## CHAPTER VIII

**UNDERGROUND POWER AND COMMUNICATIONS FACILITIES**

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CHAPTER VIII
UNDERGROUND POWER AND
COMMUNICATIONS FACILITIES

Section 1. Design & Construction Provisions. The provisions of Chapter I as to occupancy of and construction within highway rights-of-way shall apply.

The term communications facilities of this section includes, but is not limited to, telephone/telegraph lines, fiber optics lines, cable tv lines, fire alarm/signal lines, telemetry circuits, and any other lines for the purpose of sending/receiving signals and communications.

The term power facilities of this section includes, but is not limited to, transmission and distribution lines for electric current and associated equipment and facilities.

Section 2. Specific Provisions.

(a) Parallel encroachments shall be as close to the highway R/W line as possible.

(b) Crossings shall be as close to perpendicular to the roadway centerline as practical.

(c) Casing pipe for pushed or bored crossings shall be of sufficient strength to withstand highway loadings and of sufficient size to allow for future installations.

(d) Parallel encroachments of direct buried cable underneath the traveled lanes is not allowed. When permitted elsewhere in the highway R/W, direct buried cable shall be a minimum of 36 inches below natural ground and a minimum of 36 inches below ditch flowline for crossings.

(e) Parallel encroachment of a multiple space duct transmission system and the associated manholes, splice pits, and/or vaults are not encouraged but may be approved for construction under the roadway and/or sidewalk section of urban roads provided the appurtenances are designed to withstand highway loading and allowances are made for future roadway gradeline changes. Distribution systems shall not be placed under the pavement section.

(f) The construction provisions of the National Electrical Safety Code and/or National Electrical Code shall apply with a minimum depth of cover of 36 inches below top of pavement for parallel construction, and a minimum of 36 inches below roadway ditch flowline for crossings.

(g) Joint occupancy of duct systems and trenches is encouraged provided the construction provisions of the NESC and/or NEC can be followed.

(h) The face of the bore pits or receiving pits shall be no closer than fifteen (15) feet to the roadway embankment slope or roadway ditch and in no case closer than 30 feet to the edge of the traveled way and the casing pipe shall at a minimum extend to the face of the pit.
(i) The diameter of the bore shall not exceed the outside diameter of the pipe being placed by more than five (5) percent.

(j) Trenching or plowing from the bore/receiving pit to the R/W line may be authorized at the discretion of the Department's engineer.

(k) Restoration of the R/W, compaction of trenches, repair of pavement, repair of fences, etc. shall be as directed by the Department's engineer.

(l) Marker posts shall be placed as close to the R/W line as possible. For parallel encroachments they shall be at 1,000 feet intervals or line of sight and at crossings on both sides of the R/W.

(m) Parallel installation within the median strip of divided highways is not permitted.

(n) Deviation from the approved horizontal alignment in excess of two (2) feet shall have prior approval from the Department's engineer and amended exhibit's will be provided.

Section 3. Specific Provisions - Fiber Optics Facilities. These provisions are contained in WHD Form E-54-B "Attachment to License for Fiber Optics Communications Facilities"; copy included in this regulation.

Section 4. Conduit for Street Lighting and Traffic Signals. These conduits, when placed underneath or adjacent to the sidewalk, shall be a minimum of eighteen (18) inches below sidewalk or ground.