can be burned on site. The grantee/contractor is responsible for obtaining and possessing a valid burn permit (if applicable) and for following any other necessary laws or statutes related to burning.

Cabling/Strapping

Cabling or strapping refers to the practice of anchoring logs and other woody debris in place so that it will not be washed back into the stream in subsequent flood events.

- Cabled/strapped debris should be set back at least 30 feet from the top of the stream bank.
- Woody debris cabled/strapped within the floodplain should be anchored in such a way that it will not significantly affect the flow capacity of the floodplain. Securing logs parallel to the direction of the stream flow can help reduce flood flow impediment.
- Cabling debris to an anchor will ensure woody debris will not be moved back into the stream channel during future flood events. The anchor point should be selected based on site-specific factors, such as availability of natural anchors and cost. Examples of anchors include live trees or soil anchors.
- **Live Trees-** Logs and debris may be cabled to live trees or fresh stumps. Fatal damage to live trees should be avoided. Wedging logs against the live tree before the cable/strap is attached will help ensure the attached log is as immobile as possible.
 - If a strap/cable is looped around a tree, leaving a small amount of slack in the loop around the live tree, and between the live tree and the log, may help protect the tree from girdling and prevent the cable from snapping if the anchored log shifts.
 - If stumps are used, the cable/strap should be secured in a way so that it will not slip off the top of the stump in future flood events.
- **Soil Anchors-** Soil anchors may be useful on sites with few live trees to serve as anchors or in other situations when live trees are not desirable as anchors. For technical guidance on use soil anchors, contractors should use refer to [NRCS Technical Supplement TS14E Soil Anchors](#).
- **Cable Material:** A variety of cable, rope, or strap options can be used for securing large woody debris to an anchor point. Material with a break strength of approximately 1,700 pounds or higher should be used. A common example of an appropriate rope would be 1/4 inch braided nylon rope. Contractors should use thicker cables/ropes as necessary to sufficiently secure debris.
- Placing debris as close to the anchor as possible will reduce the amount of rope/cable needed and reduce the risk of landowners tripping over the cable.
- Logs can be anchored individually or in groups. If groups of logs & branches are anchored together, wrapping the cable or rope around the entire bundle of debris can secure the bundle to the anchor.