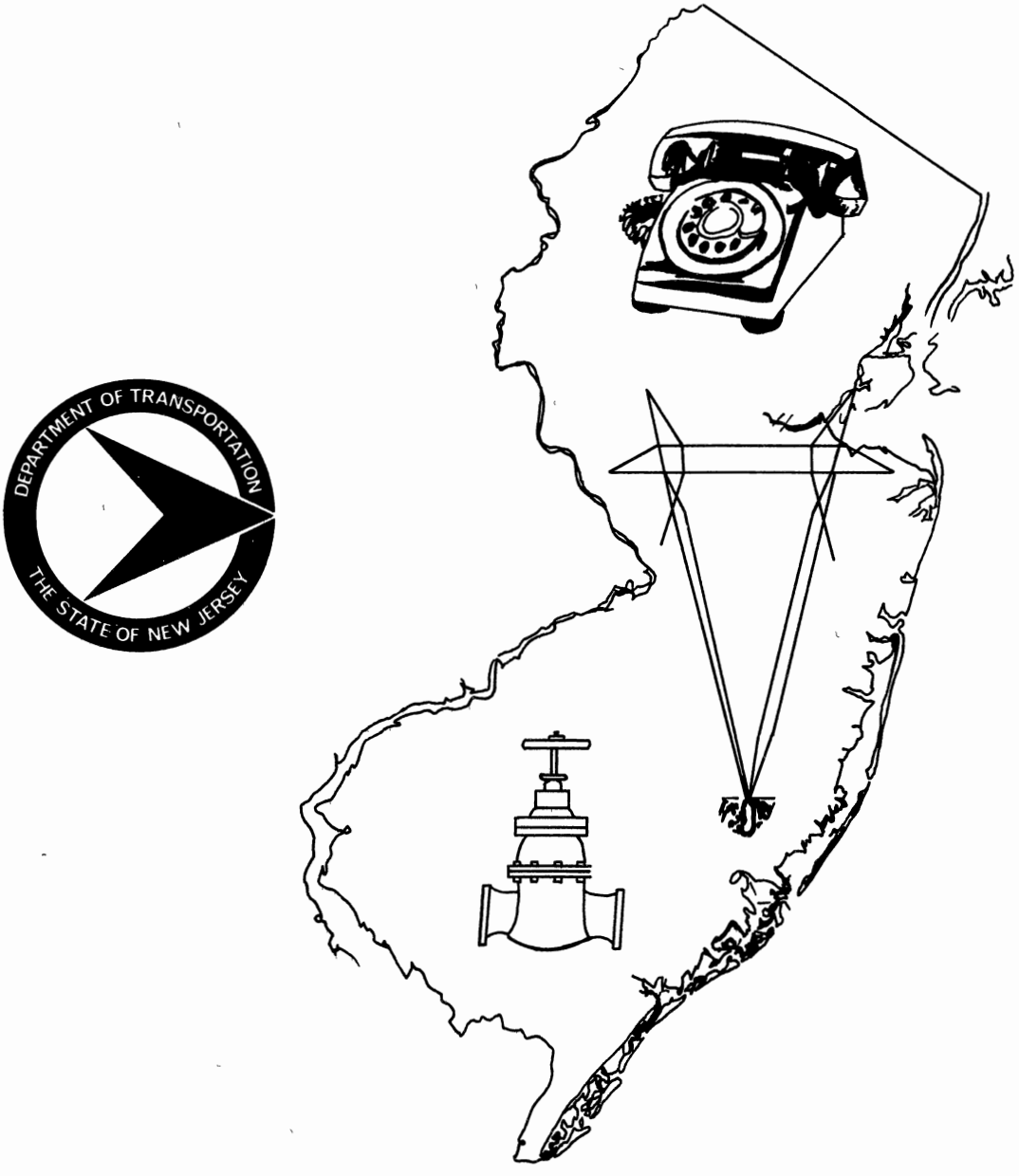
State of New Jersey
Department of Transportation



POLICIES AND PROCEDURES FOR THE ACCOMMODATION OF UTILITIES WITHIN HIGHWAY RIGHT OF WAY

CERTIFICATE OF ADOPTION

Whereas, the utility accommodation rules, which were promulgated by the Commissioner of Transportation and incorporated into the New Jersey Administrative Code on July 26, 1973, have been in effect since July 27, 1973, and

Whereas, the utility accommodation rules were adopted by the Commissioner of Transportation pursuant to the authority delegated at N.J.S.A. 27:1-5, 27:1A-6, 27:7-13, 27:7-19, 27:7A-7, 40:62-35, 40:62-134, 40:178-40, 48:7-1, 48:7-2, 48:9-17, 48:9-25.4, 48:13-10, 48:13-11, 48:17-8, 48:17-10, 48:17-16 and 48:9-17, and in accordance with the applicable provisions of the Administrative Procedure Act of the Laws of 1968,

Now, therefore, I, John C. Kohl, Commissioner of the State Department of Transportation, do hereby ratify the adoption of Rules contained in the volume entitled "State of New Jersey, Department of Transportation, Policy and Procedure for Utility Accommodation on Highways, Effective: July 27, 1973", and certify that the text of the Rules contained therein is the text of the utility accommodation rules (N.J.A.C. 16:25-1 et seq.) as adopted.

DATED AT TRENTON
this day of December, 1973

John C. Kohl
Commissioner of Transportation

ATTEST:

Jean G. Schwartz
Secretary, Department of Transportation

NOTE:

This volume is not an official publication of the New Jersey Division of Administrative Procedure, Department of State.

FORWARD

New Jersey, the Garden State, heavily industrialized, the most densely populated and depicted as the "Corridor State" is severely tried in its efforts to provide a safe and modern highway system for its citizens, millions of visitors and transients; while at the same time, insuring the degree of safe and adequate utility services that its citizens and industries demand. Freeways, Parkways and Expressways are being designed and constructed at an ever increasing rate to satisfy the needs of the motoring public and conventional highways are being widened, dualized and grade separated to meet the needs of the local driver and hauler. Utilities must continually modify their facilities to conform to these highway construction projects, in addition to carrying out their own plant improvement and expansion programs to meet ever increasing customer demands. Rarely, if ever, can either the Department of Transportation or Utility Companies construct or improve their respective facilities without somehow affecting the other. The Commissioner of Transportation has therefore, formally established, through the following Utility Accommodation Policy, the basic criteria that will be used in controlling the use of highway rights-of-way, and has further outlined the policies and procedures to be used in achieving this control.

CHAPTER 25

UTILITY ACCOMMODATION

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CHAPTER 25
UTILITY ACCOMMODATION

SUBCHAPTER 1 INTRODUCTION

16:25-1.1 Definitions

The following words and terms, when used in this Chapter, shall have the following meanings, unless the context clearly indicates otherwise.

"Arterial Highway" - a general term denoting a highway primarily for through traffic, usually on a continuous route.

"Average Daily Traffic" - 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.

"Backfill" - Replacement of soil around and over a pipe.

"Bedding" - Composition of soil to support a pipe.

"Bury" - Depth of top of pipe below grade of roadway or ditch.

"Cap" - Rigid structural element surmounting a pipe.

"Carrier" - Pipe directly enclosing a transmitted fluid (liquid or gas).

"Casing" - A larger pipe enclosing a carrier.

"Chief, Bureau of Utilities" - Individual authorized by the Commissioner of the Department of Transportation to prepare Utility Orders and/or Agreements covering rearrangements and/or occupancy of State Highways or Freeways by Utilities in connection with all roadway construction and/or improvement projects.

"Clear Roadside Policy" - The policy by the New Jersey Department of Transportation to increase safety, improve traffic operation, and enhance the appearance of highways by designing, constructing, and maintaining highway roadsides as wide, flat, and rounded as practical and as free as practical from physical obstructions above the ground such as trees, drainage structures, massive sign supports, utility poles, and other groundmounted obstructions.

"Coating" - Material applied to, or wrapped around a pipe.

"Conventional Highway" - An arterial highway without access control.

"Conduit or Duct" - An enclosed tubular runway for projecting wires or cables.

"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 State.

"Department" - New Jersey Department of Transportation.

"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 grade or direct private driveway connections.

"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.

"Cradle" - Rigid structural element below and supporting a pipe.

"Direct Burial" - Installing a utility underground without encasement, by plowing.

"Administrator" - Division Administrator
Federal Highway Administration.

"Drain" - Appurtenance to discharge liquid contaminants from casings.

"Encasement" - Structural element surrounding a pipe.

"Encroachment" - Unauthorized use of highway right-of-way or easements as for signs, fences, buildings, etc.

"Engineer of Permits" - Individual authorized by the Commissioner of the Department of Transportation to establish policies, procedures, rules and regulations relating to issuance of permits for occupancy of State Highways and/or lands owned by the Department where such occupancy is not covered by either Utility Orders or Agreements.

"Expressway" - A divided arterial highway for through traffic with full or partial control of access and generally with grade separations at major intersections.

"Flexible Pipe" - A plastic, fiberglass, or metallic pipe having large ratio of diameter to wall thickness which can be deformed without undue stress.

"Freeway" - An expressway with full control of access.

"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.

"Gallery" - An underpass for two or more pipelines.

"Grounded" - Connected to earth or to some extended conducting body which serves instead of the earth whether the connection is intentional or accidental.

"Grout" - A cement mortar or a slurry of fine sand or clay, as conditions govern.

"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.

"Investor Owned Utility" - Utility that is owned by stockholders.

"Jacket" - Encasement by concrete poured around a pipe.

"Major Highway" - An arterial highway with intersections at grade and direct access to abutting property, and on which geometric design and traffic control measures are used to expedite the safe movement of through traffic.

"Manhole" - An opening in an underground system which workmen or others may enter for the purpose of making installations, inspections, repairs, connections, and tests.

"Median" - The portion of a divided highway separating the traveled ways for traffic in opposite directions.

"Normal" - Crossing at a right angle.

"Oblique" - Crossing at an acute angle.

"Overfill" - Backfill above a pipe.

"Parkway" - An arterial highway for noncommercial traffic, with full or partial control of access, and usually located within a park or a ribbon of parklike developments.

"Pavement Structure" - The combination of subbase, base course, and the surface course placed on a subgrade to support the traffic load and distribute it to the roadbed.

"Permit" - The document by which the Commissioner of the Department of Transportation approves the use and occupancy of highway rights-of way or property by any utility facility. Permits are not required where Utility Orders or Agreements are to be issued in connection with highway improvements.

"Pipe" - A tubular 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 herein.

"Pressure" - Relative internal pressure in psig (pounds per square inch gauge).

"Public Owned Utility" - Utility owned and/or operated by the State or any political subdivision thereof.

"Public Utility Agreement (P.U.A.)" - The document by which the Commissioner of the Department of Transportation, in connection with Freeways or Parkways (as defined by N.J.S.A. 27:7A-1) enters into an agreement with a public utility owned or operated by the State or any political subdivision thereof, a public utility not covered by N.J.S.A. Title 48, or a public utility having compensable property rights as to the removal and/or relocation of its facilities. The Agreement further serves as the utility's permit to occupy highway rights-of-way and specifies the requirements for, and the conditions of said occupancy.

"Public Utility Order (P.U.O.)" - The document by which the Commssioner of the Department of Transportation, in connection with Freeways or Parkways (as defined by N.J.S.A. 27:7A-1) orders a public utility (as defined by N.J.S.A. Title 48) to remove and/or relocate its facilities. The Order also serves as the utility's permit to occupy highway rights-of-way and specifies the requirements for, and conditions of said occupancy.

"Right-of-Way" - A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to transportation purposes.

"Rigid Pipe" - A welded or bolted metallic pipe or reinforced, prestressed or pretensioned concrete pressure pipe designed for diametric deflection of less than 1.0%.

"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.

"Roadway" - The portion of a highway, including shoulders, for vehicular use. A divided highway has two or more roadways.

"Safety Rest Area" - A roadside area with parking facilities separate 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.

"Scenic Overlook" - A roadside area provided for motorists to stop their vehicles beyond the shoulder, primarily for viewing the scenery in safety.

"Semi-rigid pipe" - A large diameter concrete or metallic pipe designed to tolerate diametric deflection up to 3.0%.

"Sidefill" - Backfill alongside a pipe.

"Slab, Floating" - Slab between, but not contacting pipe or pavement.

"Sleeve" - Short casing through pier or abutment of a highway structure.

"Traveled Way" - The portion of the roadway for the movement of vehicles, exclusive of shoulders and auxiliary lanes.

"Trenched" - Installed in a narrow open excavation.

"Untrenched" - Installed without breaking ground or pavement surface, such as by jacking or boring.

"Utility Agreement" - The document by which the Commissioner of the Department of Transportation in connection with State Highways (non-Freeways or Parkways) enters into an agreement with any public utility or private lines occupying State Highway Rights-of-ways as to the removal and/or relocation of its facilities.

"Vent" - Appurtenance to discharge gaseous contaminants from castings.

"Walled" - Partially encased by concrete poured alongside the pipe.

16:25-1.2 General

In the State of New Jersey utilities have the right, by franchise, to occupy highway rights-of-way. The Commissioner of Transportation has the right, by law, to regulate and control the manner in which such occupancy shall be accomplished. The Rules contained in this Chapter 25 formally establish the criteria used by the Commissioner of Transportation in controlling the use of rights-of-way of State Highways.

16:25-1.3 Application

The Rules contained in this Chapter 25 apply to all public and private and cooperatively owned utilities, including electric power, telephone, telegraph, water, gas, oil, petroleum products, steam, chemicals, sewage, drainage, irrigation, and similar lines that are to be located, adjusted, or relocated within the rights-of-way under the auspices of the New Jersey Department of Transportation. Such utilities may involve underground, surface, or overhead facilities, either singularly or in combination.

16:251.4 Scope

(a) The Rules in this Chapter 25 are provided for use in regulating the location, design, and methods for installing, adjusting, accommodating, and maintaining utilities on highway rights-of-way. They do not alter current rules, regulations or authority for installing utilities nor for determining financial responsibility for installing utilities nor for determining financial responsibility for replacing or adjusting utilities. They are limited to matters which are the responsibility of highway authorities for preserving the integrity of the highway and its safe operation.

(b) Where laws or orders of public authority, industry or governmental codes, or highway authorities prescribe a higher degree of protection than provided by these Rules, then the higher degree of protection shall prevail.

16:25-1.5 Standards and References

(a) Utility line design and construction are normally subject to minimum safety standards and construction requirements prescribed by the respective National or Industry Standard Codes. References herein to such Codes are to the current or amended issue of the respective Code, and may vary from time to time as

such Codes are amended, revised, or superseded by later rules or regulations.

(b) In the absence of applicable National, State, or Local Regulatory Agency Standard Codes (such as the National Electrical Safety Code of the National Bureau of Standards and the New Jersey Department of Health Code in their respective industries), the Industry Standard Code shall apply to all utilities located on, over, under, or across highway right-of-way, except that the minimum applicable standards as set out in the Standard Specifications of the New Jersey Department of Transportation[1], the American Association of State Highway Officials' Guide for Accommodating Utilities on Highway Rights-of-Way[2], and currently applicable Federal Highway Regulations, shall apply in all instances where any such applicable highway specifications are more restrictive or require greater safety factors or require higher standards of construction, materials, or workmanship than the applicable National or Industry Standard Code.

16:25-1.6 Authority of Utilities to Use and Occupy the Rights-of-Way of State Highways (Land Service Roads)

(a) Investor Owned

1. The rights investor-owned utilities have in State highways are established by N.J.S.A. Title 48.

2. Where usage is permitted, the statutes typically provide that the Public Utility involved "may use the public highways, streets, and alleys", subject to the consents for approvals as the Statute may require. Included in this category are:

I. Electric Companies - N.J.S.A. 48:7-1.2
II. Telephone Companies - N.J.S.A. 48:17-8, 10
III. Telegraph Poles - N.J.S.A. 48:17-16
IV. Sewer Lines - N.J.S.A. 48:13-10,11
V. Water Lines - N.J.S.A. 48:19-17
VI. Gas Lines - N.J.S.A. 48:9-17, 25.4

[1]Standard Specifications for Road and Bridge Construction. New Jersey State Highway Department, 1961.

[2]A Guide for Accommodating Utilities on Highway Rights-of-Way, American Association of State Highway Officials, 341 National Press Building, Washington, D.C. 20004, October 25, 1969.

(b) Municipally Owned

1. The rights of municipal utilities with respect to State Right-of-Way are defined by Statutes within N.J.S.A. Title 40. Included are:

I. Electric Poles - N.J.S.A. 40:62-35

II. Water Lines - N.J.S.A. 40:62-65, 134 and 40:178-40

16:25-1.7 Authority of the State to Regulate the Use and Occupancy of State Highway Rights-of-Way (Land Service Road)

(a) Investor Owned

1. Section 179-774-Cumulative Supplement to Complied Statutes of New Jersey (1911-1924) provides that "The State Highway Commission shall have power to determine and adopt Rules, Regulations and Specifications...covering all matters and things incident to the acquisition, construction reconstruction, maintenance and repair of State Highways". Right-of-Way usage by utilities is incident to the construction and maintenance of highways. This statute was superseded by N.J.S.A. 27:1-5 (1948) which extended the powers of the State Highway Commission to the State Highway Commissioner. These powers were in turn extended to the Commissioner. These powers were in turn extended to the Commissioner of Transportation by N.J.S.A. 27:1A-5 (1966). N.J.S.A. 27:7-13 sets forth the usage rights utilities have in bridges and viaducts, and establishes the Commissioner's authority to regulate such use.

2. Beyond Statutes, the State's power to regulate derives from common Law. In Port of New York Authority v. Hackensack Water Company, 41 N.J. 90, 96 (1963), a case involving the obligation of utility to relocate its facilities at its own cost, the New Jersey Supreme Court stated that "A utility company is permitted to locate its lines within the public right-of-way as a use ancillary to the principal and primary use of the public way because it serves a public interest, but since...the primary purpose of the public easement is the public's own use of it, the utility's interest in the public way is subordinate to the public's enjoyment of it". Accordingly, utilities' rights of highway usage are subject to the regulations the Commissioner may issue in line with the primary purpose of public highways; the traveling public's interest.

(b) Municipally Owned

1. The powers granted to the Commissioner by Statute as cited above for investor Utilities are also applicable to Municipally Owned Utilities, however, where relocation of Municipally Owned Utilities is required to accommodate a highway improvement project N.J.S.A. 27:7-19 gives the Commissioner the right to enter into Agreements with public body to assume any portion of the cost thereof.

16:25-1.8 Freeways and Parkways

(a) The usage granting Statutes discussed in Sections 16.25-1.6 and 1.7 of this Subchapter apply only to conventional highways, and any usage of Freeway and Parkway right-of-way is subject to the discretion of the Commissioner of Transportation.

(b) The Department has excluded longitudinal facilities from Freeway and Parkway rights-of-way, unless extreme cases of need can be demonstrated to the satisfaction of the Department and can further be shown to be in the best public interest, and has established regulations for crossings of Limited Access Roads by Utility Facilities.

(c) The Commissioner is also authorized to order the removal and relocation of Utility Facilities from Freeway or Parkway right-of-way at the State's expense.

16:25-2.1 Location

(a) Utility lines must be located to permit servicing such lines with minimum interference to highway traffic and to minimize need for later adjustment to accommodate future highway improvements.

(b) Longitudinal installations must be located on uniform alignment as near as practicable to the right-of-way line so as to provide a safe environment for traffic operation and preserve space for future highway improvements or other utility installations.

(c) To the extent feasible and practicable, utility line crossing of the highway should cross on a line generally normal to the highway alignment.

(d) The horizontal and vertical location of utility lines within the highway right-of-way limits must conform with the clear roadside policies applicable for the system, type of highway, and specific conditions for the particular highway section involved. The location of above ground utility facilities must be consistent with the clearances applicable to all roadside obstacles for the type of highway involved with pole type facilities always behind guard rail.

(e) In all cases full consideration must be given to the measures, reflecting sound engineering principles and economic factors necessary to preserve and protect the integrity and visual quality of the highway, its maintenance efficiency, and the safety of highway traffic.

(f) Utility crossings of freeways are to be held to a practical minimum and where permitted will meet all applicable provisions of these Rules.

16:25-2.2 Design

(a) The utility shall be responsible for the design of the utility facility to be installed within the highway rights-of-way or attached to a highway structure.

(b) The Department shall 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 attachment. This includes the measures to be taken to preserve the safe and free flow of traffic, structural integrity of the roadway maintenance, appearance of the highway, and the integrity of the utility facility.

(c) Utility installations on, over, or under the rights-of-way of State highways and utility attachments to highway structures must meet the following minimum requirements:

1. Electric power and communication facilities shall conform with the currently applicable National Electrical Safety Code [1].

2. Water lines shall conform with the currently applicable specifications of the American Water Works Association [2].

3. Pressure pipelines shall conform with the currently applicable sections of ANSI Standard Code for Pressure Piping of the American National Standards Institute [3] and applicable industry codes, including:

   I. Power Piping, ANSI B31.1.0

   II. Petroleum Refinery Piping, ANSI B31.3

   III. Liquid Petroleum Transportation Piping Systems, ANSI B31.4

   IV. Gas Transmission and Distribution Piping Systems, ANSI B31.8

[1] National Electrical Safety Code, current issue, Bureau of Standards, U. S. Department of Commerce. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D.C. 20402.)

[2] American Water Works Association Standards and Specifications, current issue, AWWA, 2 Park Avenue, New York, New York 10016.

[3] ANSI Standard Code for Pressure Piping of the American National Standards Institute, 1430 Broadway, New York, New York 10018.

4. Liquid petroleum pipelines shall conform with the currently applicable recommended practice of the American Petroleum Institute for pipeline crossings under railroads and highways [1].

(d) Ground-mounted utility facilities shall be of a design compatible with the visual quality of the specific highway section being traversed.

(e) All utility installation on, over, or under highway rights-of-way and attachments to highway structures shall be of durable materials designed for long service life expectancy and relatively free from routine servicing and maintenance.

(f) On new installations or adjustments of existing utility lines, provision should be made for known or planned expansion of the utility facilities, particularly those located underground or attached to bridges. They shall be planned so as to minimize hazards and interference with highway traffic when additional overhead or underground lines are installed at some future date.

[1] API RP 1102, Recommended Practice for Liquid Petroleum Pipelines Crossing Railroads and Highways, current issue, American Petroleum Institute, 1271 Avenue of the Americans, New York, New York 10020.

SUBCHAPTER 3 PIPELINES

16:25-3.1 Location and Alignment

(a) For all crossings, the angle of crossing should be based on economic considerations of practical alternates. The crossing shall be located as near normal to the highway alignment as practical.

(b) Conditions which are generally unsuitable or undesirable for pipeline crossings should be avoided. These include locations such as:

1. In deep cuts
2. Near footings of bridges and retaining walls
3. Across intersections at grade or ramp terminals
4. At cross drains where flow of water, drift, or stream bedload may be obstructed.
5. Within basins of an underpass drained by a pump if pipeline carries a liquified gas.
6. In wet or rocky terrain where it would be difficult to attain minimum bury.

(c) On longitudinal installations, utility locations parallel to the pavement at or adjacent to the right-of-way line are preferable so as to minimize interference with highway drainage; the structural integrity of the traveled way, shoulders, and embankment; and the safe operation of the highway. As a minimum, their lateral location shall be offset a suitable distance beyond the slope, ditch, or curb line, as the highway authority may stipulate.

(d) Vertical and horizontal clearance between a pipeline and a structure or other highway or utility facilities should be sufficient to permit maintenance of the pipeline and the other facilities.

(e) The locations of all pipelines will be reviewed by the Department to ensure that the proposed utility installation will not interfere with existing or planned highway facilities or with highway maintenance and operation processes.

16:25-3.2 Bury

(a) The critical controls for bury on a pipeline crossing are the low points in the highway cross-section.

Usually these are the bottoms of the longitudinal ditches.

(b) In establishing the depth of bury below an unpaved ditch, consideration should be given to potential increases in ditch depth resulting from scour, ditch maintenance operations, or the need to increase the capacity of the ditch.

(c) On longitudinal installations, the critical controls for bury are the depths of lateral drainage facilities, landscaping, buried utility lines, bridge structures, and likely highway maintenance operations.

(d) In cold climates the depth of frost penetration should be taken into consideration in determining the depth of bury. The depth of bury shall be sufficient so that the liquid transmitted will not freeze. In addition, the depth shall be sufficient to withstand the greatly increased impact loads transmitted through the frozen soil.

16:25-3.3 Controls for the Bury of Pipelines

(a) The depth of bury of pipelines will be at a minimum of 30"; however, special consideration shall be given on the basis of engineering and safety factors for the area, the product carried, and maximum working or test pressures for the pipelines before varying from recommended depth.

(b) Pipelines will be designed, installed and tested in accordance with the Minimum Federal Safety Standards of the U. S. Department of Transportation as published in Part 192 of Title 49, Code of Federal Regulations [1], and any amendments thereof to date.

(c) Where less than minimum bury is made necessary because of other utilities, water table, ordinances, or similar reasons, the pipe should be rerouted or else protected with a casing or concrete slab not in contact with the pipeline or use should be made of other suitable measures acceptable to the Department.

(d) Cover for pipelines carrying transmittants which are flammable, corrosive, expansive, energized, or unstable particularly if carried at high pressure or potential, must not be reduced below acceptable safety limits.

[1] Code of Federal Regulations, Title 49, Part 192.

16:25-3.4 Encasement and Allied Mechanical Protection - General

(a) Definite guides for the encasement of pipelines cannot be fully resolved from present experience and knowledge. An arbitrary policy of requiring encasement for all highway crossings is too expensive, not only to the utility consumer but also to the highway user; however, considering past experience and current appraisal of future hazard, it would not be prudent to waive all encasement requirements. Consequently, the Department shall evaluate all factors concerning each highway crossing and determine the need for encasement to protect the roadway.

(b) The acceptable methods available to provide such protection include, but are not limited to:

1. Tunnels and galleries
2. Casing pipe
3. Grouting by mortar filling
4. Bore-hole annulus
5. Cradling
6. Capping
7. Walling
8. Boxing or jacketing
9. Provision of thickened wall carrier pipe
10. Joints of mechanical or welded leak-proof type of construction
11. Coating and wrapping
12. Cathodic protection
13. Electrical bonding

Of these methods, only the casing and tunnel or gallery provide complete independence of the carrier from the surrounding earth. Grouting restores the continuity and integrity of the earth supporting the pavement. Cradling enhances the supporting capacity of rigid pipes. Walling does the same for semi-ridge and flexible pipes and protects them from highway operations penetrating the overfill. When applied to weak or brittle pipes, boxing or jacketing provides protection from earth loads, leakage, corrosion, or abrasion. On uncased carrier pipes thickened wall sections and leak-proof type joints enhance the potential for a trouble free installation of long service life expectancy. Coating or wrapping prevents contact with corrosive water, soil, or vapor.

16:25-3.5 Encasement

(a) Casings will be required for the following conditions:

1. As an expediency in the insertion, removal, replacement or maintenance of carrier pipe crossings of freeways, expressways, and other controlled access highways and at other locations where it is necessary in order to avoid open trenched construction.

2. As protection for carrier pipe from external loads or shock, either during or after construction of the highway.

3. As a means of conveying leaking fluids or gases away from the area directly beneath the travelled way to a point of venting at or near the right-of-way line or to a point of drainage in the highway ditch or a natural drainage way.

(b) The Department normally requires casing of:

1. Carriers of transmittants which are flammable, corrosive, expansive, energized, or unstable, particularly if carried at high pressure or potential, which cross under any road.

2. Pressurized carrier pipes crossing under major highways.

(c) Jacked or bored installations of coated carrier pipes must normally be encased. Exceptions may be made where assurance can be provided against damage to the protective coating.

(d) Consideration shall be given to encasement or other suitable protection for any pipeline:

1. With less than minimum bury.

2. Near footings of bridges or other highway structures or across unstable or subsiding ground.

3. Near other locations where there may be a hazard.

(e) Rigid encasement or suitable bridging shall be used where support of pavement would be impaired by depression of flexible carrier pipe.

(f) Casings shall be designed to support the load of the highway and superimposed loads thereon and, as a minimum, should equal the structural requirements for highway drainage facilities. Casings shall be composed of materials of satisfactory durability under conditions to which they may be exposed.

(g) Where pipelines are encased, the encasement shall extend a suitable distance beyond the slope or ditch lines. Where appropriate, the encasement shall extend to the access control lines, to the outside of frontage roads, or to an indicated line that allows for future widening of the highway.

(h) Casing pipe shall be sealed at the ends with a flexible material to prevent flowing water and debris from entering the annular space between the casing and the carrier. The installations should include necessary appurtenances, such as vents and markers.

16:25-3.6 Allied Mechanical Protection

(a) For some conditions, pipeline crossing of highway may be installed without encasement. Normally, such installation will be limited to open trenched construction. The following controls are instituted for providing allied mechanical protection to uncased pipeline crossings of the highway.

1. On uncased construction, the carrier pipe shall conform to the material and design requirements of utility industry and governmental codes and specifications. In addition, the carrier pipe shall be designed to support the load of the highway plus superimposed loads thereon when the pipe is operated under all ranges of pressure from maximum internal to zero pressure. Such installations shall employ a higher factor of safety in the design, construction and testing than would normally be required for cased construction.

2. Suitable bridging, concrete slabs, or other appropriate measures shall be used to protect existing uncased pipelines which by reason of shallow bury or location make them vulnerable to damage from highway construction or maintenance operations. Such existing lines may remain in place without further protective measures if they are of adequate depth and do not conflict with the highway construction or maintenance operations, provided both highway and utility officials are satisfied that the lines are, and will remain, structurally sound and operationally safe.

3. Uncased crossings of welded steel pipelines carrying transmittants which are flammable, corrosive,

expansive, energized, or unstable, particularly if carried at high pressure or potential, may be permitted in special circumstances, provided additional protective measures are taken in lieu of encasement. Such measures would employ a higher factor of safety in the design, construction, and testing of the uncased carrier pipe, including such features as thicker wall pipe, radiograph testing of welds, hydrostatic testing, coating, and wrapping, and cathodic protection.

16:25-3.7 Appurtenances

(a) Vents, drains, markers, manholes, and shutoffs are appurtenances to pipeline installations. Required controls for such appurtenances are as follows:

1. Vents are appurtenances by which fluids between carrier and casing may be inspected, samples exhausted, or evacuated. These fluids may be leakage from the carrier within or the soil without, or atmospheric vapor and condensate, or decomposition products of pipes and coatings. Light gases are exhausted through risers or standpipes projecting above the ground surface. Vent standpipes shall be located and constructed so as not to interfere with maintenance of the highway nor to be concealed by vegetation; normally they should stand on a fence or right-of-way line.

2. Drains are appurtenances by which liquids or heavy gases may be evacuated or exhausted. They shall be provided for casings, tunnels, or galleries enclosing carriers of liquid, liquified gas, or heavy gas. Drains will not outfall into roadside ditches or natural water courses.

3. The utility shall place readily identifiable and suitable markers at the right-of-way line where it is crossed by pipelines carrying transmittants which are flammable, corrosive, expansive, energized, or unstable, particularly if carried at high pressure or potential, except where a vent will serve as a marker. Markers are also desirable for other pipelines.

4. New manholes, chambers or vaults shall normally not be located in the pavement of major highways, including urban highways. Exception may be made on streets at those locations where manholes are essential parts of existing lines that are permitted to

remain in place under existing and proposed roadways. Manholes may be retained or installed under paving on low traffic roadways, less than 750 ADT, within municipalities. Effort should be made to minimize such installations and to avoid their location at street intersections, insofar as practicable. Manholes shall be designed and located in such a manner that will cause the least interference to the other utilities and future highway expansion.

5. Shut-off valves, preferably automatic, shall be installed in lines at or near ends of structures and near unusual hazards, unless hazardous segments can be isolated by other sectionalizing devices within a reasonable distance.

16:25-3.8 Restriction Against Varied Use

(a) The following precautionary measures are required for pipeline installations:

1. Pipeline installation permits shall specify the class of transmittant, the maximum working, test, or design pressures, and the design standards for the carrier.

2. When it is anticipated that there will be a change in the class of transmittant or an increase in the maximum design pressure specified in the permit, the utility will be required to give the highway agency advance notice and obtain approval for such changes. The notice should specify the applicable codes to be used.

16:25-3.9 Installation

Installation or replacement of pipelines along or crossing existing highways for the most part may be controlled by end-product specifications. However, safety or traffic and preservation of the earth structure supporting the pavement requires some restriction of methods used in the operation. Several acceptable methods of installation are detailed in Section 3.10, 3.11 and 3.12 which follow.

16:25-3.10 Trenched Construction and Backfill

(a) The essential features for trench and backfill are:

1. Restoration of the structural integrity of entrenched roadbed;

2. Security of the pipe against deformation likely to cause leakage;

3. Assurance against the trench becoming a drainage channel;

4. Assurance against drainage being blocked by the backfill.

The integrity of the pavement structure, shoulders, and embankment slopes are of primary concern. Details of specifications should recognize differences in climate and soil.

(b) Trenched construction, bedding and backfill is required to conform to the Department's standard specifications for earthwork and culverts. The use and occupancy agreement should include the following:

1. Trenches shall be cut to have vertical faces, where soil and depth conditions permit, with a maximum width of outside diameter of pipe, plus 2 feet. They shall be shored where necessary.

2. Bedding shall be provided to a depth of 6 inches or half the diameter of the pipe, whichever is the least. Bedding shall consists of granular material, free of lumps, clods, stones, and frozen materials and should be graded to a firm but yielding surface without abrupt change in bearing value. Unstable soils and rock ledges shall be subexcavated from the bedding zone and replaced by suitable material. The bottom of the trench shall be prepared to provide the pipe with uniform bedding throughout the length of the installation.

3. Backfill under the roadway shall be placed in two stages: first, sidefill to a level of one foot above the top of pipe, and second, overfill to former surface grade. Sidefill should consist of granular material laid in 6-inch layers, each consolidated by mechanical tamping and controlled addition of moisture, to a density of 95% as determined by AASHO Method T-99. Overfill should be layered and consolidated to match the entrenched material in cohesion and compaction. Consolidation by saturation or ponding will not be permitted. For backfill of entrenched pavement, materials and methods of compaction shall be adapted to achieve prompt restoration of traffic service. There should

be additional cutback of base and surfacing and transitioning of trench to minimize later development of sag in the grade of pavement over the trench.

4. The Department shall require that backfill and repaving be performed under its direction utilizing specifications acceptable to the Department.

16:25-3.11 Untrenched Construction and Grouting

(a) Several techniques for installing pipelines under a highway without disturbing the surface are:

1. Driving - A small pipe with a pilot shoe can be driven through compressible soils by a steady thrust, hammering, or vibrating. A casing or corrosion resistant carrier must be used. Long drives may wander far from the desired line and grade.

2. Coring - A small casing without pilot shoe can be drilled into more difficult soil, which enters the pipe as it advances. The core is removed by sluicing, during or after the drilling. Line and grade are fairly easy to control.

3. Boring - Larger pipes can be jacked through oversize bores carved progressively ahead of the leading edge of the advancing pipe as spoil is mucked back through the pipe. Control is excellent. Annular void and overbreaks may be minimized when cutterhead is sized closely to pipe diameter and pipe is advanced with cutterhead in close proximity.

4. Wet-boring - A hole is sluiced by a jet of slurry and kept full of pressured slurry to prevent collapse. The pipe is pushed through the slurry, evacuating the excess. Coated pipes may be installed without damage, but some soils may soften, expand, or disintegrate from transfer of moisture from the slurry. This method will not be authorized on major highways. Special care and permission of the Department will be required when using this method elsewhere.

(b) The required controls for untrenched construction and grouting are:

1. Untrenched construction will be required for all new or replacement pipeline crossings of controlled access and other major highways. On controlled

access highways, as a minimum, the untrenched construction shall extend under and across the entire roadway prism. On the other major highways, the untrenched construction shall extend under and across the surfaced area of the highway.

2. Portal limits of pipeline crossings shall be beyond the surface areas of the highway so as to avoid impairing the roadway during installation of the pipeline. Where bulkheaded, the portal should be suitably offset from the surfaced area of the highway; where not bulkheaded, it should be offset not less than the vertical difference in elevation between the surfaced area of the highway and the pipeline.

3. The oversize of the boring excavation shall be restricted and the Department shall establish, case by case, the conditions specified under which the void outside the carrier must be backfilled with grout. Where the soils are favorable and the carrier is 4 feet or more deep, the boring hole may be 5 percent oversize in diameter. The Department may require grout backfill for pipes more than 12 inches in diameter for overbreaks, unused holes, or abandoned pipes.

16:25-3.12 Utility Tunnels and Bridges

(a) A utility tunnel or a bridge occasionally is provided for a pipeline crossing a freeway at a strategic location. Where it can be foreseen that several utility crossings will be needed the cost of the tunnel (either a large casing or a box culvert) or of the bridge may be less than that for the alternate of several untrenched or separately encased pipelines. Where these conditions exist the Department will take steps as necessary to insure that adequate study is made by the utilities to anticipate their needs for future crossings and to converge their facilities to a joint use single casing.

(b) In a combined tunnel or bridge, provision shall be made to isolate mutually hazardous transmittants, such as fuels and electric energy, by compartmentizing or by auxiliary encasement of incompatible carriers. The utility-tunnel or utility-bridge structure shall conform in appearance, location, bury, earthwork, and markers to the culvert and bridge practice of the Department.

16:25-3.13 Adjustment

(a) The following are required controls for adjusting existing pipelines that fall in the path of highway construction projects:

1. An existing or relocated pipeline shall be protected in such a manner as normally would be required for a new pipeline at the site.

2. An existing pipeline shall be relocated in plan and/or grade where:

   I. The pipe bedding will be depressed by highway loads; or

   II. The top of the pipe is within 6" of subgrade.

3. An existing pipeline too weak to support highway loads shall be replaced by stronger pipe or protected in such a manner acceptable to both the Department and the utility.

4. An existing pipeline which would lack adequate cover for protection against vehicular live loads or highway construction operations may be protected by a floating slab in lieu of encasement.

5. Notwithstanding reinforcement or protection otherwise provided, the highway construction contractor will be made responsible for the security of each existing pipeline within the construction zone. Where there are unusual utility hazards and where heavy construction equipment will be needed it will be arranged that the contractor provide a temporary protective cover of earth or bridge the utility.

SUBCHAPTER 4 INSTALLATION ON HIGHWAY STRUCTURES

16:25-4.1 General Considerations

(a) In most cases, attachment of utility facilities to highway structures, such as bridges, is a practical arrangement and considered to be in the public interest. However, attaching utility lines to a highway structure can materially affect the structure, the safe operation of traffic, the efficiency of maintenance as well as the appearance and therefore must be provided for during the design stage.

(b) Since highway structure designs and site conditions vary, the adoption of a standard method to accommodate utility facilities is not feasible; however, the method employed should conform to logical engineering considerations for preserving the highway, its safe operation, maintenance and appearance. Generally, acceptable utility installations are those which will occupy a position beneath the structure's floor, between the outer girders or beams or within a cell, and at an elevation above low superstructure steel or masonry.

(c) The general controls for providing encasement, allied mechanical protection and shut-off valves to pipeline crossings of highways and for restriction against varied use shall be followed for pipeline attachments to bridge structures, except that sleeves are required only through the abutment backwalls. Where a pipeline attachment to a bridge is encased, the casing should be effectively opened or vented at each end to prevent possible buildup of pressure and to detect leakage of gases or fluids.

(d) Since an encasement is not normally provided for a pipeline attachment to a bridge, additional protective measures shall be taken. Such measures shall employ a higher factor of safety in the design, construction, and testing of the pipeline than would normally be required for cased construction.

(e) Communication and electric power line attachments shall be suitably insulated, grounded, and carried in protective conduit or pipe from the point of exit from the ground to re-entry. The cable shall be carried to a manhole located beyond the backwall of the structure. Carrier pipe and casing pipe should be suitably insulated from electric power line attachments.

(f) Guy wires in support of any utility will never be allowed to attach to a bridge structure.

SUBCHAPTER 5 OVERHEAD POWER AND COMMUNICATION LINES

16:25-5.1 General

(a) The type of construction, vertical clearance above pavement, and location of poles, guys, and related ground-mounted utility appurtenances along the roadside are factors of major importance to preserve a safe traffic environment, the appearance of the highway, and the efficiency and economy of highway maintenance. A critical requirement for locating poles, guys and related facilities along the roadside is the width of the border area, i.e., the space between the edge of shoulder or curb line and the right-of-way line, and its availability and suitability for accommodating such facilities. The safety, maintenance efficiency, and appearance of highways are enhanced by keeping this space as free as practical from obstacles above the ground. Where ground-mounted utility facilities are to occupy this space, they should be placed as far as practical from the traveled way and beyond the clear roadside area. The nature and extent of roadside development and the ruggedness of the terrain being traversed are controlling factors for locating poles, guys, and related facilities at the right-of-way line.

(b) In the interests of preserving safe roadsides, highway appearance, and efficiency and economy of highway maintenance operations, the controls specified in Sections 5.2 through 5.4 of this Subchapter 5 shall be used for installations of overhead electric power and communication lines.

16:25-5.2 Type of Construction

(a) Any longitudinal installation of overhead lines on the highway rights-of-way shall be limited to single pole type of construction.

(b) Joint-use single pole construction shall be encouraged, as indicated by Rule 222 of Part 2 of the National Electrical Safety Code [1], at locations where more than one utility or type of facility is involved. This is of particular significance at locations where the right-of-way widths approach the minimum needed for safe operations or maintenance requirements or where separate installations may required extensive removal or alteration of trees.

[1] Safety Rules for the Installation and Maintenance of Electric Supply and Communication Lines, current issue, National Bureau of Standards, U. S. Department of Commerce (for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402).

16:25-5.3 Vertical Clearance

(a) The minimum vertical clearance for overhead power and communication lines above the highway and the lateral and vertical clearance from bridges shall in no case be less than the standards prescribed by the National Electrical Safety Code. Greater clearances are allowed, to conform to Company Standards.

16:25-5.4 Location

(a) On and along conventional highways in rural areas, poles related facilities shall be located at or as near as practical to the right-of-way line. As a minimum, the poles should be located outside the clear roadside area for the highway section involved. There is no single minimum dimension for the width of a clear roadside area but, where there is sufficient border space, 30 feet is commonly used as a design safety concept guide.

(b) In keeping with the nature and extent of roadside development along conventional highways in urban places, facilities shall basically and at a minimum adhere to the following guidelines:

1. Where a 15' area exists between face of curb and R.O.W. line, poles shall be located 10' behind face of curb.

2. Where a 10' area exists between face of curb and R.O.W. line, poles shall be located 7' behind face of curb.

3. Poles will always be located behind guard rail wherever same exists.

4. Poles are prohibited from occupying small island areas where spans of 200' are possible with the spanning poles offset 10' beyond the outermost curblines.

5. Where jughandles exist, a pole within the island area of the jughandle will be no closer to either the entrance or exit terminal's inside curblines than one-half (1/2) the distance between said exit and entrance terminals.

6. Poles being constructed in close proximity to bridge structures will maintain a minimum of 40' offset from the main portion of the bridge structure.

(c) Location of overhead utility installations on highways with narrow rights-of-way on urban streets with closely abutting improvements are special cases which must be resolved in a manner consistent with the prevailing limitations and conditions. Before locating the utility at other than the right-of-way line, considerations should be given to designs employing self supporting, armless, single pole construction, with vertical alignment of wires or cables, or other techniques permitted by governmental or industry codes that are conducive to creating a safe traffic environment. Exception to these clearances may be made where poles and guys can be placed at locations behind guard rails, beyond deep drainage ditches or the toe or top of steep slopes, retaining walls, and other similar protected locations.

(d) Guy wires to ground anchors and stub poles should not be placed between a pole and the traveled way where they encroach upon the clear roadside area.

(e) 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 line should be allowed as necessary to maintain a reasonably uniform alignment for longitudinal overhead and underground installations.

(f) Longitudinal installations of poles, guys, or other related facilities shall not be located in a highway median except under special, controlled conditions. On crossings of a highway, any such facility shall not be located in a highway median less than 80 feet in width. Poles and other appurtenances for highway lighting may be located in the median if other alternatives are determined to be impractical and where suitable protection is provided to the highway user.

16:25-6.1 General

(a) The type and size of utility facilites and the manner extent to which they are permitted along or within highway rights-of-way can materially alter the scenic quality, appearance, and view of highway roadsides and adjacent areas. For these reasons additional controls are applicable in certain areas that have been acquired or set aside for their scenic quality. Such areas include scenic strips, overlooks, rest areas, recreation areas, the rights-of-way of highways adjacent thereto, and the rights-of-way of sections of highways which pass through public parks, recreation areas, wildlife and waterfowl refuges and historic sites. The additional required controls are discussed in Sections 6.2 through 6.4 of this Subchapter 6. The Department shall rule finally on each request for variance from such controls.

16:25-6.2 Underground Utility Installations

(a) New underground utility installations may be permitted within such lands where they do not require extensive removal or alteration of trees or other natural features visible to the highway user and do not impair the visual quality of the lands being traversed

16:25-6.3 Aerial Installations

(a) New aerial installations shall be avoided at such locations where there is a feasible and prudent alternative to the use of such lands by the aerial facility. Where this is not the case, they should be considered only where:

1. Other locations are unusually difficult and unreasonably costly or are more undesirable from the standpoint of visual quality.

2. Undergrounding is not technically feasible or is unreasonably costly, and

3. The proposed installation can be made at a location and will employ suitable designs and materials

which give adequate attention to the visual qualities of the area being traversed.

16:25-6.4 Utility Installations for Highway Purposes

(a) These controls shall also be followed in the location and design of utility installations that are needed for a highway purpose, such as for continuous highway lighting, or to serve a weigh station, rest, or recreational area.

SUBCHAPTER 7 UNDERGROUND ELECTRIC POWER AND COMMUNICATION LINES

16:25-7.1 General

(a) There is wide variation in the techniques and practices for undergrounding electric power and communication lines due to differences in such factors as water conditions, type of subsoil, facility congestion and the like. Accepted methods for undergrounding such lines include trenching for conduit, duct construction or uncased buried cable; and direct burial for plowing of buried cable and jacking or pushing of pipe as conduit, especially for crossing of existing highways.

16:25-7.2 Required Controls for Underground Electric Power and Communication Lines.

(a) General

1. Underground utility construction should conform to all applicable codes, standards, and specifications.

2. The Department has established a minimum depth of bury for cased construction of 30", and 42" for uncased construction. This is a critical requirement for uncased power cable installations buried within the highway rights-of-way.

3. Pedestals or other above ground utility appurtenances installed as part of buried cable plant shall be located at or near the right-of-way line, well outside of the highway maintenance operating area.

4. All proposed locations and utility designs shall be reviewed by the Department to ensure that the proposed construction will not cause avoidable interference with existing or planned highway facilities or with highway operation or maintenance.

5. On both cased or uncased installations, particularly on crossing of the highway, consideration should be given for placing spare conduit or duct to accommodate known or planned expansion of underground lines.

6. The controls previously outlined for electric power and communication line attachments to highway bridge structures shall be followed.

7. The general controls previously outlined for pipelines as relate to markers, installation, trenched and untrenched construction, and adjustment shall be followed, as applicable, on underground installations of electric power and communication lines.

(b) Location and Alignment

1. On longitudinal installations, locations parallel to the pavement at or adjacent to the right-of-way line are preferable so as to minimize interference with highway drainage, the structural integrity of the traveled way, shoulders and embankment, and the safe operation of the highway. As a minimum, their lateral location will be offset a suitable distance beyond the slope, ditch, or curb line, as the Department may stipulate.

2. Crossings should be located as near normal to the highway alignment as practical.

3. 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 bury.

4. In an effort to provide a safer environment for the traveling public and to improve the aesthetic qualities of newly designed Freeways and land service roadways, above ground utilities are restricted in certain locations as follows:

   I. No above ground facilities will be located within grade separated interchange areas designed to Freeway standards.

   II. No aerial crossing of control of access highway rights-of-way are permitted with the possible exception of electrical facilities operating at a potential of 26 KV or above.

III. Any future expanded facilities constructed within these designated underground areas will at a minimum adhere to the same construction standards.

(c) Cased and Uncased Construction

1. Crossings of underground lines will always be encased in protective conduit or duct, and the encasement shall extend a suitable distance beyond the slope or ditch lines. On curbed sections, it should extend outside the outer curbs. On freeways the encasement shall extend to the access control lines, to the outside of frontage roads, or to an indicated line that allows for future widening of the highway.

2. Consideration shall be given to encasement or other suitable protection for any wire or cable facilities:

   I. With less than minimum bury

   II. Near the footings of bridges or other highway structures

   III. Near other locations where there may be a hazard.

3. Where encased bored installations are proposed by the utility, the utility shall be required to furnish information as to the controls and construction methods to be employed, before the proposed installations are considered by the Department. This is to insure the necessary protection of the utility facility and the integrity and operation of the highway facility.

4. Underground construction within grade separated interchange areas designed to Freeway standards, shall, at a minimum, extend between the interchanges outermost ramps.

SUBCHAPTER 8 IRRIGATION AND DRAINAGE PIPES, DITCHES, AND CANALS

16:25-8.1 General Considerations

(a) Irrigation and drainage facilities installed across highway rights-of-way generally should be designed and constructed in accordance with the Department's specifications for highway culverts. Ditches and canals that closely parallel the highway should be discouraged. Appurtenances which would constitute a hazard to traffic shall not be permitted within the clear roadside area and preferably should be located outside of the right-of-way.

(b) Where ditch rider roads are adjacent to ditches or canals that cross the highway, consideration shall be given to safety, traffic operations, and economic features when providing for the continuity of such roads. For example, the enlargement of drainage structures to accommodate the crossing of ditch rider roads would rarely be economically justified.

SUBCHAPTER 9 SAFETY AND RESTORATION PROVISIONS

16:25-9.1 Preservation, Restoration and Cleanup

(a) The area disturbed by utility installations or relocations shall be kept to a minimum. Restoration methods shall be in accordance with the Department's specifications and/or special provisions in utility use and occupancy agreements.

(b) Care should be taken in utility installation to avoid disturbing existing drainage facilities. Underground utility facilities shall be backfilled with previous material and outlets provided for entrapped water. Underdrains shall be provided where necessary. No jetting or puddling will be permitted under the roadway.

(c) The utility shall be prohibited from spraying, cutting and trimming of trees without written permission by the Department. In general, where permission is given only light trimming will be permitted, the stump shall be removed and the hole properly backfilled. All debris, refuse and waste shall be removed from the site.

16:25-9.2 Control of Traffic

(a) Traffic controls for utility construction and maintenance operations shall conform with the Manual on Uniform Traffic Control Devices for Streets and Highways [1] and the Department's Rules and Regulations for the Maintenance and Protection of Traffic during Permit Operations [2]. All construction and maintenance operations must be planned with full regard to safety and to keep traffic interference to an absolute minimum.

(b) On heavily traveled highways, construction operations interfering with traffic will not be allowed during periods of peak traffic flow. Any such work shall be planned so that closure of intersecting streets, road approaches, or other access points is held to a minimum.

[1] Manual on Uniform Traffic Control Devices for Streets and Highways, current issue (for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402).

[2] Maintenance and Protection of Traffic During Permit Operations. Rules and Regulations, The New Jersey State Department of Transportation.

16:25-9.3 Servicing, Maintenance and Repairs

All utility facilities shall be kept in good state of repair both structurally and from standpoint of appearance. The utility use and occupancy agreement should identify the maintenance operations which are permitted and indicate situations where prior notification to the highway agency is required.

16:25-9.4 Multiple Use of Freeway Rights-of-Way

(a) In some instances and under certain conditions, it may be in the public interest for utilities to use and occupy the rights-of-way of freeways for parallel (longitudinal) utility installations. When such extreme case need is demonstrated to the satisfaction of the Department as being in the best public interest, and the design, location, and measures for protecting the integrity, operational characteristics, and safety to traffic of the freeway meet all of the conditions set forth in Federal Highway Administration Circular Memorandum dated October 1, 1969, on the Application of Joint Development and Multiple Use Concepts to Freeways and Utilities[1], and the installation is approved by the Federal Highway Administration, then a Joint Use and Occupancy Agreement or Permit may be entered into with the utility by the New Jersey Department of Transportation to allow such installations.

[1] Circular Memorandum on: Application of Joint Development and Multiple Use Concepts to Freeways and Utilities, issued October 1, 1969, U. S. Department of Transportation, Federal Highway Administration, Washington, D. C. 20591

16:25-10.1 Application for Permit

(a) For a Permit to be issued to provide for any utility construction, major maintenance or related work on State Highway right-of-way or property, a written application shall be filed with the Department on the standard Departmental form which clearly describes the proposed facility installation, construction, or work, and establishes its location with reference to highway stationing, land section tie, some well known permanent landmark, road or street intersection, highway bridge, or other fixed reference point.

(b) Such written application shall consist of a complete description of the facility to be installed or constructed, or the work to be performed on an existing facility, and a sketch or plans which show the existing and/or proposed location of the facilities within the highway right-of-way in relation to the existing and/or planned highway improvement, the traveled way, the right-of-way lines, and control of access lines and approved access points where applicable. Profile view plans and cross sections shall also be furnished when required for clarity.

(c) All applications shall be signed by an official having contractual authority for the utility, or by the owner of the facility. Applications should also contain statements as to whether the proposed installation or construction is required to have, and if it has, the approval of the franchizing municipality, or other applicable Federal, State or Local Governmental Agencies having jurisdiction thereover; and if such agency approval is required, the name of the agency having such jurisdiction.

(d) All applications shall be made a part of the Permit issued by the Department and shall be submitted in the number of copies, including plans or sketches, required by the Department for distributing the appropriate copies of the respective Permit. All permits, with the exception of those for routine maintenance and customer service, will be reviewed and approved by the Chief, Bureau of Utilities prior to their issuance by the Engineer of Permits.

(e) All permits shall constitute a binding contract; therefore, proxy applications on behalf of the intended

Permittee, or verbal or unsigned requests for utility permits, will not be valid, and a Permit will be withheld until a proper application is received and approved.

16:25-10.2 Opening Permits

(a) Requests for opening permits, by any utility, that will involve the construction of underground facilities beneath paved roadway surfaces shall always be of special consideration.

(b) No open-cuts of pavement will ever be allowed within Freeway Rights-of-Ways. Any additional facilities constructed after completed construction of Freeways will, where paving is encountered, be by the bore and jack method and shall further be accomplished from outside the no access limits of the Freeway.

(c) Under normal, non-emergency situations, major highway paving, whether new or improved, will carry a minimum "no open-cut" period of five (5) years. This basic 5 year period will be used only as a minimal guide, and in most cases where high traffic volume is encountered the "no open-cut" period will be extended indefinitely.

(d) Applications for open cut permits, if approved, will be closely supervised by the Department's Regional Engineer to assure satisfactory replacement of base course and roadway paving.

16:25-10.3 Deposit or Bond

(a) Pursuant to authority of the applicable New Jersey Statutes, a certified check or bond as a guarantee or compliance with the provisions of the Permit to guarantee restoration of highway right-of-way or property shall be required if deemed necessary, in an amount sufficient to cover costs that may be incurred by the Department of Transportation in making repairs or restoration of its right-of-way or property if such satisfactory repair or restoration is not made by the Permittee.

(b) The amount of the certified check or bond shall represent the best judgement and estimate of the Department's Regional Engineer of the actual cost to the

Department as might be incurred to restore the highway to its original condition if such work were not properly performed by the Permittee.

16:25-10.4 Approval and Issuance

(a) Permits for utility installations or work on any Interstate right-of-way shall have prior approval of the Federal Highway Administration. All Permits for Utility installations or work shall be issued under the authority of applicable New Jersey Statutes, and shall be so referenced therein.

(b) All utility Permits shall be issued only to the permanent owner and operator of the utility facility, and not to the party, company, or contractor performing the installation or construction work, nor to the temporary agent or Engineer handling preparation of the permit application for the permanent owner.

16:25-10.5 Acceptance of License or Permit

(a) The start or performance of any work under a Permit shall constitute full understanding and acceptance of, agreement with, and shall represent the express intention and obligation of the utility to comply with, the terms and provisions hereof and of the Permit.

16:25-10.6 Notice of Starting Work

(a) The Permittee shall notify the designated Department Regional Engineer in writing not less than three days prior to starting work in order that observation and inspection of the work may be provided, except that notification may be given on the day work is started on approved above ground construction or maintenance work which can be inspected after the work is completed, and on emergency maintenance and repair work.

16:25-10.7 Permit to be Kept on Job

(a) The approved Permit, or a copy of same, shall be kept at the location of the work at all times work is in progress, and it shall be shown Department Representatives upon request as proof of having received authorization to perform the work on highway right-of-way or property. Failure to furnish such proof of possession of, or to have approval for the issuance of,

a valid Permit is confirmed. The burden of such proof or confirmation shall be on the party, company, or contractor performing the work, or on the utility owner responsible for the work.

16:25-10.8 Occupancy by Unwritten Consent

(a) All utility lines, systems and facilities that have been, and that may be located on or across highway right-of-way by operation of Law and without the issuance by the Department of a written Permit covering the installation, shall be considered, and are hereby declared, as occupying, crossing, or otherwise using said right-of-way subject to the provisions of the applicable New Jersey Statutes, the prior property rights, rules and regulations of the Department, and the principles and requirements set forth herein.

(b) Any new rules, regulations, and specifications of the Department, and any new requirements in this Policy, are not to be applied retroactively against existing utility occupancies except that any such new rules, regulations, specifications, and the new Policy requirements shall apply to new or replacement facilities constructed as relocations whether required by the Department due to the existing facility obstructing or interfering with the present or proposed use of the highway right-of-way for highway purposes, or when such existing facilities are being replaced, relocated, or otherwise substantially changed by the utility owner for owner's purposes or convenience.

16:25-10.9 Right to Revoke or Annul Permit

The Commissioner of the Department is hereby authorized, subject to giving reasonable notice (and hearing if requested) to revoke or annul a Permit if the utility fails to comply with the provisions hereof and the terms and conditions of the Permit, or if the utility occupancy of the right-of-way becomes an interference to the use of the right-of-way for highway purposed.

16:25-10.10 Responsibility for Costs

(a) The utility, by applying for, accepting, and performing work under any Permit, or by occupying highway right-of-way by unwritten consent, assumes the obligation by law and gives implied assurance of financial responsibility for all costs of the initial installation, subsequent

operation, maintenance, servicing, and removal or relocation if required, of the utility facility.

(b) The utility shall bear, or when applicable shall require its contractor or subcontractor to bear, all costs of any restoration and/or repairs to the utility facility and any highway property disturbed or damaged in the initial installation and/or subsequent maintenance or servicing operations associated with, or resulting from, Permittee's normal operations and requirements in the occupancy of highway right-of-way or property.

(c) The utility shall be responsible for, or require its contractor or subcontractor to be responsible for, all costs of any restoration or repair work as may be necessary due to failure or break in such utility facility which results in damage to either or both the utility facility or highway property.

(d) The utility shall be responsible for such other work as may be required by the Department if utility's facilities are not maintained in a good state of repair; and the utility shall make any such emergency repairs of breaks or line failure which cause any hazard to the public, interference to traffic, or damage to highway property as promptly as reasonably possible after learning or being advised of such break or failure.

(e) The utility shall begin any normal repairs required by the Department to restore its facility to a good state of repair within 90 days of receipt of written request thereof from the Department, and shall exercise due diligence to prosecute such repair work to an early and orderly conclusion.

(f) If any subsequent change in the highway facility necessitates the moving or adjusting of utility facilities located by Permit, or operation of Law on, over, under, or across highway right-of-way or other highway property, then the utility shall also bear all costs and expense of such required move or adjustment.

(g) The utility shall begin such move or adjustment within 90 days after written notice and request by the Department, and shall exercise due diligence to prosecute the work of such move or adjustment to an early and orderly conclusion, and without causing undue delay to, or interference with, highway construction, betterment or maintenance operations.

16:25-11.1 Railroad Crossings

(a) Special Permits for new railroad grade crossing shall be issued only with the written consent of both the Commissioner and Assistant Commissioner of the Department. Applicants for special Railroad Permits shall submit detailed plans showing the exact location and details of the proposed crossing. All railroad crossing permits shall be issued pursuant, and contain references, to the applicable New Jersey Statutes governing highway and railroad crossings.

(b) Railroads, in constructing crossings at grade, shall be required to construct an approved crossing the full crown width of the roadway, between the rails, and to the ends of crossties on the outside of each rail.

(c) The Chief Engineer shall be responsible for approval of specifications and details of materials and construction of railroad crossings, and each railroad crossing permit shall make appropriate reference to such approved specifications. All railroad crossing permits shall contain a provision requiring the railroad to maintain the crossing in a good riding condition at all times, and to the satisfaction of the Department's Regional Engineer.

16:25-11.2 Local-Federal Aid Agreements

(a) Pursuant to the provisions of Paragraph 6. d. of PPM 30-4.1 [1], the Department shall enter into agreements with appropriate County and Municipal Officials to provide for regulating the use and occupancy of Federal Aid Roads, and to assist local officials in establishing utility accommodation policies conforming, as appropriate for the type of highway involved, to the provisions of this Statement of Policy.

(b) Such agreements may be entered into on a project-by project basis handled by the Bureau of Local Federal Aid Programs. Until a County or Municipality adopts a utility accommodation policy approved by the Department conforming to Federal requirements, the Bureau of Utilities shall review for conformance with the State

[1] Policy and Procedure Memorandum 30-4.1 on the Accommodation of Utilities, current issue, U. S. Department of Transportation, Federal Highway Administration, Washington, D.C. 20591. NOTE: PPM 30-4.1 has been superceded by "Federal-Aid Highway Program Manual, Volume 6, Chapter 6, Section 3".

Policy in effect at the time, all utility rearrangement schemes on Federal Aid Roads that are subject to the provisions of PPM 30-4.1.

16:25-11.3 Private Utilities

(a) Requests for permits by private persons or concerns to cross, occupy, or use Interstate Freeways, State Highways, or Federal Aid Road rights-of-way shall be treated as special cases; and the review, approval, and issuance of any such permits for the accommodation of such privately owned facilities shall be on the merits of the individual request as to its necessity and legal basis consistent with New Jersey Law.

(b) Where the requested use and occupancy involves more than a road crossing or a relative short segment of parallel line (say up to 1/8 mile), or where equivalent utility service is available without the private line installation, then the request shall be referred to the Department's Chief Counsel for an opinion as to whether the proposed private use of the highway right-of-way is in violation of State Law. All such private lines must also meet all other applicable provisions of this policy.

16:25-11.4 Highway Lighting

(a) Requests for permits to install or revamp highway lighting systems by electric utilities or municipalities shall be treated as special cases; and each such request shall be referred to the Department's Electrical Bureau for review and recommendations as to acceptability of design, adequacy of lighting, and safety factors in addition to the normal review and processing for permit approval of an above-ground utility installation.

16:25-12.1 Reimbursement Basis

(a) Reimbursement to utility owners for required relocations and adjustments of existing utility lines, systems, and facilities required by highway construction or improvements shall be made in accordance with the detailed procedures of Federal Highway Administration, Bureau of Public Roads, Policy and Procedure Memorandum 30-4 issued February 14, 1969, as amended and supplemented[1]. As provided in such Federal Regulations, the determination of eligibility for reimbursement shall be made pursuant to applicable State Law, both Statutory and Case, and the Constitution; and such basis for determination of eligibility (compensable property interest) under New Jersey Law is generally interpreted by Legal Counsel for the Department and should be administered, as follows:

1. Existing utilities located on private property on which the Department does not have any prior right, title, or interest therein shall be considered eligible for reimbursement.

2. Existing publicly owned utilities located on the street right-of-way of any incorporated Town or City, and which right-of-way was not a part of, or on, the State Highway System at the time of the installation or construction of the utilities, shall be considered eligible for reimbursement.

3. Existing publicly owned utilities located on County Road, dedicated urban development road, and/or private road rights-of-way which were not a part of, or on, the State Highway System at the time of the installation or construction of the utilities, shall be considered eligible for reimbursement.

4. The installation or construction of extra utility properties (such as, but not limited to, encasement pipes and taller poles) and other extra costs of installing or constructing new utility facilities

[1] Policy and Procedure Memorandum 30-4 on Utility Relocations and Adjustments, current issue, U. S. Department of Transportation, Federal Highway Administration, Washington, D. C. 20591. NOTE: PPM 30-4 has been superceded by "Federal-Aid Highway Program Manual, Volume 1, Chapter 4, Section 4".

that will meet highway construction requirements and/or standards, (and when such construction is on approved highway location or alignment and the extra work will effect lower cost utility adjustments by being performed at the time such new utilities are being installed or constructed on private property or non-highway right-of-way which is to be acquired as future highway right-of-way on a Commission approved and programmed project) shall be considered eligible for reimbursement. Such "preventive" adjustments shall be handled according to the applicable policies and procedures of Policy and Procedure Memorandum 30-4, and any amendments and supplements thereto.

5. Existing investor owned utilities located on existing State highway right-of-way by statutory Grant and/or written consent of the Department shall be considered as not eligible for reimbursement.

6. All utilities whether public or investor owned, when effected by Freeway construction, shall be considered as eligible for reimbursement.

(b) The general criteria outlined in Subsection 12.1(a) of this Section for determining eligibility for reimbursement for relocation costs shall be applied on the basis of the factual location of the existing utility facility in relation to existing highway right-of-way, except that in some cases, a determination of whether the Department or the utility possesses the prior property interest in the same location on existing highway right-of-way may be necessary to decide the Department's legal obligation.

(c) Such criteria shall apply in determining eligibility for reimbursement for the relocation of utilities on any construction or improvement project on the System of State Highways except on projects on which determinations of eligibility are unnecessary due to the Department contracting with other agencies or political subdivisions of the State government to make arrangements for utility relocations to be provided at no cost to the Department of Transportation.

(d) The Department shall make the contractual arrangements and reimburse for eligible adjustments on all Interstate and Federal Aid Primary projects and shall reimburse for eligible adjustments on all Federal Aid Secondary, Urban, and Urban Secondary projects except those where the Commission stipulates or contracts with other agencies that eligible utility adjustments are to be provided either at no cost to the Department or that the Department shall participate with others in reimbursement for such eligible adjustment costs.

(e) Unless specifically authorized for Department reimbursement by the Commission, contractual arrangements shall be made with the local Governmental Agency or Political Subdivision having jurisdiction over the area for it to be responsible for utility adjustment costs on State contract and State force account Betterment Projects. Written acknowledgement from such other parties of their responsibility to make arrangements for utility adjustments to be without cost to the Department, and written evidence that such arrangements have been completed that will prevent interference or delay to the proposed highway construction, shall be secured and on file in the Bureau of Utilities prior to a contract for highway construction being awarded, and prior to starting betterment work by highway forces.

(f) Federal participation shall be claimed for eligible utility adjustment costs on all Interstate projects, and may be claimed at the discretion of the Director on all other Federal Aid projects. Utility Orders, Agreements and Permits shall be processed and issued by the Department covering all relocations where the adjusted or relocated facilities will occupy, use, or cross highway right-of-way regardless of who is responsible for reimbursement.