

DATE: June 12, 2013

SUBJECT: Composite Fiberglass Reinforced Polymer Utility Poles

TO: District Executives

FROM: Charles C. Goodhart, Director *For Stephen J. Grimme, P.E.*
Bureau of Maintenance and Operations

This time neutral Strike-off Letter (SOL) allows the use of composite Fiberglass Reinforced Polymer (FRP) utility poles within the Department's highway right of way as a part of Highway Occupancy Permit (HOP) projects, provided the poles meet minimum safety and strength requirements.

Recently, the Department has been approached by manufacturers and utility owners about the use of FRP poles. Historically and typically, utility poles have been wooden. Studies have shown that relative to wooden poles, FRP poles offer comparative, if not higher, levels of safety in the case of vehicle strikes, and higher carrying capacity for utility facilities. If a permit applicant identifies FRP poles on its plans, an HOP can be issued if:

- Certifications are provided from the pole manufacturer stating that:
 - the perpendicular shear strength of the Fiber Reinforced Polymer (FRP) pole does not exceed the shear strength of an ANSIO5.1 equivalent wood pole AND
 - the composite FRP pole meets the structural reliability based upon the rules of the National Electrical Safety Code (NESC);
- ADA and existing PennDOT design and location requirements are met.

The attached policy is effective immediately. Publications 170 and 282 have been revised to include this update. The following sheets are to be used to update the existing Publications. Please place in the Publications:

- Pub. 170, HOP Manual, Chapter 1.5, pg. 20
- Pub. 282, HOP Guidelines, Chapter 1.4, pg. 17

Should you have any questions, please contact Glenn Rowe, P.E., Chief, Traffic Engineering and Permits Section, at 717-783-6479.

Attachments

4940/MJD/hmq

cc: Cory Donahue, P.E., Transportation Engineer FHWA
Timothy Scanlon, P.E., Turnpike Traffic Engineer, Turnpike Commission
Steven C. Napper, Chairperson, Utility Highway Liaison Committee
Assistant District Executives – Construction
Assistant District Executives – Design
Assistant District Executives – Maintenance
Scott Fletcher, P.E., Assistant District Executive – Services, Engineering District 6-0
District Permit Managers
District Utility Relocation Administrators
William Cressler, Chief Counsel, Office of Chief Counsel
Thomas Haist, Assistant Chief Counsel, Office of Chief Counsel
George McAuley, P.E., Acting Director, BOPD
Charles C. Goodhart, Director, BOMO
Bryan Kendro, Director, Policy Office
BOMO Division Chiefs

Applicability. The approved “Core Bore Process” may be used by any Utility that requests to use this process on its Permit application, including applications for emergency work.

Any Utility may propose another non-proprietary restoration process utilizing other technology, provided it agrees to participate in a pilot to demonstrate to the Department’s satisfaction that both the public safety and the highway infrastructure will be improved.

Composite Reinforced Fiberglass Polymer Poles

Composite Fiber Reinforced Polymer (FRP) utility poles may be used, subject to the following:

- a. The permit application identifies the composite FRP pole.
- b. The permit application must include a certification, from the composite FRP pole manufacturer, stating that the perpendicular shear strength of the Fiber Reinforced Polymer (FRP) pole does not exceed the shear strength of an ANSIO5.1 equivalent wood pole.
- c. The permit application must include a certification (provided by the pole manufacturer) that the composite FRP pole meets the structural reliability based upon the rules of the National Electrical Safety Code (NESC).
- d. The composite FRP pole is placed consistent with the Americans with Disabilities Act (ADA).

Include Condition Code 364 on each Permit authorizing a composite pole.

determination will be made by District staff on a case-by-case basis (considering age and condition of pavement).

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Any Utility may propose another non-proprietary restoration process utilizing other technology, provided it agrees to participate in a pilot to demonstrate to the Department’s satisfaction that both the public safety and the highway infrastructure will be improved.

Include Condition Codes 340 (relating to flowable fill) and 440 (relating to Core Bore Process) on each Permit authorizing the “Core Bore” process.

Composite Reinforced Fiberglass Polymer Poles

Composite Fiber Reinforced Polymer (FRP) utility poles may be used, subject to the following:

- a. The permit application identifies the composite FRP pole.
- b. The permit application must include a certification, from the composite FRP pole manufacturer, stating that the perpendicular shear strength of the Fiber Reinforced Polymer (FRP) pole does not exceed the shear strength of an ANSIO5.1 equivalent wood pole.
- c. The permit application must include a certification (provided by the pole manufacturer) that the composite FRP pole meets the structural reliability based upon the rules of the National Electrical Safety Code (NESC).
- d. The composite FRP pole is placed consistent with the Americans with Disabilities Act (ADA).

Include Condition Code 364 on each Permit authorizing a composite pole.