

R930. Transportation, Preconstruction.

R930-7. Utility Accommodation.

R930-7-1. Purpose.

- (1) The purpose of this rule is to:
- maximize public safety;
 - provide for efficient highway operations and maintenance of roadways;
 - maximize aesthetic quality;
 - minimize future conflicts between the highway system and utility companies serving the general public; and
 - ensure that use and occupancy by utility companies do not impair or increase the cost of future highway construction, expansion, or maintenance or interfere with any right of way reserved for these purposes.
- (2) This rule prescribes conditions under which utility facilities may be accommodated on right of way and sets forth the state's regulations covering the placement and relocation of utility facilities in conflict with the construction and maintenance of highways.
- (3) This rule should be interpreted to achieve maximum lawful public use of right of way for transportation purposes and to ensure that utility installations and operations affecting state right of way are accomplished in accordance with state and federal laws and regulations. It is in the public interest for utility facilities to be accommodated within rights of way when the accommodation does not adversely affect the integrity of highway features. The permitted use and occupancy of right of way for non-highway purposes is subordinate to the primary interests for transportation and safety of the traveling public.
- (4) This rule is provided to facilitate the establishment of consistent expectations and effective working relationships between UDOT and utility companies through continuous communication, coordination and, cooperation.
- (5) Through the Code of Federal Regulations (23 CFR, Part 645.215(a)), the U.S. Department of Transportation requires each state to submit a statement to the Federal Highway Administration (FHWA) on the authority of utility companies to use and occupy the right of way of state highways, the state highway agency's power to regulate the use, and the policies the state employs or proposes to employ for accommodating utilities within the right of way of Federal-aid highways under its jurisdiction. This rule demonstrates compliance to FHWA.

R930-7-2. Authority and Source Documents.

This rule is enacted under the authority of Section 72-6-116(2), wherein UDOT is authorized and given the responsibility to regulate and make rules for the installation, construction, maintenance, repair, renewal, system upgrade, and relocation of utility facilities within state administered highways, including ordering their relocation as may become necessary.

- (1) Utah Code provides for the accommodation of utility facilities within the right of way and provides UDOT the authority to promulgate rules and regulations for administering those provisions. Accordingly, this rule has been developed pursuant to the following state and federal laws, codes, regulations, policies:
- Utah Code, Title 54, Public Utilities, Section 54-3-29;
 - American Association of State Highway and Transportation Officials (AASHTO) publications, A Guide for Accommodating Utilities within Highway Right of Way and A Policy on the Accommodation of Utilities within Freeway Right of Way; and
 - AASHTO publications, Roadside Design Guide and A Policy on Geometric -Design of Highways and Streets.
- (2) This rule incorporates by reference 23 CFR Section 645, Subpart B, (November 22, 2000).
- (3) UDOT has secured the authority from FHWA to issue permits for the use or occupancy of the right of way by utility facilities on Federal-aid highways. The use of Federal-aid highway right of way by utilities shall be in accordance with 23 CFR 645.215.

R930-7-3. Definitions.

- (1) "Abandoned facility" is a utility facility that is not in use, no longer actively providing a service and is physically disconnected from the operating facility that is still in use and still actively providing a service. Abandoned facilities remain the property of the utility company.
- (2) "Access control" is the regulation of public access to and from properties abutting the highway facilities. The two basic types of access control are:
- "No access (NA)" means access to through-traffic lanes is not allowed except at interchanges. Crossings at grade and direct driveway connections are prohibited.
 - "Limited access (LA)" means access to selected public roads may be provided. There may be some crossings at grade and some private driveway connections.
- (3) "Administrative citation" is a letter from UDOT to a utility company citing one or more non-compliance items and proper redress requirements such as action on the appropriate bond, revocation of permit, and revocation of a license agreement.
- (4) "AASHTO" is the American Association of State Highway and Transportation Officials.
- (5) "Backfill" means the replacement of soil removed during construction. It may also denote material placed over or around structures and utilities.
- (6) "Bedding" means the composition and shaping of soil or other suitable material to support a pipe, conduit, casing, or utility tunnel.

(7) "Boring" means the operation by which carriers or casings are pushed or jacked under highways without disturbing the highway structure or prism. Bores are carved progressively ahead of the leading edge of the advancing pipe as soil is mucked back through the pipe.

(8) "Carrier" means a pipe directly enclosing a transmitted fluid (liquid, gas, or slurry).

(9) "Casing" is a larger pipe, conduit, or duct enclosing a carrier.

(10) "Clear Zone" means the total roadside border area, starting at the edge of the traveled way, available for safe use by errant vehicles. This area may consist of a shoulder, a recoverable slope, a non-recoverable slope, and a clear run-out area. The desired width is dependent upon traffic volumes, speeds, and roadside geometry.

(11) "Coating" is material applied to or wrapped around a pipe.

(12) "Conduit" is an enclosed tubular casing for the protection of wires and cables.

(13) "Depth of bury (cover)" means the depth from ground or roadway surface to top of pipe, conduit, casing, cable, utility tunnel, or similar facility.

(14) "Deviation" means a granted permission to depart from the standards and requirements of this rule.

(15) "Emergency work" is utility company work required to prevent loss of life or significant damage to property.

(16) "Encasement" is a structural element surrounding a carrier or casing.

(17) "Encroachment" means the unauthorized use of highway right of way.

(18) "Encroachment permit" is a document that specifies the requirements and conditions for performing work on the highway right of way.

(19) "Environmentally protected areas" are areas that include, but are not limited to, wetlands, flood plains, stream channels, rivers, threatened or endangered species, archaeological sites, and historic sites.

(20) "Expressway" is a divided arterial highway for through traffic with partial control of access and generally with grade separations at major intersections.

(21) "Federal-aid highways" are highways eligible to receive Federal-aid.

(22) "FHWA" is the Federal Highway Administration.

(23) "Flexible carrier pipe" is a plastic, fiberglass, or metallic pipe having a large diameter to wall thickness ratio and which can be deformed without undue stress.

(24) "Flowable fill" is low strength flowable concrete as defined in UDOT Standard Specification 03575.

(25) "Freeway" is an expressway with full control of access.

(26) "Frontage road" is a local street or road auxiliary to and located on the side of an arterial highway for service to abutting property and adjacent areas and for control of access.

(27) "Grade" is the rate or percent of change in slope, either ascending or descending, measured along the centerline of a roadway or access.

(28) "Grounded" means electrically connected to earth or to some extended conducting body that serves instead of the earth, whether the connection is intentional or accidental.

(29) "Grout" is a cement mortar or slurry of fine sand or clay.

(30) "Highway, street, or road" are general terms denoting a public way for the transportation of people, materials, and goods, but primarily for vehicular travel, including the entire area within the right of way.

(31) "Horizontal directional drilling" (HDD), also known as directional boring and directional drilling, is a method of installing underground pipes and conduits from the surface along a prescribed bore path. The process is used for installing telecommunications and power cable conduits, water lines, sewer lines, gas lines, oil lines, product pipelines, and casings used for environmental remediation. It is used for crossing waterways, roadways, congested areas, environmentally protected areas, and any area where other methods are not feasible.

(32) "Interstate highway system" (Interstate) is the Dwight D. Eisenhower National System of Interstate and Defense Highways as defined in the Federal-aid Highway Act of 1956 and any supplemental acts or amendments.

(33) "License Agreement or Statewide Utility License Agreement" is a document by which UDOT licenses the use and occupancy, with conditions, of highway rights of way for utility facilities.

(34) "Manhole" or "utility access hole" is an opening in an underground system that workers or others may enter for the purpose of making installations, removals, inspections, repairs, connections, and tests.

(35) "Median" is the portion of a divided highway separating the traveled ways for traffic in opposite directions.

(36) "MUTCD (Utah MUTCD)" means the current version of Utah Manual on Uniform Traffic Control Devices referenced in R920-1.

(37) "Pavement structure" is the combination of sub-base, base course, and surface course placed on a sub-grade to support the traffic load.

(38) "Permit" means encroachment permit.

(39) "Pipe" is a tubular product made as a production item for the transmission of liquid or gaseous substances. Cylinders formed from plate material in the fabrication of auxiliary equipment are not pipe as defined here.

(40) "Pipeline" is a continuous carrier used primarily for the transportation of liquids, gases, or solids from one point to another using either gravity or pressure flow.

(41) "Plowing" means the direct burial of utility lines by means of a mechanism that breaks the ground, places the utility line, and closes the break in the ground in a single operation.

(42) "Practicable" means reasonably capable of being accomplished or feasible as determined by UDOT.

(43) "Relocate" means to move an existing utility facility to a new location when found by UDOT to be necessary for construction or maintenance of a highway.

(44) "Right of way" is a general term denoting land, property, or interest therein, usually in a strip acquired for or devoted to transportation purposes.

(45) "Roadside" is a general term denoting the area between the outer edge of the roadway shoulder and the right of way limits.

(46) "Roadway" is the portion of a highway, including shoulders, for vehicular use. A divided highway has two or more roadways.

(47) "Slope" is the relative steepness of the terrain expressed as a ratio or percentage. Slopes may be categorized as positive or negative and as parallel or cross slopes in relation to the direction of traffic.

(48) "State highways" are those highways designated as State Highways in Title 72, Chapter 4, Designation of State Highways.

(49) "Structure" means any device used to convey vehicles, pedestrians, animals, waterways or other materials over highways, streams, canyons, or other obstacles. It also includes buildings, signs, and UDOT facilities with foundations.

(50) "Subsurface Utility Engineering (SUE)" is the management of certain risks associated with utility mapping at appropriate quality levels, utility coordination, utility relocation, communication of utility data, utility relocation cost estimates, implementation of utility accommodation policies, and utility design. SUE tools include traditional records, site surveys, and new technologies such as surface geophysical methods and non-destructive vacuum excavation, to provide quality levels of information. The SUE process for collecting and depicting information on existing subsurface Utility Facilities is described in ASCE Standard 38-02, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data.

(51) "Trenched" means installed in a narrow open excavation.

(52) "Trenchless (Untrenched)" means installed without breaking the ground or pavement surface by a construction method such as directional drilling, boring, tunneling, jacking, or auguring.

(53) "UDOT" is the Utah Department of Transportation and where referenced to be contacted, submitted to, approved by, accepted by or otherwise engaged, means an authorized representative.

(54) "Utility" or "utility facility" means privately, publicly, cooperatively, or municipally owned pipelines, facilities, or systems for producing, transmitting, or distributing communications, power, electricity, light, heat, gas, oil, petroleum products, cable television, water, sewer, steam, waste, storm water not connected with highway drainage, and other similar commodities, which directly or indirectly service the public, or any part thereof.

(55) "Utility appurtenances" include but are not limited to pedestals, manholes, vents, drains, rigid markers, meter pits, sprinkler pits, valve pits, and regulator pits.

(56) "Utility company" is a privately, cooperatively, or publicly owned utility, including utilities owned by political subdivisions, and where referenced includes authorized representatives, contractors, and agents.

(57) "Vent" is an appurtenance designed to discharge gaseous contaminants from a casing.

R930-7-4. Scope.

(1) This rule supersedes portions of Manual of Accommodation of Utility Facilities and the Control and Protection of State Highway Rights of Way including Section 5 and portions relating to utility accommodation or that refer to utilities in the right of way or percent of reimbursement, which are part of R930-6 at the time of enactment of this rule.

(2) Regulations, laws, or orders of public authority or industry code prescribing a higher degree of protection or construction than provided by this rule shall govern.

R930-7-5. Application.

(1) This rule applies to privately, cooperatively, and publicly owned utility companies, including utility companies owned by political subdivisions, and shall include telecommunication, gas, oil, petroleum, electricity, cable television, water, sewer, data and video transmission lines, drainage and irrigation systems, and other similar utilities to be located, accommodated, adjusted or relocated within, on, along, across, over, through, or under the highway right of way. This rule does not apply to utility facilities that are required for UDOT highway purposes. This rule applies to underground, surface, or overhead facilities, either singularly or in combination, including bridge attachments.

(2) The rule applies to Federal-aid highway projects including local government projects. In compliance with 23 CFR 649.209(g) local governments are required to enter into formal agreements with UDOT that provide for a degree of protection to the highway at least equal to the protection provided by this rule.

R930-7-6. General Installation Requirements.

(1) General.

(a) Utility companies desiring to use right of way under the jurisdiction of UDOT for the installation or maintenance of any utility facility must be licensed to do so by entering into a license agreement with UDOT. This statewide agreement sets forth the procedures and conditions for the issuance of encroachment permits for all installations statewide. Encroachment permits are not issued without a license agreement first being executed. UDOT may impose additional restrictions or requirements for license agreements or encroachment permits.

(b) A permitted facility shall, if necessary, be modified by the utility company to improve safety or facilitate alteration or maintenance of the right of way as determined by UDOT.

(2) License Agreements or Statewide Utility License Agreements.

(a) Agreements are executed by UDOT and utility companies to set forth the terms and conditions for the accommodation and maintenance of utility facilities within the right of way. A license agreement is required for, but does not guarantee the approval of encroachment permits.

(b) As part of executing a license agreement with UDOT, owners of facilities located in the right of way are required to post a continuous bond in the amount of \$100,000, naming UDOT as the insured, to guarantee satisfactory performance. The Statewide Utilities Engineer may approve a lesser amount. Failure by a utility company to maintain a valid bond in the amount required is cause for denying issuance of future permits to that utility company, and for the removal of that utility company's facilities from the right of way.

(c) A public utility is exempt from the bond requirements described in this section if the public utility:

(i) is a member of the municipal insurance pool;

(ii) is a political subdivision; or

(iii) carries liability insurance with minimum coverage of \$1,000,000 per occurrence and as more specifically described in its License Agreement.

(d) Upon discovery of utility caused damage to the highway or to the right of way, UDOT may opt to exercise its bonding rights in recovering costs incurred to restore the highway or right of way. The utility company is liable for all restoration costs incurred as a result of damages caused by its utility, and its liability is not limited to the amount of the bond.

(e) License agreements may be terminated at any time by either party upon 30 days advance written notice to the other. Permits previously issued and approved under a terminated agreement are not affected and remain in effect on the same terms and conditions set forth in the agreement and permits. The obligation to maintain the \$100,000 bond continues until the utility company's facilities are removed from UDOT's right of way.

(3) Emergency Work.

(a) In all emergency work situations, the utility company or its representative shall contact UDOT immediately and on the first business day shall contact UDOT to complete a formal permit. Failure to contact UDOT for an emergency work situation and obtain an encroachment permit within the stated time period is considered to be a violation of the terms and conditions of the utility company's license agreement. At the discretion of the utility company, emergency work may be performed by a bonded contractor, public agency, or a utility company. None of the provisions of this rule are waived for emergency work except for the requirement of a prior permit.

(4) One Call Requirements.

(a) Underground facilities are not permitted within the right of way unless the utility company subscribes to Blue Stakes of Utah and other appropriate "call-before-you-dig" systems, or otherwise provides utility plans as detailed in Section R930-7-11(6)(a) of this rule.

(5) Preservation of New Pavement.

(a) Cuts or open excavations on newly constructed, paved, or overlaid highways are not allowed for two years. If an emergency cut or excavation occurs, the responsible utility company shall comply with any special conditions imposed by UDOT regarding restoration of the roadway.

(6) Encroachment Permits.

(a) Encroachment Permits on State Highways.

Utility companies shall obtain an encroachment permit from UDOT for the installation and maintenance of utility facilities on the right of way. Encroachment permits are approved or disapproved by UDOT. Applications for encroachment permits are submitted to the Region Permits Officers by the utility company or its contractor. No utility company or utility company contractor shall begin any utility work on the right of way until an approved encroachment permit is issued by UDOT and the utility company is authorized to proceed in writing. Prior to the issuance of encroachment permits, fees are assessed to cover related costs incurred by UDOT including costs for planning, coordination, and utility plan review.

If the utility company expects work to significantly impact travel lane capacity, UDOT recommends the utility company contact the appropriate Region Permit Office to discuss concepts in advance of submitting an encroachment permit application.

Utility companies shall submit two sets of plans depicting the proposed installation. The plans shall be sized as required by UDOT and include utility company identification, work location, utility type and size, type of construction, vertical and horizontal location of facilities relative to the centerline of road, location of all appurtenances, trench details, right of way limits, and traffic control plans. Traffic control plans shall conform to the Utah MUTCD as outlined in Section R930-7-7(1)(d), are mandatory for each instance of utility construction or maintenance, and shall be attached to each permit application.

Utility companies may authorize their contractors to obtain permits on their behalf. All terms and conditions set forth in the license agreement apply. The utility company's construction forces or the utility contractor shall carry a copy of the approved permit at all times while working on the right of way.

(b) Bonding and Liability Insurance Requirements.

(i) Individual Encroachment Permit Bonding Requirements. As authorized by Sub-section 72-7-102(3)(b)(i) this rule requires encroachment permit applicants to post a Performance and Warranty or Maintenance Bond, using UDOT's approved bond form, for a period of three years from the date of beginning of work or two years from the end of work, whichever provides the longer period of coverage. A Performance and Warranty Bond is required for each individual encroachment permit. Political subdivisions of the state are not required to post a bond unless the political subdivision fails to meet the terms and conditions of

previous permits issued as determined by UDOT. The amount of the bond is determined by the UDOT Region Permits Officer based on the scope of work being performed but will not be less than \$10,000.

(ii) Statewide Encroachment Permit Bonding Option. Encroachment permit applicants who routinely acquire encroachment permits may elect to post a statewide performance and warranty or maintenance bond in lieu of posting multiple individual bonds. A statewide bond satisfies bonding requirements for work in all UDOT Regions. The bond amount is determined by UDOT but will not be less than \$100,000. A valid statewide bond period shall be not less than three years and will meet bonding requirements for UDOT permits for a period of one year from date of issue. Encroachment permit applicants may submit a replacement statewide bond on an annual basis provided the bond period is not less than three years at time of replacement.

(iii) Inspection Bond. UDOT may require an additional inspection bond to ensure payment for UDOT field review and inspection costs before an encroachment permit is granted.

(iv) Proceeds Against the Bond. UDOT may proceed against the bond to recover all expenses incurred if payment is not received from the permit applicant within 45 calendar days of receiving an invoice. Upon discovery of utility caused damage to the highway or to the right of way, UDOT may opt to exercise its bonding rights in recovering costs incurred to restore the highway or right of way due to utility caused damages. Failure by the utility company to maintain a valid bond in the amounts required shall be cause for denying issuance of future permits and for the removal of the utility from the right of way.

(v) Liability Insurance Requirements. Permit applicants are also required to provide a certificate of liability insurance in the minimum amounts of \$1,000,000 per occurrence and \$2,000,000 in aggregate. Failure to meet this requirement will result in application denial. Liability insurance coverage is required throughout the life of the permit and cancellation will result in permit revocation.

(vi) Information about bond forms and liability insurance requirements are available on UDOT's website at: <http://www.udot.utah.gov/go/encroachmentpermit>

(c) Cancellation of Permits. Any failure on the part of a utility company to comply with the terms and conditions set forth in the license agreement or the encroachment permit may result in cancellation of the permit. Failure to pay any sum of money for costs incurred by UDOT in association with installation or construction review, inspection, reconstruction, repair, or maintenance of the utility facilities may also result in cancellation of the permit. UDOT also may remove the facilities and restore the highway and right of way at the sole expense of the utility company. Prior to any cancellation, UDOT shall notify the utility company in writing, setting forth the violations, and will provide the utility company a reasonable time to correct the violations to the satisfaction of UDOT.

(d) Assignment of Permits. Permits shall not be assigned without the prior written consent of UDOT. All assignees shall be required to file a new permit application.

(e) Indemnification. Permit holders performing utility work on the right of way shall, at all times, indemnify and hold harmless UDOT, its employees, and the State of Utah from responsibility for any damage or liability arising from their construction, maintenance, repair, or any other related operation during the work or as a result of the work. Permit holders shall also be responsible for the completion, restoration, and maintenance of any excavation for a period of three years unless UDOT requires a longer period of indemnification due to specific or unique circumstances.

R930-7-7. General Design Requirements.

(1) General.

(a) Joint use of state right of way may impact both the highway and the utility. Each utility company requesting the use of right of way for the accommodation of its facilities is responsible for the proper planning, engineering, design, construction, and maintenance of proposed installations. The utility company shall coordinate with UDOT and develop its projects to meet design standards and to optimize safety, cost effectiveness, and efficiency of operations for both the utility company and the state. Utility companies are directed to the following AASHTO publications for assistance:

(i) Roadside Design Guide;

(ii) A Policy on Geometric Design of Highways and Streets;

(iii) A Guide for Accommodating Utilities within Highway Right of Way; and

(iv) A Policy on the Accommodation of Utilities within Freeway Right of Way.

(b) The utility company is responsible for the design, construction, and maintenance of its facilities installed within the right of way. All elements of these facilities including materials used, installation methods, and locations shall be subject to review and approval by UDOT.

(c) Plans, Drawings and Specifications. The utility company shall provide UDOT with comprehensive plans, drawings and specifications as may be required for all proposed utility facilities within the right of way. Utility plan submittals shall contain physical features of the utility site including, but not limited to the following:

(i) highway route number;

(ii) highway mile post locations;

(iii) map with route and site location;

(iv) existing features such as manholes, structures, drainage facilities, other utilities, access controlled and right of way lines, center line of highway relative to the utility facility location, and relevant vertical information;

(v) plan and drawing scales; and

(vi) legend including definition of symbols used.

The plans, drawings, and specifications shall also contain administrative information, identification and type of materials to be used, relevant information on adjacent land classification and ownership, related permits and approvals if required, and identification of the responsible Engineer of Record.

(d) Traffic Control Plans. The utility company shall provide traffic control plans (TCP) that conform to the current Utah MUTCD and UDOT Traffic Control Standards and Specification.

(e) The utility company is responsible to ensure compliance with industry codes and standards, the conditions and special provisions specified in the permit, and applicable laws, rules and regulations of the State of Utah and the Code of Federal Regulations.

(f) All utility facility installations located in, on, along, across, over, through, or under the surface of the right of way, including attachments to highway structures, are the responsibility of the utility company and, as a minimum, shall meet the following utility industry and governmental requirements.

(i) Electric power and communications facilities shall conform to the current applicable National Electric Safety Code.

(ii) Water, sewage and other effluent lines shall conform to the requirements of the American Public Works Association or the American Water Works Association.

(iii) Pressure pipelines shall conform to the current applicable sections of the standard code of pressure piping of the American National Standards Institute, 49 CFR 192, 193 and 195, and applicable industry codes.

(iv) Liquid petroleum pipelines shall conform to the current applicable recommended practice of the American Petroleum Institute for pipeline crossings under railroads and highways.

(v) Any pipelines carrying hazardous materials shall conform to the rules and regulations of the U.S. Department of Transportation governing the transmission of the materials.

(vi) Telecommunications with longitudinal installations within Interstate, Freeway and other Access Controlled Highway right of way shall conform to R907-64.

(2) Subsurface Utility Engineering.

(a) The use of Subsurface Utility Engineering (SUE) shall be required as an integral part of the design for new utility facility installations on the right of way when determined by UDOT to be warranted.

R930-7-8. Definitive Design Requirements.

(1) Location Requirements.

(a) Longitudinal Installations. The type of utility construction, vertical clearances, lateral location of poles and down guys, and related ground mounted utility facilities along roadways are factors of major importance in preserving a safe traffic environment, the appearance of the highway, and the efficiency and economy of highway construction and maintenance. Longitudinal utility facilities shall be located on a uniform alignment and as close to the right of way line as practicable. The joint use of pole lines is acceptable and encouraged; however, all installations shall be located so that all servicing may be performed with minimal traffic interference. The following additional requirements apply to longitudinal installations.

(i) Utility facilities shall be located so as to minimize the need for future utility relocations due to highway improvements, avoid risks to the highway, and not adversely impact environmentally protected areas.

(ii) The location of utility installations along urban streets with closely abutting structures such as buildings and signs generally requires special considerations. These considerations shall be resolved in a manner consistent with the prevailing limitations and as approved by UDOT.

(iii) The location of utility facilities and associated appurtenances shall be in accordance with the Americans with Disabilities Act.

(iv) The horizontal location of utility facilities and appurtenances within the right of way shall conform to the current edition of the AASHTO Roadside Design Guide.

(v) Adequate warning devices, barricades, and protective devices must be used to prevent traffic hazards. Where circumstances necessitate the excavation closer to the edge of pavement than established above, concrete barriers or other UDOT approved devices shall be installed for protection of traffic in accordance with UDOT Traffic Control Standards and UDOT's Supplemental Drawings.

(vi) There are greater restrictions on the accommodation of utility facilities within interstate, freeway, and other access controlled highway right of way. See Section R930-7-10 for details.

(b) Overhead Installations.

(i) Minimal vertical clearances for installed overhead lines are 18 feet for crossings and 23 feet for intersections. In addition, the vertical clearance for overhead lines above the highway and the vertical and lateral clearance from bridges and above ground UDOT facilities shall meet or exceed the current edition of the National Electrical Safety Code. Where overhead lines cross UDOT above ground facilities, including but not limited to signs, traffic signal heads, poles, and mast arms, vertical and lateral clearance shall meet OSHA working clearances for electrical lines in effect at the time of the installation which will accommodate maintenance work by UDOT personnel without having to discharge or shield the lines.

(ii) Utility companies planning to attach cable to other utility company poles shall obtain approval from the owner of the poles prior to a permit being issued by UDOT.

(iii) The utility facility shall conform to the current edition of the AASHTO Roadside Design Guide. Where there are existing curbed sections, utility facilities shall be located as far as practicable behind the face of curbs and, where feasible, behind sidewalks at locations that will not interfere with adjacent property use. In all cases there shall be a minimum of two feet

clearance behind the face of the curb. All cases shall be resolved in a manner consistent with prevailing limitations and conditions.

(iv) Before locating a utility facility at other than the right of way line, consideration shall be given to designs using self-supporting, armless single pole construction, with vertical alignment of wires or cables, or other techniques permitted by government or industry codes that provide a safe traffic environment. Deviations from required clearances may be made where poles and guys can be shielded by existing traffic barriers or placed in areas that are inaccessible to vehicular traffic.

(v) Where irregular shaped portions of the right of way extend beyond or do not reach the normal right of way limits, variances in the location of utility facilities may be allowed to maintain a reasonably uniform alignment and thereby reduce the need for guys and anchors between poles and roadway.

(c) Subsurface Installations.

(i) Underground utilities may be placed longitudinally outside of the pavement by plowing or open trench method. Underground utilities shall be located on a uniform alignment and as near as practicable to the right of -way line to provide a safe environment for traffic operations, preserve the integrity of the highway, and preserve space for future highway improvements or other utility facility installations. The allowable distance from the right of way line will generally depend upon the terrain and obstructions such as trees and other existing underground and overhead objects. On highways with frontage roads, longitudinal installations shall be located between the frontage roads and the right of way lines. Utility companies shall include the placement of markers referenced in Section R930-7-11(5).

(ii) Unless UDOT grants a deviation, underground utility installations across existing roadways shall be performed by trenchless method in accordance with UDOT requirements and casings may be required. Pits shall be located outside of the clear zone and at least 30 feet from the edge of the nearest through traffic lane and at least 20 feet from the edge of pavement on ramps. On low traffic roadways and frontage roads, as determined by UDOT, bore pits shall be at least ten feet from the edge of pavement, five feet beyond toe of slope under fill sections and at least five feet from the face of curb and meet clear zone requirements from the edge of the traveled way whichever is greater. Bore pits shall be located and constructed so as to eliminate interference with highway structural footings. Shoring shall be used where necessary.

TABLE 1
Bore Pit Locations

Bore Pit Set Back	Outside Clear Zone
At least ten feet from the edge of pavement, five feet beyond toe of slope under fill sections and at least five feet from the face of curb	At least 30 feet from the edge of the nearest through traffic lane and at least 20 feet from the edge of pavement on ramps.

(iii) The depth of bury for all utility facilities under pavement shall be a minimum of four feet below the top of pavement or existing grade including open drainage features. Where utility facilities are installed within 20 feet from the edge of pavement, the depth of bury shall be a minimum of five feet below top of grade so as to allow for installation of UDOT signs or delineators. Utility facilities under sidewalks shall be installed a minimum of three feet below the top of sidewalk.

(iv) Utility facilities installed greater than 20 feet from the edge of pavement shall be installed a minimum depth of three feet below grade. Specific types of facilities such as high pressure gas lines or petroleum lines may require additional cover.

(v) All underground utilities installed in the right of way must meet the minimum standards for compaction as outlined in the current edition of the UDOT Standards and Specifications for Road and Bridge Construction.

(vi) Where minimum depth of bury is not feasible, the facility shall be rerouted or, if permitted by UDOT, protected with a casing, encasement, concrete slab, or other suitable protective measures.

TABLE 2

SUMMARY OF UDOT DEFINITIVE UTILITY REQUIREMENTS
MINIMUM DEPTH OF BURY
Longitudinal and Crossing Installations
All underground utilities (cased and uncased)

Under Pavement Surface	Under Sidewalks	Under Ditch	Less than 20 ft. from edge of pavement	Greater than 20 ft. from edge of pavement
Min. of four ft. below top of pavement	Min. of three ft. below top of sidewalk	Min. of three ft. below low point of ditch	Min. of five ft. below natural grade	Min. of three ft. below natural grade

(d) Crossings.

(i) Utility crossings shall be at 90 degrees unless a deviation is approved by UDOT. Crossing installations under paved surfaces shall be by trenchless methods. Jetting by means of water or compressed air is not permitted.

(ii) Utility crossings shall be avoided in deep roadway cuts, near bridge footings, near retaining and noise walls, at highway cross drains where flow of water may be obstructed, in wet or rocky terrain where it is difficult to attain minimum cover, and through slopes under structures.

(e) Median Installations.

(i) Overhead utility facilities such as poles, guys, or other related facilities shall not be located in highway medians. Deviations may be considered for crossings where wide medians provide for sufficient space to meet clear zone requirements from the edges of the travelled ways.

(f) Appurtenances.

(i) Utility appurtenances shall be located outside the clear zone and as close to the right of way line as practicable. Where these requirements cannot be met and no feasible alternative exists, a deviation to locate appurtenances within the clear zone in areas that are shielded by traffic barriers may be considered after the utility company provides written justification for such location for UDOT review. Cabinets, regulator stations, and other similar utility components shall not be located on the right of way unless they are determined by UDOT to be sufficiently small to allow a deviation.

(ii) Manholes, valve pits, and similar appurtenances shall be installed so that their uppermost surfaces are flush with the adjacent undisturbed surface.

(iii) Utility access points and valve covers shall be located outside the roadway where practicable. In urbanized areas where no feasible alternative to locating utility access points and valve covers outside of the roadway exists, the utility company must coordinate with UDOT to meet safety, operational, and maintenance requirements of both the utility company and UDOT.

(iv) Utility companies shall avoid placing manholes in the pavement of high speed and high volume highways. Deviations may be considered after written justification for such location is submitted by the utility company and reviewed and approved by UDOT. New manhole installations shall be avoided at highway intersections and within the wheel path of traffic lanes.

(v) Vents, drains, markers, utility access holes, shafts, shut-offs, cross-connect boxes, pedestals, pad-mounted devices, and similar appurtenances shall be located along or across highway rights of way in accordance with the provisions of the Americans With Disabilities Act.

(2) Environmental Compliance.

(a) The utility company shall comply with all applicable state and federal environmental laws and regulations, and shall obtain necessary permits. Environmental requirements include but are not limited to the following.

(i) Water Quality. A "Storm Water General Permit for Construction Activities" is required from the Utah Division of Water Quality for disturbances of one or more acres of ground surface.

(ii) Wetlands and Other Waters of the U.S. A "Section 404 Permit" is required from the U.S. Army Corps of Engineers for any impact to a wetland or water of the U.S.

(iii) Threatened or Endangered (T and E) Species. Comply with the Endangered Species Act; avoid impacts to T and E species or obtain a Permit from the U. S. Fish and Wildlife Service.

(iv) Historic and Archaeological Resources. Comply with the "National Historic Preservation Act"; avoid impacts to historic and archaeological resources. If resources could be impacted, contact the Utah State Historic Preservation Office.

(b) The utility company is responsible for environmental impacts and violations resulting from construction activities performed by the utility company or its contractors.

(c) If UDOT discovers or is made aware of a violation by the utility company or a failure to comply with state and federal environmental laws, regulations and permits, UDOT may revoke the permit, notify appropriate agencies, or both.

(3) Installation of Utilities in Scenic Areas.

(a) The type, size, design, and construction of utility facilities in areas of natural beauty shall not materially alter the scenic quality, appearance, and views from the highway or roadsides. These areas include scenic strips, overlooks, rest areas, recreation areas, adjacent rights of way and highways passing through public parks, recreation areas, wildlife and waterfowl refuges, and historic sites. Utility installations in these areas shall not be permitted. Deviation from this requirement may be allowed if there is no reasonable or feasible alternative as determined by UDOT based on written justification submitted by the utility company. On Federal-aid highways, all decisions related to utility installations within these areas shall be subject to the provisions detailed in 23 CFR 645.209(h).

(i) New underground utility installations may be permitted within scenic strips, overlooks, scenic areas, or in the adjacent rights of way, when they do not require extensive removal, or alteration of trees, and other shrubbery visible to the highway user, or do not impair the scenic appearance of the area.

(ii) New overhead installations of communication and electric power lines are not permitted in such locations unless there is no feasible and reasonable alternative as determined by UDOT. Overhead installations shall be justified to UDOT by demonstrating that other locations are not available and that underground facilities are not technically feasible, economical or are more detrimental to the scenic appearance of the area.

Any installation of overhead facilities shall be made at a location and in a manner that will not detract from the scenic quality of the area being traversed. The installation shall utilize a suitable design and use materials aesthetically compatible to the scenic area, as approved by UDOT.

(4) Casing and Encasement Requirements.

(a) General. A carrier pipe is sometimes installed inside of a larger diameter pipe defined as a casing. Casings are typically used to provide complete independence of the carrier pipe from the surrounding roadway structure, and to provide adequate protection to the roadway from leakage of a carrier pipeline. It also provides a means for insertion and replacement of carriers without access or disturbance to through-traffic roadways.

(b) Casing requirements for crossing installations.

(i) All pipelines under pressure crossing under the roadbed of highways shall be in casings unless the pipeline is welded steel, meets industry corrosion protection standards, complies with federal and state requirements, and meets accepted industry standards regarding wall thickness and operating stress levels. In some cases UDOT may require a casing regardless of these exceptions if needed to protect the roadway, maintain public safety, or both.

(ii) In urban areas where space is limited for venting or where small pipelines are crossing, specifically intermediate high pressure lines, deviations for casing may be granted by UDOT.

(iii) Where a casing is required, it must be provided under medians, from top of back-slope to top of back-slope for cut sections, five feet beyond toe of slope under fill sections, five feet beyond face of curb in urban sections and all side streets, and five feet beyond any structure where the line passes under or through the structure. Deviations must be approved by UDOT. On freeways, expressways, and other access controlled highways, casings shall extend to the access control lines.

(iv) Utility installations by trenchless technologies, such as jacking, boring, or horizontal directional drilling methods, may be placed under highways without a casing pipe if approved by a UDOT representative.

(v) Where minimum bury is not feasible, the facility shall be rerouted or protected with a casing, concrete slab, or other suitable measures as determined by UDOT.

(c) Casings shall be considered for the following conditions:

(i) as an expediency in the insertion, removal, replacement, or maintenance of carrier pipe crossings of freeways, expressways, and other access controlled highways, and at other locations where it is necessary to avoid trenched construction;

(ii) as protection for carrier pipe from external loads or shock either during or after construction of the highway; and

(iii) as a means of conveying leaking fluids or gases away from the area directly beneath the roadway to a point of venting at or near the right of way line, or to a point of drainage in the highway ditch or a natural drainage way.

(d) UDOT may require casings for pressurized carriers or carriers of a flammable, corrosive, expansive, energized, or unstable material.

(e) Trenchless installations of coated carrier pipes shall be cased. Permission to deviate from this requirement may be granted where assurance is provided against damage to the protective coating.

(f) Encasement or other suitable protections shall be considered for pipelines with less than minimum cover, such as those near bridge footings or other highway structures, or across unstable or subsiding ground, or near other locations where hazardous conditions may exist.

(g) Rigid encasement or suitable bridging shall be used where support of pavement structure may be impaired by depression of flexible carrier pipe. Casings shall be designed to support the load of the highway and superimposed loads thereon and, as a minimum, shall be equal to or exceed the structural requirements of UDOT highway culverts in the UDOT Bridge Design Manual.

(h) Casings shall be sealed at the ends using suitable material to prevent water and debris from entering the annular space between the casing and the carrier. Such installations shall include necessary appurtenances, such as vents and markers.

(5) Mechanical and Other Protective Measures for Uncased Installation.

(a) When highway pipeline crossings are installed without casings or encasement, the following are suggested controls for providing mechanical or other protection.

(i) The carrier pipe shall conform to utility material and design requirements and utility industry and government codes and standards. The carrier pipe shall be designed to support the load of the highway plus superimposed loads operating under all ranges of pressure from maximum internal to zero pressure. Such installations shall use a higher factor of safety in the design, construction, and testing than would normally be required for cased construction.

(ii) Suitable bridging, concrete slabs, or other appropriate measures shall be used to protect existing uncased pipelines which may be vulnerable to damage from construction or maintenance operations. Construction or maintenance activities shall not proceed until protective measures are approved by UDOT.

(b) Uncased crossings of welded steel pipelines carrying flammable, corrosive, expansive, energized, or unstable materials may be permitted if additional protective measures are taken in lieu of encasement. Such measures shall use a higher factor of safety in the design, construction, and testing of the uncased carrier pipe, including thicker wall pipe, radiograph testing of welds, hydrostatic testing, coating and wrapping, and cathodic protection.

R930-7-9. Utilities on Highway Structures.

(1) General.

(a) The installation of utility facilities on highway structures can adversely impact the integrity and capacity of the structure, the safe operation of traffic, maintenance efficiency, and the aesthetic appeal of the structure. Utility facilities shall not be installed on highway structures except in extreme cases. When installation of utilities at an alternate location exceeds the cost of attaching to the structure by four times, UDOT will consider such an installation. The utility company shall submit documentation requesting installation on highway structures to the UDOT Structures Division for review and approval. Attachment of a utility facility will only be considered if the structure is adequate to support the additional load. This adequacy

must be verified by a load rating completed by the utility company following UDOT's Load Rating Policies and Procedures, submitted to UDOT along with the necessary documentation including calculations and a load rating model.

Installing utility facilities within 50 feet of structures may impact the design, installation, operation, maintenance and safety of the structures, and the utility facilities. Utility companies shall address potential impacts when projects are proposed to ensure compatibility between utility facilities and UDOT structures and to assure all relevant utility industry codes and UDOT structural requirements are adequately addressed.

(2) Installation on Highway Structures.

(a) If UDOT allows a structure installation, it shall be at a location and of a design subject to review and approval by UDOT's Structures Department. Utility installations on structures shall not be considered unless the structure is of a design that is adequate to support the additional load and can accommodate the utility without compromising highway features. In addition, the utility installation shall be subject to the following requirements.

(i) Due to variations in highway structure designs, site-specific conditions, and other considerations, there is no standardized method by which utilities are installed on structures. Therefore, each proposed installation shall be considered on its individual merits and shall be individually designed for the specific structure.

(ii) Where installations of pipelines carrying hazardous materials are allowed, the pipeline shall be cased. The casing shall be open or vented at each end so as to prevent possible build-up of pressure and to detect leakage. Where located near streams, casings shall be designed and installed so that leakage does not compromise the stream. If a deviation is allowed for no casing, additional protective measures shall be used including higher standards for design, safety, construction and testing of the pipeline than would normally be required for cased construction.

(iii) All pipeline installations carrying gas or liquid under pressure which by their nature may cause damage or injury if leaked, shall be installed with emergency shutoff valves. Such valves shall be placed within an effective distance on each side of the structure, as approved by UDOT, and shall be automatic if required by UDOT.

(iv) Utility installations on highway structures shall not reduce vertical clearances above rivers, streams, roadway surfaces or rails. Installations should be designed to occupy a position beneath the deck in an interior bay of a girder or beam, or within a cell of a box girder bridge. Installations shall always be above the bottom of girders on a girder bridge or above the bottom of the bottom cord of a truss bridge. Utility installations outside of a bridge structure are unsightly and susceptible to damage and will only be approved by UDOT if there is no reasonable alternative.

(v) All utility facilities installed on highway structures shall be constructed of durable materials, designed with a long life expectancy, and must be installed in a manner that will minimize routine servicing and maintenance.

(vi) Utility facility mountings shall be of sufficient strength to carry the weight of the utility and shall be of a design and type that will not rattle or loosen due to vibrations caused by vehicular traffic. Acceptable utility installation methods are hangers or roller assemblies suspended either from inserts from the underside of the bridge floor or from hanger rods clamped to the flange of a superstructure member. Bolting through the bridge floor is not permitted. Where there are transverse floor beams sufficiently removed from the underside of the deck, the utility placement shall allow adequate clearance to enable full inspection of both the deck and the utility line. UDOT may consider a proposal to support the utility line on top of the floor beams.

(vii) Communication and electric power line installations shall be suitably insulated, grounded, and preferably carried in protective conduit or pipe from the point of exit from the ground to re-entry. Cable shall be carried to a manhole located beyond the back-wall of the structure. Access manholes are not allowed in a bridge deck.

(viii) Utility installations shall provide for lineal expansion and contraction due to temperature variations in conjunction with bridge movement.

(ix) All utility facility clearances from structure members must conform to all governing codes and shall not render any portion of the structure inaccessible for maintenance purposes.

(x) The utility company shall be responsible for restoration or repair of any portion of a structure or highway damaged by utility facility installation or use.

(xi) The expansion of an existing utility facility carried by an existing structure may be permitted if the expansion does not adversely impact the performance and load carrying capacity of the structure and otherwise complies with this rule.

(3) Utility Company Responsibilities.

(a) It is the responsibility of the utility company to obtain approval for a highway structure installation. The utility company shall ascertain the extent of UDOT's requirements prior to initiating the design for installation. A Utah registered Professional or Structural Engineer shall be responsible for the design if the installation is allowed. The utility company must prepare and submit complete design documents showing all details of the proposed work. These documents shall include plans, calculations, updated load rating with a Virtis load rating model, the permit application, and any other necessary information. The utility company shall be responsible for protecting, maintaining or relocating its utility installation, including the arrangement of service interruptions, to accommodate future UDOT structure work.

(b) All materials incorporated in the design must be certifiable for quality and strength and full specifications must be provided in support of the design.

(c) Adequate written justification must support the need for installing the utility facility on the structure and demonstrate that there is no viable cost-effective alternative.

(d) All components of the utility attachment shall be protected from corrosion. Steel components shall be stainless, galvanized or painted in accordance with the current UDOT Standard Specifications for Highway and Bridge Construction.

R930-7-10. Utilities within Interstate, Freeway and Access Controlled Right-of-Way.

(1) General Provisions. There are two basic types of access control.

No Access - does not allow access to the through-traffic lanes except at interchanges. Crossings at grade and direct driveway connections are prohibited. Access is controlled by fencing. This is typical of interstates and freeways.

Limited Access - provides access to selected roads. There may be some crossings at grade and some private driveway connections. This is typical of expressways and certain other highways.

(2) Factors UDOT may consider for allowing accommodation include distance between distribution points, terrain, cost, and prior existence.

(3) Longitudinal telecommunication installations may be allowed under Rule R907-64.

(4) Pursuant to FHWA regulations, UDOT may allow longitudinal accommodation of utility facilities but with greater restrictions within no access and limited access highway right of way as follows:

(a) No access: longitudinal installations on highways with no access are not permitted except in cases where no other feasible location exists and under strictly controlled circumstances. FHWA approval is required for installations on interstate facilities; and

(b) Limited Access: longitudinal installations on highways with limited access are generally not permitted. When such installations are allowed, individual service connections are not permitted unless no other reasonable alternatives exist.

(5) Utility facilities are allowed to cross no access and limited access highway right-of-way but with additional requirements as noted below in Section R930-7-10(7).

(6) Longitudinal Utility Facilities.

(a) In addition to the requirements in Section R930-7-8(1)(a), the following requirements apply.

(i) Service connections are not permitted within no access highway right of way. Service connections are not permitted within limited access highway right of way unless no reasonable alternative exists as demonstrated by the utility company and as reviewed and approved by UDOT.

(ii) Service, maintenance, and operation of utilities installed along and within no access highway right of way may not be conducted from the through-traffic roadways or ramps. All maintenance activities must be accessed from a point approved by UDOT and FHWA.

(iii) An existing utility facility within the right of way acquired for an interstate, freeway, or access controlled highway project may remain if it can be serviced, maintained, and operated without access from the through-traffic roadways or ramps, and it does not adversely affect the safety, design, construction, operation, maintenance, or stability of the interstate, freeway, or access controlled highway. Otherwise, it shall be relocated.

(iv) Where approval for installation is permitted, utility installations and related components shall be buried parallel to the interstate, freeway, or access controlled highway and shall be located within five feet of the outer most right of way limits. Utility appurtenances shall be located as close as possible to the right of way line.

(v) An existing utility carried on an interstate, freeway, or access controlled highway structure crossing a major valley or river may be permitted by UDOT to continue to be carried at the time the route is improved if the utility facility is serviced without interference to the traveling public.

(7) Utility Crossings.

(a) In addition to the requirements in Section R930-7-8(1)(d), the following requirements apply.

(i) A utility following a crossroad or street which is carried over or under an interstate, freeway, or access controlled highway must cross the interstate, freeway, or access controlled highway at the location of the crossroad or street in such a manner that the utility can be serviced without access from the through-traffic roadways or ramps.

(ii) Overhead utility lines crossing an interstate, freeway, or access controlled highway shall be adjusted so that supporting structures are located outside access control lines. In no case shall the supporting poles be placed within the clear zone. Where required for support, intermediate supporting poles may be placed in medians of sufficient width that provide the clear zone from the edges of both travelled ways. If additional lanes are planned, the clear zone shall be determined from the ultimate edges of the travelled way. When right of way lines and access control lines are not the same, such as when frontage roads are provided, supporting poles may be located in the area between them.

(iii) At interchange areas, supports for overhead utility facilities will be permitted only if located beyond the clear zone of traffic lanes or ramps, sight distance is not impaired, and can be safely accessed.

(iv) Manholes and other points of access to underground utilities may be permitted within the right of way of an interstate, freeway, or access controlled highway if they can be serviced or maintained without access from the through-traffic roadways or ramps. When right of way lines and access control lines are not the same, such as when frontage roads are provided, manholes and other points of access may be located in the area between them.

(v) Where a casing is not otherwise required, it shall be considered as expedient in the insertion, removal, replacement, or maintenance of carrier pipes crossing interstate, freeways, or access controlled highways. Casings shall extend to the access control lines. See Section R930-7-8(4).

(8) Longitudinal Telecommunications Installation.

(a) Installation must comply with R907-64.

(9) Wireless Telecommunications Facilities.

(a) Facilities must comply with R907-64.

R930-7-11. Utility Construction and Inspection.

(1) General Provisions.

(a) The method used for utility work is generally determined by local conditions. The location, terrain, obstructions, soil conditions, topography, and UDOT standards to maintain the integrity and safety of the right of way and roadway are important considerations for the proper placing of utilities. Familiarity and compliance with this rule will facilitate the construction process for utility companies.

(b) UDOT may perform routine inspection of utility construction work to monitor compliance with the license agreement, encroachment permit and with state and federal regulations. A permit may be revoked for cause if a utility company or contractor is not complying with the terms and limitations of the permit which will require a new permit at the contractor's expense to proceed with the work.

(c) Costs associated with the inspection are the responsibility of the utility company. Failure to pay inspection invoices issued by UDOT may result in revocation of the permit and may require the posting of an inspection bond on future permit applications.

(2) Utility Construction and Maintenance.

(a) No utility construction work by a utility company or a utility company's contractor may begin until a written encroachment permit has been issued to the utility company by UDOT.

(b) Traffic control for utility construction and maintenance operations shall conform to UDOT's current accepted Utah MUTCD or UDOT Traffic Control Plans, whichever is more restrictive. All utility construction and maintenance operations shall be planned to keep interference with traffic to an absolute minimum. On heavily traveled highways, utility operations interfering with traffic shall not be conducted during periods of peak traffic flow. This work shall be planned so that closures of intersecting streets, road approaches, or other access points are held to a minimum.

(c) The utility company shall not begin any work on UDOT right of way until the permit is issued and notice to proceed is given to the utility company by UDOT. After notice to proceed is received, the utility company shall complete construction in accordance with UDOT requirements.

(d) When highway utility construction or maintenance activities involve existing underground utility facilities, utility company or contractor shall comply with Title 54, Chapter 8a, Damage to Underground Utility Facilities.

(e) Utility work shall be completed within the number of days specified in the approved permit. When the work is not completed within the specified time UDOT has the option of extending the time or revoking the permit and acting on the appropriate bond to pay for completion of the work. All time extensions granted by UDOT shall be in writing.

(f) Disturbance of areas within highway right-of-way during utility construction shall be kept to a minimum and all right of way shall be restored to the satisfaction of UDOT. All utility construction methods used within the highway right of way shall be performed in accordance with current Standard Specifications for Highway and Bridge Construction, UDOT Permit Excavation Handbook, the provisions of this rule, and encroachment permit requirements. Unsatisfactory construction work, as determined by UDOT's inspector, shall promptly be corrected to comply with appropriate standards and specifications. UDOT may issue written notification that identifies the deficiencies and the period of time to cure or correct the deficiencies. If the restoration is not performed within the specified time, UDOT may perform or have performed the corrective work and the utility company shall be responsible for all costs incurred.

(g) The utility company shall avoid disturbing or damaging existing highway drainage facilities and is responsible for repairs, including restoration of ditch flow lines. Wherever necessary, the utility company shall provide drainage away from its own facilities to avoid damage to the highway.

(h) The utility company is prohibited from spraying, cutting or trimming trees or other landscape elements unless specific written permission is obtained from UDOT. The approval of an encroachment permit does not include approval of such work unless the cutting, spraying, and trimming is clearly indicated on the permit application. In general, when permission is given, only light trimming will be permitted. When tree removal is approved, the stump shall be removed and the hole properly backfilled to natural ground density or restored as otherwise approved by UDOT. The work site shall be left clean and trash free. All debris shall be removed. Reseeding shall be performed in accordance with UDOT's approved schedule.

(i) UDOT may require that any abandoned utility pipe or conduit be removed, capped, or filled with an appropriate material acceptable to UDOT.

(j) All utility facilities located on rights of way shall be adequately maintained. Any physical modifications, relocations, additions, excavations, or impedances of traffic within the right of way shall require the submittal of a new encroachment permit application. No work may begin until the new encroachment permit is approved.

(k) Restoration of the highway right of way disturbed by excavation, grading work, or other activities shall include reseeded and restoration of existing landscaping. All areas which are denuded of vegetation as a result of construction or maintenance shall be reseeded which is subject to inspection and acceptance by UDOT.

(3) Open Trench Construction Traversing Highways.

(a) Open trench utility installations are not permitted unless an acceptable trenchless method is unfeasible such as in unsuitable soil conditions or extremely difficult rock. UDOT may also grant a deviation from requiring trenchless construction where older pavement is severely deteriorated.

(b) Open trench construction on highways is limited to areas where traffic impacts are minimal. Any pavement structure broken, disturbed, cut or otherwise damaged in any way shall be removed and replaced to a design equal to or greater than the surrounding undisturbed pavement structure, or as otherwise determined by UDOT.

(c) For open trench installations, the utility company is responsible for the restoration and maintenance of the pavement structure for three years as outlined in Section R930-7-6(6)(b), unless a deviation is granted by UDOT. When the utility company or its contractor performing the work is not equipped to or fails to properly repair the damage to the pavement

structure, UDOT will repair the damage and bill the utility company for the actual costs incurred, including any administrative costs. All pavement restoration work performed by the utility company shall be completed within 48 hours after completion of the excavation and backfill.

(d) All open trench utility installations shall conform to the applicable provisions of the current UDOT Standard Specifications for Road and Bridge Construction.

(e) It is the utility company's responsibility to restore the structural integrity of the road bed, secure the utility facility against deformation and leakage, assure that the utility trench does not become a drainage channel, and that the backfilled trench doesn't impede or alter road drainage.

(f) Trenches shall be cut to have vertical faces. Maximum width shall be two feet or the outside diameter of the pipe plus one and one-half feet on each side. All trenches shall be shored where necessary and shall meet OSHA requirements.

(g) Bedding shall be provided to a depth of one-half the diameter of the pipe and shall consist of granular material, free from rocks, lumps, clods, cobbles, or frozen materials, and shall be graded to a firm surface without abrupt change in bearing value. Unstable soils and rock ledges shall be sub-excavated from beneath the bedding zone and replaced with suitable granular material.

(h) Backfill shall meet the current UDOT Standard Specification 02056 Embankment, Borrow and Backfill and 03575 Flowable Fill. Additional specifications may be required by UDOT.

(i) Pavement replacement may be performed by either the utility company or a contractor engaged by the utility company. The Region Permits Officer will determine pavement replacement requirements. The utility company is liable for three years from the date of completion of the pavement replacement for the cost of repairs if the backfill subsides or the patched pavement fails.

(j) Where a utility company fails to properly repair any damage to the pavement structure, UDOT may repair the damage and the costs, including administrative costs, will be the responsibility of the utility company.

(4) Trenchless Utility Construction.

(a) Trenchless utility installations are required for all utility crossings of highways or roadways, where practicable. This construction method is required to avoid disturbing the pavement surface, particularly where underground utilities exist on major highways, expressways, or freeways. Only UDOT approved methods may be used to install a utility under a highway.

(b) All trenchless pipeline installations shall extend under and across the entire roadway prism to a point five feet beyond the toes of the fore-slopes, borrow ditch bottom, or across the access controlled right of way lines, but never less than 15 feet from the edge of pavement or a ramp.

(c) Water jetting or tunneling may not be used. Water-assisted or wet boring may be permitted if the utility company can demonstrate to UDOT that the operation will not adversely impact the roadway and sub-grade.

(d) The size of a trenchless operation shall be restricted to the minimum size necessary for the utility installation and shall not exceed the utility facility diameter by more than 5% unless otherwise required based on equipment and product manufacturer's specifications. Grout or flowable fill backfill shall be used for carriers or casings and for over-breaks, unused holes or abandoned carriers or casings. The composition of the grout shall be cement mortar, a slurry of fine sand or other fine granular materials.

(e) Portals including surface openings and bore pits shall be established safely beyond the highway surface and the clear zone so as to avoid impairing the roadway during installation of the pipeline.

(f) Where a bulkhead seals the pipeline portal, the portal shall be suitably offset from the surfaced area of the highway. Shoring and bulkheading shall conform to applicable federal, state, and local jurisdiction construction and safety standards. Where a bulkhead is not installed in the pipeline, the portal shall be offset no less than the vertical difference in elevation between the surfaced area of the highway and the bottom of the bore pit.

(g) The utility company shall follow manufacturer's guidelines and industry standards for equipment set-up and operation. The utility company shall assess soil conditions to determine the most appropriate installation technique. Subsurface bore paths shall be tracked and recorded by the utility company, and all failed bores shall be appropriately abandoned and backfilled by the utility company.

(h) Drilling fluids shall be prepared and used according to fluid and drilling equipment manufacturer's guidelines. The utility company shall use fluid containment pits at both bore entry and exits points, and shall use appropriate operational controls so as to avoid heaving or loss of drilling fluids from the bore. Antifreeze additives shall be non-toxic and biodegradable products.

(i) The utility company shall dispose of drilling fluids and other materials in permitted facilities that accept the types of chemicals and wastes used in the trenchless operations.

(5) Utility Markers.

(a) The location of utility facilities within highway right of way presents certain risks to construction and maintenance activities, construction personnel, and to the facility itself when work in and around the area of the utility facility is in progress. To minimize risk and maximize safety, it is the utility company's responsibility to provide identification markers and tracer wire or detectable warning tape for all buried facilities located within the right of way.

(b) A trace wire, metallic tape, or other accepted industry material approved by UDOT for locating utilities with geophysical equipment shall be properly installed with all non-metallic underground lines.

(c) The utility company shall place permanent markers identifying the location of underground utility facilities, whether they are crossing the highway or installed longitudinally along the highway. Markers shall not interfere with highway safety and maintenance operations. Preferably, markers are to be located at the right of way line if that location will provide

adequate warning. The telephone number for one-call notification services to request marking the line location prior to excavation, and for emergency response, shall appear on the marker.

(d) The utility company shall maintain its markers in good condition. Color faded markers shall be replaced as necessary so that their visibility to maintenance crews and others is not impaired.

(6) GPS Requirements.

(a) It is the responsibility of the utility company to produce and maintain a set of certified reproducible plans and an electronic file showing the location of all its facilities in the right of way including overhead facilities and crossing points. The utility company is responsible to maintain an accurate file to be used by UDOT for future planning to avoid utility conflicts. These plans shall also include appropriate vertical and horizontal ties to the highway survey control.

(b) For new facility installations, the utility company shall use a survey grade Global Positioning System (GPS) to survey their facility locations and submit an electronic file to UDOT. Specific requirements for survey data will be determined by UDOT. The location survey points shall include major junction points, manholes, valves, changes in line or grade, and any other significant feature that will facilitate installation approval and future planning activities.

(c) If the utility company fails to provide UDOT with a set of plans and files showing the surveyed utility locations upon request then the utility company is required to secure the actual locations of their facilities at no cost to UDOT. If the utility company fails to provide the utility location information requested within ten days, UDOT may hire a Subsurface Utility Engineering (SUE) consultant to locate the utilities at the utility company's expense.

R930-7-12. Utility Relocations Required by Highway Projects.

(1) General.

(a) Utility companies will comply with the requirements of Sections 54-3-29 and 72-6-116, when completing utility relocations necessitated by highway projects.

(b) This rule incorporates by reference 23 CFR Section 645, Subpart A, (November 22, 2000) for all utility relocations.

(c) The costs incurred by UDOT and the utility companies for compliance with the federal and state statutes, rules and regulations will be included as part of utility relocation costs.

(2) Longitudinal Telecommunications Relocations and Reimbursement.

(a) Utility companies are required to pay all relocation costs for their telecommunications facilities granted interstate access pursuant to Section 72-7-108.

R930-7-13. Deviations.

(1) Deviations from provisions of this rule may be allowed if they do not violate state and federal statutes, law, or regulations and UDOT has determined the use of the right of way will be for the public good without compromising the transportation purposes of the right of way.

(2) Requests for deviations with limited impact may be considered by UDOT on an individual basis, upon justification submitted by the utility company.

(3) Requests for significant deviations must demonstrate extreme hardship and unusual conditions and provide justification for the deviation. Requests must demonstrate that alternative measures can be specified and implemented and still fulfill the intent of state and federal regulations. Requests for these deviations must include the following:

(a) formal request by the utility company; and

(b) an evaluation of the direct and indirect design, safety, environmental, and economic impacts associated with granting a deviation.

(4) In order for UDOT to grant a significant deviation the following approvals are necessary:

(a) formal recommendation for approval by the UDOT Region Permits Officer or the officer's supervisor;

(b) formal recommendation for approval from the UDOT Region Director;

(c) concurrence of the UDOT Statewide Utilities Engineer; and

(d) FHWA concurrence if the deviation applies to a utility facility located within a Federal-aid highway right of way.

R930-7-14. Enforcement.

(1) This rule is subject to enforcement pursuant to and as provided for in Utah Code, and may include, but not be limited to the following:

(a) administrative citations, in letter form, citing non-compliance items and proper redress requirements, including notice that UDOT may take whatever action is necessary to rectify the situation and subsequently submit a claim against the appropriate bond to recover from the utility company actual costs incurred by UDOT;

(b) increased bonding levels to recoup potential restoration costs on current or future utility projects;

(c) denial of future permits until past non-compliance is resolved; and

(d) legal action to secure reimbursement from the utility company for costs incurred by UDOT due to damages to the right of way or noncompliance with the permit.

KEY: right-of-way, utilities, utility accommodation

Date of Enactment or Last Substantive Amendment: 2012

Authorizing, and Implemented or Interpreted Law: 72-6-116(2)