

**RULES  
OF  
TENNESSEE DEPARTMENT OF TRANSPORTATION  
RIGHT-OF-WAY DIVISION**

**CHAPTER 1680-6-1  
RULES AND REGULATIONS FOR ACCOMMODATING UTILITIES  
WITHIN HIGHWAY RIGHTS-OF-WAY**

**TABLE OF CONTENTS**

1680-6-1-.01	Preface	1680-6-1-.06	Location and Alignment Criteria
1680-6-1-.02	Definition of Terms	1680-6-1-.07	Controls Governing Utility Installations
1680-6-1-.03	Application and Scope	1680-6-1-.08	Processing of Use and Occupancy Agreement
1680-6-1-.04	General Considerations	1680-6-1-.09	Fiber Optic Cable Facilities on Freeways
1680-6-1-.05	Design	1680-6-1-.10	Appendices

**1680-6-1-.01 PREFACE.** Historically, utility facilities have been accommodated in highway rights-of-way pursuant to various State statutes, local law, ordinances and franchises upon execution of a Utility Use and Occupancy Agreement issued by the Department of Transportation. Heretofore such installations have been made based on Department of Transportation approval of plans, prepared by the utility, prior to execution of the Utility Use and Occupancy Agreement by the Department of Transportation. However, construction of freeway type highways, as exemplified by the system of Interstate and Defense Highways, to accommodate large volumes of vehicular traffic and demands of an ever increasing population for essential utility services, has necessitated the Department of Transportation to carefully consider the effects of joint usage of highway rights-of-way and develop written rules and regulations to govern the use and occupancy of highway rights-of-way by public and private utilities. Rules and regulations set forth herein have been prepared with the thought of accommodating utility facilities and at the same time maintaining the integrity, operational safety and function of the highway facility.

**Authority:** T.C.A. §4-3-2303(2). **Administrative History:** Original rule filed August 8, 1983; effective September 7, 1983.

**1680-6-1-.02 DEFINITION OF TERMS:**

- (1) For the purpose of these rules and regulations the following definitions shall apply:
  - (a) Average daily traffic. The average 24-hour volume, being the total volume during a stated period divided by the number of days in that period. Unless otherwise stated, the period is a year. The term is commonly abbreviated as ADT.
  - (b) Backfill. Replacement of suitable material compacted as specified around and over a pipe, conduit, casing or gallery.
  - (c) Bedding. Organization of soil or other suitable material to support a pipe, conduit, casing or gallery.
  - (d) Cap. Rigid structural element surmounting a pipe, conduit, casing or gallery.
  - (e) Carrier, Pipe directly enclosing a transmitted fluid (liquid or gas).
  - (f) Casing. A larger pipe enclosing a carrier.
  - (g) Clear Zone. That roadside border area, starting at the edge of the traveled way, available for use by errant vehicles.
  - (h) Coating. Material applied to or wrapped around a pipe.

(Rule 1680-6-1-.02, continued)

- (i) Commissioner of Transportation. Commissioner of Transportation, Tennessee Department of Transportation.
- (j) Conduit or duct. An enclosed tabular runaway for protecting wires or cables.
- (k) Control of access. The condition where the right of owners or occupants of abutting land or other persons to access, light, air or view in connection with a highway is fully or partially controlled by public authority.
- (l) Conventional highway. An arterial highway without access control.
- (m) Cover. Depth of Top of pipe, conduit, casing or gallery below grade of roadway or ditch.
- (n) Cradell. Rigid structural element below and supporting a pipe.
- (o) Department of Transportation. Tennessee Department of Transportation.
- (p) Direct burial. Installing a utility facility underground without encasement.
- (q) Division Administrator. Division Administrator, Federal Highway Administration, U.S. Department of Transportation.
- (r) Drain. Appurtenance to discharge liquid contaminants from casings.
- (s) Encasement. Structural element surrounding a pipe.
- (t) Encroachment. Unauthorized use of highway right-of-way or easements as for signs, fences, utilities, parking, storage, etc.
- (u) Expressway. A divided arterial highway for through traffic with full or partial control of a generally with grade separations at major intersections.
- (v) FHPM. Federal-Aid Highway Program Manual.
- (w) Flexible pipe. A plastic, fiberglass, or metallic pipe having large ratio of diameter to wall which can be deformed without undue stress.
- (x) Freeway. An expressway with full control of access.
- (y) Frontage road. A local street or road auxiliary to and located on the side of an arterial highway for service to abutting property and adjacent areas and for control of access.
- (z) Full control of access. The authority to control access is exercised to give preference to through traffic by providing access connections with selected public roads only by prohibiting crossings at direct private driveway connections.
- (aa) Gallery. An underpass for two or more utility lines.
- (bb) Gas Main. A pipe installed in a community to convey gas to individual services lines or other mains.

(Rule 1680-6-1-.02, continued)

- (cc) Grounded. Connected to earth or to some extended conducting body which serves instead of whether the connection is intentional or accidental.
- (dd) Grout. A cement mortar or a slurry of fine sand or clay.
- (ee) Highway, Street or Road. A general term denoting a public way for purposes of vehicular travel, including the entire area within the right-of-way.
- (ff) Jacket. Encasement by concrete poured around a pipe.
- (gg) Manhole. An opening in an underground system which workmen or others may enter for the purposes of making installations, inspections, repairs, connections and tests.
- (hh) Median. The portion of a divided highway separating the traveled ways for traffic in opposite directions.
- (ii) New Utility Installation. An initial installation on the highway right-of-way and the replacement of existing facilities with those of a different type, capacity or design of replacement at a new location on the right-of-way.
- (jj) Normal. Crossing at a right angle.
- (kk) Oblique. Crossing at an acute angle.
- (ll) Partial control of access. The authority to control access is exercised to give preference to through traffic to a degree that, in addition to access connections with selected public roads, there may be some crossings at grade and some private driveway connections.
- (mm) Pavement structure. The combination of subbase, base course, and surface course placed on a subgrade to support the traffic load and distribute it to the roadbed.
- (nn) Pipe. A tabular product made as a production item for sale as such. Cylinders formed from plate in the course of the fabrication of auxiliary equipment are not pipe as defined here.
- (oo) Pipeline or transmission line. A pipe installed for the purpose of transmitting a product from 3 source or sources of supply to one of more distribution centers, or to one or more large volume customers, or a pipe installed to interconnect sources of supply.
- (pp) Plowing. Direct burial of utility lines by means of a "plow" type mechanism which breaks the ground, places the utility line and closes the break in the ground in a single operation.
- (qq) Pressure. Relative internal pressure in psig (pounds per square inch gauge).
- (rr) Private lines. Privately owned facilities which convey or transmit commodities outlined in the application and scope sections of these rules and regulations but are devoted exclusively to private use.
- (ss) Right-of-way. A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to transportation purposes.
- (tt) Rigid pipe. Pipe designed for diametric deflection of less than 1%.

(Rule 1680-6-1-.02, continued)

- (uu) Roadside. A general term denoting the area adjoining the outer edge of the roadway. Extensive areas between the roadways of a divided highway may also be considered roadside.
- (vv) Roadway. The portion of a highway, including shoulders, for vehicular use. A divided highway has two or more roadways.
- (ww) Safety rest area. A roadside area with parking facilities separated from the roadway provided for motorists to stop and rest for short periods. It may include drinking water, toilets, tables and benches, telephones, information, and other facilities for travelers.
- (xx) Scenic overlook. A roadside area provided for motorists to stop their vehicle for viewing the scenery in safety.
- (yy) Semi-Rigid pipe. Pipe designed to tolerate from 1% to 301% diametric deflection.
- (zz) Service line. The piping installed between the meter set assembly and a main, pipeline or other source of supply.
- (aaa) Stab, floating. Slab between, but not contacting, pipe or pavement.
- (bbb) Sleeve. Short casing through pier or abutment of highway structure.
- (ccc) Special Provision. Provision inserted into a Use and Occupancy Agreement revising these rules and regulations or supplements hereto, and covering conditions peculiar to the individual utility installation.
- (ddd) Specifications. Standard Specifications for Road and Bridge Construction-Tennessee Department of Transportation.
- (eee) State Transportation Engineer. Transportation Engineer, Tennessee Department of Transportation
- (fff) Surety. The corporation, partnership or individual other than the utility owner, executing a bond furnished the Department of Transportation by the utility owner.
- (ggg) Traveled way. The portion of the roadway for the movement of vehicles, exclusive of shoulders and auxiliary lanes.
- (hhh) Trenched. Installed in a narrow open excavation.
- (iii) Untrenched. Installed without breaking ground or pavement surface, such as by jacking or boring.
- (jjj) Use and Occupancy Agreement. The document by which the Department of Transportation regulates and/or gives approval of the use and occupancy of highway rights-of-way by utility facilities or private lines.
- (kkk) Utility owner. The public agency, cooperative, corporation, company or individual named in the Use and Occupancy Agreement and responsible for the construction, operation and maintenance of the utility facility.
- (111) Utility Service Connection. A service connection from a utility distribution or feeder line or main to the premises served.

(Rule 1680-6-1-.02, continued)

(mmm) Vent. Appurtenance to discharge gaseous contaminants from casings.

(nnn) Walled. Partially encased by concrete poured along side the pipe.

**Authority:** T.C.A. §4-3-2303(2). **Administrative History:** Original rule filed August 8, 1983; effective September 7, 1983. Amendment filed July 20, 1984; effective August 19, 1984.

### **1680-6-1-.03 APPLICATION AND SCOPE.**

(1) Application.

- (a) Rules and Regulations set forth herein shall apply to all publicly, privately or cooperatively owned utilities for producing, transmitting or distributing electric power, light, communications, water, gas, oil, crude products, steam, chemicals, sewage, storm drainage, irrigation structures and ditches, fire and police signal systems and street lighting systems that are to be located, adjusted and/or relocated either overhead or under ground within rights-of-way of highways which compose the state, Federal-aid metro-urban and State-aid highway system of roads. Utility owners must deal directly with county and/or city officials concerning installations or relocations on Federal-aid metro-urban and State-aid highway system roads unless advised in writing that the Department of Transportation is acting as agent for the local government in acquiring the rights-of-way and adjusting utilities to accommodate proposed highway construction.
- (b) It is not intended that these rules and regulations be retroactive but shall be effective on the date they are officially issued or revised by the Commissioner of Transportation. They shall apply to new installations and utility facilities relocated to accommodate highway construction.

(2) Scope.

- (a) Rules and Regulations set forth herein are limited to the Department of Transportation's responsibility for preserving the integrity of the highway and its safe and efficient operation. It is not intended that these rules and regulations alter or conflict with current State statutes, local ordinances, franchises or regulations for installing and maintaining utility facilities within highway rights-of-way. Neither are they to be used as a basis for determining financial responsibility for replacing, adjusting and/or relocating utility facilities. When State statutes, local ordinances, or orders of appropriate governmental agencies require a greater degree of protection than required in these rules and regulations, such requirements take precedence over these rules and regulations.

**Authority:** T.C.A. §4-3-2303(2). **Administrative History:** Original rule filed August 8, 1983; effective September 7, 1983.

### **1680-6-1-.04 GENERAL CONSIDERATIONS.**

- (1) New utility facilities being installed within highway rights-of-way will require a Use and Occupancy Agree- issued by the Department of Transportation. The Department has adopted a standard Use and Occupancy Agreement which is included as Appendix #1.
  - (a) The utility official signing the Use and Occupancy Agreement must furnish evidence acceptable to the Department that fie is empowered to bind the corporation or municipality to the terms of the agreement. This evidence will be kept on file by the Department for reference, and it will

(Rule 1680-6-1-.04, continued)

not be necessary that same be submitted each time a permit is requested so long as the same official executes the agreement.

- (b) In those instances where Utility facilities are being installed in highway rights-of-way by an owner or developer of properties adjacent to the highway and the utility facilities will later become the property of a local government or utility company; particular care must be exercised to insure that obligations assumed by the developer in executing the Use and Occupancy Agreement are transferred to the subsequent owner. Both the developer and subsequent owner shall sign the agreement.
  - (c) Individuals or businesses installing private utility facilities will be required to execute the license as shown in Appendix No. 6.
- (2) Utility facilities presently located in public rights-of-way which must be adjusted and/or relocated to accommodate new highway construction will be subject to these stated rules and may be retained in the rights-of-way under provisions of the existing permit or Use and Occupancy Agreement. If no record of a permit can be found by either the utility or State, a Use and Occupancy Agreement will be prepared by the Department of Transportation for execution by the utility and State Transportation Engineer.
  - (3) The facilities of a utility located in private lands, whether owned in fee or casement, that must be adjusted and/or relocated to accommodate highway construction and will thereafter jointly occupy said lands with the highway shall be subject to these rules.
  - (4) Utility facilities presently located in private lands, by virtue of adverse possession *thereof, which* must be adjusted and/or relocated to accommodate highway construction and will, when adjusted and/or relocated, occupy lands acquired for highway rights-of-way will be subject to these rules. A Use and Occupancy Agreement will be prepared by the Department of Transportation for execution by the utility owner and the State Transportation Engineer.
  - (5) Execution of a Use and Occupancy Agreement will not be required for:
    - (a) Routine maintenance of utility facilities where pavement and shoulders are not disturbed.
    - (b) Placement of additional cable in existing underground ducts.
    - (c) Changing of transformers in electric distribution lines.
    - (d) Reconductoring of existing poles, anchor and guy facilities when poles are not added or replaced, framing and other minor work. Poles may be replaced in the same location; however, consideration must be given to relocating the pole line in order to meet the present safety requirements as outlined in these rules and regulations.
    - (e) Underground water, gas, electric, telephone or other service connections when shoulder or pavement of highway is not disturbed.
    - (f) Overhead service connections on conventional highways. Overhead service connections shall not be made across freeway projects without approval of the Department of Transportation.
      - 1. The utility owner or authorized representative, when performing any of these activities, is required to provide signing and traffic control measures as required and set forth in these rules.

(Rule 1680-6-1-.04, continued)

2. The utility owner must notify the Department of Transportation's Regional Utilities Engineer prior to performing excavation or replacing poles within the highway right-of-way. When work must be done on an emergency basis during other than normal working hours, notification should be given by the next working day. If any temporary structures are required to facilitate the work, the location of these structures must be approved by the Regional Utilities Engineer.
- (6) Except as may otherwise be provided in Rule 1680-6-1-.09 for certain fiber optic cable facilities, the design, location and installation of new utility facilities or the necessary relocation and/or adjustment of existing utility facilities within the rights-of-way of freeways shall conform to the provisions of "A Policy on the Accommodation of Utilities Within Freeway Right-of-Way," published by the American Association of State Highway and Transportation Officials in 1982. This publication is included herein as Appendix # 2.
  - (7) Longitudinal installations of utility facilities other than certain fiber optic cable facilities governed by Rule 1680-6-1-.09 shall not be permitted within freeway rights-of-way except in special cases under strictly controlled conditions and only along the outer edge of the right-of-way. This restriction shall not apply to utilities that provide services to Department of Transportation or other state-operated facilities along the freeway, including without limitation rest areas, welcome centers and weigh stations.
    - (a) To be considered for a permit in a special case, the utility owner must submit to the Department of Transportation a study showing that:
      1. The proposed utility accommodation will not adversely affect the safety, design, construction, operation, maintenance or stability of the freeway;
      2. The proposed utility accommodation will not be constructed, serviced or maintained by direct access from the traveled way, shoulders or access ramps of the freeway;
      3. The proposed utility accommodation will not interfere with or impair the present operation, use and maintenance, or future expansion, of the freeway; and
      4. Any alternative location would be contrary to the public interest. This showing shall include an evaluation of the direct and indirect environmental and economic effects that would result if the proposed utility accommodation is denied.
    - (b) When evaluating this study, the Department of Transportation will give consideration to:
      1. The effect the proposed utility accommodation would have on the highway and traffic safety;
      2. The direct and indirect environmental and economic effects of any loss of productive agricultural land that would result if the proposed utility accommodation is denied;
      3. The interference with or impairment of the use of the highway if the proposed utility accommodation is approved; and
      4. The availability of alternative locations for the utility.
  - (8) Use and Occupancy Agreements for the installation of utility facilities within the rights-of-way of Federal-aid highway projects may require the approval of the Division Administrator, Federal Highway Administration, as provided in the rules and regulations of the Federal Highway

(Rule 1680-6-1-.04, continued)

Administration with respect to the accommodation of utilities, 23 C.F.R. Part 645, Subpart B, as amended.

- (9) The responsibility of designing, installing, maintaining, repairing and operating utility facilities to be located within highway rights-of-way under terms of an approved Use and Occupancy Agreement shall be the express obligation of the company, individual or public agency owning the facility. (Relocation costs to accommodate highway construction will be considered under the Department of Transportation's reimbursement procedures for such relocations.)
- (10) The Department of Transportation will inspect all utility installations within highway rights-of-way for conformity with herein stated rules and regulations and special provisions which are made a part of the Use and Occupancy Agreement. When new utility installations within the rights-of-way of existing highways are of such magnitude and complexity as to require extensive inspectional services by the Department of Transportation to ascertain that all provisions of these rules and regulations are carried out, the Department of Transportation reserves the right to place an inspector on the site for the duration of construction activities. The utility in accepting the Use and Occupancy Agreement agrees to reimburse the Department of Transportation for said inspector's salary, equipment use and miscellaneous expense applicable to the installation of the utility facilities. The necessity for such inspectional services can usually be determined prior to execution of the Use and Occupancy Agreement, and the requirement for inspectional services will be set out as part of the agreement by incorporation of a special provision. Failure to install facilities in accordance with these ruled and regulations and terms of the Use and Occupancy Agreement will result in the Department of Transportation's Regional Engineering Director advising the utility company to suspend further construction activities until corrective measures have been made to the satisfaction of the Department of Transportation.
- (11) Any inspection or control exercised by the Department of Transportation shall in no way relieve the utility owner of any duty or responsibility to the general public nor shall such services and/or control by the Department of Transportation relieve the utility owner from any liability for loss, damage or injury to persons or adjacent properties.
- (12) The decision of the State Transportation Engineer, and if required the Division Administrator of the Federal Highway Administration, shall be final and conclusive with respect to conditions, terms, stipulations and provisions of the Use and Occupancy Agreement as approved.

**Authority:** T.C.A. §4-3-2303(2). **Administrative History:** Original rule filed August 8, 1983; effective September 7, 1983. Amendment filed July 20, 1984; effective August 19, 1984. Amendment filed February 1, 1989; effective March 18, 1989. Amendment filed September 24, 2002; effective December 8, 2002.

#### **1680-6-1-.05 DESIGN.**

- (1) Prior to commencing design of utility facilities that will encroach upon highway rights-of-way, it is recommended that utility company representatives contact the Department of Transportation's Regional Utilities Engineer and arrange for a preliminary review and, if necessary, a field inspection of the highway facility. This review will provide a basis for discussing proposed highway construction, type of highway facility involved or planned, and extent of approvals that will be required. As the State highway system is composed of many types of facilities, this is the only way design of proposed utility facilities may proceed on an orderly basis.
- (2) The utility shall be responsible for the design of the utility facility to be installed within the highway rights-way or attached to a highway structure. The Department will be responsible for review and approval of the utility's proposal with respect to the location of the utility facilities to be installed and the manner of installation or attachment. This includes the measures to be taken to preserve the safe

(Rule 1680-6-1-.05, continued)

and free flow of traffic, structural integrity of the roadway or highway structure, ease of highway maintenance, appearance of the highway, and the integrity of the utility facility.

- (3) Utility installations on, over or under the rights-of-way of state highways and utility attachments to highway structures shall, as a minimum, meet the following design requirements:
  - (a) Electric Power and communications facilities shall conform with the currently applicable National Electric Safety Code, Bureau of Standards, U.S. Department of Commerce.
  - (b) Water lines shall conform with the currently applicable specifications of the American Water Works Association Standards and Specifications.
  - (c) Pressure pipelines shall conform with the currently applicable sections of ANSI Standards for Pressure Piping of the American National Standards Institute including:
    1. Power Piping, ANSI B31.1.0.
    2. Petroleum Refinery Piping ANSI B31.3.
    3. Liquid Petroleum Transportation Piping System ANSI B31.4.
    4. Gas Transmission and Distribution Piping System ANSI B31.8.
    5. Any pipeline carrying hazardous materials shall conform to the rules and regulations of the U.S. Department of Transportation governing the transportation of such materials.
  - (d) Liquid petroleum pipelines shall conform with the currently recommended practice of the American Petroleum Institute for Pipeline Crossings under Railroads and Highways.
  - (e) Encasements shall be of a durable material and shall conform to H 20 loading where located under the roadway template.
    1. Tunnel liners shall be of a durable material and shall conform to HS 20-44 loading where located under the roadway template and shall be designed and installed in accordance with application provisions of the current AASHTO Specification for Highway Bridges. Installation procedures not specifically covered by AASHTO specifications shall be in accordance with manufacturer's recommendations. Plans and design notes shall be reviewed and approved prior to installation. Wood tunnel liners will not be acceptable.
  - (f) Irrigation or drainage pipes and associated appurtenances shall conform with currently applicable design criteria of the Department of Transportation for the type of facility to be installed.
  - (g) When utility facilities must be adjusted and/or relocated to accommodate highway construction, provisions should be made for known or planned expansion of the affected facility, particularly those located underground or attached to highway bridge structures. This will serve to minimize future hazards and interference with highway traffic or other types of utility facilities installed within the highway rights-of-way.
  - (h) All utility installations on, over or under highway rights-of-way and attachment to highway bridge structures shall be of durable material designed for long life expectancy and relatively free from routine servicing or maintenance.

(Rule 1680-6-1-.05, continued)

When a non-metallic facility is installed by a utility, except where pushed or jacked under the roadway, a metallic tape, wire or other proven metallic detection device must be simultaneously placed with and attached to or over the facility in the trench to provide a means of detection. The detection device shall be of sufficient size and type to be located by any standard metal detector or pipe finder. Exceptions will be made for conduit installed for future use which will contain detectable facilities.

- (i) The type and size of utility facilities and the manner and extent to which they are permitted within scenic strips, overlooks, rest areas, recreation areas, the highway rights-of-way adjacent thereto, and the right-of-way of sections of highway through public parks and historic sites can materially alter the visual quality and view of these lands. New utility facilities will not be permitted within the foregoing described except as follows:
  1. New underground installation may be permitted where they do not require extensive removal or alteration of trees visible to the highway user or impair the visual quality of the land being traversed.
  2. New aerial installations are to be avoided at such locations unless there is no feasible and prudent alternative to the use of such lands by the aerial facility and it is demonstrated to the satisfaction of the State Transportation Engineer with concurrence of the Division Administrator, Federal Highway Administration, that:
    - (i) Other locations are not available or are unusually difficult and unreasonably costly or are less desirable from the standpoint of visual quality.
    - (ii) Undergrounding is not technically feasible or is unreasonably costly.
    - (iii) The proposed installation will be made at a location and will employ suitable designs and materials which give the greatest weight to the visual quality of the area being traversed. Suitable design will include-but is not limited to-self supporting, armless, single-pole construction with vertical configuration of conductors and cable.
- (j) Design of utility installations which will occupy highway bridge structures will be reviewed by the Department of Transportation subject to the following criteria:
  1. That there is no other feasible, reasonable or economical location for the utility facility.
  2. On a controlled access highway, when it is in the best interest of the Department, utilities shall be located around the abutment and up the back wall to a point above the lowest elevation of the bridge superstructure and within an interior girder.
  3. On an uncontrolled access highway, the utility will be required to go through the abutment if it can do so without disturbing the through traffic lanes or impeding traffic. Where the roadway and bridge are narrow and where going through the abutment will cause open cutting of the roadway and blocking of one or more lanes of traffic, the utility will be allowed to go around the abutment as described above. This will be determined jointly by the Department of Transportation, Utilities and Structures Division on a case by case basis.
  4. The facility shall occupy a position beneath the structure's floor, between girders or within a cell, and at an elevation above low superstructure steel or masonry. All holes to

(Rule 1680-6-1-.05, continued)

- be made in the diaphragms shall be by core drilling; however other methods will be considered on a case by case basis.
5. No pipe or conduit in excess of twelve inches in diameter will be permitted, except when it is determined to be in the best interest of the Department of Transportation.
  6. No pipelines or transmission lines, as defined in ANSI Standard Code B31 series, transmitting flammable liquids or gases will be permitted on highway structures.
  7. Gas mains and gas distribution mains, when designed for Type D construction and Class 4 location as set out in ANSI Standard Code for Pressure Piping B31.8, will be permitted to occupy bridge structures.
  8. The safe operation of the highway facility, efficiency of maintenance, and appearance of the highway facility shall be taken into consideration during design.
  9. Communication and electric facilities shall be suitably insulated, grounded and carried in protective conduit or pipe from the point of exit from the ground to reentry.
  10. Consideration shall be given to placement of shutoff or sectionalizing devices at or near the bridge structure when the commodity to be transmitted would pose a hazard to the traveling public.
  11. Pipelines transmitting liquid transmittants shall be encased or protective measures taken to insure the safety of the traveling public. Protective measures should employ a higher factor of safety in the design, construction and testing of the pipeline than would normally be required for cased construction.
  12. Blasting around and under bridges and culverts shall be in accordance with section 1680-6-1-.07, paragraph (13); Appendix #9 of these rules and in accordance with other applicable State laws.
  13. In order that the Department of Transportation may be insured that "Corrosion Control Measures" have been taken into account, the following guidelines will be used in reviewing proposed installations:
    - (i) Provision of dielectric barrier between the utility and bridge structure which will insulate them electrically. This can be accomplished by using a non-metallic material for mounting hardware, encasing the utility in non-metallic pipes or providing a coating or wrapping such as neoprene between the utility and the mounting hardware. Additional precautions shall be taken by avoiding contact between metal components in the bridge and metal inserts and anchor bolts. Where a pipe or utility is mounted on saddles and guides to allow for movement, additional provisions shall be made to compensate for wear. All contact between dissimilar metals shall be avoided.
    - (ii) The installation of insulating joints in the utility in the ground on each end of the bridge structure will help reduce the possibility of corrosion interference. Electrical test leads installed on each side of an insulated joint will provide the necessary means for periodic testing.
    - (iii) One utility shall not be allowed to have electrical continuity with another in any of the sections attached to the bridge. Individual isolation will allow for correction of

(Rule 1680-6-1-.05, continued)

future problems which might occur and will expedite periodic maintenance checks and tests.

- (iv) Where the utility passes through any part of the concrete bridge structure into the soil or water, provisions shall be made to separate the contact area. This can be accomplished by installing a non-metallic sleeve through the concrete or by wrapping the utility with a mastic or neoprene material. Consideration shall be given to separating the utility and concrete in buried thrust blocks.
  - (v) Selection of the proper materials is extremely important. Corrosion resistant material such as stainless steel and galvanizing for mounting hardware is recommended. Coatings and paints shall be selected which are suitable for the existing environment and will require a minimum of maintenance. It is the responsibility of each utility to install and maintain its facility and not create undue maintenance problems for other utilities or the bridge structure. Such conditions as rust streaks, discoloration and deterioration can be eliminated proper materials selection.
14. All installations on bridge structures must be approved by the Department of Transportation's Engineering Director of the Structures Division.
- (k) Concrete box culverts and pipe culverts are designed to function as drainage structures only. For this reason utility installations through these drainage structures will not be considered except in extreme hardship cases, In such cases utility design criteria shall include the following as a minimum:
    - 1. Resume and sketch of alternate locations considered and reasons why they are not suitable or are extremely costly.
    - 2. Hydraulic analysis of the effect the proposed utility facility will have on the function of the highway drainage structure.
    - 3. Type of protection to be provided to prevent debris from restricting the opening of the drainage structure. All installations of this nature Must be approved by the State Transportation Engineer and if applicable the Division Administrator, Federal Highway Administration.
  - (l) Roadway lighting installations shall conform to the latest edition of the AASHTO, publication "*An Information Guide for Roadway Lighting*".
  - (m) Plans or sketches submitted by the utility in support of the Use and Occupancy Agreement shall show the existing and/or proposed location of the utility facilities within the highway rights-of-way with respect to the existing and/or planned highway improvement, the traveled way, the right-of-way lines and where applicable, the control of access lines, approved points of access and other existing utilities. The plans shall be color coded as follows; GREEN-existing facilities to be removed; RED-proposed facilities; YELLOW-existing facilities to remain; BLUE-temporary facilities. In addition, information outlined in Appendix-4 of these rules and regulations shall accompany each plan or sketch either by indicating same on the plan or sketch or by attachment thereto.

**Authority:** T.C.A. §4-3-2303(2). **Administrative History:** Original rule filed August 8, 1983; effective September 7, 1983. Amendment filed July 20, 1984; effective August 19, 1984.

**1680-6-1-.06 LOCATION AND ALIGNMENT CRITERIA FOR INSTALLATION WITHIN HIGHWAY RIGHTS-OF-WAY.**

- (1) Overhead Power and Communication Lines. Type of Construction.
  - (a) Longitudinal installations of overhead lines within highway rights-of-way are limited to single pole type of construction unless approved by the State Transportation Engineer as an exception to these rules and regulations based on extreme hardship conditions. new facilities or existing facilities being rebuilt in their entirety shall be designed to provide maximum spacing of poles within the bounds of sound engineering principles and economic considerations, Alignment shall be as near uniform as practical to avoid anchors, stub poles and other ground mounted appurtenances.
  - (b) On and along conventional highways in rural areas, poles and related ground mounted appurtenances shall be located at or as near as practical to the rights-of-way line. As a minimum the poles shall be located outside the clear zone for the highway section involved without full access control.
  - (c) Joint use construction, as indicated by Rule 222 of Part 2 of the National Electrical Safety Code, shall be considered at all feasible locations where more than one utility or type of facility is to be located overhead.
  - (d) The minimum vertical clearance for overhead power and communication lines above the traffic lanes of the highway and the lateral and vertical clearance from bridges shall conform to currently applicable National Electrical Safety Code.
  - (e) Stub poles or guy wires to ground anchors shall not be placed between a pole and the traveled way where they encroach upon the clear zone.
  - (f) Where irregular shaped portions of the right-of-way extend beyond the normal right-of-way limits, variances in the location from the right-of-way will be allowed as necessary to maintain a reasonably uniform alignment for longitudinal installations.
  - (g) Longitudinal installations will not be permitted in the highway median.
  - (h) On crossing a highway, facilities shall not be located in a highway median within the clear zone from both directions of travel.
  - (i) Crossing of the highway shall be as near normal as practical under prevailing circumstances.
  - (j) On or along conventional highways in urban areas, poles and related ground-mounted appurtenances shall be located at or as near as practical to the right-of-way line. Where there are curb and gutter sections, poles shall be located as far as practical behind the face of outer curbs, and where sidewalks are provided to the back of sidewalk if at all practical.

It is realized that these sections of highway with closely abutting improvements and usually a minimum width of right-of-way are special cases which must be resolved in a manner consistent with the prevailing limitations and conditions. Considerations must be given to designs employing self-supporting, armless, single pole construction, with vertical alignment of wires or cables, or other techniques permitted by applicable governmental or industry codes. Exceptions to these clearances may be considered where poles and related ground-mounted appurtenances are placed behind guard rails, retaining walls or deep drainage ditches, at the toe or top of steep slopes, or at other similarly protected locations without full access control.

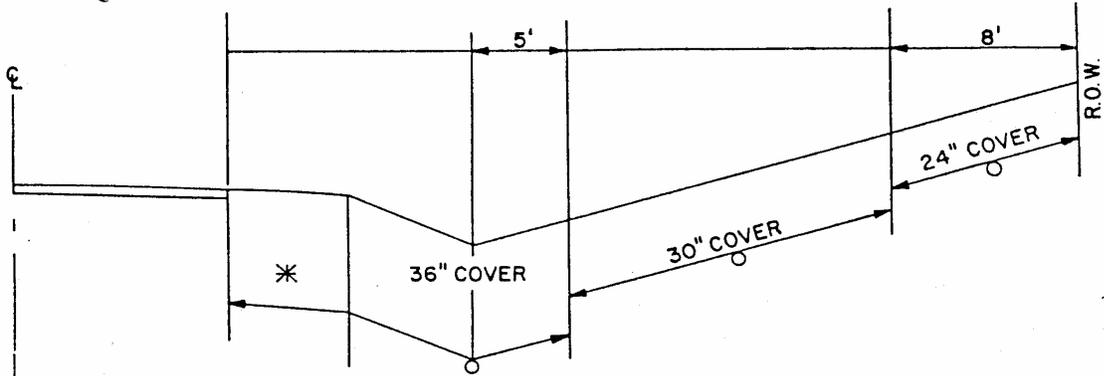
(Rule 1680-6-1-.06, continued)

- (2) Underground Power, Communication, Water and Sanitary Sewer Facilities.
- (a) On conventional highways in rural areas longitudinal installations shall be at or as near as practical to the right-of-way line so as to minimize interference with highway drainage, the structural integrity of the traveled way, shoulders, embankment and safe operation of the highway. Alignment of facilities shall be as uniform as possible under prevailing circumstances in order that points of access for installation and maintenance may be kept to a minimum. No new installations will be permitted within the normal highway median area, except in extreme hardship cases where there is no other feasible location.
  - (b) On or along conventional highways in urban areas underground utility facilities shall be located at or as practical to the highway right-of-way line. Where there are curb and gutter sections, underground utilities shall be located outside the travel lanes whenever practical. No new installations will be permitted within the normal highway median area, except in extreme hardship cases where there is no other feasible location. It is realized that these sections of the highway must be considered as special cases in considering longitudinal encroachment of underground facilities, and problems must be resolved on a case by case basis consistent with prevailing limitations and conditions and design considerations to elevate to every extent possible interference with safety and operations of the highway facilities. Relocation of utility facilities and/or alterations to accommodate reconstruction of the highway will be reviewed and considered on a case by case based on the conditions that exist at the time.
  - (c) Crossings shall be located as near normal to the highway alignment as practical. Crossing shall have a minimum of 36 inches of cover under the low point of the highway for uncased installations and 30 inches for encased installations.
  - (d) Conditions which are generally unsuitable or undesirable for underground crossings should be avoided. These include locations such as in deep cuts; near footings of bridges and retaining walls; across intersections at grade or ramp terminals, at cross drains where flow of water, drift or stream bedload may be obstructed; within basins of an underpass drained by a pump; and in wet or rocky terrain where it will be difficult to attain minimum cover.
  - (e) Longitudinal underground installations under sidewalks or grass plots of curb and gutter urban sections and installations located within 8-feet of the right-of-way line or rural highways (except as specified below) shall have a minimum cover of 24-inches. Longitudinal underground installations other than plowed cable which are located between the ditches of the highway template or within 5-feet of the ditch line shall have a minimum cover of 36-inches.

All longitudinal underground installations which cross under drainage ditches will be located a minimum of 36-inches below the flow line of the ditch. All other underground installation shall have a minimum cover of 30-inches. A minimum cover of 24-inches is acceptable for any longitudinal installation where encasement or mechanical protection is provided. Cable plowed into shoulders shall have a minimum cover of 30-inches. (See Page 918.012)

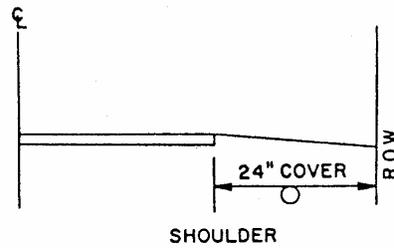
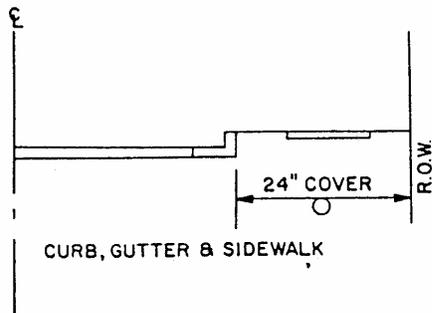
(Rule 1680-6-1-.06, continued)

**REQUIRED MINIMUM COVER FOR LONGITUDINAL UNDERGROUND INSTALLATIONS**

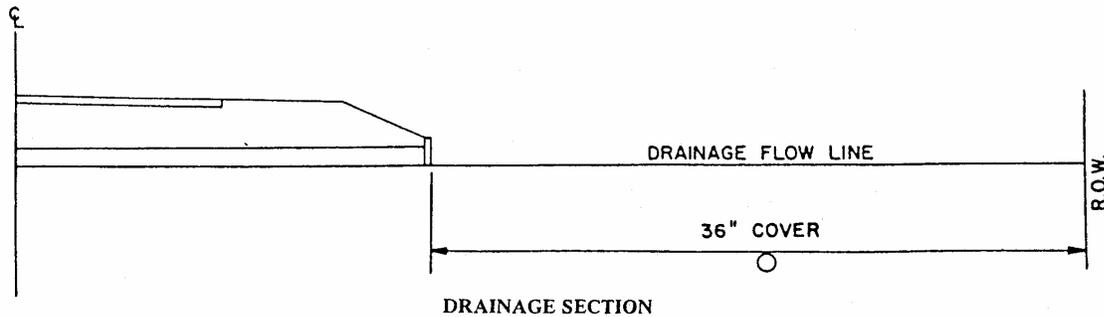


**RURAL SECTION**  
 (In Rural or Urban Areas)

\*Plowed Cable Under Shoulder 30" Minimum Cover



**URBAN SECTION**



**DRAINAGE SECTION**

(Rule 1680-6-1-.06, continued)

- (f) Pedestals, fire hydrants, markers or other above ground utility appurtenances installed as a part of underground utility facilities shall be located at or as near the highway right-of-way line as practical. In all cases they must be outside the clear zone.
  - (g) Manholes will not be permitted in the median, pavement or shoulder of the highway in rural areas, nor will they be permitted in the median, pavement or shoulder in urban areas except where this practice is shown to be impractical or creates an undue hardship.
  - (h) Provisions shall be made in the overall installation of underground facilities to provide shut-off valves or sectionalizing devices in order that segments of the facility may be taken out of service promptly in case of damage or failure.
  - (i) Water mains and water service lines in excess of two inches in diameter and sanitary sewer mains crossings normal to and under the traveled way of existing highways shall be encased when installed by boring or pushing under the traveled way. Length of encasements shall be consistent with paragraph (3), subparagraph (g) of these rules and regulations. Water mains, water service lines, or sewer mains installed and/or relocated during construction or reconstruction of the highway may be installed without an encasement when trenched construction consistent with the Department of Transportation's standard specification for pipe structures is utilized.
  - (j) Sanitary sewer force mains shall be constructed of durable mechanical joint or lock joint material when located on highway bridge structures.
- (3) Pipelines or Transmission Lines Carrying Flammable, Corrosive, Expansive, Energized or Unstable Transmittants.
- (a) This section applies to interstate and intrastate carriers whose facilities are operated as pipelines or transmission lines as defined by applicable ANSI Standard Code (Example: Definition of pipeline or transmission line as set in Section 805.62 of ANSI Standard Code for Pressure Piping, Gas Transmission and Distribution Piping Systems, ANSI B31.8-1968).
  - (b) For all crossings, the angle of crossing shall be based on economic considerations of practical alternates. The crossing shall be located as near normal to the highway alignment as practical.
  - (c) Conditions which are generally unsuitable or undesirable for crossings shall be avoided. These include locations in deep cuts; near footings of bridges and retaining walls; across intersections at grade or ramp terminals; at cross drains where flow of water, drift, or stream bedload may be obstructed; within basins of an underpass drained by a pump if pipeline carries a liquid or liquefied gas; and in wet or rocky terrain where it will be difficult to attain minimum cover.
  - (d) Longitudinal installations of pipelines or transmission lines within highway rights-of-way will be considered only in extreme hardship cases. Each request will be considered on its own merits subject to the following conditions:
    - 1. Longitudinal installations on conventional highways in rural areas shall be located as near the right-of way line as possible and alignment shall be as near uniform as practical. The structural integrity of the traveled way, shoulders, and embankment; and the safe operation of the highway shall be maintained in all instances. Highway drainage shall not be impaired by the installation.

(Rule 1680-6-1-.06, continued)

2. Longitudinal installations oil conventional highways in urban areas shall be located as near as practical to the right-of-way line. In any event they shall be located so as to be removed from the traveled way as far as possible. Installation in these areas pose special problems and require special design consideration to provide the most feasible solution where minimum widths of right-of-way are available.
- (e) Vertical and horizontal clearance between a pipeline and highway structures or other highway or utility facilities shall be sufficient to permit maintenance of the pipelines and the other facilities
- (f) The following controls shall apply to the burying of pipelines or transmission lines within highway rights-of-way:
1. Minimal cover for longitudinal installations shall be consistent with applicable ANSI Standard Code or orders issued by appropriate governmental authority.
  2. The minimum cover shall be thirty inches below the low point of the highway cross-section for encased crossings and thirty-six inches for uncased crossings.
- (g) Pipelines or transmission lines may be installed under State highways without using an encasement pipe under the following conditions:
1. When trenched construction is utilized in the adjustment of existing pipelines to accommodate reconstruction of the highway. Wall thickness of carrier pipe, coating and wrapping, welds and cathodic protection shall be in accordance with applicable ANSI Standard Code, industry, or applicable governmental codes.
  2. New installations under existing State highways where soil conditions permit the installation of the carrier pipe at a depth with minimum cover or greater without damage to its protective coating. Wall thickness of the carrier pipe, welds and cathodic protection shall be in accordance with applicable ANSI Standard Code, industry, or applicable governmental codes.
  3. The Department of Transportation will not permit the cutting of pavement of traveled lanes or excavation of adjacent shoulders for replacement, maintenance or inspection of uncased pipeline crossings. Excavation of highway rights-of-way will be limited to an area that will not disturb the highway embankment.
  4. At crossings of uncased pipelines. where the pipeline has a cover less than four feet to the highway drainage flow line, the side ditches of the highway shall be paved a distance of five feet either side of the pipeline centerline with concrete at elevation of highway ditch or at the toe of slope where there is no ditch in accordance with the Department's specifications, to alleviate the problem of erosion or damage to the pipeline during maintenance of the highway.
- (h) Encasement or provision of allied mechanical protection by installation in tunnel or gallery; grouting by mortar filling borehole annulus; cradling; capping; walling; boxing or jacketing, as detailed in Appendix #5, shall be required under the following conditions:
1. For crossings where it is not possible to obtain minimum cover due to other utilities, soil conditions, water table, local ordinances, or other reasons.

(Rule 1680-6-1-.06, continued)

2. All crossings where soil conditions preclude the installation of carrier pipe under existing highways by boring or jacking without damage to the protective coating.
  3. Where pipelines are located near footing of bridge or other highway structures; across Unstable or subsiding ground; or near other locations where there may be hazards.
  4. On conventional highways the encasement of mechanical protection shall extend a distance of five feet beyond the highway embankment or back of side ditch. On curbed portions of conventional highways the encasement or protection provided shall extend to the back of curb or sidewalk.
  5. On freeway highway projects the encasement or allied mechanical protection shall extend the entire width of the rights-of-way including adjacent frontage roads where topography will permit replacement or maintenance of the pipeline. Exceptions to the length of encasement will be considered on freeway project: where the pipeline crossing is located in an area where the median width is in excess of eighty feet or overall right-of-way width is greater than normally acquired for the type of highway involved and in areas where topography precludes use of encasement to repair or replace the carrier pipe.
    - (i) Every pipeline or transmission line shall be identified by a permanent marker at the right-of-way lines or as near thereto as possible.
    - (j) Encased crossings shall be vented in order that gases may be exhausted or evacuated from the encasement pipe. Vents shall be placed at the high end of short casing, and at both ends for casings greater than 150 feet in length. Vent standpipes shall be located at or as near to the right-of-way line as possible so as not to interfere with maintenance of the highway and in a place where they will not be obscured by vegetation.
- (4) Gas Mains, Gas Distribution Mains and Gas Service Lines.
- (a) For all crossings, the angle of crossing shall be based on economic considerations of practical alternatives. The crossing shall be located as near normal to the highway alignment as practical.
  - (b) Conditions which are generally unsuitable or undesirable for crossings shall be avoided. These include locations in deep cuts; near footings of bridges and retaining walls, across intersections at grade or ramp terminals; at cross drains where flow of water, drift, or stream bedload may be obstructed; within basins of an underpass drained by a pump if a main carries a liquid or liquefied gas; and in wet or rocky terrain where it will be difficult to attain minimum cover.
  - (c) Longitudinal installations on conventional highways in rural areas shall be located as near the right-of-way line as possible and alignment shall be as near uniform as practical. The structural integrity of the traveled way, shoulders, and embankment; and the safe operation of the highway shall be maintained in all instances. Highway drainage shall not be impaired by the installation.
  - (d) Longitudinal installations on conventional highways in urban areas shall be located as near as practical to the right-of-way line. In any event they shall be located so as to be removed from the traveled way as far as possible. Installations in these areas pose special problems and require special design consideration to provide the most feasible solution where minimum widths of right-of-way are available.

(Rule 1680-6-1-.06, continued)

- (e) Vertical and horizontal clearance between a gas main or gas distribution main and highway structures or other highway or utility facilities shall be sufficient to permit maintenance of the gas main or gas distribution main and other facilities.
- (f) The following controls shall apply to the cover over gas mains, gas distribution and gas service lines within highway rights-of-way:
  - 1. Minimum cover for longitudinal installations shall be consistent with ANSI Standard Code USAS B31.8 or orders issued by appropriate governmental authority.
  - 2. The minimum cover shall be thirty inches below the low point of the highway cross-section for encased crossings and thirty-six inches for uncased coverings.
- (g) Gas mains, gas distributions mains or gas service lines may be installed within highway rights-of-way and under the traveled way of highways without encasement under the following conditions:
  - 1. When trenched construction is utilized in the adjustment of existing facilities to accommodate reconstruction of the highway or installation of new mains or service lines within highway rights-of-way. Wall thickness or carrier pipe, coating and wrapping, welds and cathodic protection shall be in accordance with ANSI Standard Code for Pressure Piping Gas Transmission and Distribution Systems ANSI B31.8 or orders of appropriate governmental authority.
  - 2. Crossing under existing highways where soil conditions permit the installation of the carrier pipe without damage to its protection coating. Wall thickness of carrier pipe, coating and wrapping, welds and cathodic protection shall be in accordance with ANSI Standard Code for Pressure Piping Gas Transmission and Distribution Systems. ANSI B31.8
  - 3. At crossings of uncased pipelines the side ditches of the highway shall be paved a distance of five feet either side of the pipeline centerline with concrete at elevation of highway ditch or at the toe of slope where there is no ditch in accordance with Department of Transportation specifications to alleviate the problem of erosion or damage to the gas main during maintenance of the highway.
  - 4. When a gas main or gas distribution main or gas service line is adjusted to accommodate highway construction and an uncased crossing of the highway is proposed, consideration shall be given to future replacement or maintenance of the facility at locations where it would be impractical to borer or jack a replacement pipe under the highway. Provision for replacement at such locations may include, but is not limited to:
    - (i) A casing enclosing the carrier pipe.
    - (ii) A spare encasement pipe.
    - (iii) Enlargement of the carrier pipe to a size sufficient to be used as a casing.
    - (iv) A gallery or box culvert for future installation of carrier pipe.
  - 5. The Department of Transportation will not permit the cutting of pavement or traveled lanes or excavation of adjacent shoulders for replacement, maintenance or inspection of

(Rule 1680-6-1-.06, continued)

uncased gas main crossings. Excavation of highway rights-of-way will be limited to an area that will not disturb the highway embankment.

- (h) Encasement or provision of allied mechanical protection by installing gas mains or gas distribution in tunnel or gallery; grouting by filling borehole annulus; cradling; capping; walling; boxing or jacketing; as detailed in Appendix #5, shall be required under the following conditions:
    - 1. Crossings where it is not possible to obtain minimum cover due to other utilities, soil conditions, water table, local ordinances, or other reasons.
    - 2. Crossings where soil conditions preclude the installations of carrier pipe under existing highways by boring or jacking without damage to the protective coating.
    - 3. Where pipelines are locate near footing of bridge or other highway structures; across unstable or subsiding ground; or near other locations where there may be a hazard.
    - 4. On conventional highways the encasement or mechanical protection shall extend a distance of five feet beyond the highway embankment or back of side ditch. On curbed portions of conventional highways, the encasement or protection provided shall extend to the back of curb or sidewalk. On freeway highway projects the encasement or allied mechanical protection shall extend the entire width of the rights-of-way including adjacent frontage roads where topography will permit replacement or maintenance of the carrier pipe. Exceptions to the length of encasement will be considered on freeway projects where a gas main or gas distribution main is located in an area where the median width is in excess of eighty feet or overall rights-of-way width is greater than normally acquired for the type of highway involved and in areas where topography precludes use of encasement to repair or replace the carrier pipe.
  - (i) Crossings of the highway shall be identified by a permanent marker placed at the right-of-way lines or as near thereto as possible. In all cases they shall be located so as not to interfere with maintenance of the highway.
  - (j) Encased crossings shall be vented in order that gases may be *exhausted or evacuated* from the encasement pipe. Vents shall be placed at the high end of short casings and at both ends for casings greater than 150 feet in length. Vent standpipes shall be located at or as near to the right-of-way line as possible so as not to interfere with maintenance of the highway and in a place *where they* will not be obscured by vegetation.
- (5) Roadway Lighting
- (a) The Department of Transportation has developed these rules in an effort to provide a safe, effective and economical lighting system. This can be obtained by utilizing greater mounting heights which results in a more uniform illumination with fewer poles, by using break-away supports and by placing the supports a sufficient distance from the edge of the travel way. The following are prime considerations:
    - 1. Emphasis on minimizing maximum to minimum footcandle ratios.
    - 2. Optimizing average to minimum footcandle ratios.
    - 3. Providing adequate levels of illumination.

(Rule 1680-6-1-.06, continued)

4. Minimizing the amount of glare.
  5. Reducing the number of poles required.
- (b) New lighting installations on the State system of roads will be reviewed by the Department of Transportation on the basis of the following criteria:

1. Minimum Mounting Height-45 feet. In the relocation of utility poles on State highway rights-of-way, every effort shall be taken to relocate these poles to provide for their use for roadway lighting. This will provide an economical system, allowing utility poles to be used for street lighting as well as electrical distribution. It will also reduce the number of the fixed objects most frequently involved in motor vehicle accidents.

Where electrical distribution or communication lines are in existence, mounting heights less than 45 feet may be approved in order to utilize existing poles to the full extent; however, the effectiveness of a satisfactory lighting job should not be jeopardized just to use existing poles.

2. Pole setback from the edge of pavement-20 feet minimum, or at the right-of-way line if located less than 20 feet from the edge of pavement. In urban areas, poles shall be located as near to the right-of-way line as possible, but in no case shall they be less than 2 feet from the face of the curb. Where a utility strip or grass plot is located between the face of curb and the sidewalk, poles may be allowed in this area if they can be set at least 2 feet from the face of the curb. All installation must meet the minimum requirements set by the National Electric Safety Code.
3. Poles shall not be set in the median of the roadway, except where a 20 feet minimum setback can be obtained, or where protected by guardrails already existing because of other safety considerations.
4. Mast Arm Length-Provision shall be made for the horizontal distance from the lamp to the edge of the pavement to be no greater than 5 feet, except as dictated by approved special lighting design.
5. Maximum maintained average horizontal footcandle level shall be used as recommended in the latest edition of the AASHTO Publications "*An Information Guide For Roadway Lighting*".
6. Maintenance factor-as suggested by the manufacturer.
7. Maximum allowable uniformity ratio 3.00:1 based on Average/Minimum Horizontal Footcandle Level.
8. Maximum allowable uniformity ratio - 6.00:1 based on Maximum/Horizontal Footcandle Level.
9. Concrete pole bases preferably should be flush but shall not extend over 4 inches above ground level.
10. Luminaire pole mountings shall be of an approved AASHTO breakaway type. in urban or highly developed areas where travel speeds are low and pedestrian activity high, consideration will be given to the installation of non-breakaway mountings where there is eminent danger of an impacted support striking a pedestrian, private property or other

(Rule 1680-6-1-.06, continued)

traffic. Poles to be located behind existing guardrail, rock bluffs, embankments or ditches are not required to be the breakaway type.

11. Poles used in a lighting system required to be located greater than 20 feet front the edge of the highway due to physical constraints and not meeting acceptable uniformity ratios should be designed using offset lighting applications.
12. Luminaires mounted 45 feet above the pavement on bridges often become inoperable because of excessive vibration from traffic. Therefore, the mounting *height for* bridge lighting may vary, Light standards may be installed 30 or 35 feet above the pavement if appropriate uniform ratios can be achieved for that portion of the design. If satisfactory uniform ratios cannot be obtained for the design using the shorter mountings, mountings of 40 to 45 feet should be considered for the lighting design. All luminaries mounted on bridges must be approved by the Structures Division.
13. Transitional lighting should be provided when the average maintained horizontal footcandle level of illumination for lighting designs exceeds 1.00 footcandles. The roadway sector requiring transitional lighting should be illuminated so as to allow the motorist's eyes to adjust to a different level of illumination and should be traditionally illuminated for no less than 15 seconds. The level of illumination for transitional lighting sector should be equal to approximately one-half of the preceding higher lighted sector. The terminal illumination in the lowest sector should not be less than 0.25 footcandle nor more than 0.5 footcandle. An expedient formula for calculating the required roadway lengths for transitional lighting is as follows:

$$L = (RS) (C) (T)$$

Where L = Length of Transitional Lighting

RS = Running Speed Along Roadway Section in MPH

C = 1.47 (Converts MPH to Feet per Second)

T = 15 Sec (Recommended exposure time to allow motorist's eyes to adjust to different level of illumination).

14. Transitional lighting is best provided by maintaining the same average spacing and by using lower wattage lamps. This allows for future extension of the lighting system without having to *relocate* mountings.
- (c) The Engineering Director of the Department of Transportation's Maintenance Division will be responsible for reviewing and approving all requests for roadway lighting on existing conventional highway projects. Requests for roadway lighting on existing freeway projects will be reviewed and approved by the Engineering Director of the Design Division.
  - (d) It is recognized that certain locations will not permit installation of lighting consistent with these rules and regulations in every respect. In such cases the proposal submitted to the Department of Transportation will be reviewed by the Engineering Director of the Maintenance or Design Division and forwarded along with recommendations to the State Transportation Engineer for approval or disapproval of the installation.

**Authority:** T.C.A. §4-3-2303 (2). **Administrative History:** Original rule filed August 8, 1983; effective September 7, 1983. Amendment filed July 20, 1984; effective August 19, 1984. Amendment filed February 1, 1989; effective March 18, 1989.

**1680-6-1-.07 CONTROLS GOVERNING UTILITY INSTALLATIONS.**

- (1) At all times while construction and maintenance of utility facilities is in progress, the utility shall provide signing and if required flagging for control of traffic. Signing shall conform to Part VI of the Manual on Uniform Traffic Control Devices for Streets and Highways. The utility shall substitute the word "Utility" on signs where the word "Road" appears.
- (2) Areas disturbed by utility installations, relocations or removals shall be kept to a minimum. Utilities will not be permitted to install facilities by cutting the pavement or adjacent shoulders of State highways except in extreme hardship cases where soil conditions prohibit other feasible and economical methods of installing facilities under the highway. In no instance will the Department of Transportation permit cutting of the traveled way of freeway highways to facilitate installation of utility facilities after the highway is complete and placed in service. This applies to conventional highways which have been paved or resurfaced within the previous three years. The Regional Engineering Director must approve open cutting of the highway. Conditions under which the work is to be performed shall be incorporated as a special provision in the Use and Occupancy Agreement. (See Appendix #8 for minimum requirements for open cut trenching, replacement paving and backfilling).
- (3) If the Department approves installation of Utility facilities by open cutting the highway as set out in paragraph (2) above, the utility will be required to accommodate the traveling Public at all times by keeping one lane of traveled way open and providing necessary flagging and/or construction signing to properly inform the traveling public of the impairment to normal traffic flow.
- (4) The utility company shall replace or repair any portion of the right-of-way, embankment, pavement, shoulders, highway bridges and drainage structures, guardrail, private driveways, access roads or ramps or any other part of said highway which may be disturbed or damaged. Repair work will be in accordance with applicable provisions of the Department of Transportation's "Standard Specifications for Road and Bridge Construction", as same may be amended, and special provisions or instructions issued by the Department of Transportation and/or made a part of the Use and Occupancy Agreement.

In the event replacement or repairs made by the utility company are not satisfactory to the Department of Transportation, the Department of Transportation, at its discretion, will undertake the work and the utility company shall reimburse the Department of Transportation for the cost of such work. Except in cases of emergency the Department of Transportation shall notify the utility company of the nature and extent of such replacements or repairs to be accomplished prior to undertaking the work.

- (5) No excavated material or equipment shall be placed on the pavement or shoulders of the highway without the express approval of the Department of Transportation's Regional Engineering Director Where conditions warrant such procedures. In no instance will the utility be permitted to leave equipment (trucks, cranes, backhoes, etc.) on the pavement or shoulder overnight. Materials (poles, cable, pipe) to be installed which are placed on the right-of-way in advance of construction shall be placed in such a manner as not to interfere with the safe operation of the highway.
- (6) The trimming, cutting, spraying or removal of trees and shrubs or other vegetation located within the highway right-of-way shall either be permitted or denied in accordance with then current regulations established by the Maintenance Division of the Department of Transportation. In cases where rest areas or land acquired for scenic enhancement of the highway is involved, approval of the State Transportation Engineer is required.
- (7) Boring, jacking or driving of encasement or carrier pipes under existing highways shall be accomplished without jetting, sluicing or wetboring unless express approval of the method to be utilized is obtained from the Department of Transportation's Regional Engineering Director in writing.

(Rule 1680-6-1-.07, continued)

- (8) All debris, refuse and waste of any kinds, which have accumulated upon the highway right-of way as a result of the installation of utility facilities, shall be removed immediately upon completion of construction operations.
- (9) The utility owner or its agent shall schedule the installation of facilities in an orderly manner and shall not leave ditches, boring pits and other hazards to the traveling public open for extended periods of time. At such time as construction is commenced, it shall proceed without delay to completion subject to weather and conditions beyond the control of the utility owner,
- (11) The oversize of the boring excavation shall be no greater than one inch in excess of the outside diameter of the encasement or carrier pipe being installed. Grout backfill shall be used for pipes in excess of 12 inches in diameter for overbreaks, unused holes, or abandoned pipes.
- (12) All Use and Occupancy Agreements covering installation of utility facilities within highway rights-of-way shall be accompanied by a bond executed by the owner with good and sufficient surety, acceptable to the Department of Transportation guaranteeing the performance of the terms and conditions of the agreement. This will not be required for a single shot charge, except when blasting in the vicinity of a bridge or other structure. The amount of the bond will be determined by the *Regional Utilities* Engineer based on the extent the highway facilities are disturbed by the installation.
  - (a) The utility owner may select one of the following procedures of providing the required bond:
    1. Post a cashier's or certified check in the amount established by the Regional Utilities Engineer, or
    2. Post a Surety Bond (Form U-5) in the amount established by the Regional Utilities Engineer; however a Surety Bond for an amount less than two thousand, five hundred dollars (\$2,500.00) will not be acceptable; or
    3. Post a Running Surety Bond (Form U-4) in the amount established by the Regional Utilities Engineer to cover all approved Use and Occupancy Agreements for a specified area.
  - (b) All Surety Bonds shall be on forms supplied by the Department of Transportation and must be accompanied by a copy of the Power of Attorney properly executed by the company authorizing the agent signing the Surety Bond to bind the company as Surety on the bond. Surety Bond (Form U-5) and Running Surety Bond (Form U-4) forms are shown in Appendix - 7 of these rules and regulations.
  - (c) Notwithstanding any other provision of this Paragraph, the surety bond or bonds required for the installation of certain fiber optic cable facilities on freeway rights-of-way, as provided in Rule 1680-6-1-.09, shall be submitted to the Right-of-Way Division, Utilities Section, of the Department of Transportation in such form and under such terms as may be specified by the Department in the Use and Occupancy Agreement.
- (13) When blasting is necessary, the utility shall include an outline of its blasting procedure and a diagram of its blasting pattern with the applications and Use and Occupancy Agreement. This will not be required for a single shot charge, except when blasting in the vicinity of a bridge or other structure. The utility shall observe the Special Provisions for Blasting on Highway Rights-of-Way as detailed in Appendix -9 and in accordance with other applicable State laws.
- (14) Where it is determined by the Department that utility facilities have not been installed according to approved plans or that they are likely to be associated with injury or accident to the highway user, as

(Rule 1680-6-1-.07, continued)

indicated by accident history or safety studies, the utility will be required to adjust, relocate or remove such facilities at its own expense.

**Authority:** T.C.A. §4-3-2303(2). **Administrative History:** Original rule filed August 8, 1983; effective September 7, 1983. Amendment filed July 20, 1984; effective August 19, 1984. Amendment filed September 24, 2002; effective December 8, 2002.

**1680-6-1-.08 PROCESSING OF USE AND OCCUPANCY AGREEMENTS.**

- (1) The applicant shall submit four executed copies of the Department's Application and Utility Use and Occupancy Agreement to the Regional Utilities Engineer. The application shall be accompanied by a plan prepared in accordance with section 1680-6-1-.05, paragraph (3), subparagraph (m) of these rules and regulations.
- (2) The Regional Utilities Engineer will be responsible for reviewing the proposed installation for conformity with the herein stated rules and regulations and shall obtain from the applicant the appropriate surety as outlined in section 1680-6-1-.07, paragraph (12). When necessary, a field inspection should be made with the applicant, his representative, and/or inspector from the District Maintenance Office.
- (3) The Regional Utilities Engineer will approve the application after he is satisfied that all requirements have been met. He will then obtain approval from the Regional Engineering Director or his designee. If the proposed installation requires open cutting of the pavement, the Regional Utilities Engineer will advise the Regional Engineering Director of his recommendation. The Regional Engineering Director will approve or disapprove open cutting when executing the agreement.
- (4) The application and one copy of the plan will be sent to the State Utilities Engineer for review. The State Utilities Engineer will approve the application and secure the signature of the State Transportation Engineer. Three copies of the executed agreement will be returned to the Regional Utilities Engineer.
- (5) The Regional Utilities Engineer will retain one copy in his file and will transmit one copy along with the approved plan to the applicant. He will advise the applicant of the name, address and telephone number of the appropriate District Maintenance Engineer whom the applicant must contact prior to beginning work on the right-of-way. A copy of this transmittal will be sent to the District Maintenance Engineer along with a copy of the approved agreement and plan.
- (6) The District Maintenance Engineer will provide an inspector to insure that the installation is made in accordance with the agreement. At the end of the appropriate maintenance period, he will notify the State Utilities Engineer by letter, with a copy to the Regional Utilities Engineer, that the installation is acceptable and the surety can be released.
- (7) The State Utilities Engineer will notify the surety company of the release and will advise the utility, the Regional Utilities Engineer and the District Maintenance Engineer,
- (8) Utilities, which operate statewide or in large populated areas requiring many utility permits, can apply for a General Use and Occupancy Agreement. These agreements will be prepared and handled by the State Utilities Engineer and the Staff Attorney. Proposed installations under General Use and Occupancy Agreements will be reviewed and processed in the same manner as described in this section; except it will not be necessary to execute an Application and Utility Use and Occupancy Agreement.

(Rule 1680-6-1-.08, continued)

- (9) Notwithstanding any other provision of this Rule, when an applicant proposes to install fiber optic cable facilities on freeway rights-of-way as provided in Rule 1680-6-1-.09, the application for a Use and Occupancy Agreement shall be submitted to the Right-of-Way Division, Utilities Section, of the Department of Transportation for consideration and approval. The application shall be accompanied by an installation and maintenance plan prepared in accordance with Rule 1680-6-1-.09. Provisions for inspection of the installation and the release of any surety bonds, when appropriate, shall be determined by the Department of Transportation in accordance with the Use and Occupancy Agreement.

**Authority:** T.C.A. §4-3-2303(2). **Administrative History:** Original rule filed August 8, 1983; effective September 7, 1983. Amendment filed September 24, 2002; effective December 8, 2002.

**1680-6-1-.09 FIBER OPTIC CABLE FACILITIES ON FREEWAYS.**

- (1) Statement of Policy.
  - (a) Notwithstanding any other rule or provision of Chapter 1680-6-1 to the contrary, it shall be the policy of the Department of Transportation to grant non-exclusive permits, on a competitively neutral and non-discriminatory basis, allowing the longitudinal installation of underground fiber optic cable lines and related facilities within the rights-of-way of freeways on the state highway system and/or federal interstate highway system, as provided in Section 54-16-112 of the Tennessee Code, and subject to this Rule. The installation of fiber optic cable facilities and other utilities that cross over or under freeways shall continue to be regulated in accordance with other provisions of this Chapter.
  - (b) The Department of Transportation shall receive compensation for the use of freeway rights-of-way to install fiber optic cable facilities in accordance with the rate of compensation established by the Advisory Board under Section 54-16-112 of the Tennessee Code. The Department of Transportation may, at its option, accept monetary compensation or in-kind compensation, or both. Valuation of in-kind compensation shall be calculated in accordance with the method of valuation adopted by the Advisory Board.
- (2) Governing Law.
  - (a) This Rule is promulgated under the authority of, and in compliance with, Section 54-16-112 of the Tennessee Code.
  - (b) It is the intent of the Department of Transportation that this Rule shall be construed and administered in accordance with applicable provisions of the Federal Communications Act of 1934, 47 U.S.C. § 151, et seq.
  - (c) The location and installation of fiber optic cable facilities on state freeway rights-of-way shall be governed by this Rule and, where applicable, by other provisions of this Chapter and the rules and regulations of the Federal Highway Administration with respect to the accommodation of utilities, 23 C.F.R. Part 645, Subpart B, as amended.
  - (d) To the extent that the specific provisions of this Rule conflict with other provisions of Chapter 1680-6-1, the specific provisions of this Rule shall govern.
- (3) Definitions.
  - (a) “Advisory Board” means the advisory board established under Section 54-16-112 of the Tennessee Code with the authority to establish the rate of compensation, and a method for the

(Rule 1680-6-1-.09, continued)

valuation of in-kind compensation, for the use of state freeway rights-of-way to install underground fiber optic cable lines and related facilities.

- (b) “Clear Zone” when used in reference to the use of state freeway rights-of-way to install underground fiber optic cable facilities under this Rule means the roadside border area available for use by errant vehicles, starting from the edge of the traveled way and extending outward to a distance of not less than 30 feet. For administrative practicality, the Department will generally presume that the clear zone along a state freeway is 30 feet wide. In specific locations, however, the Department may determine that a wider clear zone is required in the interest of public safety, and in such cases the Department will establish the width of the clear zone based on the roadway design speed, average daily traffic and embankment slopes, as provided in the American Association of State Highway and Transportation Officials, Roadside Design Guide.
- (c) “Conduit” means a hollow tube or duct (of varying sizes) used to enclose innerducts for the underground installation of fiber optic cable.
- (d) “Innerduct” means a hollow, flexible tube (of varying sizes) used to enclose fiber optic cables for underground installation, and which may be enclosed within conduit.
- (e) “Longitudinal” means an installation that is parallel or nearly parallel to the alignment of the highway.
- (f) “Rural” when used in reference to the use of state freeway rights-of-way under this Rule means the right-of-way along any segment of a freeway that is not otherwise defined as “urban” or “suburban” under this Rule.
- (g) “State freeway” means all freeways within the State of Tennessee designated either as a state highway by the Department of Transportation or as a federal interstate highway.
- (h) “Suburban” when used in reference to the use of state freeway rights-of-way under this Rule means any of the following, unless the segment of freeway right-of-way is otherwise defined as “urban” under this Rule:
  - 1. The right-of-way along any segment of state freeway within 10 miles outside the urban area boundary of a city having a population of 100,000 or more according to the most recent federal census; and/or
  - 2. The right-of-way along any segment of state freeway within the urban area boundary of any city having a population of 20,000 or more according to the most recent federal census; provided, that where one side of the freeway is within the urban area boundary of such a city, the right-of-way along both sides of the freeway shall be considered suburban; and/or
  - 3. The right-of-way along any state freeway that serves as a beltway around any part of a city having a population of 100,000 or more according to the most recent federal census where any part of such freeway is within 10 miles outside the urban area boundary of such city, including without limitation State Route 385 in Shelby County.
- (i) “Telecommunications company” means any public agency (not including any agency of the State of Tennessee), or any cooperative, corporation, partnership or individual named in the Use and Occupancy Agreement that may locate, install or maintain fiber optic cable facilities within the rights-of-way of state freeways.

(Rule 1680-6-1-.09, continued)

- (j) “Term” means the duration of the Use and Occupancy Agreement under which a telecommunications company locates, installs and maintains fiber optic cable facilities within the rights-of-way of state freeways.
  - (k) “Urban” when used in reference to the use of state freeway rights-of-way under this Rule means the right-of-way along any segment of a freeway within the urban area boundary of a city having a population of 100,000 or more according to the most recent federal census; provided, that where one side of the freeway is within the urban area of such a city, the right-of-way along both sides of the freeway shall be considered urban.
  - (l) “Urban area boundary” for the purposes of this Rule means the boundary of the urbanized area of a city having a population of 20,000 or more according to the most recent federal census. These urban area boundaries are established by the Department of Transportation and the city in cooperation with one another, and subject to the approval of the United States Secretary of Transportation, in accordance with 23 U.S.C. § 101.
- (4) Use and Occupancy Agreement Requirements.
- (a) No telecommunications company shall be permitted to install underground fiber optic cable lines or related facilities within state freeway rights-of-way without first executing a Use and Occupancy Agreement.
  - (b) Upon making application to the Department of Transportation for a Use and Occupancy Agreement under this Rule, the telecommunications company shall pay an application fee to the Department of Transportation for processing the application, reviewing plans, and other administrative services, but not including inspection services, which shall be separately charged as provided in Rule 1680-6-1-.04(10). The total amount of the required application fee shall include a base fee of \$200 plus \$10 for each mile of the proposed installation within state freeway rights-of-way.
  - (c) Each Use and Occupancy Agreement for the longitudinal installation of fiber optic cable facilities within state freeway rights-of-way shall be subject to this Rule and specifically, but without limitation, to the following terms and conditions:
    - 1. Right to Cross.

The Department of Transportation reserves a perpetual right at any time to cross the underground fiber optic cable lines and related facilities for any purpose related to the construction, reconstruction, operation or maintenance of the highway as determined by the Department.
    - 2. Assignment.

The telecommunications company may not assign or transfer its rights or obligations under the Use and Occupancy Agreement to another telecommunications company or other entity or person without first giving written notice to, and obtaining the consent of, the Department of Transportation, which consent shall not be unreasonably withheld.
    - 3. Indemnification and Hold Harmless.
      - (i) The telecommunications company shall indemnify the State of Tennessee and the Department of Transportation, and their officers, employees and agents, and hold them harmless to the maximum extent allowed under Tennessee law for any and

(Rule 1680-6-1-.09, continued)

all claims arising from the telecommunications company's use of the freeway right-of-way to install, operate and/or maintain fiber optic cable facilities, including claims by third parties, and including attorneys' fees and all other costs of preparing for and defending against such claims, regardless of any negligence or fault of the State of Tennessee or Department of Transportation.

- (ii) Without limiting the foregoing, the telecommunications company shall hold the State of Tennessee and Department of Transportation, and their officers, employees and agents, harmless, to the maximum extent allowed under Tennessee law, for any personal injury or property damage, including interruption of service or loss of business, incurred by the telecommunications company, or its officers, employees or agents, arising from the Department of Transportation's construction, reconstruction, operation or maintenance of the freeway or freeway right-of-way, regardless of any negligence or fault of the State of Tennessee or Department of Transportation.

4. Insurance.

The telecommunications company shall at all times have and maintain, and upon the request of the Department of Transportation shall provide written proof of, liability insurance policies containing, at a minimum, the following insurance coverage:

- (i) Commercial general liability insurance, in form and substance acceptable to the Department of Transportation.
- (ii) Commercial automobile liability insurance, in form and substance acceptable to the Department of Transportation, for all vehicles owned or used by the telecommunications company in any phase of the construction, installation, operation, maintenance or repair of its fiber optic cable facilities within the freeway right-of-way.
- (iii) All such liability insurance policies shall provide liability coverage sufficient, at a minimum, to match the State's limits of liability under Section 9-8-307 of the Tennessee Code. These limits are currently set at \$300,000 per claimant and \$1,000,000 per occurrence, but they are subject to change without amendment of this Rule.
- (iv) All such liability insurance policies shall name the State of Tennessee and Department of Transportation each as an additional insured for the purposes of fulfilling the telecommunications company's obligations under the Use and Occupancy Agreement, including without limitation any and all obligations to indemnify and hold harmless the State of Tennessee and Department of Transportation, and their officers, employees and agents.

5. Surety Bond.

The telecommunications company shall furnish a surety bond, issued by a company licensed to do business in the State of Tennessee, and in such form and amount acceptable to the Department of Transportation, guaranteeing full and faithful performance of the terms and conditions of the Use and Occupancy Agreement, including without limitation the repair and restoration of the right-of-way premises, the payment of any monetary compensation remaining due to the Department for use of the

(Rule 1680-6-1-.09, continued)

freeway right-of-way, and the completion of any installation of fiber optic facilities to be provided to the Department as compensation under the Use and Occupancy Agreement.

6. Relocation or Removal.

- (i) If, at any time, the Department of Transportation determines that any fiber optic cable facilities need to be relocated within, or removed from, the state freeway right-of-way for any reason related to the use, operation, maintenance, construction or reconstruction of the freeway, the telecommunications company shall relocate or remove the facilities as directed by written notice from the Department of Transportation.
- (ii) All such costs of relocation or removal, including the cost of relocating any part of the fiber optic cable facilities reserved to the Department of Transportation under the Use and Occupancy Agreement, shall be borne by the telecommunications company and not by the Department, except as the Department may otherwise agree in accordance with a special condition of the Use and Occupancy Agreement executed prior to the installation, or as the Department may subsequently agree in writing under a utility relocation contract.
- (iii) The telecommunications company shall complete the relocation or removal within such time as the Department of Transportation shall specify by written notice, or within such additional time as the Department of Transportation may authorize in writing. Upon the failure of the telecommunications company to relocate or remove the fiber optic cable facilities within the specified time, or such additional time as the Department may authorize in writing, the fiber optic cable facilities shall be deemed to be abandoned by the telecommunications company, and the Department of Transportation shall be deemed the owner thereof; provided, however, that the Department of Transportation, in its sole discretion, may refuse ownership of the abandoned fiber optic cable facilities at any time within one year after the abandonment and thereupon hold the telecommunications company liable for the costs of removing such facilities from the state freeway right-of-way.
- (iv) To the extent that the telecommunications company is required to remove fiber optic cable facilities from the state freeway right-of-way, the telecommunications company shall to that extent be relieved of any further obligation under the Use and Occupancy Agreement to compensate the Department for the use of the state freeway right-of-way. To the extent that the telecommunications company is allowed to relocate fiber optic cable facilities to another location within the freeway right-of-way, the telecommunications company may elect either to remain under the terms of compensation specified in the Use and Occupancy Agreement, or the telecommunications company may choose to enter into a new Use and Occupancy Agreement for the new location.

(5) Duration and Renewal of Use and Occupancy Agreements.

(a) Term Options.

The Use and Occupancy Agreement for the longitudinal installation of fiber optic facilities within state freeway rights-of-way shall have an initial term of 10 years, 20 years, 30 years, or 40 years, at the option of the telecommunications company.

(Rule 1680-6-1-.09, continued)

(b) Renewal Options.

Upon the expiration of the initial term of the Use and Occupancy Agreement, the telecommunications company shall have an option to renew the Use and Occupancy Agreement for a term of 10 years, 20 years, or 30 years, subject to the applicable rate of compensation established by the Advisory Board as of the date of renewal; provided that the initial term and any successive renewal terms shall not exceed a combined total of 40 years.

(6) Compensation.

(a) Compensation Requirement.

1. No telecommunications company shall be permitted to install underground fiber optic cable lines or related facilities longitudinally within state freeway rights-of-way except upon the payment of compensation for the use of such rights-of-way, as provided in Section 54-16-112 of the Tennessee Code.
2. The Department of Transportation, at its option, may receive the compensation for use of state freeway rights-of-way in the form of money or as in-kind compensation in the form of telecommunications facilities or services, or both.

(b) Rate and Method of Compensation.

1. The rate of compensation and the method of valuation for in-kind compensation shall be as established by the Advisory Board. As established by the Advisory Board, the rate of compensation varies according to the type of state freeway right-of-way (urban, suburban or rural) in which the fiber optic cable facilities are located, and a surcharge shall be added to the applicable rate of compensation where the fiber optic cable facilities are located within the clear zone.
2. The current rate structure and method of valuation for in-kind compensation are set forth in the Rate Sheet reproduced in the Appendix to this Rule at Paragraph (12). This Rate Sheet may be amended by the Advisory Board, as provided in Section 54-16-112 of the Tennessee Code, without amendment of this Rule.

(c) Total Amount of Compensation.

The total amount of compensation due for use of the right-of-way shall be fixed as of the date of execution of the Use and Occupancy Agreement, in accordance with the rate and method of valuation of in-kind compensation established by the Advisory Board at that time, and in accordance with the type of right-of-way, the method of remittance and the term of the Use and Occupancy Agreement selected by the telecommunications company.

(d) Unit Measure of Compensation.

1. There shall be a separate charge for each innerduct containing fiber optic cable that a telecommunications company installs in the right-of-way or for each fiber optic cable buried in the right-of-way without an innerduct, except that there shall be no charge for any innerduct or fiber optic cable provided to the Department of Transportation as in-kind compensation.

(Rule 1680-6-1-.09, continued)

2. The minimum charge for each such innerduct or cable shall be based on the rate of compensation established by the Advisory Board for a one and one-quarter inch (1¼") innerduct.
3. The charge for larger innerduct or cable shall be calculated on a pro rata basis. For example, the charge for a two and one-half inch (2½") innerduct shall be twice the charge for a one and one-quarter inch (1¼") innerduct.

(e) Empty Innerduct.

1. There shall be no charge for empty innerduct or conduit installed vertically within the same trench line along the state freeway right-of-way in accordance with a Use and Occupancy Agreement; provided, however, that each separate trench line shall require a Use and Occupancy Agreement and shall be subject to a minimum charge based on the rate of compensation for a one and one-quarter inch (1¼") innerduct.
2. The installation of fiber optic cable in an empty innerduct or conduit shall not be permitted except upon the execution of a new Use and Occupancy Agreement. Compensation for the installation of fiber optic cable in such empty innerduct or conduit shall be fixed on the date of execution of the new Use and Occupancy Agreement, in accordance with the applicable rate and method of valuation for in-kind compensation established by the Advisory Board at that time.

(f) In-Kind Compensation.

If the Department of Transportation chooses to receive in-kind compensation under a Use and Occupancy Agreement, it shall provide the telecommunications company with a list of the specific telecommunications facilities and/or services that it wishes to obtain. The value of such in-kind compensation, as determined in accordance with the method of valuation established by the Advisory Board, shall be subtracted from the total amount of monetary compensation due for use of the right-of-way and the remaining balance, if any, shall be remitted as monetary compensation.

(7) General Installation Policies.

(a) Timing of Installations.

To minimize interference with the safe use, operation and maintenance of the freeway, and as reasonably necessary to manage the right-of-way, the Department of Transportation may limit the timing of access so that, to the extent possible, there is no more than one fiber optic cable installation project underway at any given time on any particular segment of a state freeway.

(b) Minimum Installation.

In order to preserve the availability and efficient use of freeway rights-of-way, and as reasonably necessary to manage such rights-of-way, the Department of Transportation, as a general rule, will not permit fiber optic cable installations of less than a total length of twenty-five (25) miles along any state freeway or combination of state freeways. Exceptions may be considered on a case-by-case basis.

(8) Location and Alignment Criteria.

(a) General Location Policy.

(Rule 1680-6-1-.09, continued)

To minimize interference with the safe use, operation and maintenance of the freeway, longitudinal installations of fiber optic cable facilities shall be located outside the clear zone and as near to the outer edge of the right-of-way line as is reasonably practical; provided, however, that alternative locations within the right-of-way, including the clear zone, may be permitted where the Department of Transportation determines that it is not reasonably practical to locate the fiber optic cable facility along the outer edge of the right-of-way and that the use of the alternative location is consistent with the Department's goal to minimize interference with the safe use, operation and maintenance of the freeway.

(b) Horizontal Clearance.

As a general rule, subsequent installations of underground fiber optic cable facilities outside the clear zone shall be located not less than five feet (5') from any previously installed underground fiber optic cable line or other utility installation, if any, within the freeway right-of-way. Exceptions may be considered on a case-by-case basis and as may be reasonably necessary to manage the state freeway right-of-way.

(c) Depth.

All underground fiber optic cable lines shall be located and installed in accordance with the minimum depths established in Paragraph 1680-6-1-.06(2) of this Chapter, as amended, or at such greater depths as the Department of Transportation may require as a special condition of the Use and Occupancy Agreement.

(d) Access Points.

Devices for accessing underground fiber optic cable facilities for routine service or site visits shall not be allowed within the clear zone of the freeway, except as the Department of Transportation may otherwise expressly permit or require.

(e) Support Facilities.

All above-ground support facilities for underground fiber optic cable lines shall be located outside the clear zone and as near to the outer edge of the right-of-way line as is reasonably practical. No above-ground facility may be located on the freeway right-of-way without the express written approval of the Department of Transportation, and preference will be given to locations at interchanges, rest areas and welcome centers, weigh stations, and highway crossings.

(f) Attachment to Freeway Structures.

The attachment of fiber optic cable facilities to freeway structures — including without limitation bridges, overpasses, underpasses, culverts and tunnels — shall be permitted only with the prior written approval of the Director of the Structures Division, in accordance with Rule 1680-6-1-.05.

(g) Service Connections.

Service connections to adjacent properties shall not be permitted from fiber optic cable installations within the access control limits of the freeway right-of-way, except at interchanges or other locations approved in writing by the Department of Transportation.

(Rule 1680-6-1-.09, continued)

(9) Clear Zone Considerations.

(a) General Clear Zone Location Policy.

The installation of fiber optic cable facilities may be permitted within the clear zone of a state freeway under special circumstances where the Department of Transportation determines that it is not reasonably practical to locate the fiber optic cable facility outside the clear zone and that the installation of fiber optic cable facilities within the clear zone may be done in a manner that is consistent with the Department's goal to minimize interference with the safe use, operation and maintenance of the freeway.

(b) Limitation of Installations Within the Clear Zone.

In order to minimize interference with the safe use, operation and maintenance of the freeway, and as reasonably necessary to manage the right-of-way, the Department of Transportation reserves the right to restrict the total number of installations within the clear zone to no more than one installation on any particular segment of a state freeway.

(c) Clear Zone Installation Terms and Conditions.

A telecommunications company requesting permission for the longitudinal installation of fiber optic cable facilities within the clear zone of a state freeway may be required to comply with the following terms and conditions, without limitation as to such additional terms and conditions as may be included in the Use and Occupancy Agreement:

1. The telecommunications company may be required to provide other telecommunications companies with reasonable notice of the anticipated or planned opening of the right-of-way within the clear zone.
  - (i) The notice period should provide such time as another telecommunications company may reasonably require to develop business plans and obtain financing in order to participate in the installation of fiber optic cable facilities during the anticipated or planned opening of the right-of-way within the clear zone, and in any event the notice period should not be less than 60 days.
  - (ii) The required notice may be accomplished through the publication of a notice of the proposed project, including the anticipated construction schedule, for three consecutive days in a newspaper of general circulation within the area of the project, and by the mailing of such notice to all incumbent local exchange carriers (ILECs) within the area of the project, to all facilities-based competitive local exchange carriers (CLECs) and interexchange carriers (IXCs) certified by the Tennessee Regulatory Authority, and to such other potentially interested parties as the Department of Transportation may direct.
2. The telecommunications company may be required to install spare fiber cable lines, empty innerducts, and/or empty conduit sufficient to accommodate reasonably anticipated future demand.
3. For each section of fiber, empty innerduct or empty conduit within the clear zone, the telecommunications company may be required to install connection points (manhole or cabinets) outside the clear zone, or elsewhere as the Department of Transportation may direct, where other telecommunications companies may, at their option, access or interconnect with these facilities.

(Rule 1680-6-1-.09, continued)

4. The rates, terms and conditions for interconnection with facilities and/or the use of empty innerduct or conduit space within the clear zone should be fair, reasonable and non-discriminatory, but may include a reasonable profit, in accordance with applicable regulations and guidelines of the Federal Communications Commission and/or Tennessee Regulatory Authority.
5. The telecommunications company may be required to make fiber available for sale to other telecommunications companies on an “irrevocable right to use” basis at such rates and upon such terms and conditions as are fair, reasonable and non-discriminatory, but which may include a reasonable profit, in accordance with applicable regulations and guidelines of the Federal Communications Commission and/or Tennessee Regulatory Authority.
6. The telecommunications company may be required to offer facilities and services for resale at such rates and upon such terms and conditions as are fair, reasonable and non-discriminatory, but which may include a reasonable profit, in accordance with applicable regulations and guidelines of the Federal Communications Commission and/or Tennessee Regulatory Authority.
7. If the telecommunications company provides retail telecommunications service, either directly or through an affiliated entity, it may be required to provide such services at such rates, terms and conditions as are fair, reasonable and non-discriminatory, in accordance with applicable regulations and guidelines of the Federal Communications Commission and/or Tennessee Regulatory Authority.

(10) Installation and Maintenance Requirements.

(a) General Standards of Care.

1. The telecommunications company shall take care not to install any fiber optic cable facility in such a manner as to create a potential hazard to life, health or property or in such a manner as to impair the use, operation and maintenance of the freeway.
2. The telecommunications company shall cooperate with the Department of Transportation to identify locations for fiber optic cable facilities within the freeway right-of-way that will, to the extent it is reasonably practical, minimize any potential conflict with the future expansion or reconstruction of the freeway. The telecommunications company shall also take care to install all fiber optic cable facilities in such manner as to require only minimal maintenance within the freeway right-of-way after installation.

(b) Tennessee One-Call Service.

The telecommunications company shall comply with the Tennessee One-Call Service as provided in Section 65-31-107 of the Tennessee Code, or as it may be amended.

(c) Permits and Approvals.

The telecommunications company shall be responsible for obtaining all approvals and/or permits that may be required for activities authorized under this Rule, including without limitation all environmental permits and federal regulatory approvals or permits, if applicable.

(Rule 1680-6-1-.09, continued)

(d) Minimum Installation and Maintenance Controls.

The following minimum controls shall apply to the installation, servicing and maintenance of all fiber optic cable facilities within state freeway rights-of-way, in addition to such other requirements as the Department of Transportation may provide as a general or special condition of the Use and Occupancy Agreement:

1. Installation and Maintenance Plan.

Before commencing any installation, servicing or maintenance of a fiber optic cable facility, the telecommunications company shall submit an installation and maintenance plan to the Department of Transportation for review and approval, and upon approval such plan shall be made a part of the Use and Occupancy Agreement. At a minimum, the installation and maintenance plan shall specify:

- (i) The location and method of installing each part of the fiber optic cable facility within the right-of-way;
- (ii) The means by which access to and within the right-of-way shall be accomplished for the purpose of installing, servicing and maintaining each part of the fiber optic cable facility, including provisions for ingress and egress, parking of vehicles and equipment, and storage of materials;
- (iii) The means by which the telecommunications company will provide for the control of traffic on the freeway, if needed, in the course of installing, servicing or maintaining any part of the fiber optic cable facility;
- (iv) The schedule for completing the installation of the fiber optic cable facility, or parts thereof, within the right-of-way; and
- (v) The procedure by which the telecommunications company will conduct emergency maintenance operations within the right-of-way.

2. Preservation of Pavement Structure.

Open cutting or trenching of the freeway's pavement structure, including without limitation the traveled way, shoulders and access ramps, shall not be permitted. Wherever the Department of Transportation permits a crossing of the freeway pavement structure in accordance with this Rule, the crossing shall be accomplished by boring or other untrenched method as approved by the Department.

3. Blasting.

When blasting is necessary, the telecommunications company shall follow the guidelines established in Rule 1680-6-1-.07.

4. Access to Right-of-Way for Installation and Maintenance.

- (i) As far as it is reasonably practical, all fiber optic cable facilities should be designed and located in such a manner that they can be installed, serviced and maintained without direct access thereto from the traveled way, access ramps or shoulders of the freeway. Such direct access may be permitted in special

(Rule 1680-6-1-.09, continued)

circumstances where there is no reasonably practical alternative means of access and the telecommunications company has made adequate provisions for controlling access to the work zone, directing traffic, and protecting the safety of workers and the traveling public, as specified in the installation and maintenance plan approved by the Department of Transportation.

- (ii) Except as may be permitted under special circumstances as described above, access to the freeway right-of-way for the installation, servicing or maintenance of fiber optic cable facilities shall be limited to:
  - (I) Frontage roads, where available;
  - (II) Adjacent or nearby public roads and streets;
  - (III) Trails along or near the freeway right-of-way line that connect only to an intersecting road; or
  - (IV) Adjacent private property behind the access control fence.
- (iii) In every case where the Department of Transportation has permitted a temporary break in the access control fence under this Part, the telecommunications company shall have the responsibility to maintain control of access to the state freeway right-of-way as specified in the installation and maintenance plan approved by the Department. Upon completion of the fiber optic cable facility installation in any part of the freeway where a temporary break in access control has been permitted, the telecommunications company shall promptly restore the access control fence as specified by the Department.

5. Parking of Vehicles.

The telecommunications company shall not be permitted to park vehicles and equipment or to store materials on the freeway right-of-way without express prior approval by the Department of Transportation. In no case shall the telecommunications company be permitted to park vehicles and equipment or store materials within the clear zone of the freeway, except as may be required during actual installation operations within the clear zone and while all required traffic control is present and in place.

6. Traffic Control.

- (i) All traffic control signs or other traffic control devices that the telecommunications company may use in the course of any installation, servicing or maintenance of a fiber optic cable facility shall comply with the provisions of Chapter 1680-6-1 and the Manual on Uniform Traffic Control Devices, as adopted in Chapter 1680-3-1.
- (ii) In addition, the telecommunications company shall arrange for law enforcement officers having appropriate enforcement authority to be present to ensure the safe flow of traffic whenever any installation, servicing or maintenance of a fiber optic cable facility occurs within the clear zone of the freeway or as may be required in the installation and maintenance plan approved by the Department of Transportation where access to the work zone has been permitted from the traveled way, shoulders or access ramps of the freeway. The telecommunications

(Rule 1680-6-1-.09, continued)

company may not conduct any such work within the right-of-way without giving specific advance notice thereof to the Department of Transportation.

7. Advance Notice of Installation or Maintenance Work.

Before performing any non-emergency servicing or maintenance of a fiber optic cable facility at any location within the freeway right-of-way and before performing any installation of a fiber optic cable facility within the clear zone or where access to the utility work zone has been permitted from the traveled way, shoulders or access ramps of the freeway, the telecommunications company shall give at least five (5) work days advance notice thereof to the Regional Director of the Department of Transportation Region in which the work is to be performed.

8. Emergency Maintenance or Repair.

The telecommunications company shall notify the appropriate Regional Director of the Department of Transportation as soon as possible, and in any event not more than twenty-four (24) hours, after the occurrence of an event requiring emergency maintenance or repair of a fiber optic cable facility within the freeway right-of-way, or as otherwise specified in the installation and maintenance plan approved by the Department.

(e) Cessation of Work for Public Safety.

If the telecommunications company fails to comply with the traffic control plan or any other provision of the installation and maintenance plan, or if any activity of the telecommunications company within the freeway right-of-way interferes with the safe and efficient use of the freeway as determined by the Department of Transportation, the telecommunications company shall immediately cease such activity upon notice being given by the Department, and the telecommunications company shall thereafter work with the Department to bring its activities into compliance with the installation and maintenance plan and/or implement such additional safety requirements as may be specified by the Department.

(f) Ecological, Historical and Archaeological Considerations.

If at any time during the installation of fiber optic cable facilities within the freeway right-of-way the telecommunications company encounters an area having ecological, historical or archaeological significance under federal or state law, the telecommunications company shall immediately notify the Department of Transportation and cease installation operations in that area until receiving further instructions from the Department of Transportation.

(g) Trees.

The cutting or removal of trees along the freeway right-of-way shall not be permitted without the express approval of the Department of Transportation.

(h) Hazardous Substances.

The telecommunications company shall not place, install or deposit any hazardous substance or hazardous waste within or on any part of the state freeway or state freeway right-of-way. If at any time the telecommunications company causes or allows a spill of a hazardous waste or substance within the freeway right-of-way, the telecommunications company shall remain solely liable for the clean-up and removal of such hazardous waste or substance. The telecommunications company shall indemnify the State of Tennessee and Department of

(Rule 1680-6-1-.09, continued)

Transportation, and their officers, employees and agents, and shall hold them harmless against any and all claims or expenses of any kind related to the deposit, spillage and/or clean-up of any such hazardous wastes or substances.

(i) Installation of Access Points for the Department of Transportation.

Where the Department of Transportation requests in-kind compensation for the use of state freeway rights-of-way in accordance with Section 54-16-112 of the Tennessee Code and this Rule, the telecommunications company shall provide pull boxes, splice boxes and/or other access points at such intervals and locations as the Department of Transportation may require. Covers for such access points shall be traffic rated in accordance with the requirements of the Department of Transportation's Standard Specifications for Road and Bridge Construction, and each cover shall be marked to identify it as a fiber optic cable facility.

(j) Inspection.

All work performed within state freeway right-of-way or otherwise on state property, including without limitation any work performed for the Department of Transportation, shall be subject to inspection by the Department. The Department shall have the authority to reject substandard work or materials and/or to suspend or stop work, in whole or part, where the telecommunications company fails to comply with any requirement of this Rule or the Use and Occupancy Agreement, or where any unsafe or hazardous condition exists.

(k) Above-Ground Markers.

The telecommunications company shall install permanent above-ground markers indicating the location of its underground fiber optic cable facilities at such intervals as the Department of Transportation may approve or require in the installation and maintenance plan. These markers shall not interfere with the safe use, operation and maintenance of the freeway, nor shall they constitute a hazard to the traveling public.

(l) Repair and Restoration of Premises.

1. The telecommunications company shall, as directed by and in a manner satisfactory to the Department of Transportation, promptly replace or repair any portion of the pavement, shoulders, structures, ramps, guardrail, drainage, or any other part of the freeway that may have been damaged in the course of any work within the state freeway right-of-way.
2. Upon the completion of any installation, replacement, repair or relocation of fiber optic cable facilities within the state freeway rights-of-way, the telecommunications company shall promptly restore the premises to a condition similar to that which existed prior to such work, in a manner satisfactory to the Department of Transportation.
3. The telecommunications company shall remain responsible for maintaining any excavation or trench on or along the state freeway right-of-way, as directed by and in a manner satisfactory to the Department of Transportation.

(m) As-Built Drawings.

"As-built" drawings of all underground and aboveground fiber optic cable facilities located on the state freeway right-of-way shall be submitted to the Department of Transportation upon completion of any installation or relocation.

(Rule 1680-6-1-.09, continued)

(11) Compliance and Revocation.

- (a) In the event that the Department of Transportation determines that the telecommunications company is in violation of any provision of this Rule or the Use and Occupancy Agreement, the Department of Transportation may order the telecommunications company to comply.
- (b) In any case not presenting any imminent threat to public safety, as determined by the Department of Transportation, the telecommunications company shall be given thirty (30) days, or such other reasonable time as the Department may provide, within which to correct the noncompliance.
- (c) In any case presenting an imminent threat to public safety, as determined by the Department of Transportation, the telecommunications company shall correct the noncompliance promptly as directed by the Department.
- (d) If the telecommunications company fails to comply with any order or directive given by the Department of Transportation under this Paragraph, the Department of Transportation may revoke the Use and Occupancy Agreement, after such notice and opportunity for hearing, if any, as may be required by law.
- (e) The telecommunications company shall not be entitled to any compensation or reimbursement of expenses in the event of such revocation of the Use and Occupancy Agreement.
- (f) Upon the revocation of the Use an Occupancy Agreement, the telecommunications company shall promptly remove any fiber optic cable facilities within the state freeway right-of-way, in such manner and within such time as the Department of Transportation may direct. If the telecommunications company fails to remove the fiber optic cable facilities within the time directed, the fiber optic cable facilities shall be deemed to be abandoned by the telecommunications company, and the Department of Transportation shall be deemed the owner thereof; provided, however, that the Department of Transportation, in its sole discretion, may refuse ownership of the abandoned fiber optic cable facilities at any time within one year after the abandonment and thereupon hold the telecommunications company liable for the costs of removing such facilities from the freeway right-of-way.

(Rule 1680-6-1-.09, continued)

(12) Appendix: Rate Sheet Adopted by the Advisory Board.

Rate Sheet

Underground Fiber Optic Facilities  
 Advisory Board

The Advisory Board hereby adopts the following fair, reasonable and nondiscriminatory rate of compensation for access to controlled-access highway right-of-way, and method of valuation of in-kind compensation in accordance with Section 54-16-112 of the Tennessee Code:

Minimum Underlying Urban/Suburban/Rural Rates

Type of Right-of-Way	Annual Per Mile Rate
Urban	\$1,500 per 1 ¼ inch innerduct (or equivalent)
Suburban	\$1,000 per 1 ¼ inch innerduct (or equivalent)
Rural	\$500 per 1 ¼ inch innerduct (or equivalent)

Minimum Underlying Clear Zone Rate

Type of Right-of-Way	Annual Per Mile Surcharge
All Areas	\$4,000, per trench

The Advisory Board hereby adopts the following rates, developed from the above underlying rates, plus a 3% inflation factor for the annual remittance option, or for the up-front remittance options, based on a 5% rate of discount.

Up-front versus Annual Remittance Options  
 Per 1 ¼ inch innerduct (or equivalent), per mile

Type of Right-of-Way	Annual	Up-front for 10 year term	Up-front for 20 year term	Up-front for 30 year term	Up-front for 40 year term
Urban	\$1,500 + 3% inflation factor compounded (starting yr. two)	\$12,162	\$19,628	\$24,212	\$27,026
Suburban	\$1,000 + 3% inflation factor compounded (starting yr. two)	\$8,108	\$13,085	\$16,141	\$18,017
Rural	\$500 + 3% inflation factor compounded (starting yr. two)	\$4,054	\$6,543	\$8,071	\$9,009
Clear Zone (per trench)	\$4,000 + 3% inflation factor compounded (starting yr. two)	\$32,431	\$52,341	\$64,564	\$72,068

The Advisory Board hereby adopts an annual increase of the per mile rates listed above by the actual percentage rate of inflation as measured by the Consumer Price Index (CPI). This factor will be applied to all contracts seeking access to the controlled-access highway right-of-way after 2002, and every year thereafter, until the Advisory Board establishes a new rate of compensation.

The Advisory Board hereby adopts the incremental cost valuation methodology, as described in the Summary Report submitted by the Department of Transportation, dated November 30, 2001, for the valuation of in-kind compensation.

This Rate Sheet is hereby adopted, in its entirety, by majority vote of the Advisory Board members present and entitled to vote.

Justin Wilson, Chairman of the Advisory Board

Dated: January 7, 2002

**Authority:** T.C.A. §54-16-112. **Administrative History:** Amendment filed September 24, 2002; effective December 8, 2002 (Original rule renumbered to 1680-6-1-.10).

(Rule 1680-6-1-.09, continued)

**1680-6-1.10 APPENDIXES.**

**APPENDIX I**

Form U-2  
Revised 1-88  
DT-0045

STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
NASHVILLE, TENNESSEE



Agreement No. _____
State Hwy. No. _____
Project No. _____
County _____
Type of Surety _____
Bond or Check No. _____

Distribution  
White—State Utilities Engineer  
Yellow—Applicant  
Pink—Regional Utilities Engineer  
Gold—District Engineer

**APPLICATION AND UTILITY USE AND OCCUPANCY AGREEMENT**

TO: Regional Utilities Engineer  
State of Tennessee  
Department of Transportation  
(SEE BACK FOR ADDRESS)  
Application is hereby made by \_\_\_\_\_

Name of Applicant

Address and Zip Code

for permission to install and maintain the following described utility facilities on the right-of-way of State Highway No. \_\_\_\_\_

in \_\_\_\_\_ County: \_\_\_\_\_

Description

At the following described location \_\_\_\_\_

Location

in accordance with the attached plan and subject to RULES AND REGULATIONS FOR ACCOMMODATING UTILITIES WITHIN HIGHWAY RIGHTS -OF-WAY heretofore issued by the Department of Transportation, and made a part hereof by reference thereto, and particularly to those provisions shown on the reverse side of this agreement and any special provisions set forth herein.

Special Provisions: \_\_\_\_\_

Applicant is to deliver a bond, acceptable to the Department of Transportation, in the sum of \$ \_\_\_\_\_ to guarantee installation of facilities consistent with provisions of this agreement and maintenance of the highway right-of-way for a period of \_\_\_\_\_ months after acceptance of the condition of the highway right-of-way by an authorized representative of the Department of Transportation.

This agreement is to be strictly construed and no work other than that specifically described above is hereby authorized.

Method of Performing Work:

STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

\_\_\_\_\_ (a) By use of applicant's own forces

BY: \_\_\_\_\_  
State Transportation Engineer

\_\_\_\_\_ (b) By use of a contractor

Applicant

APPROVED:

BY: \_\_\_\_\_  
Signature

By: \_\_\_\_\_  
Regional Utilities Engineer

Title: \_\_\_\_\_

By: \_\_\_\_\_  
Regional Engineering Director

Date: \_\_\_\_\_

By: \_\_\_\_\_  
State Utilities

AGREEMENT GRANTED to make the above described installation in accordance with the applicable sections of the Rules and Regulations, Regulations shown on the reverse side of this agreement and Special provisions made a part of this agreement, this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_\_.

(Rule 1680-6-1-.10, continued)

**The Applicant in applying for this agreement agrees to the following:**

1. Applicant shall design, install and maintain its facilities in accordance with *Rules and Regulations for Accommodating Utilities Within Highway Rights-of-Way* heretofore issued by the Department of Transportation.
2. Applicant, before commencing any work or installing any facilities shall submit to the Department of Transportation's regional office plans showing the location, type and scope of all work to be done or appliances to be installed in order that the Regional Utilities Engineer may recommend approval of the proposed work.
3. Applicant agrees that it will be responsible for any damages caused by any negligence on its part, including but not limited to the improper placing of or failure to display construction signs, danger signs, and other required signing and will bear any expense proximately caused by its operation on the right-of-way.
4. Applicant shall pay the salary and expenses of any Inspector(s) that the Department of Transportation may see fit to place upon the work while such Inspector(s) is/are assigned to this work. The Department of Transportation before incurring any expenses expected to be charged to the Applicant shall advise the Applicant in writing of this fact.
5. Applicant shall replace or repair any portion of the pavement, shoulders, bridges, private driveways or any part of said highway which may be disturbed or damaged. Replacements and repairs shall be made in accordance with the Department of Transportation's Standard Specifications For Road and Bridge Construction and any additional instructions which may be issued. Applicant agrees that the Department of Transportation may accomplish further replacements or repairs in the event those made by the applicant are not satisfactory, in which event the Applicant will reimburse Department of Transportation for the cost of such other replacements or repairs. Except in cases of emergency the Department of Transportation shall notify the Applicant of the nature and extent of such further replacements or repairs to be accomplished prior to undertaking the work.
6. If, at any future time, it should become necessary in the maintenance, construction or reconstruction of said highway to have Applicant's appliances and facilities removed in order that said highway may be properly maintained, constructed or reconstructed or in the event said appliances and facilities should, at any time, interfere with the use of said highway, the Applicant agrees upon being requested so to do by Department of Transportation to remove said appliances and facilities as promptly as the magnitude of the work to be accomplished will permit, at its own expense and without cost to the Department of Transportation, unless any requested removal should be contrary to any law of the State.
7. Applicant shall be responsible for any conflicts with other utilities or appurtenances that are on the highway right-of-way and shall notify the respective owner(s) of any conflicts and secure the owners permission for any alternations.
8. The Department of Transportation does not grant the Applicant any right, title or claim on any highway right-of-way and in granting this permission to go upon the right-of-way does not, in any way, assume the maintenance of the Applicant's facility.
9. This agreement shall become void if work is not commenced within a year from date of execution of this Agreement.

(Rule 1680-6-1-.10, continued)

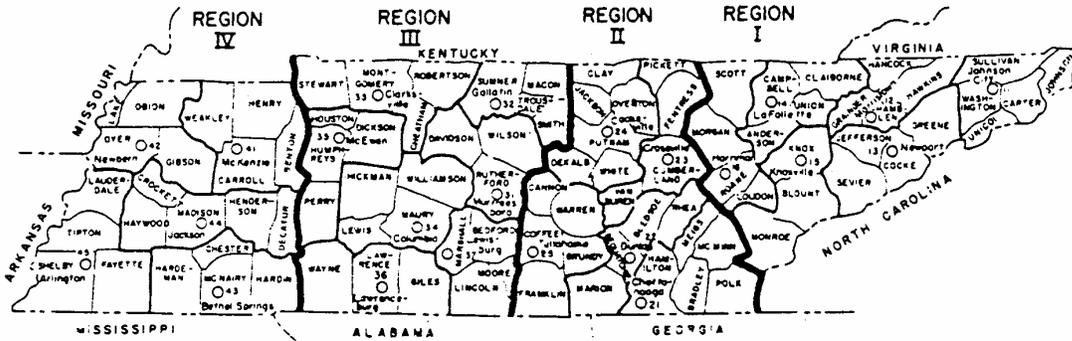
Mail to appropriate Region Office c/o Transportation Supervisor - R.O.W.

REGION IV  
 P.O. Box 429  
 Jackson, TN 38302  
 Tel. 424-4110

REGION III  
 2200 Charlotte Ave.  
 Nashville, TN 37203  
 Tel. 320-8285

REGION II  
 P.O. Box 22368  
 Chattanooga, TN 37422-2368  
 Tel. 892-3430

REGION I  
 P.O. Box 58  
 Knoxville, TN 37901  
 Tel. 594-6262



(Rule 1680-6-1-.10, continued)

**APPENDIX 2**

**A POLICY ON THE ACCOMMODATION OF  
UTILITIES WITHIN FREEWAY RIGHT-OF-WAY**

**Prepared by the  
Standing Committee On Highways**

**Published by the  
AMERICAN ASSOCIATION OF STATE  
HIGHWAY AND TRANSPORTATION  
OFFICIALS**

**444 North Capitol St., N.W.  
Suite 225  
Washington, D.C. 20001**

**Copyright, 1982, by the American Association  
of State Highway and Transportation Officials  
Printed in the United States of America**

---

**A Policy on the Accommodation of  
Utilities within Freeway Right-of-Way**

**INTRODUCTION**

The Geometric Design Standards for the National System of Interstate and Defense Highways adopted by the American Association of State Highway Officials on July 12, 1956, and accepted by the Bureau of Public Roads on July 17, 1956, provide, in accordance with Section 109 of Title 23, U.S. Code, Highways, 1958, for control of access on all sections of the Interstate System. These provisions were established to provide for the maximum degree of safety and to preserve the traffic-carrying capacity, both of which are warranted by the large public fund investment in the facility. There are also other freeways with similar control of access features which are not part of the Interstate System.

Control of access can be materially affected by the extent and manner in which public utilities cross or otherwise occupy the highway right-of-way. The highway agencies have various degrees of authority to develop and maintain control of access and to regulate utilities, generally through their authority to designate and to control the use made of right-of-way acquired for public highways, including those of all freeways. Their authorities depend upon State laws or regulations. These laws and regulations differ in the several States and may be different in a State for highways utilizing existing right-of-way and for highways on new location for which right-of-way is to be acquired. A State may also have separate laws and regulations different from those applicable statewide, for highways on right-of-way subject to jurisdiction of a local government such as that of a large city.

In order to carry out the intent of Title 23, U.S. Code, a uniform policy is needed to establish the conditions under which public and private utilities may be accommodated on the freeway right-of-way. The following statements constitute such a policy. While the policy has as its primary purpose increasing and maintaining highway safety and function to the maximum and insuring uniformity of utility treatment among the States, it recognizes the public interest in avoiding unnecessary and costly operation of public utility organizations. The policy applies to all highways with full control of access, regardless of system. Also, it has value as a guide for all highways with partial control of access. The policy can be applied in most States by existing authority. Those States in which laws will not permit the application of this policy in its entirety should strive for uniformity through the enactment of appropriate legislation.

It is not the intent of this policy to impose restrictions on the future installations of utility crossings to the extent that would obstruct the development of expanding areas adjacent to the freeways.

(Rule 1680-6-1-.10, continued)

This policy makes no reference to reimbursement to utility owners for the cost of adjusting or installing utilities on free ways. Reimbursement is subject to State laws.

It is the intent of this policy to establish procedures whereby the individual State highway authorities may uniformly administer the same.

### STATEMENT OF POLICY

#### 1. Utilities to Which Policy Applies

The principles set forth in this policy apply to all public and Private utilities including power transmission, telephone, telegraph, water, gas, oil, petroleum products, steam, sewer, drainage, irrigation, and similar lines. Such utilities may involve construction and maintenance of underground, surface or overhead facilities, either singly or in combination.

This policy shall apply to utilities located on right-of-way owned or leased by the utility owners and to utilities on public highway rights-of-way.

This policy does not apply to utility lines for servicing facilities required for operating the freeway,

#### 2. New Utility Installations Along Freeways

New utilities will not be permitted to be installed longitudinally within the control of access lines of any freeway, except that in special cases such installations may be permitted under strictly controlled conditions. However, in each such case the utility owner must show that:

- A. The accommodation will not adversely affect the safety, design, construction, operation, maintenance or stability of the freeway;
- B. The accommodation will not be constructed and/or serviced by direct access from the thru traffic
- C. The accommodation will not interfere with or impair the present use or future expansion of the freeway; and,
- D. Any alternative location would be contrary to the public interest. This determination would include an evaluation of the direct and indirect environmental and economic effects which would result from the disapproval of the use of such right-of-way for the accommodation of such utility.

#### 3. Existing Utilities Along Proposed Freeways.

Where an utility already exists within the proposed right-of-way of a freeway and it can be serviced, maintained and operated without access from the through traffic roadways or ramps, it may remain as long as it does not adversely affect the safety, design, construction, operation, maintenance or stability of the freeway. Otherwise, it must be relocated.

#### 4. Major Valley Crossings

Where a freeway crosses a major valley or river on an existing structure, any utility carried by said structure at the time the highway route is improved may continue to be so carried when relocation of the utility would be very costly and provided the utility can be serviced without interference with road users.

Expansion of a utility carried by an existing structure across a major valley or river may be permitted provided

(Rule 1680-6-1-.10, continued)

the utility can be installed and serviced without interference with road users.

A new utility will not be permitted to be installed on a structure across a major valley or river at and after the time the highway route is improved, except for special cases as covered by Item 2,

#### 5. Utilities Crossing Freeways

New utility installations and adjustments or relocations of existing utilities may be permitted to cross a freeway. To the extent feasible and practicable they should cross on a line generally normal to the freeway alignment and preferably under the freeway.

##### 5(A) Utilities Along Roads or Streets Crossing Freeways

Where a utility follows a crossroad or street which is carried over or under a freeway, provision should be made for the utility to cross the freeway on the locations of the crossroad or street in such manner that the utility can be serviced without access from the through-traffic roadways or ramps. Generally the utilities are to be located within the right-of-way of the crossroad or street, existing or relocated, and may cross over or under the freeway or be carried on or through the highway grade separation structure, provided installation and servicing thereof can be accomplished without access from the through-traffic roadways or ramps. Where distinct advantage and appreciable cost saving is effected by locating the utilities outside the right-of-way of the crossroad or street they may be so located, in which case they shall be located and treated in the same manner as utility lines crossing the freeway at points removed from grade separation structures as in (B) and (C) which follow.

##### 5(B) Overhead Utility Crossings

Overhead utility lines crossing a freeway at points removed from grade separation structures, or those crossing near a grade separation but not within the right-of-way of a crossroad or street, in general, should be adjusted so that supporting structures are located outside the outer edges of through-traffic roadway side slopes and preferably outside the control access lines. In any case supporting poles shall not be placed within the appropriate clear zone as designated in the current edition of the AASHTO publication "Guide for Selecting, Locating and Designing Traffic Barriers." Supporting poles may be placed in medians of sufficient width to provide the above referenced clear zone from the edges of both roadways. If additional lanes are planned, the clear zone shall be determined from the ultimate edges of the roadway. Where right-of-way lines and control of access lines are not one and the same, as where frontage roads are provided, supporting poles may be located in the area between them. In extraordinary cases where such spanning of the roadways is not feasible, consideration may be given to conversion to underground facilities to cross the freeway.

At interchange areas, in general, support for overhead utilities should be permitted only where all of the following conditions are met: (a) the above indicated clear zone is provided with respect to the freeway through-traffic lanes, (b) the appropriate clear zone from edge of ramp is provided as designated in the above referenced AASHTO "Guide for Selecting, Locating and Designing Traffic Barriers," (c) essential sight distance is not impaired, and (d) the conditions of Item 7, "Access for Servicing Utilities," are satisfied.

The vertical clearance to overhead utility lines crossing freeways shall be determined by the State but in no case shall be less than the clearance required by the National Electrical Safety Code, ANSI C2, Institute of Electrical and Electronics Engineers, Inc.

##### 5(C) Underground Utility Crossings

Utilities crossing underground below the freeways shall be of durable materials and so installed as to virtually preclude any necessity for disturbing the roadways to perform maintenance or expansion operations. The design and types of materials shall conform with appropriate governmental codes and specifications.

(Rule 1680-6-1-.10, continued)

Manholes and other points of access to underground utilities may be permitted within the right-of-way of a freeway only when they are located beyond the shoulders of the through-traffic roadways or ramps as planned for later widening, if any, and only where they can be serviced or maintained without access from the through-traffic roadways or ramps.

#### 5(D) Irrigation Ditches and Water Canals

Except for necessary crossings, water canals and irrigation ditches should be excluded from the right-of-way of freeways, except for special cases as covered by Item 2. Crossings may be made by underground siphon, or through culverts, or bridges as appropriate to the size of canal, topographic conditions, and highway safety aspects. In general, locations and structures are to be designed in the same manner as are facilities for natural transverse drainage.

All access and egress for servicing or patrolling such facilities shall be from outside the control of access' lines. Ditch-walkers or ditch-riders shall not be permitted to indiscriminately cross the freeway at grade. Under appropriate traffic control arrangements, special ditch cleaning equipment may be permitted to cross in those cases where considerable extra travel distance would otherwise be required to utilize grade separation structures.

#### 5(E) Provisions for Expansion of Utilities

When existing utilities are relocated or adjusted in conjunction with construction of a freeway, provision may be made for known and planned expansion of the utility facilities, particularly those underground. They should be planned to avoid interference with traffic at some future date when additional or new overhead or underground lines are installed.

#### 6. Utilities in Vehicular Tunnels

As a general rule utilities will not be permitted to occupy vehicular tunnels on freeways on new location, except in special cases as covered by Item 2.

Utilities which transport a hazardous material shall not be allowed in a vehicular tunnel under any circumstances.

Where a utility occupies space in an existing vehicular tunnel that is converted to a freeway, relocation of the utility may not be required. Utilities which have not previously occupied an existing vehicular tunnel that is incorporated in a freeway will not be permitted therein, except in special cases as covered by Item 2.

#### 7. Access for Servicing Utilities

Access for Servicing a utility along or across a freeway should be limited to access via (a) frontage roads where provided, (b) nearby or adjacent public roads and streets, or (c) trails along or near the highway right-of-way lines, connecting only to an intersecting road, from any one or all of which entry may be made to the outer portion of the freeway right-of-way.

In those special cases, where utility supports, manholes, or other appurtenances are located in medians or interchange areas, access to them from through-traffic roadways or ramps may be permitted but only by permits issued by the highway agency to the utility owner setting forth the conditions for policing and other controls to protect highway users.

Where utilities are located outside the control of access line and where such utilities may require maintenance from within the freeway right-of-way, a permit must be obtained from the highway agency.

(Rule 1680-6-1-.10, continued)

Advance arrangements should also be made between the utility and the highway agency for emergency maintenance procedures.

8. Construction and Location Details

The highway agency which constructs or maintains freeways has the right to review and approve the location and design of all utility installations and adjustments affecting the highway and issue permits for the contemplated work.

9. Manner of Making Utility Installations and Adjustments

In general, utility installation and adjustments are to be made with due consideration to highway and utility costs and in a manner that will provide maximum safety to the highway users, will cause the least possible interference with the highway facility and its operation, and will not increase the difficulty of or cost of maintenance of the highway.

(Rule 1680-6-1-.10, continued)

**APPENDIX 3**

[Deleted]

**APPENDIX 3A**

[Deleted]

**APPENDIX 4.A**

1. Geometrics of the Roadway
2. Longitudinal location of Luminaire along the Roadway.
3. Cross-section of the Roadway showing the location of the Luminaire with respect to the edge of the pavement (both horizontally and vertically).
4. Photometric data used in the design.
5. Luminaire size. ASA type and initial lumen rating, associated with the luminaire when operating in the position for which the equipment was designed.
6. Mounting height and type of poles to be used.
7. Average spacing of luminaires.
8. Average horizontal footcandle level used in the design.
9. Maximum horizontal footcandle level.
10. Minimum horizontal footcandle level.
11. Maintenance factor used in the design.
12. Character of the existing street lighting at each end of the proposed new system and on the intersecting roadways.

Upon request and when available the Department will provide prints of the highway construction plans for use as a base for the proposed lighting plan.

(Rule 1680-6-1-.10, continued)

**APPENDIX 4B**

Required Information to Accompany Plans For Pipeline Encroachments:

	Carrier Pipe	Casing Pipe
1. Contents to be handled	_____	_____
2. Outside diameter	_____	_____
3. Pipe material	_____	_____
4. Pipe specifications and grade	_____	_____
5. Wall thickness	_____	_____
6. Design pressure	_____	_____
7. Actual working pressure	_____	_____
8. Type of joint	_____	_____
9. Coating	_____	_____
10. Method of installation	_____	_____
11. Protection at end of casing	_____	_____
Both Ends _____ One End _____ Type _____		
12. Cover: Finished grade to tope of casing or carrier _____		
Bottom of ditch or toe of slope to top of		
Carrier to casing _____		
13. Cathodic protection _____		
14. Size and height of casting vent _____		
15. Distance from casing vent to edge of		
Nearest traffic lane _____		

(Rule 1680-6-1-.10, continued)

**APPENDIX 4C**

Required Information to Accompany Plans Overhead Power or Communication Encroachments:

1. Type of facility \_\_\_\_\_
2. Type of conductor or cable \_\_\_\_\_
3. Size of conductor or cable \_\_\_\_\_
4. Height, type and class of poles \_\_\_\_\_
5. Type and size of guys \_\_\_\_\_
6. Minimum vertical clearance @ points of crossing \_\_\_\_\_
7. Type and size of crossarms \_\_\_\_\_

This information may be shown on the plan or by attachment thereto.

---

**APPENDIX 4D**

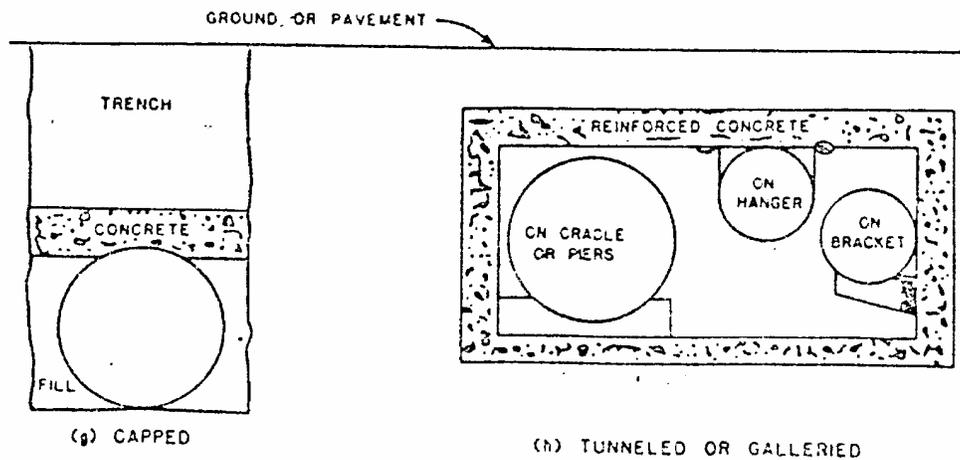
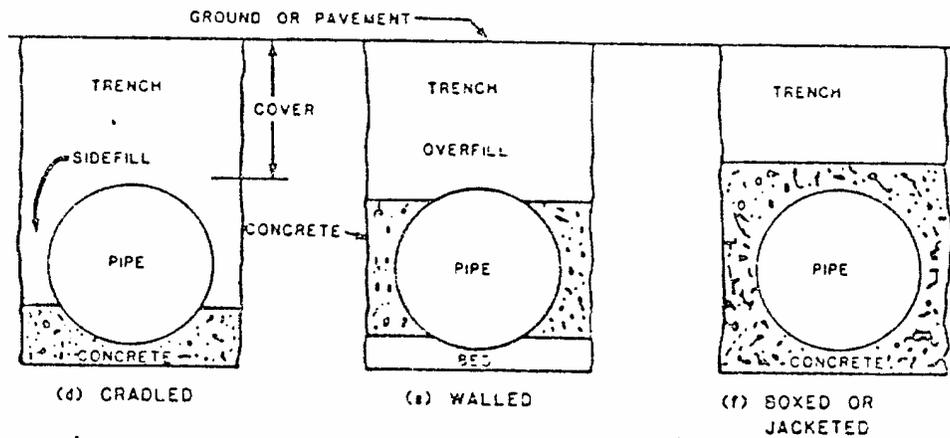
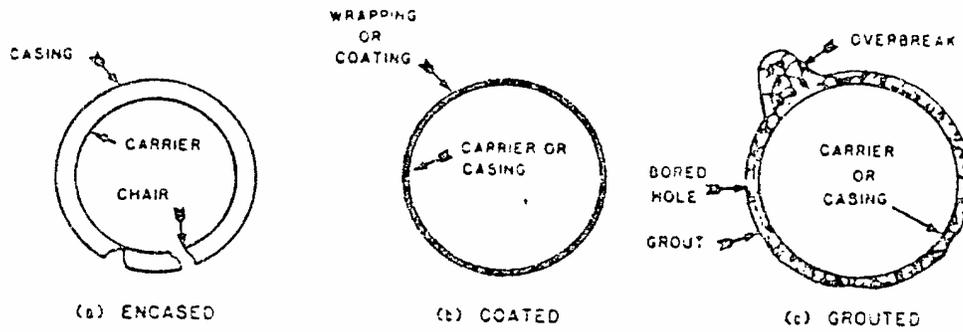
Required Information to Accompany Plans for Underground Electric or Communication Encroachments:

1. Type of facility \_\_\_\_\_
2. Type of conductor or cable \_\_\_\_\_
3. Size of conductor or cable \_\_\_\_\_
4. Type of duct or encasement \_\_\_\_\_
5. Minimum longitudinal cover \_\_\_\_\_
6. Minimum cover at crossing of travel way \_\_\_\_\_

This information may be shown on the plan or by attachment thereto.

(Rule 1680-6-1-.10, continued)

ENCASEMENT AND ALLIED MECHANICAL PROTECTION



(Rule 1680-6-1-.10, continued)

**APPENDIX 6**

**LICENSE FOR PRIVATE UTILITY OCCUPANCY OF STATE HIGHWAY RIGHT-OF-WAY  
BY INDIVIDUALS OR BUSINESSES**

This license agreement is made and entered into on this \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_\_\_, by and between the State of Tennessee, acting through its Department of Transportation, hereinafter referred to as "licensor" and \_\_\_\_\_ hereinafter referred to as "licensee";

**WITNESSETH:**

That licensor, in consideration of a showing of necessity by the licensee to install private \_\_\_\_\_ utility facilities in state highway right-of-way hereby grants licensee the privilege to make and maintain a utility installation to serve the property described in Exhibit A in accordance with the provisions of this agreement and in conformity with the plans and specifications contained in Exhibit B, which exhibits are attached and constitute a part hereof,

It is understood by the parties that this license shall not be construed as a grant of any interest in and to said right-of-way, but as a privilege of occupancy by permission of licensor to be used exclusively to provide \_\_\_\_\_ utility service to said property for an indefinite future time when installed in accordance with said plans and specifications, provided licensee maintains the facilities in good operating condition, until licensor has a need to use the occupied area for maintenance or construction within the right-of-way or until public utility facilities offering the same service become available.

On failure of the licensee to comply with any condition or occurrence of any limitation on continuance of this license, licensee agrees to remove its facilities or discontinue their use, as the licensor directs.

IN WITNESS WHEREOF, the parties have executed this license on the day and date first above written.

LICENSEE

STATE OF TENNESSEE  
TENNESSEE DEPARTMENT OF TRANSPORTATION

BY: \_\_\_\_\_  
Name

BY: \_\_\_\_\_  
Jimmy M. Evans  
Commissioner

\_\_\_\_\_  
Title

BY: \_\_\_\_\_  
Lewis Evans  
State Transportation Engineer

APPROVED

BY: \_\_\_\_\_  
Henry K. Buckner, Jr.  
Department Attorney

**PROPERTY**

Book \_\_\_\_\_

Page \_\_\_\_\_

County \_\_\_\_\_

(Rule 1680-6-1-.10, continued)

**APPENDIX 7A**

Form U-5  
1-83

**SURETY BOND**  
(For Utility Permits)

KNOW ALL MEN BY THESE PRESENTS:

That we \_\_\_\_\_, PRINCIPAL, and \_\_\_\_\_ as SURETY, are held and firmly bound unto the DEPARTMENT OF TRANSPORTATION of the State of Tennessee to perform the work described in the Application and Utility Use and Occupancy Agreement attached hereto and requested this the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_\_, in the manner prescribed in said Application and Agreement and to replace or repair any portion of pavement, shoulders, bridges or any other part of the highway described in said Agreement which may be damaged as a result of the work hereinbefore referred to. We do hereby agree to repair or replace any damaged portion of said highway in accordance with Standard Specifications for Road and Bridge Construction of the Department of Transportation of the State of Tennessee. In the event such repairs or replacements are not made in a manner satisfactory to the Department of Transportation of the State of Tennessee, we hereby agree to reimburse said Department for the cost of such repairs.

We do bind ourselves in the sum of \$ \_\_\_\_\_ for a term beginning the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_\_, until proper release is received front the Department of Transportation of the State of Tennessee.

NOW THEREFORE, the PRINCIPAL AND SURETY assume all obligations and liabilities as set forth above,

SIGNED, SEALE'D and dated this the \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_\_.

\_\_\_\_\_  
Principal

BY: \_\_\_\_\_

\_\_\_\_\_  
Title

\_\_\_\_\_  
Surety

Surety Company Bond No: \_\_\_\_\_

BY: \_\_\_\_\_

Mailing Address of Surety Company

\_\_\_\_\_  
\_\_\_\_\_

Name and Address of Agency Writing Bond

\_\_\_\_\_  
\_\_\_\_\_

(A copy of the Power of Attorney properly executed by the company authorizing the Agent signing above to bind the company as Surety on this Bond must be attached hereto.)

(Rule 1680-6-1-.10, continued)

APPENDIX 7B

Form U-4

1-83

RUNNING SURETY BOND  
(For Utility Permits)

WHEREAS, it will be necessary from time to time for \_\_\_\_\_ to locate utilities on and to perform work on State highway right-of-ways within the City/County (strike one) of \_\_\_\_\_, Tennessee, after applying for and being granted an Application and Use and Occupancy Agreement with the Department of Transportation of the State of Tennessee for each such installation and,

WHEREAS, in consideration of the entering into Applications and Utility Use and Occupancy Agreement by the Department of Transportation of the State of Tennessee, \_\_\_\_\_ agrees to insure to the said Department that it will repair or replace any portion of pavement, shoulders, bridges or nay other part of any highway which may be damaged as a result of the work hereinbefore referred to.

NOW THEREFORE KNOW ALL MEN BY THESE PRESENT:

That we \_\_\_\_\_, PRINCIPLE, and \_\_\_\_\_ as SURETY, are held and firmly bound into the DEPARTMENT OF TRANSPORTATION of the State of Tennessee to perform any work within City/County (strike one) of \_\_\_\_\_, Tennessee, permitted in any Application and Utility Use and Occupancy Agreement between \_\_\_\_\_ and the Department of Transportation of the State of Tennessee applied for and granted after the \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_\_\_\_, in the manner prescribed in each of said respective agreements and to replace or repair any portion of pavement, shoulders, bridges or nay other part of the highway described in said respective agreements which may be damaged as a result of the work hereinbefore referred to. We do hereby agree to repair or replace any damaged portions of said highways in accordance with Standard Specifications for Road and Bridge Construction of the Department of Transportation of the State of Tennessee. In the event such repairs or replacements are not made in a manner satisfactory to the Department of Transportation of the State of Tennessee, we hereby agree to reimburse said Department of Transportation for the cost of such repairs.

We do bind ourselves in the sum of \$ \_\_\_\_\_ until proper release is received from the Department of Transportation of the State of Tennessee for each installation for which an Application and Utility Use and Occupancy Agreement was entered into between \_\_\_\_\_ and said Department from the date last above written until the termination of the Bond as provided for hereinafter. It is expressly understood and agreed that the above sum represents the total aggregate liability under this Bond on all work performed under Agreements issued as aforesaid but not properly released by said Department.

This Bond may be terminated by the SURETY following the giving of written notice of intention to terminate by certified mail to the State Utilities Engineer, Department of Transportation of the State of Tennessee, 100 James K. Polk Building, Nashville, TN. 37219, and said terminator will become effective thirty (30) days after receipt of said notice. Proper termination notice notwithstanding, PRINCIPLE and SURETY will remain bound to the State of Tennessee under the terms hereabove set out for the performance of any projects, with City/County (strike one) of \_\_\_\_\_, Tennessee, for which Application and Utility Use and Occupancy Agreements were entered into between the date last above written and said date of termination, until proper release is received from the Department of Transportation of the State of Tennessee for each of said projects.

NOW THEREFORE, the PRINCIPLE AND SURETY assume all obligations and liabilities as set forth above.

Signed, sealed and dated this the \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_\_\_\_.

(Rule 1680-6-1-.10, continued)

Surety Company Bond No. _____	_____
	Principle
Mailing Address of Surety Company	BY: _____
_____	_____
_____	Title
Name and Address of Agency Writing Bond	Surety
_____	BY: _____
_____	
_____	

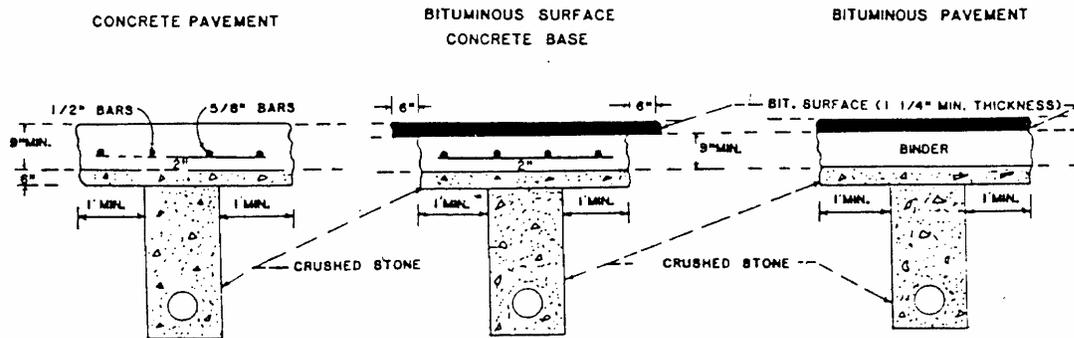
(A copy of the Power of Attorney properly executed by the company authorizing the Agent signing above to bind the company as Surety on this Bond must be attached hereto.)

---

APPENDIX 8  
REQUIREMENTS FOR, OPEN CUT TRENCHING, BACKFILLING AND REPLACEMENT PAVING

1. One-half of the traveled portion of the pavement must remain open to traffic at all times.
2. Existing pavements, buses, curbs and gutters and sidewalks shall be cut and brought to a neat line by mechanically sawing or by use of an air hammer. Expansion joints removed shall be replace.
  1. If permanent pavement repairs cannot be made within two (2) days, then temporary replacement shall be made with 2 inches cold mix or hot bituminous seal coat over compacted crush stone.
  2. Backfill for trenches within roadway areas shall be placed in 6 inch layers and each layer shall be thoroughly compacted by means of mechanical tamp. All concrete shall be Class "A".
  3. Materials and workmanship shall comply with "Standard Specifications for Road and Bridge Construction" issued by the Tennessee Department of Transportation, March 1, 1981. All work is subject to inspection and approval by the Department of Transportation.
  4. Trenches under roadways shall be backfilled to the base of the pavement or a minimum of 9 inches below finished grade, whichever is greater, with crush stone. Pavement will be removed for a minimum of one-foot on each side of the trench. The depth of the patch shall be the depth of the existing pavement or 9 inches, whichever is greater. The patch shall be finished so as not to leave a bump or dip in the finish grade. Pavement shall be replaced in kind as shown hence or as directed by the Regional Utilities Engineer.

(Rule 1680-6-1-.10, continued)



## APPENDIX 9

### SPECIAL PROVISIONS FOR BLASTING ON HIGHWAY RIGHTS-OF-WAY

#### General Provisions

1. Each side of the trench shall be line drilled at 6" C.C. Maximum.
2. Blast holes shall be drilled 6" minimum from plane of line drill.
3. Blast holes shall be loaded with a maximum of 0.5 pounds of water resistant gelatin at no greater than 60% strength.
4. Blasting shall be sequenced so as each shot will kick to an open face.
5. Steel blasting mats shall be used to cover each shot.
6. A maximum of 10 holes or 20 linear feet, whichever is less, shall be loaded and shot at any one time.

#### Provisions for Blasting Near Structures

1. When blasting around or under highway structures, the State will have an inspector inspect the structure before and after the blasting operation is complete, recording the time and findings in diary form. In the event any damage to the structure is observed, all work within the area shall be immediately suspended and shall remain suspended pending investigation by the State as to the extent of damages.
2. A responsible representative of the explosive supplier shall be present on the site at all times the utility or its contractor is performing any blasting operations within the State's right-of-way.

**Authority:** T.C.A. §4-2-2303(2). **Administrative History:** Original rule filed August 8, 1983; effective September 7, 1983. Amendment filed February 1, 1989; effective March 18, 1989. Amendment filed September 24, 2002; effective December 8, 2002 (Formerly 1680-6-1-.09).