Railway Tie Association

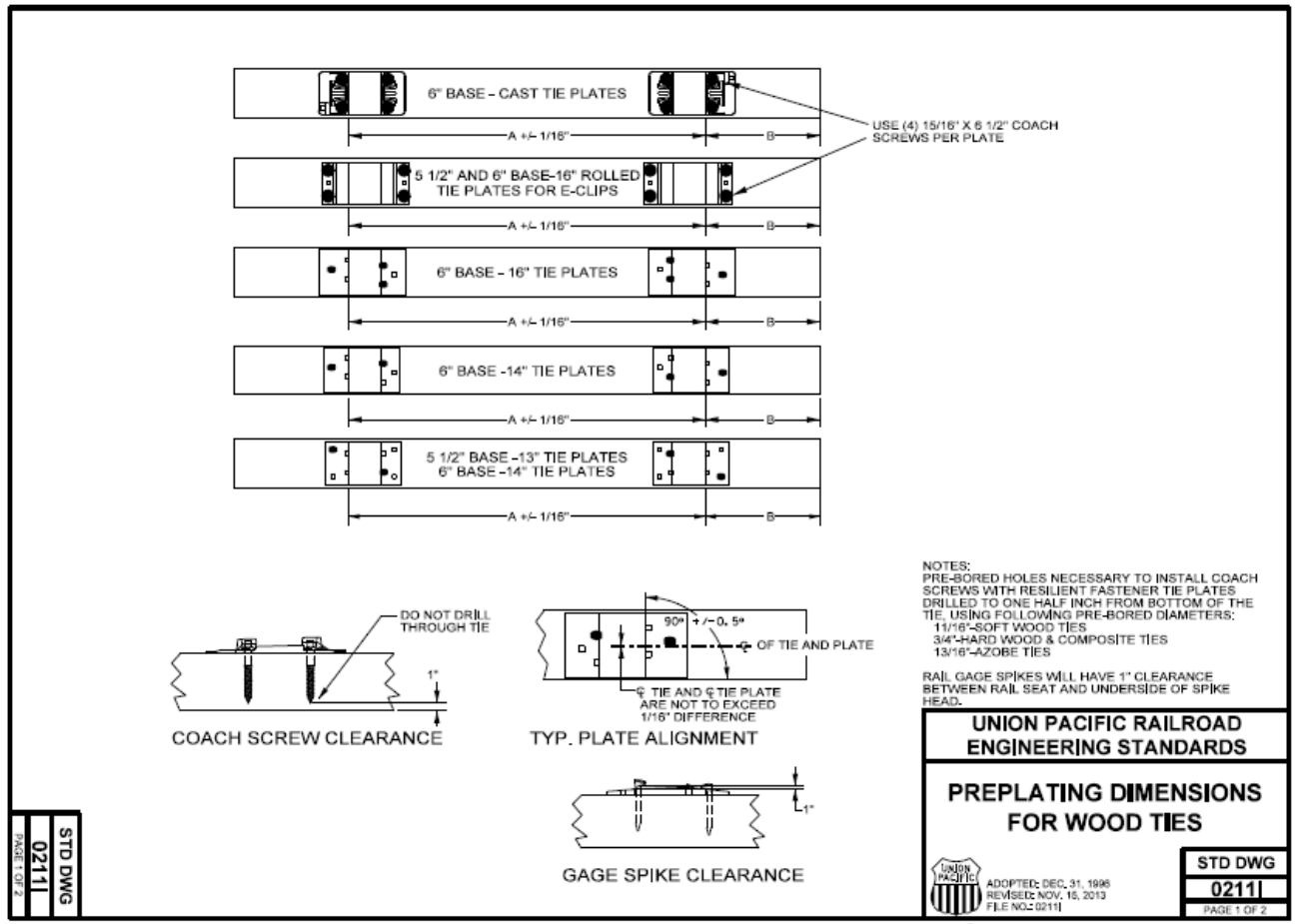
Keeping Wood Tie Markets Strong and Sustainable Since 1919

Wood Specialty Products

Nate Irby, Ph.D.
RTA Executive Director

Presentation Overview

- Specialty Wood Products
  - Pre-plated Ties
  - Switchties
  - Bridge Timbers & Pilings
  - Road Crossings
  - Diamond Timbers
  - Switch Machine/Signal Ties
- Summary



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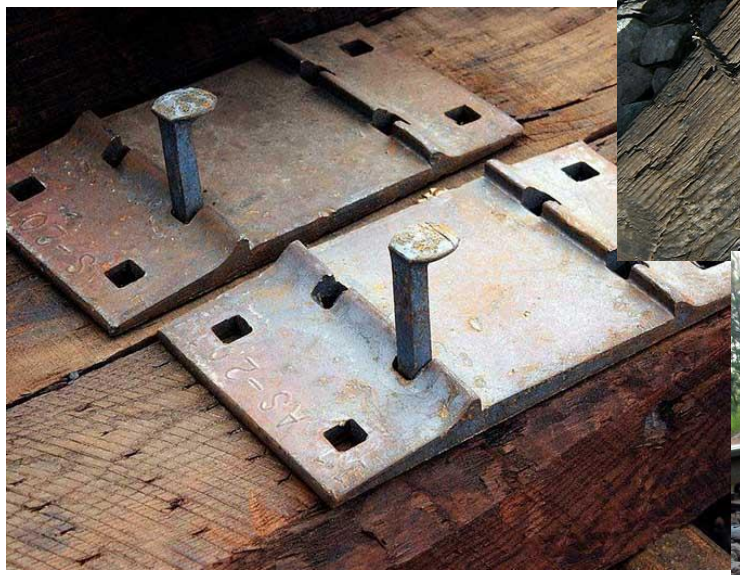
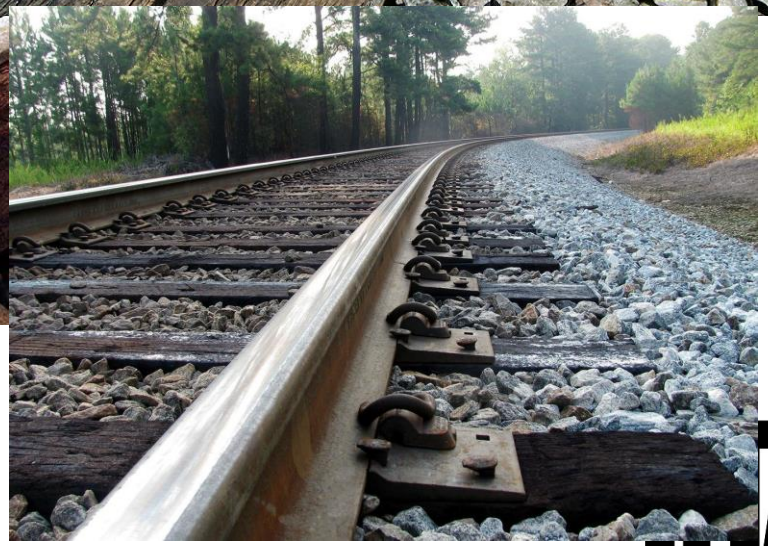




Railway Tie Association

Wood Specialty Products

- Switchties (9’ to 27’+)
- Bridge Timbers & Pilings
- Road Crossings
- Diamond Crossings
- Switch Machine/Signal Ties

2.2.3 Designated Line Rails for Turnouts and Crossovers

Use the straight side of turnouts as the designated line rail for referencing alignment through the straight side of switches when turnouts exist entirely on tangent track as shown in Figure 2-A.

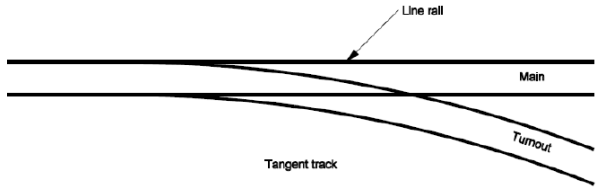


Figure 2-A

When any portion of a turnout is located on a curve, use the high or outer rail of the curve as the designated line rail as shown in Figure 2-B.

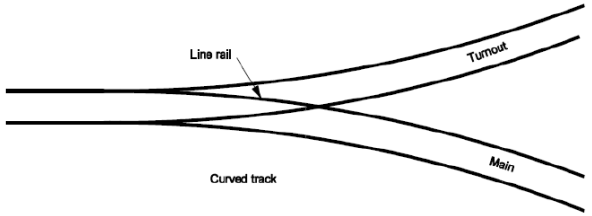
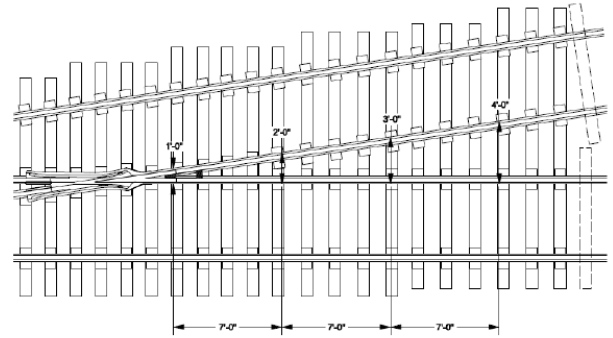


Figure 2-B



No. 7 Turnout Example

ure 2-F

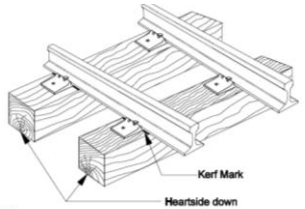


Figure 3-B

Railway Tie Association

Wood Specialty Products

- Switchties
- Bridge Timbers & Pilings
- Road Crossings
- Diamond Crossings
- Switch Machine/Signal Ties

RTA Railway Tie Association

Wood Specialty Products

- Switchties
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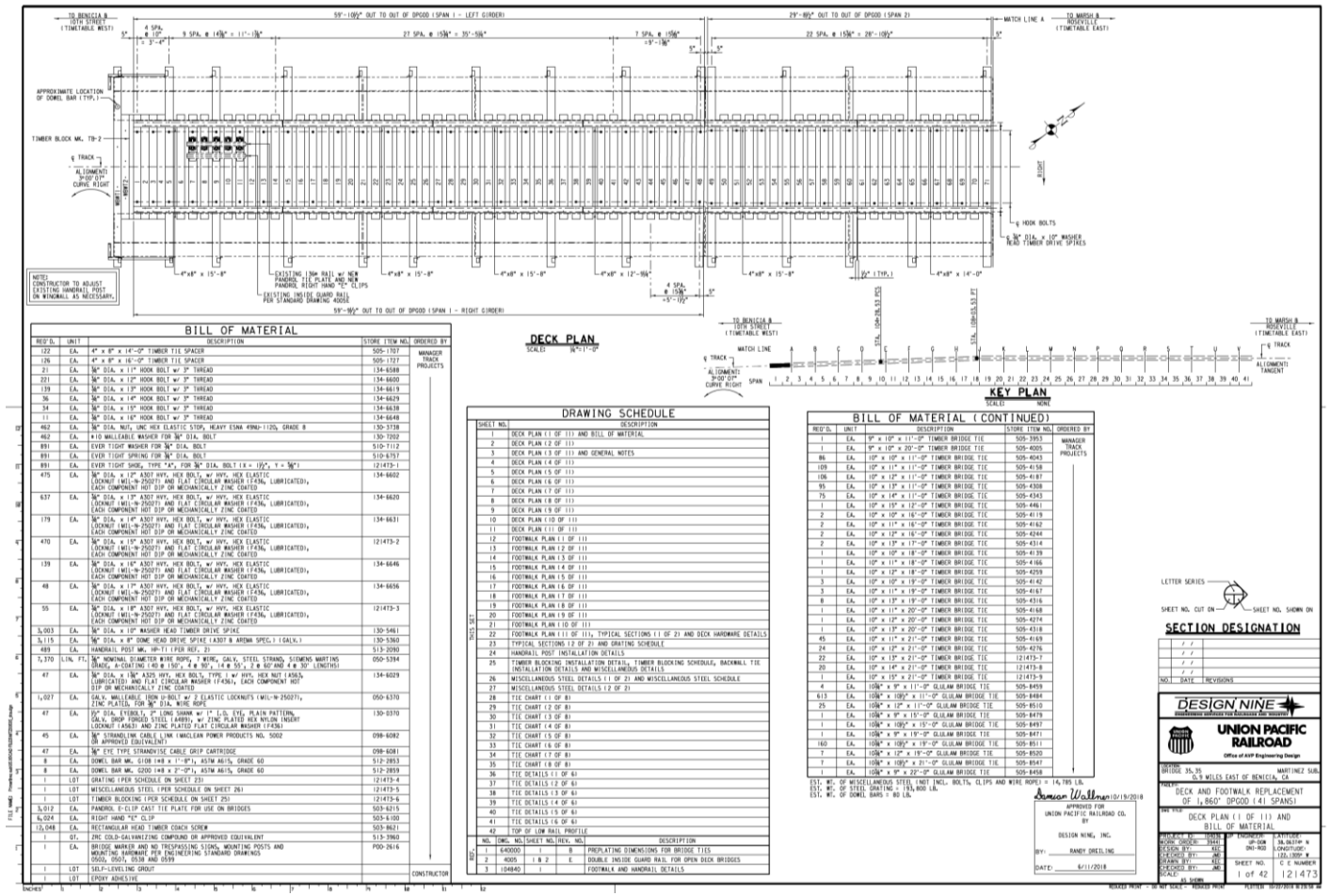
- Road Crossings
- Diamond Crossings
- Switch Machine/Signal Ties



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Wood Specialty Products

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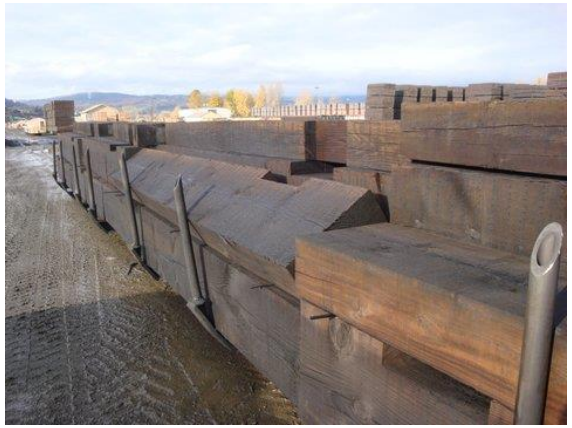

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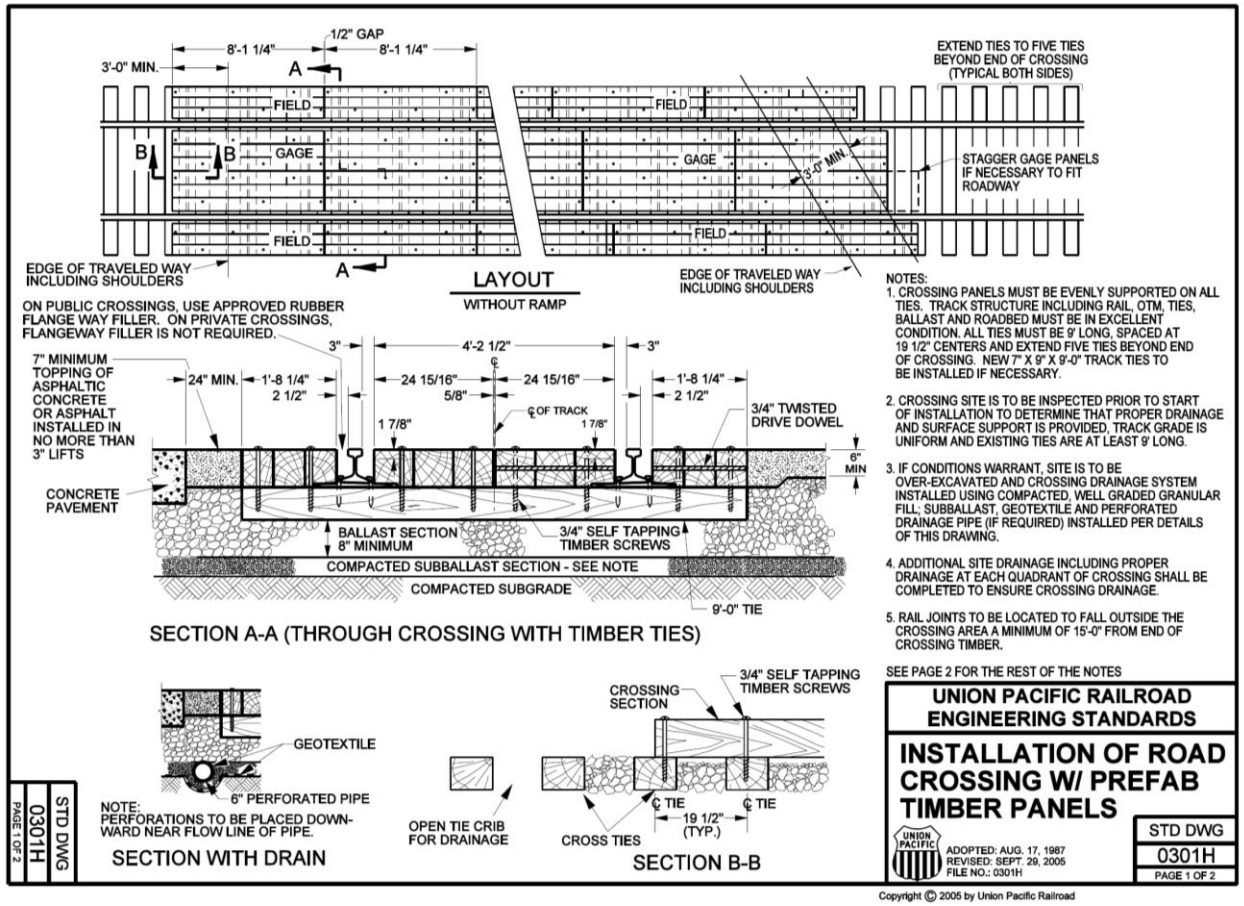

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- Straight Rail Reversible – crossing central angle is 41-90 degrees, refer to Figure 5-FF.

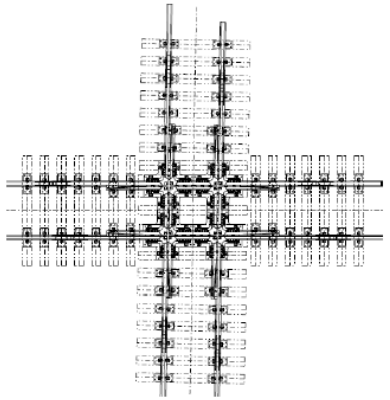

Figure 5-FF

- OWLS (One Way Low Speed) – crossing central angle is 35-90 degrees, refer to Figure 5-GG.
  - OWLS crossings utilize a flange bearing lift on one track that is limited to 10MPH. The mainline run is approved for speeds up to 79MPH.

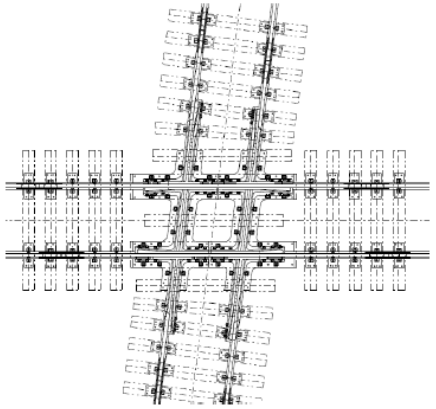

Figure 5-GG

Railway Tie Association

Wood Specialty Products

- Switchties
- Bridge Timbers & Pilings
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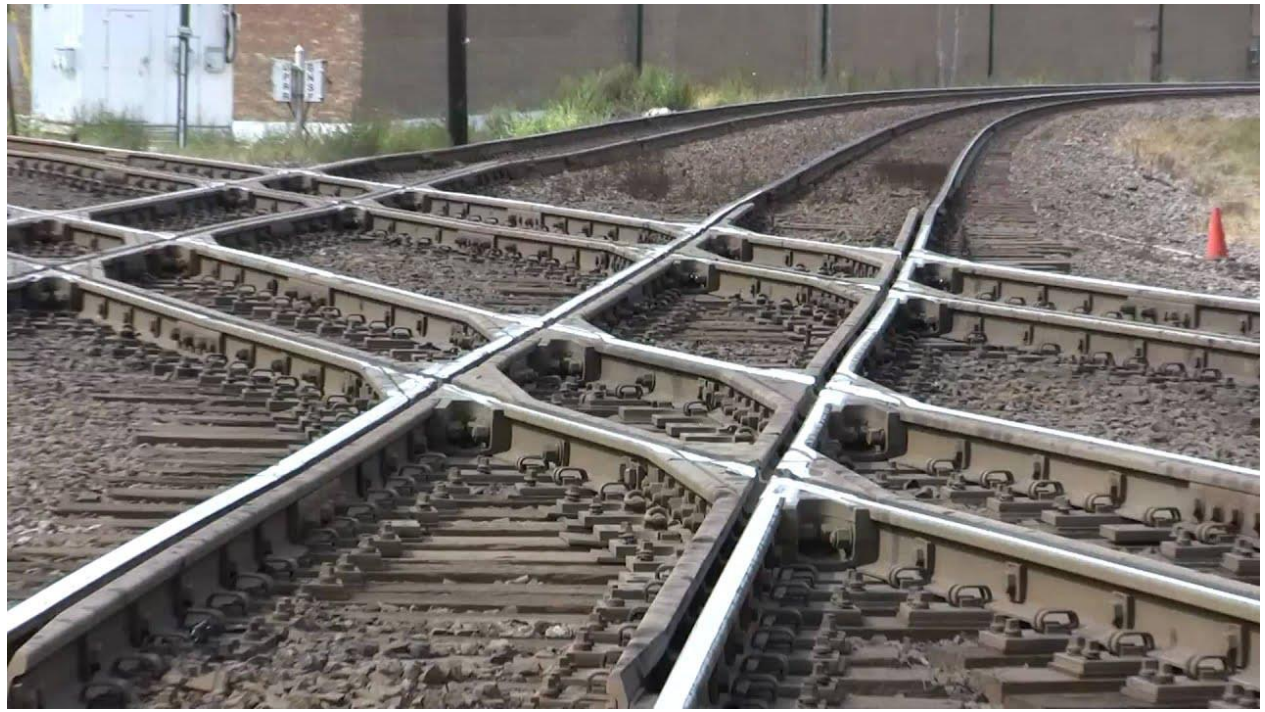
- Diamond Crossings
- Switch Machine/Signal Ties



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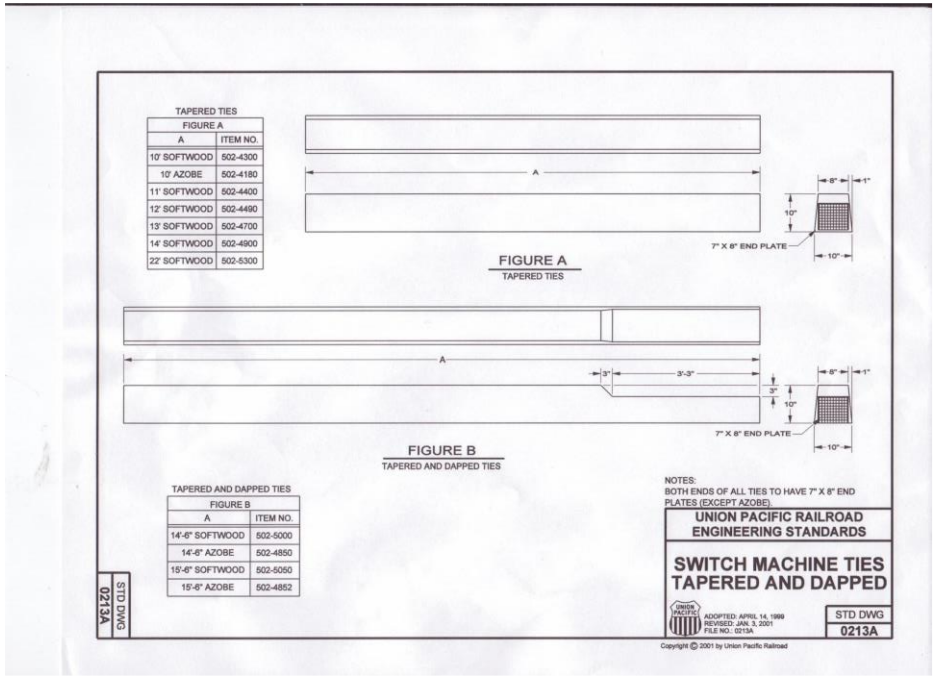


TAPERED TIES

FIGURE A	
A	ITEM NO.
10' SOFTWOOD	502-4300
10' AZOBE	502-4180
11' SOFTWOOD	502-4400
12' SOFTWOOD	502-4490
13' SOFTWOOD	502-4700
14' SOFTWOOD	502-4900
22' SOFTWOOD	502-5300

FIGURE A
TAPERED TIES

FIGURE B
TAPERED AND DAPPED TIES

TAPERED AND DAPPED TIES

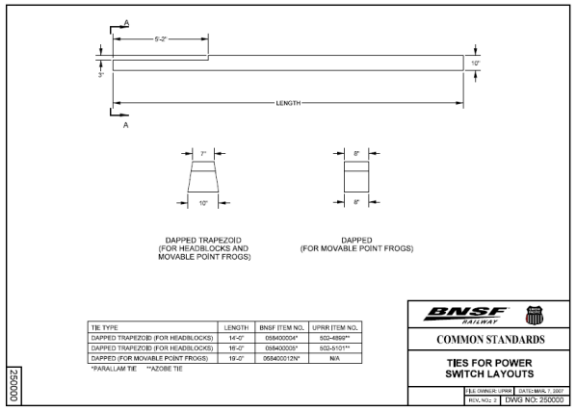
FIGURE B	
A	ITEM NO.
14'-6" SOFTWOOD	502-5000
14'-6" AZOBE	502-4850
15'-6" SOFTWOOD	502-5050
15'-6" AZOBE	502-4852

NOTES:
BOTH ENDS OF ALL TIES TO HAVE 7" X 8" END PLATES (EXCEPT AZOBE).

UNION PACIFIC RAILROAD
ENGINEERING STANDARDS

SWITCH MACHINE TIES
TAPERED AND DAPPED

STD DWG 0213A



DAPPED TRAPEZOID
(FOR HEADBLOCKS AND MOVABLE POINT FROGS)

DAPPED
(FOR MOVABLE POINT FROGS)

BNSF RAILWAY
COMMON STANDARDS
TIES FOR POWER SWITCH LAYOUTS
DWG NO: 250000

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Types of Acceptable and Unacceptable Wood Tie Species

Many wood species are used for railroad crossties. The most common types are **oaks** and **mixed hardwoods** (MHW), which include **gums**, **maples**, **birches**, and **hickories**. **Softwood species** such as **Douglas fir**, **hemlocks**, **true firs**, and **various pines** are also used. The suitability and usage of these wood species for crossties depend on their strength characteristics.

Oaks/Hickory

Mixed Hardwoods (MHW)

Softwoods

Excludable Species*

*May vary depending on customer specifications

Railway Tie Association
(770) 460-5553 • Ties@RTA.org • RTA.org

Innovative & Eco-Friendly Approaches to Wood Tie Recycling

In the United States, railroads replace approximately 18-22 million railroad ties every year. Finding ways to sustainably recycle these ties is a growing area of interest for railroads and the communities they serve.

Reuse

Many railroad ties find a second life in track and industrial applications, extending their usefulness and reducing waste.

Renewable Biomass Fuel

Used wood ties, recognized by EPA as a non-hazardous, secondary-use material, serve as an EPA-approved, high-BTU value feedstock for biomass fuel, offering 2.5 times the energy compared to green biomass. These ties are used in power production facilities (and even some tie treatment plants) across states such as AL, TN, LA, MI, NC, ME, WA, CO, NE, and TX.

Landfill Disposition

Landfills equipped for methane capture provide an eco-friendly disposition option for wood ties, which also act as a long-term carbon sink. Ties can also be repurposed as eco roadbeds for heavy equipment in landfills, reducing the need for quarried rock.

Research & Innovation

Ongoing research and innovation in the industry are uncovering new ways to repurpose railroad ties. Emerging technologies include the production of bio-oil and biochar for carbon sequestration, as well as synthetic fuels made from waste wood. These efforts ensure that wood remains the most environmentally sustainable tie material.

Sustainability

Timber railway ties are a renewable material with significant carbon storage benefits. Life-cycle assessments in North America show a net negative carbon footprint, highlighting their potential to reduce greenhouse gas emissions. Carbon sequestration occurs during the tree's growth and is retained throughout the harvest, treatment, and service life, making timber railway ties a sustainable choice for the railway industry. **Source: AREMA**

RTA Railway Tie Association

CONNECT WITH RTA'S TIE RECYCLING MEMBERS
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RTA TRACKS *Wood Ties!*

The Railway Tie Association collects and analyzes statistics essential for the wood tie industry, providing members with real-world insights into the pulse and scope of the tie market.

18-22 Million Per Year
Annual **production of wood crossties** needed to maintain North America's freight and passenger rail lines.

35+ Years of Data Analysis
RTA has been capturing and analyzing actual tie production and purchases **since 1987**.
Learn more at rta.org/industry-statistics

Interactive Scenarios: Plug In Your Data, See Your Results
RTA's **Scenario Planner** allows members to input a variety of growth factors to forecast production.

In-the-Field Observations: RTAStats.org
A tool that provides **regional insights** on inventory, demand for competitive products, and real-world narratives from reporters in-the-know.

Legislative Impact
RTA's data **influences legislation** related to the wood tie and timber industry, ensuring favorable conditions for sustainable wood tie markets.

Annual Tie Market Forecast
In exclusive annual surveys, RTA collects and shares real-world **market demand projections** for replacement and new ties from Class I and short line railroads.

Economic Impact Reporting
RTA collaborates with the **Railway Supply Institute** and other allied organizations to track the economic power of the rail supply industry.

Trends & Patterns
In each issue of our bimonthly **Crossties** magazine, RTA's economist provides production, purchases, inventory, and inventory-to-sales data for pattern visualization.

Historical Pricing Tracker
In collaboration with the **Hardwood Market Report**, RTA's economist breaks down regional green tie pricing by month, helping members recognize trends over years.

In-Person Insights
In addition to the wealth of data on the website, RTA unites suppliers with railroad purchasing and engineering personnel at the **Annual Conference** to discuss anticipated demand in person.

RTA is the go-to source for wood tie and timber information, keeping wood tie markets strong and sustainable since 1919.
Learn more at rta.org/industry-statistics

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