

E-LAM®

- Installation Recommendations
- Preservative Treatment
- Hardware Options
- Raked Pole Standard Sizes
- Tangent Pole Standard Sizes
- Foundation Systems
- Unglued Edge Joint Specifications

View the E-LAM® installation video online at:
www.lwsinc.com

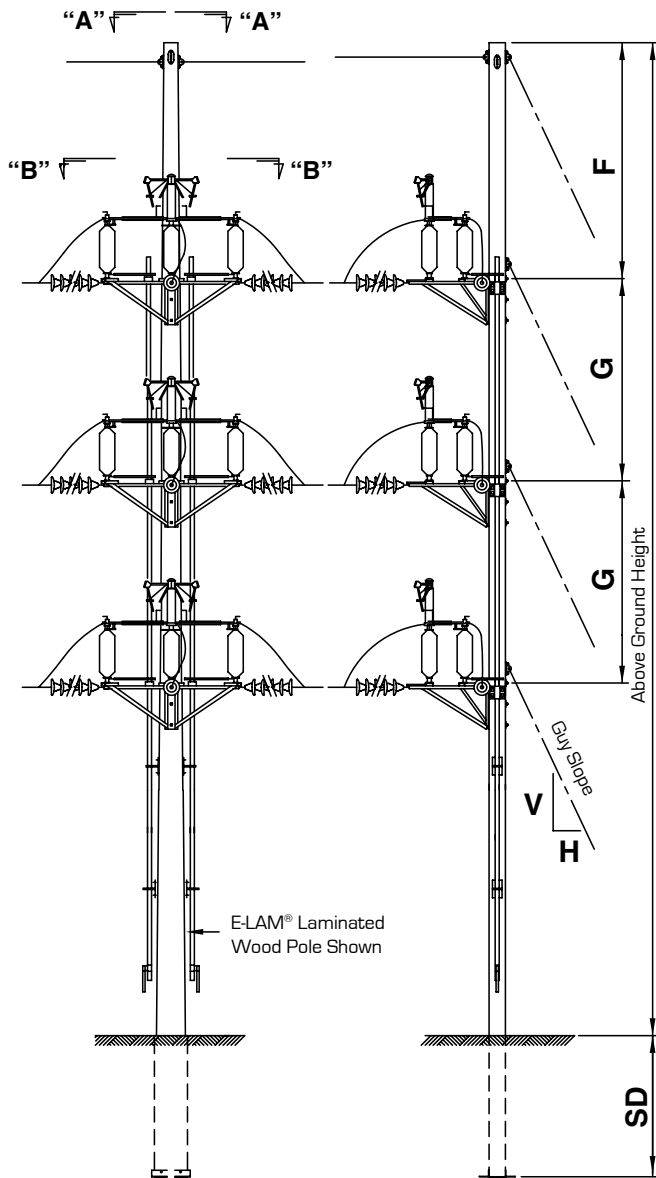
LWS

LAMINATED WOOD SYSTEMS

Switch Structure Information Worksheet

Scan & email to: engineering@lwsinc.com or submit online at: www.lwsinc.com

Use this form to provide LWS engineers information regarding your switch structure requirements. BE SURE TO FILL OUT ALL FIELDS SHADED IN BLUE. All of this information is required to accurately specify the correct E-LAM® pole for your application.



Span		Span	
Wire		Wire	
MDT		MDT	
60°F		60°F	

Shield Wire
(view "A-A")

Span	
Wire	
MDT	
60°F	

MDT = Maximum Design Tension 60°F = Tension at 60°F

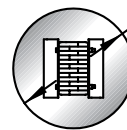
Span		Span	
Wire		Wire	
MDT		MDT	
60°F		60°F	

Conductors
(view "B-B")

Span	
Wire	
MDT	
60°F	

MDT = Maximum Design Tension 60°F = Tension at 60°F

Foundation Detail



Foundation Diameter
(Based on a Class soil type)

Switch Manufacturer Model Serial No. or Order No.

Pole Length	Setting Depth (SD)	Above Ground Height	F	G	Guy Slope (If Applicable)	
					V	H

Substation Dead End Structure Worksheet

Use this form to provide LWS engineers the necessary information regarding your substation dead end structure requirements. BE SURE TO FILL OUT ALL FIELDS. All of this information is required to accurately specify the correct E-LAM® structure for your application.

Structure Information

Structure Type: ___ "H" ___ "HSW" ___ "HFSW" Other: _____

Soil Type _____ Loading _____ (example: NESC Heavy Grade "B")

Line Voltage _____ Line Angle _____

Spacing (feet) _____ Phase Spacing (feet) _____

"CH" (feet) _____ "SH" (feet) _____

Shield Wire Information

Shield Wire _____ Wind Span (feet) _____

Max. Design Tension (lbs.) _____ Weight Span (feet) _____

60o Tension (lbs.) _____ No. of Shield Wires _____

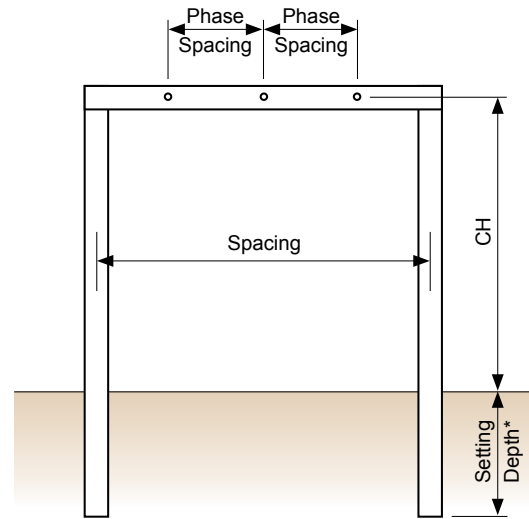
Conductor Information

Conductor _____ Wind Span (feet) _____

Max. Design Tension (lbs.) _____ Weight Span (feet) _____

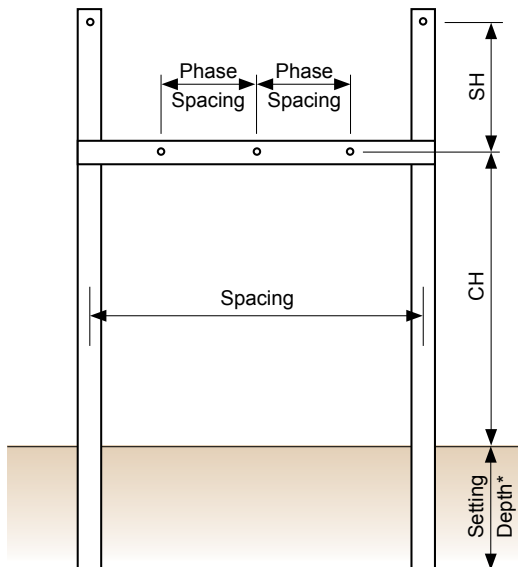
60o Tension (lbs.) _____ No. of Shield Wires _____

Structure Type "H"



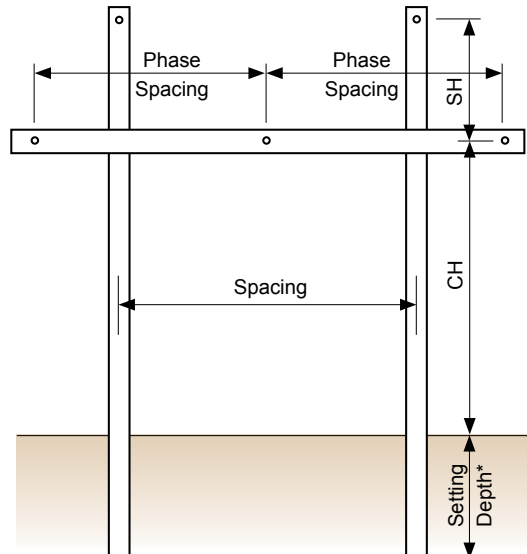
*As specified by LWS.

Structure Type "HSW"



*As specified by LWS.

Structure Type "HFSW"



*As specified by LWS.

Joint-Use / Telecom Structure Worksheet

NOTE: This form to be used for antenna loading information on Joint Use & Telecom structures. Use the Raked Structure form on page 2 to submit Joint Use utility structure loading information.

Customer Name: _____ Site Name: _____

Site Address: _____ City: _____ State: _____

Contact: _____ Phone: _____ Fax: _____

Pole Height (above ground): _____ feet Design Wind Speed: _____ M. P. H. Radial Ice: _____ inches

Soils Report Available: ☐ Yes ☐ No

If "no" please describe soil type: _____

Picture of Proposed Site Available: ☐ Yes ☐ No

If "no" please describe surrounding area: _____

ANTENNAS

Mfg./Model No.	Quantity	RAD Center	Azimuth
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sectorized antenna arms? ☐ Yes ☐ No Centerline elevation: _____ feet

Horizontal separation per antenna: - _____ feet

Non-sectorized antenna arms? ☐ Yes ☐ No Centerline elevation: _____ feet

Horizontal separation per antenna: _____ feet "Close mount" brackets? ☐ Yes ☐ No

Twist/sway deflection requirements: _____ degrees (at 50 M.P.H. operational wind speed.)

MICROWAVE ANTENNAS

Mfg./Model No.	Quantity	RAD Center	Azimuth
_____	_____	_____	_____

Twist/sway deflection requirements: _____ degrees (at 50 M.P.H., operational wind speed.)

OPTIONS

Cable Covers - Metal 8" x 9" _____, Metal 3" x 9 1/2" _____ or Laminated Wood _____ (holds 12 - 1 1/2" cables)

Bracket Paint Color: ☐ Brown or ☐ Green Pole Steps: ☐ removable or ☐ non-removable

Internal Raceway (5" x 7' / 4") _____ Chamfered Pole Corners (4" bevel) _____ Safety Cable Assembly _____

Pole Drawings _____/Calculations _____

Other Requests: _____

Installing E-LAM® Field Raked Laminated Wood Structures

Identification of Poles

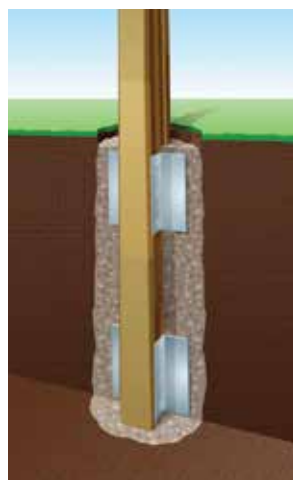
Each E-LAM® laminated wood pole is tagged with the class and length on the face and the butt. If a variety of poles are required on a project, make sure the appropriate pole is spotted at the correct structure location. Additionally, poles of the same class may be drilled for different structures, and verification of structure types should also be confirmed.

Verify and Assemble Appropriate Foundation Reinforcement System

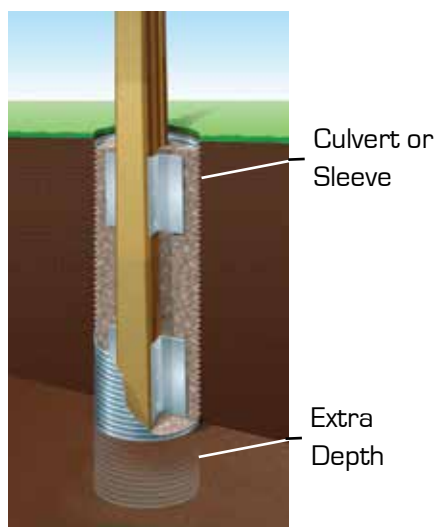
Field raked poles are drilled for and furnished with a foundation reinforcement system. The foundation systems, consisting of fabricated galvanized angles and assembly bolts, are shipped separate from the poles and need to be located and assembled prior to setting. The assemblies are application specific and require verification as to which system is used per structure location.

Our staff will assist the user in determining which foundation system is appropriate for each installation based on loading and soil conditions provided by the owner. A “standard” foundation system for each pole class can be found with the Ultimate Groundline Moment information in the catalog. The actual foundation system that is supplied could vary from the “standard” because of site conditions. Where poor soil conditions exist, steel or concrete sleeves (culverts) may be required.

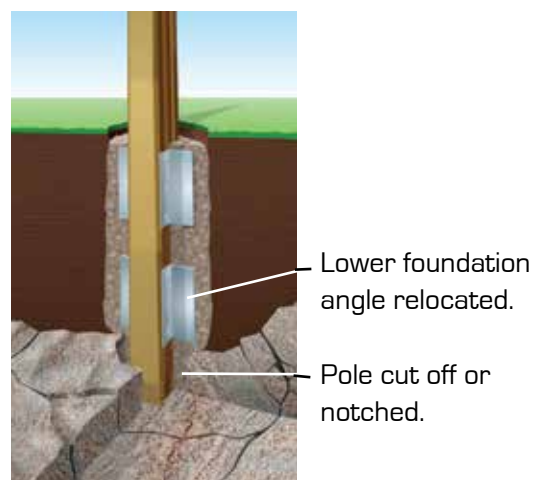
NOTE: It is always the ultimate decision of the owner to accept final responsibility for the foundation and setting requirements.



**Standard Foundation for
Typical Soil Type Class 5**



**Standard Foundation for
Soft Soil Installations**



**Standard Foundation
when Rock is
Encountered**

E-LAM® Installation Cont'd

Auger Size

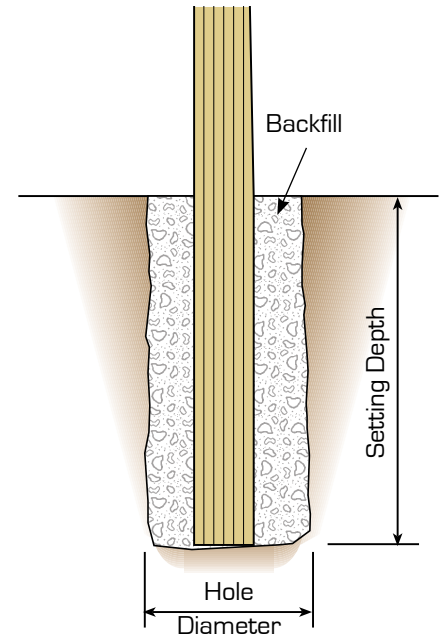
The size of the hole is unique to the type of soil and loading for each individual installation. Laminated Wood Systems will develop specific information or tables based on the design information supplied by the utility at time of order placement.

Setting Depth

The setting depth of each installation has been identified prior to manufacturing (typically 10% of the nominal length plus 4 feet). Individual soil types should be confirmed to verify the setting depth.

Lifting

All poles are identified with "BP" on the face of the width (constant dimension) to identify the approximate balance point before any framing materials are added. The approximate weight of the treated pole will also be located at this point. The poles should be lifted with a steel choker or gut line rather than a flat nylon strap. The choker will slightly indent the edges on the radiused corners insuring a firm hold without slipping.



Handling

Poles can be handled just like any other wood pole. If rotation is required to bisect the angle, a regular cant hook for round poles can be used. Any field drilling and preservative treatment application should be consistent with the practice for other wood products acceptable to the individual utility.

These are general recommendations and in no way should be given precedence when they come in conflict with an individual utility's accepted and established working practice.



Adjust and align structure using a cant hook or similar tool.

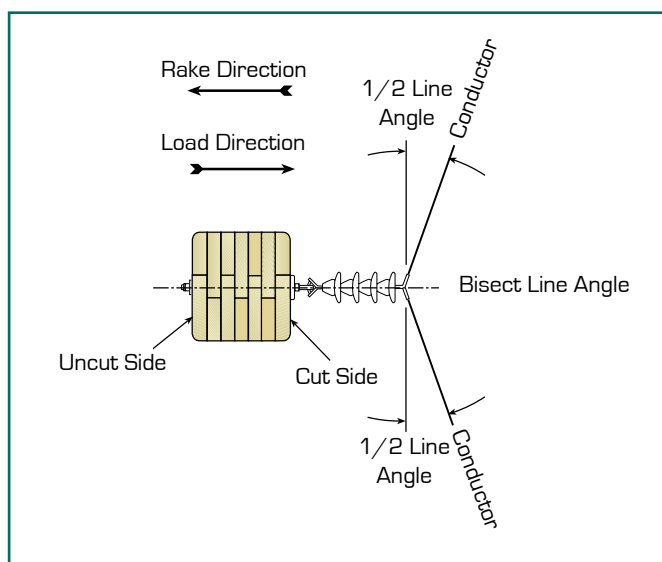
E-LAM® Installation Cont'd

Setting Recommendations

Follow general installation and handling recommendations as described on previous page. Install appropriate foundation system and auger hole to diameter and depth as recommended by LWS.

Raking: The field rake amount is typically designed to resist the 60 degree F load which is induced by the line angle or dead-end. The field rake amount will be calculated by the LWS engineering staff. A maximum field rake of 3% of the above-ground height is recommended on any installation.

Angle: In most cases, the pole needs to be oriented so the face of the pole bisects the line angle equally.



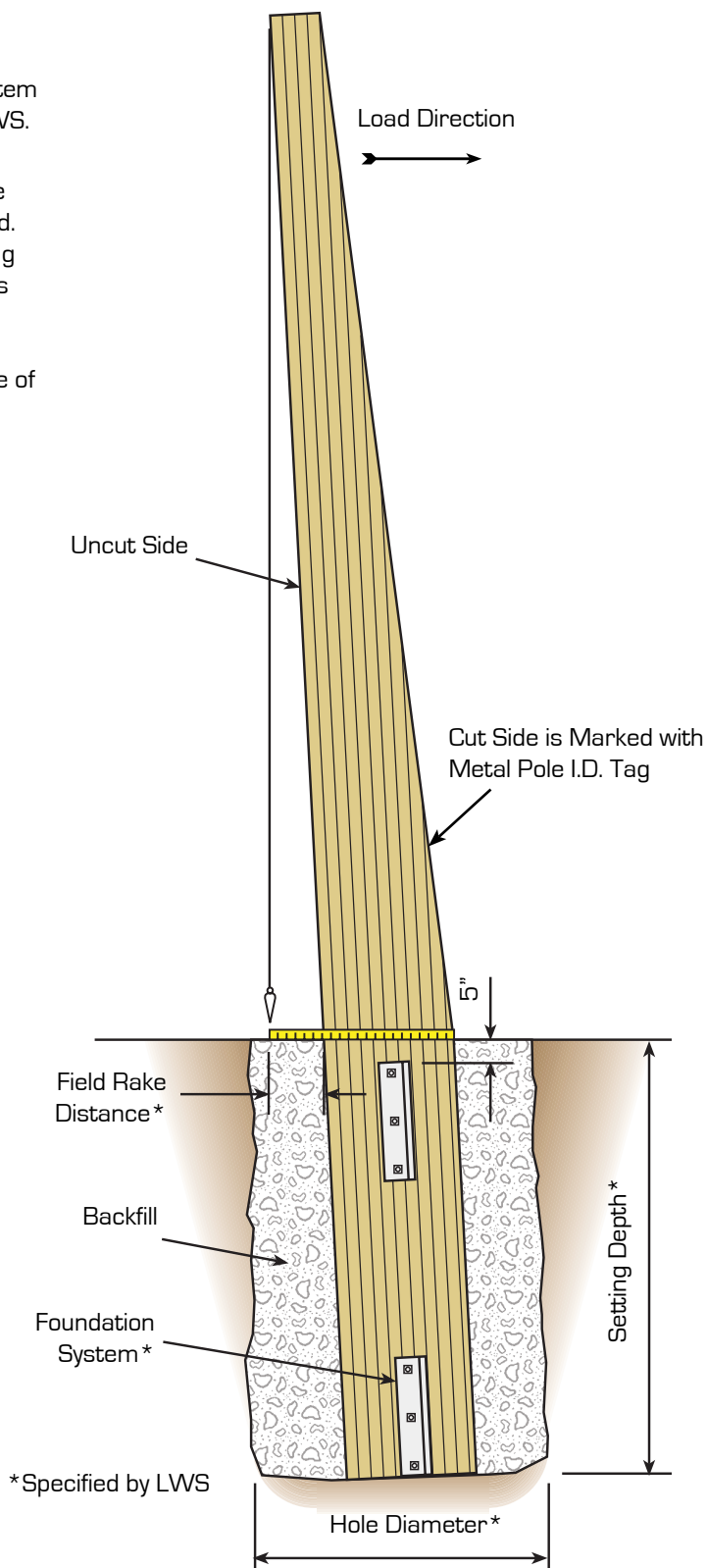
Plumbing: The back face of each pole has a straight edge which can be used for plumbing and raking the pole. A field raking detail is included within the drawings for each field raked pole.

Backfill

Compacted aggregate tamped in 6" lifts, high density foam, or concrete should be used. Native soil shall not be used.

Tensioning

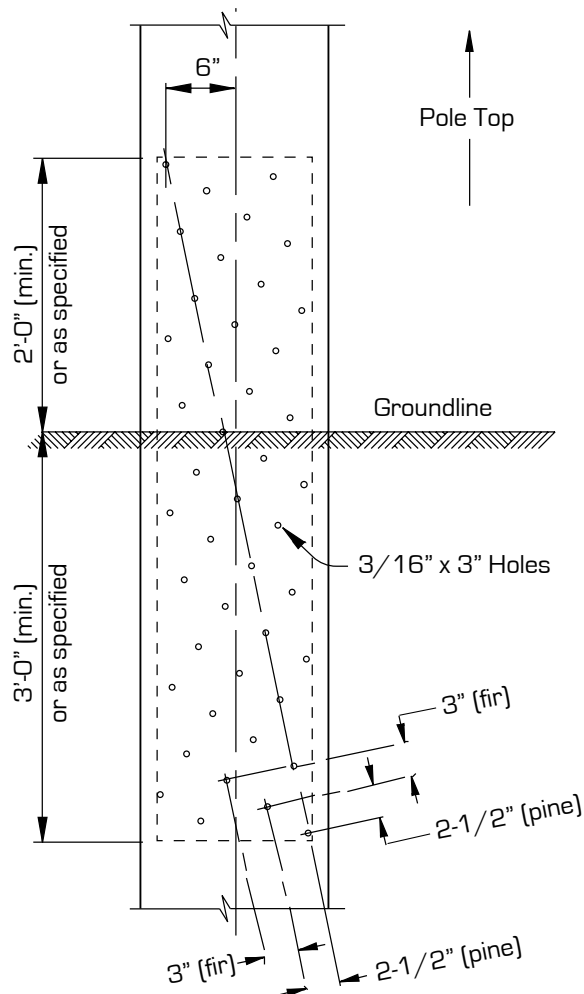
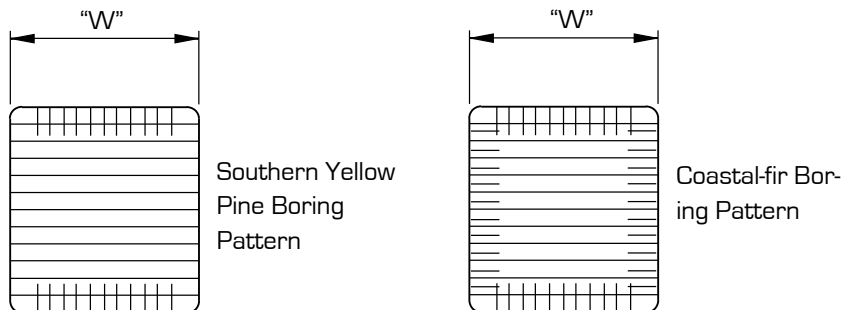
After pulling the conductor and/or shield wires to "every day" design tensions, allow the poles to set for a minimum of 30 minutes to reach a point of equilibrium. Verify tensions or bring back to design loads prior to clipping.



Preservative Treatment

All poles are treated in accordance with AWWA specification M2, and especially U1 Commodity Specification D, and T1 Section D, use category 4C. The most common treatment is penta & oil. CCA and copper naphthenate can also be used upon request.

Standard Groundline Deep Boring for Southern Pine & Coastal Fir E-LAM Poles (Prior to Treatment)



PentaTrate® Patented edge joint grooves allow for full-length penetration of preservative in the inner zone of multiple-layup poles.



Typical treatment penetration throughout entire length of the pole.

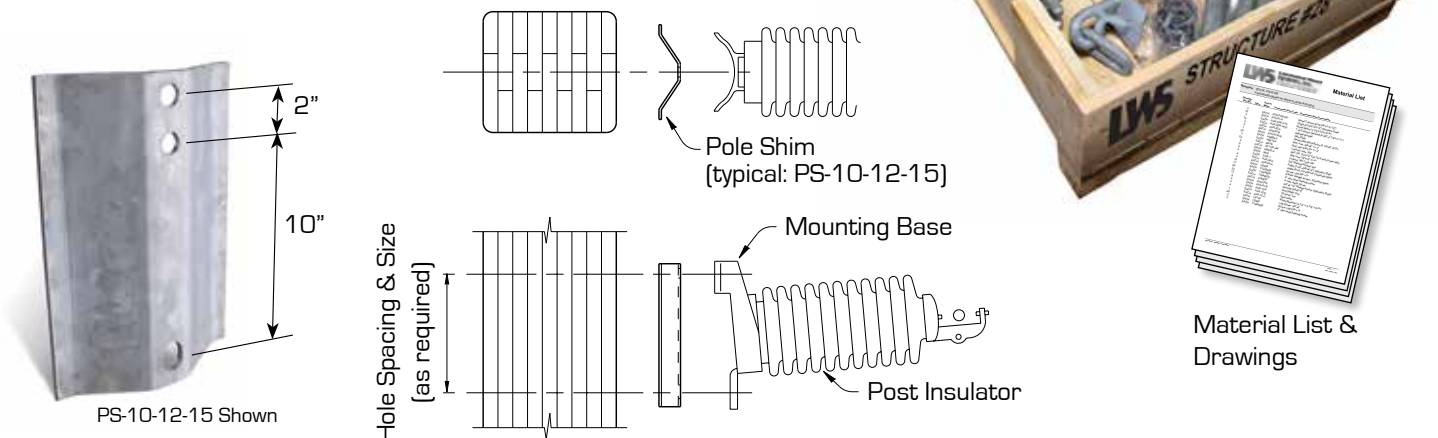


Groundline deep boring.

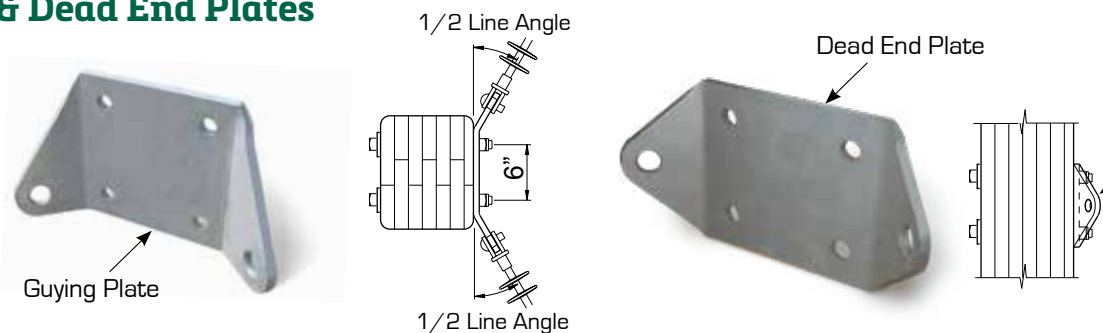
Hardware Options

All E-LAM® structures come with premium packaged hardware kits that include all foundation angles, mounting hardware, material list and engineering drawings. Crates are clearly marked with structure numbers & customer information.

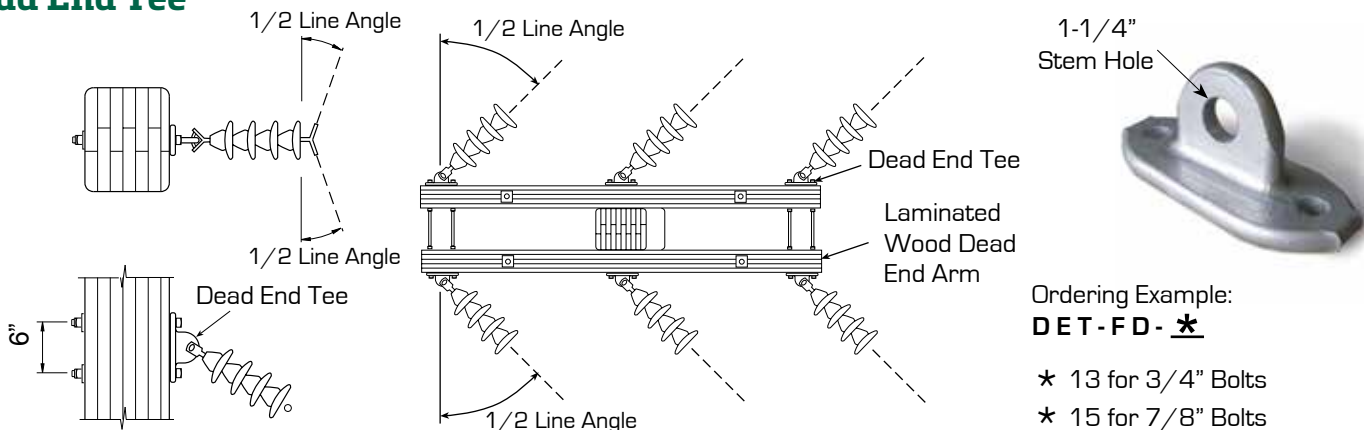
Pole Shims for Post Insulators



Guying & Dead End Plates



Dead End Tee



Raked Pole Standard Sizes

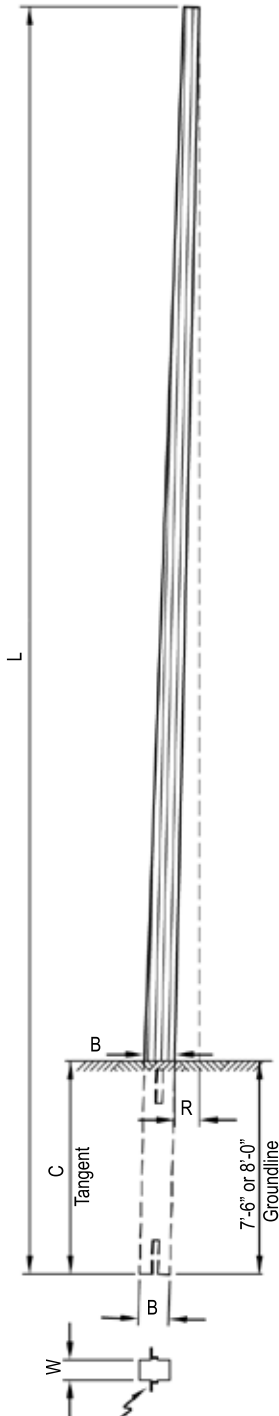
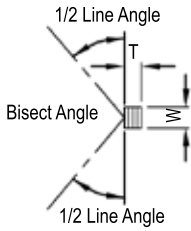
Southern Pine & Coastal
Douglas Fir

32ft - 107ft

Larger Sizes Available as Required

View the E-LAM® installation video online at:
www.lwsinc.com





32 ft. Southern Pine

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
PELR-4-32	6-3/4	6 1/2	9 5/8	32	7.5	9	582	66	EDA-5
PELR-3-32	6-3/4	6 1/2	11	32	7.5	9	640	86	EDA-5
PELR-2-32	6-3/4	6 1/2	12-3/8	32	7.5	9	699	109	EDA-5
PELR-1-32	6-3/4	7 1/2	13-3/4	32	7.5	9	784	135	EDA-5
PELR-H1-32	6-3/4	7 1/2	15-1/8	32	7.5	9	842	163	EDA-5
PELR-H2-32	6-3/4	7 1/2	16-1/2	32	7.5	9	901	193	EDA-5
PELR-H3-32	6-3/4	8	17-7/8	32	7.5	9	973	225	EDA-8
PELR-H4-32	6-3/4	9	19-1/4	32	7.5	9	1,058	259	EDA-8
PELR-H5-32	6-3/4	10	20-5/8	32	7.5	9	1,142	295	EDA-8
PELR-H6-32	6-3/4	11	22	32	7.5	9	1,227	334	EDA-8
PELR-H7-32	6-3/4	12	23-3/8	32	7.5	9	1,312	375	EDA-8
PELR-H8-32	6-3/4	12	24-3/4	32	7.5	9	1,371	418	EDA-8
PELR-H9-32	8-1/2	13	24-3/4	32	7.5	9	1,760	526	EDB-8
PELR-H10-32	8-1/2	13	26-1/8	32	7.5	9	1,833	583	EDB-8
PELR-H11-32	8-1/2	14	27-1/2	32	7.5	9	1,940	643	EDB-8
PELR-H12-32	8-1/2	14	28-7/8	32	7.5	9	2,014	705	EDB-8
PELR-H13-32	8-1/2	15	30-1/4	32	7.5	9	2,121	770	EDB-8
PELR-H14-32	8-1/2	15	31-5/8	32	7.5	9	2,195	838	EDB-8
PELR-H15-32	8-1/2	16	33	32	7.5	9	2,302	909	EDB-8
PELR-H16-32	8-1/2	16	34-3/8	32	7.5	9	2,376	982	EDB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

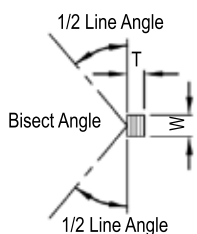
37 ft. Southern Pine

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
PELR-4-37	6-3/4	6-1/2	9-5/8	37	8	9	670	66	EDA-5
PELR-3-37	6-3/4	6-1/2	11	37	8	9	737	86	EDA-5
PELR-2-37	6-3/4	6-1/2	12-3/8	37	8	9	804	109	EDA-5
PELR-1-37	6-3/4	7-1/2	13-3/4	37	8	9	902	135	EDA-5
PELR-H1-37	6-3/4	7-1/2	15-1/8	37	8	9	968	163	EDA-5
PELR-H2-37	6-3/4	7-1/2	16-1/2	37	8	9	1,035	193	EDA-5
PELR-H3-37	6-3/4	8	17-7/8	37	8	9	1,117	225	EDA-8
PELR-H4-37	6-3/4	9	19-1/4	37	8	9	1,215	259	EDA-8
PELR-H5-37	6-3/4	10	20-5/8	37	8	9	1,313	295	EDA-8
PELR-H6-37	6-3/4	11	22	37	8	9	1,411	334	EDA-8
PELR-H7-37	6-3/4	12	23-3/8	37	8	9	1,509	375	EDA-8
PELR-H8-37	6-3/4	12	24-3/4	37	8	9	1,576	418	EDA-8
PELR-H9-37	8-1/2	13	24-3/4	37	8	9	2,024	526	EDB-8
PELR-H10-37	8-1/2	13	26-1/8	37	8	9	2,108	583	EDB-8
PELR-H11-37	8-1/2	14	27-1/2	37	8	9	2,231	643	EDB-8
PELR-H12-37	8-1/2	14	28-7/8	37	8	9	2,315	705	EDB-8
PELR-H13-37	8-1/2	15	30-1/4	37	8	9	2,439	770	EDB-8
PELR-H14-37	8-1/2	15	31-5/8	37	8	9	2,523	838	EDB-8
PELR-H15-37	8-1/2	16	33	37	8	9	2,646	909	EDB-8
PELR-H16-37	8-1/2	16	34-3/8	37	8	9	2,730	982	EDB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

NOTE: Please refer to pages 25 & 26 for additional information about foundation reinforcement systems.



42 ft. Southern Pine

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
PELR-4-42	6-3/4	6-1/2	11	42	8	12	831	86	EDA-5
PELR-3-42	6-3/4	6-1/2	12-3/8	42	8	12	905	109	EDA-5
PELR-2-42	6-3/4	6-1/2	13-3/4	42	8	12	979	135	EDA-5
PELR-1-42	6-3/4	7-1/2	15-1/8	42	8	12	1,090	163	EDA-5
PELR-H1-42	6-3/4	7-1/2	16-1/2	42	8	12	1,164	193	EDA-5
PELR-H2-42	6-3/4	7-1/2	17-7/8	42	8	12	1,238	225	EDA-8
PELR-H3-42	6-3/4	8	19-1/4	42	8	12	1,331	259	EDA-8
PELR-H4-42	6-3/4	9	20-5/8	42	8	12	1,442	295	EDA-8
PELR-H5-42	6-3/4	10	22	42	8	12	1,553	334	EDA-8
PELR-H6-42	6-3/4	11	23-3/8	42	8	12	1,663	375	EDA-8
PELR-H7-42	6-3/4	12	24-3/4	42	8	12	1,774	418	EDA-8
PELR-H8-42	8-1/2	12	24-3/4	42	8	12	2,234	526	EDB-8
PELR-H9-42	8-1/2	13	26-1/8	42	8	12	2,373	583	EDB-8
PELR-H10-42	8-1/2	13	27-1/2	42	8	12	2,467	643	EDB-8
PELR-H11-42	8-1/2	14	28-7/8	42	8	12	2,606	705	EDB-8
PELR-H12-42	8-1/2	14	30-1/4	42	8	12	2,700	770	EDB-8
PELR-H13-42	8-1/2	15	31-5/8	42	8	12	2,839	838	EDB-8
PELR-H14-42	8-1/2	15	33	42	8	12	2,933	909	EDB-8
PELR-H15-42	8-1/2	16	34-3/8	42	8	12	3,072	982	EDB-8
PELR-H16-42	8-1/2	16	35-3/4	42	8	12	3,165	1,058	EDB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

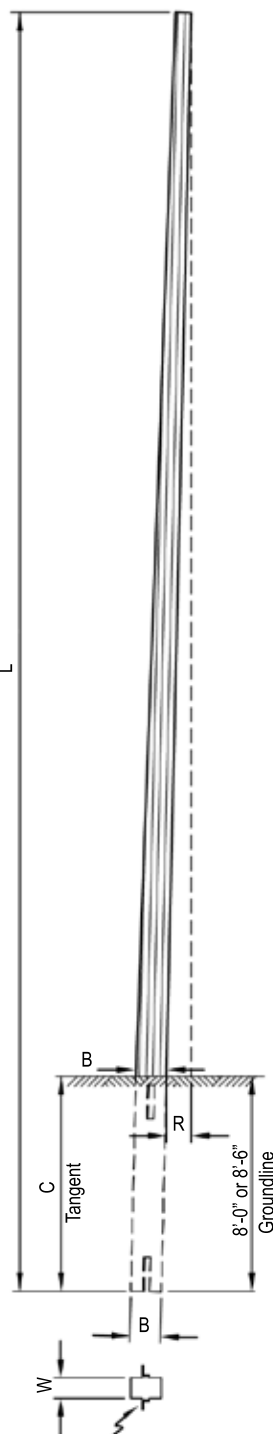
47 ft. Southern Pine

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
PELR-4-47	8-1/2	6-1/2	11	47	8.5	12	1,169	109	EDB-5
PELR-3-47	8-1/2	6-1/2	12-3/8	47	8.5	12	1,272	137	EDB-5
PELR-2-47	8-1/2	7-1/2	13-3/4	47	8.5	12	1,428	170	EDB-5
PELR-1-47	8-1/2	7-1/2	15-1/8	47	8.5	12	1,532	205	EDB-5
PELR-H1-47	8-1/2	7-1/2	16-1/2	47	8.5	12	1,635	244	EDB-8
PELR-H2-47	8-1/2	7-1/2	17-7/8	47	8.5	12	1,739	284	EDB-8
PELR-H3-47	8-1/2	8	19-1/4	47	8.5	12	1,869	326	EDB-8
PELR-H4-47	8-1/2	9	20-5/8	47	8.5	12	2,024	372	EDB-8
PELR-H5-47	8-1/2	10	22	47	8.5	12	2,180	421	EDB-8
PELR-H6-47	8-1/2	11	23-3/8	47	8.5	12	2,336	472	EDB-8
PELR-H7-47	8-1/2	12	24-3/4	47	8.5	12	2,492	526	EDB-8
PELR-H8-47	10-1/4	12	24-3/4	47	8.5	12	3,005	634	EDC-8
PELR-H9-47	10-1/4	13	26-1/8	47	8.5	12	3,193	703	EDC-8
PELR-H10-47	10-1/4	13	27-1/2	47	8.5	12	3,318	775	EDC-8
PELR-H11-47	10-1/4	14	28-7/8	47	8.5	12	3,506	850	EDC-8
PELR-H12-47	10-1/4	14	30-1/4	47	8.5	12	3,631	929	EDC-8
PELR-H13-47	10-1/4	15	31-5/8	47	8.5	12	3,819	1,011	EDC-8
PELR-H14-47	10-1/4	15	33	47	8.5	12	3,944	1,096	ETA-8
PELR-H15-47	10-1/4	16	34-3/8	47	8.5	12	4,132	1,184	ETA-8
PELR-H16-47	10-1/4	16	35-3/4	47	8.5	12	4,257	1,276	ETA-8

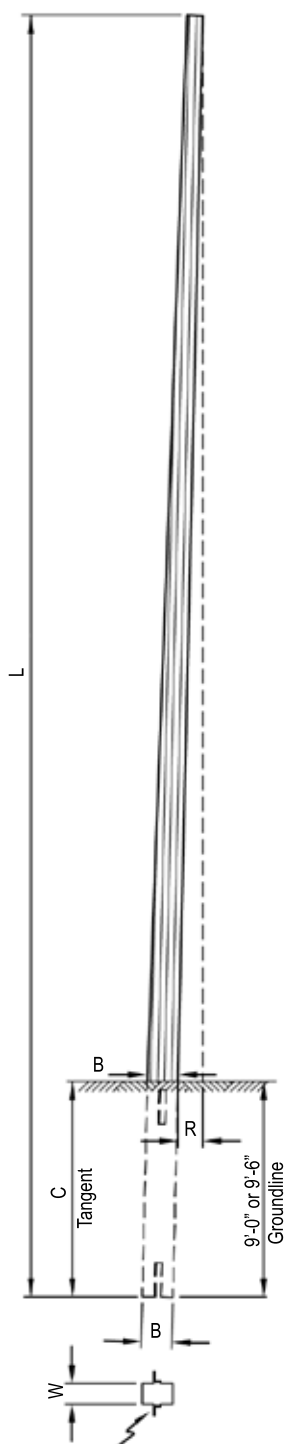
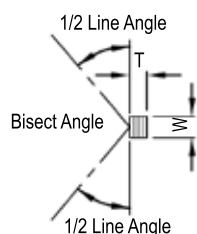
* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

NOTE: Please refer to pages 25 & 26 for additional information about foundation reinforcement systems.



Foundation Reinforcement System
(as specified, see table)



52 ft. Southern Pine

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
PELR-3-52	8-1/2	6-1/2	12-3/8	52	9	15	1,404	137	EDB-5
PELR-2-52	8-1/2	7-1/2	13-3/4	52	9	15	1,577	170	EDB-5
PELR-1-52	8-1/2	7-1/2	15-1/8	52	9	15	1,690	205	EDB-5
PELR-H1-52	8-1/2	7-1/2	16-1/2	52	9	15	1,804	244	EDB-8
PELR-H2-52	8-1/2	7-1/2	17-7/8	52	9	15	1,918	284	EDB-8
PELR-H3-52	8-1/2	8	19-1/4	52	9	15	2,061	326	EDB-8
PELR-H4-52	8-1/2	9	20-5/8	52	9	15	2,233	372	EDB-8
PELR-H5-52	8-1/2	10	22	52	9	15	2,406	421	EDB-8
PELR-H6-52	8-1/2	11	23-3/8	52	9	15	2,578	472	EDB-8
PELR-H7-52	8-1/2	12	24-3/4	52	9	15	2,750	526	EDB-8
PELR-H8-52	10-1/4	12	24-3/4	52	9	15	3,316	634	EDC-8
PELR-H9-52	10-1/4	13	26-1/8	52	9	15	3,524	703	EDC-8
PELR-H10-52	10-1/4	13	27-1/2	52	9	15	3,661	775	EDC-8
PELR-H11-52	10-1/4	14	28-7/8	52	9	15	3,869	850	EDC-8
PELR-H12-52	10-1/4	14	30-1/4	52	9	15	4,007	929	EDC-8
PELR-H13-52	10-1/4	15	31-5/8	52	9	15	4,214	1,011	EDC-8
PELR-H14-52	10-1/4	15	33	52	9	15	4,352	1,096	ETA-8
PELR-H15-52	10-1/4	16	34-3/8	52	9	15	4,559	1,184	ETA-8
PELR-H16-52	10-1/4	16	35-3/4	52	9	15	4,697	1,276	ETA-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

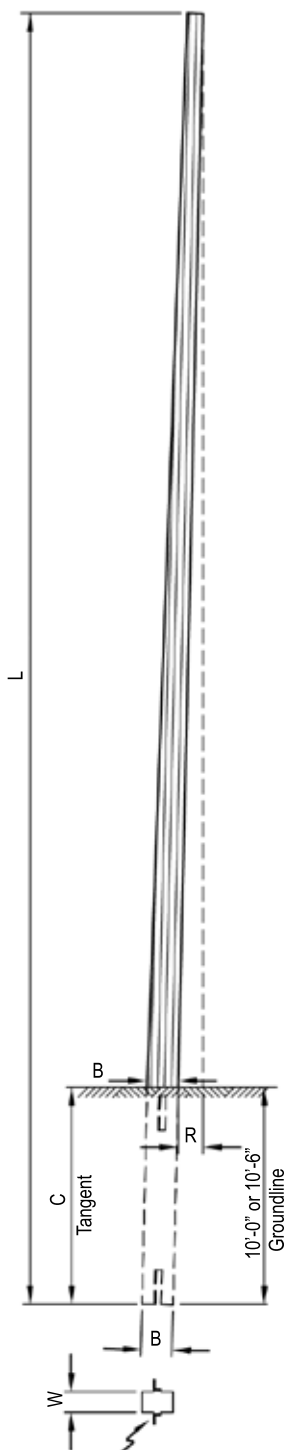
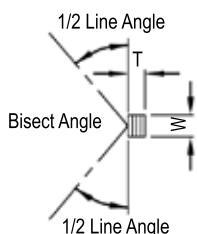
57 ft. Southern Pine

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
PELR-2-57	8-1/2	7-1/2	15-1/8	57	9.5	15	1,849	205	EDB-5
PELR-1-57	8-1/2	7-1/2	16-1/2	57	9.5	15	1,973	244	EDB-8
PELR-H1-57	8-1/2	7-1/2	17-7/8	57	9.5	15	2,097	284	EDB-8
PELR-H2-57	8-1/2	7-1/2	19-1/4	57	9.5	15	2,222	326	EDB-8
PELR-H3-57	8-1/2	8	20-5/8	57	9.5	15	2,378	372	EDB-8
PELR-H4-57	8-1/2	9	22	57	9.5	15	2,567	421	EDB-8
PELR-H5-57	8-1/2	10	23-3/8	57	9.5	15	2,755	472	EDB-8
PELR-H6-57	8-1/2	11	24-3/4	57	9.5	15	2,944	526	EDB-8
PELR-H7-57	10-1/4	12	24-3/4	57	9.5	15	3,628	634	EDC-8
PELR-H8-57	10-1/4	12	26-1/8	57	9.5	15	3,777	703	EDC-8
PELR-H9-57	10-1/4	13	27-1/2	57	9.5	15	4,005	775	EDC-8
PELR-H10-57	10-1/4	13	28-7/8	57	9.5	15	4,155	850	EDC-8
PELR-H11-57	10-1/4	14	30-1/4	57	9.5	15	4,382	929	EDC-8
PELR-H12-57	10-1/4	14	31-5/8	57	9.5	15	4,532	1,011	ETA-8
PELR-H13-57	10-1/4	15	33	57	9.5	15	4,759	1,096	ETA-8
PELR-H14-57	10-1/4	15	34-3/8	57	9.5	15	4,909	1,184	ETA-8
PELR-H15-57	10-1/4	16	35-3/4	57	9.5	15	5,136	1,276	ETA-8
PELR-H16-57	10-1/4	16	37-1/8	57	9.5	15	5,286	1,371	ETA-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

NOTE: Please refer to pages 25 & 26 for additional information about foundation reinforcement systems.



62 ft. Southern Pine

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
PELR-1-62	10-1/4	7-1/2	16-1/2	62	10	18	2,583	294	ETA-5
PELR-H1-62	10-1/4	7-1/2	17-7/8	62	10	18	2,746	342	ETA-5
PELR-H2-62	10-1/4	7-1/2	19-1/4	62	10	18	2,908	394	ETA-5
PELR-H3-62	10-1/4	8	20-5/8	62	10	18	3,112	449	ETA-5
PELR-H4-62	10-1/4	9	22	62	10	18	3,359	507	ETA-8
PELR-H5-62	10-1/4	10	23-3/8	62	10	18	3,607	569	ETA-8
PELR-H6-62	10-1/4	11	24-3/4	62	10	18	3,854	634	ETA-8
PELR-H7-62	10-1/4	12	26-1/8	62	10	18	4,101	703	ETA-8
PELR-H8-62	10-1/4	12	27-1/2	62	10	18	4,263	775	ETA-8
PELR-H9-62	10-1/4	13	28-7/8	62	10	18	4,510	850	ETA-8
PELR-H10-62	10-1/4	13	30-1/4	62	10	18	4,672	929	ETA-8
PELR-H11-62	10-1/4	14	31-5/8	62	10	18	4,920	1,011	ETA-8
PELR-H12-62	10-1/4	14	33	62	10	18	5,082	1,096	ETA-8
PELR-H13-62	10-1/4	15	34-3/8	62	10	18	5,329	1,184	ETA-8
PELR-H14-62	10-1/4	15	35-3/4	62	10	18	5,491	1,276	ETA-8
PELR-H15-62	10-1/4	16	37-1/8	62	10	18	5,738	1,371	ETA-8
PELR-H16-62	10-1/4	16	38-1/2	62	10	18	5,900	1,469	1 1/2 ETA-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

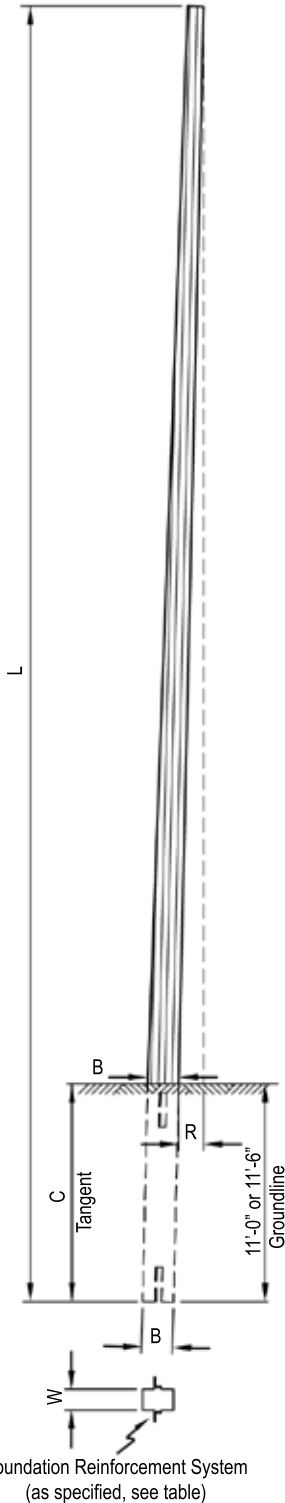
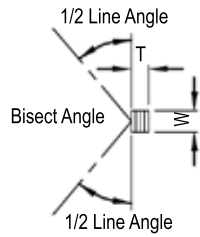
67 ft. Southern Pine

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
PELR-1-67	10-1/4	7-1/2	16-1/2	67	10.5	18	2,787	294	ETA-5
PELR-H1-67	10-1/4	7-1/2	17-7/8	67	10.5	18	2,962	342	ETA-5
PELR-H2-67	10-1/4	7-1/2	19-1/4	67	10.5	18	3,136	394	ETA-5
PELR-H3-67	10-1/4	8	20-5/8	67	10.5	18	3,357	449	ETA-5
PELR-H4-67	10-1/4	9	22	67	10.5	18	3,624	507	ETA-8
PELR-H5-67	10-1/4	10	23-3/8	67	10.5	18	3,891	569	ETA-8
PELR-H6-67	10-1/4	11	24-3/4	67	10.5	18	4,158	634	ETA-8
PELR-H7-67	12-1/4	12	24-3/4	67	10.5	18	5,080	758	ETA-8
PELR-H8-67	12-1/4	12	26-1/8	67	10.5	18	5,288	840	ETB-8
PELR-H9-67	12-1/4	13	27-1/2	67	10.5	18	5,607	926	ETB-8
PELR-H10-67	12-1/4	13	28-7/8	67	10.5	18	5,816	1,016	ETB-8
PELR-H11-67	12-1/4	14	30-1/4	67	10.5	18	6,135	1,110	ETB-8
PELR-H12-67	12-1/4	14	31-5/8	67	10.5	18	6,343	1,208	ETB-8
PELR-H13-67	12-1/4	15	33	67	10.5	18	6,662	1,310	ETB-8
PELR-H14-67	12-1/4	15	34-3/8	67	10.5	18	6,871	1,415	ETB-8
PELR-H15-67	12-1/4	16	35-3/4	67	10.5	18	7,190	1,525	1 1/2 ETB-8
PELR-H16-67	12-1/4	16	37-1/8	67	10.5	18	7,398	1,638	1 1/2 ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

NOTE: Please refer to pages 25 & 26 for additional information about foundation reinforcement systems.



72 ft. Southern Pine

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
PELR-1-72	10-1/4	7-1/2	16-1/2	72	11	21	2,991	294	ETA-5
PELR-H1-72	10-1/4	7-1/2	17-7/8	72	11	21	3,178	342	ETA-5
PELR-H2-72	10-1/4	7-1/2	19-1/4	72	11	21	3,365	394	ETA-5
PELR-H3-72	10-1/4	8	20-5/8	72	11	21	3,602	449	ETA-5
PELR-H4-72	10-1/4	9	22	72	11	21	3,888	507	ETA-8
PELR-H5-72	10-1/4	10	23-3/8	72	11	21	4,175	569	ETA-8
PELR-H6-72	10-1/4	11	24-3/4	72	11	21	4,462	634	ETA-8
PELR-H7-72	12-1/4	12	24-3/4	72	11	21	5,452	758	ETB-8
PELR-H8-72	12-1/4	12	26-1/8	72	11	21	5,675	840	ETB-8
PELR-H9-72	12-1/4	13	27-1/2	72	11	21	6,018	926	ETB-8
PELR-H10-72	12-1/4	13	28-7/8	72	11	21	6,241	1,016	ETB-8
PELR-H11-72	12-1/4	14	30-1/4	72	11	21	6,583	1,110	ETB-8
PELR-H12-72	12-1/4	14	31-5/8	72	11	21	6,807	1,208	ETB-8
PELR-H13-72	12-1/4	15	33	72	11	21	7,149	1,310	ETB-8
PELR-H14-72	12-1/4	15	34-3/8	72	11	21	7,373	1,415	ETB-8
PELR-H15-72	12-1/4	16	35-3/4	72	11	21	7,715	1,525	1 1/2 ETB-8
PELR-H16-72	12-1/4	16	37-1/8	72	11	21	7,939	1,638	1 1/2 ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

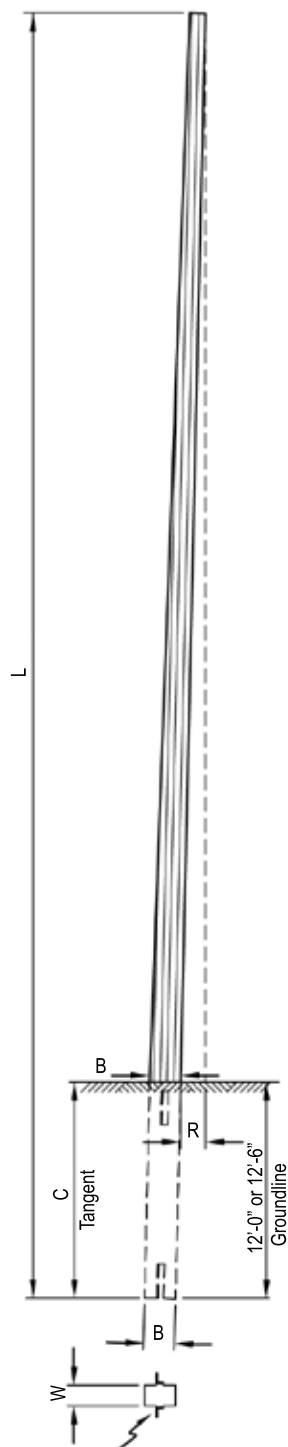
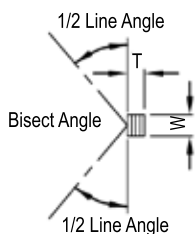
77 ft. Southern Pine

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
PELR-1-77	10-1/4	7-1/2	17-7/8	77	11.5	21	3,394	342	ETA-5
PELR-H1-77	10-1/4	7-1/2	19-1/4	77	11.5	21	3,593	394	ETA-5
PELR-H2-77	10-1/4	7-1/2	20-5/8	77	11.5	21	3,793	449	ETA-5
PELR-H3-77	10-1/4	8	22	77	11.5	21	4,045	507	ETA-8
PELR-H4-77	10-1/4	9	23-3/8	77	11.5	21	4,352	569	ETA-8
PELR-H5-77	10-1/4	10	24-3/4	77	11.5	21	4,658	634	ETA-8
PELR-H6-77	12-1/4	11	24-3/4	77	11.5	21	5,695	758	ETB-8
PELR-H7-77	12-1/4	12	26-1/8	77	11.5	21	6,062	840	ETB-8
PELR-H8-77	12-1/4	12	27-1/2	77	11.5	21	6,300	926	ETB-8
PELR-H9-77	12-1/4	13	28-7/8	77	11.5	21	6,666	1,016	ETB-8
PELR-H10-77	12-1/4	13	30-1/4	77	11.5	21	6,904	1,110	ETB-8
PELR-H11-77	12-1/4	14	31-5/8	77	11.5	21	7,270	1,208	ETB-8
PELR-H12-77	12-1/4	14	33	77	11.5	21	7,508	1,310	ETB-8
PELR-H13-77	12-1/4	15	34-3/8	77	11.5	21	7,875	1,415	ETB-8
PELR-H14-77	12-1/4	15	35-3/4	77	11.5	21	8,113	1,525	1 1/2 ETB-8
PELR-H15-77	12-1/4	16	37-1/8	77	11.5	21	8,479	1,638	1 1/2 ETB-8
PELR-H16-77	12-1/4	16	38-1/2	77	11.5	21	8,717	1,756	1 1/2 ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

NOTE: Please refer to pages 25 & 26 for additional information about foundation reinforcement systems.



82 ft. Southern Pine

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
PELR-1-82	10-1/4	7-1/2	19-1/4	82	12	24	3,822	394	ETA-5
PELR-H1-82	10-1/4	7-1/2	20-5/8	82	12	24	4,034	449	ETA-5
PELR-H2-82	10-1/4	7-1/2	22	82	12	24	4,245	507	ETA-8
PELR-H3-82	10-1/4	8	23-3/8	82	12	24	4,514	569	ETA-8
PELR-H4-82	10-1/4	9	24-3/4	82	12	24	4,840	634	ETA-8
PELR-H5-82	12-1/4	10	24-3/4	82	12	24	5,922	758	ETB-8
PELR-H6-82	12-1/4	11	26-1/8	82	12	24	6,311	840	ETB-8
PELR-H7-82	12-1/4	12	27-1/2	82	12	24	6,701	926	ETB-8
PELR-H8-82	12-1/4	12	28-7/8	82	12	24	6,954	1,016	ETB-8
PELR-H9-82	12-1/4	13	30-1/4	82	12	24	7,344	1,110	ETB-8
PELR-H10-82	12-1/4	13	31-5/8	82	12	24	7,597	1,208	ETB-8
PELR-H11-82	12-1/4	14	33	82	12	24	7,987	1,310	ETB-8
PELR-H12-82	12-1/4	14	34-3/8	82	12	24	8,240	1,415	ETB-8
PELR-H13-82	12-1/4	15	35-3/4	82	12	24	8,630	1,525	1 1/2 ETB-8
PELR-H14-82	12-1/4	15	37-1/8	82	12	24	8,882	1,638	1 1/2 ETB-8
PELR-H15-82	12-1/4	16	38-1/2	82	12	24	9,272	1,756	1 1/2 ETB-8
PELR-H16-82	12-1/4	16	39-7/8	82	12	24	9,525	1,877	1 1/2 ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

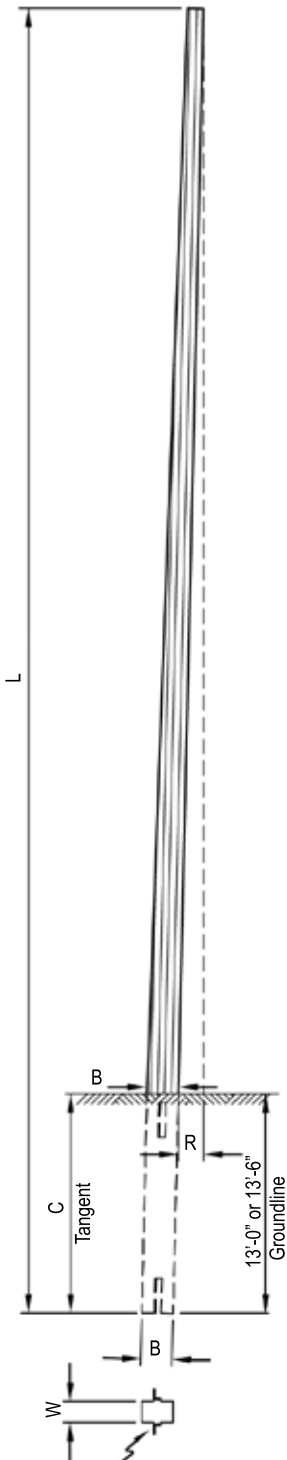
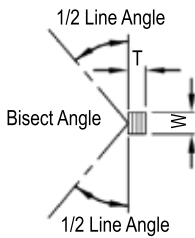
87 ft. Southern Pine

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
PELR-1-87	10-1/4	7-1/2	20-5/8	87	12.5	24	4,275	449	ETA-5
PELR-H1-87	10-1/4	7-1/2	22	87	12.5	24	4,498	507	ETA-8
PELR-H2-87	10-1/4	7-1/2	23-3/8	87	12.5	24	4,722	569	ETA-8
PELR-H3-87	10-1/4	8	24-3/4	87	12.5	24	5,007	634	ETA-8
PELR-H4-87	12-1/4	9	24-3/4	87	12.5	24	6,130	758	ETB-8
PELR-H5-87	12-1/4	10	26-1/8	87	12.5	24	6,544	840	ETB-8
PELR-H6-87	12-1/4	11	27-1/2	87	12.5	24	6,957	926	ETB-8
PELR-H7-87	12-1/4	12	28-7/8	87	12.5	24	7,371	1,016	ETB-8
PELR-H8-87	12-1/4	12	30-1/4	87	12.5	24	7,638	1,110	ETB-8
PELR-H9-87	12-1/4	13	31-5/8	87	12.5	24	8,052	1,208	ETB-8
PELR-H10-87	12-1/4	13	33	87	12.5	24	8,319	1,310	ETB-8
PELR-H11-87	12-1/4	14	34-3/8	87	12.5	24	8,733	1,415	ETB-8
PELR-H12-87	12-1/4	14	35-3/4	87	12.5	24	9,001	1,525	1 1/2 ETB-8
PELR-H13-87	12-1/4	15	37-1/8	87	12.5	24	9,414	1,638	1 1/2 ETB-8
PELR-H14-87	12-1/4	15	38-1/2	87	12.5	24	9,682	1,756	1 1/2 ETB-8
PELR-H15-87	12-1/4	16	39-7/8	87	12.5	24	10,095	1,877	1 1/2 ETB-8
PELR-H16-87	12-1/4	16	41-1/4	87	12.5	24	10,363	2,001	1 1/2 ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

NOTE: Please refer to pages 25 & 26 for additional information about foundation reinforcement systems.



Foundation Reinforcement System
(as specified, see table)

92 ft. Southern Pine

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
PELR-1-92	12-1/4	7-1/2	20-5/8	92	13	27	5,397	536	ETB-8
PELR-H1-92	12-1/4	7-1/2	22	92	13	27	5,679	606	ETB-8
PELR-H2-92	12-1/4	7-1/2	23-3/8	92	13	27	5,962	680	ETB-8
PELR-H3-92	12-1/4	8	24-3/4	92	13	27	6,321	758	ETB-8
PELR-H4-92	12-1/4	9	26-1/8	92	13	27	6,758	840	ETB-8
PELR-H5-92	12-1/4	10	27-1/2	92	13	27	7,195	926	ETB-8
PELR-H6-92	12-1/4	11	28-7/8	92	13	27	7,632	1,016	ETB-8
PELR-H7-92	12-1/4	12	30-1/4	92	13	27	8,069	1,110	ETB-8
PELR-H8-92	12-1/4	12	31-5/8	92	13	27	8,352	1,208	ETB-8
PELR-H9-92	12-1/4	13	33	92	13	27	8,789	1,310	ETB-8
PELR-H10-92	12-1/4	13	34-3/8	92	13	27	9,072	1,415	ETB-8
PELR-H11-92	12-1/4	14	35-3/4	92	13	27	9,509	1,525	1 1/2 ETB-8
PELR-H12-92	12-1/4	14	37-1/8	92	13	27	9,791	1,638	1 1/2 ETB-8
PELR-H13-92	12-1/4	15	38-1/2	92	13	27	10,228	1,756	1 1/2 ETB-8
PELR-H14-92	12-1/4	15	39-7/8	92	13	27	10,511	1,877	1 1/2 ETB-8
PELR-H15-92	12-1/4	16	41-1/4	92	13	27	10,948	2,001	1 1/2 ETB-8
PELR-H16-92	12-1/4	16	42-5/8	92	13	27	11,230	2,130	2 ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

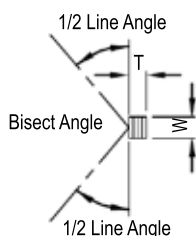
97 ft. Southern Pine

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
PELR-1-97	12-1/4	7-1/2	22	97	13.5	27	5,982	606	ETB-8
PELR-H1-97	12-1/4	7-1/2	23-3/8	97	13.5	27	6,279	680	ETB-8
PELR-H2-97	12-1/4	7-1/2	24-3/4	97	13.5	27	6,576	758	ETB-8
PELR-H3-97	12-1/4	8	26-1/8	97	13.5	27	6,955	840	ETB-8
PELR-H4-97	12-1/4	9	27-1/2	97	13.5	27	7,416	926	ETB-8
PELR-H5-97	12-1/4	10	28-7/8	97	13.5	27	7,877	1,016	ETB-8
PELR-H6-97	12-1/4	11	30-1/4	97	13.5	27	8,337	1,110	ETB-8
PELR-H7-97	12-1/4	12	31-5/8	97	13.5	27	8,798	1,208	ETB-8
PELR-H8-97	12-1/4	12	33	97	13.5	27	9,095	1,310	ETB-8
PELR-H9-97	12-1/4	13	34-3/8	97	13.5	27	9,556	1,415	ETB-8
PELR-H10-97	12-1/4	13	35-3/4	97	13.5	27	9,853	1,525	1 1/2 ETB-8
PELR-H11-97	12-1/4	14	37-1/8	97	13.5	27	10,314	1,638	1 1/2 ETB-8
PELR-H12-97	12-1/4	14	38-1/2	97	13.5	27	10,611	1,756	1 1/2 ETB-8
PELR-H13-97	12-1/4	15	39-7/8	97	13.5	27	11,072	1,877	1 1/2 ETB-8
PELR-H14-97	12-1/4	15	41-1/4	97	13.5	27	11,369	2,001	1 1/2 ETB-8
PELR-H15-97	12-1/4	16	42-5/8	97	13.5	27	11,830	2,130	2 ETB-8
PELR-H16-97	12-1/4	16	44	97	13.5	27	12,127	2,263	2 ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

NOTE: Please refer to pages 25 & 26 for additional information about foundation reinforcement systems.



102 ft. Southern Pine

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
PELR-1-102	12-1/4	7-1/2	23-3/8	102	14	30	6,597	680	ETB-8
PELR-H1-102	12-1/4	7-1/2	24-3/4	102	14	30	6,909	758	ETB-8
PELR-H2-102	12-1/4	7-1/2	26-1/8	102	14	30	7,221	840	ETB-8
PELR-H3-102	12-1/4	8	27-1/2	102	14	30	7,619	926	ETB-8
PELR-H4-102	12-1/4	9	28-7/8	102	14	30	8,103	1,016	ETB-8
PELR-H5-102	12-1/4	10	30-1/4	102	14	30	8,588	1,110	ETB-8
PELR-H6-102	12-1/4	11	31-5/8	102	14	30	9,072	1,208	ETB-8
PELR-H7-102	12-1/4	12	33	102	14	30	9,556	1,310	ETB-8
PELR-H8-102	12-1/4	12	34-3/8	102	14	30	9,868	1,415	ETB-8
PELR-H9-102	12-1/4	13	35-3/4	102	14	30	10,352	1,525	1 1/2 ETB-8
PELR-H10-102	12-1/4	13	37-1/8	102	14	30	10,664	1,638	1 1/2 ETB-8
PELR-H11-102	12-1/4	14	38-1/2	102	14	30	11,149	1,756	1 1/2 ETB-8
PELR-H12-102	12-1/4	14	39-7/8	102	14	30	11,461	1,877	1 1/2 ETB-8
PELR-H13-102	12-1/4	15	41-1/4	102	14	30	11,945	2,001	1 1/2 ETB-8
PELR-H14-102	12-1/4	15	42-5/8	102	14	30	12,257	2,130	2 ETB-8
PELR-H15-102	12-1/4	16	44	102	14	30	12,741	2,263	2 ETB-8
PELR-H16-102	12-1/4	16	45-3/8	102	14	30	13,053	2,399	2 ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

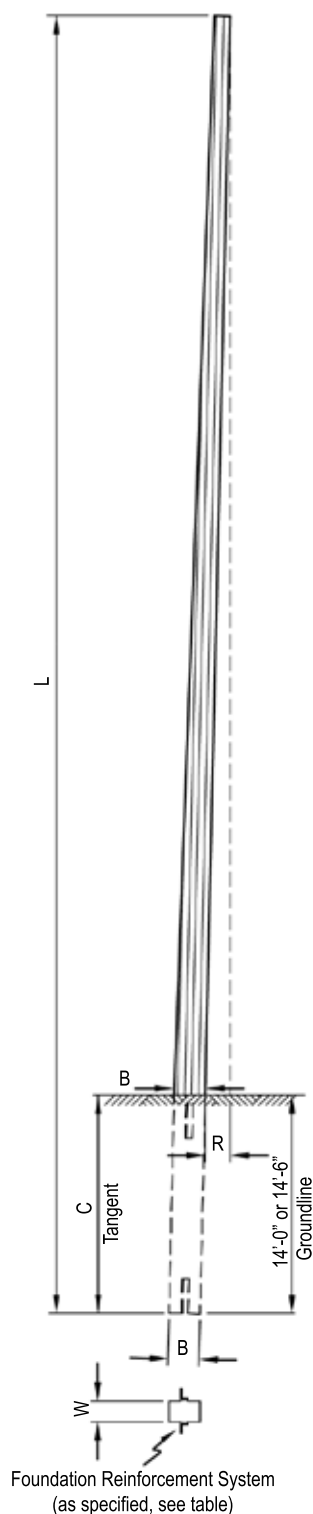
107 ft. Southern Pine

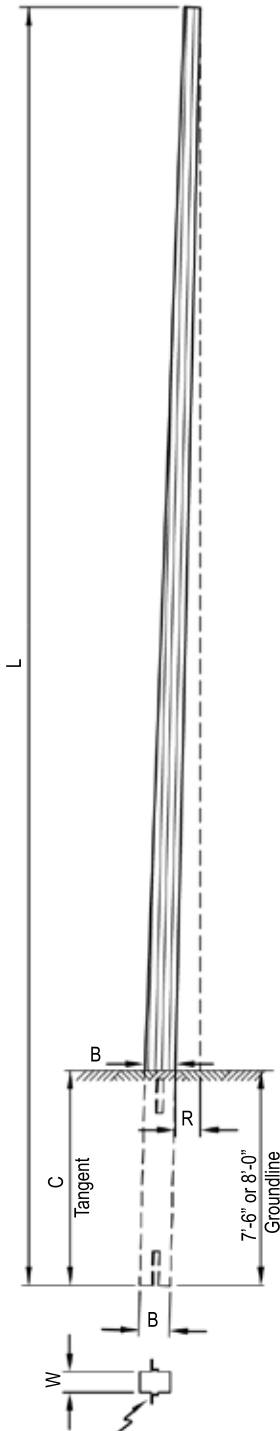
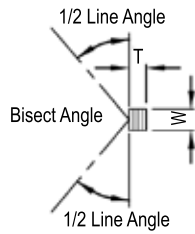
Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
PELR-1-107	12-1/4	7-1/2	24-3/4	107	14.5	30	7,241	758	ETB-8
PELR-H1-107	12-1/4	7-1/2	26-1/8	107	14.5	30	7,568	840	ETB-8
PELR-H2-107	12-1/4	7-1/2	27-1/2	107	14.5	30	7,895	926	ETB-8
PELR-H3-107	12-1/4	8	28-7/8	107	14.5	30	8,312	1,016	ETB-8
PELR-H4-107	12-1/4	9	30-1/4	107	14.5	30	8,820	1,110	ETB-8
PELR-H5-107	12-1/4	10	31-5/8	107	14.5	30	9,328	1,208	ETB-8
PELR-H6-107	12-1/4	11	33	107	14.5	30	9,836	1,310	ETB-8
PELR-H7-107	12-1/4	12	34-3/8	107	14.5	30	10,344	1,415	ETB-8
PELR-H8-107	12-1/4	12	35-3/4	107	14.5	30	10,671	1,525	1 1/2 ETB-8
PELR-H9-107	12-1/4	13	37-1/8	107	14.5	30	11,178	1,638	1 1/2 ETB-8
PELR-H10-107	12-1/4	13	38-1/2	107	14.5	30	11,505	1,756	1 1/2 ETB-8
PELR-H11-107	12-1/4	14	39-7/8	107	14.5	30	12,013	1,877	1 1/2 ETB-8
PELR-H12-107	12-1/4	14	41-1/4	107	14.5	30	12,340	2,001	1 1/2 ETB-8
PELR-H13-107	12-1/4	15	42-5/8	107	14.5	30	12,848	2,130	2 ETB-8
PELR-H14-107	12-1/4	15	44	107	14.5	30	13,175	2,263	2 ETB-8
PELR-H15-107	12-1/4	16	45-3/8	107	14.5	30	13,683	2,399	2 ETB-8
PELR-H16-107	12-1/4	16	46-3/4	107	14.5	30	14,009	2,539	2 ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

NOTE: Please refer to pages 25 & 26 for additional information about foundation reinforcement systems.





32 ft. Coastal Douglas-fir

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
ELR-4-32	6-3/4	6-1/2	10-1/2	32	7.5	9	549	65	EDA-5
ELR-3-32	6-3/4	6-1/2	12	32	7.5	9	606	85	EDA-5
ELR-2-32	6-3/4	6-1/2	13-1/2	32	7.5	9	662	108	EDA-5
ELR-1-32	6-3/4	7-1/2	15	32	7.5	9	742	133	EDA-5
ELR-H1-32	6-3/4	7-1/2	16-1/2	32	7.5	9	799	161	EDA-5
ELR-H2-32	6-3/4	7-1/2	18	32	7.5	9	856	191	EDA-5
ELR-H3-32	8-3/4	8	18	32	7.5	9	1,124	248	EDB-8
ELR-H4-32	8-3/4	9	19-1/2	32	7.5	9	1,228	291	EDB-8
ELR-H5-32	8-3/4	10	21	32	7.5	9	1,332	338	EDB-8
ELR-H6-32	8-3/4	11	22-1/2	32	7.5	9	1,436	388	EDB-8
ELR-H7-32	8-3/4	12	24	32	7.5	9	1,540	441	EDB-8
ELR-H8-32	10-1/4	12	22-1/2	32	7.5	9	1,717	454	EDC-8
ELR-H9-32	10-1/4	13	24	32	7.5	9	1,839	517	EDC-8
ELR-H10-32	10-1/4	13	25-1/2	32	7.5	9	1,925	583	EDC-8
ELR-H11-32	10-1/4	14	27	32	7.5	9	2,047	654	EDC-8
ELR-H12-32	10-1/4	14	28-1/2	32	7.5	9	2,133	728	EDC-8
ELR-H13-32	10-1/4	15	30	32	7.5	9	2,254	807	EDC-8
ELR-H14-32	10-1/4	15	31-1/2	32	7.5	9	2,340	890	EDC-8
ELR-H15-32	12-1/4	16	30	32	7.5	9	2,737	965	EDD-8
ELR-H16-32	12-1/4	16	31-1/2	32	7.5	9	2,840	1,064	ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

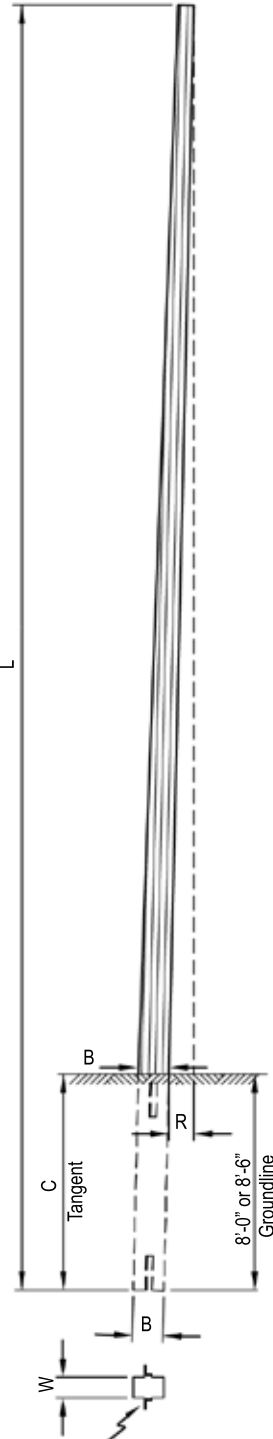
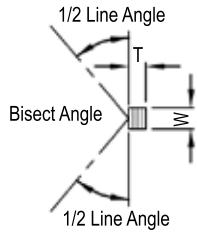
37 ft. Coastal Douglas-fir

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
ELR-4-37	6-3/4	6-1/2	10-1/2	37	8	9	632	65	EDA-5
ELR-3-37	6-3/4	6-1/2	12	37	8	9	697	85	EDA-5
ELR-2-37	6-3/4	6-1/2	13-1/2	37	8	9	761	108	EDA-5
ELR-1-37	6-3/4	7-1/2	15	37	8	9	853	133	EDA-5
ELR-H1-37	6-3/4	7-1/2	16-1/2	37	8	9	918	161	EDA-5
ELR-H2-37	6-3/4	7-1/2	18	37	8	9	983	191	EDA-5
ELR-H3-37	8-3/4	8	18	37	8	9	1,292	248	EDB-8
ELR-H4-37	8-3/4	9	19-1/2	37	8	9	1,411	291	EDB-8
ELR-H5-37	8-3/4	10	21	37	8	9	1,531	338	EDB-8
ELR-H6-37	8-3/4	11	22-1/2	37	8	9	1,651	388	EDB-8
ELR-H7-37	8-3/4	12	24	37	8	9	1,770	441	EDB-8
ELR-H8-37	10-1/4	12	22-1/2	37	8	9	1,976	454	EDC-8
ELR-H9-37	10-1/4	13	24	37	8	9	2,116	517	EDC-8
ELR-H10-37	10-1/4	13	25-1/2	37	8	9	2,214	583	EDC-8
ELR-H11-37	10-1/4	14	27	37	8	9	2,354	654	EDC-8
ELR-H12-37	10-1/4	14	28-1/2	37	8	9	2,452	728	EDC-8
ELR-H13-37	10-1/4	15	30	37	8	9	2,592	807	EDC-8
ELR-H14-37	10-1/4	15	31-1/2	37	8	9	2,690	890	EDC-8
ELR-H15-37	12-1/4	16	30	37	8	9	3,148	965	EDD-8
ELR-H16-37	12-1/4	16	31-1/2	37	8	9	3,265	1,064	ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

NOTE: Please refer to pages 25 & 26 for additional information about foundation reinforcement systems.



42 ft. Coastal Douglas-fir

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in2.)	B (in.)	L (ft.)	C (ft.)				
ELR-4-42	6-3/4	6-1/2	12	42	8	12	785	85	EDA-5
ELR-3-42	6-3/4	6-1/2	13-1/2	42	8	12	857	108	EDA-5
ELR-2-42	6-3/4	6-1/2	15	42	8	12	929	133	EDA-5
ELR-1-42	6-3/4	7-1/2	16-1/2	42	8	12	1,033	161	EDA-5
ELR-H1-42	6-3/4	7-1/2	18	42	8	12	1,104	191	EDA-5
ELR-H2-42	8-3/4	7-1/2	18	42	8	12	1,432	248	EDB-8
ELR-H3-42	8-3/4	8	19-1/2	42	8	12	1,546	291	EDB-8
ELR-H4-42	8-3/4	9	21	42	8	12	1,681	338	EDB-8
ELR-H5-42	8-3/4	10	22-1/2	42	8	12	1,816	388	EDB-8
ELR-H6-42	8-3/4	11	24	42	8	12	1,951	441	EDB-8
ELR-H7-42	10-1/4	12	22-1/2	42	8	12	2,226	454	EDC-8
ELR-H8-42	10-1/4	12	24	42	8	12	2,335	517	EDC-8
ELR-H9-42	10-1/4	13	25-1/2	42	8	12	2,493	583	EDC-8
ELR-H10-42	10-1/4	13	27	42	8	12	2,602	654	EDC-8
ELR-H11-42	10-1/4	14	28-1/2	42	8	12	2,760	728	EDC-8
ELR-H12-42	10-1/4	14	30	42	8	12	2,869	807	EDC-8
ELR-H13-42	10-1/4	15	31-1/2	42	8	12	3,028	890	EDC-8
ELR-H14-42	12-1/4	15	30	42	8	12	3,488	965	EDD-8
ELR-H15-42	12-1/4	16	31-1/2	42	8	12	3,677	1,064	ETB-8
ELR-H16-42	12-1/4	16	33	42	8	12	3,808	1,167	ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

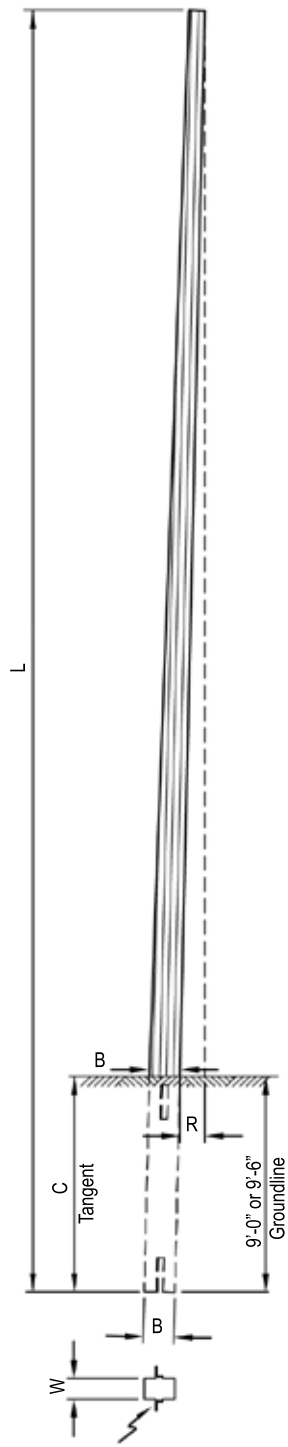
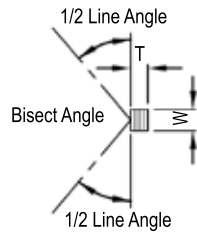
47 ft. Coastal Douglas-fir

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
ELR-4-47	8-3/4	6-1/2	12	47	8.5	12	1,136	110	EDB-5
ELR-3-47	8-3/4	6-1/2	13-1/2	47	8.5	12	1,239	140	EDB-5
ELR-2-47	8-3/4	7-1/2	15	47	8.5	12	1,390	172	EDB-5
ELR-1-47	8-3/4	7-1/2	16-1/2	47	8.5	12	1,493	208	EDB-5
ELR-H1-47	8-3/4	7-1/2	18	47	8.5	12	1,596	248	EDB-8
ELR-H2-47	8-3/4	7-1/2	19-1/2	47	8.5	12	1,699	291	EDB-8
ELR-H3-47	8-3/4	8	21	47	8.5	12	1,827	338	EDB-8
ELR-H4-47	8-3/4	9	22-1/2	47	8.5	12	1,977	388	EDB-8
ELR-H5-47	8-3/4	10	24	47	8.5	12	2,128	441	EDB-8
ELR-H6-47	10-1/4	11	22-1/2	47	8.5	12	2,428	454	EDC-8
ELR-H7-47	10-1/4	12	24	47	8.5	12	2,605	517	EDC-8
ELR-H8-47	12-1/4	12	22-1/2	47	8.5	12	2,969	543	EDD-8
ELR-H9-47	12-1/4	13	24	47	8.5	12	3,180	617	EDD-8
ELR-H10-47	12-1/4	13	25-1/2	47	8.5	12	3,325	697	EDD-8
ELR-H11-47	12-1/4	14	27	47	8.5	12	3,536	781	EDD-8
ELR-H12-47	12-1/4	14	28-1/2	47	8.5	12	3,680	871	EDD-8
ELR-H13-47	12-1/4	15	30	47	8.5	12	3,892	965	EDD-8
ELR-H14-47	12-1/4	15	31-1/2	47	8.5	12	4,036	1,064	ETB-8
ELR-H15-47	12-1/4	16	33	47	8.5	12	4,247	1,167	ETB-8
ELR-H16-47	12-1/4	16	34-1/2	47	8.5	12	4,392	1,276	ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

NOTE: Please refer to pages 25 & 26 for additional information about foundation reinforcement systems.



Foundation Reinforcement System
(as specified, see table)

52 ft. Coastal Douglas-fir

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
ELR-3-52	8-3/4	6-1/2	13-1/2	52	9	15	1,367	140	EDB-5
ELR-2-52	8-3/4	7-1/2	15	52	9	15	1,534	172	EDB-5
ELR-1-52	8-3/4	7-1/2	16-1/2	52	9	15	1,647	208	EDB-5
ELR-H1-52	10-1/4	7-1/2	16-1/2	52	9	15	1,930	244	EDC-8
ELR-H2-52	10-1/4	7-1/2	18	52	9	15	2,063	291	EDC-8
ELR-H3-52	10-1/4	8	19-1/2	52	9	15	2,227	341	EDC-8
ELR-H4-52	10-1/4	9	21	52	9	15	2,422	396	EDC-8
ELR-H5-52	10-1/4	10	22-1/2	52	9	15	2,617	454	EDC-8
ELR-H6-52	10-1/4	11	24	52	9	15	2,813	517	EDC-8
ELR-H7-52	12-1/4	12	22-1/2	52	9	15	3,277	543	EDD-8
ELR-H8-52	12-1/4	12	24	52	9	15	3,436	617	EDD-8
ELR-H9-52	12-1/4	13	25-1/2	52	9	15	3,670	697	EDD-8
ELR-H10-52	12-1/4	13	27	52	9	15	3,828	781	EDD-8
ELR-H11-52	12-1/4	14	28-1/2	52	9	15	4,062	871	EDD-8
ELR-H12-52	12-1/4	14	30	52	9	15	4,221	965	EDD-8
ELR-H13-52	12-1/4	15	31-1/2	52	9	15	4,454	1,064	ETB-8
ELR-H14-52	12-1/4	15	33	52	9	15	4,613	1,167	ETB-8
ELR-H15-52	12-1/4	16	34-1/2	52	9	15	4,846	1,276	ETB-8
ELR-H16-52	12-1/4	16	36	52	9	15	5,005	1,389	ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

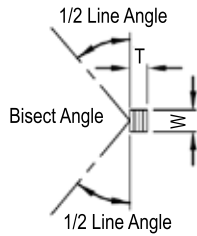
57 ft. Coastal Douglas-fir

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
ELR-2-57	10-1/4	7-1/2	15	57	9.5	15	1,966	202	EDC-5
ELR-1-57	10-1/4	7-1/2	16-1/2	57	9.5	15	2,111	244	EDB-8
ELR-H1-57	10-1/4	7-1/2	18	57	9.5	15	2,255	291	EDC-8
ELR-H2-57	10-1/4	7-1/2	19-1/2	57	9.5	15	2,400	341	EDC-8
ELR-H3-57	10-1/4	8	21	57	9.5	15	2,580	396	EDC-8
ELR-H4-57	10-1/4	9	22-1/2	57	9.5	15	2,793	454	EDC-8
ELR-H5-57	10-1/4	10	24	57	9.5	15	3,007	517	EDC-8
ELR-H6-57	12-1/4	11	22-1/2	57	9.5	15	3,503	543	EDD-8
ELR-H7-57	12-1/4	12	24	57	9.5	15	3,759	617	EDD-8
ELR-H8-57	12-1/4	12	25-1/2	57	9.5	15	3,932	697	EDD-8
ELR-H9-57	12-1/4	13	27	57	9.5	15	4,188	781	EDD-8
ELR-H10-57	12-1/4	13	28-1/2	57	9.5	15	4,361	871	EDD-8
ELR-H11-57	12-1/4	14	30	57	9.5	15	4,616	965	EDD-8
ELR-H12-57	12-1/4	14	31-1/2	57	9.5	15	4,789	1,064	ETB-8
ELR-H13-57	12-1/4	15	33	57	9.5	15	5,045	1,167	ETB-8
ELR-H14-57	12-1/4	15	34-1/2	57	9.5	15	5,218	1,276	ETB-8
ELR-H15-57	12-1/4	16	36	57	9.5	15	5,474	1,389	ETB-8
ELR-H16-57	12-1/4	16	37-1/2	57	9.5	15	5,647	1,507	1 1/2 ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

NOTE: Please refer to pages 25 & 26 for additional information about foundation reinforcement systems.



62 ft. Coastal Douglas-fir

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
ELR-1-62	12-1/4	7-1/2	15	62	10	18	2,551	241	ETB-5
ELR-H1-62	12-1/4	7-1/2	16-1/2	62	10	18	2,738	292	ETB-5
ELR-H2-62	12-1/4	7-1/2	18	62	10	18	2,926	347	ETB-5
ELR-H3-62	12-1/4	8	19-1/2	62	10	18	3,158	408	ETB-5
ELR-H4-62	12-1/4	9	21	62	10	18	3,436	473	ETB-8
ELR-H5-62	12-1/4	10	22-1/2	62	10	18	3,714	543	ETB-8
ELR-H6-62	12-1/4	11	24	62	10	18	3,991	617	ETB-8
ELR-H7-62	12-1/4	12	25-1/2	62	10	18	4,269	697	ETB-8
ELR-H8-62	12-1/4	12	27	62	10	18	4,457	781	ETB-8
ELR-H9-62	12-1/4	13	28-1/2	62	10	18	4,734	871	ETB-8
ELR-H10-62	12-1/4	13	30	62	10	18	4,922	965	ETB-8
ELR-H11-62	12-1/4	14	31-1/2	62	10	18	5,199	1,064	ETB-8
ELR-H12-62	12-1/4	14	33	62	10	18	5,387	1,167	ETB-8
ELR-H13-62	12-1/4	15	34-1/2	62	10	18	5,664	1,276	ETB-8
ELR-H14-62	12-1/4	15	36	62	10	18	5,852	1,389	ETB-8
ELR-H15-62	12-1/4	16	37-1/2	62	10	18	6,129	1,507	1 1/2 ETB-8
ELR-H16-62	12-1/4	16	39	62	10	18	6,317	1,630	1 1/2 ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

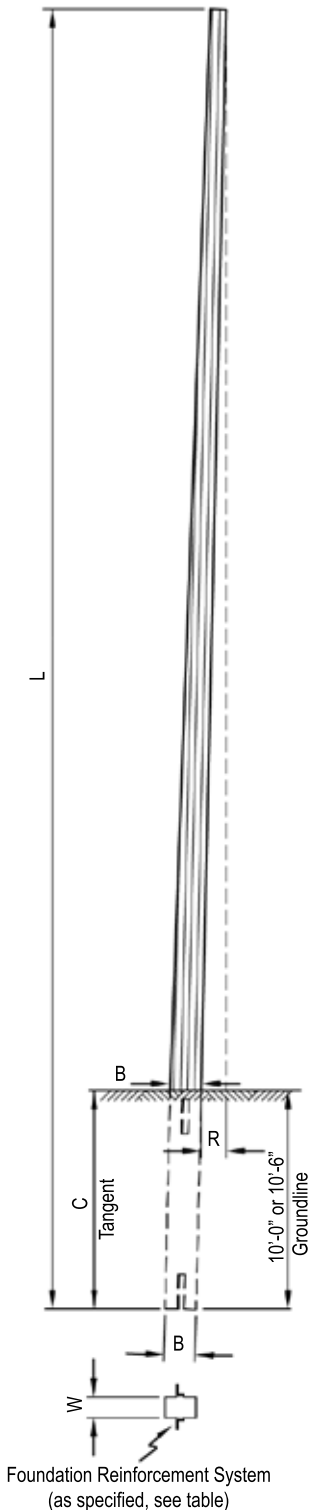
67 ft. Coastal Douglas-fir

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
ELR-1-67	12-1/4	7-1/2	16-1/2	67	10.5	18	2,955	292	ETB-5
ELR-H1-67	12-1/4	7-1/2	18	67	10.5	18	3,156	347	ETB-5
ELR-H2-67	12-1/4	7-1/2	19-1/2	67	10.5	18	3,358	408	ETB-5
ELR-H3-67	12-1/4	8	21	67	10.5	18	3,609	473	ETB-5
ELR-H4-67	12-1/4	9	22-1/2	67	10.5	18	3,909	543	ETB-8
ELR-H5-67	12-1/4	10	24	67	10.5	18	4,208	617	ETB-8
ELR-H6-67	12-1/4	11	25-1/2	67	10.5	18	4,508	697	ETB-8
ELR-H7-67	12-1/4	12	27	67	10.5	18	4,808	781	ETB-8
ELR-H8-67	12-1/4	12	28-1/2	67	10.5	18	5,010	871	ETB-8
ELR-H9-67	12-1/4	13	30	67	10.5	18	5,310	965	ETB-8
ELR-H10-67	12-1/4	13	31-1/2	67	10.5	18	5,511	1,064	ETB-8
ELR-H11-67	12-1/4	14	33	67	10.5	18	5,811	1,167	ETB-8
ELR-H12-67	12-1/4	14	34-1/2	67	10.5	18	6,013	1,276	ETB-8
ELR-H13-67	12-1/4	15	36	67	10.5	18	6,313	1,389	ETB-8
ELR-H14-67	12-1/4	15	37-1/2	67	10.5	18	6,514	1,507	1 1/2 ETB-8
ELR-H15-67	12-1/4	16	39	67	10.5	18	6,814	1,630	1 1/2 ETB-8
ELR-H16-67	12-1/4	16	40-1/2	67	10.5	18	7,016	1,758	1 1/2 ETB-8

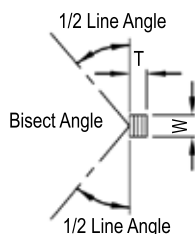
* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

NOTE: Please refer to pages 25 & 26 for additional information about foundation reinforcement systems.



Foundation Reinforcement System
(as specified, see table)



72 ft. Coastal Douglas-fir

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
ELR-1-72	12-1/4	7-1/2	16-1/2	72	11	21	3,171	292	ETB-5
ELR-H1-72	12-1/4	7-1/2	18	72	11	21	3,387	347	ETB-5
ELR-H2-72	12-1/4	7-1/2	19-1/2	72	11	21	3,603	408	ETB-5
ELR-H3-72	12-1/4	8	21	72	11	21	3,872	473	ETB-5
ELR-H4-72	12-1/4	9	22-1/2	72	11	21	4,194	543	ETB-8
ELR-H5-72	12-1/4	10	24	72	11	21	4,516	617	ETB-8
ELR-H6-72	12-1/4	11	25-1/2	72	11	21	4,837	697	ETB-8
ELR-H7-72	12-1/4	12	27	72	11	21	5,159	781	ETB-8
ELR-H8-72	12-1/4	12	28-1/2	72	11	21	5,375	871	ETB-8
ELR-H9-72	12-1/4	13	30	72	11	21	5,697	965	ETB-8
ELR-H10-72	12-1/4	13	31-1/2	72	11	21	5,913	1,064	ETB-8
ELR-H11-72	12-1/4	14	33	72	11	21	6,235	1,167	ETB-8
ELR-H12-72	12-1/4	14	34-1/2	72	11	21	6,451	1,276	ETB-8
ELR-H13-72	12-1/4	15	36	72	11	21	6,773	1,389	ETB-8
ELR-H14-72	12-1/4	15	37-1/2	72	11	21	6,989	1,507	1 1/2 ETB-8
ELR-H15-72	12-1/4	16	39	72	11	21	7,311	1,630	1 1/2 ETB-8
ELR-H16-72	12-1/4	16	40-1/2	72	11	21	7,527	1,758	1 1/2 ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

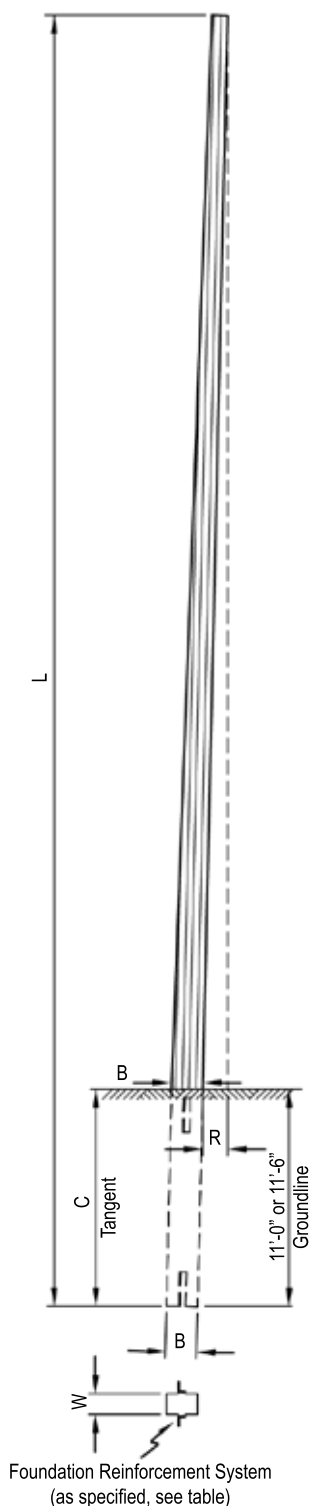
77 ft. Coastal Douglas-fir

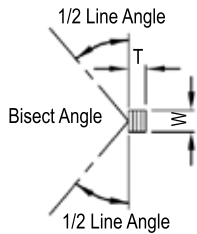
Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
ELR-1-77	12-1/4	7-1/2	18	77	11.5	21	3,617	347	ETB-5
ELR-H1-77	12-1/4	7-1/2	19-1/2	77	11.5	21	3,847	408	ETB-5
ELR-H2-77	12-1/4	7-1/2	21	77	11.5	21	4,078	473	ETB-5
ELR-H3-77	12-1/4	8	22-1/2	77	11.5	21	4,365	543	ETB-8
ELR-H4-77	12-1/4	9	24	77	11.5	21	4,709	617	ETB-8
ELR-H5-77	12-1/4	10	25-1/2	77	11.5	21	5,053	697	ETB-8
ELR-H6-77	12-1/4	11	27	77	11.5	21	5,397	781	ETB-8
ELR-H7-77	12-1/4	12	28-1/2	77	11.5	21	5,741	871	ETB-8
ELR-H8-77	12-1/4	12	30	77	11.5	21	5,972	965	ETB-8
ELR-H9-77	12-1/4	13	31-1/2	77	11.5	21	6,316	1,064	ETB-8
ELR-H10-77	12-1/4	13	33	77	11.5	21	6,546	1,167	ETB-8
ELR-H11-77	12-1/4	14	34-1/2	77	11.5	21	6,890	1,276	ETB-8
ELR-H12-77	12-1/4	14	36	77	11.5	21	7,120	1,389	ETB-8
ELR-H13-77	12-1/4	15	37-1/2	77	11.5	21	7,464	1,507	1 1/2 ETB-8
ELR-H14-77	12-1/4	15	39	77	11.5	21	7,695	1,630	1 1/2 ETB-8
ELR-H15-77	12-1/4	16	40-1/2	77	11.5	21	8,039	1,758	1 1/2 ETB-8
ELR-H16-77	12-1/4	16	42	77	11.5	21	8,269	1,891	1 1/2 ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

NOTE: Please refer to pages 25 & 26 for additional information about foundation reinforcement systems.





82 ft. Coastal Douglas-fir

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
ELR-1-82	12-1/4	7-1/2	19-1/2	82	12	24	4,092	408	ETB-5
ELR-H1-82	12-1/4	7-1/2	21	82	12	24	4,337	473	ETB-5
ELR-H2-82	12-1/4	7-1/2	22-1/2	82	12	24	4,582	543	ETB-8
ELR-H3-82	12-1/4	8	24	82	12	24	4,887	617	ETB-8
ELR-H4-82	12-1/4	9	25-1/2	82	12	24	5,253	697	ETB-8
ELR-H5-82	12-1/4	10	27	82	12	24	5,619	781	ETB-8
ELR-H6-82	12-1/4	11	28-1/2	82	12	24	5,985	871	ETB-8
ELR-H7-82	12-1/4	12	30	82	12	24	6,352	965	ETB-8
ELR-H8-82	12-1/4	12	31-1/2	82	12	24	6,596	1,064	ETB-8
ELR-H9-82	12-1/4	13	33	82	12	24	6,962	1,167	ETB-8
ELR-H10-82	12-1/4	13	34-1/2	82	12	24	7,207	1,276	ETB-8
ELR-H11-82	12-1/4	14	36	82	12	24	7,573	1,389	ETB-8
ELR-H12-82	12-1/4	14	37-1/2	82	12	24	7,818	1,507	1 1/2 ETB-8
ELR-H13-82	12-1/4	15	39	82	12	24	8,184	1,630	1 1/2 ETB-8
ELR-H14-82	12-1/4	15	40-1/2	82	12	24	8,429	1,758	1 1/2 ETB-8
ELR-H15-82	12-1/4	16	42	82	12	24	8,795	1,891	1 1/2 ETB-8
ELR-H16-82	12-1/4	16	43-1/2	82	12	24	9,040	2,028	2 ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

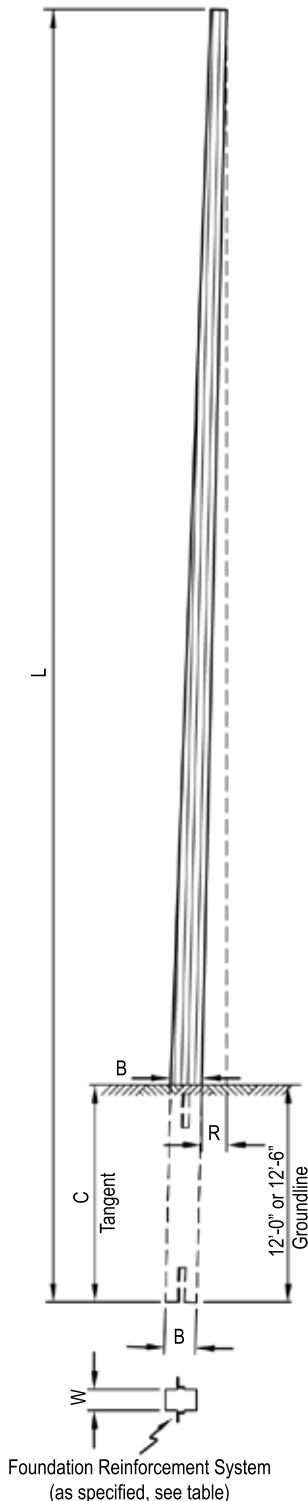
87 ft. Coastal Douglas-fir

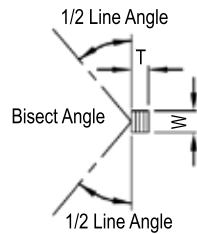
Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
ELR-1-87	12-1/4	7-1/2	21	87	12.5	24	4,596	473	ETB-5
ELR-H1-87	12-1/4	7-1/2	22-1/2	87	12.5	24	4,855	543	ETB-8
ELR-H2-87	12-1/4	7-1/2	24	87	12.5	24	5,114	617	ETB-8
ELR-H3-87	12-1/4	8	25-1/2	87	12.5	24	5,437	697	ETB-8
ELR-H4-87	12-1/4	9	27	87	12.5	24	5,826	781	ETB-8
ELR-H5-87	12-1/4	10	28-1/2	87	12.5	24	6,214	871	ETB-8
ELR-H6-87	12-1/4	11	30	87	12.5	24	6,602	965	ETB-8
ELR-H7-87	12-1/4	12	31-1/2	87	12.5	24	6,991	1,064	ETB-8
ELR-H8-87	12-1/4	12	33	87	12.5	24	7,250	1,167	ETB-8
ELR-H9-87	12-1/4	13	34-1/2	87	12.5	24	7,638	1,276	ETB-8
ELR-H10-87	12-1/4	13	36	87	12.5	24	7,897	1,389	ETB-8
ELR-H11-87	12-1/4	14	37-1/2	87	12.5	24	8,285	1,507	1 1/2 ETB-8
ELR-H12-87	12-1/4	14	39	87	12.5	24	8,544	1,630	1 1/2 ETB-8
ELR-H13-87	12-1/4	15	40-1/2	87	12.5	24	8,933	1,758	1 1/2 ETB-8
ELR-H14-87	12-1/4	15	42	87	12.5	24	9,192	1,891	1 1/2 ETB-8
ELR-H15-87	12-1/4	16	43-1/2	87	12.5	24	9,580	2,028	2 ETB-8
ELR-H16-87	12-1/4	16	45	87	12.5	24	9,839	2,171	2 ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

NOTE: Please refer to pages 25 & 26 for additional information about foundation reinforcement systems.





92 ft. Coastal Douglas-fir

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx.	Ultimate	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)		Treated Weight (lbs.)	Groundline Moment (ft.-kips)	
ELR-1-92	12-1/4	7-1/2	22-1/2	92	13	27	5,128	543	ETB-8
ELR-H1-92	12-1/4	7-1/2	24	92	13	27	5,401	617	ETB-8
ELR-H2-92	12-1/4	7-1/2	25-1/2	92	13	27	5,675	697	ETB-8
ELR-H3-92	12-1/4	8	27	92	13	27	6,017	781	ETB-8
ELR-H4-92	12-1/4	9	28-1/2	92	13	27	6,427	871	ETB-8
ELR-H5-92	12-1/4	10	30	92	13	27	6,838	965	ETB-8
ELR-H6-92	12-1/4	11	31-1/2	92	13	27	7,248	1,064	ETB-8
ELR-H7-92	12-1/4	12	33	92	13	27	7,658	1,167	ETB-8
ELR-H8-92	12-1/4	12	34-1/2	92	13	27	7,932	1,276	ETB-8
ELR-H9-92	12-1/4	13	36	92	13	27	8,342	1,389	ETB-8
ELR-H10-92	12-1/4	13	37-1/2	92	13	27	8,615	1,507	1 1/2 ETB-8
ELR-H11-92	12-1/4	14	39	92	13	27	9,026	1,630	1 1/2 ETB-8
ELR-H12-92	12-1/4	14	40-1/2	92	13	27	9,299	1,758	1 1/2 ETB-8
ELR-H13-92	12-1/4	15	42	92	13	27	9,710	1,891	1 1/2 ETB-8
ELR-H14-92	12-1/4	15	43-1/2	92	13	27	9,983	2,028	2 ETB-8
ELR-H15-92	12-1/4	16	45	92	13	27	10,393	2,171	2 ETB-8
ELR-H16-92	12-1/4	16	46-1/2	92	13	27	10,667	2,318	2 ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

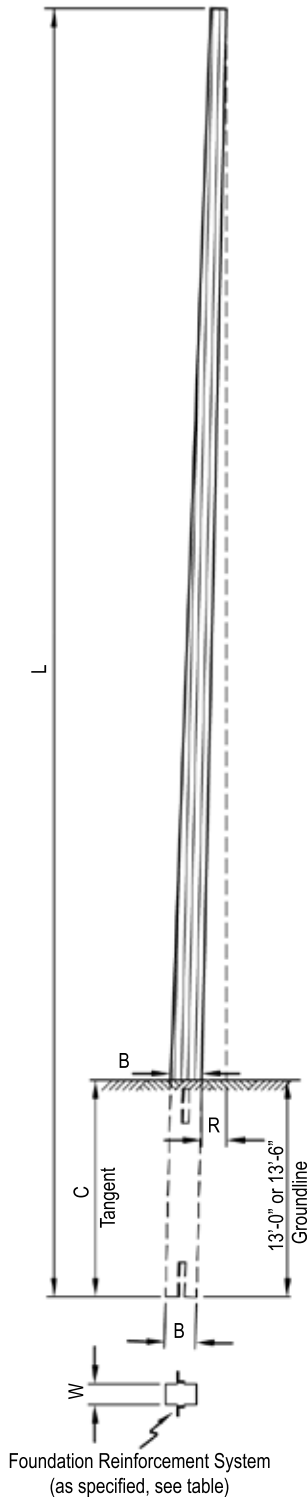
97 ft. Coastal Douglas-fir

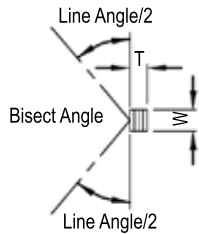
Pole Class	Pole Dimensions					R * (max.) (in.)	Approx.	Ultimate	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)		Treated Weight (lbs.)	Groundline Moment (ft.-kips)	
ELR-1-97	12-1/4	7-1/2	24	97	13.5	27	5,689	617	ETB-8
ELR-H1-97	12-1/4	7-1/2	25-1/2	97	13.5	27	5,977	697	ETB-8
ELR-H2-97	12-1/4	7-1/2	27	97	13.5	27	6,264	781	ETB-8
ELR-H3-97	12-1/4	8	28-1/2	97	13.5	27	6,625	871	ETB-8
ELR-H4-97	12-1/4	9	30	97	13.5	27	7,057	965	ETB-8
ELR-H5-97	12-1/4	10	31-1/2	97	13.5	27	7,490	1,064	ETB-8
ELR-H6-97	12-1/4	11	33	97	13.5	27	7,922	1,167	ETB-8
ELR-H7-97	12-1/4	12	34-1/2	97	13.5	27	8,355	1,276	ETB-8
ELR-H8-97	12-1/4	12	36	97	13.5	27	8,642	1,389	ETB-8
ELR-H9-97	12-1/4	13	37-1/2	97	13.5	27	9,075	1,507	1 1/2 ETB-8
ELR-H10-97	12-1/4	13	39	97	13.5	27	9,363	1,630	1 1/2 ETB-8
ELR-H11-97	12-1/4	14	40-1/2	97	13.5	27	9,795	1,758	1 1/2 ETB-8
ELR-H12-97	12-1/4	14	42	97	13.5	27	10,083	1,891	1 1/2 ETB-8
ELR-H13-97	12-1/4	15	43-1/2	97	13.5	27	10,515	2,028	2 ETB-8
ELR-H14-97	12-1/4	15	45	97	13.5	27	10,803	2,171	2 ETB-8
ELR-H15-97	12-1/4	16	46-1/2	97	13.5	27	11,236	2,318	2 ETB-8
ELR-H16-97	12-1/4	16	48	97	13.5	27	11,523	2,470	2 ETB-8

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

NOTE: Please refer to pages 25 & 26 for additional information about foundation reinforcement systems.





102 ft. Coastal Douglas-fir

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
ELR-1-102	12-1/4	7-1/2	25-1/2	102	14	30	6,279	697	ETB-8
ELR-H1-102	12-1/4	7-1/2	27	102	14	30	6,581	781	ETB-8
ELR-H2-102	12-1/4	7-1/2	28-1/2	102	14	30	6,883	871	ETB-8
ELR-H3-102	12-1/4	8	30	102	14	30	7,261	965	ETB-8
ELR-H4-102	12-1/4	9	31-1/2	102	14	30	7,716	1,064	ETB-8
ELR-H5-102	12-1/4	10	33	102	14	30	8,170	1,167	ETB-8
ELR-H6-102	12-1/4	11	34-1/2	102	14	30	8,625	1,276	ETB-8
ELR-H7-102	12-1/4	12	36	102	14	30	9,080	1,389	ETB-8
ELR-H8-102	12-1/4	12	37-1/2	102	14	30	9,382	1,507	1 1/2 ETB-8
ELR-H9-102	12-1/4	13	39	102	14	30	9,836	1,630	1 1/2 ETB-8
ELR-H10-102	12-1/4	13	40-1/2	102	14	30	10,138	1,758	1 1/2 ETB-8
ELR-H11-102	12-1/4	14	42	102	14	30	10,593	1,891	1 1/2 ETB-8
ELR-H12-102	12-1/4	14	43-1/2	102	14	30	10,895	2,028	2 ETB-8
ELR-H13-102	12-1/4	15	45	102	14	30	11,350	2,171	2 ETB-8
ELR-H14-102	12-1/4	15	46-1/2	102	14	30	11,652	2,318	2 ETB-8
ELR-H15-102	12-1/4	16	48	102	14	30	12,106	2,470	2 ETB-8
ELR-H16-102	12-1/4	16	49-1/2	102	14	30	12,408	2,626	1 1/2 ETB-12

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

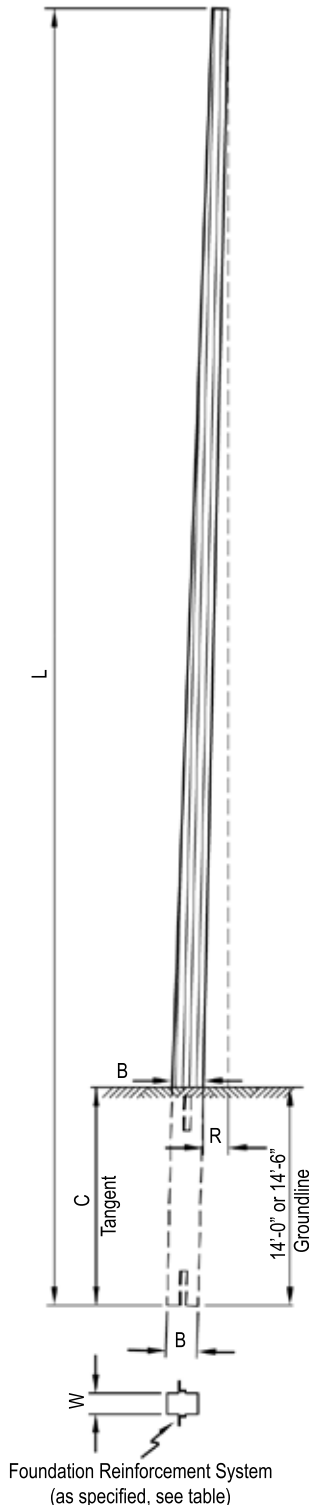
107 ft. Coastal Douglas-fir

Pole Class	Pole Dimensions					R * (max.) (in.)	Approx. Treated Weight (lbs.)	Ultimate Groundline Moment (ft.-kips)	Standard Found. Reinf. System
	W (in.)	T (in.)	B (in.)	L (ft.)	C (ft.)				
ELR-1-107	12-1/4	7-1/2	27	107	14.5	30	6,897	781	ETB-8
ELR-H1-107	12-1/4	7-1/2	28-1/2	107	14.5	30	7,213	871	ETB-8
ELR-H2-107	12-1/4	7-1/2	30	107	14.5	30	7,530	965	ETB-8
ELR-H3-107	12-1/4	8	31-1/2	107	14.5	30	7,926	1,064	ETB-8
ELR-H4-107	12-1/4	9	33	107	14.5	30	8,403	1,167	ETB-8
ELR-H5-107	12-1/4	10	34-1/2	107	14.5	30	8,880	1,276	ETB-8
ELR-H6-107	12-1/4	11	36	107	14.5	30	9,356	1,389	ETB-8
ELR-H7-107	12-1/4	12	37-1/2	107	14.5	30	9,833	1,507	1 1/2 ETB-8
ELR-H8-107	12-1/4	12	39	107	14.5	30	10,150	1,630	1 1/2 ETB-8
ELR-H9-107	12-1/4	13	40-1/2	107	14.5	30	10,626	1,758	1 1/2 ETB-8
ELR-H10-107	12-1/4	13	42	107	14.5	30	10,943	1,891	1 1/2 ETB-8
ELR-H11-107	12-1/4	14	43-1/2	107	14.5	30	11,419	2,028	1 1/2 ETB-8
ELR-H12-107	12-1/4	14	45	107	14.5	30	11,736	2,171	1 1/2 ETB-8
ELR-H13-107	12-1/4	15	46-1/2	107	14.5	30	12,213	2,318	2 ETB-8
ELR-H14-107	12-1/4	15	48	107	14.5	30	12,529	2,470	2 ETB-8
ELR-H15-107	12-1/4	16	49-1/2	107	14.5	30	13,006	2,626	1 1/2 ETB-12
ELR-H16-107	12-1/4	16	51	107	14.5	30	13,322	2,788	1 1/2 ETB-12

* - Field rake amount "R" will be determined by LWS.

Larger class poles available upon request.

NOTE: Please refer to pages 25 & 26 for additional information about foundation reinforcement systems.

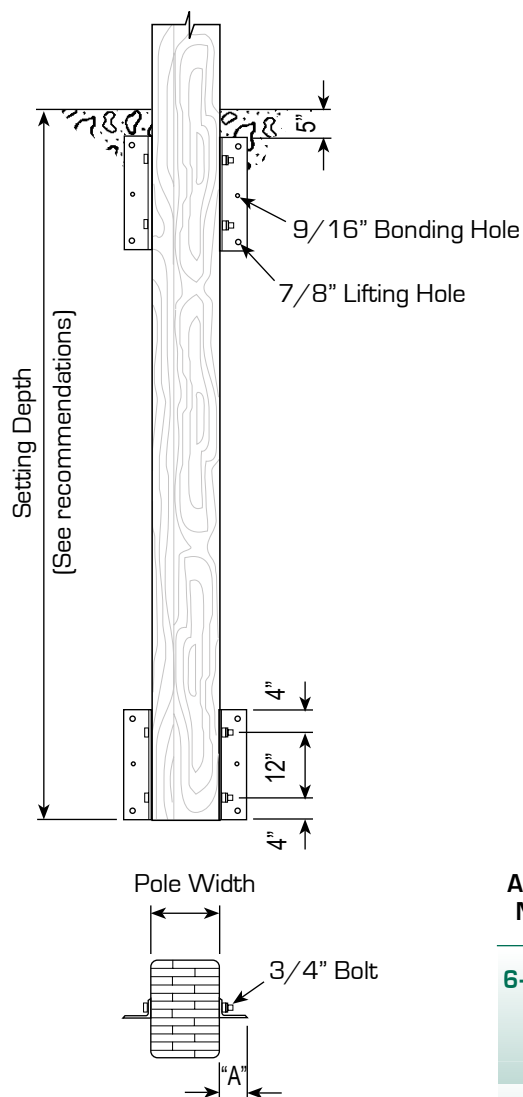


Foundation Reinforcement Systems

Distribution - "ED"

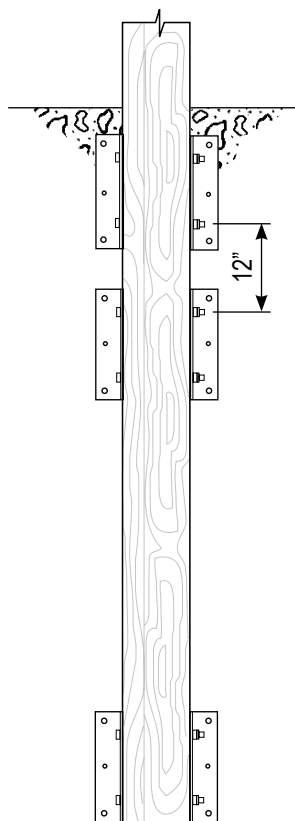
Single System

Ordering Example: 1-EDA-5



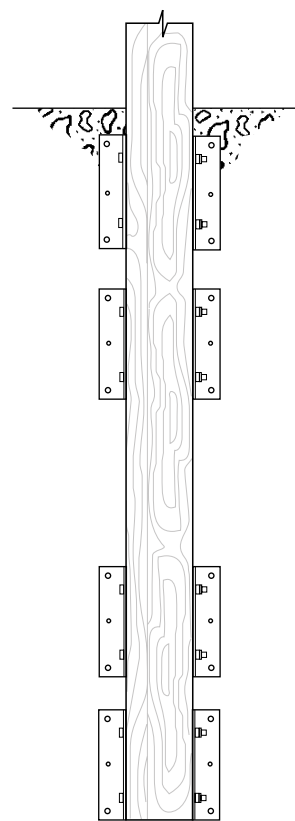
1-1/2 Systems

Ordering Example: 1 1/2-EDA-5



Double System

Ordering Example: 2-EDA-5



Assembly Number	"A"	Angle Number	Angle Size	Bolt Length	Weight Lbs.
6-3/4" Pole Width					
EDA-5	5"	ELFRDB	5" x 3" x 1/4"	10"	52
EDA-8	8"	ELFRDE	8" x 3" x 3/8"	10"	100
8-1/2" or 8-3/4" Pole Width					
EDB-5	5"	ELFRDB	5" x 3" x 1/4"	12"	53
EDB-8	8"	ELFRDE	8" x 3" x 3/8"	12"	101
10-1/4" Pole Width					
EDC-5	5"	ELFRDB	5" x 3" x 1/4"	14"	54
EDC-8	8"	ELFRDE	8" x 3" x 3/8"	14"	102
12-1/4" Pole Width					
EDD-5	5"	ELFRDB	5" x 3" x 1/4"	16"	55
EDD-8	8"	ELFRDE	8" x 3" x 3/8"	16"	103

Backfill

Reference page 4 for backfill recommendations. At a minimum, backfill should consist of compacted aggregate tamped in 6" lifts.

NOTE: For slumping soil or ground water conditions the customer may consider installing a concrete or steel culvert to contain the select backfill.

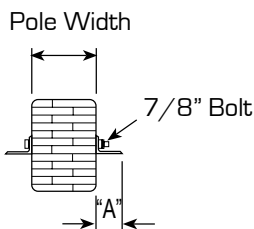
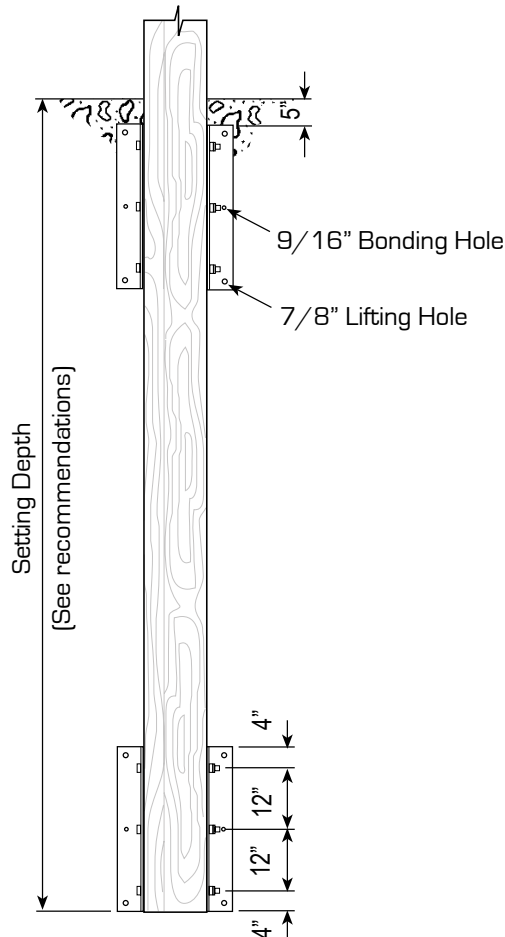
Each Single System Assembly Includes:

Four (4) Angles, 20" Long; Four (4) Bolts & Nuts [Field Assembly Required]

Transmission - "ET"

Single System

Ordering Example: 1-ETA-5



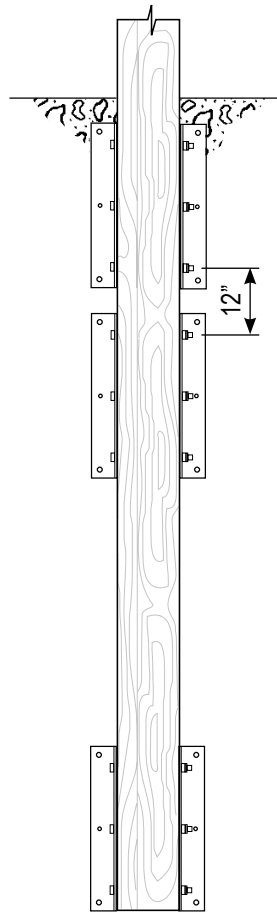
Backfill

Reference page 4 for backfill recommendations. At a minimum, backfill should consist of compacted aggregate tamped in 6" lifts.

NOTE: For slumping soil or ground water conditions the customer may consider installing a concrete or steel culvert to contain the select backfill.

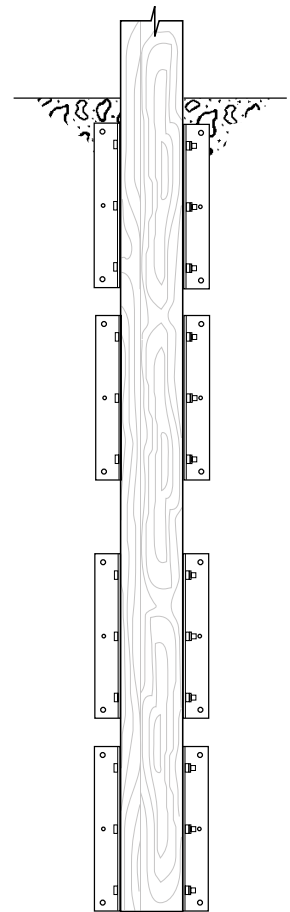
1-1/2 Systems

Ordering Example: 1 1/2-ETA-5



Double System

Ordering Example: 2-ETA-5

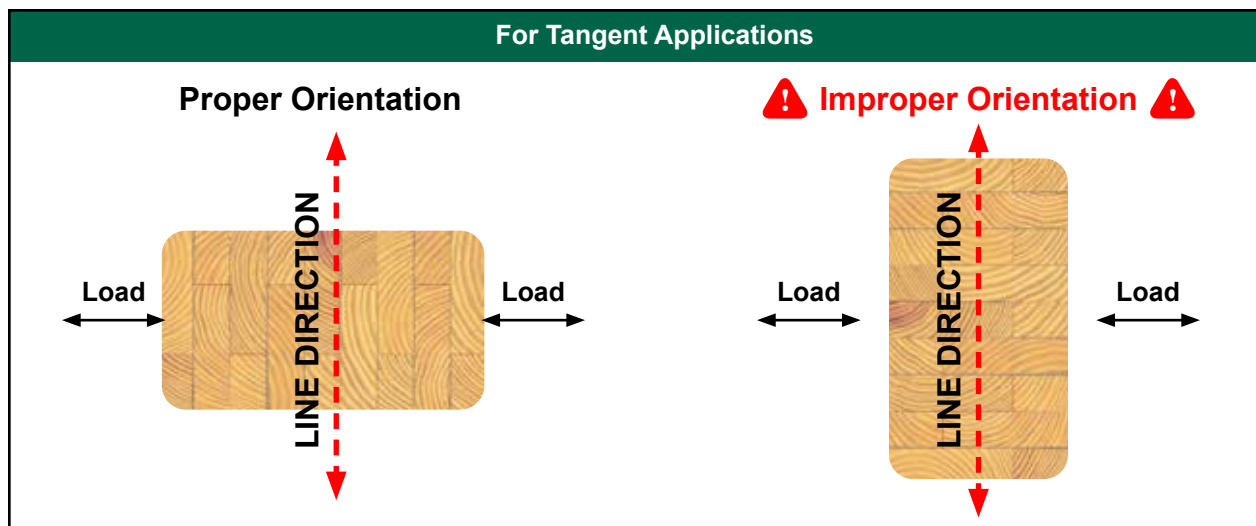


Assembly Number	"A"	Angle Number	Angle Size	Bolt Length	Weight Lbs.
10-1/4" Pole Width					
ETA-5	5"	ELFRTB	5" x 3" x 1/4"	14"	90
ETA-8	8"	ELFRTE	8" x 3" x 3/8"	14"	170
ETA-12	12"	ELFRTE	12" x 3" x 3/8"	14"	222
12-1/4" Pole Width					
ETB-5	5"	ELFRTB	5" x 3" x 1/4"	16"	92
ETB-8	8"	ELFRTE	8" x 3" x 3/8"	16"	172
ETB-12	12"	ELFRTE	12" x 3" x 3/8"	16"	224
14-1/4" Pole Width					
ETC-5	5"	ELFRTB	5" x 3" x 1/4"	18"	94
ETC-8	8"	ELFRTE	8" x 3" x 3/8"	18"	174
ETC-12	12"	ELFRTE	12" x 3" x 3/8"	18"	226
16-1/4" Pole Width					
ETD-5	5"	ELFRTB	5" x 3" x 1/4"	20"	96
ETD-8	8"	ELFRTE	8" x 3" x 3/8"	20"	176
ETD-12	12"	ELFRTE	12" x 3" x 3/8"	20"	228

Each Single System Assembly Includes:
Four (4) Angles, 32" Long; Six (6) Bolts & Nuts (Field Assembly Required)

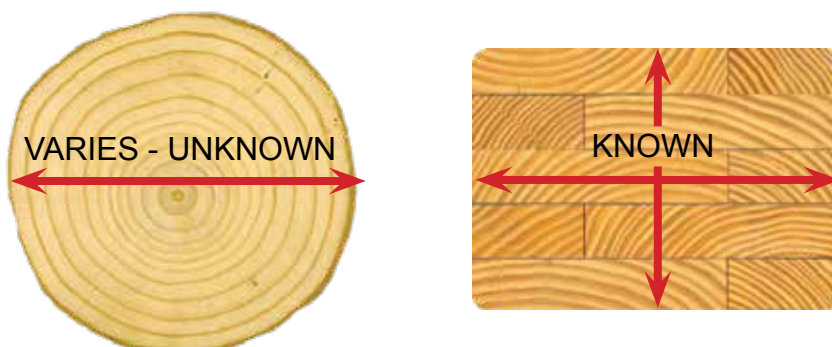
When Can E-LAM® Poles Be Substituted for Round Wood?

E-LAM® poles can be substituted for round wood class equivalent poles when used properly. The primary difference between a laminated wood pole and a round wood pole is the fact that a round wood pole has the same strength rating in all (360°) directions, while a rectangular laminated pole is strongest in the transverse direction. As long as laminated poles are oriented in a straight line, tangent direction, they can be substituted for the same round wood class equivalent size pole, provided they meet the extreme wind requirements of NESC Rule 261.A. LWS makes no claims that the rectangular poles can be used in every application that a symmetrically round pole is used. We recommend LWS engineers review the applications to confirm the fitness of use for any non-tangent application.



Take Advantage of the Attributes of E-LAM® Poles Combined with the Engineering Expertise of LWS

Unlike round wood poles, E-LAM® poles are consistent in strength and dimension, insuring that all bolts and attachment hardware will fit. There's no need to buy extra hardware because of varying pole diameters. LWS supplies certain special hardware items and adapter plates that can accommodate virtually every hardware attachment application. However, there are some incompatibilities with certain standard round wood pole line hardware items such as pole bands and guying attachments.



Tangent Pole Standard Sizes

Southern Pine & Coastal
Douglas Fir

30ft - 135ft

Larger Sizes Available as Required

View the E-LAM® installation video online at:
www.lwsinc.com



Pole Length (Feet)	Pole Class	Long. Width		Transverse Top Depth	Butt Depth	Ultimate Longitudinal Groundline Moment (Ft.-Kips)	Ultimate Transverse Groundline Moment (Ft.-Kips)	Approx. Treated Weight (Lbs.)
30 Foot	PEL-5-30	6-3/4"	x	5-1/2"	- 9-5/8"	44.9	56.0	490
	PEL-4-30	6-3/4"	x	6"	- 10-1/2"	48.9	66.6	535
	PEL-3-30	6-3/4"	x	6-1/2"	- 11-3/8"	53.0	78.2	580
	PEL-2-30	6-3/4"	x	7"	- 12-1/4"	57.1	90.7	625
	PEL-1-30	6-3/4"	x	7-1/2"	- 13-1/8"	61.2	104.2	670
35 Foot	PEL-5-35	6-3/4"	x	5-1/2"	- 9-5/8"	45.1	56.6	570
	PEL-4-35	6-3/4"	x	6"	- 11-7/8"	55.0	84.1	675
	PEL-3-35	6-3/4"	x	6-1/2"	- 12-3/4"	59.1	97.1	725
	PEL-2-35	6-3/4"	x	7"	- 13-5/8"	63.2	111.1	775
	PEL-1-35	6-3/4"	x	7-1/2"	- 14-1/2"	67.3	126.0	830
40 Foot	PEL-5-40	6-3/4"	x	5-1/2"	- 11"	51.5	73.7	710
	PEL-4-40	6-3/4"	x	6"	- 11-7/8"	55.6	86.1	770
	PEL-3-40	6-3/4"	x	6-1/2"	- 14-1/8"	65.7	120.0	890
	PEL-2-40	6-3/4"	x	7"	- 15"	69.8	135.6	950
	PEL-1-40	6-3/4"	x	7-1/2"	- 15-7/8"	74.0	152.2	1,010
45 Foot	PEL-5-45	8-1/2"	x	5"	- 11-1/2"	84.7	100.0	1,010
	PEL-4-45	8-1/2"	x	5"	- 11-1/2"	84.7	100.0	1,010
	PEL-3-45	8-1/2"	x	5 1/2"	- 13-3/4"	100.8	141.5	1,170
	PEL-2-45	8-1/2"	x	6-1/4"	- 14-3/8"	105.9	156.3	1,260
	PEL-1-45	8-1/2"	x	7"	- 15"	111.1	171.9	1,340
	PEL-H1-45	8-1/2"	x	7-1/2"	- 17-1/4"	127.1	225.1	1,510
	PEL-H2-45	8-1/2"	x	8"	- 18-1/8"	133.7	248.1	1,595
50 Foot	PEL-5-50	8-1/2"	x	5"	- 11-1/2"	85.0	100.6	1,120
	PEL-4-50	8-1/2"	x	5"	- 12-7/8"	94.5	124.3	1,210
	PEL-3-50	8-1/2"	x	5-1/2"	- 13-3/4"	101.1	142.3	1,305
	PEL-2-50	8-1/2"	x	6-1/4"	- 15-3/4"	115.7	186.5	1,490
	PEL-1-50	8-1/2"	x	7"	- 16-3/8"	120.9	203.5	1,585
	PEL-H1-50	8-1/2"	x	7-1/2"	- 18-5/8"	137.0	259.6	1,770
	PEL-H2-50	8-1/2"	x	8"	- 19-1/2"	143.6	284.0	1,870
55 Foot	PEL-5-55	8-1/2"	x	5"	- 12-7/8"	94.7	124.9	1,335
	PEL-4-55	8-1/2"	x	5"	- 14-1/4"	104.2	151.3	1,440
	PEL-3-55	8-1/2"	x	5-1/2"	- 15-1/8"	110.8	171.1	1,540
	PEL-2-55	8-1/2"	x	6-1/4"	- 15-3/4"	116.0	187.4	1,645
	PEL-1-55	8-1/2"	x	7"	- 17-3/4"	130.7	237.5	1,850
	PEL-H1-55	8-1/2"	x	7-1/2"	- 18-5/8"	137.3	260.8	1,950
	PEL-H2-55	8-1/2"	x	8"	- 20-7/8"	153.4	322.1	2,160
60 Foot	PEL-3-60	8-1/2"	x	6"	- 16"	117.7	193.0	1,795
	PEL-2-60	8-1/2"	x	6-1/4"	- 17-1/8"	125.8	220.4	1,905
	PEL-1-60	10-1/4"	x	6-1/4"	- 17-1/8"	182.9	265.8	2,300
	PEL-H1-60	10-1/4"	x	7"	- 17-3/4"	190.4	287.4	2,430
	PEL-H2-60	10-1/4"	x	7-5/8"	- 19-7/8"	212.9	355.3	2,700
	PEL-H3-60	10-1/4"	x	8-1/2"	- 21-3/4"	233.2	422.5	2,970
	PEL-H4-60	10-1/4"	x	9-1/4"	- 22-3/8"	240.7	448.7	3,110
	PEL-H5-60	10-1/4"	x	10"	- 24-3/8"	262.1	527.5	3,380
	PEL-H6-60	10-1/4"	x	11"	- 26-1/8"	281.4	603.5	3,650

Pole Length (Feet)	Pole Class	Long. Width		Transverse Top Depth	Butt Depth	Ultimate Longitudinal Groundline Moment (Ft.-Kips)	Ultimate Transverse Groundline Moment (Ft.-Kips)	Approx. Treated Weight (Lbs.)
65 Foot	PEL-3-65	8-1/2"	x	6"	- 16"	117.9	193.6	1,940
	PEL-2-65	10-1/4"	x	6"	- 16"	171.5	233.5	2,340
	PEL-1-65	10-1/4"	x	6-1/4"	- 17-1/8"	183.3	266.7	2,490
	PEL-H1-65	10-1/4"	x	7"	- 19-1/8"	204.7	329.8	2,780
	PEL-H2-65	10-1/4"	x	7-5/8"	- 19-7/8"	213.3	356.5	2,925
	PEL-H3-65	10-1/4"	x	8-1/2"	- 21-3/4"	233.6	423.9	3,220
	PEL-H4-65	10-1/4"	x	9-1/4"	- 23-3/4"	255.1	500.8	3,510
	PEL-H5-65	10-1/4"	x	10"	- 25-3/4"	276.5	583.8	3,800
	PEL-H6-65	10-1/4"	x	11"	- 27-1/2"	295.8	663.6	4,100
70 Foot	PEL-3-70	8-1/2"	x	6"	- 16"	118.1	194.2	2,090
	PEL-2-70	10-1/4"	x	6"	- 16"	171.7	234.2	2,520
	PEL-1-70	10-1/4"	x	6-1/4"	- 18-1/2"	197.5	308.1	2,835
	PEL-H1-70	10-1/4"	x	7"	- 19-1/8"	205.0	330.7	3,000
	PEL-H2-70	10-1/4"	x	7-5/8"	- 21-1/4"	227.6	403.2	3,310
	PEL-H3-70	10-1/4"	x	8-1/2"	- 23-1/8"	248.0	474.6	3,625
	PEL-H4-70	10-1/4"	x	9-1/4"	- 25-1/8"	269.4	555.7	3,940
	PEL-H5-70	10-1/4"	x	10"	- 27-1/8"	290.9	642.9	4,255
	PEL-H6-70	10-1/4"	x	11"	- 28-7/8"	310.2	726.3	4,570
75 Foot	PEL-3-75	10-1/4"	x	6"	- 16"	172.0	234.8	2,700
	PEL-2-75	10-1/4"	x	6"	- 17-3/8"	186.0	274.7	2,870
	PEL-1-75	10-1/4"	x	6-1/4"	- 18-1/2"	197.8	309.0	3,040
	PEL-H1-75	10-1/4"	x	7"	- 20-1/2"	219.3	375.9	3,380
	PEL-H2-75	10-1/4"	x	7-5/8"	- 22-5/8"	241.9	452.8	3,710
	PEL-H3-75	10-1/4"	x	8-1/2"	- 24-1/2"	262.3	528.1	4,055
	PEL-H4-75	10-1/4"	x	9-1/4"	- 26-1/2"	283.8	613.4	4,390
	PEL-H5-75	10-1/4"	x	10"	- 27-1/8"	291.3	644.5	4,555
	PEL-H6-75	10-1/4"	x	11"	- 28-7/8"	310.6	728.1	4,895
80 Foot	PEL-3-80	10-1/4"	x	6"	- 16"	172.1	235.3	2,880
	PEL-2-80	10-1/4"	x	6"	- 17-3/8"	186.2	275.3	3,060
	PEL-1-80	10-1/4"	x	6-1/4"	- 19-7/8"	212.1	352.7	3,420
	PEL-H1-80	10-1/4"	x	7"	- 21-7/8"	233.6	423.8	3,780
	PEL-H2-80	10-1/4"	x	7-5/8"	- 22-5/8"	242.2	453.8	3,960
	PEL-H3-80	10-1/4"	x	8-1/2"	- 24-1/2"	262.6	529.3	4,330
	PEL-H4-80	10-1/4"	x	9-1/4"	- 26-1/2"	284.1	614.8	4,690
	PEL-H5-80	10-1/4"	x	10"	- 28-1/2"	305.7	706.3	5,050
	PEL-H6-80	12-1/4"	x	10"	- 28-1/2"	436.6	844.1	6,020
85 Foot	PEL-3-85	10-1/4"	x	6"	- 17-3/8"	186.4	275.9	3,250
	PEL-2-85	10-1/4"	x	6"	- 18-3/4"	200.4	316.9	3,450
	PEL-1-85	10-1/4"	x	6-1/4"	- 19-7/8"	212.3	353.5	3,640
	PEL-H1-85	10-1/4"	x	7"	- 21-7/8"	233.9	424.7	4,020
	PEL-H2-85	10-1/4"	x	7-5/8"	- 24"	256.5	506.2	4,400
	PEL-H3-85	10-1/4"	x	8-1/2"	- 25-7/8"	277.0	585.6	4,780
	PEL-H4-85	10-1/4"	x	9-1/4"	- 27-7/8"	298.5	675.2	5,160
	PEL-H5-85	12-1/4"	x	9-1/8"	- 26-5/8"	407.8	741.6	5,950
	PEL-H6-85	12-1/4"	x	10"	- 28-1/2"	437.0	845.7	6,400

Pole Length (Feet)	Pole Class	Long. Width	Transverse		Top Depth	Butt Depth	Ultimate Longitudinal Groundline Moment (Ft.-Kips)	Ultimate Transverse Groundline Moment (Ft.-Kips)	Approx. Treated Weight (Lbs.)
90 Foot	PEL-3-90	10-1/4"	x	6"	-	17-3/8"	186.6	276.4	3,450
	PEL-2-90	12-1/4"	x	6"	-	17-3/8"	266.5	330.3	4,120
	PEL-1-90	12-1/4"	x	6"	-	20-1/8"	306.7	431.6	4,600
	PEL-H1-90	12-1/4"	x	6-1/2"	-	21"	320.6	469.3	4,840
	PEL-H2-90	12-1/4"	x	7"	-	23-1/4"	354.5	568.2	5,320
	PEL-H3-90	12-1/4"	x	7-3/4"	-	23-7/8"	365.2	601.2	5,570
	PEL-H4-90	12-1/4"	x	8-1/2"	-	25-7/8"	396.0	701.1	6,050
	PEL-H5-90	12-1/4"	x	9-1/8"	-	28"	423.4	814.1	6,540
95 Foot	PEL-H6-90	12-1/4"	x	10"	-	29-7/8"	457.6	922.8	7,020
	PEL-2-95	12-1/4"	x	6"	-	18-3/4"	288.0	382.8	4,600
	PEL-1-95	12-1/4"	x	6"	-	20-1/8"	308.2	435.7	4,860
	PEL-H1-95	12-1/4"	x	6-1/2"	-	22-3/8"	342.4	531.9	5,360
	PEL-H2-95	12-1/4"	x	7"	-	23-1/4"	356.2	573.5	5,620
	PEL-H3-95	12-1/4"	x	7-3/4"	-	25-1/4"	387.2	671.8	6,130
	PEL-H4-95	12-1/4"	x	8-1/2"	-	27-1/4"	418.1	777.5	6,640
	PEL-H5-95	12-1/4"	x	9-1/8"	-	29-3/8"	450.6	896.4	7,150
100 Foot	PEL-H6-95	12-1/4"	x	10"	-	31-1/4"	480.0	1,010.5	7,670
	PEL-2-100	12-1/4"	x	6"	-	18-3/4"	289.2	386.0	4,840
	PEL-1-100	12-1/4"	x	6"	-	20-1/8"	309.6	439.3	5,110
	PEL-H1-100	12-1/4"	x	6-1/2"	-	22-3/8"	343.9	536.4	5,650
	PEL-H2-100	12-1/4"	x	7"	-	24-5/8"	378.2	642.6	6,180
	PEL-H3-100	12-1/4"	x	7-3/4"	-	26-5/8"	409.3	746.6	6,720
	PEL-H4-100	12-1/4"	x	8-1/2"	-	27-1/4"	419.9	783.9	7,000
	PEL-H5-100	12-1/4"	x	9-1/8"	-	29-3/8"	452.6	903.8	7,530
105 Foot	PEL-H6-100	12-1/4"	x	10"	-	31-1/4"	482.0	1,018.8	8,100
	PEL-2-105	12-1/4"	x	6"	-	20-1/8"	308.6	436.6	5,370
	PEL-1-105	12-1/4"	x	6"	-	21-1/2"	328.9	492.8	5,650
	PEL-H1-105	12-1/4"	x	6-1/2"	-	22-3/8"	342.8	533.0	5,930
	PEL-H2-105	12-1/4"	x	7"	-	24-5/8"	377.0	638.6	6,500
	PEL-H3-105	12-1/4"	x	7-3/4"	-	26-5/8"	407.9	741.9	7,060
	PEL-H4-105	12-1/4"	x	8-1/2"	-	28-5/8"	438.9	852.5	7,630
	PEL-H5-105	12-1/4"	x	9-1/8"	-	30-3/4"	471.5	976.7	8,190
110 Foot	PEL-H6-105	12-1/4"	x	10"	-	32-5/8"	500.8	1,095.5	8,750
	PEL-2-110	12-1/4"	x	6"	-	20-1/8"	309.8	439.9	5,630
	PEL-1-110	12-1/4"	x	6"	-	21-1/2"	330.2	496.6	5,920
	PEL-H1-110	12-1/4"	x	6-1/2"	-	23-3/4"	364.6	599.3	6,510
	PEL-H2-110	12-1/4"	x	7"	-	26"	398.9	711.0	7,100
	PEL-H3-110	12-1/4"	x	7-3/4"	-	28"	430.0	820.0	7,690
	PEL-H4-110	12-1/4"	x	8-1/2"	-	30"	461.1	936.2	8,280
	PEL-H5-110	12-1/4"	x	9-1/8"	-	30-3/4"	473.3	984.1	8,580
	PEL-H6-110	12-1/4"	x	10"	-	34"	532.2	1,190.4	9,470

Pole Length (Feet)	Pole Class	Long. Width	Transverse Top Depth	Butt Depth	Ultimate Longitudinal Groundline Moment (Ft.-Kips)	Ultimate Transverse Groundline Moment (Ft.-Kips)	Approx. Treated Weight (Lbs.)
115 Foot	PEL-2-115	12-1/4"	x 6"	- 21-1/2"	331.5	500.1	6,200
	PEL-1-115	12-1/4"	x 6"	- 22-7/8"	352.0	560.6	6,500
	PEL-H1-115	12-1/4"	x 6-1/2"	- 23-3/4"	365.9	603.6	6,800
	PEL-H2-115	12-1/4"	x 7"	- 26"	400.4	716.1	7,450
	PEL-H3-115	12-1/4"	x 7-3/4"	- 28"	431.6	825.8	8,050
	PEL-H4-115	12-1/4"	x 8-1/2"	- 30"	462.8	942.8	8,660
	PEL-H5-115	12-1/4"	x 9-1/8"	- 32-1/8"	495.6	1,073.8	9,280
120 Foot	PEL-H6-115	12-1/4"	x 10"	- 34"	525.1	1,198.6	9,900
	PEL-2-120	12-1/4"	x 6"	- 21-1/2"	332.6	503.4	6,500
	PEL-1-120	12-1/4"	x 6"	- 22-7/8"	353.2	564.3	6,800
	PEL-H1-120	12-1/4"	x 6-1/2"	- 25-1/8"	387.8	674.0	7,425
	PEL-H2-120	12-1/4"	x 7"	- 27-3/8"	422.4	792.8	8,070
	PEL-H3-120	12-1/4"	x 7-3/4"	- 29-3/8"	453.7	908.0	8,710
	PEL-H4-120	12-1/4"	x 8-1/2"	- 31-3/8"	484.9	1,030.5	9,360
125 Foot	PEL-H5-120	12-1/4"	x 9-1/8"	- 33-1/2"	517.9	1,167.5	10,000
	PEL-H6-120	12-1/4"	x 10"	- 35-3/8"	547.5	1,297.5	10,650
	PEL-2-125	12-1/4"	x 6"	- 21-1/2"	333.6	506.3	6,730
	PEL-1-125	12-1/4"	x 6"	- 24-1/4"	375.1	632.5	7,400
	PEL-H1-125	12-1/4"	x 6-1/2"	- 25-1/8"	389.1	678.1	7,740
	PEL-H2-125	12-1/4"	x 7"	- 27-3/8"	423.8	797.6	8,410
	PEL-H3-125	12-1/4"	x 7-3/4"	- 29-3/8"	455.1	913.5	9,080
130 Foot	PEL-H4-125	12-1/4"	x 8-1/2"	- 31-3/8"	486.5	1,036.7	9,760
	PEL-H5-125	12-1/4"	x 9-1/8"	- 33-1/2"	519.5	1,174.5	10,430
	PEL-H6-125	12-1/4"	x 10"	- 35-3/8"	549.2	1,305.2	11,100
	PEL-2-130	14-1/4"	x 6"	- 21-1/2"	422.5	572.4	8,140
	PEL-1-130	14-1/4"	x 6"	- 22-7/8"	448.6	641.3	8,550
	PEL-H1-130	14-1/4"	x 6-1/2"	- 25-1/8"	492.5	765.8	9,360
	PEL-H2-130	14-1/4"	x 7"	- 27-3/8"	536.4	900.7	10,180
135 Foot	PEL-H3-130	14-1/4"	x 7-3/4"	- 29-3/8"	576.2	1,031.9	10,990
	PEL-H4-130	14-1/4"	x 8-1/2"	- 31-3/8"	615.9	1,171.4	11,800
	PEL-H5-130	14-1/4"	x 9-1/8"	- 33-1/2"	657.8	1,327.2	12,620
	PEL-H6-130	14-1/4"	x 10"	- 35-3/8"	695.5	1,475.5	13,430
	PEL-2-135	14-1/4"	x 6"	- 22-7/8"	448.8	641.9	8,880
	PEL-1-135	14-1/4"	x 6"	- 24-1/4"	474.9	714.6	9,300
	PEL-H1-135	14-1/4"	x 6-1/2"	- 26-1/2"	518.8	845.4	10,150
135 Foot	PEL-H2-135	14-1/4"	x 7"	- 27-3/8"	536.6	901.5	10,570
	PEL-H3-135	14-1/4"	x 7-3/4"	- 29-3/8"	576.4	1,032.8	11,410
	PEL-H4-135	14-1/4"	x 8-1/2"	- 31-3/8"	616.2	1,172.4	12,260
	PEL-H5-135	14-1/4"	x 9-1/8"	- 34-3/8"	674.7	1,392.7	13,370
	PEL-H6-135	14-1/4"	x 10"	- 35-3/8"	695.8	1,476.8	13,950

Many other sizes are available to meet special height or loading conditions.

E-LAM® Coastal Douglas Fir Tangent Poles

Pole Length (Feet)	Pole Class	Long. Width		Transverse Top Depth	Transverse Butt Depth	Ultimate Longitudinal Groundline Moment (Ft.-Kips)	Ultimate Transverse Groundline Moment (Ft.-Kips)	Approx. Treated Weight (Lbs.)
30 Foot	EL-5-30	6-3/4"	X	5-1/2"	9-1/2"	35.0	45.3	430
	EL-4-30	6-3/4"	X	6"	10-1/2"	38.5	55.2	475
	EL-3-30	6-3/4"	X	6-1/2"	13"	47.0	82.3	560
	EL-2-30	6-3/4"	X	7	14	50.7	95.5	605
	EL-1-30	6-3/4"	X	7-1/2"	15"	54.3	109.6	650
35 Foot	EL-5-35	6-3/4"	X	5-1/2"	11"	40.0	59.7	555
	EL-4-35	6-3/4"	X	6"	12"	43.7	71.1	605
	EL-3-35	6-3/4"	X	6-1/2"	13"	47.3	83.4	655
	EL-2-35	6-3/4"	X	7"	15-1/2"	56.0	116.4	755
	EL-1-35	6-3/4"	X	7-1/2"	16-1/2"	59.6	132.1	805
40 Foot	EL-5-40	6-3/4"	X	5-1/2"	12-1/2"	45.6	77.4	690
	EL-4-40	6-3/4"	X	6"	13-1/2"	49.3	90.4	750
	EL-3-40	6-3/4"	X	6-1/2"	14-1/2"	53.0	104.4	805
	EL-2-40	6-3/4"	X	7	15-1/2"	56.7	119.5	865
	EL-1-40	6-3/4"	X	7-1/2"	18"	65.4	159.3	980
45 Foot	EL-5-45	8-3/4"	X	5-1/2"	11"	68.3	79.7	925
	EL-4-45	8-3/4"	X	6"	12"	74.5	94.9	1,005
	EL-3-45	8-3/4"	X	6-1/2"	13"	80.8	111.3	1,090
	EL-2-45	8-3/4"	X	7"	15-1/2"	95.6	155.9	1,260
	EL-1-45	8-3/4"	X	7"	17"	104.2	185.2	1,340
	EL-H1-45	8-3/4"	X	7-1/4"	18-1/4"	111.6	212.5	1,425
50 Foot	EL-H2-45	8-3/4"	X	7-3/4"	19-1/4"	117.8	236.8	1,510
	EL-5-50	8-3/4"	X	5-1/2"	12-1/2"	77.1	101.6	1,120
	EL-4-50	8-3/4"	X	6"	13-1/2"	83.4	118.6	1,210
	EL-3-50	8-3/4"	X	6-1/2"	14-1/2"	89.6	137.0	1,310
	EL-2-50	8-3/4"	X	7"	15-1/2"	95.8	156.7	1,400
	EL-1-50	8-3/4"	X	7"	17"	104.5	186.3	1,490
	EL-H1-50	8-3/4"	X	7-1/4"	19-3/4"	120.5	248.0	1,680
55 Foot	EL-H2-50	8-3/4"	X	7-3/4"	20-3/4"	126.8	274.3	1,770
	EL-5-55	8-3/4"	X	5-1/2"	12-1/2"	77.3	102.0	1,230
	EL-4-55	8-3/4"	X	6"	13-1/2"	83.5	119.1	1,330
	EL-3-55	8-3/4"	X	6-1/2"	16"	98.5	165.5	1,540
	EL-2-55	8-3/4"	X	7-1/4"	18-1/4"	112.2	214.8	1,740
	EL-1-55	8-3/4"	X	7-1/4"	19-3/4"	120.8	249.3	1,850
	EL-H1-55	8-3/4"	X	7-1/4"	21-1/4"	129.5	286.4	1,950
60 Foot	EL-H2-55	8-3/4"	X	7-3/4"	22-1/4"	135.8	314.6	2,050
	EL-3-60	8-3/4"	X	6-1/2"	16"	98.7	166.2	1,680
	EL-2-60	10-1/4"	X	7-1/4"	16-3/4"	142.3	215.0	2,095
	EL-1-60	10-1/4"	X	7-1/4"	18-1/4"	154.2	252.6	2,225
	EL-H1-60	10-1/4"	X	7-1/4"	19-3/4"	166.2	293.2	2,355
	EL-H2-60	10-1/4"	X	7-3/4"	22-1/4"	186.7	370.2	2,620
	EL-H3-60	10-1/4"	X	8-1/2"	23"	193.6	398.0	2,750
	EL-H4-60	10-1/4"	X	9-1/4"	25-1/4"	212.5	479.2	3,010
	EL-H5-60	10-1/4"	X	10"	26"	219.4	510.8	3,140
	EL-H6-60	10-1/4"	X	11"	28"	236.5	593.9	3,400

Pole Length (Feet)	Pole Class	Long. Width		Transverse Top Depth	Transverse Butt Depth	Ultimate Longitudinal Groundline Moment (Ft.-Kips)	Ultimate Transverse Groundline Moment (Ft.-Kips)	Approx. Treated Weight (Lbs.)
65 Foot	EL-3-65	8-3/4"	X	6-1/2"	17-1/2"	107.6	197.5	1,940
	EL-2-65	10-1/4"	X	7-1/4"	16-3/4"	142.5	215.6	2,270
	EL-1-65	10-1/4"	X	7-1/4"	19-3/4"	166.5	294.3	2,550
	EL-H1-65	10-1/4"	X	7-1/4"	21-1/4"	178.5	338.2	2,695
	EL-H2-65	10-1/4"	X	7-3/4"	22-1/4"	187.1	371.5	2,835
	EL-H3-65	10-1/4"	X	8-1/2"	24-1/2"	206.0	450.3	3,120
	EL-H4-65	10-1/4"	X	9-1/4"	25-1/4"	212.8	480.9	3,260
	EL-H5-65	10-1/4"	X	10"	27-1/2"	231.7	570.0	3,545
70 Foot	EL-H6-65	10-1/4"	X	11"	29"	244.9	636.8	3,780
	EL-3-70	8-3/4"	X	6-1/2"	17-1/2"	107.7	198.1	2,085
	EL-2-70	10-1/4"	X	7-1/4"	18-1/4"	154.7	254.2	2,595
	EL-1-70	10-1/4"	X	7-1/4"	19-3/4"	166.7	295.2	2,750
	EL-H1-70	10-1/4"	X	7-1/4"	21-1/4"	178.8	339.2	2,900
	EL-H2-70	10-1/4"	X	7-3/4"	23-3/4"	199.4	422.0	3,205
	EL-H3-70	10-1/4"	X	8-1/2"	24-1/2"	206.3	451.7	3,360
	EL-H4-70	10-1/4"	X	9-1/4"	26-3/4"	225.2	538.3	3,665
75 Foot	EL-H5-70	10-1/4"	X	10"	29"	244.1	632.5	3,970
	EL-H6-70	10-1/4"	X	11"	31"	261.3	724.8	4,275
	EL-3-75	10-1/4"	X	6-1/2"	17-1/2"	148.0	232.6	2,620
	EL-2-75	10-1/4"	X	7-1/4"	18-1/4"	154.9	254.8	2,780
	EL-1-75	10-1/4"	X	7-1/4"	21-1/4"	179.0	340.2	3,110
	EL-H1-75	10-1/4"	X	7-1/4"	22-3/4"	191.0	387.5	3,270
	EL-H2-75	10-1/4"	X	7-3/4"	23-3/4"	199.7	423.2	3,435
	EL-H3-75	10-1/4"	X	8-1/2"	26"	218.6	507.3	3,760
80 Foot	EL-H4-75	10-1/4"	X	9-1/4"	28-1/4"	237.6	599.0	4,090
	EL-H5-75	10-1/4"	X	10"	30-1/2"	256.5	698.3	4,415
	EL-H6-75	10-1/4"	X	11"	32-1/2"	273.7	795.2	4,740
	EL-3-80	10-1/4"	X	6-1/2"	17-1/2"	148.2	233.2	2,790
	EL-2-80	10-1/4"	X	7-1/4"	19-3/4"	167.1	296.6	3,140
	EL-1-80	10-1/4"	X	7-1/4"	21-1/4"	179.2	341.0	3,315
	EL-H1-80	10-1/4"	X	7-1/4"	22-3/4"	191.3	388.4	3,490
	EL-H2-80	10-1/4"	X	7-3/4"	25-1/4"	212.0	477.0	3,835
85 Foot	EL-H3-80	10-1/4"	X	8-1/2"	27-1/2"	230.9	566.1	4,185
	EL-H4-80	10-1/4"	X	9-1/4"	28-1/4"	237.8	600.4	4,360
	EL-H5-80	10-1/4"	X	10"	30-1/2"	256.8	700.0	4,710
	EL-H6-80	12-1/4"	X	11"	29-1/2"	357.0	792.2	5,625
	EL-3-85	10-1/4"	X	6-1/2"	19"	160.4	273.2	3,150
	EL-2-85	10-1/4"	X	7-1/4"	19-3/4"	167.3	297.2	3,335
	EL-1-85	10-1/4"	X	7-1/4"	22-3/4"	191.5	389.3	3,705
	EL-H1-85	10-1/4"	X	7-1/4"	24-1/4"	203.6	440.0	3,890
85 Foot	EL-H2-85	10-1/4"	X	7-3/4"	25-1/4"	212.2	478.1	4,075
	EL-H3-85	10-1/4"	X	8-1/2"	27-1/2"	231.2	567.4	4,445
	EL-H4-85	10-1/4"	X	9-1/4"	29-3/4"	250.2	664.4	4,820
	EL-H5-85	12-1/4"	X	10"	29"	350.0	761.4	5,755
	EL-H6-85	12-1/4"	X	11"	31"	374.6	872.4	6,200

E-LAM® Coastal Douglas Fir Tangent Poles

Pole Length (Feet)	Pole Class	Long. Width		Transverse Top Depth	Transverse Butt Depth	Ultimate Longitudinal Groundline Moment (Ft.-Kips)	Ultimate *Transverse Groundline Moment (Ft.-Kips)	Approx. Treated Weight (Lbs.)
90 Foot	EL-3-90	10-1/4"	X	6-1/2"	19"	160.6	273.7	3,335
	EL-2-90	12-1/4"	X	7-1/4"	19-3/4"	239.2	355.9	4,220
	EL-1-90	12-1/4"	X	7-1/4"	21-1/4"	256.5	409.2	4,455
	EL-H1-90	12-1/4"	X	7-1/4"	22-3/4"	273.8	466.2	4,690
	EL-H2-90	12-1/4"	X	7-3/4"	25-1/4"	303.4	572.5	5,160
	EL-H3-90	12-1/4"	X	8-1/2"	26"	313.3	610.2	5,395
	EL-H4-90	12-1/4"	X	9-1/4"	28-1/4"	340.4	720.5	5,860
	EL-H5-90	12-1/4"	X	10"	30-1/2"	367.5	840.0	6,330
	EL-H6-90	12-1/4"	X	11"	32-1/2"	392.2	956.4	6,800
95 Foot	EL-2-95	12-1/4"	X	7-1/4"	19-3/4"	240.3	359.0	4,455
	EL-1-95	12-1/4"	X	7-1/4"	21-1/4"	257.7	413.0	4,705
	EL-H1-95	12-1/4"	X	7-1/4"	24-1/4"	292.5	532.1	5,195
	EL-H2-95	12-1/4"	X	7-3/4"	25-1/4"	304.9	578.1	5,445
	EL-H3-95	12-1/4"	X	8-1/2"	27-1/2"	332.2	686.1	5,940
	EL-H4-95	12-1/4"	X	9-1/4"	29-3/4"	359.4	803.3	6,435
	EL-H5-95	12-1/4"	X	10"	30-1/2"	369.3	847.9	6,680
	EL-H6-95	12-1/4"	X	11"	32-1/2"	394.0	965.3	7,175
100 Foot	EL-2-100	12-1/4"	X	7-1/4"	21-1/4"	258.8	416.4	4,950
	EL-1-100	12-1/4"	X	7-1/4"	22-3/4"	276.3	474.7	5,210
	EL-H1-100	12-1/4"	X	7-1/4"	24-1/4"	293.8	536.8	5,470
	EL-H2-100	12-1/4"	X	7-3/4"	26-3/4"	323.7	651.8	5,990
	EL-H3-100	12-1/4"	X	8-1/2"	27-1/2"	333.6	692.0	6,255
	EL-H4-100	12-1/4"	X	9-1/4"	29-3/4"	361.0	810.3	6,770
	EL-H5-100	12-1/4"	X	10"	32"	388.4	937.8	7,295
	EL-H6-100	12-1/4"	X	11"	34"	413.2	1061.5	7,815
105 Foot	EL-2-105	12-1/4"	X	7-1/4"	21-1/4"	258.0	413.8	5,195
	EL-1-105	12-1/4"	X	7-1/4"	22-3/4"	275.4	471.7	5,470
	EL-H1-105	12-1/4"	X	7-1/4"	24-1/4"	292.9	533.3	5,745
	EL-H2-105	12-1/4"	X	7-3/4"	26-3/4"	322.7	647.5	6,290
	EL-H3-105	12-1/4"	X	8-1/2"	29"	350.0	761.6	6,835
	EL-H4-105	12-1/4"	X	9-1/4"	31-1/4"	377.3	885.0	7,385
	EL-H5-105	12-1/4"	X	10"	33-1/2"	404.6	1017.7	7,930
	EL-H6-105	12-1/4"	X	11"	35-1/2"	429.3	1146.1	8,475
110 Foot	EL-2-110	12-1/4"	X	7-1/4"	22-3/4"	276.5	475.3	5,730
	EL-1-110	12-1/4"	X	7-1/4"	24-1/4"	294.0	537.6	6,015
	EL-H1-110	12-1/4"	X	7-1/4"	25-3/4"	311.6	603.6	6,305
	EL-H2-110	12-1/4"	X	7-3/4"	28-1/4"	341.5	725.3	6,875
	EL-H3-110	12-1/4"	X	8-1/2"	29"	351.4	767.7	7,165
	EL-H4-110	12-1/4"	X	9-1/4"	31-1/4"	378.8	892.1	7,735
	EL-H5-110	12-1/4"	X	10"	35"	423.7	1116.3	8,595
	EL-H6-110	12-1/4"	X	11"	37"	448.5	1251.0	9,165

Pole Length (Feet)	Pole Class	Long. Width	Transverse Top Depth	Transverse Butt Depth	Ultimate Longitudinal Groundline Moment (Ft.-Kips)	Ultimate *Transverse Groundline Moment (Ft.-Kips)	Approx. Treated Weight (Lbs.)
115 Foot	EL-2-115	12-1/4"	X 7-1/4"	24-1/4"	295.1	541.4	6,290
	EL-1-115	12-1/4"	X 7-1/4"	25-3/4"	312.7	608.1	6,590
	EL-H1-115	12-1/4"	X 7-1/4"	27-1/4"	330.4	678.6	6,890
	EL-H2-115	12-1/4"	X 7-3/4"	29-3/4"	360.4	807.9	7,490
	EL-H3-115	12-1/4"	X 8-1/2"	30-1/2"	370.3	852.6	7,785
	EL-H4-115	12-1/4"	X 9-1/4"	32-3/4"	397.8	983.9	8,385
	EL-H5-115	12-1/4"	X 10"	35"	425.3	1124.6	8,985
	EL-H6-115	12-1/4"	X 11"	37"	450.2	1260.0	9,585
120 Foot	EL-2-120	12-1/4"	X 7-1/4"	24-1/4"	296.0	545.0	6,565
	EL-1-120	12-1/4"	X 7-1/4"	25-3/4"	313.8	612.2	6,875
	EL-H1-120	12-1/4"	X 7-1/4"	28-3/4"	349.2	758.4	7,500
	EL-H2-120	12-1/4"	X 7-3/4"	29-3/4"	361.7	813.5	7,815
	EL-H3-120	12-1/4"	X 8-1/2"	32"	389.3	942.3	8,440
	EL-H4-120	12-1/4"	X 9-1/4"	34-1/4"	416.8	1080.5	9,065
	EL-H5-120	12-1/4"	X 10"	36-1/2"	444.4	1228.1	9,690
	EL-H6-120	12-1/4"	X 11"	38-1/2"	469.4	1369.9	10,310
125 Foot	EL-2-125	12-1/4"	X 7-1/4"	24-1/4"	296.9	548.3	6,835
	EL-1-125	12-1/4"	X 7-1/4"	25-3/4"	314.7	616.0	7,165
	EL-H1-125	12-1/4"	X 7-1/4"	28-3/4"	350.4	763.3	7,810
	EL-H2-125	12-1/4"	X 7-3/4"	29-3/4"	362.9	818.7	8,140
	EL-H3-125	12-1/4"	X 8-1/2"	32"	390.5	948.2	8,790
	EL-H4-125	12-1/4"	X 9-1/4"	34-1/4"	418.2	1087.3	9,440
	EL-H5-125	12-1/4"	X 10"	36-1/2"	445.8	1235.8	10,090
	EL-H6-125	12-1/4"	X 11"	38-1/2"	470.8	1378.3	10,740
130 Foot	EL-2-130	14-1/4"	X 7-1/4"	24-1/4"	396.0	609.6	8,270
	EL-1-130	14-1/4"	X 7-1/4"	25-3/4"	419.6	680.4	8,670
	EL-H1-130	14-1/4"	X 7-1/4"	27-1/4"	443.2	754.9	9,060
	EL-H2-130	14-1/4"	X 7-3/4"	29-3/4"	483.5	890.7	9,850
	EL-H3-130	14-1/4"	X 8-1/2"	32"	520.4	1024.3	10,630
	EL-H4-130	14-1/4"	X 9-1/4"	34-1/4"	557.3	1166.7	11,420
	EL-H5-130	14-1/4"	X 10"	36-1/2"	594.2	1317.8	12,210
	EL-H6-130	14-1/4"	X 11"	38-1/2"	627.7	1462.5	13,000
135 Foot	EL-2-135	14-1/4"	X 7-1/4"	25-3/4"	419.8	681.0	9,000
	EL-1-135	14-1/4"	X 7-1/4"	27-1/4"	443.4	755.5	9,410
	EL-H1-135	14-1/4"	X 7-1/4"	28-3/4"	467.0	833.7	9,820
	EL-H2-135	14-1/4"	X 7-3/4"	29-3/4"	483.7	891.5	10,230
	EL-H3-135	14-1/4"	X 8-1/2"	33-1/2"	544.2	1115.2	11,450
	EL-H4-135	14-1/4"	X 9-1/4"	35-3/4"	581.1	1263.4	12,270
	EL-H5-135	14-1/4"	X 10"	38"	618.1	1420.1	13,090
	EL-H6-135	14-1/4"	X 11"	41-1/2"	675.1	1679.8	14,310

Many other sizes are available to meet special height or loading conditions.

Installing E-LAM® Tangent, Guyed Angle and Guyed Dead End Laminated Wood Structures

Identification of Poles

Each E-LAM® pole is tagged with the class and length on the face and the butt. If a variety of poles are required on a project, make sure the appropriate pole is spotted at the correct structure location. Additionally, poles of the same class may be drilled for different structures, and verification of structure types should also be confirmed.

Lifting

All poles are identified with "BP" on the face of the width (constant dimension) to identify the approximate balance point before any framing materials are added. The approximate weight of the treated pole will also be located at this point. The poles should be lifted with a steel choker or gut line rather than a flat nylon strap. The choker will slightly indent the edges on the rounded corners insuring a firm hold.



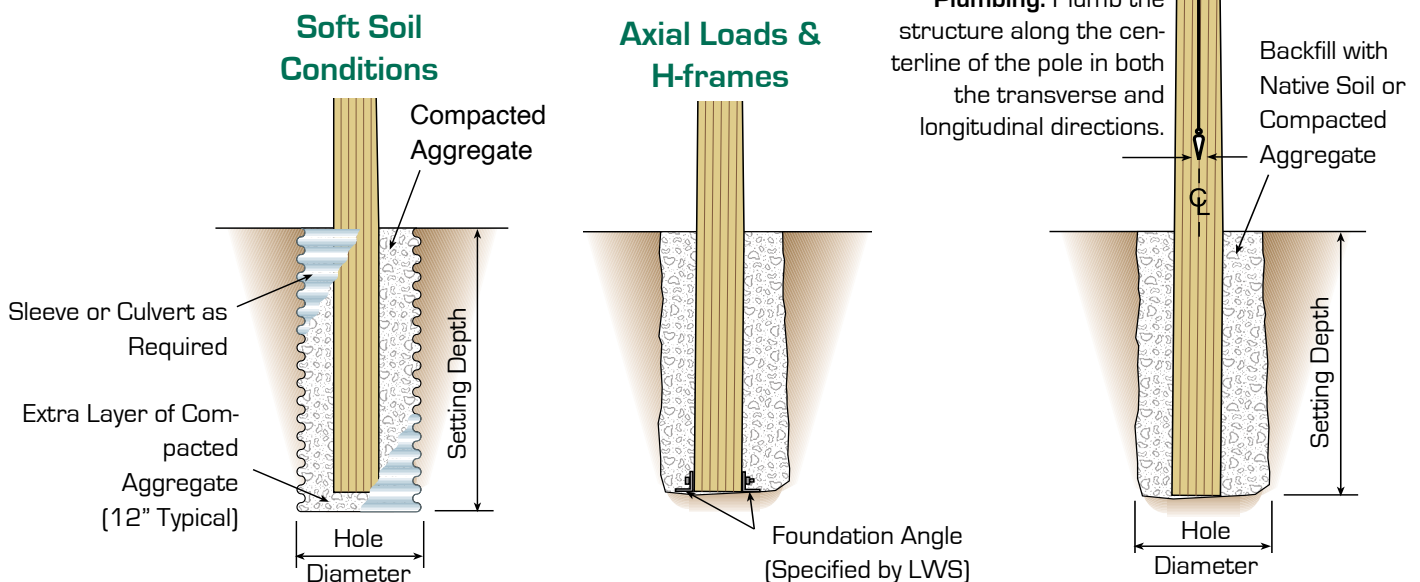
Handling

Poles can be handled just like any other wood pole. If rotation is required to bisect the angle, a regular cant hook for round poles can be used. Any field drilling and preservative treatment application should be consistent with the user's accepted practices for wood products.

These are general recommendations and in no way should be given precedence when they come in conflict with an individual company's accepted and established working practices.

Setting Recommendations

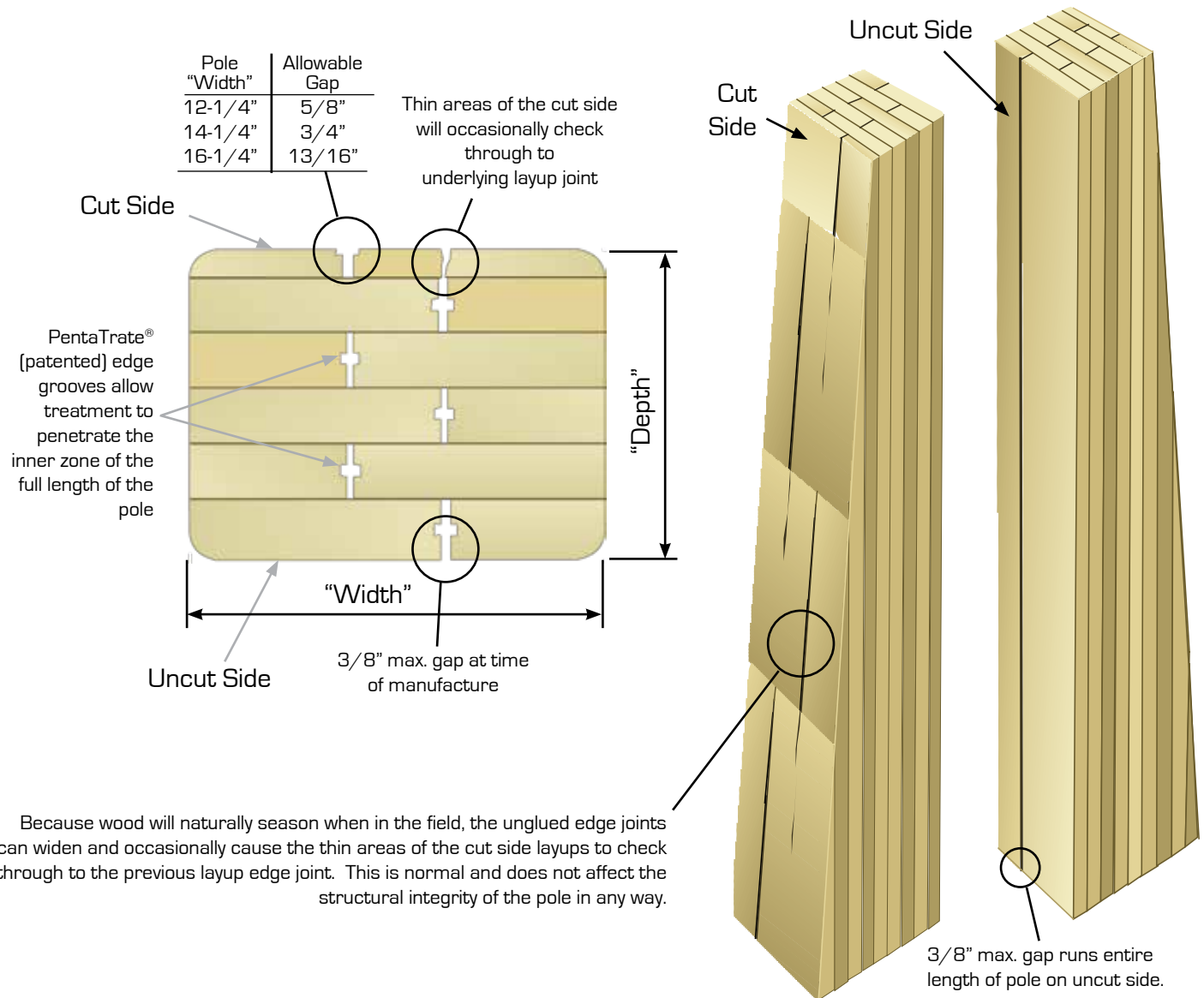
Auger to diameter and depth as recommended by LWS. Generally, E-LAM® tangent poles should be set to a depth of $10\% + 2 \text{ ft.}$ (unless soil type and / or load conditions require additional depth - contact LWS for recommended setting depth, hole size and any other options such as foundation systems).



Unglued Edge Joint Specifications for E-LAM® Laminated Wood Poles

All E-LAM® Southern Pine and Coastal Douglas-fir poles are manufactured in accordance to ANSI O5.2-[latest version] standards for the manufacture of laminated wood structural members. The following is a portion of the manufacturing standard that applies to unglued edge joints.

Edge Joints - Edge joints bonding shall not be required unless specified by the designer as a response to structural requirements. Edge spacing in top and bottom laminations may be up to 1/4 in. for the full length with occasional 3/8 in. gap permitted. Edge spacing in interior laminations shall not exceed 3/8 in. for nominal widths of 10 in. and less, 1/2 in. for 12 in. nominal widths and 5/8 in. for 14 in. nominal widths. For nominal widths wider than 14 in., the allowable opening shall be proportional to the opening allowed for a nominal width of 14 in.

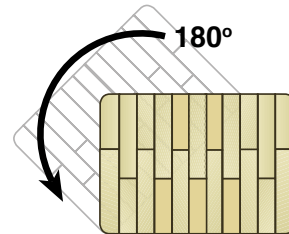
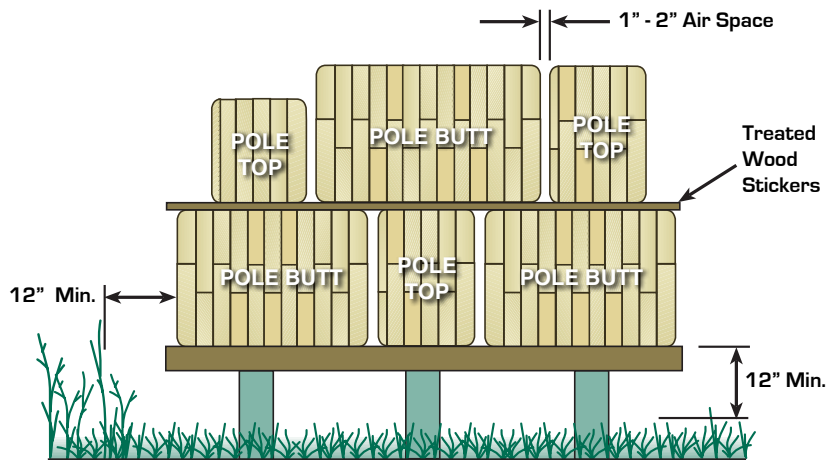


Because wood will naturally season when in the field, the unglued edge joints can widen and occasionally cause the thin areas of the cut side layups to check through to the previous layup edge joint. This is normal and does not affect the structural integrity of the pole in any way.

Proper Long Term Storage of Engineered Laminated Wood Poles

When it becomes necessary to store E-LAM® Southern Pine or Coastal Douglas-fir poles for extended periods of time (three months or longer) it is recommended the poles be stored in accordance with the following AWPA and/or REA standards. In addition to these storage practices, laminated

wood poles should also be rotated 180° and re-stacked at least once a year to minimize uneven migration of preservative treatment. This migration helps recharge the pole's internal groundline zone once the pole is installed.



Rotate Poles 180° At Least Once Per Year To Minimize Uneven Migration of Preservative Treatment

NOTE: Preservative migration helps recharge the pole's internal groundline zone once the pole is installed.

Guideline for the Physical Inspection of Engineered Laminated Wood Poles

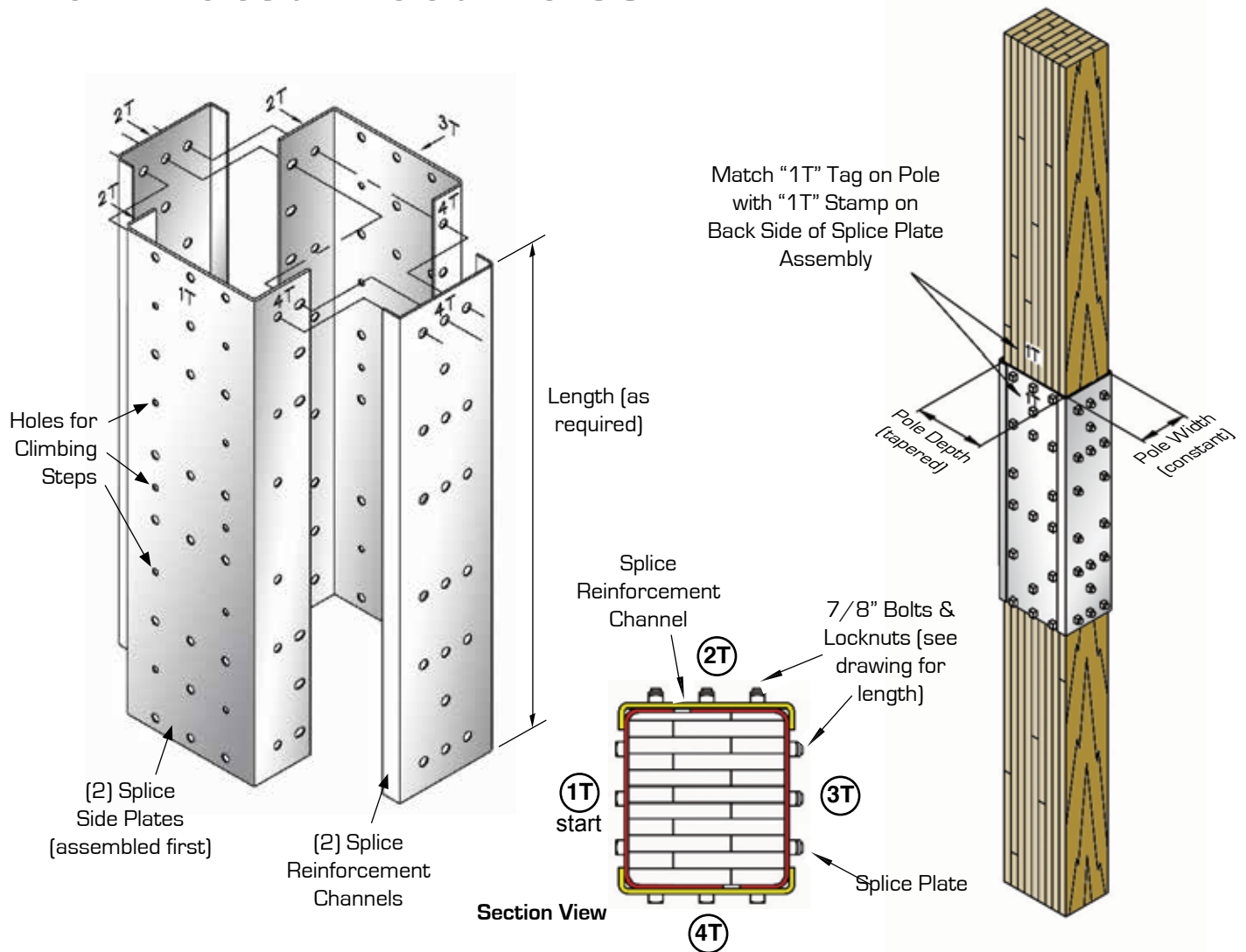
It is recommended that laminated wood poles be included with the utility's normal round wood pole inspection cycle using typical methods such as sounding with a hammer. Suspect areas should be further examined by a small diameter drill or core boring tool. After inspection, these holes should be flooded with preservative and closed by inserting treated plugs.

If decay is detected, poles with enclosed pockets should be flooded internally and treated externally with a preservative. All holes should be flooded with preservative and closed by inserting treated plugs.

If a defect is identified, the individual structure should be evaluated by the owner and the supplier (LWS) to determine if it meets the owner's structural loading requirements.



Splice Assemblies for E-LAM® Laminated Wood Poles





LWS

LAMINATED WOOD SYSTEMS

1327 285th RD • PO Box 386
Seward, Nebraska 68434
800-949-3526 sales@lwsinc.com

© 2020 LWS, Inc.