

LWS

LAMINATED WOOD SYSTEMS



ENGINEERED PROVEN TIME-TESTED UTILITY SOLUTIONS

www.lwsinc.com | 800.949.3526

E-LAM[®]

COMPLETE STRUCTURE KITS **NOT** JUST POLES!



THE MOST SUSTAINABLE OPTION



Unguyed Angle, Deadend, Switch & Substation Structures

E-LAM® engineered structures are the smartest choice for use in transmission & distribution self-supporting design applications. Made from an abundant, renewable, managed growth timber resource, E-LAM® structures are the most sustainable construction option available. Featuring the patented PentaTrate® design, E-LAM® structures incorporate full-length inner grooves which allow for complete penetration of preservative, resulting in optimum decay resistance & long service life.

Laminated Wood Systems' nationwide manufacturing network allows for structures to be produced and delivered in eight weeks after drawing approval. LWS engineering experience is unmatched in the industry. All E-LAM® structure designs include foundation design and all attachment hardware. E-LAM® structures are supplied as complete kits that include installation drawings, foundations, and all hardware.

To obtain a structure quote, visit www.lwsinc.com and fill out the online E-LAM® Structure Design Criteria worksheet today.

POLEENFORCER®

U.S. Patent No. 5,383,749

The PoleEnforcer's patented full length taper and flange design insures that the steel unit maintains contact with the pole below grade, transferring the load to the good pole below grade. These features result in the strongest reinforcement available on the market today. Because of its superior strength, the PoleEnforcer® units can be used to reinforce poles that have been determined to be rejects, resulting in significant cost savings.

Complete pneumatic and drop weight tool systems can be purchased or rented from LWS. For sizing and ordering information visit www.lwsinc.com.



FLANGE
TAPER



Drop Weight Driving System



THE POLEENFORCER® PATENTED ADVANTAGE



- TRUE REINFORCEMENT,
NOT POLE STUBBING
- SAVE **THOUSANDS** OF
DOLLARS BY REINFORCING
POLES THAT OTHERS REJECT
- MAINTENANCE FREE

POLEENFORCER SRS[®]

SPLICED REINFORCEMENT SYSTEM

U.S. Patent No. 9,777,500

Canadian Patent No. 2,986,026



- SOFT SOIL APPLICATIONS
- HIGH DECAY
- CAR DAMAGED POLES
- BURNED POLES
- POLES IN ICE OR WATER
- EXCAVATION NEAR POLE
- ENVIRONMENTALLY SENSITIVE SOIL

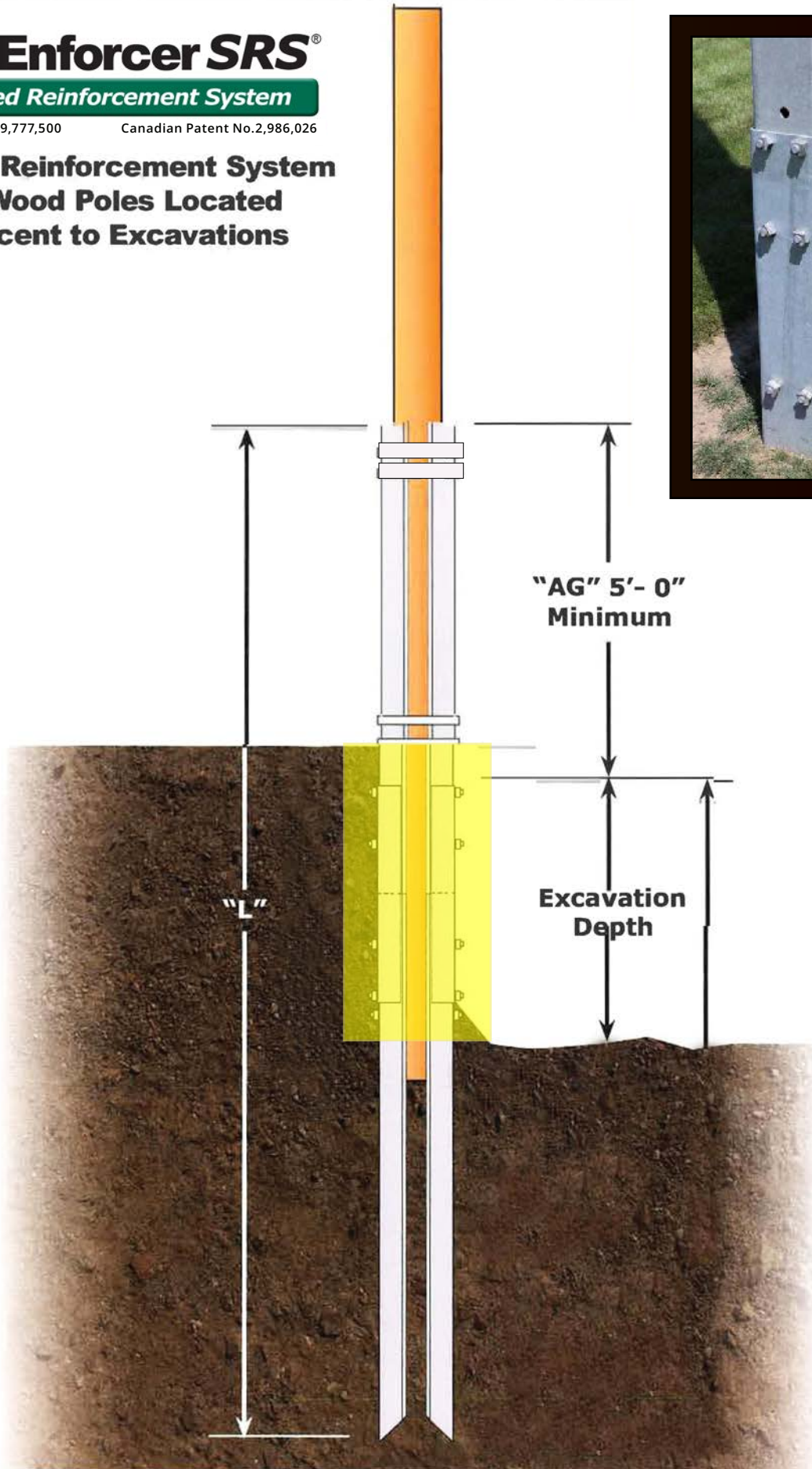
PoleEnforcer SRS[®]

Spliced Reinforcement System

U.S. Patent No. 9,777,500

Canadian Patent No. 2,986,026

Spliced Reinforcement System for Wood Poles Located Adjacent to Excavations



PRS POLE RECLASSIFICATION SYSTEM[®]

With Patented Features



INCREASE POLE STRENGTH WITH PRS POLE RECLASSIFICATION SYSTEM[®]

With Patented Features

The PRS system is the perfect solution when existing poles are, or will be, loaded beyond their original design strength with the addition of assets or system hardening. The system incorporates a lower driven steel unit and an upper steel unit that is cross bolted to the pole. When the PRS is used on steel or concrete poles, the upper unit is banded with high strength banding. Reclassifying existing poles with the PRS saves thousands of dollars versus pole changeouts. LWS engineers will specify the appropriate PRS units based upon the existing pole size and desired loading information provided.



INCREASE EXISTING POLE CLASS

- EXTEND LIFE OF EXISTING POLES
- AVOID COSTLY OUTAGES

PHASERAISER®

US Patent No. 6,115,988 & 6,151,860

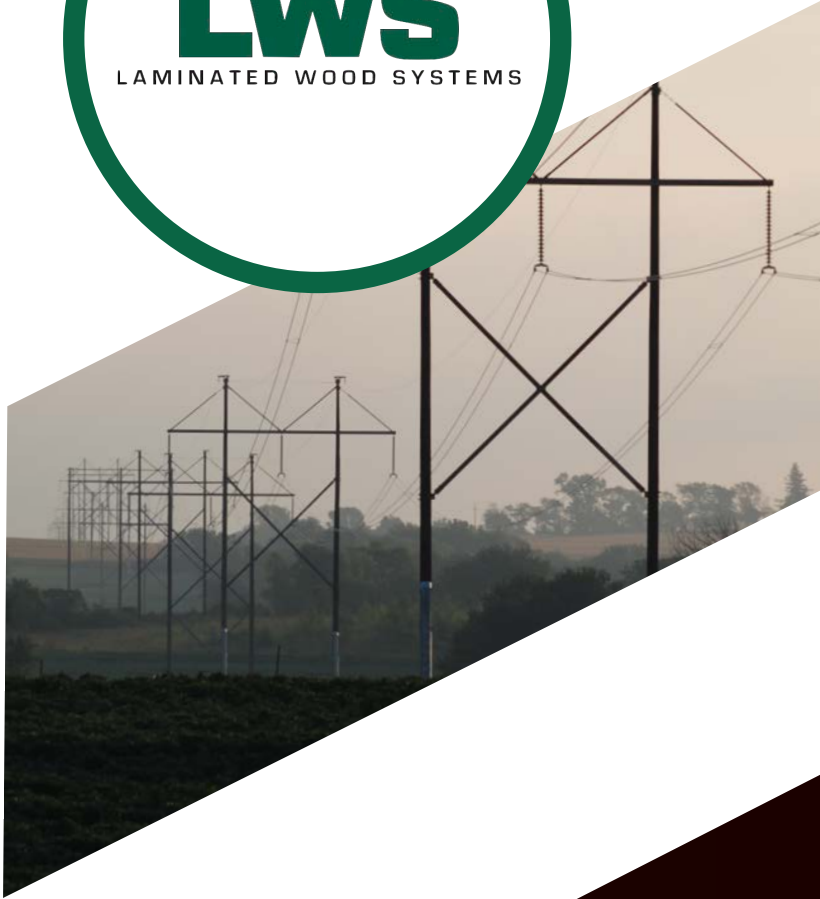
Canadian Patent No. 2,252,115 & 2,297,318

INCREASE HEIGHT, CAPACITY, AND REVENUE

Patented in the US & Canada, the PhaseRaiser® Structure Lifting System is the most innovative and economical solution to address conductor clearance points of interest. More than 13,000 energized structures have been safely raised since 1997. A line crew of 5 or 6 can typically raise three structures per day.

The PhaseRaiser® system costs significantly less than a structure changeout, is performed on energized lines, and utilizes low impact equipment. The system utilizes a specialized tool trailer that can be rented or purchased.

To obtain a quote on your next structure upgrade project, fill out the PhaseRaiser® Structure Information worksheet at www.lwsinc.com.



- **CUT THE POLE
CUT THE COST!**
- **NO LINE OUTAGE REQUIRED**
- **1/3 THE COST OF STRUCTURE
CHANGEOUTS**
- **FIELD SUPPORT INCLUDED**

AVR



ADJUSTABLE VAULT REINFORCEMENT SYSTEM[®]
U.S. Patent No. 9,822,530

Canadian Patent No. 2,885,328



LWS
LAMINATED WOOD SYSTEMS

The Most Innovative Vault Reinforcing System You'll "Never" See

The patented AVR Adjustable Vault Reinforcement® system is the ideal, low cost solution for shoring up deteriorating underground vault ceilings. The AVR system is designed to meet and exceed HS-20 loading requirements and is available in heavy decking, or debris netting designs. The system is easily modified in the field to accommodate vault size and equipment configurations. The heavy duty tongue and groove decking design reinforces the vault ceiling and prevents further debris from falling. The AVR system can be safely installed by a crew of three in less than two days with minimal traffic closures. Visit the LWS website for more details.

Extensive Testing & Proven Strength

The strength & performance of all LWS steel products have been proven through extensive full-scale testing by independent test labs. The patented design of LWS steel allows it to **OUTPERFORM** any other reinforcement product on the market.

All LWS steel products are proudly made in the USA from the highest grade domestic steel available and are typically shipped in 4 to 6 weeks.

LWS offers a full line of specialized tools and equipment for use when installing PoleEnforcer®, PRS®, or PhaseRaiser® systems.



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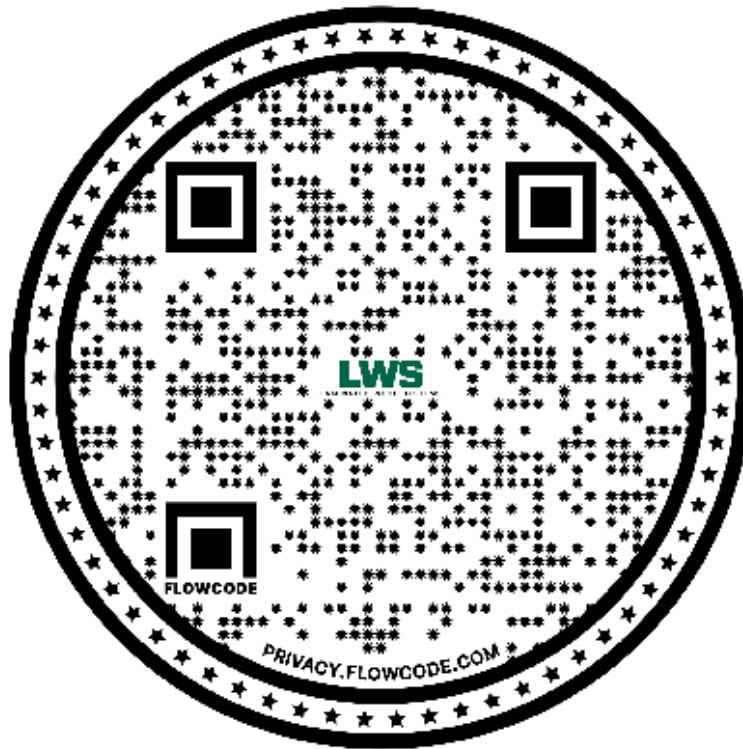
Founded in 1992, Laminated Wood Systems is a leader in supplying innovative products for the worldwide electric utility infrastructure. LWS reintroduced glue laminated utility structures to the industry and soon after developed its' family of steel products.

Utilizing a network of manufacturing and treating facilities located throughout the US, LWS can maintain some of the quickest delivery lead times available in the industry.

The strength & performance of all LWS wood and steel products have been proven through extensive full-scale testing by independent test labs. The LWS sales & engineering offices are located in Seward, Nebraska. LWS partners with nationwide independent sales agencies to move our quality products to market.

Visit www.lwsinc.com for more information on all LWS products and to locate a sales representative in your area.

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