

EXHIBIT B

Monopole Lightning Protection Information

Job # 15363-1030-1601

General Background:

Lightning protection exists to provide a means to discharge a lightning strike without causing any damage or loss. The best method to accomplish this is providing a path of least resistance to ground for the strike to dissipate through. The path needs to be continuous from the point of the lightning strike to the earth. Obviously the highest point of any structure has the highest probability to take the lightning strike. Lightning protection systems consist of air terminals (lightning rods) located on the top of structures, ground rods buried in the earth and a conductor that connects the air terminals to the ground rods. Monopoles made of electrically continuous material have historically often been used as a significant portion of the conductor between the air terminal and ground rods.

Code Background:

The 2005 Connecticut Building Code adopted the 2005 NEC (which is actually NFPA 70) for electrical standards. NEC 2005 Section 250.106 - Lightning Protection Systems – states “The lightning protection system ground terminals shall be bonded to the building or structure grounding electrode system”. Fine Print Note (FPN) No. 1 states “For further information, see NFPA 780-2004, Standard for the Installation of Lightning Protection Systems, which contains detailed information on grounding, bonding, and spacing from lightning protection systems”.

NFPA 780-2004 Requirements:

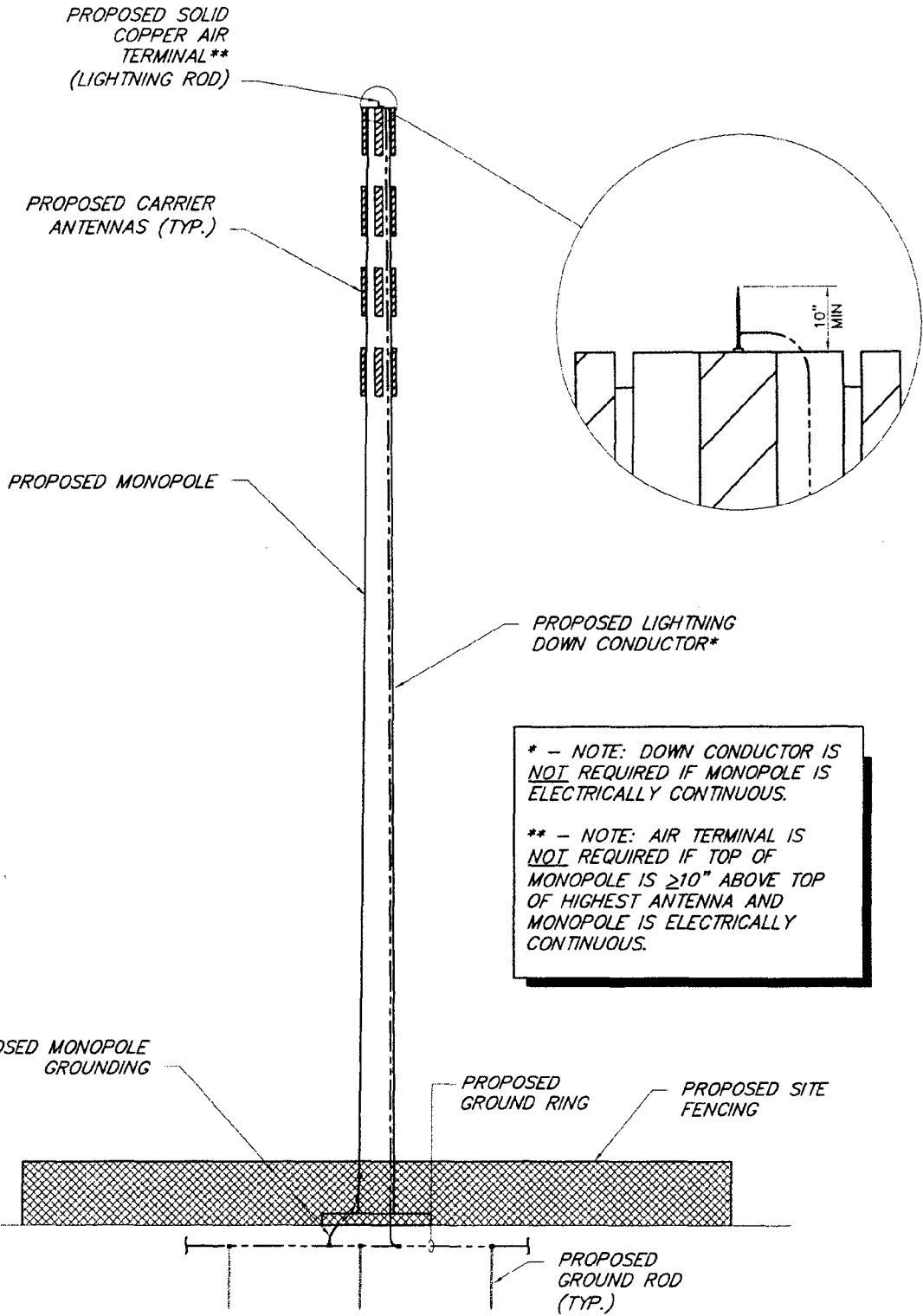
Chapter 5 addresses protection for miscellaneous structures and Special Occupancies. Specifically Section 5.2 addresses Masts, Spires, Flagpoles, which a monopole falls under. This section states “These slender structures shall require one strike termination device, down conductor and grounding electrode. Additionally, electrically continuous structures shall require only bonding to grounding electrode(s)”. Monopoles, when made of electrically conductor material such as steel, meet this requirement. It also states that the requirements of Chapter 4 shall apply except where modified by Chapter 5.

Chapter 4 covers protection for ordinary structures. This basically relates to rooftops. But several aspects of information are applicable to a monopole:

- Section 4.6.2 - Air Terminal Height – states the tip of an air terminal shall be not less than 254 mm (10 in.) above the object or area it is to protect
- Section 4.16.2.1 indicates strike termination devices shall be connected to the structural steel framing by direct connection, by use of individual conductors routed through the roof or parapet walls to the steel framework, or by use of an exterior conductor that interconnects all strike termination devices and that is connected to the steel framework.
- Table 4.1.1.1 gives the protection system material requirements based on height, one set of specifics for <75' and another set of specifics for >75'.

The attached drawing shows typical grounding for a monopole based on NFPA requirements.

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* - NOTE: DOWN CONDUCTOR IS NOT REQUIRED IF MONOPOLE IS ELECTRICALLY CONTINUOUS.

** - NOTE: AIR TERMINAL IS NOT REQUIRED IF TOP OF MONOPOLE IS $\geq 10"$ ABOVE TOP OF HIGHEST ANTENNA AND MONOPOLE IS ELECTRICALLY CONTINUOUS.

MONOPOLE ELEVATION
NO SCALE

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TYPICAL MONOPOLE LIGHTNING PROTECTION DESIGN

DATE:
10/2/08

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