

REMOVAL AND REPLACEMENT OF SWITCH TIMBERS

****From Rutland City-Proctor STP 2728(1) Rutland City NH 2716(1)
Rutland City STP 019-3(57)**

xx. DESCRIPTION. This work shall consist of removing existing timber switch ties, properly disposing of all removed existing timber switch ties, and installing new timber switch ties, including tie plates and tie attachment hardware, as detailed in the Plans and as directed by the Engineer.

xx. SUBMITTAL REQUIREMENTS. The following information shall be submitted to the Engineer prior to ordering switch ties:

(1) Name of the tie manufacturer, and name(s) and location(s) of the sawmill, seasoning yard, and treatment plant.

(2) Wood species proposed and the quantities of each. Fabrication Drawings of all tie layouts showing appropriate dimensions and spacing of timber switch ties.

(3) Product data for ties to be furnished.

xx. MATERIALS. Unless otherwise specified, all materials shall conform to the requirements of the AREMA Manual, current edition. References to the "Railroad" in the AREMA Manual shall mean the Vermont Agency of Transportation.

A Type A Certification shall be furnished in accordance with Subsection 700.02 for the cross ties.

A Type D Certification shall be furnished in accordance with Subsection 700.02 for the preservative treatment.

xx. TIMBER SWITCH TIES. Dimensions of new timber ties shall be 7" x 9" as shown on the Plans and as defined by Figure 30-3-1 of the AREMA Specifications. All timber switch ties must be sawn, no hewn ties will be accepted. All species of oak, hard maple, birch, cherry, and beech may be used.

The Contractor shall determine the quantities of timber switch ties required and submit Fabrication Drawings for review and approval by the Engineer. Show the location and length of timber switch ties on the Fabrication Drawings for the various turnouts included in the Contract. Coordinate switch tie length selection to ensure that no tie is spiked within 14 inches of either end. Provide switch ties in 12 inch increments only.

Except as hereinafter provided, all switch ties shall be free from any defects that may impair their strength or durability as ties, such as decay, large splits, large shakes, large or numerous holes or knots, or grain with slant greater than 1 in 15.

All timber switch ties shall have nail plate anti-splitting devices applied at the end of each tie. Anti-splitting devices shall be manufactured from a single heavy gauge galvanized steel plate punched in such a manner as to produce nail like projections which will serve to hold the plate to the end of the tie and prevent splitting when applied. The plates shall be manufactured from a minimum 18 gauge galvanized steel conforming to ASTM A525. The plate shall be at least six (6) inches by seven (7) inches for use with seven (7) by nine (9) inch ties. Anti-splitting devices shall comply with the requirements of the AREMA Manual, Chapter 30.

Timber switch ties shall be handled and seasoned in accordance with the requirements of the AREMA Manual, Chapter 30, Part 5.

Timber switch ties shall be preservative treated in accordance with the AREMA Manual, Chapter 30, Part 6 and Part 7, using a coal tar creosote mixture.

Preservative treatment shall be by pressure process, in accordance with the requirements specified in the AREMA Manual, Chapter 30, Section 7, as applicable to the grades of wood being treated.

The Contractor shall inspect the timber switch ties after treatment and shall indicate, by stamp in one end of each tie, that it has been inspected and determined to comply with the requirements of this Section.

- xx. CONSTRUCTION REQUIREMENTS. Existing timbers shall be removed in a manner such that the existing line and surface of the rails is not disturbed. The crib shall be sufficiently excavated to allow the installation of the new timber without jacking or otherwise disturbing the rails.

Where practicable, the rail, frog, and other track or turnout components may be removed to facilitate the timber removal and installation operations. The Contractor shall reinstall the removed components in a manner consistent with the installation of new timbers, at no additional cost to the Owner. Defective components shall be replaced as ordered by the Engineer.

New timbers shall be handled and placed with either a mechanical insertion device or tie tongs. The use of picks will not be permitted. Any switch timbers damaged during handling or installation shall be replaced by the Contractor at no expense to the Owner.

Timbers shall be bored for spiking if performed with spike mauls or air hammers. If insertion is accomplished by hydraulic method, no boring shall be necessary.

Timbers shall be brought up tight to the base of the rail and tamped. Ballast shall be placed and tamped as necessary to keep the timber tight to the rail.

When the timbers to be replaced are used as headblock timbers, the switch points and switch stand are to be properly adjusted.

- xx. OTHER TRACK MATERIALS. Cut track spikes shall be used to secure rail and tie plates. For new track construction, two spikes per plate shall be installed in each tie plate for tangent track and curves less than 1°30'. For curves greater than 1°30' but less than 6°, three spikes per plate shall be installed. For curves greater than 6°, four spikes per plate shall be installed. The spiking pattern shall be as directed by the Railroad. Individual ties installed in existing track shall have the same number of spikes installed in accordance with the existing spiking pattern.

Cut track spikes shall conform to the requirements of the AREMA Manual, Chapter 5, Specifications for High-Carbon Steel Track Spikes, 6 in. length, 5/8 in. reinforced throat design.

Rail anchors will be new spring type, such as Wooding, Verona, Unit, or approved equal. Anchors shall conform to the requirements of the AREMA Manual, Chapter 5, Specifications for Rail Anchors and be applied as specified.

Provide new, treated soft wood tie plugs in accordance with current AREMA Chapter 7, Article 7-1-29 specification for tie plugs. Treat tie plugs with a 60/40 creosote petroleum solution.

- xx. METHOD OF MEASUREMENT. The quantity of Special Provision (Removal and Replacement of Switch Timbers) to be measured for payment will be the number of linear foot of existing timber switch ties removed and installed in the complete and accepted work.

- xx. BASIS OF PAYMENT. The accepted quantity of Special Provision (Removal and Replacement of Switch Timbers) will be paid for at the Contract unit price per meter (linear foot). Payment will be full compensation for furnishing, transporting, handling, and placing the material specified, including excavation, removal, and disposal of old timber switches, furnishing and installing tie plates where required, furnishing new spikes and tie plugs as required, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.640 Special Provision (Removal and Replacement of Switch Timbers)	Meter (Linear Foot)