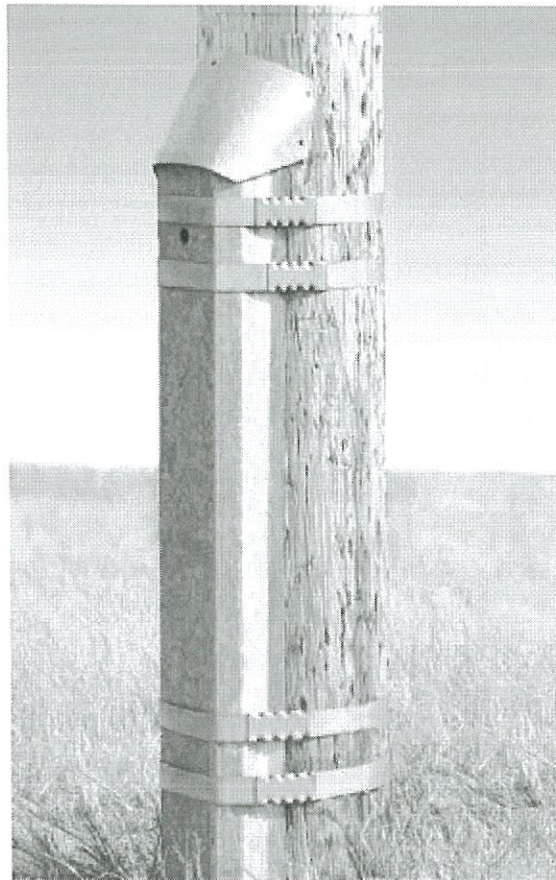


Engineering Standards Department
Technical Specification No. PRS-0903-2015
Pole Reinforcement System



Prepared By:	Approved By:
	
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1. Scope

This specification covers the requirements for transmission and distribution steel reinforcement systems (Truss) for use with Jamaica Public Service wood pole infrastructure. The Steel Reinforcement System is necessary to restore in-service wood poles with significant ground line decay to their original strength. This specification has been developed for the procurement of the wood pole reinforcement system.

2. Environmental Conditions

The steel reinforcement system will be installed in the following environmental conditions;

1. Temperature Ranges from 20° C to 36° C
2. Relative Humidity (Annual Average) of 80% Non-condensing
3. Coastal Area with high Salt conditions

3. Description

The dimensions of the steel reinforcement shall be specific for each pole size and class and shall conform to the requirement of NESC in providing sufficient load bearing capacity to the poles listed in *Table 1* for restoration of the structure. The reinforcement shall be so designed that the burial depth does not exceed 5-6 feet.

The steel reinforcement shall be designed to ensure that no sharp edges are exposed after installation. The reinforcement shall be resistant to highly corrosive alkaline and salty environmental conditions. The unit’s design shall not permit the retention of water between the reinforcement and the pole.

The steel reinforcement shall be provided with all accessories necessary for a completed installation. The weight of the unit is critical and lighter weight designs shall be given preference as this reduces the transportation and installation costs.

4. Accessories

The steel reinforcement (truss) shall be provided with the accessories required for complete installation, these include;

JPS Stock No.	Accessories	Packaging/unit	Similar Product
	Steel Bands	Rolls (m)	Osmose Cat No. 75-020-001-010
	Seals	Box (250)	Osmose Cat No. 75-020-001-020
	Safety Caps (Small)	Each	Osmose Cat No. 75-020-001-033
	Safety Caps (Large)	Each	Osmose Cat No. 75-020-001-030
	Galvanized Paint	Each	Osmose Cat No. 75-020-001-040

The bands shall be manufactured from High Strength Galvanized Steel with minimum tensile strength of 95,000 PSI. The material elongation shall not exceed 10%. The seals for securing bands to the truss and safety caps for covering the installations shall also be manufactured from galvanized steel consistent with very high corrosion resistant finish for extreme contaminated areas.

5. JPS Wood Pole Infrastructure

Table 1 below list the length, class and established ground line moments for JPS wood pole infrastructure. The steel reinforcement units being provided shall exceed the required ground line moments stated below by a minimum of 5%.

Table 1: Pole Class and Ground Line Strength

No.	Pole Length (ft.)	ASAE Class	Burial Depth (ft.)	Ground Line Moment (ft.-lbs.)
1	30	6	5	28,709
2	35	6	5.5	35,300
3	40	4	6	67,400
4	45	2	6.5	117,400
5	60	2	8	156,000
6	65	2	8.5	166,153
7	65	1	8.5	202,078
8	70	2	9	179,873
9	70	1	9	218,765
10	75	2	9.5	193,592
11	75	1	9.5	235,450

6. Submission

The supplier shall provide JPS with drawings and other details of the pole reinforcement system specific to the various size and class poles at the time of bid submission. The drawings should inform JPS of the expected dimensions, exact weight, structural details, manufacturing standard, etc.

The supplier shall also provide a list of the accessories and hardware that is required for complete installation, the quantities shall be clearly specified to meet the quantity of truss in the tender. The supplier shall also provide an instruction manual for the handling and installation of the product.

7. Standards and Warranty

The wood pole steel reinforcement system shall be manufactured to exceed the requirements for the National Electric Safety Code (NESC) and shall be in accordance with ASTM A123 for galvanized protection of steel (heavy coating).

The wood pole steel reinforcement is expected to have a minimum useful life of twenty (20) years without rehabilitation.

8. Packaging and Shipment

Each steel reinforcement unit shall be shipped complete with the required hardware. The unit shall be suitably packaged for identification of type, size, strength, etc. Each steel reinforcement shall be subjected to inspection for physical damage and quality of the protective coating/painting on arrival at JPS.