



Iowa Department  
of Transportation

**POLICY FOR  
ACCOMMODATING AND  
ADJUSTMENT  
OF  
UTILITIES ON THE  
PRIMARY ROAD SYSTEM**

*REVISED AND IMPLEMENTED December 2005*

**IN ACCORD WITH  
IOWA ADMINISTRATIVE CODE 761  
CHAPTER 115 (306A)**

**Available On-Line:** <http://www.dot.state.ia.us/traffic/index.htm>

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## UTILITY ACCOMMODATION

### 761--115.1(306A) **General information.**

115.1(1) **Scope of chapter.** This chapter covers initial placement, adjustment and maintenance of utility facilities in, on, above or below the right-of-way of primary highways, including attachments to primary highway structures. It embodies the basic specifications and standards needed to ensure the safety of the highway user and the integrity of the highway.

115.1(2) **Considerations.** If the department determines that the literal application of these rules to a specific situation will create or result in an unsafe situation or an unreasonable design, the department shall use sound engineering practices to determine the appropriate design for the specific situation. The design shall address:

1. Safety of motorists, pedestrians, construction workers and other highway users.
2. Integrity of the highway
3. The impact upon the economy of the state.
4. Protection of the rights of the traveling public and of the property owners, including the rights of abutting property owners.

Justification for the design must be included in the permit or the highway project file, as applicable.

115.1(3) **Waivers.** The director of transportation may, in response to a written request or petition, waive provisions of this chapter. 761--Chapter 11 applies, with the following exceptions:

- a. If a person is applying for a utility permit under this chapter, the person shall submit a related waiver request as an addendum to the application, in lieu of petition for waiver. The request must include:
  - (1) A description of and citation to the specific rule from which a waiver is requested.
  - (2) The specific waiver requested.
  - (3) The relevant facts and reasons the applicant believes will justify the waiver, if they have not already been provided to the department in the application. The applicant should address each of the following:
    1. Why applying the rule will result in an undue hardship to the applicant.
    2. Why waiving the rule will not prejudice the substantial legal rights of any person.
    3. Whether the provisions of the rule are specifically mandated by statute or another law other than the rule.
    4. How substantially equal protection of the public health, safety, and welfare will be afforded by means other than those prescribed by the rule.
  - (4) The names of persons who may be adversely impacted by the grant of the waiver, if known.
- b. In all other cases, a person requesting a waiver shall submit a petition for waiver in accordance with 761--11.5(17A). The petition shall be submitted to the district engineer.

115.1(4) **Additional requirement for waivers involving interstate highways.** The department shall not waive these rules in utility accommodation and adjustment situations involving the interstate highway system, including its ramps, without the approval of the Federal Highway Administration.

115.1(5) **Contact information.** Information and forms regarding this chapter may be obtained from any of the department's six district offices or from the Office of Traffic and Safety, Iowa Department of Transportation, 800 Lincoln Way, Ames, Iowa 50010.



761--115.2(306A) **Definitions.**

**Adjustment.** A physical change to an existing utility facility including improvement, rearrangement, reinstallation, protection, relocation or removal of the utility facility.

**Agreement.** A contract between the department and a utility owner.

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

**Backfill.** Replacement of suitable material and compaction of the material as specified in these rules.

**Breakaway.** Designed to shatter, bend easily or separate from a solid foundation.

**Cable.** An insulated conductor or a combination of insulated conductors.

**Carrier.** A pipe directly enclosing a transmitted fluid (liquid or gas) or slurry. "Carrier" also means an electric or communication cable, wire or line.

**Casing.** An oversize load-bearing pipe, conduit, duct, or structure through which a carrier or cable is inserted.

**Cell.** A conduit.

**Clear zone.** The roadside border area, starting at the edge of the traveled way, available for use by errant vehicles.

**Communication line or communication cable.** A circuit for telephone, telegraph, alarm system, television transmission or traffic control purposes.

**Conduit.** An enclosed tubular runway for protecting wires or cables. A conduit may also be referred to as a "cell" or "duct."

**Cover.** The depth from the grade of a roadway or ditch to the top of an underground utility facility.

**District representative.** A department employee who processes utility accommodation requests in an assigned geographical area.

**Duct.** A conduit.

**Emergency.** An unplanned 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 that requires immediate attention. The emergency may be the result of storm damage and may involve disruption of utility service to customers. Work on a utility facility due to an emergency is unplanned work and may be necessary at any time of the day or night. The emergency work operation usually involves a small crew and a work vehicle for a short period of time.

**Encasement.** Placing a casing around a utility facility.

**FHWA.** The Federal Highway Administration.

**Foreslope.** The sloping surface of an embankment, ditch, or borrow pit of which the downward inclination is away from the traveled way.

**Freeway.** means a fully controlled access primary highway. The rights of ingress and egress from abutting properties have been legally eliminated by the department. Permanent access to the highway is allowed only at interchange locations. A freeway is generally five or more miles in length.

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

**Highway, street or road.** A public way for the purpose of vehicular travel, including the entire area between the right-of-way lines.

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

**Maintenance.** As the term is used in conjunction with a utility facility means any repair or replacement of the utility facility that is not an adjustment and that does not increase the capacity of the original installation. The term "maintenance" when used in conjunction with a highway means repair or other operational activities performed by the department within the highway right-of-way to preserve the function of the highway and its structures.

**Median.** That portion of a divided highway separating traffic moving in opposite directions.

**Multiduct.** A system comprised of two or more conduits.

**MUTCD.** The Manual on Uniform Traffic Control Devices, as adopted in 761--Chapter 130.

**Nonfreeway primary highway.** A primary highway that is not a freeway.

**Occupy the primary highway right-of-way.** Located or to be located in, on, above or below the primary highway right-of-way. The term includes attachments to primary highway structures.

**Pavement.** That portion of a roadway used for the movement of vehicles, excluding shoulders.

**Permit.** A utility accommodation permit issued by the department. The term "permit" includes any attachments to the permit.

**Pipe.** A tubular product used to transport solids, liquids or gases.

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

**Plowing.** The installation of a utility line in the ground 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.

**Primary highway.** A road or street designated as a "primary road" in accordance with Iowa Code subsection 306.3(6). This definition includes primary highway extensions in cities and primary highways under construction.

**Right-of-way.** The land for a public highway, street or road, including the entire area between the property lines. For purposes of this chapter, the right-of-way line for a freeway is the access control line.

**Roadway.** That portion of a highway used for the movement of vehicles, including shoulders and auxiliary lanes. A divided highway has two or more roadways.

**Rural-type roadway.** A roadway that does not have as its outside extremities a curb and gutter section.

**Service connection.** A 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.

**Shoulder.** That portion of a roadway contiguous to the traveled way for the accommodation of disabled vehicles, for emergency use and for the lateral support of the pavement base and surface courses.

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

**Traveled way.** That portion of a roadway used for the movement of vehicles, excluding shoulders and auxiliary lanes.

**Trenched.** Installed in a narrow open excavation.

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

**Urban-type roadway.** A roadway that has as its outside extremities a curb and gutter section.

**Utility.** A system for supplying water, gas, power, or communications; a storm sewer, sanitary sewer, drainage tile or other system for transmitting liquids; a pipeline system; or like service systems. The term "utility" includes traffic signal systems and street and intersection lighting systems.

**Utility access.** An opening in an underground utility 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 department facilities or the utility lines that service them.

**Utility owner.** The owner of a utility facility.

**Vent.** An appurtenance used to ventilate or to discharge gaseous contaminants from casings.

761--115.3 **Reserved.**

761--115.4(306A) **General requirements for occupancy of the right-of-way.**

**115.4(1) Permit required and exceptions to permit.**

a. Permit required.

- (1) A utility owner shall obtain permission from the department in the form of a utility accommodation permit before it places its utility facilities in, on, above or below the primary highway right-of-way; attaches its utility facilities to a primary highway structure; or adjusts existing utility facilities occupying the right-of-way.
- (2) The purpose of the permit process is to ensure the safety of motorists, pedestrians, construction workers and other highway users; to ensure the integrity of the highway; and to document the location of utility facilities for use in managing the highway right-of-way and in locating the facilities in the future.

b. Exceptions to required permit.

- (1) A permit is not required for storm sewers, subdrains, and lighting designed and constructed as part of a department highway construction project.
- (2) A permit is not required for service connections within the corporate limits of a city. These connections require city approval rather than department approval; the utility owner shall apply to the city. However, service connections shall meet all other requirements of this chapter.

**115.4(2) Agreement required.** For certain utility facility adjustments, the department may require an agreement between the department and the utility owner. However, the agreement by itself does not constitute a permit nor does it grant permission to occupy the primary highway right-of-way. The utility owner is responsible for obtaining a permit prior to commencing work within the right-of-way. The agreement shall then be attached to and become a part of the permit.

115.4(3) **Compliance with requirements.** It is the responsibility of the utility owner to ensure that its utility facility complies with all applicable federal, state, local and franchise requirements and meets generally accepted industry standards at the time of installation.

115.4(4) **Performance bond.** The department may require a performance bond for utility work within the highway right-of-way under the following circumstances: the installation is unusual; abnormal site conditions exist, such as but not limited to unstable soil or unique vegetation; or the utility owner has a history of performance problems. A performance bond is required for longitudinal freeway occupancy; see subrule 115.16(9) for specific requirements.

- a. If a performance bond is required, the utility owner shall file the bond with the department prior to commencing work within the right-of-way.
- b. The minimum amount of a required performance bond is \$5,000 per permit. Depending on the type and extent of the facility installed, the department may require a higher bond amount. The bond shall be in force for the duration of the permit. The department shall have the right to file a claim against the bond for two years thereafter.
- c. The department may accept an annual performance bond in the amount of \$50,000 for statewide activities in lieu of an individual bond for each permit. The statewide performance bond shall be kept in force for as long as the utility owner's facilities occupy the primary highway right-of-way anywhere within the state of Iowa. The department shall have the right to file a claim against the bond for two years thereafter.
- d. A performance bond shall guarantee prompt restoration of any damage that is the result of the utility facility's occupancy of the highway right-of-way.

115.4(5) **Execution of work.** Utility construction and maintenance work within the primary highway right-of-way shall be executed in a satisfactory manner and in accordance with good construction practices.

115.4(6) **Disturbance of other contractors.** Utility construction and maintenance work within the primary highway right-of-way shall be accomplished in a manner that minimizes disturbance to any other contractor working within the right-of-way. It is the responsibility of the utility owner to coordinate work with other contractors.

115.4(7) **No adverse effect on highway.** A utility facility shall not adversely affect the safety, design, construction, operation, maintenance or stability of the present use or future expansion of a primary highway.

115.4(8) **Safety, health and sanitation.** Construction and maintenance of a utility facility shall be accomplished in a manner that minimizes disruption of primary highway traffic and other hazards to the highway user. The utility owner shall comply with the MUTCD and all applicable federal, state and local statutes, ordinances and regulations governing safety, health and sanitation. The owner shall furnish such additional safeguards, safety devices and protective equipment and shall take such actions as are reasonably necessary to protect the life and health of the public.

115.4(9) **Parking or storage in clear zone or median.** When not in actual use, vehicles, equipment and materials shall not be parked or stored within the clear zone or median.

115.4(10) **Protection of landscaped or planted areas.** A landscaped or planted area that is disturbed shall be restored as nearly as practical to its original condition. Specific authorization must be obtained from the district representative prior to trimming trees or spraying within the right-of-way.

115.4(11) **Noncompliance.** The department may take any or all of the following actions for noncompliance with any provision of this chapter or any term of a permit:

- a. Halt utility construction or maintenance activities within the right-of-way.
- b. Withhold an adjustment reimbursement until compliance is ensured.
- c. Revoke the permit.
- d. Remove the noncomplying construction or maintenance work, restore the area to its previous condition, and assess the removal and restoration costs to the utility owner.
- e. Place all pending and future permits on hold until the issue is resolved.

115.4(12) **Private utility facility.** A utility facility that is dedicated to private use shall be accommodated in accordance with this chapter. However, the district representative may, when necessary, allow an exception to the cover requirements of subrule 115.13(1) for tile lines and sewer lines.

115.4(13) **Insufficient capacity of right-of-way.** The department shall deny issuance of a permit if it determines there is insufficient room for additional utility facilities within the right-of-way.

761--115.5(306A) **General design provisions.**

115.5(1) **Plans.** Design plans for a utility facility shall be prepared by a person knowledgeable in highway design and in work zone traffic control and shall include the measures to be taken to preserve the safe and free flow of traffic, structural integrity of the roadway and highway structures, ease of highway maintenance, appearance of the highway and integrity of the utility facility.

115.5(2) **Materials.** All utility facilities shall consist of durable materials designed for long service life expectancy and be relatively free from routine servicing and maintenance.

115.5(3) **Number of crossings.** The number of utility facilities crossing the primary highway right-of-way shall be kept to a minimum. The department may require distribution facilities to be installed on each side of the highway to minimize the number of crossings and service connections. In individual cases, the department may require several facilities to cross in a single conduit or structure. Crossings should be as near to perpendicular to the highway alignment as practical.

115.5(4) **Aboveground facilities.** The design of aboveground utility facilities shall be compatible with the visual quality of the specific highway section being traversed. See rule 115.6(306A).

115.5(5) **Clear zone requirements and aboveground obstructions.** Highway roadsides shall be as free from physical obstructions above the ground as practical. The department shall determine the clear zone distance. (See Exhibit pages E-5 thru E-11.)

- a. The clear zone distance on rural-type roadways is based on present day traffic and the existing foreslope adjacent to and preceding the utility facility.
- b. Unless otherwise specified, the clear zone shall be measured from the edge of the traveled way.
- c. In rural areas with rural-type roadways, a permanent, aboveground obstruction is restricted to an area beyond the clear zone or the highway foreslope, whichever area locates the obstruction a greater distance from the edge of the traveled way.
- d. If sufficient right-of-way is not available to accommodate the clear zone distance, the department may require the utility facility to have a breakaway design, require regrading of the right-of-way, require the utility facility to be located underground, or authorize the facility to be placed near the right-of-way line.

761--115.6(306A) **Scenic enhancement.**

115.6(1) **Introduction.** The type and size of a utility facility and the manner in which it is installed can materially alter the scenic quality, appearance and view of highway roadsides and adjacent areas. For these reasons, additional controls are applicable in areas that have been acquired or set aside for their scenic quality. Such areas may include, but are not limited to, scenic strips, scenic overlooks, rest areas, recreation areas, public parks and historic sites, aesthetically enhanced corridors, and the right-of-way of primary highways that pass through or are adjacent to these areas. These additional controls are addressed in this rule.

115.6(2) **Underground installations.** The department may permit a new underground installation if it does not require extensive removal or alteration of trees or other natural features visible to the highway user and if it does not impair the visual quality of the area being traversed.

115.6(3) **Aboveground installations.** The department may permit a new aboveground installation only if the following three conditions are met:

- a. Other locations for an aboveground installation are unusually difficult, are unreasonably costly, or are less desirable from the standpoint of visual quality.
- b. Underground installation is not technically feasible or is unreasonably costly.
- c. The location, design and materials to be used for the proposed aboveground installation will give adequate attention to the visual qualities of the area being traversed.

761--115.7(306A) **Liability.**

115.7(1) **Liability under a permit.** The following are conditions of a utility accommodation permit.

- a. The owner of the utility facility shall indemnify and save harmless the state of Iowa, its agencies and employees from any and all causes of action, suits at law or in equity, for losses, damages, claims or demands, and from any and all liability and expense of whatsoever nature (including reasonable attorney fees), arising out of or in connection with the owner's use or occupancy of the primary highway right-of-way.
- b. The state of Iowa, its agencies or employees, will be liable for expense incurred by the permit holder in its use and occupancy of the primary highway right-of-way only when negligence of the state, its agencies or employees, is the sole proximate cause of such expense. Whether in contract, tort or otherwise, the liability of the state, its agencies, and employees is limited to the reasonable, direct expenses to repair damaged utilities, and in no event will such liability extend to loss of profits or business, indirect, special, consequential or incidental damages.



115.7(2) **Reserved.**

761--115.8(306A) **Utility accommodation permit.** (See Exhibit pages E-2 & E-3.)

115.8(1) **Application for permit.**

- a. To apply for a utility accommodation permit, the utility owner shall submit an application to the appropriate district representative on a form prescribed by the department.
- b. If the utility facility will cross or impact a county road connection, the application must be approved by the county. If the facility is within corporate limits of a city, the application must be approved by the city. The utility owner is responsible for obtaining these approvals prior to submitting the application to the department.

115.8(2) **Permit.**

- a. At a minimum, a utility accommodation permit allows:
  - (1) The applicant (the utility owner) or its representative to perform the work covered by the permit.
  - (2) The utility facility described in the permit to occupy the right-of-way.
  - (3) The utility facility to be operated and maintained.
- b. A utility accommodation permit does not convey a permanent right of occupancy.

115.8(3) **Plan.** Each permit application shall be accompanied by a plan showing the following:

- a. Location of the utility facility by route, county, section, township, range, milepost and highway stationing, where these references exist.
- b. Highway centerline and right-of-way limits.
- c. Location of the utility facility by distance to the nearest foot at each point where the facility's location changes alignment, as measured from the:
  - (1) Centerline of the highway on nonfreeway installations.
  - (2) Right-of-way fence on freeway installations.

d. All construction details including the:

- (1) Depth of burial.
- (2) Types of materials to be used in the installation.
- (3) Operating pressures and voltages.
- (4) Vertical and horizontal clearances.
- (5) Traffic control plan prepared by a person knowledgeable in work zone traffic control, or a reference to a standard traffic control plan of the department.

**115.8(4) Discharging into waterways.**

- a. A permit application for the placement of a utility facility that will discharge materials into the nation's waters must be accompanied by satisfactory evidence of compliance with all applicable federal, state and local environmental statutes, ordinances and regulatory standards.
- b. The utility owner is responsible for obtaining all necessary approvals from the appropriate agencies. The department will not issue a permit until these approvals are obtained.

**115.8(5) Department action on permit application.**

- a. The department shall act on the permit application within 30 days after its filing with the appropriate district representative. If an emergency should exist, the department shall act on the application as expeditiously as practical.
- b. Failure on the part of the utility owner to provide complete information may result in a delay in the department's taking final action on the application.

**115.8(6) Changes to work.** Changes in the work as described in the original permit require the prior approval of the department.

**115.8(7) Copy of permit at job site.** The utility owner or its contractor shall have a copy of the permit on the construction site at all times for examination by highway officials.

**115.8(8) As-built plans.**

- a. Within 90 days after completion of construction, the utility owner shall submit to the district representative an as-built plan or a letter certifying that the actual placement of the utility facility is as described in the original permit.
- b. If the utility owner fails to submit the as-built plan or letter within the time required, the department may hire an independent contractor to locate the utility facility and prepare an as-built drawing. All costs associated with this activity are the responsibility of the utility owner.
- c. Any costs incurred by the department or its contractors due to incorrect as-built information supplied by the utility owner or deviations in actual placement from that described in the original permit are the responsibility of the utility owner.

**115.8(9) Transfer of permit.** A new utility accommodation permit is not needed when a utility facility is transferred or leased in its entirety. The requirements of the permit and this chapter remain in force for as long as the utility facility continues to occupy the right-of-way and serve its intended purpose. The transferee or lessee shall submit the following information to the appropriate district representative:

- a. The name and address of the transferee or lessee.
- b. Geographical area involved in the transaction.
- c. Designated telephone number for notification purposes.

**115.8(10) Expiration of certain permits.** See subrule 115.16(12) for permits covering longitudinal occupancy of freeways.

761--115.9(306A) **Traffic protection.**

115.9(1) **Traffic control for all work.**

- a. When performing work within the right-of-way, the utility owner is responsible for providing, installing, maintaining and cleaning warning signs and protective devices; removing warning signs and protective devices when the work is complete; and providing flaggers.
- b. Flagging operations and the placement of warning signs, protective devices, barricades and channelizing devices shall comply with the MUTCD and department requirements for the protection of the traveling public and workers on the site.
- c. Flaggers are required at work sites to stop traffic intermittently as necessitated by work progress or to maintain continuous traffic past a work site at reduced speeds to help protect the work crew. For both of these functions the flagger must, at all times, be clearly visible to approaching traffic for a distance sufficient to permit proper response by motorists to the flagging instructions, and to permit traffic to reduce speed before entering the work site. In positioning flaggers, consideration must be given to maintaining color contrast between the work area background and the flaggers' protective garments.
- d. The utility owner shall provide additional protection when special complexities and hazards exist.

115.9(2) **Traffic control for construction and maintenance work that is not emergency work.**

- a. The utility owner is responsible for using the types of traffic controls that are adequate for the nature, location and duration of work, type of roadway, traffic volume and speed, and potential hazards.
- b. Where high traffic volumes cause frequent congestion, routine scheduled maintenance and construction should be avoided during hours of peak traffic.
- c. Work areas should be occupied for only as long as it is necessary to safely move in, finish the work, remove all utility work signs and move out.
- d. Special care should be taken to clearly mark suitable boundaries for the workspace with channelizing devices so that pedestrians and drivers can see the workspace. If any of the traveled lanes are closed, tapers shall be used as required by the MUTCD.
- e. Pedestrians should not be expected to walk on a path that is inferior to the previous path. Loose dirt, mud, broken concrete or steep slopes may force pedestrians to walk on the roadway rather than the sidewalk. Repairs (temporary or permanent) to damaged sidewalks should be made quickly. This may include bridging with steel plates or good quality wood supports.

- f. Work areas involving excavations on the roadway should not exceed the width of one traffic lane at a time. The work should be staged and, if needed, approved bridging should be used. The utility owner should fully coordinate this type of activity with the district representative or, in a city, with the city's traffic or public works office.

**115.9(3) Traffic control for emergency work.**

- a. The extent of traffic control used for emergency work may be less than that used for longer-term construction or maintenance. However, the utility owner shall provide for the safety of pedestrians, motorists and workers. It may be necessary for the utility owner to contact local law enforcement officials to assist in securing the safety of the traveling public.
- b. The work vehicle should be equipped with an amber revolving light or amber strobe light, portable signs and channelizing devices, and necessary equipment for flagging operations.

**761--115.10(306A) Construction responsibilities and procedures.**

**115.10(1) Permit required before work may begin.** The utility owner shall not commence construction work in the primary highway right-of-way until it has received a utility accommodation permit from the department for the work.

**115.10(2) Notice of construction.** The utility owner shall give the district representative at least 48 hours' prior notice of its intent to start construction within the right-of-way.

**115.10(3) Authority of the district representative.**

- a. The district representative has the authority to resolve any issues or concerns that arise regarding the intent of the permit and compliance therewith, as they relate to the condition of the highway.
- b. During the progress of the work, the district representative may approve minor alterations in the plans or character of the work, as they relate to the condition of the highway, that the district engineer deems necessary or desirable to satisfactorily complete the work. Such an alteration is not a waiver of the permit nor does it invalidate any provision of the permit.

**115.10(4) Work in progress.** The utility owner is responsible for the care and maintenance of partially completed work within the right-of-way. Unless otherwise authorized by the permit or the district representative, all work performed within the right-of-way is restricted to a time frame of 30 minutes after sunrise to 30 minutes before sunset.

**115.10(5) Authority of department to inspect and approve.**

- a. The department may inspect and approve any construction work performed within the right-of-way as it relates to the condition of the highway.
- b. The utility owner shall provide reasonable cooperation.

**115.10(6) Department inspectors.** The department may appoint inspectors to represent the department in the inspection of construction. Inspectors are placed on the job to keep the district representative informed of the progress of the work and the manner in which it is being performed, and to call to the utility owner's attention any infringements of the permit. The inspectors shall not:

- a. Modify in any way the provisions of the permit.
- b. Delay the work by failing to inspect the work with reasonable promptness.
- c. Act as a supervisor for the work or perform any other duties for the utility owner or its contractor.
- d. Improperly interfere with the management of the work.
- e. Approve or accept any portion of the work on behalf of the department.

**115.10(7) Repair and cleanup.** Prior to the department's final inspection, the utility owner shall:

- a. Upon notification by the department, immediately make any repairs to the right-of-way that are necessary due to the construction work.
- b. Remove from the right-of-way all unused materials and rubbish resulting from the work and leave the right-of-way in a clean, presentable condition.

**115.10(8) Final inspection.**

- a. Upon notification by the owner of the utility facility or its authorized representative that the work is complete, the district representative may inspect each item of work included in the permit as it relates to the condition of the highway.
- b. If the district representative finds that the work is not in compliance with the permit, the district representative shall provide to the utility owner written notice of the particular defects found. The owner is responsible for remedying these defects in a timely manner.

761--115.11(306A) **Vertical overhead clearance requirements.**

115.11(1) **Conformance to standards.** The vertical clearance for overhead utility facilities and the lateral and vertical clearances for bridges shall conform to accepted industry standards as well as applicable codes and regulations.

115.11(2) **Minimum vertical clearance.** In no event shall the vertical clearance be less than 20 feet above the roadway for all overhead utilities. (See Exhibit pages E-10 & E-11.)

761--115.12(306A) **Utility facility attachments to bridges.**

115.12(1) **Electrical power and communication cable attachments.**

- a. An electrical power or communication cable may be attached to an existing primary highway bridge if the department determines that the attachment is in the best interests of the public. The department may accommodate an electrical power or communication cable attachment in its design for a new bridge if the department determines that the accommodation is in the best interests of the public.
- b. The permit application shall include a detailed sketch showing the method of attachment and weights of attachment. A separate permit is required for each bridge.
- c. All attachments shall be placed in conduits, pipes or trays; beneath the bridge's floor; and above low steel or masonry of the bridge. Department-approved clamps shall be used for any attachment to structural steel.
- d. Expansion devices are required. Cables in cells or casings shall be grounded wherever necessary. Carrier pipe shall be suitably insulated from electrical power line attachments.
- e. All costs attributable to the installation of an attachment to a bridge shall be paid by the utility owner unless the attachment is installed pursuant to a utility agreement.
- f. Welding or drilling holes in structural steel primary members is prohibited.
- g. Utility facilities may be attached to noncritical concrete areas.
- h. Holes should not be cut in wing walls, abutments or piers.

**115.12(2) Pipeline attachments.**

- a. Pipelines may be attached to primary highway bridges when installation below ground is not feasible, the design of the bridge can accommodate the attachment, and space is available.
- b. The permit application shall include a detailed sketch showing the method of attachment and weights of attachment. A separate permit is required for each bridge.
- c. Pipes shall be placed beneath the bridge's floor, inside the outer girders or beams (or in cells specifically designed for the installation), and above low steel or masonry of the bridge.
- d. Pipes shall be designed to withstand expected expansion or contraction forces. If necessary, expansion devices such as expansion joints, offsets or loops shall be used.
- e. Pipelines in cells or casings shall be vented and grounded whenever necessary.
- f. Pipelines that have an operating pressure of more than 75 pounds per square inch or that are larger than two inches in diameter shall have shutoffs not more than 300 feet from each end of the bridge.
- g. The department shall consider casing requirements on an individual basis. In some instances, thicker-walled or extra-strength pipe may be considered in lieu of encasement. Encasement is required for plastic pipe attachments to bridges.
- h. All costs attributable to the installation of an attachment to a bridge shall be paid by the utility owner unless the attachment is installed pursuant to a utility agreement.
- i. Welding or drilling holes in or attaching to structural steel primary members is prohibited.
- j. Utility facilities may be attached to noncritical concrete areas.
- k. Holes should not be cut in wing walls, abutments or piers.



1. The utility owner shall provide an indemnity bond to be executed by either itself or by a responsible bonding company, at the department's option.
  - (1) The indemnifier under the bond shall, in the event of damage resulting from any cause whatsoever arising out of or from permission to attach a pipeline, indemnify the department against all loss or damage to it or any third party therefrom, including but not limited to the expense of repairing or replacing the bridge and the cost of alternate highway facilities for traffic during the period when the bridge is being repaired or replaced.
  - (2) The indemnity bond shall be kept in force for as long as the pipeline is attached to the bridge. The department may periodically review the amount of the bond and require adjustments in the bond amount.

**115.12(3) Attachment fee.**

- a. The utility owner shall pay to the department an attachment fee for attaching its utility facility to a primary highway bridge. The attachment fee is \$100 per bridge plus \$0.55 times the weight of the attachment in pounds per foot times the length of bridge in feet. The fee shall increase 3 percent per year after the base year of 2004.
- b. The attachment fee is due before any construction work commences within the right-of-way.
- c. Utility facilities belonging to or exclusively serving a city may, if the department considers it desirable, be attached to a primary highway bridge without assessment of an attachment fee.

**115.12(4) Engineering fee.** When a primary highway bridge is in the planning stages and the department designs the bridge to accommodate a requested attachment, the department shall assess to the utility owner an engineering fee. The engineering fee shall reimburse the department for the department's increased costs of design, construction and inspection due to the attachment. The department shall bill the fee to the utility owner when the department's work is complete.

**115.12(5) Utility attachments to freeway border bridges.** The department may permit a utility facility to be attached to an existing or planned freeway border bridge if the following conditions are met:

- a. The appropriate state agency of the adjoining state approves the attachment.
- b. Except for communication cable, the facility exits the freeway right-of-way as soon as physically practical after crossing the state line into Iowa.
- c. The attachment otherwise complies with this chapter, specifically including this rule on attachments and rule 115.16(306A) on longitudinal freeway occupancy.

761--115.13(306A) **Underground utility facilities.**

115.13(1) **Depth requirements.** (See Exhibit pages E-10 & E-11.)

- a. Minimum cover--roadway. The minimum required cover under a roadway is 48 inches.
- b. Minimum cover--other portions of right-of-way. The minimum required cover under other portions of the right-of-way is:
  - (1) 48 inches for electrical cable.
  - (2) 30 inches for communication cable except that 36 inches is required for longitudinal occupancy under freeway right-of-way.
  - (3) 36 inches for all other underground facilities.
- c. Rocky terrain. The department may allow an exception to the minimum depth requirement where rocky terrain makes it difficult to obtain the required depth. The department shall determine the minimum depth in these situations; however, no installation shall be authorized with less than 24 inches of cover.
- d. Other protective measures. In critical situations where the necessary cover cannot be obtained, the department may approve other protective measures.

115.13(2) **Measurement of cover.** The cover is measured from one of the following:

- a. On rural-type roadways, the lowest pavement surface edge.
- b. On urban-type roadways, the gutter flow line, excluding local depressions at inlets.
- c. Where longitudinal installations will be behind the curb, the top of the curb.
- d. The surface of the surrounding ground or the low point of the ditch.

115.13(3) **Casing.** A casing shall:

- a. Protect the highway from damage.
- b. Protect the carrier pipe from external loads or shock, either during or after construction of the highway.
- c. Convey leaking liquids or gases away from the area directly beneath the traveled way.
- d. Provide for repair, removal and replacement of the utility facility without interference to the highway.

115.13(4) **Seals.** Casing pipe shall be sealed at both ends with a suitable material to prevent water or debris from entering the annular space between the casing and the carrier, in accordance with generally accepted industry standards.

115.13(5) **Transverse occupancy--encasement and related requirements.**

- a. Trenchless construction. Underground transverse crossings of existing paved roadways shall be made by trenchless construction whenever practical. Any exception to this requirement must be specifically authorized by the district representative and noted in the permit.
- b. Electrical service. Underground electrical service must be placed in a conduit from right-of-way line to right-of-way line and shall be clearly marked by the utility owner at the outer limits of the right-of-way.
- c. Pipelines.
  - (1) Except as set out in 115.13(5)"c"(2), a pipeline carrying natural gas at an operating pressure of greater than 60 pounds per square inch, liquid petroleum products, ammonia, chlorine or other hazardous or corrosive products shall be encased from right-of-way line to right-of-way line.
  - (2) Encasement of a pipeline carrying a product listed in 115.13(5)"c"(1) is not required if the pipeline meets all of the following requirements and the utility owner certifies as a part of the permit that these requirements are met:
    - It is welded steel pipeline.
    - It is cathodically protected.
    - It is coated in accordance with accepted industry standards.
    - It complies with federal, state and local requirements and meets accepted industry standards regarding wall thickness and operating stress levels.
  - (3) A pipeline carrying a product listed in 115.13(5)"c"(1) shall be vented and marked at the outer right-of-way limits. The markers shall comply with accepted industry standards and include the following information: name of the owner, telephone number to contact in case of an emergency, and type of product carried.
  - (4) Encasement of a natural gas pipeline with an operating pressure that is not greater than 60 pounds per square inch is not required if the pipeline is made of copper, steel or plastic; the pipeline is protected and installed in accordance with accepted industry standards; and the utility owner certifies as a part of the permit that these standards are met. Otherwise, encasement is required.
- d. Communication cable. The department may require encasement of communication cable.

- e. Sanitary sewer lines. Sanitary sewer lines, both gravity and force mains, shall be encased from right-of-way line to right-of-way line. Exception: A gravity flow line that is installed subsequent to highway construction need not be encased if it will meet all of the following requirements:
  - (1) The opening is cut to the size of the carrier pipe so that there are no excessive voids around the pipe.
  - (2) The pipe is of sufficient strength to withstand the external loads created by the vehicular traffic on the roadway being traversed.
  - (3) Lines beyond the toe of foreslope are properly embedded.
- f. Waterlines. Waterlines shall be encased from right-of-way line to right-of-way line. Exceptions:
  - (1) Encasement is not required where it is impractical due to existing conditions, as determined by the district representative. As a minimum, waterlines shall be encased from toe of foreslope to toe of foreslope.
  - (2) Waterlines with an inside diameter of two inches or less need be encased only from toe of foreslope to toe of foreslope. Venting and sealing of the encasement are not required.
  - (3) Properly embedded waterlines that are installed prior to highway construction need not be encased if extra strength cast iron or ductile iron pipe with mechanical joints and seals, or equivalent, is used from right-of-way line to right-of-way line.
- g. Installations vulnerable to damage. Utility facilities that by reason of shallow depth or location are vulnerable to damage from highway construction or maintenance operations shall be protected with a casing, suitable bridging, concrete slabs or other appropriate measures.
- h. Other installations. When it is acceptable to both the utility owner and the department, an underground utility facility not otherwise addressed in this subrule may be installed without protective casing if the installation involves trenched construction or small bores. Encasement requirements will be determined on an individual basis.

**115.13(6) Longitudinal occupancy--encasement and related requirements.**

- a. Utility lines installed longitudinally to the primary highway right-of-way shall be encased at crossings of hard-surfaced side roads, streets and entrances in accordance with subrule 115.13(5).
- b. Reserved.

115.13(7) **Multiduct systems.** The department may require installation of a multiduct system to be shared with others. Details of the installation are subject to department approval. (A multiduct system is required for all occupancies in the locations shown on Exhibit page E-14.)

- a. The department shall designate a “lead company” for the system. The lead company is generally the first utility owner requesting occupancy. The lead company is responsible for:
  - (1) Design and construction of the multiduct system.
  - (2) Maintenance of the multiduct system.
  - (3) Providing all capital required to construct the multiduct system.
- b. Once a multiduct system has been established, the department shall require future occupancies to be located within one of the unoccupied inner ducts of the system. If all inner ducts are occupied, the department may require the establishment of an additional multiduct system.
- c. Each occupant of a multiduct system shall share equally in the entire capital costs of the facility. As each new occupant is added to an existing system, the department shall require the new occupant to pay its proportionate share based on the number of inner ducts it occupies.
- d. See subrule 115.16(8) for occupancy fees for longitudinal installations on freeways.

115.13(8) **Procedures for backfilling trenched construction and jacking or boring pits.**

- a. When a carrier, pipe, conduit, or cable is placed by trenched construction, the backfill shall be placed and compacted so that there is no settlement or erosion. If settling or erosion of a trench is observed, it is the responsibility of the utility owner to correct the problem.
- b. Jacking or boring pits shall be backfilled in the same manner as that described in paragraph "a" of this subrule.
- c. Backfill under roadways or entrances shall be of a suitable material to minimize settlement. Examples of suitable material include granular backfill or flowable mortar.

115.13(9) **Procedures for trenchless construction.**

- a. When trenchless construction techniques are used, the bore shall be as small as practical and in no case more than four inches larger than the facility or casing inserted.
- b. Grout backfill is required for all unused holes and abandoned pipes. Grout or sand backfill is required for any borehole more than two inches larger than the installed

casing or other facility. All bored facilities shall be constructed in such a manner that surface water is not transported to or otherwise allowed access to groundwater.

**115.13(10) Procedures for pavement removal.**

- a. When the existing pavement must be cut to accommodate a utility installation, the cut shall be made with a concrete saw.
- b. The width of the pavement removal shall be a minimum of six feet. If the distance from the specified cut to any adjacent longitudinal or transverse joint or crack is less than four feet, the pavement shall be removed to that joint or crack.
- c. The district representative shall make the final determination on the required depth and width of cut.

**115.13(11) Procedures for pavement replacement.**

- a. Restoration of pavement shall be accomplished in accordance with methods approved by the district representative.
- b. The district representative may authorize temporary repair with bituminous material.
- c. A permanent patch shall be placed as soon as conditions permit.

**115.13(12) Clear zone for pits.**

- a. On freeways, jacking or boring pits are not allowed within the median. A jacking or boring pit shall be located in an area beyond the clear zone or the highway foreslope, whichever area locates the pit a greater distance from the edge of the traveled way, right-of-way width permitting.
- b. On rural-type, nonfreeway primary highways, jacking or boring pits are not allowed within the median. A jacking or boring pit shall normally be located in an area beyond the clear zone or the highway foreslope, whichever area locates the pit a greater distance from the edge of the traveled way, right-of-way width permitting. However, a jacking or boring pit may be allowed within the foreslope if it is specifically authorized by the district representative and noted in the permit.
- c. On urban-type, nonfreeway primary highways, jacking or boring pits should be located at least two feet back from the curb.
- d. Jacking or boring pits authorized within the clear zone shall be protected at all times. Protection may include backfilling of the pit, temporary barrier rail, reflective fence, or other measures. All measures must be approved by the district representative.

115.13(13) **Construction methods.** Casing and pipeline installations shall be accomplished by dry boring, tunneling, jacking, trenching, directional drilling or other approved methods.

- a. The use of water under pressure (jetting) or puddling to facilitate boring, pushing or jacking operations is not allowed.
- b. However, a boring operation that requires the use of water only to lubricate the cutter and pipe is considered dry boring and is allowed.

115.13(14) **Encasement material.** It is the responsibility of the utility owner to ensure that it complies with all applicable federal, state, local and franchise requirements and meets generally accepted industry standards in the selection of encasement materials.

761--115.14(306A) **Freeways.** (See Exhibit page E-13.)

115.14(1) **Access to utility facilities occupying freeway right-of-way.**

- a. Except for emergency work, access shall not be obtained from the freeway or its ramps during utility construction or maintenance operations. This means that access must be obtained from intersecting, adjacent or nearby public highways, streets, roads or trails or from private property. See subrules 115.9(3) and 115.19(2) for emergency work.
- b. Fence removal and replacement are subject to the limitations imposed by the permit.
- c. No gates or ladders shall be placed in or upon the right-of-way fence.
- d. The department shall notify the FHWA of any access it authorizes to the interstate system for utility work.

115.14(2) **Freeway clear zone requirements.** The clear zone requirements of subrule 115.5(5) apply to freeways. In addition:

- a. On freeways open to traffic, personnel, equipment or materials are not allowed in the median or within the clear zone area, right-of-way width permitting, during utility facility construction or maintenance operations, except for the stringing of transverse overhead conductors.
- b. In the interest of safety and when considered advisable, the district representative may authorize the placement of temporary poles in the median during cable or conductor stringing operations.

115.14(3) **Aboveground appurtenances.** Unless otherwise provided, aboveground appurtenances are not allowed within the right-of-way of freeways.

**115.14(4) Existing facilities.**

- a. A utility facility occupying land that subsequently becomes freeway right-of-way may remain within the right-of-way if the facility:
  - (1) Can be accessed from other than the freeway or its ramps.
  - (2) Does not adversely affect the safety, design, construction, operation, maintenance or stability of the freeway.
- b. If these conditions are not met, the facility shall be relocated.

**761--115.15(306A) Transverse installations on freeways.**

**115.15(1) Interchange areas.**

- a. Utility facilities are not allowed within the interchange area of intersecting freeways unless they are highway-related.
- b. In other interchange areas, the department may permit occupancy if access to the utility facility can be obtained from other than the freeway or its ramps. If a utility facility cannot reasonably be accessed from an intersecting, adjacent or nearby public highway, street, road or trail, the utility facility shall be installed on private property outside the interchange area.



**115.15(2) Aboveground installations.**

- a. Poles, guys and other supporting structures and related aboveground facilities should be located outside the freeway right-of-way. A single span shall be used to cross the freeway where the width of freeway right-of-way permits.
- b. Within interchange areas:
  - (1) Single-pole construction shall be used, with the number of poles kept to a minimum.
  - (2) Overhead lines shall be constructed on tangent, parallel to the intersecting road, without guys or anchors being placed in the areas between the ramps and the main roadways of the freeway. Guy poles shall be located as near to the freeway right-of-way line as practical.
  - (3) Poles should be located as close to the toe of foreslope of the intersecting road as practical, but shall remain outside the clear zone.
  - (4) Poles should be located as far from the main roadways and ramps of the freeway as practical. No poles are allowed within the median or within the clear zone along the ramp pavement and the freeway pavement.
  - (5) The use of self-supporting poles or towers, double arming and insulators, breakaway devices and dead-end construction should be considered.

**115.15(3) Encasement requirements.** Underground facilities crossing the freeway shall be encased from right-of-way-line to right-of-way line. Exception: Encasement of a pipeline carrying natural gas at an operating pressure of greater than 60 pounds per square inch, liquid petroleum products, ammonia, chlorine or other hazardous or corrosive products is not required if the pipeline meets the requirements of subparagraph 115.13(5)"c"(2).

**761--115.16(306A) Longitudinal installations on freeways.**

(A multiduct system is required for all occupancies in the locations shown on Exhibit page E-14.)

**115.16(1) Type of installation permitted.**

- a. The department may permit the installation of an underground utility facility if, in addition to complying with other provisions of this chapter, the facility specifically complies with this rule.
- b. Except as provided in this rule, no aboveground installations other than those needed to serve highway facilities are allowed.

**115.16(2) Prohibitions on longitudinal occupancy.**

- a. A utility facility shall not be used for transmitting gases or liquids or for transmitting products that are flammable, corrosive, expansive, highly energized or unstable.
- b. A utility facility shall not present a hazard to life, health or property if it fails to function properly, is severed or is otherwise damaged.
- c. No direct service connection to adjacent properties is allowed.
- d. No utility facility is allowed in or on a structure carrying a freeway roadway or ramp, except for freeway border bridges, as provided in subrule 115.12(5).

**115.16(3) Minimal maintenance.** Once installed, the utility facility shall require minimal maintenance.

**115.16(4) Location and depth.** The utility facility shall be located on uniform alignment, preferably within eight feet of the freeway right-of-way line, and at a location approved by the department.

- a. See subrule 115.13(1) for minimum depth requirements.
- b. Except for multiduct systems, borings and isolated locations as determined by the department, cable shall be installed by the plowing method.
- c. Utility accesses and splice boxes may be placed below the existing ground line. The location and number of installations are subject to department approval.

**115.16(5) Identification signs, pedestals and repeater stations.**

- a. The utility owner shall place identification signs within 12 inches of the right-of-way fence, at the line of sight, along the entire occupancy route. These signs shall identify the owner/operator's name, telephone number to contact in case of an emergency, and the type of buried utility.
  - (1) The signs shall be composed of an ultraviolet-resistant material.
  - (2) Each sign shall be no larger than 200 square inches.
  - (3) The interval between signs shall not exceed one-quarter mile in rural areas and 500 feet in urban areas, or as designated by the department.
  - (4) Additional signs shall be placed on each side of a public highway, road or street intersecting or crossing the freeway at points where the freeway right-of-way line intersects the public highway, road or street right-of-way line.
  - (5) The utility owner is responsible for installing and maintaining these identification signs.
- b. Aboveground pedestals are permissible. Pedestals should be placed one foot from the right-of-way fence. The number of installations is subject to department approval.
- c. Repeater stations are not allowed in the right-of-way.

**115.16(6) Metallic warning tape.** Metallic warning tape shall be installed a minimum of 12 inches below the existing grade and above the utility installation to facilitate locating the installation in the future.

**115.16(7) Engineering.** The utility owner shall retain the services of a licensed, professional engineer.

- a. The engineer is responsible for overseeing continuous on-site inspection of the installation of the facility including all provisions pertaining to access to the work site and traffic control.
- b. Upon completion of the project, the engineer shall certify to the department on the appropriate forms that the installation, traffic control, and access to the work site were accomplished in accordance with the permit.
- c. Any change to the alignment as described in the original permit requires the prior approval of the department and the submission of as-built plans.

115.16(8) **Occupancy fee.** The utility owner shall pay to the department an annual fee for longitudinal occupancy of the freeway right-of-way. The initial fee is due before any construction work commences within the right-of-way.

a. Unless otherwise specified, the annual fee shall be as follows:

(1) When a multiduct system is required by the department: flat fee of \$14,500 per cable installation or \$7,250 per mile of cable, whichever is greater. These fees shall increase 3 percent per year after the base year of 2004.

(2) All other installations: flat fee of \$12,000 per cable installation or \$2,500 per mile of cable, whichever is greater. These fees shall increase 3 percent per year after the base year of 2004.

b. When the department requires the installation of a multiduct system, the department may enter into an agreement with the lead company for a discounted fee payment schedule to be in effect until the company has recovered all or an agreed upon portion of its cost of installing the system. Subsequent occupants of the multiduct system shall pay the full annual fee.

c. The department may negotiate an annual fee for occupancy dedicated solely to state government use.

115.16(9) **Performance bond.** The utility owner shall file a performance bond with the department prior to commencing work within the freeway right-of-way.

a. The bond shall be in the amount of \$100,000 per permit and shall guarantee prompt restoration of any damage caused during the installation of the utility facility.

b. The bond shall be in force for the duration of the construction. The department shall have the right to file a claim against the bond for two years thereafter.

115.16(10) **Insurance.**

- a. The utility owner shall maintain the following insurance for bodily injury, death and property damage arising out of or in connection with the construction, maintenance and operation of the facility:
  - (1) General public liability insurance with limits of not less than \$500,000 for injury to or death of a single person, or not less than \$1,000,000 for any one accident, and not less than \$250,000 per accident for property damage.
  - (2) Comprehensive automobile liability insurance with limits of not less than \$500,000 for injury to or death of a single person, or not less than \$1,000,000 for any one accident, and not less than \$250,000 per accident for property damage.
  - (3) Excess liability coverage with limits of not less than \$5,000,000.
  - (4) Statutory workers' compensation coverage.
- b. This insurance shall be in effect before the utility owner commences any work within the freeway right-of-way.
- c. Coverage may be provided by blanket policies of insurance covering other property or risks.
- d. The department shall be named as an additional insured party in the general public liability and excess liability insurance policies.

115.16(11) **Future adjustment.**

- a. As a condition of the permit, the utility owner shall agree to waive all future rights to be reimbursed for adjustment costs incurred should maintenance or construction of the freeway system require adjustment of the utility facility.
- b. Should adjustment of the utility facility be required, the department makes no assurance nor assumes any liability to the utility owner that the facility will again be allowed to occupy the freeway right-of-way.

115.16(12) **Term of permit.** The term of the permit shall not exceed 20 years. When the permit expires, the department may extend it in writing or renegotiate its terms.

115.16(13) **Utilities for highway facilities.** Longitudinal occupancy of utility facilities that service highway-related facilities are permissible upon such terms and conditions as the department may determine.

761--115.17(306A) **Nonfreeway primary highways.**

115.17(1) **Clear zone requirements and aboveground obstructions.** Subrule 115.5(5) applies. In addition:

- a. In urban areas with rural-type roadways and speed limits of 45 miles per hour or lower, a permanent, aboveground obstruction shall be located at least 15 feet from the edge of the paved traveled way or beyond the highway foreslope, whichever location is farther from the traveled way.
- b. On urban-type roadways, the face of a permanent, aboveground obstruction shall be located no closer than ten feet from the back of the curb. In areas with parking or auxiliary lanes, aboveground obstructions shall be located no closer than two feet behind the back of the curb or a minimum of ten feet from the edge of the traveled way, whichever location is farther from the traveled way.
- c. In rural areas with rural-type roadways, poles, guys and other supporting structures and related aboveground facilities should be located as near to the right-of-way line as practical.
  - (1) These aboveground obstructions shall be located in an area beyond the clear zone or the highway foreslope, whichever area locates the obstruction a greater distance from the edge of the traveled way, right-of-way width permitting.
  - (2) In individual cases, the department may require the use of self-supporting poles or towers, double arming and insulators, breakaway devices and dead-end construction.
- d. In suburban areas with rural-type roadways and speed limits of 45 miles per hour or lower, utility poles shall be located at least 15 feet from the edge of the paved traveled way or beyond the highway foreslope, whichever location is farther from the traveled way. The preferred location is near the right-of-way line.
- e. Poles, guys, anchors and other appurtenances shall not be located in ditches, at drainage structure openings or on roadway shoulders. All poles, guys, anchors and other appurtenances shall be located to minimize interference with the maintenance operations of the department.
- f. The district representative may approve the adjustment of minimum setback distances for poles and other appurtenances that have a breakaway design.

115.17(2) **Reserved.**

**761--115.18(306A) Longitudinal installations on nonfreeway primary highways.**

115.18(1) **Location.** Longitudinal utility facility installations should be located on uniform alignment as near as practical to the right-of-way line so as to provide a safe environment for traffic operations and to preserve space for future highway improvements and other utility installations.

**115.18(2) Underground installations.**

- a. No carrier of flammable, corrosive, expansive or unstable material shall be placed longitudinally within the right-of-way of a nonfreeway primary highway. Exceptions:
  - (1) A natural gas line with an operating pressure that is no greater than 150 pounds per square inch is permissible.
  - (2) The department may permit the placement of a natural gas line with an operating pressure that is greater than 150 pounds per square inch only if a suitable alternate location cannot be found.
- b. On rural-type roadways, utility facilities shall be located in an area beyond the highway foreslope, right-of-way width permitting, except at locations where this is not acceptable, such as deep ravines or ditches.
- c. On urban-type roadways, utility facilities should be located as near to the right-of-way line as practical and preferably not within the traveled way. A utility access placed within the right-of-way shall not protrude above the surrounding surface.
- d. In general, utility facilities are not allowed in the median. However, in special cases the district representative may approve such an installation.

**761--115.19(306A) Maintenance and emergency work.**

115.19(1) **Maintenance responsibilities.** The owner of a utility facility is responsible for its maintenance. The owner shall:

- a. Maintain the facility in a good state of repair in accordance with applicable federal, state and local statutes, ordinances and regulatory standards.
- b. Replace and stabilize all earth cover and vegetation where they have eroded over an underground utility facility when the erosion is due to or caused by the placement or existence of the facility.
- c. Give the department's district representative 48 hours' prior notice of its intent to perform predictable routine maintenance within the right-of-way. Exception: Notice is not required if the predicable routine maintenance is for a service connection located beyond the clear zone of a nonfreeway primary highway.

**115.19(2) Utility emergency work.**

- a. Access to the worksite is permissible from the freeway roadways and ramps when an emergency exists.
- b. The utility owner shall take all necessary, appropriate and reasonable measures to protect the safety of the traveling public and cooperate fully with the state highway patrol and the department in completing the emergency work.
- c. The utility owner shall notify the department of the emergency as soon as practical, describing the steps being taken to protect the traveling public, the extent of the emergency, and the steps being taken to address the emergency.
- d. If the nature of the emergency is such that it interferes with the free movement of traffic, the utility owner shall immediately notify the state highway patrol and the department.
- e. When an emergency occurs on the interstate system, the department shall notify the FHWA as soon as practical, describing the steps being taken to protect the traveling public and the steps being taken to address the emergency.

**115.19(3) Department emergency work.** There will be times when the department performs highway-related emergency work. Examples include but are not limited to stop sign replacement, handling hazardous material spills, and addressing natural disasters and acts of terrorism. If utility facilities are affected, the department shall as soon as practical notify the utility owner of the emergency condition and what steps are necessary to protect the utility facility.

**761--115.20(306A) Abandonment or removal of utility facilities.**

**115.20(1) Notice to department.** Within 90 days after the abandonment or removal of all or a portion of an existing utility facility that occupies the primary highway right-of-way, the utility owner shall submit a written notice of abandonment or removal to the department. The notice shall include:

- a. Type of facility.
- b. Location of the utility facility by route, county, section, township, range, milepost and highway stationing, where these references exist.
- c. Name of the original utility owner if different than the current owner.
- d. Original utility permit number and date of approval, if known.

**115.20(2) Reserved.**

**761--115.21 to 115.24 Reserved.**



761--115.25(306A) **Utility facility adjustments for highway improvement projects.** Rules 115.26(306A) to 115.30(306A) establish administrative procedures for utility facility adjustments made necessary by state highway improvement projects. The purpose of these procedures is to adjust utility facilities with minimal delays or added expense. Rules 115.26(306A) to 115.30(306A) apply to all state highway improvement projects with the following exceptions:

1. Projects the department develops on an accelerated schedule.
2. Projects with no anticipated utility adjustments.

115.25(1) **Department responsibility for adjustment costs.** Should the department be responsible for the cost of a utility facility adjustment required for highway work, the department shall not pay for any betterment that results in an increase in the capacity of the facility or for any other adjustment not required by highway construction. The department is entitled to receive credit for the accrued depreciation on replaced facilities and the salvage value of any materials or parts salvaged and retained or sold by the utility owner.

115.25(2) **Reimbursement basis.** Adjustment costs for which the department is responsible shall be paid on a cost reimbursement basis.

115.25(3) **Adjustment of a facility occupying highway right-of-way.** If adjustment of an existing utility facility occupying the right-of-way is required due to highway construction, the utility owner shall adjust the facility without cost to the state and, whenever possible, in advance of the highway work.

761--115.26(306A) **Notice of project.**

115.26(1) **Determining affected utilities.** The department shall make a reasonable effort to determine what utility facilities are located within the project limits of a state highway improvement project by researching permit files, through field investigations or contacts with one-call locating services, and through contacts with local government units.

115.26(2) **Notifying utilities.** The department shall identify by name the owner of each known utility facility that is located within the project limits. The department shall send to each utility owner a notice of the improvement project, including the route number of the highway, the geographical limits of the project and a general description of the highway work to be done.

115.26(3) **Responding to notice.** The utility owner shall:

- a. Within seven calendar days after the date of the notice, reply to the department, acknowledging receipt of the notice.
- b. Within 90 calendar days after the date of the notice, provide to the department information about its utility facilities that are in the vicinity of the improvement project, including the name of any company that has utility facilities which coexist with the utility owner's facilities. The utility owner shall reply regardless of whether or not it has facilities in the project's vicinity.

761--115.27(306A) **First plan submission, preliminary work plan and agreement.**

115.27(1) **First plan.** The department shall submit its first plan to the owner of each known utility facility within the project limits. The first plan shall contain information the owner needs in order to design and lay out the adjustment of its utility facilities, including the placement of adjusted or additional facilities, within the project limits.

115.27(2) **Preliminary work plan.** Within 90 calendar days after the date the department submits its first plan, the utility owner shall provide to the department a preliminary work plan.

- a. The preliminary work plan shall include the following:
  - (1) A narrative description of what work the utility owner will do.
  - (2) A drawing showing the present and proposed locations of the utility owner's facilities in relation to the highway plan.
  - (3) Whether the work is dependent on work by another utility owner.
  - (4) Whether the work can be done prior to highway construction or must be coordinated with the highway contractor.
  - (5) The number of working days required to complete the work.
  - (6) A list of permits and approvals the utility owner is required to obtain from governmental agencies and railroad companies for the work, and the expected time schedule to obtain them.

b. If the utility adjustment work is reimbursable, the utility owner shall submit with the preliminary work plan the following:

- (1) Copies of documents verifying real estate interests.
- (2) A detailed cost estimate for the adjustment, including appropriate credits for betterments or salvage.

**115.27(3) Department review of preliminary work plan.** The department shall review each utility owner's preliminary work plan to ensure compatibility with utility accommodation permit requirements, the plans for the highway improvement project, and the construction schedule.

**115.27(4) Conflict between preliminary work plans.** When requested by the utility owners or when the department determines there is potential for conflict between preliminary work plans, the department shall schedule a coordination meeting. All affected utility owners shall attend the meeting to coordinate their work plans. The department may allow a utility owner an additional 30 calendar days to submit its preliminary work plan if coordination is required with other utility owners.

**115.27(5) Acceptance of preliminary work plan.** The department shall notify the utility owner of the department's acceptance of the utility owner's preliminary work plan.

- a. If the preliminary work plan is not acceptable to the department, the department shall notify the utility owner that the plan is not acceptable and provide a detailed explanation of the problem.
- b. The utility owner shall submit a revised preliminary work plan to the department within 30 calendar days after its receipt of notice from the department that the plan was not acceptable.
- c. The department shall review the revised preliminary work plan. If the work plan is acceptable, the department shall notify the utility owner of the department's acceptance of the plan.
- d. If the work plan is still not acceptable, the process set out in 115.27(5)"a" to "c" shall be repeated.

**115.27(6) Agreement.**

- a. The department shall enter into an agreement with the utility owner if the adjustment is eligible for reimbursement.
- b. The agreement by itself does not constitute a permit nor does it grant permission to occupy the primary highway right-of-way. The utility owner is responsible for obtaining a utility accommodation permit prior to commencing work within the right-of-way. The agreement will then be attached to and become part of the permit.

761--115.28(306A) **Second plan submission, final work plan and permit application.**

115.28(1) **Second plan.** After the final public information meeting, the department shall submit its second plan to the owner of each known utility facility within the project limits. The second plan shall show any additional plan information or design changes the owner needs in order to complete its design and layout for the adjustment. The department shall clearly identify to the utility owner the differences between the first and second plans.

115.28(2) **Final work plan.** Within 60 calendar days after the date the department submits the second plan, the utility owner shall provide to the department a final work plan.

- a. The final work plan shall include the anticipated starting date for the utility owner's work within the primary highway right-of-way.
- b. A completed application for a utility accommodation permit must accompany the final work plan for work within the primary highway right-of-way. The work plan by itself does not constitute a permit nor does it grant permission to occupy the primary highway right-of-way.
- c. When requested by the utility owner, the department may allow additional time to complete the final work plan if the second plan requires extensive modifications to the preliminary work plan.
- d. If there are no changes to the preliminary work plan, the utility owner need only notify the department that the preliminary work plan is now the final work plan.

115.28(3) **Department review of final work plan.** The department shall review each utility owner's final work plan to ensure compatibility with utility accommodation permit requirements, the plans for the highway improvement project, and the construction schedule.

**115.28(4) Acceptance of final work plan.** The department shall notify the utility owner of the department's acceptance of the utility owner's final work plan.

- a. If the final work plan is not acceptable to the department, the department shall notify the utility owner that the plan is not acceptable and provide a detailed explanation of the problem.
- b. The utility owner shall submit a revised final work plan to the department within 30 calendar days after its receipt of notice from the department that the plan was not acceptable.
- c. The department shall review the revised final work plan. If the work plan is acceptable, the department shall notify the utility owner of the department's acceptance of the plan.
- d. If the work plan is still not acceptable, the process set out in 115.28(4)"a" to "c" shall be repeated.

**761--115.29(306A) Notice of work.**

**115.29(1) Notice of receipt of permits and approvals.** The utility owner shall notify the department within 14 calendar days after the utility owner has received all required permits and approvals from government agencies and railroad companies.

**115.29(2) Notice to utility owner to begin work.**

- a. The department shall send a notice to proceed to the utility owner not less than 30 calendar days before the utility owner is required to begin the work provided for in its work plan.
- b. If the utility owner's work plan is dependent upon work by the highway contractor, the contractor shall provide the department and the utility owner a good faith notice 14 calendar days before the contractor's work is expected to be complete and ready for the utility owner to begin its work. The highway contractor shall follow up with a confirmation notice to the department and the utility owner not less than three working days before the contractor's work will be complete and ready for the utility owner to begin its work.

**115.29(3) Notice to department of commencement and completion of work.** The utility owner shall give the department 48 hours' prior notice, excluding weekends and holidays, of its intent to start utility adjustment work within the project limits. The utility owner shall also notify the department immediately upon completion of the work.

761--115.30(306A) **Miscellaneous adjustment provisions.**

115.30(1) **Work plan compliance.** The utility owner shall complete its utility adjustment work within the time frame of the work plan accepted by the department. Upon completion of the work, the utility owner shall certify to the department that the adjustment of its facilities is in accordance with the accepted work plan.

115.30(2) **Project changes prior to the letting.** If, prior to the letting date of the highway improvement project, changes to the project result in the need for additional utility adjustment work, the department shall furnish a revised project plan to each affected utility owner. The department shall clearly identify to the utility owner those portions of the project that have been revised. Within 60 calendar days after the date the department submits the revised project plan, the utility owner shall provide to the department a revised work plan.

115.30(3) **Project changes after the letting.** If, after the letting date of the highway improvement project, changes to the project result in the need for additional utility adjustment work, the department shall notify each affected utility owner. The department and the owner shall agree on a revised work plan.

115.30(4) **Work plan changes.** If a utility owner needs to change its work plan after its adjustment work begins, the utility owner shall notify the department. Once the department approves a modified work plan, the utility owner may make the necessary changes and perform the work.

115.30(5) **Cost allocation.**

- a. If the department requires the adjustment of a utility facility that was originally determined, per the notice and work plan processes, to not need adjustment:
  - (1) The utility owner shall bear the cost of the adjustment if the work is otherwise not reimbursable.
  - (2) The department shall bear the reasonable cost of the adjustment if the work is otherwise reimbursable.
- b. If the department requires additional adjustment to a utility facility after the facility has been adjusted in accordance with a work plan accepted by the department, the department shall bear the reasonable cost of the additional work. This applies to all utility facilities, whether the original adjustment work was reimbursable or not reimbursable.
- c. The utility owner shall bear the cost of additional adjustment work performed after its facilities have been adjusted in accordance with a work plan accepted by the department if the additional work is due to the utility owner's error.

**115.30(6) Failure to provide a work plan or to adjust utility facilities.** If a utility owner fails to provide a work plan, fails to comply with the accepted work plan, or fails to complete the adjustment of its facilities, and its failure to perform results in a delay to the highway project or causes damages to be incurred by the department or the department's highway contractor, the utility owner is liable for all costs and damages incurred as a result of its failure to perform. The department may withhold approval of permits for failure to comply with the requirements of these rules.

THE FOLLOWING PAGES CONTAIN  
EXHIBITS TO BE USED AS GUIDELINES  
AND ASSISTANCE IN OBTAINING  
COMPLIANCE WITH THE DEPARTMENT'S  
UTILITY ACCOMMODATION  
AND  
ADJUSTMENT POLICY

THESE EXHIBITS ARE TO BE USED  
FOR PURPOSES AS GUIDELINES OR AIDS  
AND ARE NOT TO BE CONSIDERED AS  
PART OF THE DEPARTMENT'S  
UTILITY ACCOMMODATION  
AND ADJUSTMENT POLICY




A copy of the Utilities Accommodation Permit form may be obtained from your local IADOT representative.

A copy of the Utilities Accommodation Permit form may also be obtained and filled out electronically from the internet at the following address:

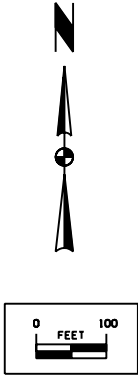
<http://www.dot.state.ia.us/forms/index.htm>

Form #810025

 Iowa Department of Transportation <small>Form 810025 (08-02)          Highway Division   Ames, IA 50010</small>		<b>Application and Agreement for Use of          Highway Right of Way for Utilities Accommodation</b>	
<b>FOR DEPARTMENT USE ONLY</b>			
Permit Number	Highway Number	County	
DOT Project Number		Expiration/Completion Date	
<b>APPLICANT (INDIVIDUAL OR COMPANY)</b>		<small>(ASSISTANCE FROM DEPARTMENT AVAILABLE UPON REQUEST)</small>	
First Name	Middle Initial	Last Name	Phone Number
Company Name			Phone Number
Street Address		City/Town	State Zip Code
<b>INSTALLATION TO BE ACCOMMODATED</b>			
Approval is hereby requested to enter within the state highway right of way for the accommodation of a utility installation as detailed on the attachments and further described as follows.			
The installation shall consist of:			
and shall be located as shown on the detailed plan attached hereto. (See current Iowa Department of Transportation Utility Accommodation Policy for submittal of detailed plan requirements.)			
<b>WORK SITE LOCATION</b>			
The proposed work as described above is located in Section _____, Twp. _____, Range _____ on Highway No. _____ generally located _____ (miles) (direction) from _____ (city, county line or other land line). Work proposed is more specifically located as being from _____ (Milepost#) and _____ (Highway Station) to _____ (Milepost#) and _____ (Highway Station) on the _____ side of highway.			
<b>Applicant Signature and Agreement</b>			
I have read this Agreement, understand its provisions, and agree to abide by it and the utility accommodation policy of the Iowa Department of Transportation.			
Name of Agent (Print or Type)	Agent/Owner (Signature)	Title	
Name of Owner (Print or Type)			Date
<b>CITY ACTION (IF PROPOSED WORK IS WITHIN AN INCORPORATED CITY, CITY ACTION ACTION IS REQUIRED)</b>			
"The undersigned city joins in the grants embodied in the above permit executed by the Iowa Department of Transportation on condition that all of the covenants and undertakings therein running to the Iowa Department of Transportation shall inure to the benefit of the undersigned city and recommends action on said permit application as noted below by the delegated city official".			
<input type="checkbox"/> Recommend Approval <input type="checkbox"/> Do Not Recommend Approval <input type="checkbox"/> None Required			
Handwritten Signature	Title	Date	
Type or Print Name		Authorized Official for the City of	
<b>COUNTY ACTION (IF PROPOSED WORK CROSSES COUNTY RIGHT OF WAY, COUNTY ACTION IS REQUIRED)</b>			
"The undersigned county joins in the grants embodied in the above permit executed by the Iowa Department of Transportation on condition that all of the covenants and undertakings therein running to the Iowa Department of Transportation shall inure to the benefit of the undersigned county and recommends action on said permit application as noted below by the delegated county official".			
<input type="checkbox"/> Recommend Approval <input type="checkbox"/> Do Not Recommend Approval <input type="checkbox"/> None Required			
Handwritten Signature	Title	Date	
Type or Print Name		Authorized Official for the County of	

(DOT/FHWA Signatures and Agreements on next page)

# UTILITY EXHIBIT "EXAMPLE"

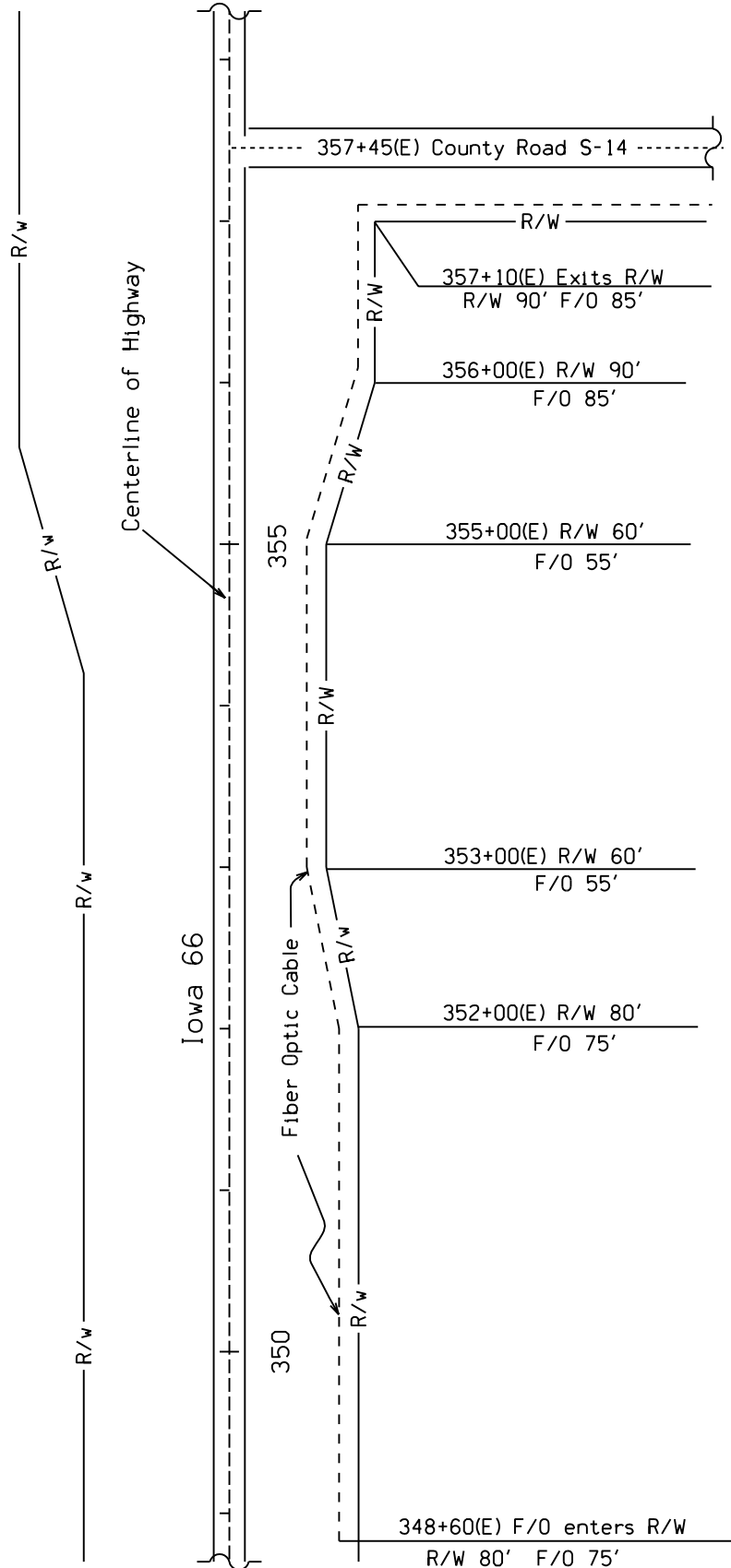


SECTION 32, T76N, R16W  
of  
MILES COUNTY

R/W = Right-of-Way Line

F/O = Fiber Optic Line

Distances on measured from  
centerline of highway



**Table 1: Clear zone distances (in feet from edge of traveled way).**

design speed (mph)	design ADT	fill slope (fs)			cut slope (cs)		
		fs ≥ 6:1	4:1 ≤ fs < 6:1	fs < 4:1	cs < 4:1	4:1 ≤ cs < 6:1	cs ≥ 6:1
speed < 40	ADT < 750	7–10	7–10	—**	7–10	7–10	7–10
	750 ≤ ADT < 1500	10–12	12–14	—**	10–12	10–12	10–12
	1500 ≤ ADT < 6000	12–14	14–16	—**	12–14	12–14	12–14
	ADT ≥ 6000	14–16	16–18	—**	14–16	14–16	14–16
40 ≤ speed < 50	ADT < 750	10–12	12–14	—**	8–10	8–10	10–12
	750 ≤ ADT < 1500	12–14	16–20	—**	10–12	12–14	14–16
	1500 ≤ ADT < 6000	16–18	20–26	—**	12–14	14–16	16–18
	ADT ≥ 6000	18–20	24–28	—**	14–16	18–20	20–22
50 ≤ speed < 60	ADT < 750	12–14	14–18	—**	8–10	10–12	10–12
	750 ≤ ADT < 1500	16–18	20–24	—**	10–12	14–16	16–18
	1500 ≤ ADT < 6000	20–22	24–30	—**	14–16	16–18	20–22
	ADT ≥ 6000	22–24	26–32*	—**	16–18	20–22	22–24
60 ≤ speed < 65	ADT < 750	16–18	20–24	—**	10–12	12–14	14–16
	750 ≤ ADT < 1500	20–24	26–32*	—**	12–14	16–18	20–22
	1500 ≤ ADT < 6000	26–30	32–40*	—**	14–18	18–22	24–26
	ADT ≥ 6000	30–32*	36–44*	—**	20–22	24–26	26–28
speed ≥ 65	ADT < 750	18–20	20–26	—**	10–12	14–16	14–16
	750 ≤ ADT < 1500	24–26	28–36*	—**	12–16	18–20	20–22
	1500 ≤ ADT < 6000	28–32*	34–42*	—**	16–20	22–24	26–28
	ADT ≥ 6000	30–34*	38–46*	—**	22–24	26–30	28–30

\*Where a site specific investigation indicates a high probability of continuing accidents, or such occurrences are indicated by accident history, the designer may provide clear zone distances greater than 30 feet as indicated. Clear zones may be limited to 30 feet for practicality and to provide a consistent roadway template if previous experience with similar projects or designs indicates satisfactory performance.

\*\*Since recovery is less likely on the unshielded, traversable 3:1 slopes, fixed objects should not be present in the vicinity of the toe of these slopes. Recovery of high-speed vehicles that encroach beyond the edge of the shoulder may be expected to occur beyond the toe of slope. Determination of the width of the recovery area at the toe of slope should take into consideration right-of-way availability, environmental concerns, economic factors, safety needs, and accident histories. Also, the distance between the edge of the travel lane and the beginning of the 3:1 slope should influence the recovery area provided at the toe of slope.

Adjustments for horizontal curves should be applied at selected locations. The clear zone should be considered for widening at curves, using Table 2, when an accident history suggests the need for additional clear zone width or when all of the following criteria are met:

- the radius of the curve is less than 2860 feet
- the curve occurs on a high-speed roadway (design speed of 55 mph or greater)
- the curve occurs on a normally tangent alignment (one where the curve is preceded by a tangent more than a mile in length).

Use the following equation to determine the clear zone distance when widening at horizontal curves:

$$CZ_c = (L_c)(K_{cz}) \text{ where:}$$

$CZ_c$  = clear zone on outside of curvature, in feet

$L_c$  = clear zone distance, in feet (from Table 1)

$K_{cz}$  = curve correction factor (from Table 2)

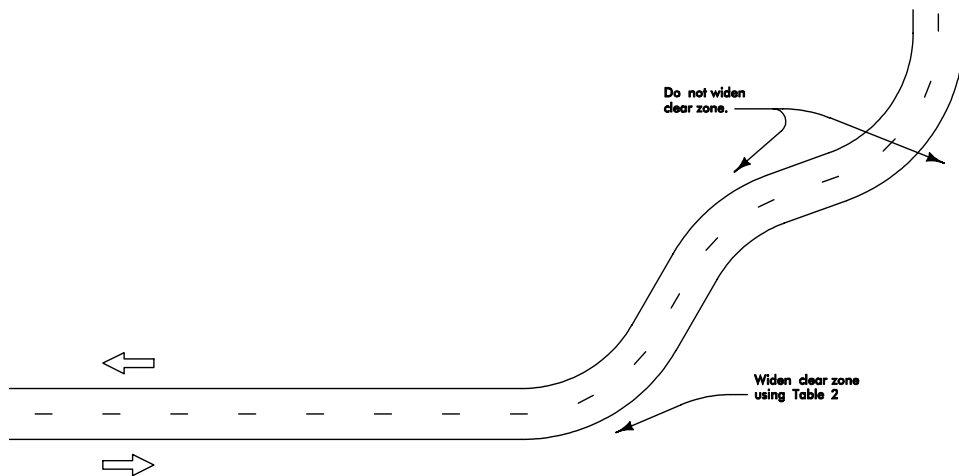
<sup>1</sup> AASHTO *Roadside Design Guide*, 3-4.

**Table 2: Horizontal curve adjustments.**

**$K_{cz}$  (English curve correction factor)**

radius (ft.)	design speed (mph)						
	40	45	50	55	60	65	70
2860	1.1	1.1	1.1	1.2	1.2	1.2	1.3
2290	1.1	1.12	1.2	1.2	1.2	1.3	1.3
1910	1.1	1.2	1.2	1.2	1.3	1.3	1.4
1640	1.1	1.2	1.2	1.3	1.3	1.4	1.5
1430	1.2	1.2	1.3	1.3	1.4	1.4	
1270	1.2	1.2	1.3	1.3	1.4	1.5	
1150	1.2	1.2	1.3	1.4	1.5		
950	1.2	1.3	1.4	1.5	1.5		
820	1.3	1.3	1.4	1.5			
720	1.3	1.4	1.5				
640	1.3	1.4	1.5				
570	1.4	1.5					
380	1.5						

As Figure 1 shows, the clear zone should be adjusted only on the outside of the first curve following the tangent. If the alignment is generally curvilinear, no adjustment factor should be applied. Similarly, if the alignment is curvilinear preceding the curve in question, then no adjustment factor should be applied. Generally, the added clear zone width called for by the horizontal curve adjustment factor should be thought of as a desirable clear zone rather than a minimum. If the minimum width called for by Table 1 can be achieved, but the added width cannot be, a barrier would not normally be needed. The horizontal curve adjustment factor should be applied to projects where grading is a significant part of the project and available right-of-way allows for a wider clear zone.



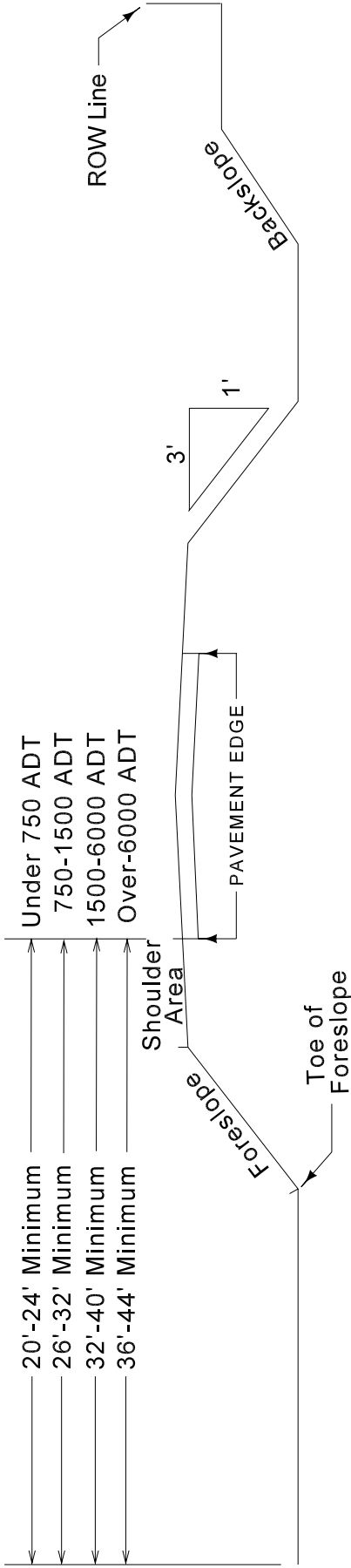
**Figure 1:** Clear zone adjustment at horizontal curves.

# "CLEAR ZONE (in feet)"

## Foreslope 3:1 or steeper (DESIGN SPEED 60 MPH)

Traffic Volume, ADT

Under 750	750-1500	1500-6000	Over 6000
*16'-18' beyond the toe of foreslope or 20'-24' from edge of traveled way, whichever is greater	*20'-24' beyond the toe of foreslope or 26'-32' from edge of traveled way, whichever is greater	*26'-30' beyond the toe of foreslope or 32'-40' from edge of traveled way, whichever is greater	*30'-32' beyond the toe of foreslope or 36'-44' from edge of traveled way, whichever is greater



\* Since recovery is less likely on foreslopes that are 3:1 or steeper, fixed objects should not be present in the vicinity of the toe of these slopes. 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 3:1 or steeper should take into consideration right-of-way availability, environmental concerns, economic factors, safety needs and accident histories. The distance beyond the toe of foreslope may be reduced by the width of the existing shoulder.

# "CLEAR ZONE (in feet)"

## Foreslope 4:1 or steeper

(DESIGN SPEED 60 MPH)

Traffic Volume, ADT	
Under 750	Over 6000
*16'-18' beyond the toe of foreslope or 16'-18' from edge of traveled way, whichever is greater	*30'-32' beyond the toe of foreslope or 30'-32' from edge of traveled way, whichever is greater
750-1500	1500-6000
*20'-24' beyond the toe of foreslope or 20'-24' from edge of traveled way, whichever is greater	*26'-30' beyond the toe of foreslope or 26'-30' from edge of traveled way, whichever is greater
Under 750 ADT 16'-18' Minimum	Under 750 ADT 750-1500 ADT 1500-6000 ADT Over-6000 ADT
20'-24' Minimum	
26'-30' Minimum	
30'-32' Minimum	
Shoulder Area	PAVEMENT EDGE
Foreslope	Backslope
Toe of Foreslope	
	ROW Line
	4'
	1'

\* Since recovery is less likely on foreslopes that are 4:1 or steeper, fixed objects should not be present in the vicinity of the toe of these slopes. 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 4:1 or steeper should take into consideration right-of-way availability, environmental concerns, economic factors, safety needs and accident histories. The distance beyond the toe of foreslope may be reduced by the width of the existing shoulder.

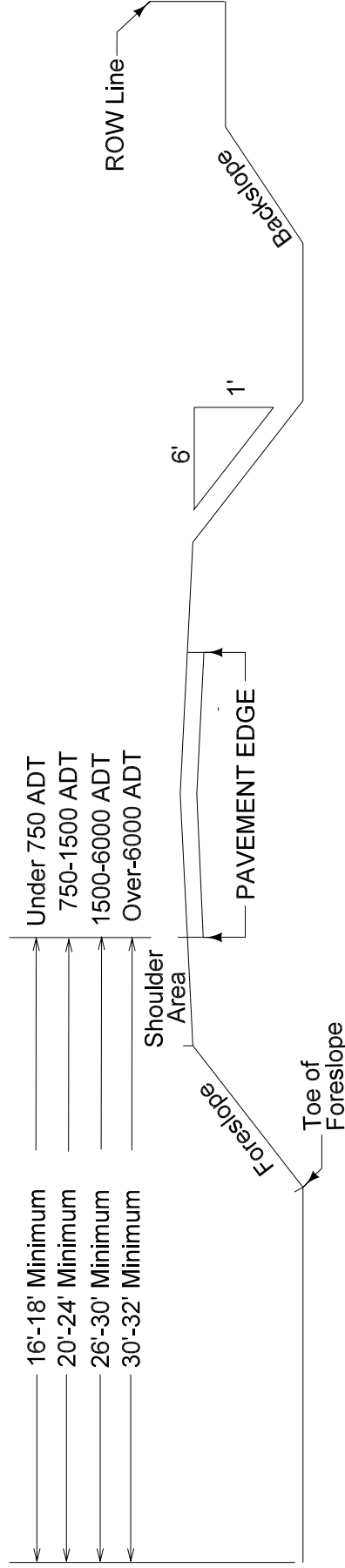
# "CLEAR ZONE (in feet)"

## Foreslope 6:1 or steeper

(DESIGN SPEED 60 MPH)

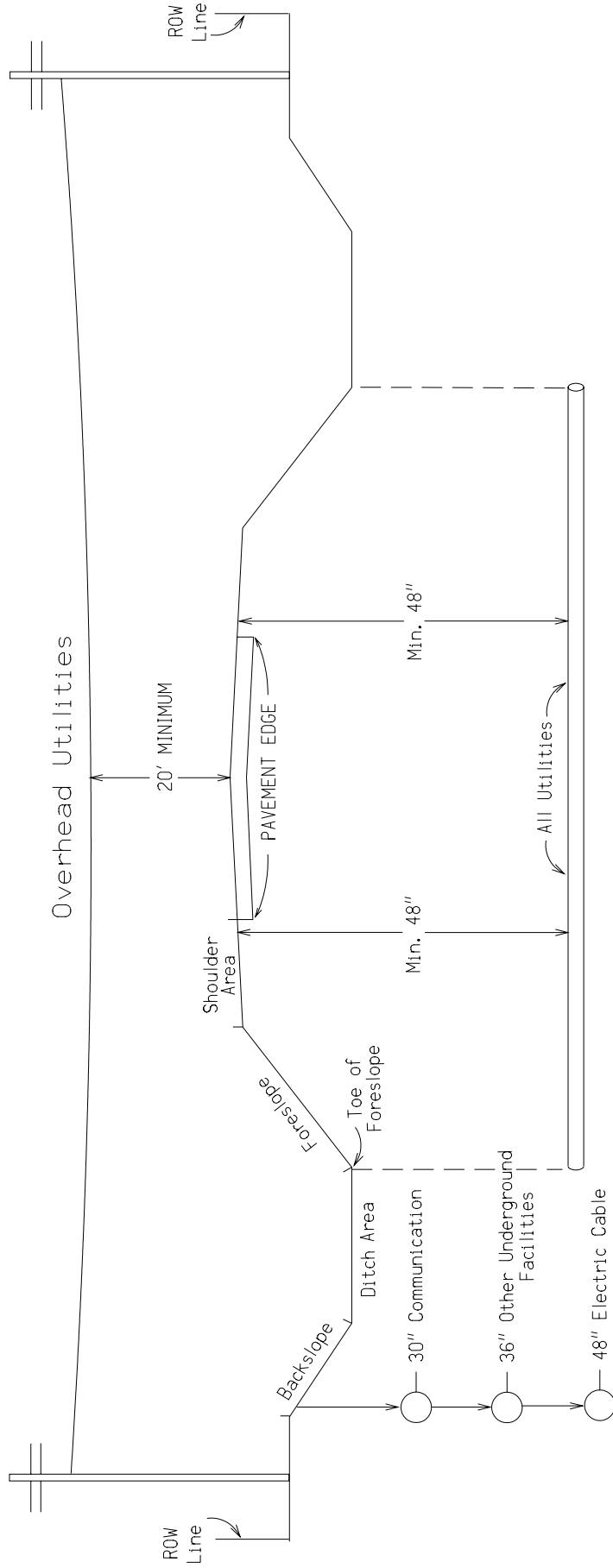
Traffic Volume, ADT \_\_\_\_\_

Under 750	750-1500	1500-6000	Over 6000
*16'-18' beyond the toe of foreslope or 16'-18' from edge of traveled way, whichever is greater	*20'-24' beyond the toe of foreslope or 20'-24' from edge of traveled way, whichever is greater	*26'-30' beyond the toe of foreslope or 26'-30' from edge of traveled way, whichever is greater	*30'-32' beyond the toe of foreslope or 30'-32' from edge of traveled way, whichever is greater



\* Since recovery is less likely on foreslopes that are 6:1 or steeper, fixed objects should not be present in the vicinity of the toe of these slopes. 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 6:1 or steeper should take into consideration right-of-way availability, environmental concerns, economic factors, safety needs and accident histories. The distance beyond the toe of foreslope may be reduced by the width of the existing shoulder.

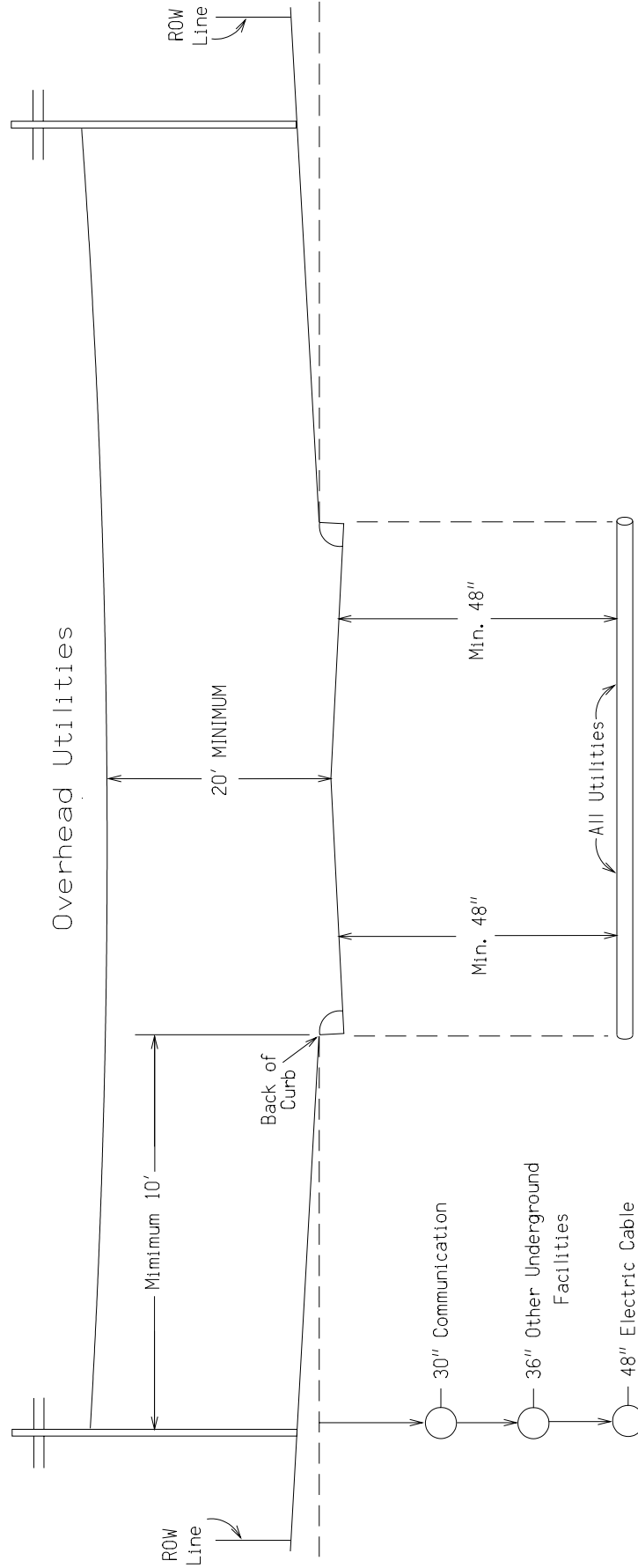
# Minimum Policy Requirements Rural Section Non-Freeway Highway



**Notes:**  
 Utilities shall be located between the toe of foreslope and the highway row line.  
 Utilities should be located as near to the highway row line as practical.  
 See Utility Policy, Section 115.13 for further details.

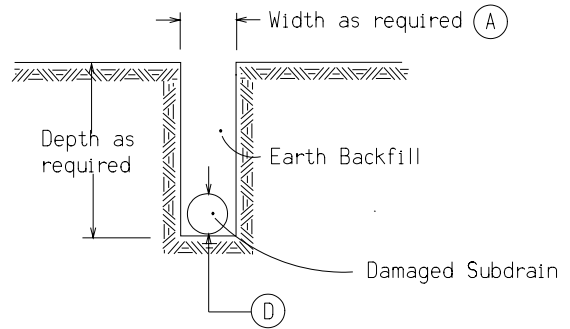
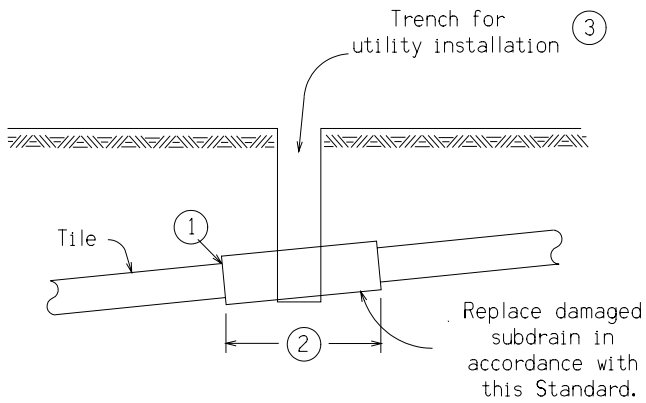


# Minimum Policy Requirements Urban Section Non - Freeway Highway



**Notes:**  
 Utilities shall be located between back of curb and the highway row.  
 Utilities should be located as near to the highway row line as practical.  
 See Utility Policy, Section 115.13 for further details.

# Tile Line Repair Guideline



Note:  
Replacement of drainage tile shall be accomplished so as to cause the minimum of disturbance to existing field tile. The repaired drainage tile shall be left in a functional condition with special emphasis placed on maintaining existing flow line elevations.

(A) = A minimum of 24" shall be excavated outside the normal utility trench wall or such greater width as may be required to expose a minimum of 12" of undamaged drain tile.

REPLACEMENT SCHEDULE - CASE 'A'										
Existing Tile (D)	4	6	8	10	12	15	18	21	24	>24
Proposed Subdrain Size										
Concrete Pipe	-	-	12	15	15	18	21	24	30	D+6"
Coated C.M.P.	10	12	15	18	21	24	30	36	36	*

\* Replacement sizes provide equivalent capacity based on 6" settlement assuming a 0.20% slope with  $n = 0.013$  for concrete pipe and  $n = 0.025$  for corrugated pipe (Manning Formula)

## NOTES:

Tile lines disturbed within the right-of-way (outside the Roadway Embankment Area \*) limits shall be repaired as follows:

May be repaired with schedule 40 PVC pipe of compatible size or in accordance with the replacement schedule-case 'A' as listed above. Replacement with schedule 40 PVC pipe shall require using a connecting device of a Femco plain and plain flexible pipe coupling or equal.

Tile lines disturbed within the "Roadway Embankment Area" shall be replaced in accordance with the replacement schedule - case 'A' stated above and as follows:

- ① Concrete collar to be placed around joint where existing tile line and corrugated aluminized metal pipe connect.

- ② Minimum length of corrugated metal pipe shall be 4 feet. Minimum length of 2 feet on each side of the tile line break location.

- ③ Trench shall be backfilled with 8 inches loose material, compacted to 6 inches with a minimum of 95% compaction of natural density.

A. Backfill and compact area around drain tile to be completed by hand until new tile is completely covered. Remainder of the trench shall be backfilled by acceptable methods.

B. Area shall require inspection by the Iowa Department of Transportation inspectors or their designated personnel prior to backfilling of trench.

\* "Roadway Embankment Area" is defined as the area lying between the foreslopes of a two-lane roadway and from near foreslope to far foreslope of a four lane roadway.

## **Statewide Freeway Listing (Freeway Utility Rules Apply)**

### **Interstate Highways Statewide**

I-29	I-74	I-235	I-380
I-35	I-80	I-280	I-680

### **US Highways, Freeway segments as follows:**

US 18 from I-35 in Cerro Gordo Co. easterly to the Cameo Road intersection in Floyd Co.

US 20 in Woodbury County, from I-29 easterly to just east of the interchange with Gordon Drive (Business US 20) east of Sioux City.

US 20 from just west of the west jct. of IA 17 in Hamilton Co. easterly thru the interchange with IA 38 in Delaware Co.

US 30 Ames Bypass, from just west of the interchange with Lincoln Way in Boone Co. easterly to just east of the interchange with I-35 in Story Co.

US 30 Marshalltown Bypass, from station 140+00 (FN-30-5(100)—21-64) easterly to just east of the 18<sup>th</sup> Ave. interchange.

US 30 Cedar Rapids Bypass, from just west of the 16<sup>th</sup> St. interchange easterly to just east of the C St. interchange.

US 61 in Scott County, from the I-80 interchange northerly to just north of the north interchange with US 30.

US 65 in Polk County, from just south of the US 69 interchange northerly to the I-80 interchange.

US 75 in Woodbury County, from the interchange with US 20 northerly to just north of the interchange with Lewis Blvd. (Business US 75) at the north edge of Sioux City.

US 218 in Henry County on the Mt. Pleasant Bypass, from just south of the interchange with 255<sup>th</sup> St. north through the interchange with old US 218.

US 218 in Washington and Johnson Counties, from the interchange with IA 22 north to I-80

US 218 Charles City Bypass from the interchange with T-64 northwesterly to the interchange with old US 218

### **State Highways, Freeway segments as follows:**

IA 5 from I-35 easterly to US 69/65 interchange.

**Mutiduct System Required for all Longitudinal Occupancies  
in the Following Areas:**

I-29	I-80 to 16 <sup>th</sup> Avenue in Council Bluffs
I-29	Big Sioux River to Sergeant Bluff/Airport Interchange in Sioux City
I-35/80	West Jct. Of I-235 to the East Jct. Of I-235
I-74	Entire Route in Scott County
I-80	Missouri River to Madison Avenue in Council Bluffs
I-80	I-280 Interchange to Mississippi River Bridge in Scott County
I-80	IA 965 to IA 1 in Iowa City
I-235	Entire Route in and near Des Moines
I-280	Entire Route in Scott County
I-380	Gilbertville Interchange westerly to end of route
I-380	US 30 to Boysen Road in Cedar Rapids
US 20	IA 58 to I-380 in Waterloo/ Cedar Falls area
US 20	I-29 to IA 12 Interchange in Sioux City
US 30	Fairfax Road to “C” Street in Cedar Rapids
US 61	Locust Street Connection to City Island Bridge in Dubuque
US 65	IA 5 Interchange to I-80
US 75	IA 12 Interchange to Lewis Blvd. Interchange
US 218	11 <sup>th</sup> Street to Airport Interchange in Waterloo
IA 5	I-35 Interchange to US 65