Policy for Accommodating Utilities on State Highway Right-of-Way

2001

Project Development Division

_____ _____

Director Date
Nebraska Department of Roads

U.S. Department of Transportation
Federal Highway Administration

NEBRASKA DIVISION

100 Centennial Mall North
Room 220
Lincoln, NE 68508

June 10, 2008

In Reply Refer To:
HOP-NE

Mr. Mark Ottemann
Planning & Project Development
Nebraska Department of Roads
Lincoln, NE

Dear Mr. Ottemann:

This is in response to your request dated April 17, 2007 for Federal Highway Administration (FHWA) to review and approve of the changes to the 1998 Policy for Accommodating Utilities on State Highway Right-of-Way. We have completed the review and hereby, approve the changes to the 1998 Policy for Accommodating Utilities on State Highway Right-of-Way that have been incorporated into the 2001 Policy for Accommodating Utilities on State Highway Right-of-Way.

If you have any questions on this matter, please contact me at 437-5985.

Sincerely yours,

Signed by Danny D. Briggs

Danny D. Briggs, P.E.
Transportation Engineer

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ECONOMY

TABLE OF CONTENTS

UTILITY ACCOMMODATION POLICY

INTRODUCTION

GENERAL INTRODUCTION

The Nebraska Department of Roads (NDOR) has the authority and responsibility to regulate utility occupancy on all state highways. In exercising this responsibility, the NDOR may enter into agreements with political subdivisions regarding state highways located within their geographical boundaries. All other public roads and streets not designated as state highways are under the jurisdiction of the political subdivisions. The latter exercise authority over utility occupancy of their respective public roads and streets in accordance with state statutes and local ordinances.

Utilities are permitted to occupy highway rights-of-way in accordance with state statutes and the regulations of the entity having jurisdiction over the highway.

The main purpose or goal of this document is to allow the user to locate those laws, regulations, and procedures, which are most pertinent to the utility process. The highway-utility process embraces a large and complex series of issues. In this document, those issues have been simplified and condensed so they may be easily located and understood by the user.

SCOPE

In order to receive federal-aid for state highways, the NDOR has prepared this policy for accommodating utility facilities on the rights-of-way of all highways under its jurisdiction. Political subdivisions may adopt this policy or formulate one of their own which complies with the requirements of the Federal-Aid Policy Guide and 23 CFR 645, Parts A and B, and thereby continue to receive federal-aid for public roads and streets in their respective jurisdictions.

Compliance with this policy does not relieve an applicant from complying with the laws and regulations of the State of Nebraska, other public authorities and industry, or governmental codes which may prescribe a higher degree of protection than provided by this policy. In instances where the latter occurs, the higher degree of protection should prevail. Utility installations on public highway rights-of-way are the responsibility of the utility owner, and compliance with the provisions of this policy or the conditions of a permit issued pursuant to this policy does not relieve a utility of its legal responsibilities under Nebraska law.

NATIONAL PUBLICATIONS ADOPTED

The Department hereby formally adopts and thereby makes part of this document, by reference, the American Association of State Highway and Transportation Officials (AASHTO) publications, *A Guide for Accommodating Utilities Within Highway Right-of-Way* (also called AASHTO Accommodation Guide), latest edition, *A Policy on the Accommodation of Utilities Within Freeway Right-of-Way* (also called Freeway Policy), latest edition, and the *Federal-Aid Policy Guide* (also called FAPG) and *23 CFR 645 Parts A and B.*

Where any of the provisions of these adopted documents conflict with each other or with this policy guide, the following order of precedence shall apply. The *FAPG* and *23 CFR 645 Parts A and B* shall have primacy (for federal-aid or federally funded projects). This policy guide shall be next in importance, followed by the AASHTO documents.

PART I

GENERAL POLICY

APPLICATIONS AND PERMITS IN THE HIGHWAY RIGHT-OF-WAY

All work in the highway right-of-way shall need a permit. Exception to this will be if the utility facility needs to be relocated by a highway project and the relocation is a minor adjustment such as to the outer limits of the right-of-way or vertical relocation. In such cases, the properly executed agreement shall be considered to be a permit.

All requests to place utilities within the highway right-of-way shall be initiated through the appropriate District Office in the area of the intended work. The District Map in the appendix will need to be checked to determine from which District Office to obtain an application.

The District Permit Office will provide the appropriate application form to complete. **Four sets of plans** of the proposed work along with the application form must be submitted. The District Permit Office will review the application for the required information. A performance guarantee may be required from individuals or contractors. Major power companies, utility districts and governmental subdivisions will generally not be required to post performance guarantees unless special circumstances prevail. The District Office shall determine the amount of a performance guarantee.

The District Office will forward the completed application and plans, along with their recommendations to the Lincoln Central Headquarters. The Lincoln Office will make any further stipulations deemed necessary. Once the application has been satisfactorily reviewed, the permit detailing any special instructions or requirements, will be issued. The applicant shall contact Nebraska Department of Roads Highway Area Superintendent, or appropriate individual as indicated on the face of the permit, two (2) days in advance of their work and discuss any State owned buried facilities. Any other buried facilities should be located by calling One-Call Notification Center.

Once the work has been completed, the permittee shall again contact the District Office **promptly**. The District Office will inspect the work and if satisfactorily completed will notify the Lincoln Office and any required performance guarantee will be returned to the permittee.

A permit allowing a utility facility owner the privilege of placing its facilities in or on the highway right-of-way does not constitute any permanent right for such use. Any removal, remodeling, maintenance or relocation of the facilities, whether required by the NDOR or not, will be promptly accomplished by the owner at no cost to the NDOR.

PROTECTION OF THE TRAVELING PUBLIC DURING THE INSTALLATION OF UTILITIES

The traveling public shall be protected from the activities of the contractor or individuals installing utilities within the highway right-of-way by means of signs, flaggers, and traffic control devices as outlined in the latest edition of the "Manual of Uniform Traffic Control Devices" (MUTCD), U.S. Department of Transportation, FHWA and the State of Nebraska Supplement. Any utility construction or maintenance operation should be planned with full regard to safety and interference with roadway traffic should be kept to an absolute minimum.

Vehicles and equipment with properly fitted beacon lights, when not in use in connection with the actual placing of a utility within the highway right-of-way, shall be kept a minimum of 6.1 m (20 feet) from the traveled way in rural areas and 1.8 m (six feet) back of the curb in curbed areas wherever practical to do so. Within the Interstate or Freeway highway right-of-way, vehicles and equipment not in use shall be kept a minimum of 9 m (30 feet) from the edge of the surfaced shoulder. Vehicles shall not be permitted to take access from ramps or through lanes of the Interstate or Freeway highways for the construction or maintenance of utilities except in case of emergencies.

Vehicles and equipment, which are not fitted with yellow rotating/flashing beacon lights, shall not be engaged in the utility installation nor shall they be parked within 9 m (30 feet) of the traveled roadway.

A representative of the NDOR or appropriate governmental subdivision shall make periodic inspections to determine that the traveling public is being adequately protected from the activities of the contractor or individuals installing the utilities and shall determine if additional signs, flaggers, or traffic control devices are required. Detours and shooflies may be permitted under extenuating circumstances and must be approved by a representative of the NDOR or appropriate governmental subdivision. Adequate provisions must be made for surfacing and signing of such detours when they are permitted.

ONE-CALL NOTIFICATION ACT

Reference Nebraska Statute 76-2301 to 76-2330. This law sets the requirements to be followed by any 'person' contemplating 'excavation' and what is required to protect 'underground facilities'.

Excavators must notify operators of underground facilities in an excavation area so that operators have the opportunity to identify and locate the underground facilities prior to excavation and so that the excavators may then observe proper precautions to safeguard the underground facilities from damage.

Notification to operators of underground facilities will be done by calling the One-Call Notification Center at 1-800-331-5666 (statewide) or 344-3565 (metro Omaha).

The law defines the key phrases thus:

Excavation: Shall mean any activity in which earth, rock or other material in or on the ground is moved or otherwise displaced by means of tools, equipment, or

explosives and shall include grading, trenching, digging, ditching, drilling, auguring, tunneling, scraping, and cable or pipe plowing or driving.

Person: Shall mean an individual, partnership, limited liability company, association, municipality, state, county, political subdivision, utility, joint venture, or corporation and shall include the employer of the individual.

Underground facility: Shall mean any item of personal property buried or placed below ground for use in connection with the storage or conveyance of water, sewage, electronic communications, telephonic communications, cable television, electric energy, oil, gas, hazardous liquids, or other substances, including pipes, trunk lines, fiber optic cables, sewers, conduits, cables, valves, lines, wires, manholes, and attachments to such personal property.

SCENIC ENHANCEMENT

In and through areas where scenic easements have been acquired, additional controls on utilities may be required to preserve the scenic quality, appearance or view. Such areas include scenic byways, scenic strips, overlooks, rest areas, recreation areas, wildlife and waterfowl refuges, and the right-of-way of sections of highway which pass through public parks and historic sites.

Section I – Underground Installations

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 or do not impair the visual quality of the lands being traversed.

Section II – Aerial Installations

New aerial installations should 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 may be considered only where:

(A) Other locations are unusually difficult and unreasonably costly, or are more undesirable from the standpoint of visual quality,

(B) Undergrounding is not technically feasible or is unreasonably costly, and

(C) 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.

MISCELLANEOUS

Roadside Trees, Shrubs, Bushes and Vines

No person, corporation, or utility, shall spray, trim, cut down, root up, remove or cut or mutilate in any manner, any tree, shrub, bush or vine situated upon any part of the right-of-way or scenic easement of any highway on the State Highway System, without written consent of the Department of Roads.

Consistent with the preservation of planted vegetation, it will be the policy of the Department of Roads to cooperate with the owners of utilities in obtaining the necessary clearance for overhead wires by permitting the trimming, clearing or removal of vegetation to eliminate interference where such action is necessary. Such work shall be done only in accordance with the established practice and standards that are set up by the Department. In no case will the consent of the Department be granted for wasteful or wanton trimming or removal in order to solve difficulties.

Often the Utility Companies use subcontractors to perform their construction work. The Utility Company is responsible for their subcontractors being knowledgeable of NDOR regulations and requiring all work to be in compliance with this Policy. Unsatisfactory work will be rejected and the Utility Company will be responsible for any and all damages that may result from such work.

Drainage

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

Servicing, Maintenance and Repairs

All utility facilities shall be kept in a good state of repair in accordance with the requirements of Federal, State and local laws, Federal and State regulatory Standards and applicable utility industry codes. Planned maintenance operations within the fenced Interstate or Freeway highway right-of-way will be permitted only upon prior notification of an approval by the NDOR or appropriate governmental authority having jurisdiction over the highway. It shall be the utility owner's responsibility to replace and stabilize all earth cover and vegetation where it has eroded over an underground utility facility where such erosion is due to or caused by the placement or existence of the underground utility facility.

Construction of Conduit Systems and Casings

Whenever practical, consideration may be given to the installation of spare conduits, casings or circuits when constructing underground crossings or bridge attachments.

Relocation of Existing Utilities and Agreements

Minor relocation or adjustment of existing utility facilities due to highway construction will not require a permit. The properly executed agreement between NDOR and the Utility shall be considered a permit. The relocation or adjustment shall conform to the conditions of this policy.

Varied Use of Pipeline

Changes in use or operating pressure of any pipeline occupying public highway right-of-way or structure shall not be allowed without first certifying to the NDOR or authority having jurisdiction over the highway that such change is permitted by and in compliance with laws or orders of the United States, the State of Nebraska, industry or governmental codes and thereafter receiving specific approval from the NDOR or authority having jurisdiction over the highway to make such change as proposed.

Such certification should identify the specific sections of the applicable laws, orders or codes which permit or authorize the change together with the permit number or agreement which authorized the utility encroachment.

Emergency Maintenance

Emergency maintenance of utilities located on highway right-of-way is permissible without first obtaining a Highway Permit Agreement, if an emergency exists that is dangerous to life, safety or welfare of the public and which requires immediate repair. The utility owner shall take all necessary and reasonable safety measures to protect the traveling public and cooperate fully with the State Highway Patrol and the NDOR to that end.

The Utility Owner, in such an event, will advise the appropriate District Office of the location as soon as possible to ensure proper traffic control and coordination with NDOR. Any damage to the right-of-way will be restored in accordance with the following section, “Work Areas.”

Work Areas

The area disturbed by utility installations or relocations shall be kept to a minimum, with special care taken to avoid disturbing existing drainage facilities.

Restoration of work area shall utilize methods of seeding or sodding, fertilizing and mulching in conformance with NDOR “Standard Specifications for Highway Construction” and any special provisions in the Utility Permits and Agreements.

Location

Utility installations are to be located to minimize the need for later adjustment to accommodate future highway improvements and to permit servicing such lines with minimum interference to highway traffic.

In general, all utility installations, adjustments, and/or relocations, are to be located with due consideration to highway and utility costs and to be installed so there will be negligible hazard to highway users, the least possible interference with highway facilities and their operation, and without increase in the difficulty or cost of highway maintenance.

Private Utility Facility

A utility facility that is dedicated to private use shall be allowed by permit in the highway right-of-way as long as the utility installation does not adversely affect the safety, design, construction, operation, and maintenance of the highway.

PART II

ACCOMMODATION OF UTILITIES ON EXPRESSWAY, MAJOR ARTERIAL AND SCENIC HIGHWAYS

GENERAL PROVISIONS

Utilities are permitted within Village, City, County and State Highway right-of-way. Such occupancies shall be in accordance with the terms of this policy. This part of the Policy applies to all public and private utilities including electric power, telephone, telegraph, franchised cable television, 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.

CONSTRUCTION OF AERIAL ELECTRICAL AND COMMUNICATION LINES

General

Aerial electrical and communication lines constructed within the public right-of-way shall be constructed in accordance with the current National Electrical Safety Code. The alignment of the overhead lines shall be as near the right-of-way line and parallel to the highway centerline as is practical, ignoring minor irregularities in the right-of-way line where possible.

Highway right-of-way disturbed by the construction of aerial electrical power and communication lines shall be returned to normal grade and elevation and all excess material removed. All aerial electrical power and communication lines placed in areas susceptible to erosion shall have adequate protection against erosion. The protection may be in the form of rock rip-rap, ditch checks, hay cover or other material that proves to be satisfactory and does not interfere with maintenance operations.

All vegetation destroyed by the construction of aerial electrical power and communication lines within the highway right-of-way shall be replaced either by the permittee or mitigated by a cash settlement. The cash settlement shall be made with the NDOR or authority having jurisdiction over the public highway prior to starting work within the highway right-of-way. The NDOR or authority having jurisdiction over the highway shall determine which method is to be used to restore the vegetation.

Joint use of utility poles is to be encouraged to avoid placing additional poles within the right-of-way. All poles and anchors shall conform to the horizontal clearances set forth in Section I below.

Section I – Clear Zone Requirements for Ground-Mounted Utility Facilities

Highway roadsides shall be as free from physical obstructions above the ground as practicable. The clear zone requirements for utility facilities occupying the right-of-way are as shown in the following table.

(A) In rural areas with rural-type roadways, a permanent, aboveground obstruction shall be restricted to an area beyond the clear zone, right-of-way width permitting.

(1) If sufficient right-of-way is not available to accommodate this distance, the governmental subdivision or NDOR may require that the facility consist of a breakaway design or regrade the right-of-way.

(2) The clear zone table shown below shall, unless otherwise specified, be used to determine the appropriate clear zone distance on rural-type roadways based on present day traffic and the existing foreslope adjacent to and preceding the utility facility. The values in the table are based on an 89 km/h (55 mph) design speed. If another design speed is more appropriate, the clear zone shall be determined by reference to the AASHTO Roadside Design Guide.

(3) The clear zone shall, unless otherwise specified, be measured from the edge of the traveled way. In the table, the lower value represents the minimum acceptable distance, while the higher value represents the distance to be achieved whenever practical.

(4) Clear zone table:

CLEAR ZONE				
Foreslope	**Traffic Volume, Average Daily Traffic (ADT)**			
	Under 750	750 – 1500	1500 – 6000	Over 6000
* 1:3 metric (3:1 English) or steeper	3.7 – 4.3 m (12 – 14 ft) beyond the toe of foreslope	4.9 – 5.5 m (16 – 18 ft) beyond the toe of foreslope	6.1 – 6.7 m (20 – 22 ft) beyond the toe of foreslope	6.7 – 7.3 m (22 – 24 ft) beyond the toe of foreslope
** 1:4 metric (4:1 English)	4.3 – 4.9 m (14 – 16 ft)	6.1 – 7.3 m (20 – 24 ft)	7.3 – 9.1 m (24 – 30 ft)	7.9 – 9.8 m (26 – 32 ft)
** 1:6 metric (6:1 English) or flatter	3.7 – 4.3 m (12 – 14 ft)	4.9 – 5.5 m (16 – 18 ft)	6.1 – 6.7 m (20 – 22 ft)	6.7 – 7.3 m (22 –24 ft)

* The distance beyond the toe of the foreslope may be reduced by the width of the shoulder. Example: if a road has 1000 vehicles per day (vpd) and a 1.8 m (6 ft) shoulder, then the clear zone would be 3.0 to 3.7 m (10 to 12 ft) beyond the toe of the foreslope.

Fixed objects should not be present in the vicinity of the toe of 1:3 metric (3:1 English) foreslopes unless they are at the right-of-way line. Recovery of errant vehicles may be expected to occur beyond the toe of the slope. Determination of the width of the recovery area at the toe of a slope that is 1:3 metric (3:1 English) or steeper should take into consideration right-of-way availability, environmental concerns, economic factors, safety needs, and accident histories.

** Clear Zone distance measured from the edge of driving lane.

(B) In suburban areas with rural-type roadways and speed limits of 72 km/h (45 mph) or lower, a permanent, aboveground obstruction should be located at least 4.5 m (15 feet) from the edge of the paved traveled way with the preferred location being near the right-of-way line.

(C) Cities, towns, and urban areas where curb sections exist; rigid poles, anchors, guys, and appurtenances shall be located back of the sidewalk or a minimum of 1.8 m (six feet) back of curb.

Section II – Vertical Clearance above the Traveled Way

General clearance guides, based on 53 m (175 foot) spans, are provided below:

(A) Aerial lines with 750 volts or less shall have a minimum clearance of 5.5 m (18 feet) above the traveled way.

(B) Aerial lines with 750 – 22,000 volts shall have a minimum clearance of 6.1 m (20 feet) above the traveled way.

(C) Installation of aerial lines within and crossing public highway right-of-way and having 750 or more volts of electrical power shall comply with the National Electrical Safety Code for vertical clearances and conductor sizes. However, additional clearance may be required by the NDOR or local authorities in certain instances.

CONSTRUCTION OF UNDERGROUND ELECTRICAL POWER AND COMMUNICATION LINES

General

Underground electrical power and communication lines constructed within the highway right-of-way shall conform to the current National Electrical Safety Code and the current Nebraska Standard Specifications for Highway Construction.

Underground electrical power and communication lines can be installed by direct bury plow method or by trenching. Trenching can be used for direct bury of heavy cable or placing of conduit or multi-celled ducts. No trenching or direct bury will be allowed in sites where Mechanically Stabilized Earth (MSE) systems are used. Placement and location of the utility must be approved by the MSE manufacturer and incorporated into the design of the MSE system.

Highway right-of-way disturbed by the construction of underground electrical power and communication lines shall be returned to normal grade and elevation and all excess material removed. All underground electrical power and communication lines placed in areas susceptible to erosion shall have adequate protection against erosion. The protection may be in the form of rock rip-rap, ditch checks, hay cover or other material that proves to be satisfactory and does not interfere with maintenance operations.

All vegetation destroyed by the construction of underground electrical power and communication lines within the highway right-of-way shall be replaced either by the permittee or mitigated by a cash settlement. The cash settlement shall be made to the NDOR or authority having jurisdiction over the public highway prior to starting work within the highway right-of-way. The NDOR or authority having jurisdiction over the highway shall determine which method is used to restore the vegetation.

Section I – Parallel Occupancy

(A) Installations of underground electrical power and communication lines should be located within 1.5 m (five feet) of the outer limits of the right-of-way. All installations and appurtenances shall be located to minimize interference with maintenance operations of NDOR. Parallel installations shall not be located on the highway foreslope or in the ditch bottom.

(B) Installations within villages and cities may require the use of the shoulder for the underground electrical power and communication lines; however, attempts should be made to anticipate future construction and place the underground electrical power and communication line in such a position that it does not conflict with future construction. The preferred location is near the highway right-of-way line.

(C) Along highways within villages and cities, where there is insufficient right-of-way or suitable location for underground electrical power and communication lines outside of the traveled way, such lines may be placed under the surfacing, if it is determined to be in the best interest of the traveling public by a representative of the NDOR or appropriate governmental subdivision.

(D) All manholes shall be placed outside the traveled way where possible. Manholes placed outside the traveled way shall not protrude above the surrounding ground except with the approval of the NDOR or appropriate governmental subdivision and in compliance with the horizontal clearance outlines in Section I, page 8.

(E) Utilities installing underground electrical power and communication lines where the right-of-way width is insufficient or topographic features prohibit a feasible route at or near the right-of-way line will need the permission of the NDOR or authority having jurisdiction over the highway to designate a specific location of such facilities and any additional specific conditions concerning the occupancy.

(F) Depth of Bury:

(1) The minimum depth of earth cover over underground electrical power and communication lines shall be 900 mm (36 inches). Additional cover may be required to protect the traveling public or the underground electrical power or communication lines.

Any underground utility facility that crosses a drainage course within the highway right-of-way must be installed a minimum of 1.2 m (four feet) below the flow line of the drainage structure or the drainage course. If there is a difference in elevation between the flow line of the drainage structure and the drainage course, the lowest elevation shall be used.

(2) Underground electrical power or communication lines which cannot be installed with minimum cover due to natural conditions or conflict with other utilities may be required to protect the lines with suitable bridging concrete slab, casing or other appropriate means.

Section II – Underground Electrical Power and Communication Lines Crossing Existing Highways

Installation of underground electrical power and communication lines under the traveled portion of existing highways must be accomplished by jacking, tunneling or dry boring from the toe of the fill slope to the toe of the opposite fill slope. The diameter of the hole shall not exceed the diameter of casing or cable by more than 38 mm (1-1/2 inches) and shall be pressure grouted. This shall include all abandoned or misaligned holes. The NDOR or appropriate governmental subdivision must approve any deviations from a dry boring method.

(A) Depth of Bury:

The utility shall be placed at a minimum depth of 900 mm (36 inches) below the bottom elevation of the parallel road ditch or in the absence of such ditches, below the elevation of the natural ground. Additional cover may be required to protect the traveling public or the utility line.

Any underground utility facility that crosses a drainage course within the highway right-of-way must be installed a minimum of 1.2 m (four feet) below the flow line of the drainage structure or the drainage course. If there is a difference in elevation between the flow line of the drainage structure and the drainage course, the lowest elevation shall be used.

(B) Utility Markers on the Right-of-Way:

Adequate markers shall be placed on the right-of-way line. The markers shall give the name and address of the owner and phone number to contact in case of emergency.

Section III – Underground Electrical Power and Communication Lines Crossing Highways Currently under Construction

Installation of underground electrical power and communication lines across or on highway construction projects may be permitted generally in accordance with the conditions of this policy if it is determined to be in the best interest of the traveling public by a representative of the NDOR or appropriate governmental subdivision having jurisdiction over the highway.

The approved methods of installation shall include open trenching, jacking, boring or tunneling. Other methods may be considered on an individual basis.

Section IV – Direct Bury Cable

Direct bury cable may be placed within the highway right-of-way; but, direct bury cable placed under the traveled way without casing shall have the diameter of the bored holes no more than 38 mm (1-1/2 inches) larger than the outside diameter of the cable.

Section V – Encasement

An easement shall be an oversize load bearing casing, conduit or duct through which a cable is inserted in order to protect the roadway from damage and to provide for repair, removal or replacement of the cable without interference to highway traffic. It is the responsibility of the owner of the utility facility to ensure that it complies with all applicable local, state, federal and franchise requirements and meets generally accepted industry standards in the selection of encasement materials.

(A) Encasement material:

(1) Welded Steel Pipe, Smooth Wall that is in sound condition. Welded Steel Pipe shall have the following minimum wall thickness:

Encasement Specifications

Casing Diameter	Minimum Wall Thickness
Under 150 mm (6 in.)	Standard wall pipe of 5 mm (0.188”) wall, as preferred
150 mm – 400 mm (6” – 16”)	5 mm (0.188”)
450 mm – 550 mm (18” – 22”)	6 mm (0.250”)
600 mm – 650 mm (24” – 26”)	7 mm (0.281”)
700 mm – 850 mm (28” – 34”)	8 mm (0.312”)
900 mm – 1200 mm (36” – 48”)	8.7 mm (0.344”)

(2) Reinforced concrete and corrugated metal culvert pipe meeting the requirements of the current Nebraska Standard Specifications for Highway Construction.

(3) Plastic (PVC) Polyvinyl Chloride Pipe Type PSP and PSM meeting the minimum requirements of ASTM Specifications and in accordance with the listing below:

Pipe Dimensions Type PSP

Casing Diameter	Minimum Wall Thickness
100 mm (4”)	3.05 mm (0.120”)
150 mm (6”)	3.89 mm (0.153”)
200 mm (8”)	5.05 mm (0.199”)
225 mm (9”)	5.84 mm (0.230”)
250 mm (10”)	6.32 mm (0.249”)
300 mm (12”) max. acceptable	7.59 mm (0.299”)

Pipe Dimensions Type PSM

Casing Diameter	Minimum Wall Thickness
100 mm (4”)	3.05 mm (0.120”)
150 mm (6”)	3.89 mm (0.153”)
200 mm (8”)	5.21 mm (0.205”)
225 mm (9”)	5.84 mm (0.230”)
250 mm (10”)	6.50 mm (0.256”)
300 mm (12”) max. acceptable	7.75 mm (0.305”)

The use of PVC pipe for casing is acceptable up to a maximum casing diameter of 300 mm (12 inches).

(4) Plastic (PE) Polyethylene pipe. PE pipe should meet the minimum requirements of ASTM Specifications and in accordance with the listing below:

Pipe Dimensions

Casing Diameter	Minimum Wall Thickness
75 mm (3”)	8.08 mm (0.318”)
100 mm (4”)	10.39 mm (0.409”)
150 mm (6”)	15.29 mm (0.602”)
200 mm (8”)	19.94 mm (0.785”)
250 mm (10”)	24.84 mm (0.978”)
300 mm (12”) max. acceptable	29.46 mm (1.160”)

(B) Size of encasement:

The encasement shall be large enough to allow easy passage of the enclosed cable.

(C) Transverse casing length:

The installation of underground electrical power and communication lines, when casing is used, shall wherever feasible have as a minimum, casing extending from the toe of the fill slope to the toe of the fill slope on the opposite side of the traveled way of 1.8 m (six feet) back of the curb where practical.

(D) Vents:

Vents, if required, shall be placed at the right-of-way lines.

(E) Underground electrical power or communication lines requiring multi-celled ducts under the highway shall be placed in a casing and installed without disturbing the highway surfacing unless it is determined by a representative of the NDOR or appropriate governmental subdivision that cutting of the surface is in the best interest of the traveling public.

Section VI – Backfill of Trenches

Backfill of underground electrical power and communication line trenches within highway construction projects shall conform to Section 403.03 of the current Nebraska Standard Specifications for Highway Construction and the special provisions included with the contract. The density and moisture shall be equal to that of the surrounding ground.

Electrical Power and Communication Cables Attached to Structures

(See PART IV – ATTACHMENT TO BRIDGE AND OTHER STRUCTURES, page 38)

CONSTRUCTION OF PIPELINES

General

Pipelines shall include sewer, water, gas, petroleum products, chemicals, and irrigation lines. Approved materials for the construction of the above mentioned pipelines shall include cast iron, ductile iron, steel pipe with protective coating, vitrified clay, concrete, specially treated concrete, composite pipe (truss pipe), copper pipe, and PE 3408 or 2406 pipe.

Flexible pipe intended to carry a fluid (liquid or gas) is also approved with the following restrictions:

Polyvinyl Chloride Pipe (PVC)

(A) A manufacturers' certification or notarized statement, advising the Department of Roads that the pipe material meets or exceeds the American Water Works

Association Standard for Polyvinyl Chloride (PVC) pipe or the specifications listed below, must be presented with the application:

(1) Material shall be PVC 1120 or PVC 1220 in accordance with ASTM D1784 "Specification for Rigid Poly (Vinyl Chloride) Compounds and Chlorinated Poly (Vinyl Chloride) Compounds."

(2) Pipe shall conform to ASTM D2241 "Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe (SDR-PR and Class T)." A manufacturer's certification is required stating that the pipe complies with the proper specifications for the intended use including Seal of Approval of National Sanitation Founding Testing Laboratory.

(3) Pipe fittings shall meet the requirements of ASTM D2466 (Schedule 40) or ASTM D2467 (Schedule 80) for socket type fittings. Wall thickness shall be equal to or greater than the pipe SDR specified. Joints shall be push-on bell ends specified below. Mechanical joint cast iron fittings with PVC adapters or transition gaskets are also approved.

(4) Joints shall be rubber-gasket, push-on bell, which meet the minimum requirements for the pipe specified. Rubber gaskets shall conform to the requirements of ASTM D1869. The joint shall be wall thickened at points of stress and so that the SDR specified is maintained throughout the bell. Manufacturers shall certify that their joints meet or exceed the minimum workmanship, general dimensions, tolerances, burst pressure and working pressure for the pipe SDR and PR specified.

(5) Pipe design shall conform to all of the following:

  (a) Minimum acceptable wall thickness shall be SDR 17 for 100 mm (four inch) and greater I.D. and shall be SDR 13.5 for pipes smaller than 100 mm (four inch) I.D.

  (b) If the maximum pipeline working pressure exceeds 1,100 kPa (160 psi), the SDR shall be adjusted to provide a safety factor of 2.8 to 1 based on sustained pressure tests.

(6) Approved minimum wall thickness can be found on page 13 of this manual.

Polyethylene Pipe (PE)

(B) A manufacturer's certification or notarized statement, advising the NDOR or appropriate governmental subdivision that the pipe meets or exceeds the following ASTM Standards for Polyethylene pipe must be presented with the application.

ASTM D 3350:	Standard Specification for Polyethylene Plastics Pipe and Fittings Materials
ASTM D 2837:	Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials
ASTM D 2657:	Standard Practice for Heat-Joining Polyolefin Pipe and Fittings

ASTM D 2513: Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing and Fittings

ASTM D 2444: Standard Specification for Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)

ASTM D 2412: Standard Specification for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading

ASTM D 2290: Standard Test Method for Apparent Tensile Strength of Ring or Tubular Plastics and Reinforced Plastics by Split Disk Method

ASTM D 2122: Standard Test Method of Determining Dimensions of Thermoplastic Pipe and Fittings

(1) Joints shall conform to 49 CFR 192.281.

(2) Pipe design shall conform to design limitations listed in 49 CFR 192.123.

(3) Approved minimum wall thickness can be found on page 14 of this manual.

(C) Flexible pipe crossing the highway and not meeting the specifications under paragraphs (A) and (B) on pages 15 and 16 shall be cased from right-of-way line to right-of-way line.

(D) Parallel occupancy of the highway right-of-way is prohibited by flexible pipes not meeting the specifications under paragraphs (A) and (B) on pages 15 and 16.

(E) Flexible pipe crossing the highway, regardless of size and meeting the specifications under paragraphs (A) and (B) on pages 15 and 16, shall be cased as a minimum from the toe of the fill slope to the toe of the opposite fill slope. Casing may be required across the entire width of the right-of-way if it is determined by the representative of the NDOR or appropriate governmental subdivision that additional casing is required to protect the highway facility.

(F) Flexible pipe undercrossings not entirely encased within the highway right-of-way and parallel occupancies shall have a minimum of 1.5 m (five feet) of cover.

(G) Parallel occupancy of highway right-of-way with flexible pipe carrying fluids (liquid or gas) shall be a minimum of 3 m (10 feet) from the toe of the fill slope and preferably at the right-of-way line.

Pipeline and casing construction within the highway right-of-way shall conform to one (1) or more of the following current appropriate standards for pipeline construction and the current Nebraska Standard Specifications for Highway Construction.

49 CFR Parts 190, 191, 192, USDOT Pipeline Safety Regulations
ANSI Standard Code for Pressure Piping of American National Standards Institute
ANSI B31.1.0, Power Piping
ANSI B31.3, Petroleum Refinery Piping

ANSI B31.4, Liquid Petroleum Transportation Piping Systems
ANSI B31.8, Gas Transmission and Distribution Piping Systems
American Water Works Association Standards and Specifications
National Gas Pipeline Safety Act of 1968
Nebraska Standard Specifications for Highway Construction

All requests to place sewer lines within the highway right-of-way shall be accompanied by a notarized statement, advising the Department of Roads that the proposed sewer line meets with all State and Federal laws, and that all licenses, permits or approval have been acquired from the agency charged with the responsibility for enforcing the Federal Water Pollution Control Act of 1972.

Highway right-of-way disturbed by the construction of pipelines shall be returned to normal grade and elevation and all excess material removed. Pipelines placed in areas susceptible to erosion shall have adequate protection against erosion. The protection may be in the form of rock rip-rap, ditch checks made of timber, hay cover or other material that proves to be satisfactory and does not interfere with maintenance operations.

All vegetation destroyed by the construction of pipelines within the highway right-of-way shall be replaced either by the permittee or mitigated by a cash settlement. The cash settlement shall be with the NDOR or authority having jurisdiction over the public highway prior to starting work within the highway right-of-way. The NDOR or authority having jurisdiction over the highway shall determine which method is to be used to restore vegetation.

Section I – Parallel Occupancy

(A) Installations within villages and cities may require the use of shoulders for pipelines; however, attempts should be made to anticipate future construction and place the pipeline in such a position that it does not conflict with future construction. The preferred location is near the highway right-of-way line.

(B) Along highways within villages and cities, where there is insufficient right-of-way or suitable location for pipelines outside of the traveled way, such lines may be placed under the surfacing, if it is determined to be in the best interest of the traveling public by a representative of the NDOR or appropriate governmental subdivision.

(C) All manholes and shutoffs shall be placed outside the traveled way where possible. Manholes and shutoffs placed outside the traveled way, shall not protrude above the surrounding ground wherever practical, except with the approval of the NDOR or appropriate governmental subdivision and in compliance with the horizontal clearance outlined in Section I on page 9.

(D) Installations of pipelines where the right-of-way width is insufficient or topography features prohibit a feasible route at or near the right-of-way line may, with the specific approval of the NDOR or authority having jurisdiction over the highway, occupy a position at the toe of the back slope. The NDOR or authority having jurisdiction over the highway shall designate the specific location of such facilities and any additional specific conditions concerning the occupancy.

(E) Pipelines located within the right-of-way on highways with large cut and fill sections shall be placed at or near the toe of the fill or back slope. Parallel pipelines shall not be located in the ditch under any circumstances.

(F) Depth of Bury:

(1) The minimum depth of earth cover over pipelines shall be 900 mm (36 inches) unless PVC pipe is used as indicated in items (2) and (3) below:

Any underground utility facility that crosses a drainage course within the highway right-of-way must be installed a minimum of 1.2 m (four feet) below the flow line of the drainage course or 0.3 m (one foot) below bottom of the drainage structure. If there is a difference in elevation between the flow line of the drainage structure and the drainage course, the lowest elevation shall be used.

(2) PVC pipelines carrying liquids shall be installed at a minimum depth of 1.5 m (60 inches).

(3) PVC pipelines carrying natural gas shall be installed at a minimum depth of 900 mm (36 inches).

(4) Additional cover may be required if considered necessary to protect the traveling public or the pipeline.

(5) Pipelines that cannot be installed with minimum cover due to natural conditions or conflict with other utilities may require protection by bridging, concrete slab, casing, or other appropriate means.

Section II – Pipelines Crossing Existing Highways

Installation of pipelines under the traveled portion of existing highways must be accomplished by jacking, tunneling, dry boring, or directional boring from the toe of the fill slope to the toe of the opposite fill slope. Casing will be required unless waived as indicated in Section V-A(4) on page 22. The diameter of the hole shall not exceed the diameter of casing or pipe by more than 38 mm (1-1/2 inches) on pipes with an inside diameter of 300 mm (12 inches) or greater. Voids outside pipe or casings, which exceed these limitations, shall be pressure grouted. This shall include all abandoned or misaligned holes. Any deviations from a dry boring method must be approved by the appropriate governmental subdivision.

(A) Depth of Bury:

(1) Pipelines shall be installed at a minimum depth of 900 mm (36 inches) below the bottom elevation of the parallel road ditch or in the absence of such ditches, below the elevation of the natural ground unless PVC pipe is used as indicated in items (2) and (3) below:

Any underground utility facility that crosses a drainage course within the highway right-of-way must be installed a minimum of 1.2 m (four feet) below the flow line of the drainage structure or the drainage course. If there is a difference in elevation between the flow line of the drainage structure and the drainage course, the lowest elevation shall be used.

(2) PVC pipelines carrying liquids shall be installed at a minimum depth of 1.5 m (60 inches).

(3) PVC pipelines carrying natural gas shall be installed at a minimum depth of 900 mm (36 inches).

(4) Additional depth may be required to protect the traveling public and pipeline.

(B) Utility Markers on the Right-of-Way:

(1) Adequate markers shall be placed on the right-of-way line. The markers shall give the name and address of the owner and phone number to contact in case of an emergency.

Section III – Pipelines Crossing or Occupying Highways Currently Under Construction

Installation of pipelines across or on highway construction projects may be permitted generally in accordance with the conditions of this policy if it is determined to be in the best interest of the traveling public by a representative of the NDOR or appropriate governmental subdivision. The NDOR or appropriate governmental subdivision having jurisdiction over the highway shall determine the method of installation. The approved methods of installation shall include open trenching, jacking, boring or tunneling. Other methods may be considered on an individual basis. Casing will be required unless waived as indicated below:

Section IV – Boring

(A) Pits for boring, tunneling or jacking will not be permitted in highway medians and will not be permitted closer to the roadway than 9 m (30 feet) when allowed on the right-of-way. The appropriate District Office or appropriate governmental subdivision will determine exceptions to this distance.

(B) Casing and pipeline installations should be accomplished by dry boring, tunneling, jacking, trenching, or other approved methods.

(1) The use of water under pressure (jetting) or puddling will not be permitted to facilitate boring, pushing, or jacking operations. Some boring may require water to lubricate cutter and pipe and under such conditions, may be considered dry boring, with prior approval from the District Engineer or appropriate governmental subdivision. Horizontal directional boring using approved drilling fluids, such as bentonite, may be used.

(2) Where unstable soil conditions exist, boring or tunneling operations shall be conducted in such a manner as not to be detrimental to the roadside being crossed.

(3) If excessive voids or too large a bored hole is produced during casing or pipeline installations, or if it is necessary to abandon a bored or tunneled hole, prompt remedial action should be taken by the Utility Company, subject to the approval of the District Engineer or appropriate governmental subdivision.

(4) All voids or abandoned holes caused by boring or jacking are to be filled by pressure grouting when deemed necessary by the NDOR or appropriate governmental subdivision representative.

(C) The hole diameter resulting from bored or tunneled installations shall not exceed the outside diameter of the utility pipe, cable or casing (including coating) by more than 38 mm (1-1/2 inches) on pipes with an inside diameter of 300 mm (12 inches) or less or 50 mm (two inches) on pipes with an inside diameter greater than 300 mm (12 inches). Voids outside pipes or casings that exceed these limitations shall be pressure grouted.

Section V – Encasement

(A) An encasement shall be an oversize load-bearing casing, through which a carrier pipe is inserted in order to protect the roadway from damage and to provide for repair, removal or replacement of the pipeline without interference to highway traffic.

(1) Encasement material:

Welded steel pipe meeting the Standard Specifications for electric fusion (arc-welded) steel pipe (designation A53 or Al 39 grade B) as specified in American Petroleum Institute Code #1102 or API 5L. (See page 13 for minimum wall thickness.)

For Plastic Polyvinyl Chloride Pipe (PVC) and Plastic Polyethylene Pipe (PE), see page 14 for minimum wall thickness.

(2) Size of encasement:

The minimum diameter casing shall be at least two (2) nominal pipe sizes larger than the nominal size of the facility being encased, but in no case shall the casing be less than 50 mm (two inches) greater than the outside diameter of the facility being encased.

(3) Transverse casing length:

(a) Pipelines [except when flexible pipe is used as indicated in (b), (c) and (d) below] crossing highways with a diameter greater than 50 mm (two inches) shall wherever feasible have as a minimum, casing extending from the toe of the fill slope to the toe of the fill slope on the opposite side of the traveled way or 1.8 m (six feet) back of the curb.

(b) Flexible pipe crossing the highway regardless of size and meeting the specifications (manufacturers' certification) under paragraphs (A) and (B) on pages 15 and 16 shall be cased as a minimum from the toe of the fill slope to the toe of the fill slope on the opposite side of the traveled way or 1.8 m (six feet) back of the curb wherever feasible.

(c) Flexible pipe crossing the highway and not meeting the specifications (manufacturers' certification) under paragraphs (A) and (B) on pages 15 and 16 shall be cased from right-of-way line to right-of-way line.

(d) Casing for flexible pipe carrying natural gas will be considered on an individual basis.

(e) Casing may be required across the entire width of the right-of-way if it is determined by the representative of the NDOR or appropriate governmental subdivision that additional casing is required to protect the traveling public and the highway facility or if the company's policy requires casing in full width of the public right-of-way.

(4) Waiver of casing:

(a) Natural gas, crude oil and liquid petroleum products that are cathodically protected and constructed with pipe material that meets Federal Pipeline Safety specifications will be considered.

(b) Pipelines 50 mm (two inches) or less in diameter carrying liquids will be considered. This does not apply when flexible pipe is used - see Section V-A(3)b on page 21.

(c) Gas service lines with 500 kPa (75 psi) or less operation pressure will be considered.

(d) PE 3408 and PE 2406 pipe less than 50 mm (two inches) for gaseous products will be considered.

(e) PE 3408 and PE 2406 pipe greater than 50 mm (two inches) for gaseous products, if less than 500 kPa (75 psi) will be considered.

(f) Pipes not under pressure will be considered.

(5) Vents:

Vents, if required shall be placed at the right-of-way lines.

Section VI – Backfill of Trenches

(A) Backfill of pipeline trenches within highway construction projects shall conform to the current Nebraska Standard Specifications for Highway Construction and the special provisions included with the contract.

(B) Backfill of pipeline trenches on the existing highway shall conform to applicable sections of the current Nebraska Standard Specifications for Highway Construction.

Pipelines Attached to Structures **(see PART IV – ATTACHMENT TO BRIDGE AND OTHER STRUCTURES, *page 38)***

PART III

ACCOMMODATION OF UTILITIES ON INTERSTATE AND FREEWAY HIGHWAY RIGHT-OF-WAY

GENERAL PROVISIONS

Interstate and Freeway highways should be as free of obstruction as possible. Longitudinal utility occupancy inside the fenced right-of-way of an Interstate or Freeway highway may be considered only as a "last resort" when no other feasible route can be followed by the utility facility or when such utility facility exclusively serves a highway facility. The NDOR or authority having jurisdiction over the Interstate or Freeway highway must concur that no feasible alternate utility location is possible before allowing longitudinal occupancy of the Interstate or Freeway highway right-of-way.

Specific details of the location, type and method of construction and maintenance which will be permitted inside the fenced Interstate or Freeway right-of-way will be determined individually at the time such utility occupancy is authorized. The utility may at any time be required to construct a fence or other barrier to effectively prevent access from the through-traffic roadways or ramps to the utility facilities within the Interstate or Freeway highway right-of-way. Access for the construction and maintenance of all utility facilities within the Interstate or Freeway highway right-of-way must be gained by means of gates or take-down panels in the Interstate or Freeway highway right-of-way and utility vehicles then must establish and follow trails within the right-of-way. In some instances, take-down panels, locked gates or other authorized devices to allow entry to the Interstate or Freeway highway right-of-way from the utilities easement may be permitted by the NDOR or authority having jurisdiction over the highway.

All costs connected with these trails shall be borne by the utilities occupying the Interstate or Freeway highway right-of-way and neither the existence of the trails nor the utility occupancy of the right of way gives anyone a vested or compensable right within the highway right-of-way. All utility trails, facilities, appurtenances, etc., must be immediately adjusted or relocated at the utilities own expense when so directed by the NDOR or authority having jurisdiction over the Interstate or Freeway highway. All erosion, weed control, destroyed or damaged vegetation and plantings or other damage to the highway right of way caused by the utility inside the Interstate or Freeway highway right-of-way shall be repaired, restored, replaced or compensated for by the utility occupying such right-of-way.

Emergency conditions may require that direct access be gained from the Interstate or Freeway highway. Under these conditions, the agency having authority over the highway must receive verbal notification of such emergencies prior to beginning work.

Utilities occupying Interstate or Freeway highway right-of-way outside the fence or on frontage roads will conform to that part of this policy on the "Accommodation of Utilities on Expressway, Major Arterial, and Scenic Highways."

APPLICATIONS AND PERMITS ON INTERSTATE AND FREEWAY HIGHWAYS

All requests for underground or aerial crossings and occupancies inside and outside the right-of-way fence on Interstate or Freeway right-of-way shall have the request submitted to the NDOR or agency having the authority over the highway and will be considered on an individual basis.

Requests to place utilities within the highway right-of-way shall be initiated through the appropriate District Office in the area of the intended work. The District Map in the appendix will need to be checked to determine from which District Office to obtain an application.

The District Permit Office will provide the appropriate application form to complete. **Four sets of plans** of the proposed work must be submitted along with the application form. The District Permit Office will review the application for the required information. A performance guarantee may be required from individuals or contractors. Major power companies, utility districts and governmental subdivisions will generally not be required to post performance guarantees unless special circumstances prevail. The District Office shall determine the amount of a performance guarantee.

The District Office will forward the completed application and plans, along with their recommendations to the Lincoln Central Headquarters. The Lincoln Office will make any further stipulations deemed necessary. Once the application has been satisfactorily reviewed, the permit detailing any special instructions or requirements, will be issued. The applicant shall contact Nebraska Department of Roads Highway Area Superintendent or appropriate individual as indicated on the face of the permit two (2) days in advance of their work and discuss any State owned buried facilities. Any other buried facilities should be located by calling One-Call Notification Center.

Once the work has been completed, the permittee shall again contact the District Office **promptly.** The District Office will inspect the work and if satisfactorily completed will notify the Lincoln Office and any required performance guarantee will be returned to the permittee.

A permit allowing a utility facility owner the privilege of placing its facilities in or on the highway right-of-way does not constitute any permanent right for such use. Any removal, remodeling, maintenance or relocation of the facilities, whether required by the NDOR or not, will be promptly accomplished by the owner at no cost to the NDOR.

CONSTRUCTION OF AERIAL ELECTRICAL AND COMMUNICATION LINES ON INTERSTATE AND FREEWAY HIGHWAYS

General

Aerial electrical and communication lines constructed within the Interstate and Freeway highway right-of-way shall be constructed in accordance with the current National Electrical Safety Code. The poles of the overhead lines shall be outside of the fenced right-of-way, wherever feasible.

Indiscriminate crossings of Interstate or Freeway highways shall not be permitted. It is expected that utility companies will provide primary or feeder lines crossing the Interstate or Freeway highway where needed to serve a general area.

Interstate or Freeway right-of-way disturbed by the construction of aerial electrical power and communication lines shall be returned to normal grade and elevation and all excess material removed. All aerial electrical power and communication lines placed in areas susceptible to erosion shall have adequate protection against erosion. The protection may be in the form of rock rip-rap, ditch checks, hay cover or other material that proves to be satisfactory and does not interfere with maintenance operations.

All vegetation destroyed by the construction of aerial electrical power and communication lines within the Interstate or Freeway right-of-way shall be replaced either by the permittee or mitigated by a cash settlement. The cash settlement shall be made with the NDOR or authority having jurisdiction over the public highway prior to starting work within the highway right-of-way. The NDOR or authority having jurisdiction over the highway shall determine which method is to be used to restore the vegetation.

Joint use of utility poles is to be encouraged to avoid placing additional poles within the right-of-way.

Occupancy of the Interstate or Freeway right-of-way may require that the right-of-way fence be relocated to permit the placement of utilities. All costs connected with the removal and relocation of the fence shall be borne by the utility company. The NDOR or appropriate governmental agency shall determine the location of the fence.

Section I – Horizontal Clearance for Ground-Mounted Utility Facilities

The horizontal clearance for all ground mounted utilities outside the Interstate or Freeway fenced right-of-way will conform to the policy for Accommodation of Utilities on Expressway, Major Arterial, and Scenic Highways, Construction of Aerial Electrical and Communication Lines, Section I on page 9.

Section II – Vertical Clearance above the Traveled Way

General clearance guides, based on 53 m (175 foot) spans, is provided below:

(A) Aerial lines with 750 volts or less shall have a minimum clearance of 5.5 m (18 feet) above the traveled way.

(B) Aerial lines with 750 - 22,000 volts shall have a minimum clearance of 6.1 m (20 feet) above the traveled way.

(C) Installation of aerial lines within and crossing Interstate or Freeway highway right-of-way and having 750 or more volts of electrical power shall comply with the National Electrical Safety Code for vertical clearances and conductor sizes. However, additional clearance may be required by the NDOR in certain instances.

CONSTRUCTION OF UNDERGROUND ELECTRICAL POWER AND COMMUNICATION LINES ON INTERSTATE AND FREEWAY HIGHWAYS

General

Underground electrical power and communication lines constructed within the Interstate or Freeway highway right-of-way shall conform to the current National Electrical Safety Code and the current Nebraska Standard Specifications for Highway Construction.

Telecommunication fiber optic cable occupancy of the Interstate right-of-way will be covered in this policy manual or in a separate manual in 1999.

Underground electrical power and communication lines inside or outside the fenced right-of-way can be installed by direct bury plow method or by trenching. Trenching can be used for direct bury of heavy cable or placing of conduit or multi-celled ducts. No trenching or direct bury will be allowed in sites where Mechanically Stabilized Earth (MSE) systems are used. Placement and location of the utility must be approved by the MSE manufacturer and incorporated into the design of the MSE system.

Highway right-of-way disturbed by the construction of underground electrical power and communication lines shall be returned to normal grade and elevation and all excess material removed. All underground electrical power and communication lines placed in areas susceptible to erosion shall have adequate protection against erosion. The protection may be in the form of rock rip-rap, ditch checks, hay cover or other material that proves to be satisfactory and does not interfere with maintenance operations.

All vegetation destroyed by the construction of underground electrical power and communication lines within the highway right-of-way shall be replaced either by the permittee or mitigated by a cash settlement. The cash settlement shall be made to the NDOR or authority having jurisdiction over the public highway prior to starting work within the highway right-of-way. The NDOR or authority having jurisdiction over the highway shall determine which method is used to restore the vegetation.

Section I – Parallel Occupancy

(A) Parallel utility occupancy may be permitted inside the Interstate or Freeway fenced right-of-way to exclusively serve a highway facility.

(B) Occupancy of the Interstate or Freeway right-of-way may require that the right-of-way fence be relocated to permit the placement of utilities. All costs connected with the removal and relocation of the fence shall be borne by the utility. The NDOR or appropriate governmental agency shall determine the location of the fence.

(C) Manholes when permitted shall be placed outside of the traveled way. Manholes placed outside of the traveled way shall not protrude above the surrounding ground.

(D) Depth of Bury:

(1) The minimum depth of earth cover over underground electrical power and communication lines shall be 900 mm (36 inches). Additional cover may be required to protect the traveling public or the underground electrical power or communication lines.

Any underground utility facility that crosses a drainage course within the highway right-of-way must be installed a minimum of 1.2 m (four feet) below the flow line of the drainage structure or the drainage course. If there is a difference in elevation between the flow line of the drainage structure and the drainage course, the lowest elevation shall be used.

(2) Underground electrical power or communication lines which cannot be installed with minimum cover due to natural conditions or conflict with other utilities may require protection by suitable bridging, concrete slab, casing or other appropriate means.

Section II – Underground Electrical Power and Communication Lines Crossing Existing Interstates or Freeways

Installation of underground electrical power and communication lines under the traveled portion of existing Interstate or Freeway highways must be accomplished by jacking, tunneling or dry boring from the toe of the fill slope to the toe of the opposite fill slope. The diameter of the hole shall not exceed the diameter of casing or cable by more than 38 mm (1-1/2 inches) and shall be pressure grouted. This shall include all abandoned or misaligned holes. The NDOR or appropriate governmental subdivision must approve any deviations from a dry boring method. The installation of underground electrical power and communication lines between the ends of the casing and the fenced right-of-way must be accomplished by trenching.

(A) Depth of Bury:

The utility shall be placed at a minimum depth of 900 mm (36 inches) below the bottom elevation of the parallel road ditch or in the absence of such ditches, below the elevation of the natural ground. Additional cover may be required to protect the traveling public or the utility line.

Any underground utility facility that crosses a drainage course within the highway right-of-way must be installed a minimum of 1.2 m (four feet) below the flow line of the drainage structure or the drainage course. If there is a difference in elevation between the flow line of the drainage structure and the drainage course, the lowest elevation shall be used.

(B) Utility Markers on the Right-of-Way:

Adequate markers shall be placed on the right-of-way line. The markers shall give the name and address of the owner and phone number to contact in case of emergency.

Section III – Underground Electrical Power and Communication Lines Crossing or Occupying Interstates or Freeways Currently Under Construction

Installation of underground electrical power and communication lines across or on highway construction projects may be permitted generally in accordance with the conditions of this policy if it is determined to be in the best interest of the traveling public by a representative of the NDOR or appropriate governmental subdivision having jurisdiction over the highway. The approved methods of installation shall include open trenching, jacking, boring or tunneling. Other methods may be considered on an individual basis.

Section IV – Direct Bury Cable

Direct bury cable may be placed within the Interstate or Freeway right-of-way; but, may not be placed under the traveled way without casing.

Section V – Encasement

An encasement shall be an oversize load-bearing casing, conduit or duct through which a cable is inserted in order to protect the roadway from damage and to provide for repair, removal or replacement of the cable without interference to highway traffic. It is the responsibility of the owner of the utility facility to ensure that it complies with all applicable local, state, federal and franchise requirements and meets generally accepted industry standards in the selection of encasement materials.

(A) Encasement material:

(1) Welded Steel Pipe, Smooth Wall that is in sound condition. Welded Steel Pipe shall have the following minimum wall thickness:

Encasement Specifications

Casing Diameter	Minimum Wall Thickness
Under 150 mm (6 in.)	Standard wall pipe of 5 mm (0.188”) wall, as preferred
150 mm – 400 mm (6” – 16”)	5 mm (0.188”)
450 mm – 550 mm (18” – 22”)	6 mm (0.250”)
600 mm – 650 mm (24” – 26”)	7 mm (0.281”)
700 mm – 850 mm (28” – 34”)	8 mm (0.312”)
900 mm – 1200 mm (36” – 48”)	8.7 mm (0.344”)

(2) Reinforced concrete and corrugated metal culvert pipe meeting the requirements of the current Nebraska Standard Specifications for Highway Construction.

(3) Plastic (PVC) Polyvinyl Chloride Pipe Type PSP and PSM meeting the minimum requirements of ASTM Specifications and in accordance with the listing below:

Pipe Dimensions Type PSP

Casing Diameter	Minimum Wall Thickness
100 mm (4”)	3.05 mm (0.120”)
150 mm (6”)	3.89 mm (0.153”)
200 mm (8”)	5.05 mm (0.199”)
225 mm (9”)	5.84 mm (0.230”)
250 mm (10”)	6.32 mm (0.249”)
300 mm (12”) max. acceptable	7.59 mm (0.299”)

Pipe Dimensions Type PSM

Casing Diameter	Minimum Wall Thickness
100 mm (4”)	3.05 mm (0.120”)
150 mm (6”)	3.89 mm (0.153”)
200 mm (8”)	5.21 mm (0.205”)
225 mm (9”)	5.84 mm (0.230”)
250 mm (10”)	6.50 mm (0.256”)
300 mm (12”) max. acceptable	7.75 mm (0.305”)

The use of PVC pipe for casing is acceptable up to a maximum casing diameter of 300 mm (12 inches).

(4) Plastic (PE) Polyethylene pipe. PE pipe should meet the minimum requirements of ASTM Specifications and in accordance with the listing below:

Pipe Dimensions

Casing Diameter	Minimum Wall Thickness
75 mm (3”)	8.08 mm (0.318”)
100 mm (4”)	10.39 mm (0.409”)
150 mm (6”)	15.29 mm (0.602”)
200 mm (8”)	19.94 mm (0.785”)
250 mm (10”)	24.84 mm (0.978”)
300 mm (12”) max. acceptable	29.46 mm (1.160”)

(2) Size of encasement:

The encasement shall be large enough to allow easy passage of the enclosed cable.

(3) Transverse casing length:

The installation of underground electrical power and communication lines when casing is used shall wherever feasible have as a minimum, casing extending from the toe of the fill slope to the toe of the fill slope on the opposite side of the traveled way or 1.8 m (six feet) back of the curb where practical.

(4) Vents:

Vents, if required, shall be placed outside of the Interstate or Freeway fence lines.

(5) Underground electrical power or communication lines requiring multi-celled ducts under the highway shall be placed in a casing and installed without disturbing the highway surfacing unless it is determined by a representative of the NDOR or appropriate governmental subdivision that cutting of the surface is in the best interest of the traveling public.

Section VI – Backfill of Trenches

Backfill of underground electrical power and communication line trenches within highway construction projects shall conform to Section 403.03 of the current Nebraska Standard Specifications for Highway Construction and the special provisions included with the contract. The density and moisture shall be equal to that of the surrounding ground.

Electrical Power and Communication Cables Attached to Structures

(see PART IV – ATTACHMENT TO BRIDGE AND OTHER STRUCTURES, *page 38)*

CONSTRUCTION OF PIPELINES ON INTERSTATE AND FREEWAY HIGHWAYS

General

Pipelines shall include sewer, water, gas, petroleum products, chemicals, and irrigation lines. Approved materials for the construction of the above mentioned pipelines shall include cast iron, ductile iron, steel pipe with protective coating, vitrified clay, concrete, specially treated concrete, composite pipe (truss pipe), copper pipe and PE 3408 or PE 2406 pipe.

Flexible pipe intended to carry a fluid (liquid or gas) is also approved with the following restrictions:

Polyvinyl Chloride Pipe (PVC)

(A) A manufacturers' certification or notarized statement, advising the Department of Roads that the pipe material meets or exceeds the American Water Works Association Standard for Polyvinyl Chloride (PVC) pipe or the specifications listed below, must be presented with the application:

(1) Material shall be PVC 1120 or PVC 1220 in accordance with ASTM D1784 "Specification for Rigid Poly (Vinyl Chloride) Compounds and Chlorinated Poly (Vinyl Chloride) Compounds."

(2) Pipe shall conform to ASTM D2241 "Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe (SDR-PR and Class T)." A manufacturer's certification is required stating that the pipe complies with the proper specifications for the intended use including Seal of Approval of National Sanitation Founding Testing Laboratory.

(3) Pipe fittings shall meet the requirements of ASTM D2466 (Schedule 40) or ASTM D2467 (Schedule 80) for socket type fittings. Wall thickness shall be equal to or greater than the pipe SDR specified. Joints shall be push-on bell ends specified below. Mechanical joint cast iron fittings with PVC adapters or transition gaskets are also approved.

(4) Joints shall be rubber-gasket, push-on bell, which meet the minimum requirements for the pipe specified. Rubber gaskets shall conform to the requirements of ASTM D1869. The joint shall be wall thickened at points of stress and so that the SDR specified is maintained throughout the bell. Manufacturers shall certify that their joints meet or exceed the minimum workmanship, general dimensions, tolerances, burst pressure and working pressure for the pipe SDR and PR specified.

(5) Pipe design shall conform to all of the following:

(a) Minimum acceptable wall thickness shall be SDR 17 for 100 mm (four inch) and greater I.D. and shall be SDR 13.5 for pipes smaller than 100 mm (four inch) 1. D.

b) If the maximum pipeline working pressure exceeds 1,100 kPa (160 psi), the SDR shall be adjusted to provide a safety factor of 2.8 to 1 based on sustained pressure tests.

(6) Approved minimal wall thickness can be found on page 29 of this manual.

Polyethylene Pipe (PE)

(B) A manufacturer's certification or notarized statement, advising the NDOR or appropriate governmental subdivision that the pipe meets or exceeds the following ASTM Standards for Polyethylene pipe must be presented with the application.

ASTM D 3350: Standard Specification for Polyethylene Plastics Pipe and Fittings Materials

ASTM D 2837: Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials
ASTM D 2657: Standard Practice for Heat-Joining Polyolefin Pipe and Fittings
ASTM D 2513: Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing and Fittings
ASTM D 2444: Standard Specification for Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Failing Weight)
ASTM D 2412: Standard Specification for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading
ASTM D 2290: Standard Test Method for Apparent Tensile Strength of Ring or Tubular Plastics and Reinforced Plastics by Split Disk Method
ASTM D 2122: Standard Test Method of Determining Dimensions of Thermoplastic Pipe and Fittings

(1) Joints shall conform to 49 CFR 192.281.

(2) Pipe design shall conform to design limitations listed in 49 CFR 192.123.

(3) Approved minimum wall thickness can be found on page 29 of this manual.

(C) Flexible pipe crossing the Interstate or Freeway highway right-of-way shall be cased and buried as indicated under Section 11 (A) on page 34.

Pipeline and casing construction within the highway right-of-way shall conform to one (1) or more of the following current appropriate standards for pipeline construction and the current Nebraska Standard Specifications for Highway Construction.

49 CFR Parts 190, 191, 192, USDOT Pipeline Safety Standards
ANSI Standard Code for Pressure Piping of American National Standards Institute
ANSI B31.1.0, Power Piping
ANSI B31.3, Petroleum Refinery Piping
ANSI B31.4, Liquid Petroleum Transportation Piping Systems
ANSI B31.8, Gas Transmission and Distribution Piping Systems
American Water Works Association Standards and Specifications
National Gas Pipeline Safety Act of 1968
Nebraska Standard Specifications for Highway Construction

All requests to place sewer lines within the highway right-of-way shall be accompanied by a notarized statement, advising the Department of Roads that the proposed sewer line meets with all State and Federal laws, and that all licenses, permits or approval have been acquired from the agency charged with the responsibility for enforcing the Federal Water Pollution Control Act of 1972.

Highway right-of-way disturbed by the construction of pipelines shall be returned to normal grade and elevation and all excess material removed. Pipelines placed in areas susceptible to erosion shall have adequate protection against erosion. The protection may be in the form of rock rip-rap, ditch checks made of timber, hay cover

or other material that proves to be satisfactory and does not interfere with maintenance operations.

All vegetation destroyed by the construction of pipelines within the highway right-of-way shall be replaced either by the permittee or mitigated by a cash settlement. The cash settlement shall be with the NDOR or authority having jurisdiction over the public highway prior to starting work within the highway right-of-way. The NDOR or authority having jurisdiction over the highway shall determine which method is to be used to restore vegetation.

Section I – Parallel Occupancy

(A) Parallel utility occupancy may be permitted inside the Interstate or Freeway fenced right-of-way to exclusively serve a highway facility.

(B) Occupancy of the Interstate or Freeway right-of-way may require that the right-of-way fence be relocated to permit the placement of utilities. All costs connected with the removal and relocation of the fence shall be borne by the utility. The location of the fence shall be determined by the appropriate governmental agency.

(C) Manholes when permitted shall be placed outside of the traveled way. Manholes placed outside of the traveled way shall not protrude above the surrounding ground.

(D) Depth of Bury:

(1) The minimum depth of earth cover over pipelines shall be 900 mm (36 inches) unless PVC pipe is used as indicated in items (2) and (3) below:

Any underground utility facility that crosses a drainage course within the highway right-of-way must be installed a minimum of 1.2 m (four feet) below the flow line of the drainage course or 0.3 m (one foot) below bottom of the drainage structure. If there is a difference in elevation between the flow line of the drainage structure and the drainage course, the lowest elevation shall be used.

(2) PVC pipelines carrying liquids shall be installed at a minimum depth of 1.5 m (60 inches).

(3) PVC pipelines carrying natural gas shall be installed at a minimum depth of 900 mm (36 inches).

(4) Additional cover may be required if considered necessary to protect the traveling public or the pipeline.

(5) Pipelines that cannot be installed with minimum cover due to natural conditions or conflict with other utilities may require protection by bridging, concrete slab, casing, or other appropriate means.

Section 11 – Pipelines Crossing Existing Highways

Installation of pipelines under the traveled portion of existing Interstate or Freeway highways must be accomplished by jacking, tunneling, dry boring or directional boring from the toe of the fill slope to the toe of the opposite fill slope. The diameter of the hole shall not exceed the diameter of casing or pipe by more than 38 mm (1-1/2 inches) on pipes with an inside diameter of 300 mm (12 inches) or less or 50 mm (two inches) on pipes with an inside diameter greater than 300 mm (12 inches). Voids outside pipe or casings that exceed these limitations shall be pressure grouted. This shall include all abandoned or misaligned holes. The NDOR or appropriate governmental subdivision must approve any deviations from a dry boring method.

(A) Casing and Depth of Bury:

(1) Pipelines shall be cased as a minimum from the toe of the fill slope to the toe of the fill slope on the opposite side or 1.8 m (six feet) back of the curb and installed at a minimum depth of 900 mm (36 inches) below the bottom elevation of the parallel road ditch or in the absence of such ditches, below the elevation of the natural ground unless PVC pipe is used as indicated in items (2) and (3) below.

Any underground utility facility that crosses a drainage course within the highway right-of-way must be installed a minimum of 1.2 m (four feet) below the flow line of the drainage structure or the drainage course. If there is a difference in elevation between the flow line of the drainage structure and the drainage course, the lowest elevation shall be used.

(2) PVC pipelines carrying liquids shall be cased as a minimum from the toe of the fill slope to the toe of the fill slope on the opposite side or 1.8 m (six feet) back of the curb and installed at a minimum depth of 1.5 m (60 inches).

(3) PVC pipelines carrying natural gas shall be installed at a minimum depth of 900 mm (36 inches). Casing will be considered on an individual basis.

(4) Additional casing and depth may be required to protect the traveling public and pipeline.

(B) Utility Markers on the Right-of-Way:

(1) Adequate markers shall be placed on the right-of-way line. The markers shall give the name and address of the owner and phone number to contact in case of an emergency.

Section III – Pipelines Crossing or Occupying Highways Currently Under Construction

Installation of pipelines across or on highway construction projects may be permitted generally in accordance with the conditions of this policy if it is determined to be in the best interest of the traveling public by a representative of the NDOR or appropriate governmental subdivision. The NDOR or appropriate governmental subdivision having jurisdiction over the highway shall determine the method of

installation. The approved methods of installation shall include open trenching, jacking, boring or tunneling. Other methods may be considered on an individual basis. Casing will be required unless waived as indicated below.

Section IV – Boring

(A) Pits for boring, tunneling or jacking will not be permitted in the highway median and will not be permitted closer to the roadway than the lateral obstacle clear distance when allowed on the right-of-way. The appropriate District Office or appropriate governmental subdivision will determine exceptions to this distance.

(B) Casing and pipeline installations should be accomplished by dry boring, tunneling, jacking, trenching, or other approved methods.

(1) The use of water under pressure (jetting) or puddling will not be permitted to facilitate boring, pushing, or jacking operations. Some boring may require water to lubricate cutter and pipe and under such conditions, may be considered dry boring, with prior approval from the District Engineer or appropriate governmental subdivision. Horizontal directional boring using approved drilling fluids, such as bentonite, may be used.

(2) Where unstable soil conditions exist, boring or tunneling operations shall be conducted in such a manner as not to be detrimental to the roadside being crossed.

(3) If excessive voids or too large a bored hole is produced during casing or pipeline installations, or if it is necessary to abandon a bored or tunneled hole, prompt remedial action should be taken by the Utility Company, subject to the approval of the District Engineer or appropriate governmental subdivision.

(4) All voids or abandoned holes caused by boring or jacking are to be filled by pressure grouting when deemed necessary by the NDOR representative or appropriate governmental subdivision.

(C) The hole diameter resulting from bored or tunneled installations shall not exceed the outside diameter of the utility pipe, cable or casing (including coating) by more than 38 mm (1-1/2 inches) on pipes with an inside diameter of 300 mm (12 inches) or less or 50 mm (two inches) on pipes with an inside diameter greater than 300 mm (12 inches). Voids outside pipe or casings that exceed these limitations shall be pressure grouted.

Section V – Encasement

(A) An encasement shall be an oversize load bearing casing, through which a carrier pipe is inserted in order to protect the roadway from damage and to provide for repair, removal or replacement of the pipeline without interference to highway traffic.

(1) Encasement material:

Welded steel pipe meeting the Standard Specifications for electric fusion (arc-welded) steel pipe (designation A53 or A139 grade 6) as specified in American Petroleum Institute Code #1102 or API 5L. (See page 28 for minimum wall thickness.)

For Plastic Polyvinyl Chloride Pipe (PVC) and Plastic Polyethylene Pipe (PE), see page 29 for minimum wall thickness.

(2) Size of encasement:

The minimum diameter casing shall be at least two (2) nominal pipe sizes larger than the nominal size of the facility being encased, but in no case shall the casing be less than 50 mm (two inches) greater than the outside diameter of the facility being encased.

(3) Transverse casing length:

(a) Pipelines [except when flexible pipe is used as indicated in (b), (c) and (d) below] crossing Interstate or Freeway highways shall have as a minimum, casing from the toe of the fill slope to the toe of the fill slope on the opposite side of the traveled way.

(b) Flexible pipe crossing the Interstate or Freeway highways regardless of size and meeting the specifications (manufacturers' certification) under paragraphs (A) and (B) on page 31 shall be cased as a minimum from the toe of the fill slope to the toe of the fill slope on the opposite side of the traveled way.

(c) Flexible pipe crossing the Interstate or Freeway highways and not meeting the specifications (manufacturers' certification) under paragraphs (A) and (B) on page 31 shall be cased from right-of-way line to right-of-way line.

(d) Casing for flexible pipe carrying natural gas will be considered on an individual basis.

(e) Casing may be required across the entire width of the right-of-way if it is determined by the representative of the NDOR or appropriate governmental subdivision that additional casing is required to protect the traveling public and the highway facility or if the company's policy requires casing in full width of the public right-of-way.

(4) Waiver of casing:

(a) Natural gas, crude oil and liquid petroleum products that are cathodically protected and constructed with pipe material that meets Federal Pipeline Safety specifications will be considered.

(b) Pipelines 50 mm (two inches) or less in diameter carrying liquids will be considered. This does not apply when flexible pipe is used - see Section V-A(3)b on page 36.

(c) Gas service lines with 500 kPa (75 psi) or less operation pressure will be considered.

(d) PE 3408 and PE 2406 pipe less than 50 mm (two inches) for gaseous products will be considered.

(e) PE 3408 and PE 2406 pipe greater than 50 mm (two inches) for gaseous products, if less than 500 kPa (75 psi).

(f) Pipes not under pressure will be considered.

(5) Vents:

All vents shall be placed outside the Interstate or Freeway fence lines.

(6) Pipelines that are cased and carrying liquid petroleum products, chemicals or other material harmful to vegetation shall be cased in such a manner as to prohibit drainage onto the Interstate or Freeway highway right-of-way.

Section VI – Backfill of Trenches

(A) Backfill of pipeline trenches within highway construction projects shall conform to the current Nebraska Standard Specifications for Highway Construction and the special provisions included with the contract.

(B) Backfill of pipeline trenches on the existing highway shall conform to applicable sections of the current Nebraska Standard Specifications for Highway Construction and the density and moisture shall be equal to that of the surrounding ground.

Pipelines Attached to Structures **(see PART IV – ATTACHMENT TO BRIDGE AND OTHER STRUCTURES,** ***page 38)***

PART IV

ATTACHMENT TO BRIDGE AND OTHER STRUCTURES

GENERAL PROVISIONS

Utilities may be attached to highway system bridges. Utilities will not be attached to any type of drainage pipe, concrete box culvert or stockpass. Utility attachments will generally not be permitted on mainline Interstate or Freeway bridges that have not been specifically designed to accommodate them, except to exclusively serve a highway facility. Utility attachments to existing structures crossing Interstate or Freeway highways will be considered on an individual basis.

Maintenance of the utility and attachment system will be the responsibility of the Utility Owner to the satisfaction of the District Maintenance Engineer. Access from the bridge deck for service or maintenance will not be allowed. Manholes used to service the utility will be located beyond the edge of the outer roadway shoulders. Manholes will not be located in the bridge deck, approach slabs, medians, or roadway pavement wearing surface.

REQUIREMENTS TO ATTACH UTILITIES TO BRIDGES AND OTHER STRUCTURES

Section I – Notification

The Utilities Section of the Project Development Division will notify Utility Companies when the NDOR has new or widening bridge projects planned in the vicinity of the utility lines. At this time, the Utility Company may arrange for conduit or pipeline support systems to be included in the proposed Bridge Plans. The NDOR, and namely its Bridge Division, will retain the right to review the Utility's proposal, particularly the measures taken to preserve the highway, its safe operation, maintenance and appearance.

Section II – Permits

Utility Companies will be required to obtain a Permit to occupy the highway right-of-way. Applications for all utility attachments to bridges and structures shall be authorized by a Highway Permit Agreement - Application to Occupy State Highway Right-of-Way - (DR Form 20), which is included in the Appendix for reference.

Layout Plans or sketches may be required in the request for utility attachments to bridges and structures. The following minimum information will be required by the NDOR in order to process the request and locate the utility lines on the structure,

(1) Location (sketch) of utility lines relative to the centerline of the bridge structure.

(2) Number, type and size of utility lines.

(3) Kg/m (weight per foot) of encased utility.

(4) Minimum bending radius for the conduit specified.

(5) Manufacturer's details of attaching hardware.

(6) Cast-in-place anchor size and spacing.

(7) Size of PVC sleeves required at piers and abutments.

(8) Name and phone number of contact person to supply construction materials.

Requests will be submitted to the Utilities Section of Project Development. NDOR's Bridge Division will give special consideration to large or heavy utilities, such as water mains. NDOR's Bridge Division will approve the attachment specifications provided by the Utility and incorporate the attachment into the Bridge Design Plans. A set of Bridge Plans will then be sent to the requesting Utility Company for review and to the Permit Section of the ROW Division for issuance of a permit.

Permit requirements regarding, but not limited to, performance bond and liability insurance are included in the Highway Permit Agreement. Structure insurance coverage, for damages that occur to the structure by reason of attachments carrying PETROLEUM, HAZARDOUS, AND/OR CORROSIVE PRODUCTS, will be provided by the Utility Company in an amount determined for each bridge or structure by the NDOR District Engineer. A permit allowing a utility owner the privilege of attaching its facilities to a highway structure does not constitute any permanent right for such attachment. Any removal, remodeling, maintenance, or relocation of the attachment, whether required by the NDOR or not, will be promptly accomplished by the Owner at no cost to the NDOR.

Section III – Utility Company Attachment Design

Utility Companies will be responsible for the design of their attachment system. Utility systems shall be suspended by means of cast-in-place anchors only. The NDOR Bridge Division will not approve other methods including anchors driven using explosive type driving force methods.

All attachments to bridges and structures should be of durable materials designed for long service life and relatively free from routine servicing and maintenance. Conformance with current applicable materials specifications and codes is mandatory. All steel materials used in attaching a utility to a structure must be stainless or galvanized.

Cast-in-place PVC sleeves one size larger than the utility conduit will be required to pass utility lines through concrete diaphragms and abutment walls. Utility lines will not be attached to nor supported by steel separators. Utility installation through piers or wing walls will not be permitted.

All utility lines shall be suitably insulated, grounded and carried in protective conduit or pipe within the limits of the bridge structure. Utility line transition of alignments from paralleling right-of-way to the limits of the bridge structure should be perpendicular to the roadway.

Utility attachment system design will be subject to the following NDOR provisions:

(A) Utilities are to be installed, serviced, and maintained without access from the bridge deck. Attachment systems shall be designed to expand and contract independently of the bridge structure and no horizontal or lateral loads may be applied to the bridge structure. Satisfactory provisions for longitudinal conduit or pipeline movement due to temperature differentials or lineal expansion and contraction of the bridge shall be made in conduit or pipeline designs. Such provisions may be line bends, flexible couplings, or other methods acceptable to the appropriate utility code. Attachment of conduit to the bridge deck surface, bridge handrail, concrete barriers, concrete rails, or guardrail components will not be allowed. Welding, drilling, cutting or attachment to structural steel members, prestressed or reinforced concrete girders will not be allowed.

(B) Pipelines carrying natural gas, liquid petroleum products or other volatile fluid or gas under pressure will require installation of emergency shutoff valves. Pipelines shall have shutoffs not more than 150 m (500 feet) from the structure. At locations where a feasible location for shutoff valves is not available within 150 m (500 feet) of the structure, the authority having jurisdiction over the highway may allow a distance greater than 150 m (500 feet) between the shutoff and the structure. The location of shutoff valves for multiple structures in close proximity to each other will be considered on an individual basis. Pipelines having more than 500 kPa (75 psi) operating pressure or larger than 50 mm (two inches) in diameter shall have shutoff valves that activate automatically when a sudden drop in pressure occurs. Casing requirements will be based on industry codes and practices. Pipelines in cells or casings shall be vented and grounded whenever necessary.

Section IV – Bridge Division Attachment

The NDOR Bridge Division will use the following guidelines to locate the utility lines on the bridge structure and detail the utility attachment in the Bridge Plans as specified by the Utility Company request.

(A) Superstructure attachments will be located beneath the bridge deck and inside the outer girders; and shall not extend below an elevation that is 300 mm (1 foot) above the bottom flange. Concrete slab structures will have utilities placed in the slab.

(B) All utility lines will be extended through the abutment walls using cast-in-place PVC sleeves. Utilities will continue under the bridge approach section and below the grade beam. Utilities will exit from under the paving section at an angle of 45 degrees to the roadway center line, 1 m (min.) beyond the end of the wing, and at a depth of 1 m (±150 mm) below grade.

Section V – Installation

The Utility Company will furnish all PVC sleeves, conduit, and hardware; and coordinate the installation with the contractor. When the materials furnished by the utility are required, the contractor will notify the Utility Company at least 72 hours in advance of the installation. Therefore, the Utility Company should make arrangements to have the materials available before they are needed to avoid costly construction delays.

Section VI – Payment

The Utility Company shall pay for all additional cost and engineering fees attributed to the installation of the line unless such attachments are made as a part of or in lieu of utility relocation costs. The additional cost of structural materials and/or design beyond what is needed for highway purposes will be determined by the State. These additional costs will be assessed to the Utility Company at a reasonable rate by the State. The conduit itself is to be supplied and installed later by the Utility Company.

PART V

APPENDIX

REFERENCES

General

The references listed below are the basis and guidelines for the development of the Department's Utility Accommodation Policy for accommodation of utility facilities within or crossing the highways under the jurisdiction of the Department. These laws, guidelines, rules, regulations, industry standards, when referred to herein shall be considered incorporated by reference, as well as any others enacted subsequent to issuance of this publication and/or revisions and amendments thereto.

Department of Transportation – Federal Highway Administration

(A) "Program Guide, Utility Adjustments and Accommodation an Federal-Aid Highway Projects", Fourth Edition, March 1998, Prepared by Federal-Aid and Design Division, Office of Engineering, Federal Highway Administration

(B) "Manual on Uniform Traffic Control Devices for Street, and Highways"

(C) "Highway/Utility Guide", June 1993, Prepared by the American Public Works Association and the University of Alabama Department of Civil Engineering

Association of State Highway and Transportation Officials

(A) "A Guide for Accommodating Utilities Within Highway Right-of-Way", 1994

(B) "A Policy on the Accommodation of Utilities Within Freeway Right-of-Way", February 1989

(C) "Roadside Design Guide", October 1988, Prepared by the Task Force for Roadside Safety of the Standing Committee on Highways Subcommittee on Design

Nebraska Statutes

§39-1302 (5), (25), and (26): Terms defined.

§39-1337: Control of state highway under NDOR.

§39-1359: Right-of Way; inviolate for State and NDOR road purposes. Occupancy by written permit only.

§39-1361: Permit by NDOR; spells out conditions of permit, including agreeing to comply with reasonable regulations.

§39-1362: Penalty Section; Class III misdemeanor for every day a violation continues (occupancy of public right-of-way without a permit).

§39-1404: Interest or rights in public right-of-way cannot arise through occupation or use.

§57-1102: Oil and gas pipelines in public right-of-way.

§86-303.01: Telephone and power lines in public right-of-way.

DEFINITIONS

Terms as defined in the Nebraska Statutes, Sections 39-1302 and 39-1631, R.R.S. 1943 are applicable except as herein otherwise defined.

Agreement: A contract between the department and a utility facility owner relative to utility facility relocation and reimbursement.

Appurtenance: A utility facility-related feature such as a vent, drain, utility access hole or marker.

Backfill: Replacement of soil around and over an underground utility facility.

Backslope: That portion of the roadway template from the bottom of the drainage ditch to a point of intercept near the right-of-way line.

Bore/Boring: Piercing a hole under the surface of the ground without disturbing the earth surrounding the hole. Boring may be accomplished by any approved manner.

(A) Holes may be mechanically bored and cased using a cuffing head and a continuous auger mounted inside of the casing.

(B) Small diameter holes may be augured and the casing or utility facility pushed in later.

Bury: Depth of top of underground utility facility below grade of roadway, ditch, or natural ground.

Cable: An insulated conductor or combination of insulated conductors.

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

Casing: A larger pipe enclosing a carrier.

Cathodic Protection: A method of controlling corrosion on buried metal structures though use of electric current and sacrificial anodes.

Clear Roadside Policy. The policy employed by a highway authority 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 ground-mounted obstructions.

Clear Zone: An obstruction-free vehicle recovery area adjacent to the road traveled lane. The limits of this area are determined in accordance with the applicable NDOR, AASHTO, and FHWA publications.

Coating: Material applied to or wrapped around a pipe.

Communication Line or Cable: A circuit for telephone, telegraph, alarm system, television transmission or traffic control purposes.

Conductor*:* Wire carrying electric current.

Conduit or Duct: An enclosed tubular runway for protecting wires or cables.

Control of Access: The regulation covering ingress and egress to a highway and/or its related right-of-way.

Cover: The depth of bury of a facility below natural ground or roadway template.
Crossing: The utility crossing of the highway right-of-way, including a parallel encroachment not to exceed 150 m (500 feet) on other than Interstate Highways.

Direct Burial: Installing a utility underground without encasement, by plowing or trenching.

Drain: An appurtenance used to discharge moisture or liquid contaminants from casings.

Easement: A nonpossessing interest held by one person or company in the land of another whereby the first person is accorded partial use of such land for a specific purpose.

Emergency: A situation that presents a danger to the life, safety or welfare of motorists, persons working within the right of way or the general public and requires immediate attention.

Encasement: Structural element surrounding a pipe or cable.

Encroachment: Parallel installation within highway right-of-way (longitudinal) that may include crossings of the roadway template.

Engineer: An employee of the Department who has the responsibility for supervision of utility facility installation within the Department's right-of-way.

Exhibit. A detailed drawing showing the proposed horizontal and vertical alignment of utility facilities within Department right-of-way, which is attached to and a part of a utility license or license agreement Joint Occupancy agreement, or Relocation/Adjustment agreement.

FHWA: Federal Highway Administration.

Flexible Pipe: A plastic, fiberglass, or metallic pipe having a large ratio of diameter to wall-thickness that can be deformed without undue stress. Copper or aluminum pipe shall be considered as flexible pipe.

Freeway. A fully controlled access highway.

Frontage Road: A roadway, located parallel to an access controlled highway that provides for ingress and egress to adjacent property and businesses.

Full Access Control: Highways where direct access to and from adjoining property has been eliminated and access is only allowed at designated interchanges.

Government Facilities: Any facility that serves only governmental functions is considered to be in the public interest and is not classified as a private facility.

***Ground* Bed:** A component part of a cathodic protection system,

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 slurry of fine sand or clay, as conditions govern.

Heavy Wall Thickness Pipe: Pipe meeting the industry standard for this specific designation.

Highly Energized. An electrical energy level that could be hazardous if the utility facility is struck or exposed. For purposes of this policy, voltage exceeding 60 volts is considered to be highly energized.

Highway, Street or Road: A public way for the purposes of vehicular travel, including the entire area between the right-of-way lines.

Inslope: That portion of the roadway embankment between the edge of the pavement and the bottom of the drainage ditch or its intersection with natural ground.

Inspector: An employee of the Department who has the responsibility for supervision of facility installation within the Department's right-of-way.

Interchange: A system that provides for the movement of traffic between intersecting roadways via one or more grade separations.

Jacking: The installation of small pipes by the use of hydraulic jacks or rams to push the pipe under the traveled surface of the road.

Joint Use: The use of pole lines, trenches, duct systems or other facilities by two or more utilities. Also the concept of allowing utility facilities to occupy transportation rights-of-way.

Manhole: An opening in an underground system which workers or others may enter for the purpose of making installations.

Marker Poles: Poles placed over or near a buried facility in order to denote the facility's alignment.

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

Nonfreeway Highway: A highway that is not a freeway.

Normal: Crossing at a right angle.

Occupancy: The presence of utility lines on, over or under the highway right of way.

Operating Policy: The policies established by the Department in order to control and assure uniform procedures are followed.

Pavement: That portion of a roadway used for the movement of vehicles, exclusive of shoulders.

Pavement Cut: The removal of an area of pavement for the purpose of placing or maintaining a utility facility.

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 here.

Pipeline: A carrier system used to transport liquids, gases, or slurries.

Plowing: Direct burial of a utility line by means of a plow-type mechanism that breaks the ground, places the utility line and closes the break in the ground in a single operation.

Pressure: Relative internal pressure in PSIG (Pounds per Square Inch Gauge).

Private Lines: Any privately owned facilities which convey or transmit the commodities outlined under the definition for Utility but are devoted exclusively to private use.

Relocation: The removal, rearrangement, reinstallation, protection or adjustment of a utility facility.

Rest Area: A roadside area for motorist stopping and resting.

Restoration: The repair of an area within the highway right-of-way, including fences and drainage facilities, disturbed by construction and/or maintenance activity of a utility.

Right-of-Way or Highway Right-of-Way: All of the land, including the entire area between the property lines, acquired by the Department for the construction, operation, and maintenance of highways and related facilities whether or not a highway has been constructed thereon.

Roadway: That portion of a highway, including shoulders and auxiliary lanes, available for vehicular use. A divided highway has two or more roadways.

Roadway Template: The area of the constructed or proposed road embankment from road centerline across the traveled lane(s) and shoulder, then down to a drainage ditch and then up to an intercept with natural ground, in a cut section; or from the shoulder down to an intercept with natural ground, in a fill section.

Rural Area: As related to utility accommodation, the term Rural Area refers to any other segment of the State Highway System not defined under Urban Area.

Rural-type Roadway: Any roadway that does not have as its outside extremities a curb and gutter section.

Service Connection: Any water, gas, power, communication, sanitary sewer or storm sewer line that extends from the main or primary utility facility into an adjacent property and that is used to serve the property.

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

Shoulder: A portion of the paved roadway adjacent to the traveled lanes.

Toe of Foreslope: The intersection of the foreslope and the natural ground or ditch bottom.

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

Trenched: Installed in a narrow excavation.

Tunneling: Excavating the earth ahead of a large diameter pipe by one or more of the following processes. The earth ahead of the pipe will be excavated by persons using hand tools while the pipe is pushed through the holes by means of jacks, rams, or other mechanical devices. The excavation is carried on simultaneously with the installation of tunnel liner plates. The tunnel liner plates are installed immediately behind the excavation as it progresses and are assembled completely from the inside.

Untrenched: Installed without breaking the ground or the pavement surface, such as by jacking, boring, tunneling or mechanical compaction.

Urban Area: As related to utility accommodation, the term Urban Area is any area where residences or businesses are clustered (not necessarily within a city limits), where frequent approaches, utility lines and drainage facilities are likely to be encountered, and where the potential exists for future widening of the road to a multilane facility.

Urban-Type Roadway: A roadway that has as its outside extremities a curb and gutter section.

Utility: Shall mean and include all privately, publicly or cooperatively owned lines, facilities and systems for producing, transmitting or distributing communications, power, electricity, light, heat, gas, chemicals, oil, crude products, water, steam, waste, storm water not connected with highway drainage, and other similar commodities, including publicly owned fire and police signal systems and street lighting systems, which directly or indirectly serve the public or any part thereof. The term "utility" shall also mean the utility company, inclusive of any wholly owned or controlled subsidiary.

Utility Access Hole: An opening in an underground system through which workers or others may enter for the purpose of making installations, inspections, removals, repairs, connections or tests.

Utility Facility: Any pole, pipe, pipeline, pipeline company facility, sewer line, drainage tile, conduit, cable, aqueduct or other utility-related structure or appurtenance. However, the term does not include departmental facilities or the lines that service them.

Utility Tunnel: An underpass for two or more utility lines.

Vent: Appurtenance to discharge gaseous contaminants from casings.

Utility Coordinators

For coordination and planning activities on current state highway construction projects, contact:

Utilities Section
PO Box 94759
1500 Highway 2
Lincoln NE 68509-4759
FAX (402) 479-3629

Districts 2 & 3
C. H. Rex Wilson
(402) [illegible]
rwilson[illegible].ne.us

Districts 1, 4 & 8
Sandy Wojtasek
(402) [illegible]
swojtasek[illegible].ne.us

Districts 5, 6 & 7
Glenn Shorney
(402) [illegible]
gshorney[illegible].ne.us

Utilities Engineer
Mark Ottemann
(402) [illegible]
mottemann[illegible].ne.us

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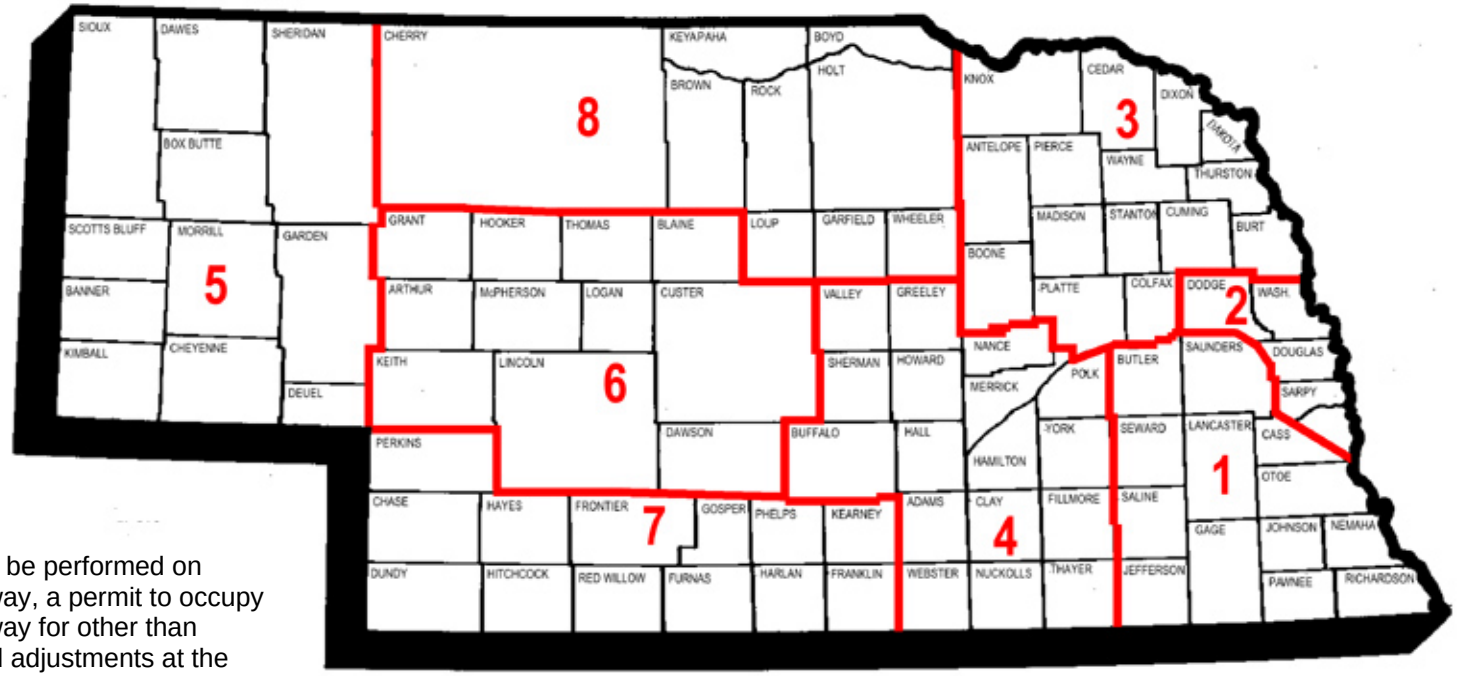

For any work to be performed on public right-of-way, a permit to occupy public right-of-way for other than highway-related adjustments at the request of the Department must be obtained.

Permit applications must be initiated and processed through the appropriate highway district office.

For utility occupancy permits, contact:

Special Permits Section
PO Box 94759
1500 Highway 2
Lincoln NE 68509-4759
(402) 479-4770
FAX (402) 479-3991

Permit Officers

District 1
Gary Prey
Lincoln
(402) 471-[illegible]
FAX (402) [illegible]

District 3
Dean Schwartz
Norfolk
(402) [illegible]
FAX (402) [illegible]

District 5
Don Hull
Bridgeport
(308) [illegible]
FAX (308) [illegible]

District 7
Jerold Lambert
McCook
(308) [illegible]
FAX (308) [illegible]

District [illegible]
Naomi [illegible]
Omaha
(402) 595-2534, ext. 209
FAX (402) 595-1720

District 4
Fr[illegible]
Grand Island
(308) 385-6263
FAX (308) 385-6269

District [illegible]
Jim Mc[illegible]
North Platte
(308) 535-8020
FAX (308) 535-8034

District 8
[illegible]
Ainsworth
(402) 387-2471, ext. 212
FAX (402) 387-1498

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DR Form 103

PERMIT TO PERFORM WORK ON PUBLIC RIGHT-OF-WAY

EITHER THIS COPY OR A DUPLICATE COPY OF THE ENTIRE PERMIT MUST BE AVAILABLE FOR INSPECTION ON THE JOB SITE AT ALL TIMES.

All correspondence or inquiries relative to this permit **must** refer to permit number shown at right.

Permit No.: **0-**
Date:

Permit issued to:

Permit term: Months

Work to be performed:

Location:

The applicant/permittee is granted permission to accomplish the proposed work subject to the applicable section of our Type , Specific Instructions attached hereto.

The applicant/permittee shall notify at least 48 hours in advance of the time the applicant/permittee expects to begin work within the limits of the State's Right-of-Way and again immediately after the work has been completed.

NO TREE, SHRUB OR PLANT ON THE HIGHWAY RIGHT OF WAY SHALL BE TRIMMED, CUT OR ALTERED IN ANY MANNER WITHOUT ADVANCE APPROVAL OF THE DIRECTOR-STATE ENGINEER.

Restrictions and Specific Instructions:

Performance Guarantee: **N/A**

This guarantee will be deposited to the credit of the State. Upon satisfactory completion of the work, a warrant will be issued to the permittee in the amount of the guarantee less any expense incurred by the State.

Voucher and warrant for return of guarantee shall be made payable to:

This permit is issued subject to existing Rules and Regulations of the State of Nebraska, Department of Roads and to the applicable Specific Instructions and Restrictions attached hereto; and any violations of the Rules and Regulations or Specific Instructions and Restrictions shall cause automatic revocation of this permit; and any and all improvements made pursuant to this permit may be removed by the Department of Roads at applicant, permittee or the improvement owner's expense. The applicant, permittee or owner of the improvement understands that this permit does not confer a vested right in lands of the public; and where the Department of Roads deems it necessary to improve its highway and right of way, any improvement constructed on public land by the permittee, applicant or improvement owner, successors or assignees at the applicant, permittee or improvement owner's expense. The issuance of this permit to perform work on the public right of way is considered to be issued to the owner of the improvement placed upon the right of way even though such application is made by the owner's contractor. Additional information may be obtained from our District Engineer, of , or from the permit Officer at 1500 Highway 2, Lincoln, Nebraska.

Approved for
State of Nebraska, Department of Roads

(Division Approval)

DISTRIBUTION: (PERMITTEE) (ISSUING OFFICE) (CONTROLLER) (DIST. ENG.) (MAINT. SUPT.-FILE)

Nebraska Department of Roads

Application for Undercrossing State Highway With a _____ Line

(Water, Sewer, Gas, Telephone, etc.)

Date _____

Application is hereby made to the Department of Roads by _____
(Owner of Utility to be Installed Within Highway Right-of-Way)

_____ Phone _____ to
(Name, Address, and Zip Code)

cross Highway Number _____ with a _____ inch _____ _____ line.
(P.V.C., Copper, Cast Iron, etc.) *(Water, Gas, Telephone, etc.)*

Name and address of Contractor *(if known)* _____

_____

The Applicant is to do all necessary work at their own expense. The exact location of this crossing is described as follows: _____ feet east ☐ west ☐ north ☐ or south ☐ of the east ☐ west ☐ north ☐ or south ☐ line of Section _____, Township _____, Range _____, in _____ County, _____ feet east ☐ west ☐ north ☐ or south ☐ of Milepost No. _____.

The Applicant agrees to make this crossing in accordance with the terms and conditions of the Nebraska Department of Roads. Any permit issued will be declared **Null and Void** if the work specified **is not completed within the term listed on the permit** or within any **additional length of time granted.** Request for an extension of time to complete the work must be made in writing. Any extension granted will be acknowledged in writing by the Nebraska Department of Roads.

A certified check or cashier's check payable to the **Nebraska Department of Roads** in the amount of $_____ by

_____

_____
(Name, Address, and Social Security Number or Federal Tax Identification Number of Remitter)

_____ is hereby attached to this application, as a guarantee of the faithful compliance by the Applicant to the terms of the permit. It is understood that should the Applicant fail to perform the work as set forth in the permit, the State will have the right to keep the performance guarantee as liquidated damages for its necessary supervisory and inspection expenses and to initiate such legal proceedings as are necessary to secure either performance of the work in compliance with the terms of the permit or the restoration of the highway right-of-way to its previous condition prior to the activities of the Applicant. **The Applicant may cancel the permit with written notification** at any time prior to beginning work on highway right-of-way.

NOTE: Four sets of plans no longer than 12" x 18" for the proposed work requested herein shall be submitted with this application. The plans shall show the general features of the undercrossing and all information such as sizes, distances, and dimensions.

_____
(Owner)

_____
(Contractor - if known)

_____
(Maintenance Superintendent)

RECOMMENDATIONS BY DISTRICT:

_____
(Date)

_____
(District Engineer)

_____
(Date)

DR Form 19, Mar 00/

Nebraska Department of Roads

Application to Occupy State Highway Right-of-Way With an Underground _____ Line

(Water, Sewer, Gas, Telephone, etc.)

Date _____

Application is hereby made to the Department of Roads _____
(Owner of Utility to be Installed Within Highway Right-of-Way)

_____ Phone _____ to
(Name, Address, and Zip Code)

occupy the east ☐ west ☐ north ☐ or south ☐ side of the Highway Right-of-Way, Highway No. _____

with a _____ inch _____ _____ line.
(P.V.C., Copper, Cast Iron, etc.) *(Water, Gas, Telephone, etc.)*

Name and address of Contractor *(if known)* _____

_____

The Applicant is to do all necessary work at their own expense. The exact location of this occupancy is described as

beginning at a point _____ feet east ☐ west ☐ north ☐ or south ☐ of the east ☐ west ☐

north ☐ or south ☐ line of Section _____, Township _____, Range _____, in _____

County, _____ feet east ☐ west ☐ north ☐ or south ☐ of Milepost No. _____ and

extending _____ feet east ☐ west ☐ north ☐ or south ☐.

The Applicant agrees to make this occupancy in accordance with the terms and conditions of the Nebraska Department of Roads. Any permit issued will be declared **Null and Void** if the work specified **is not completed within the term listed on the permit** or within any **additional length of time granted**. Request for an extension of time to complete the work must be made in writing. Any extension granted will be acknowledged in writing by the Nebraska Department of Roads.

A certified check or cashier's check payable to the **Nebraska Department of Roads** in the amount of $ _____ by

_____

_____
(Name, Address, and Social Security Number or Federal Tax Identification Number of Remitter)

_____ is hereby attached to this application, as a guarantee of the faithful compliance by the Applicant to the terms of the permit. It is understood that should the Applicant fail to perform the work as set forth in the permit, the State will have the right to keep the performance guarantee as liquidated damages for its necessary supervisory and inspection expenses and to initiate such legal proceedings as are necessary to secure either performance of the work in compliance with the terms of the permit or the restoration of the highway right-of-way to its previous condition prior to the activities of the Applicant. **The Applicant may cancel the permit with written notification** at any time prior to beginning work on highway right-of-way.

NOTE: Four sets of plans no longer than 12" x 18" for the proposed work requested herein shall be submitted with this application. The plans shall show the general features of the occupancy and all information such as sizes, dimensions, distances from edge of surfacing and distances from right-of-way line, detail of all bridge attachments must be shown, if applicable.

_____
(Owner)

_____
(Contractor - if known)

RECOMMENDATIONS BY DISTRICT:

_____
(Maintenance Superintendent)

_____
(Date)

_____
(District Engineer)

_____
(Date)

DR Form 20, Mar 00/

Nebraska Department of Roads

Application to Occupy State Highway Right-of-Way with a Pole Line

Date .....

Application is hereby made to the Department of Roads by .....
(Owner of Utility to be Installed Within Highway Right-of-Way)

..... Phone ..... to
(Name, Address, and Zip Code)

occupy the east ☐ west ☐ north ☐ or south ☐ side of the Highway Right-of-Way, Highway No. .....

with a pole line.

Name and address of Contractor *(if known)* .....

.....

The Applicant is to do all necessary work at their own expense. The exact location of this occupancy is described as

beginning at a point ..... feet east ☐ west ☐ north ☐ or south ☐ of the east ☐ west ☐

north ☐ or south ☐ line of Section ..... Township ....., Range ....., in .....

County, ... feet east ☐ west ☐ north ☐ or south ☐ of Milepost No. ..... and extending

..... feet east ☐ west ☐ north ☐ or south ☐.

Type of Pole: Wood ☐ Metal ☐ Metal Breakaway ☐
Type of Section: Ditch ☐ Curb and Gutter ☐
Speed Limit: ..... M.P.H.

Vertical Clearance *(if applicable)* ..... Feet
Distance from Edge of ROW to Pavement ..... Feet
Distance from Edge of ROW to Pole ..... Feet
Distance from Edge of ROW to Anchor ..... Feet

The Applicant agrees to make this occupancy in accordance with the terms and conditions of the Nebraska Department of Roads. Any permit issued will be declared **Null and Void** if the work specified **is not completed within the term listed on the permit** or within any **additional length of time granted.** Request for an extension of time to complete the work must be made in writing. Any extension granted will be acknowledged in writing by the Nebraska Department of Roads.

A certified check or cashier's check payable to the **Nebraska Department of Roads** in the amount of **$** ..... by

.....

.....
(Name, Address, and Social Security Number or Federal Tax Identification Number of Remitter)

..... is hereby attached to this application, as a guarantee of the faithful compliance by the Applicant to the terms of the permit. It is understood that should the Applicant fail to perform the work as set forth in the permit, the State will have the right to keep the performance guarantee as liquidated damages for its necessary supervisory and inspection expenses and to initiate such legal proceedings as are necessary to secure either performance of the work in compliance with the terms of the permit or the restoration of the highway right-of-way to its previous condition prior to the activities of the Applicant. **The Applicant may cancel the permit with written notification** at any time prior to beginning work on highway right-of-way.

NOTE: Four sets of plans no longer than 12" x 18" for the proposed work requested herein shall be submitted with this application. The plans shall show the general features of the occupancy and all information such as sizes, distances and distance from edge of pavement to the pole and distance from right-of-way line to the pole.

.....
(Owner)

.....
(Contractor - if known)

RECOMMENDATIONS BY DISTRICT:

.....
(Maintenance Superintendent)

.....
(Date)

.....
(District Engineer)

.....
(Date)

DR Form 21, Mar 00/