



TRANSMITTAL LETTER

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Change 3 of 2014 Edition of Publication 16 – Design Manual Part 5

INFORMATION AND SPECIAL INSTRUCTIONS:

This change is necessary to institute revisions listed below to Section 8.1.C, Cost Sharing with Municipality and Municipality Authority Utilities, of Chapter 8 of Design Manual Part 5, Utility Relocation.

- Incorporates the 75% Cost Share pilot program for Municipalities and Municipality Authorities into DM-5, Section 8.1.C.
- Reorganizes DM-5, Section 8.1.C to create logical breaks and subsections for better organization and clarity.
- This change will also implement DM-5 Figures A-306, A-307, and A-308 and a revision of Figures A-300.

CANCEL AND DESTROY THE FOLLOWING:

- Change 2 of 2014 Edition, DM-5 Chapter 8- Agreements, Cost Developments, Estimates and Billing
- Change 2 of 2014 Edition, DM-5 Figure A-300
- Eliminate SOL's 482-15-16, 482-17-04 and 482-18-06

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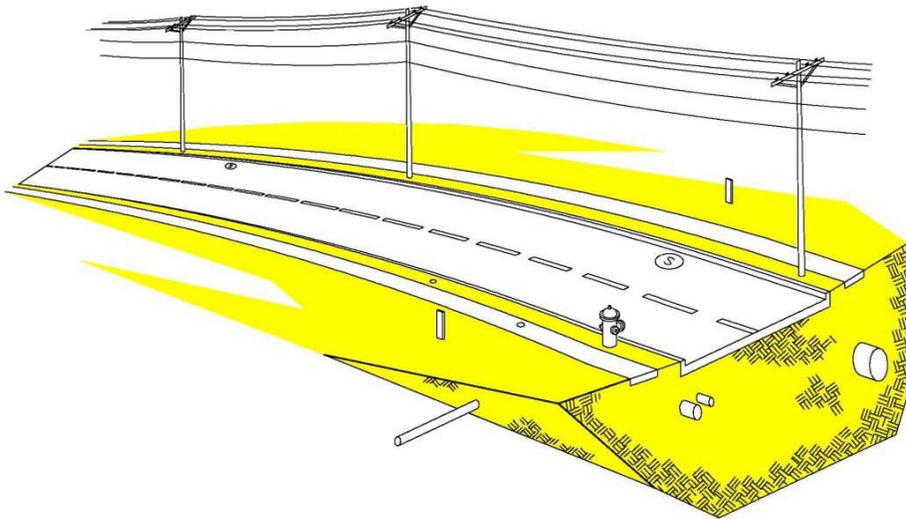
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DESIGN MANUAL PART 5

UTILITY RELOCATION



**GAS - WATER - SANITARY SEWER - ELECTRIC
TELECOMMUNICATIONS - CABLE TELEVISION**

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DESIGN MANUAL PART 5 UTILITY RELOCATION

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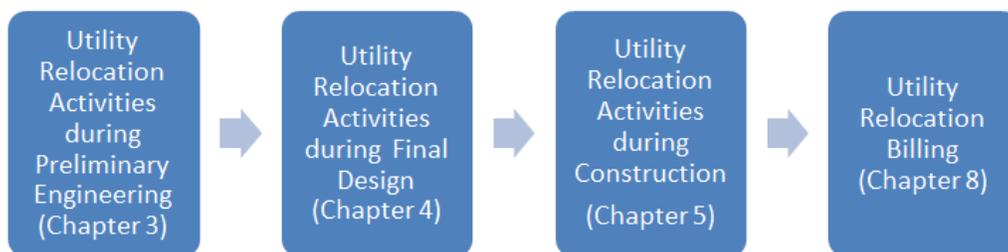
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INTRODUCTION

The purpose of this manual is to outline and define the various policies and procedures of the Pennsylvania Department of Transportation to accomplish utility adjustments made necessary by highway construction projects. The manual has been organized to reflect the process flow of utility relocation during a highway construction project.

Utility Relocation Process Flowchart



This manual is prepared for the benefit and the use of Department personnel, design teams, consultants, municipalities and utility companies working on highway construction projects. Certain requirements mentioned herein will apply to utilities and other requirements will pertain only to Department personnel.

There are three main objectives of the Department:

1. Through proper liaison with utilities to expedite adjustments in a practical and economical manner to make arrangements to have utilities relocated as necessitated by the project, and to assure there is sufficient time allowed within the contract to avoid delays due to utilities.
2. To see that utility adjustments are completed as previously approved by the Department, make certain that the billing is fair and reasonable and that utility companies are reimbursed promptly.
3. To obtain Federal approvals and reimbursement when utility work is designated as Federal Aid participating.

In the event any instructions in this manual are in conflict with previous instructions, then this manual shall govern.

For information regarding utility relocation procedures on Design-Build projects, see Publication 448, *Innovative Bidding Toolkit*.

The Department's utility relocation procedures and its utility accommodation policies have received the approval of the Federal Highway Administration. The Alternate Procedure, as stated in 23 CFR Part 645, authorizes the Department to act on behalf of the FHWA for reviewing and approving the arrangements, fees, estimates, plans, agreements, and other related matters.

Federal participation in the funds reimbursed by the Department to utilities for costs incurred in the relocation of facilities relative to a federal aid highway is contingent upon strict compliance with 23 CFR Part 645.

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CHAPTER 1

LAWS, REGULATIONS AND ACCOMMODATION POLICIES

1.0 GENERAL

This Chapter covers the laws, regulations and accommodation policies for the occupancy of highway right-of-way by utility facilities that are to remain, be installed, adjusted or relocated on highway construction projects.

These provisions are also intended to provide for the accommodation of all public and private utilities, including electric, telecommunication systems, water, gas, petroleum and petroleum products, steam, sanitary sewage and chemical lines that are to be installed, adjusted or relocated within the right-of-way of highways under the jurisdiction of the Department. Such utilities may involve underground and/or aboveground distribution or transmission facilities.

This Chapter incorporates by reference the provisions of Pa. Code, Title 67, Transportation, Chapter 459, *Occupancy of Highways by Utilities*, hereinafter referred to in this Manual as Chapter 459; Publication 408, *Specifications*; Publication 213, *Temporary Traffic Control Guidelines*; current American Association of State Highway Transportation Officials (AASHTO) Policy, along with current 23 CFR Part 645 and any applicable utility industry codes and related chapters of this Manual.

Where industry or governmental codes prescribe a higher standard or degree of protection than provided herein, that standard or degree of protection will prevail.

1.1 FEDERAL LAWS AND REGULATIONS

The applicable Federal laws are found in 23 U.S.C. and are specifically referenced below. The regulations for the application of these laws are found in the Code of Federal Regulations (CFR). The CFR is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal Government. Title 23 implements and carries out the provisions of Federal law relating to the administration of Federal aid for highways and Buy America.

A. FHWA Authorization. The use of Federal funds to reimburse the state for the cost of utility relocation is found in 23 U.S.C. §123.

- 23 CFR Part 645 covers Utilities
 - Subpart A covers Utility Relocations, Adjustments and Reimbursement
 - Subpart B covers Accommodation of Utilities

B. Buy America. The requirement that a domestic manufacturing process for all steel or iron products that are permanently incorporated in a Federal-aid highway construction project is found in 23 U.S.C. §313. For additional information on the application of Buy America, please go to:

http://www.penndot.gov/ProjectAndPrograms/Construction/PA_Act3/Pages/default.aspx

- 23 CFR §635.410 covers Buy America.

1.2 STATE LAWS

A. Use of highways by public utilities, 36 P.S. §670-411, provides in part as follows:

No railroad or street railway shall hereafter be constructed upon any State highway, nor shall any railroad or street railway crossing, nor any gas pipe, water pipe, electric conduits, or other piping be laid upon, over, under, or in, nor shall any telephone, telegraph, or electric light or power in any portion of a State highway, nor shall any opening be made therein, except under such conditions, restrictions and regulations, and subject to the payment of such fees for permits for the placing of such structures and openings, as may be prescribed and required by the Department. Such fees shall not exceed the reasonable cost of permit issuance, inspection and surface restoration costs. The secretary shall also have authority to issue permits to any public utility company for the occupancy, by the facilities of such

company, of any bridge under the control or jurisdiction of the Department. Such permits shall be for such length of time and for such fee for the occupancy of said bridge as may be determined by the secretary, subject to the right of the utility company to appeal to the court of common pleas of the proper county, having jurisdiction thereof, as to the reasonableness of the fee of the occupancy. All fees so collected shall be paid into the Motor License Fund.

The provisions of Chapter 459, Occupancy of Highway Right-of-Way by Utilities are issued under Section 411 of the State Highway Law.

B. Occupancy of right of way of public service companies, 36 P.S. §670-412, provides as follows:

Whenever in the construction, widening or relocation of any State highway, bridge or tunnel, or of any part thereof, it becomes necessary, in the opinion of the secretary, to occupy the whole or any part of the right of way of any public service company, the Department may enter upon and occupy the whole or any part of such right of way for the purpose of such highway, bridge or tunnel, or part thereof. Whenever such right of way, or any part thereof, is so occupied, either the Department or the county, whichever is responsible for property damages under the provisions of this act, governing the payment of damages for property condemned for highway purposes, shall, at the expense of the Commonwealth or county, provide a substitute right of way on another and favorable location. Such public service company shall thereupon provide for the transfer to or reconstruction upon, in, under or above said Substitute Right of way of any structures and facilities of said original right of way at the time the same is so occupied. The Department or the county, as the case may be, is hereby authorized to enter into agreements with such public service company to contribute toward the expense of such transfer or reconstruction, and in the event that they are unable to agree on the amount to be paid, the matter shall be referred to the Pennsylvania Public Utilities Commission, which shall, after hearing thereon, make a finding of the amount to be paid to such public service company by the Commonwealth or county. In case of the failure of such public service company, within a reasonable time after notice so to do, to remove its facilities to such substitute right of way, the Pennsylvania Public Utilities Commission shall have jurisdiction, on petition of the Department to order such transfer or reconstruction. The Department or the county commissioners are hereby authorized to acquire, by purchase or by the exercise of the right of eminent domain, in the same manner that property is now taken and condemned for State highway purposes, any necessary land or right of way for the relocation of any such public service right of way and facilities. The substitute right of way thus acquired shall be equal in estate to the right of way taken and occupied for highway purposes, and upon approval by the Governor of any plan providing for the occupancy of the right of way of any public service company and providing a Substitute Right of way therefore, the secretary of Highways shall make, execute, acknowledge and deliver to such company a deed conveying to it an estate in the Substitute Right of way, at least equal to that owned and enjoyed by the company, for the right of way to be occupied for highway purposes, or if such substitute right of way is to be acquired by the purchase, as hereinbefore providing, the secretary of Highways shall procure and deliver to the company a deed conveying such estate to it from the owner of the land on which such Substitute Right of way is located.

The right of way of a railroad company shall not be acquired or occupied without the consent of the company owning or operating or in possession of said railroad.

C. Adjustment of Municipality or Municipality Authority, Owned Public Utility Facilities, 36 P.S. §670-412.1, provides as follows:

Whenever in the construction, reconstruction, widening or relocation of any State highway, bridge or tunnel or any part thereof, it becomes necessary, in the opinion of the secretary, to change, alter, adjust, or relocate any water line, gas line or sanitary sewer owned and operated as a public utility by a city, borough, incorporated town, township or municipality authority, the Department may make such change, alteration, adjustment or relocation as may be required as a part of such construction, reconstruction, widening or relocation. The Department may also enter into agreements with any such city, borough, incorporated town, township or municipality authority for the sharing in the costs of such change, alteration, adjustment or relocation. In any case where, in the opinion of the secretary, such costs should be shared by the Department and a city, borough, incorporated town, township or municipality authority and the Department is unable to agree with such city, borough, incorporated town, township, or municipality authority to a division of the costs, the Department may proceed with the work and petition the Pennsylvania Public Utility Commission for a determination of the costs to be borne by each party.

D. Public Utility Facilities – Adjustment, 74 Pa.C.S.A. §9501

1. General rule – the following shall apply:

- (a) If, in the construction, reconstruction, widening or relocation of a state highway, bridge or tunnel or a part of a state highway, bridge or tunnel, it becomes necessary, in the opinion of the Department, to change, alter, adjust or relocate a water line or sanitary sewer owned and operated by a public utility, as defined in 66 Pa. C.S §102 (relating to definitions), the Department may make the change alteration, adjustment or relocation as may be required as a part of the construction, reconstruction, widening or relocation.
 - (b) In addition to paragraph (a), the Department may also enter into agreements with the public utility for the sharing of costs of the change, alteration, adjustment or relocation. If, in the opinion of the Department, the costs should be shared by the Department and a public utility and the Department is unable to agree with the public utility to a division of costs, the Department may proceed with the work and petition the Pennsylvania Public Utility Commission for a determination of the costs to be borne by each party.
- 2. Declaration of Policy** – A public utility under subsection (A) shall be entitled to a reimbursement in a similar manner as a city, borough, incorporated town, township and municipal authority under section 412.1 of the Act of June 1, 1945 (P.L.1242, No.428), known as the state highway law.

E. General Road Improvement (Adm. Code § 2005) -71 P.S. § 515 (2016) § 515(g). The following is an excerpt of the Administrative Code, starting with the applicable subsection (g):

The Department of Transportation shall have the power, and its duty shall be:

(g) To take responsibility for bringing all manhole covers, drains and other surface devices up to the grade level or other appropriate level at the time any State highway is reconstructed, repaired or resurfaced.

(1) The Department shall give advance notice of the project to the utility owner and offer the owner the opportunity to undertake the improvements required under this clause. Such advance notice shall be commensurate with the nature and scope of the improvements to be performed by the utility owner within such time as may be determined by the Department.

(2) If the owner does not make the improvements within such time as may be determined by the Department, the Department may perform or cause to be performed the work as required under such terms as may be acceptable to the Department. In construing the provisions of this section, time shall be deemed to be of the essence. Costs incurred may be charged to the owner if the owner is not entitled to reimbursement under section 412 or 412.1 of the act of June 1, 1945 (P.L. 1242, No. 428), known as the "State Highway Law."

(3) If the owner is a municipality, the Department may deduct the costs from any liquid fuel tax payments which shall become due the municipality, but only after notice to the municipality of the amount of the costs and a request for the payment of same.

(4) If the owner is a municipal authority, the Department shall have the authority not to issue the municipal authority any highway occupancy permit if the costs incurred by the Department for performing the work remain unpaid.

(5) (i) Nothing in this subsection shall be construed to impair, suspend, contract, enlarge, extend or affect in any manner the powers and duties of the Pennsylvania Public Utility Commission as provided in 66 Pa.C.S. § 2702 (relating to construction, relocation, suspension and abolition of crossings), 2703 (relating to ejection in crossing cases) and 2704 (relating to compensation for damages occasioned by construction, relocation or abolition of crossings).

(ii) For purposes of this clause, the term "utility owner" or "owner" shall not include any utility regulated by the Pennsylvania Public Utility Commission.

F. Rules for use of, and injury to, highways; penalty, 36 P.S. §670-420, provides as follows:

The secretary is empowered to make reasonable rules and regulations governing the use of all State highways, and, by the placement of official traffic control devices, or curbs, medians or other physical barriers, may control the flow of traffic thereon.

The secretary may issue permits for the opening of streets and driveways onto State highways and for the opening of the surface and occupancy of State highways on terms and conditions established in Department regulations. Permits may be conditioned upon posting of bonds or other security and liability insurance. Any bonds or other security

relating to highway restoration posted in connection with surface opening permits shall be based upon highway restoration costs and shall cover a period not in excess of two (2) years from the Department's acknowledgment of completion of the work.

The secretary may delegate permit-issuing authority to any municipality which agrees to issue permits in compliance with Department regulations or municipal ordinances approved by the secretary which shall contain standards which are in every particular at least as high as those contained in the Department regulations.

No person, municipality or municipality authority shall open a driveway onto a State highway or open the surface of or occupy a State highway without a permit.

A municipality which refuses within sixty (60) days to issue a permit requested by a person pursuant to the provisions above shall, within ten (10) days of receipt of a written request, provide that person with a written statement specifying the reasons for its refusal.

Any person who is denied issuance of a permit under this section may appeal pursuant to the provisions of Title 2 of the Pennsylvania Consolidated Statutes (relating to administrative law and procedure), except that an appeal from the refusal by a municipality to issue a permit under the provisions above shall be to the Commonwealth Court.

Any person violating any rule or regulation promulgated under this section, or who shall, by any method or device, or in any manner, willfully or maliciously destroy, injure, or damage any such highway in this Commonwealth, shall, upon summary conviction thereof, be sentenced to pay a fine of not less than one hundred dollars (\$100.00) for each offense, together with the costs of prosecution and all necessary restoration, which shall be recovered, as in similar cases, upon complaint of any person before a magistrate or justice of the peace, and the fine or fines so recovered shall be paid into the Motor License Fund.

G. Local service highways; service facilities; commercial enterprises, 36 P.S. §2391.3, provides as follows:

The Secretary of Transportation, with the approval of the Governor, or local authorities in connection with the designation or construction of a limited access highway may lay out or construct local service highways. Such local service highways shall be so located as to permit the establishment by private owners or their lessees of adequate fuel and other service facilities for the users of limited access highways. The location of such facilities may be indicated to the users of the limited access highways by appropriate signs, the size and location of which shall be determined by the authorities having jurisdiction. No commercial enterprise or activity shall be located or authorized by the State or by any political subdivision thereof, within or on any public property which is part of the right of way of any limited access highway except that communication facilities and vending machines may be located at roadside rests.

H. The Public Utility Code.

1. Construction, relocation, suspension and abolition of crossings, 66 Pa. C.S. §2702 (a) and (b), provides as follows:

(a) General Rule. No public utility, engaged in the transportation of passengers or property, shall, without prior order of the commission, construct its facilities across the facilities of any other public utility or across any highway at grade or above or below grade, or at the same or different levels; and no highway, without like order, shall be so constructed across the facilities of any such public utility, and without like order, no such crossing heretofore or hereafter constructed shall be altered, relocated suspended or abolished.

(b) Acquisition of a Property and Regulation of Crossing. The commission is hereby vested with exclusive power to appropriate property for any such crossing, except as to such property as has been or may hereafter be condemned by the Department of Transportation for projects financed entirely by the Commonwealth and for Federal Aid Projects under section 1004 of the act of June 1, 1945 (P.L.1242, No. 428), known as the "State Highway Law," in which case the provisions of that statute shall be in effect, and to determine and prescribe, by regulation or order, the points at which, and the manner in which, such crossing may be constructed, altered, relocated, suspended or abolished, and the manner and conditions in or under which such crossings shall be maintained, operated, and protected to effectuate the prevention of accidents and the promotion of the safety of the public.

2. Compensation for damages occasioned by construction, relocation, or abolition of crossings, 66 Pa.C.S. §2704 (a), provides as follows:

The compensation for damages which the owners of adjacent property taken, injured, or destroyed may sustain in the construction, relocation, alteration, protection, or abolition of any crossings under the provisions of this part, shall, after due notice and hearing, be ascertained and determined by the commission. Such compensation, as well as the cost of construction, relocation, alteration, protection, or abolition of such crossing, and of facilities at or adjacent to such crossing which are used in any kind of public utility service, shall be borne and paid, as provided in this section, by the public utilities, municipal corporations, municipal authority or nonprofit organization authorized under section 2702 (h) (relating to construction, relocation, suspension and abolition of crossings) concerned, or by the Commonwealth, in such proper proportions as the commission may, after due notice and hearing, determine, unless such proportions are mutually agreed upon and paid by the interested parties.

I. The Business Corporation Law, 15 Pa. C.S. § 1511 (a) and (e), provides in part as follows:

1. GENERAL RULE. A public utility corporation shall, in addition to any other power of eminent domain conferred by any other statute, have the right to take, occupy and condemn property for one or more of the following principal purposes and ancillary purposes reasonably necessary or appropriate for the accomplishment of the principal purposes:

- (a) The transportation of passengers or property or both as a common carrier by means of elevated street railway, ferry, inclined plane railway, railroad, street railway or underground street railway, trackless-trolley omnibus or by any combination of such means.
- (b) The transportation of artificial or natural gas, electricity, petroleum or petroleum products or water or any combination of such substances for the public.
- (c) The production, generation, manufacture, transmission, storage, distribution or furnishing of natural or artificial gas, electricity, steam, air conditioning or refrigerating service or any combination thereof to or for the public.
- (d) The diverting, developing, pumping, impounding, distributing or furnishing of water from either surface or subsurface sources to or for the public.
- (e) The collection, treatment or disposal of sewage for the public.
- (f) The conveyance or transmission of messages or communications by telephone or telegraph for the public.
- (g) The diverting, pumping or impounding of water for the development or furnishing of hydroelectric power to or for the public.
- (h) The transportation of oxygen or nitrogen, or both, by pipeline or conduit for the public.

2. STREETS AND OTHER PUBLIC PLACES. A public utility corporation shall have the right to enter upon and occupy streets, highways, waters and other public ways and places for one or more of the principal purposes specified in subsection (a) and ancillary purposes reasonably necessary or appropriate for the accomplishment of the principal purposes, including the placement, maintenance and removal of aerial, surface and subsurface public utility facilities thereon or therein. Before entering upon any street, highway or other public way, the public utility corporation shall obtain such permits as may be required by law and shall comply with the lawful and reasonable regulations of the governmental authority having responsibility for the maintenance thereof.

J. Pennsylvania One Call, 73 P.S. §176 et seq. The purpose of the Pennsylvania One Call System is to prevent damage to underground facilities by promoting safety through a communications network of designers, excavators, and facility owners. Under certain situations, the Department and other organizations are required to comply with the provisions set forth in the Pennsylvania Underground Utility Line Protection Law. Information regarding One Call procedures, designer and locator effectiveness guidelines, responsibilities of the various stakeholders, and the current Pennsylvania One Call legislation is available at www.pa1call.org/PA811/Public/.

K. Pennsylvania Steel Products Procurement Act, 73 P.S. §1881-§1887. This law requires every public agency to include a provision in every contract for the construction, reconstruction, alteration, repair, improvement or maintenance of public works that any steel products are to be used or supplied in performance of the contract must

comply with the law. For additional information on the application of the Pennsylvania Steel Products Procurement Act, please go to http://www.penndot.gov/ProjectAndPrograms/Construction/PA_Act3/Pages/default.aspx

1.3 POLICIES AND PROCEDURES FOR OCCUPANCY OF HIGHWAY RIGHT-OF WAY

A. Occupancy of Federal Aid Freeways (Limited Access). Utility occupancy of a Federal Aid Freeway's right-of-way is required by 23 CFR Part 645 to be in accordance with the Department's approved utility accommodation policy as defined in this Manual and provided in the current Freeways Occupancy Permit requirements and in compliance with applicable laws, including 67 Pa Code Section 459.7(10). It is the responsibility of the State under 23 CFR Part 645 to maintain Federal Aid Freeways in a manner that preserves the integrity, visual quality, operational safety and functionality of the highway.

Existing underground facilities will be permitted to remain crossing the area to be acquired for limited access right-of-way providing such facilities are adjusted and/or protected in accordance with 23 CFR Part 645 and access for servicing the facility is in compliance with [Section 1.3.D](#).

The Department is authorized by the FHWA to act on its behalf in approving utility permits to occupy a federal aid freeway except installations on a federal aid freeway which involve the extreme case exceptions as defined in the current AASHTO Policy on the Accommodation of Utilities on Freeway Right-of-Way. In such cases FHWA concurrence is required prior to issuance of a highway occupancy permit.

A highway occupancy permit which involves limited access right-of-way contains, by reference, the following provision:

"Access for servicing or maintenance of facilities shall be made from outside the extent of limited access or as provided for in Paragraph 7 of the AASHTO Policy on the Accommodation of Utilities on Freeways and in accordance with Federal Highway Administration's 23 CFR."

Longitudinal occupancy of limited access right-of-way on federal aid freeways and state highways by utilities is restricted by State Law (see [Section 1.2.B](#)). The Department does not prohibit all such occupancy and may issue a highway occupancy permit where no other acceptable alternative is available and the utility is able to comply with all criteria described in [Section 1.3.F.1](#). Central Office must approve this type of occupancy.

The Central Office Utility Relocation Unit is responsible for assuring that proposed utility occupancies of limited access right-of-way are in accordance with the Department's accommodation policies or obtaining FHWA concurrence in the issuance of permits relating to Department highway projects on federal aid freeways.

The Central Office Utility Relocation Unit's approval of satisfactory permit applications for Department highway projects must include any special permit restrictions required by the FHWA and/or the Bureau of Project Delivery. See Publication 282, *Highway Occupancy Permit Guidelines*, for more information.

B. Types of Occupancy.

1. Crossing Occupancies. Crossing occupancies are aerial or underground utility facilities that cross the centerline of the highway within the right-of-way.

- Underground Crossings of Highway Right-of-Way.

The highway occupancy plan will show each crossing occupancy. Profiles or cross sections showing vertical dimensions will be included for every underground crossing, except for distribution and service facilities under curbed highways in cities, towns or boroughs and in business or residential districts as defined by the Vehicle Code. For crossings of such curbed highways the utility must provide typical cross sectional views of highway crossings and crossings of drainage and other utility facilities along with a general statement that these installations comply with [Section 1.3.D.1](#).

- Aerial Crossings of Highway Right-of-Way.

Individual crossing profiles are required for each aerial crossing, which must provide minimum vertical clearances from finished roadway elevation to the lowest utility wire, cable or conductor that crosses the highway. (See Appendix A, [Figure A-725](#)).

Crossing Situations are aerial wire, cable or conductor facilities that cross the highway right-of-way.

Individual profiles are required for each aerial crossing and crossing situation where the National Electrical Safety Code requires increased clearances, i.e., voltages over 50,000 to ground and/or spans over 175 feet. (See Appendix A, [Figure A-725](#)).

- 2. Longitudinal.** Longitudinal occupancies are aerial or underground utility facilities that continuously parallel the highway within the right-of-way.

The highway occupancy permit plans will clearly show the horizontal location of the facility and include a statement or a sketch that indicates the minimum depth of the underground facilities. Actual depths or vertical dimensions will be shown at specific locations where the installation may conflict with other utility facilities or with highway appurtenances.

- 3. Located.** Located occupancies are individual utility facilities occupying highway right-of-way at a specific location, such as poles, towers supporting aerial facilities, guy poles, ground guys, fire hydrants, etc.

The highway occupancy plans will clearly show the horizontal location of the facility and include a statement or a sketch that indicates the minimum vertical clearance for aerial facilities. Actual clearances or vertical dimensions will be shown at specific locations where the installation may conflict with other utility facilities or with highway appurtenances.

- 4. Occupancy Permits on Existing Highways.** A utility is required to apply for and be issued a highway occupancy permit prior to entering upon a right-of-way of a public road or street under the jurisdiction of the Department whenever it proposes to:

- Install a new pipe, conduit or other utility structure or make any opening within the highway right-of-way.
- Adjust, alter or reconstruct an existing pipe, conduit or other utility structure or make an opening within the highway right-of-way.
- Gain access to a limited access highway right-of-way for the purpose of inspection, maintenance or servicing of an existing aerial or underground utility facility, or for activities related to new installations.

The application for a highway occupancy permit is prepared by the utility in accordance with instructions on the Application and in Chapter 459, Section 459.3 and submitted to the respective District Permit Office. The drawings that accompany such applications must be of sufficient detail to provide a clear picture of the proposed work and include any necessary Traffic Control Plans in accordance with requirements of Publication 213, *Temporary Traffic Control Guidelines* and [Chapter 3, Preliminary Engineering, Section 3.2.J](#).

The review of the permit application form as to its overall accuracy, completeness, fees and other Department requirements is the responsibility of the District Permit Office; application forms referred to the District Utility Relocation Unit will be considered to have received Permit Office approval.

Work required by the utility for maintenance and/or upgrading of its facilities in a highway construction or maintenance area does not require an occupancy fee.

Permit applications for occupancy of non-limited access highways are normally reviewed and approved by the District Permit Office. Prior to receiving the final approval, applications for utility installations should be reviewed by the proper District Office function to ensure that the proposed locations do not conflict with any planned highway improvement.

Applications that involve major installations over 1,500 feet in length or a complex installation, such as unencased pipeline crossings, should be routed to the District Utility Relocation Unit for technical review. The drawings that accompany such applications are to be reviewed by the District Utility Relocation Unit to assure compliance to Department policies and returned to the Permit Office.

5. Occupancy of Roads Other than State Routes. Utility occupancy of existing township, county, borough or city streets and other roads not under the jurisdiction of the Department requires that the utility obtain permits as may be required from the local governmental body having jurisdiction over the road or street. Where the local road or street is constructed as part of a state highway project, a Utility Relocation Highway Occupancy Permit is required.

Any permit fees charged by the governmental body having jurisdiction will be reimbursed to the utility by the Department in cases where the facilities are originally located on private right-of-way and relocated into such public right-of-way as a result of a highway construction project.

The requirements of this Manual are to be complied with in regard to showing all existing and proposed facilities on the highway plans, including any facilities located within roads or streets other than State Routes. The utility's plan of relocation submitted as part of the Preliminary Estimate Package must also show such locations.

The Department may grant private right-of-way status or establish an area of joint use only on State Routes. The Department may not obligate another governmental unit; i.e.: county, township, city or borough, to be responsible for utility costs which may be incurred in the future should that governmental unit require the utility to readjust its facilities. However, the Department may provide by written agreement for future reimbursement and acquisition of substitute right-of-way if such is related to a subsequent project of the Department.

6. Occupancy of Structures. Section 702 of the State Highway Law (36 P.S. Section 670-702) authorizes the Department to issue Bridge Occupancy Licenses and collect fees for the occupancy of a State bridge by the utility facility of a "public service company". Utilities proposing to occupy any structure under the jurisdiction of the Department are required to apply for a Bridge Occupancy License and to comply with the requirements of Pennsylvania Code Title 67, Chapter 459, Section 459.10a and as specified herein.

Refer to the current Pennsylvania Code Title 67, Transportations, and Publication 282, *Highway Occupancy Permit Guidelines*, for general guidelines on bridge occupancy license.

a. Occupancy of Existing Highway Structures. Each request for bridge occupancy must be reviewed individually in relationship to the structure. The District Bridge Engineer must approve the location, material and method of attachment.

Occupancy of structures on Limited Access highways must be in accordance with 23 CFR Part 645.

b. Occupancy of Proposed Highway Structures. Whenever it becomes necessary in the design of a highway construction project to have utility facilities relocated in such a manner that the facilities are located on or through a highway structure, the utility will bear the cost of installation if these facilities were previously located within public right-of-way under a permit or if the utility intends to install new facilities for planned future expansion or services. A reimbursement agreement, Agreement for Installation of Utility on Structure, will be used on all applicable projects. Responsibility for the costs of designing utility facilities will be decided on a job-by-job basis. (Go to the Utility Relocation Unit portion of the Department's website for a link to the agreement)

<http://www.penndot.gov/ProjectAndPrograms/RoadDesignEnvironment/RoadDesign/Right-ofWayandUtilities/UtilityRelocation/Pages/default.aspx>

The normal design review process for utilities is outlined in [Chapter 3, Preliminary Engineering, Section 3.0.B](#) in conjunction with Publication 10C, Design Manual Part 1C, *Transportation Engineering Procedures*.

c. Coordination Procedure. It will be the responsibility of the District Executive to designate a coordinator to supervise the preparation and execution of the structure agreement with the particular utility involved in cooperation with the District Bridge Unit, Construction Unit, District Utility Relocation Unit, Plans Unit (if applicable), and Contract Proposal Unit.

(1) Provision for utilities will not be shown on the bridge drawings until the utility company has submitted a Preliminary Bridge Occupancy Form D4181-X (see Appendix A, [Figure A-505](#)) in accordance with the procedures defined in [Chapter 3, Preliminary Engineering, Section 3.2.G.1](#).

(2) The designer will furnish to the utilities that have indicated intent of bridge occupancy on Form

D4181-X (see Appendix A, [Figure A-505](#)) all necessary data for the utilities to use in preparing details and filing application for the Bridge Occupancy License Form M906A. Refer to Publication 282, *Highway Occupancy Permit (HOP) Guidelines* for additional information and instructions relating to the Bridge Occupancy License and the associated fees which may apply. Form M906A is not required where the Public Utility Commission has jurisdiction over the bridge. In this instance, the Public Utility Commission has precedence and does not recognize Form M906A. Form D4181-X (see Appendix A, [Figure A-505](#)) together with the details of occupancy submitted to the designer by the utility will suffice.

- (3) The designer will review the utility details and prepare an Agreement for Installation of Utility on Structure for each utility (go to the Utility Relocation Unit portion of the Department's website via the hyperlink above for a link to the agreement). Guidelines for installation of utilities or structures must be followed as outlined in [Section 1.3.B.6.d](#).
 - (4) The designer will indicate on the drawing and in tabular form (see Appendix A, [Figure A-521](#)) all materials required for each utility and the party who is to furnish and install the material. A separate lump sum item for each utility will be shown in the Summary of Quantities and designated as "Installation of (Utility Company) Facilities." The list of material furnished, the work performed by the Department's contractor on the installation of the utility facility, and the total cost thereof will be listed in the bid proposal as a construction item in the schedule of prices.
 - (5) The estimated cost to install the utility facility on the structure will include the contractor's labor, material, and equipment. It is anticipated that consultation at the District level with the Project Manager, Bridge Unit, District Utility Relocation Unit, Bridge Construction Engineer, and Contract Proposal Unit will be necessary to develop a reasonable estimate.
 - (6) Consultation with the utility will also be necessary to finalize the estimate of cost.
 - (7) The utility will be furnished with the original and two copies of the agreement draft. The utility will be requested to hand sign and return the original and one copy to the District Office, retaining one copy of the agreement for its file, pending final execution.
 - (8) The structure agreement should be completed as soon as possible and not be held for submission with the PS&E package. The original and one copy of the agreement signed by the utility will be transmitted by the District Office directly to the Office of Chief Counsel, Contract Section, for Department signatures and distribution.
 - (9) A Resolution is required to accompany the agreement draft to the Office of Chief Counsel for all public or privately owned utilities unless a corporate official is signing the agreement.
 - (10) Distribution by the originator, of the fully executed agreement, as shown on the Legal Agreement Tracking System (LATS) routing sheet.
 - (11) When installation is completed, Form M906A will be signed by the District Bridge Engineer and implemented.
- d.** Department of Transportation Guidelines for Accommodation of Utilities on Structures.
- (1) Avoid attachments where it is feasible and reasonable to locate the utility facility elsewhere.
 - (2) The bridge must be adequate to support the load and accommodate the utility without compromise of highway features including reasonable ease of bridge maintenance.
 - (3) Avoid manholes in bridge deck.
 - (4) Place the utility facility at a location that does not reduce the vertical clearance of the bridge above streams, roadways or rails.
 - (5) Locate the utility facility beneath the deck between outer girders or beams within a cell above the bottom of the lower fascia beam or girder.

- (6) Sketches supporting the license application will indicate the ultimate mass of the utility installation on the superstructure including the contents running full, as well as appurtenances, including weight of 1/2-inch of ice or sleet on listed items exposed to the elements on any part of the bridge or structure. The details of the supports and the location of the occupancy must be shown on the plan and in transverse section.
- (7) Suspend utility from diaphragms attached to beams or girders. Do not suspend from inserts or bolts in or through bridge floor.
- (8) Avoid attachments to the outside of bridges.
- (9) Where it is necessary and justified to support the utility facility outside the parapet, the facility must be placed on the downstream side of the structure. Access to the utility facility outside the parapet for purposes other than maintenance will be discouraged by protective measures such as a longitudinal continuous 8 gauge aluminum shield fastened to the parapet and extending downward over the utility facility at an angle of approximately 45 degrees to the horizontal or another method approved by the District Bridge Engineer.
- (10) The annular space between the utility facility and the sleeve at backwalls will be sealed by an approved method that will retain the fill behind the backwall but permit expansion or contraction of the carrying pipe.
- (11) Encase with steel pipe all utility pipes on structures not encased in concrete that carry liquid over streets, roads or highways. Extend the encasement to a point outside the abutment wall.
- (12) Support rollers, saddles or hangers, must be padded or coated to minimize vibration noise.
- (13) Provide "sleeves" for pipes and conduits that are carried through abutments and tightly seal with mastic.
- (14) No utility will be considered for encasement inside prestressed concrete box beams or within voids of concrete beams where a temperature rise is associated with the utility facility.
- (15) No utility facility will be cast inside prestressed concrete box beams without specific approval of the District Bridge Engineer. However, if approved, utility pipe carrying liquid will be encased with steel pipe.
- (16) No prestressed concrete members will be drilled for expansion fasteners without specific approval of the District Bridge Engineer.
- (17) When leaving the bridge, align utility outside the roadway in as short a distance as operationally practicable.
- (18) Suspend hanger or rollers from inserts below deck or hanger rods clamped to flange of beam. Do not bolt through bridge floor.
- (19) Where appropriate, provide for linear expansion and contraction due to temperature changes. Provide the utility pipe or device with at least the same expansion and contraction capability as the bridge at the pier and abutment joints.
- (20) Provide suitable protection against corrosion.
- (21) Communication and electric power line attachments exposed on the structure should be suitably insulated, grounded and carried in protective conduit or pipe extending through the backwall.
- (22) Heat generating utilities or high voltage electric cables must not be installed in bridge-decks or sidewalks unless a minimum of 3 inches of concrete cover is provided and adequately reinforced against thermal stresses.
- (23) On structures over streams, do not allow any portion of the utility installation to be within the

provided waterway unless written approval of the Pennsylvania Department of Environmental Protection is obtained by the utility.

- (24) Welding to existing bridge members is not permitted.
- e. Occupancy of Highway Tunnels within Limited Access Right-of-Way.
- (1) License Required. No person may attach a utility facility or otherwise occupy a state-owned tunnel within limited access right-of-way or modify an existing facility without having obtained a license from the Department under this section. The Department will allow such occupancy only by wireless telecommunication facilities under strictly controlled conditions as set forth herein. The Department regulates tunnels within limited access pursuant to the Limited Access Highway Act, the Administrative Code and 23 CFR Part 645. All tunnel licenses will be assigned a bridge occupancy license number for tracking purposes.
 - (2) Request Procedure.
 - (a) General. A separate license request must be signed by the facility owner and submitted to the District Executive for each utility facility and for each tunnel.
 - (b) When deemed appropriate in view of available technology, the Department may require that the telecommunications occupancy of a tunnel be by a single provider who would then be responsible to sublease to individual telecommunication companies. If the Department decides to allow individual occupancy by more than one occupier, telecommunication companies will be permitted occupancy on a first come, first served basis as space allows, within the discretion of the District Executive. The Department may limit the amount of space allowed for individual telecommunication companies within tunnels and limit the occupancy to a certain number of companies.
 - (c) If the Department determines that a single occupier is needed for the safety and convenience of the traveling public and available technology exists, the Department may mandate a single occupier for a tunnel even after it has allowed separate occupancies in the past.
 - (d) The Department may reserve space within any tunnel for present or future needs of the Department or other State agencies. Occupancies by private parties may not interfere with any use made by the Commonwealth for communication purposes, regardless of which facility occupies the tunnel. Private parties may be required to vacate a tunnel if necessary to accommodate facilities placed by the Department or other State agencies for communication purposes or if the area occupied is otherwise needed for transportation purposes.
 - (e) If separate facilities are permitted by the Department in a particular tunnel, the requestor must be in the business of providing wireless service to the public.
 - (f) If a single facility to accommodate various users is required by the Department, a request from a facility owner not in the business of providing wireless service to the public must identify how the public will benefit from the occupancy and must furnish other information as may be required.
 - (g) License requests must be submitted at least 90 days prior to the anticipated start of work.
 - (h) Each request will be reviewed individually in relationship to the tunnel structure involved. The design, materials and methods must be approved by the District Executive. The company must certify that the facilities installed within the traveled way of the tunnel will be of durable materials designed for long service expectancy and relatively free from routine servicing and maintenance.
 - (i) The party requesting a tunnel license may be required to demonstrate that it is adequately staffed and equipped to perform the installation and future maintenance and repairs.

- (j) Electrical or any other services required to operate or maintain the facility are the responsibility of the party requesting a tunnel license, including the payment of all fees and costs. Electrical facilities and services provided to the Department cannot be used in any manner or for any purpose. Cooperation among occupiers to obtain necessary services may be required. A separate utility occupancy license may be required depending on the circumstances.
 - (k) The District Office, upon receipt and review of the license request package for occupancy of a limited access tunnel, will route one (1) copy of the plans, and the original and one (1) copy of the tunnel license executed by the requesting entity, to the Central Office Utility Relocation Unit. The Central Office Utility Relocation Unit is responsible for assuring that proposed utility occupancies of limited access tunnels are in accordance with this accommodation policy and/or obtaining FHWA concurrence in accordance with the Department/FHWA Stewardship and Oversight Agreement in the issuance of licenses relating to Federal Aid Freeways. The Central Office Utility Relocation Unit will include any special restrictions required by the FHWA and/or the Bureau of Project Delivery and coordinate review of the license with the Office of Chief Counsel.
- (3) Design Plan Requirements.
 - (a) One set of plans will accompany the tunnel license request. The plan must be prepared in accordance with Publication 14M, Design Manual Part 3, *Plans Presentation*, Chapter 2 and will clearly illustrate the location and pertinent dimensions of both the proposed installation and related highway and tunnel features. The plan must show installation in plan and elevation, with a cross section and details of the installation showing appurtenances. The details must be complete throughout the entirety of the structure. The plan must include a depiction of the method and details of accessing an independent source of electricity for the telecommunication facilities.
- (4) Traffic Control Plan Requirements.
 - (a) One set of traffic control plans must be submitted.
 - (b) Traffic control plans must comply with 75 Pa. C.S. §6123 (relating to erection of traffic-control devices while working) and the applicable provisions of 67 Pa. Code Chapter 212 (relating to work zone traffic control), or such other standard as officially adopted by the Department for temporary traffic control guidelines.
 - (c) Traffic control plans will clearly indicate how the work area and vehicular and pedestrian traffic will be checked, maintained and controlled.
 - (d) A traffic control plan must be approved by the District Traffic Engineer prior to any maintenance of the facility involving entry onto any portion of the traveled roadway. This plan must show the points of ingress and egress to be utilized during maintenance, as well as the location for parking any service vehicles.
 - (e) Prior to performing any work that may have an impact on traffic on roadways through or adjacent to a tunnel, a Form No. 05-600 or its equivalent must also be submitted and work will not commence until the form is approved by the District Executive and District Traffic Engineer.
- (5) Issuance of License.
 - (a) Upon approval of a request made under this section a license will be issued by the Department, subject to this section and the conditions contained in the license and its attachments including the approval of a highway occupancy permit for the purpose of electrical service if appropriate. The license will be the requestor's authority to proceed with the work specified in the license. A copy of the license request and authorized plans must be available for inspection at the work site.

- (b) A license will be issued only to the owner of the utility facility. A license will not be issued to a contractor or to persons being serviced by the facility.
 - (c) The license will be maintained by the licensee as a permanent record. A license will be valid until revoked by the Department under the terms of the license or until the Department ceases to be responsible for the tunnel for which the license is granted or until the tunnel is reconstructed or rehabilitated, at which time a new license request may be submitted to the District Office.
- (6) Design Criteria.
- (a) Safety is of paramount importance when constructing, operating or maintaining facilities within a tunnel.
 - (b) The proposed occupancy shall provide sufficient vertical and horizontal clearances for the construction, operation, maintenance, ventilation and safety of the highway facility. The structural integrity of the highway facility shall be ensured.
 - (c) No portion of the occupancy shall be erected in a location that will interfere with visibility or reduce sight distance or in any other way interfere materially with the safety and free flow of traffic on the highway facility.
 - (d) The occupancy shall not result in either highway or non-highway users being unduly exposed to hazardous conditions because of highway location, design, maintenance and operation features.
 - (e) Appropriate safety precautions and necessary features shall be provided to minimize the possibility of injury to users of the highway facility due to traffic crashes occurring on the highway or crashes resulting from non-highway uses.
 - (f) Construction and materials shall be in compliance with the 408 specifications. Any occupancy shall be made of fire resistant materials in accordance with the provisions of the local applicable building codes found to be acceptable by the Department. Nothing flammable, explosive, or hazardous may be used.
 - (g) No occupancy will be constructed that will interfere with adequate natural ventilation of the tunnel. In addition, the underside and any supports shall have smooth and easily cleanable surfaces.
 - (h) The design, occupancy, and use of the occupying facility shall be such that neither the use, safety, appearance, nor the enjoyment of the highway will be adversely affected.
 - (i) Construction of any occupying facility shall not require any temporary or permanent change in alignment or profile of an existing highway.
 - (j) The occupying facility shall be designed and constructed in a manner that will permit access to the highway facility for the purpose of inspection, maintenance, and reconstruction when necessary.
 - (k) The occupying facility shall be designed and constructed in a manner that will minimize the antennae and other facilities within the tunnel and the amount of space needed in the control room. There shall be no interference with the Department's control facilities used to operate the tunnel.
 - (l) The occupying facility shall be designed and constructed in a manner which will minimize the need to access either the antennae and other facilities within the tunnel or the control room within the tunnel, due to the need to keep the tunnel secure and protect the safety and convenience of the traveling public.

- (m) The occupying facility shall be designed and constructed recognizing that other like facilities may already be located within the tunnel and that others may also be located in the tunnel in the future.
 - (n) The occupying facility shall be designed and constructed, or redesigned if necessary, so as not to interfere with any communication facilities of the Commonwealth located in the tunnel now or in the future.
 - (o) The occupying facility shall be designed and constructed in a manner that will not negatively impact the historic nature of tunnel features as determined within the discretion of the Department. Coordination with and approval by the Pennsylvania Historic and Museum Commission, if required, shall be the responsibility of the owner.
 - (p) The list may include such other criteria as the Department may deem reasonable.
- (7) License Provisions. All tunnel occupancies shall be covered by a properly executed tunnel license. The license shall contain the following:
- (a) The name of the owner responsible for constructing and operating the occupying facility, which shall be the licensee.
 - (b) A general statement of the proposed use.
 - (c) The general design for the use of the tunnel, including any facilities to be constructed, and such maps, plans, or sketches as are necessary to set out pertinent features in relation to the highway facility.
 - (d) Provision that any revision in the design or construction of a facility or any change in the authorized use, including upgrades and changes to the equipment of the occupying facility, is considered a revision to the existing license and must receive prior written approval by the Department.
 - (e) Provision that the license shall not create a property interest in the licensee, but shall be a mere license subject to all of its provisions and this section.
 - (f) Provision that the occupancy will be subject to all applicable laws, including the Federal Telecommunications Act. The licensee will be responsible for obtaining all necessary approvals under any applicable law, regulation or ordinance.
 - (g) Provision that the licensee is responsible for all costs involved with the installation, operation and maintenance of its facilities, including source of power.
 - (h) Provision that the licensee shall be responsible for the cost of any future relocation or other change that may be undertaken to the occupying facility, whether required by the Department or otherwise.
 - (i) Provision for the Department and authorized representatives and agents to enter any part of the tunnel for the purpose of inspection, maintenance, or reconstruction of the highway facility when necessary. Inspections conducted by the Department during construction of the facility shall be paid by the licensee.
 - (j) Provision that the occupying facility will be maintained in good condition, both as to safety and appearance, and that such maintenance will be accomplished in a manner so as to cause no unreasonable interference with highway use. In the event the licensee fails in its maintenance obligations after reasonable notice, there will be provision for the Department to enter the premises to perform such work at the expense of the licensee.
 - (k) Provision that entry to any part of the tunnel for maintenance, servicing or any other purpose shall be strictly controlled. Notice to and approval of the District Tunnel Manager must be given for each individual entry. No exceptions will be tolerated. Only personnel

of the licensee authorized by the District Tunnel Manager on an individual basis may make entry for servicing or maintenance. Among other things, restrictions may be placed on the times within which entry is allowed, the specific door through which entry can be made, and the location for parking vehicles of those entering. Where an entry is made by a licensee without proper prior notice and approval from the Department a penalty in the amount of \$1,000.00 for each such entry will be charged to the licensee.

- (l) Provision that the license shall not be transferred, assigned, or conveyed to another party without approval of the Department. Any transfer, assignment or conveyance without the express written consent of the Department shall void the license and the facility shall be subject to removal by the Department on 5 days notice to the licensee at the expense of the licensee.
- (m) Provision for a term of 5 years, with four 5-year extensions at the option of the licensee.
- (n) Provision that the license is revocable by the Department upon six months written notice for reasonable cause as set forth in the license.
- (o) Provision that the license is revocable by the Department in the event that the facility ceases to be used for 6 continuous months or is otherwise retired in place (see Glossary).
- (p) Provision that the license is revocable by the Department if any of its terms or conditions are violated and such violation is not corrected within 30 days after written notice of noncompliance has been given. Further, that in the event the license is revoked for any reason and the Department deems it necessary to request the removal of the occupying facility, the removal shall be accomplished by the occupier in a manner prescribed by the Department at no cost to the Department. If not removed by the licensee after 30 days written notice, the Department may perform the removal at the expense of the licensee.
- (q) Provision for the payment of a reasonable fee.

Fees shall be a fixed monthly amount for each occupancy.

Fees shall apply to all occupants on an equal basis.

Fees shall be reviewed every 2 years at the request of either party and will be subject to change every two years as established by the Department.

Fees shall be deposited into the Motor License Fund.
- (r) Provision for adequate insurance by the licensee in an amount and type determined by the Department to hold the Commonwealth harmless for the payment of any damages which may occur during or after construction of the facilities, and providing that the Department be named an additional insured under the terms of any policy on the occupying facility.
- (s) Provision that the licensee shall be liable for any malfunctions of its system, whether due to the negligence of the Department, its employees or agents. The Department does not guarantee continuing service or data security associated with the occupancy.
- (t) Provision that the licensee shall indemnify and save harmless the Commonwealth from any consequential damages, system repairs, vehicle crashes or any other claim arising from the occupancy of the tunnel.
- (u) Provision to address the possible insolvency of the licensee.
- (v) Provision for any standard clauses required under State policies and procedures, including but not limited to non-discrimination clauses, the contractor integrity clause and the contractor responsibility clause.
- (w) Such other terms and conditions as deemed appropriate within the Department's discretion.

- (8) License Conditions. In addition to those provisions included in any license agreement and as set forth above, the following conditions shall apply to any tunnel license issued:
- (a) The license authorizes only those facilities specifically designated on the license.
 - (b) Work authorized by the license is subject to laws or regulations that give jurisdiction over any aspect of the location, construction or maintenance of the licensee's facility.
 - (c) The licensed work shall be done at a time and in a manner consistent with the safety of the public and conform to requirements and standards of the Department including, but not limited to, Publication 408, *Highway Specifications*, and acceptable practices of the industry not inconsistent therewith.
 - (d) The licensee shall pay fees, costs and expenses incident to or arising from the project, including the cost of related highway or bridge improvements that the license work may necessitate.
 - (e) Any and all facilities located within Department right of way pursuant to a tunnel license shall be owned by the occupying telecommunications company.
 - (f) No license request will be approved for occupancy of a tunnel within which a construction project is underway, or if a contract for the project has been let, unless the request is accompanied by an attested certificate signed by the contractor or other authority constructing the project, consenting to the proposed work within the tunnel, together with a waiver, release and quitclaim to the Department of damages and defenses for delays by reason of the work and occupation of the tunnel by the licensee, or from a cause resulting by reason of the work and occupation. This paragraph does not apply to an emergency. In an emergency, the licensee shall obtain the oral consent of the District Tunnel Manager or his designee, subject to an approved traffic control plan if there will be entry onto any portion of the traveled roadway, to do work necessary to correct the existing emergency condition. Emergencies are limited to circumstances where the telecommunication system is completely inoperative.
 - (g) If the tunnel is rehabilitated or reconstructed, the privilege to occupy the tunnel ceases and the licensee shall bear all expenses as will be necessary if the privilege is to be continued for the benefit and at the request of the licensee. In addition to anything set forth in this section, procedures similar to those set forth in Publication 15M, Design Manual Part 4, *Structures*, Section 3.8, will be applied to any relocation due to the rehabilitation or reconstruction of a tunnel.
 - (h) The licensee shall notify the District Tunnel Manager or his designee in writing at least one (1) week prior to the start of initial installation and at least one (1) week in advance of any entry to the traveled way of the tunnel and for scheduled maintenance outside the traveled way, and may not enter the tunnel for such purposes until written consent is issued by the Department. In an emergency, the licensee shall obtain the oral consent of the District Tunnel Manager or designee, subject to an approved traffic control plan if there will be entry onto any portion of the traveled roadway. For unscheduled maintenance outside the traveled way of the tunnel, the licensee shall obtain the oral consent of the District Tunnel Manager or designee to enter the tunnel. At least one (1) hour notice shall be given to the Department for such unscheduled maintenance entries.
 - (i) If in the future the licensee desires to change, alter or remove its facility or any part thereof, it may do so upon approval of an amended request, if disturbed parts of the tunnel are restored at the expense of the licensee, as directed by the District Executive.
 - (j) If the license fee remains unpaid on a day when it is due, including default on a check submitted in payment of the fee and after 15 days notice of default:

A prothonotary or an attorney of a court of record is empowered to appear for the licensee in actions which may be brought for rent or to sign for the licensee an agreement for entering in a competent court an amicable action for the recovery of rent or other charges or expenses; and in the suit or in the amicable action, to confess judgment against the licensee for all or a part of the fees specified in the license, and then unpaid, and for interests and costs, together with attorney's commission of 10%. This authority will not be exhausted by one exercise thereof, but judgment may be confessed from time to time as often as the fee is in arrears.

The Department may revoke and annul the license and order and direct the licensee to remove all property belonging to the licensee or its contractors from the tunnel and the right-of-way and to restore the tunnel and right-of-way to its former condition. If the licensee fails to remove its property after notice from the Department to do so, the Department or an attorney of a court of record is authorized to appear for the licensee, and to enter an amicable action of ejectment and confess judgment against the licensee. The attorney is authorized to issue a writ of possession without leave of court of the licensee.

(9) Penalties and Enforcement.

- (a) General rule.** Violation of this section or the license requirements constitutes grounds for imposition of the following penalties:

Upon receipt of oral or written notice of violations from the authorized representative of the Department or a police officer whose jurisdiction includes the tunnel work area, the licensee shall cease to perform any further work except to restore the area to a safe condition. No further work may commence until the violations have been remedied. Where the licensee has received oral notice of the violations, written notice shall be sent to the licensee within 10 days of receipt of the oral notice.

Confiscation of the license by any police officer or authorized representative of the Department.

Revocation of the license by the Department.

Removal of facilities installed without a license or in violation of the provisions of this section or the license, and denial of future use.

Such fines, imprisonment or other penalties as are provided by statute or agreement.

- (b) Additional grounds for revocation.** Additional grounds for revocation shall be as follows:

The Department may revoke a license whenever it determines that the occupying facility is not being maintained, is in violation of a condition of the license or this section, constitutes a hazard to traffic or interferes with the proper use of the highway by the Department or the public.

The Department may revoke a license for nonpayment of a fee required by the license including default of a check submitted for payment.

C. Above Ground Utility Facilities.

1. Accommodation of Above Ground Utility Facilities within State Highway Right-of-Way. Utility poles, guys and other above-ground utility facilities which occupy highway right-of-way must be installed in a manner and at locations to provide the maximum clearance feasible and practical, and provide for the safety of the traveling public. The location of such facilities within highway right-of-way limits must conform to the clear zone area policies applicable for the system, type of highway, and specific conditions for the particular highway section involved. The location must be consistent with the clearances applicable to all roadside obstacles for the type of highway involved.

The Department will prohibit the installation of above ground facilities at locations that the Department has determined to have high crash potential. Above-ground facilities that occupy existing highway right-of-way under the jurisdiction of the Department are subject to Chapter 459 and this Chapter.

New pole lines and major reconstruction of existing pole lines will be located outside the highway's clear zone area, as near the right-of-way line as practical. Where the clear zone is over 30 feet in width from edge of pavement, poles may be located within the highway right-of-way beyond the clear zone as near the right-of-way line as practical (see [Section 1.3.C.2.b](#)).

Practical application of this regulation requires that both the safety of the traveling public and the right of utilities to use highway right-of-way be considered. It is the intent of the Department to regulate the placement of utility facilities in a manner consistent with the needs of the utility industry and still fulfill the Department's obligation to provide for the safety of the traveling public.

2. Location of Above Ground Utility Facilities (New Installations, Renewal, Replacement and/or Relocation). The Department will not allow above ground facilities to remain or be relocated in a location that has a high crash potential based on engineering determinations made by the Department. Above ground utility facilities that are to remain or to be relocated within right-of-way of highway construction, reconstruction or safety improvement projects will be subject to the following policy. The Department does not consider fire hydrants to be above ground fixed objects, since most hydrants are constructed to breakaway upon impact. However, each situation involving fire hydrants will be handled on an individual basis. Every effort should be made to locate fire hydrants in a manner that complies with the provisions of this Chapter.

Above ground utility facilities must not be located within the clear zone of the highway as determined by the Department's Engineers. Such facilities may be located behind or adjacent to any natural obstruction or highway appurtenances that will remain within the right-of-way.

a. Above ground utility facilities must be placed outside the Department's specified Clear Zone Area. If a Clear Zone Area is not specified, an above ground utility facility may remain or be replaced in its existing location as defined in [Sections 1.3.C.2.f](#) and [1.3.E.2](#) or may be relocated to a location that may increase the safety factor for the improved roadway if the facility 1) has no record of being hit by a vehicle, 2) does not appear on the Departments Utility-Cluster Report of Fixed Objects, and 3) in the judgment of the Department's Engineers the location of the facility is consistent with the safety of the traveling public.

Temporary Rider poles or similar type facilities may be placed in the median area of limited access right-of-way for the purpose of installing an aerial cable crossing provided 1) the median is of sufficient width to accommodate a 30 feet recovery area or 2) Department approved impact attenuating devices such as guiderail or concrete median barriers are utilized. The installation of these devices is temporary and must have specific approval by the Department.

b. Where the clear zone is greater than 30 feet in width, measured from the outside edge of through traffic lane, above ground facilities must be located beyond the 30 feet and at or as near the right-of-way line as practical.

c. On projects where work is limited to the existing pavement and shoulders and no additional clear zone is being created, an unaffected above ground utility facility may be permitted to remain in its existing location if no evidence of an crash history exists and no potentially undesirable condition will result.

d. On highway projects to be accomplished within a restricted right-of-way width, where compliance with the preceding items of this policy would not be practical from an engineering or economic standpoint or would, in effect, preclude a utility's continued occupancy of highway right-of-way, an existing above ground facility may be permitted to be relocated or remain in a location at or near the right-of-way line provided the Department determines that the location is consistent with the purpose of the project.

e. Above ground utility facilities must be located the specified distance behind existing or planned highway guiderail which is measured from 1) the rear of the guiderail post to front face of utility facility on strong post system or 2) the rear of rail element to front face of utility facility on weak post system (see Publication 13M, Design Manual Part 2, *Highway Design*, Chapter 12), beyond parallel drainage ditches, at the top of steep cut slopes, or behind retaining walls. In cut areas where it would be impractical to place

the facility at the top of cut, the Department may approve the location of poles in the cut slope providing 1) the slopes are steep (2:1 or greater) and 2) the poles are placed a minimum of 8 feet horizontal beyond the toe of such slope. The approval of such locations will take into consideration the highway construction operation and future highway maintenance. In no case will facilities be placed or allowed to remain in the swale area or the drainage flow line. Fixed objects, including above ground utility structures, should be clear of the guide rail end treatment areas.

f. The critical requirement for locating above ground structures along curbed highways within cities, incorporated towns and boroughs and within business or residential districts is defined in the Vehicle Code. The width of the space between curb and right-of-way line, and the availability and suitability of that space for accommodating such structures is the determining factor. The ideal location for existing, replaced or proposed above ground structures is to be 1) as near to the right-of-way line as practical, 2) located to the back edge of sidewalk, or 3) where a grass strip is available or proposed between the curb and sidewalk, the rear face of pole will be located as near the front face of sidewalk. Where one of these three locations cannot be met, the following minimum standards will apply, when justified by the utility, for all occupancy authorizations issued by the Department on curbed highways and are recommended for use by political subdivisions on such highway under their jurisdiction:

- (1) Where the posted speed is in excess of 60 km/h (40 mph) and parking lanes are not provided, above ground facilities will be located behind the sidewalk as near the right-of-way line as possible.
- (2) Where parking lanes are provided, above ground facilities may, when there is insufficient space behind the sidewalk, be located between the curb and any existing or planned sidewalk at a minimum distance of 18 inches from face of curb to face of facility.
- (3) Where special problems exist, which must be resolved in a manner consistent with the prevailing limitations and conditions, the Department may allow modifications not inconsistent with the public interest and/or require any additional measures necessary to provide for the safety of the traveling public.

When curb and sidewalk are not being replaced as part of the highway project, and the structure is not being replaced, the structure may remain in its existing location, provided: 1) the facility has not been involved in a crash; 2) it is not included in the Department's Utility-Cluster Report of Fixed Objects; and 3) Department engineers have determined the facilities' location does not present a potential unsafe condition to the traveling public.

Above ground roadway features such as traffic signal poles and street lighting facilities must be located a minimum of 0.6 m (2 ft) from the face of curb to the face of the above ground roadway feature. Refer to the Publication 13M, Design Manual Part 2, *Highway Design*; Publication 148, *Traffic Standards Signals*; and Publication 72M, *Standards for Roadway Construction* for additional information on this requirement. Design criteria for above ground roadway features must also comply with the requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAG). For information regarding ADAAG requirements, see Publication 13M, Design Manual Part 2, *Highway Design*, Chapter 6.

g. Above ground facilities will not be permitted within traffic island (pork chop) areas. Exceptions to this policy, when justified by engineering or economic considerations, may be made only where there is no encroachment on a clear zone area and the traffic island is of sufficient size to comply with the provisions of this policy.

h. When specifically approved by the Department, an above ground utility facility may be placed within the transition areas at the limits of a highway project to tie the relocated facility into an existing unaffected facility located along the highway beyond the project limits of work, provided the facility is placed as near the right-of-way line as practical. Approvals will not be granted for any location the Department determines would be inconsistent with the purpose of the project and safety of the traveling public.

i. Where highway right-of-way are of minimum width, (for example: congested areas where buildings or other improvements are near or about the right-of-way line), consideration should be given to pole line designs employing vertical alignment of wires, cantilevered crossarms or other designs permitted under the

National Electrical Safety Code that will facilitate compliance with the above provisions and which are consistent with sound engineering and economic considerations.

j. On projects of considerable length which are primarily resurfacing, involve short sections of reconstruction of the minor (non-complex) project type, e.g.: widening, drainage, guide rail, etc. Both Items C. and I. may be utilized. Item C. shall be applied where work is confined to shoulder limits and Item I. applied within reconstruction areas.

k. Above ground utility facilities to be installed or relocated within right-of-way of limited access highways must be in accordance with current Department occupancy policies concerning such right-of-way, AASHTO and, where applicable, 23 CFR Part 645. On these highways, above ground utility facilities must not be located less than 30 feet from the outside edge of through traffic lane or 20 feet from the outside edge of the ramp travel lane.

l. Occupancy of any portion of a freeway gore area (where traffic movements diverge) is discouraged and requests therefore will be considered only where justified by engineering or economic considerations. No above ground facilities will be permitted within 250 feet from trailing section of a freeway gore area that is graded to a 1:4 slope or flatter.

m. Where economic or engineering considerations suggest placement of above ground utility facilities at locations not consistent with the provisions of this policy, consideration will be given to utility's request to use Department approved impact attenuating devices, crash cushions or breakaway supports. The utility owner will be responsible for installation, material and maintenance of these types of facilities. The utility must provide insurance and indemnification of the Commonwealth.

n. Within highway right-of-way, joint use of poles by two or more utilities will be encouraged. Where conditions warrant, the Department may limit certain areas of right-of-way to the installation of one joint pole line.

o. Prestressed concrete modular poles and steel reinforcement for utility poles are unacceptable for installation within the Department's roadway right-of-way unless the facility is 30 feet or more from the outer edge of the through travel lane or in a protected area, or meets the requirements of Chapter 459.

p. Any modification to the safety standard set forth in this Chapter will be field viewed by the Central Office Utility Relocation Unit, District Utility Relocation Unit, and Traffic Safety Engineer. The modification may be allowed when all parties concur and an approval letter is issued by the District Executive. Full documentation must be kept of all modifications allowed.

q. Proposed materials and methods for fiberglass wrapped poles must be approved on an individual basis. General guidelines for fiberglass wrapped installations are listed below.

- A permit is required for layered fiberglass cloth pole restoration. The permit application must state that a layered fiberglass cloth restoration will be used (i.e., restore existing pole with fiberglass wrap) and must also include a certification that the restored pole will not exceed 100% of the new pole strength as determined by the American National Standards Institute.
- A fiberglass wrap restoration may not be used for damaged poles; fiberglass wrap restoration should only be used on decayed poles with a deteriorated ground line pole section.
- Fiberglass cloth pole restoration may be used only if the existing pole is in compliance with the current Americans with Disabilities Act (A.D.A.) location requirements.

D. Underground Utility Facilities

1. Accommodation of Underground Utility Facilities Within State Highway Right-of-Way. The requirements for installation of underground utility facilities within the right-of-way of highways under the jurisdiction of the Department will vary with type of facility, site conditions, type of highway and the degree of access control. Where law or ordinance of public authority prescribe more stringent controls than specified

herein, those controls must apply and be considered as part of this policy. Any deviation from the requirements of this Chapter will require prior written approval from Central Office.

The utility is responsible for the design of the facility to be installed within highway right-of-way and for the design of the facility adjustments required by highway construction projects.

All structural elements (i.e. manholes, pulling vaults) to be placed in the pavement or shoulders of a highway must be designed to meet or exceed criteria described in the current Publication 408, *Specifications*.

The proposed installations and adjustments are subject to the prior approval of the Department with respect to the location of the facility and any measures required by the Department to ensure the safe and free flow of traffic and to preserve the structural integrity of the highway, ease of highway maintenance, appearance and the integrity of the utility facility.

a. General Provisions.

- (1) Utility facilities must be located to minimize the need for later adjustment to accommodate known future highway improvements and in a manner that the maintenance, servicing and replacement of such facilities will not impair the roadway or impede traffic flow.
- (2) The horizontal and vertical location of facilities within highway right-of-way must conform to occupancy policies applicable for the system, type of highway, and specific conditions for the particular highway section involved.
- (3) In all cases, full consideration must be given to the measures necessary to preserve and protect the integrity and visual quality of the highway, its maintenance efficiency, and the safety of highway and the traveling public.
- (4) When existing facilities are required to be adjusted by reason of a highway construction project, the facility owners must, at their expense, provide for all known or planned expansions of the utility facility.
- (5) All utility facilities installed within highway right-of-way must be of durable materials designed for long service life expectancy and relatively free from routine servicing or maintenance. Vitrified clay transite and terracotta or other material of this type will not be approved for installations within highway right-of-way. Plastic pipe may be considered for use within highway right-of-way, provided the proposed installation meets or exceeds the current provisions of this Manual.
- (6) Pipelines with a 8 inches inside diameter or greater with less than 3 feet in depth from finished roadway and shoulder grades, which are to be retired in place (see Glossary) within highway right-of-way, must be purged of all product, backfilled with a flowable fill, capped and sealed. Where the pipeline is 8 inches in diameter or greater and the depth from finished roadway and shoulder grades are in excess of 3 feet provided approval is obtained from appropriate District Offices (i.e. Construction or Maintenance), this requirement may be waived. The utility must process the request for approval of the waiver through the District Utility Relocation Unit.
- (7) Utility installations must, in addition to any regulations established by the Department for specific types of facilities, comply with all applicable current industry codes and Federal and State Regulations.
- (8) The minimum depth of all buried utility facilities within highway right-of-way must be 3 feet from the finished grade (top of ground) to the top of the utility facility, except for liquid petroleum facilities that are 4 feet.
 - (a) The minimum depth to the top of the facility, including any casing or encasement, must be at least 3 feet below finished pavement, shoulders and ditches.
 - (b) The minimum depth to the top of a communication or electrical vault roof must be at least 2 feet or specifically approved by the Department where an increased depth would result

in manhole and vault configurations prohibiting utility operations such as cable or equipment used in installation, provided that the 2 feet depth has no adverse effect on the highway or Department maintenance operations and the facility is permanently marked.

- (c) Whenever facilities are adjusted to accommodate a highway construction project, increased depths should be considered by the utility and may be required by the Department during project design to preclude facility damage by the highway contractor's operations.
 - (d) Frost penetration should be considered in determining the depth of a buried utility facility to preclude freezing of liquids being transmitted or for the facility to withstand increased impact loads through frozen soils.
- (9) The vertical and horizontal clearances between a utility facility and any highway structure, drainage or any other highway or utility facility, must comply with applicable Industry Codes and Federal and State regulations and must be sufficient to permit maintenance of all facilities.
 - (10) The top of every manhole, valve box or other access facility must be at the same elevation as the proposed pavement or sidewalk.

The Department, utility companies, and highway contractors all benefit when manhole covers, drains and other surface device are adjusted during resurfacing type projects by following the steps listed below.

- Scheduling and Notification – Ensure that the utilities have the appropriate amount of time to do their engineering. Note that Figure A-502 allows up to 10 weeks for this type of utility work; however, less time may be acceptable. See [Chapter 3, Section 3.2.D](#) for notification procedures.
 - Forced Incorporation and Billing – Following the notification procedures in Chapter 3, if the utility is unresponsive or unable to meet the deadlines as stated in the Milestone Letter, per 71 P.S. §515(g) the Department can incorporate the work and invoice the utility owner or deduct the expense from their liquid fuel funds if the utility owner is a municipality.
 - Agreements – Use one of the utility agreements listed below to help expedite the agreement process. See [Chapter 8](#) for more agreement details.
 - Abbreviated Incorporated Work Agreements
 - Master Casting Agreements
 - Standard Incorporated Work Agreements
 - Utility Clearances – Use the modified utility clearance for resurfacing type projects that require manhole covers, drains and other surface device adjustments, see [Chapter 4, Section 4.2.C.3](#) and Appendix A, [Figure A-1104](#).
- (11) The utility's design of any manhole, vault or similar underground appurtenance is subject to the prior approval of the Department. On crossings, such a facility will normally be located between the ditch and right-of-way line with the top elevation of the cover of any access opening being level with finished grade. Such facilities must be constructed in a manner and at locations that will not interfere with maintenance of the highways.
 - (12) Any appurtenance to a utility's underground facility that extends above the surface of the ground must comply with the Department's clear zone roadside policy relating to ground mounted facilities as defined in [Section 1.3.C.1](#).

b. Longitudinal Installations. This policy relates primarily to existing utility facilities located on the utility's private right-of-way or within public right-of-way which, when overtaken by a highway construction project, will be adjusted or will remain underground longitudinally within the completed highway right-of-way. This policy also applies to new or replaced underground utility facilities proposed to be installed longitudinally within existing highway right-of-way under applications submitted by utilities pursuant to Chapter 459.

Highway right-of-way designated as limited access (freeway right-of-way) may not be occupied longitudinally by utility facilities. Therefore, existing facilities longitudinally occupying an area to be

acquired for limited access right-of-way must be relocated and, on existing limited access right-of-way, utility requests proposing longitudinal installations will not be approved. EXCEPTION: In extreme cases, transmission or trunk-line type facilities may be accommodated longitudinally within the right-of-way of planned or existing limited access highways (freeways) by an inward relocation of the access control line to establish a corridor or strip for utility occupancy (see Appendix A, [Figure A-740](#)). The Director of Project Delivery or authorized personnel and FHWA must approve the request for a corridor.

Longitudinal installations must be on an alignment parallel to the pavement and, where possible, located between the ditch and the right-of-way line. Facilities may be installed longitudinally by plowing or trenching and must be constructed, operated and maintained in a manner that will not interfere with highway drainage, the structural integrity of the pavement, shoulders or embankment, highway maintenance, and the safety of the traveling public.

New facilities and those relocated to accommodate highway construction may be permitted beneath the shoulder when justified by engineering or economic considerations. Utility pipe, conduit or cables installed within the shoulder area by trenching must be located so that the distance between the edge of pavement and the inside edge of the trench is greater than the depth of the trench. Vibratory plowing of direct bury cable will be permitted only within unpaved shoulders.

Existing facilities may be permitted to remain longitudinally within the right-of-way acquired or to be acquired for construction or reconstruction of a non-limited access highway providing the facilities are structurally sound, able to withstand loading, and are at a location and depth that will not conflict with the proposed highway construction or future maintenance. Existing facilities will not normally be allowed to remain longitudinally beneath the proposed pavement of a relocated or reconstructed non-limited access highway except in cities, municipalities, towns, boroughs and business or residential districts as defined in the Vehicle Code or where relocation of the facilities is not practical. All underground utility facilities must meet the criteria described in [Section 1.3.D.1](#) and Chapter 459.

c. Crossing Installations. This policy relates primarily to existing utility facilities located on the utility's private right-of-way or within public right-of-way which, when overtaken by a highway construction project, will be adjusted or will remain underground crossing the constructed or reconstructed highway. This policy also applies to new underground utility facilities proposed to be installed across existing highways under applications submitted by utilities pursuant to the Department's highway occupancy permit regulations.

All proposed underground utility crossings of State highways require the prior approval of the Department of Transportation and must be in compliance with [Section 1.3.D.1](#) and Chapter 459.

Facilities crossing beneath state highways must be constructed in a manner that assures the integrity of the highway and virtually precludes the necessity of entering upon the paved portions of the roadway to affect future maintenance or replacement of the facility.

Underground utility crossing installations on highway right-of-way are subject to all applicable current industry codes and Federal and State Regulations pertaining to particular types of utility facilities. It is the responsibility of the facility owner to comply with all current applicable codes and regulations.

Crossing facilities are subject to the following general policies, in addition to any specific Department policies, industry codes or Federal regulations pertaining to particular types of facilities:

- (1) New crossings, or replacement of existing crossings, will normally be accomplished by driving, coring or boring (jet boring is not permitted) under the highway without disturbing the existing pavement, shoulder or drainage. Where unusual conditions indicate use of another construction method, such method is subject to the approval of the Department. The use of open cut trenches in existing roadways will be permitted only when justified to the satisfaction of the Department.
- (2) All bore pits and any other similar openings must be located as far as possible from the outside edge of the through traffic lane. The Department may require additional protection such as guiderail, concrete median barriers, etc., for openings which are less than 30 feet from the outside edge of the through traffic lanes.

- (3) Crossings must be installed where practical on an alignment generally at a right angle to the centerline of the highway.
- (4) The location of crossing facilities must be indicated by line markers located at or outside the highway right-of-way line except for facilities crossing non-limited access highways 1) in cities, municipalities, towns, boroughs and business or residential districts as defined by the Vehicle Code or 2) where the placement of markers is not practical and would not serve the purpose for which markers are intended. Markers should indicate the name, address and telephone number of the owner of the facility and, in the case of pipelines, the substance conveyed.
- (5) Whether existing facilities may be permitted to remain unadjusted and crossing the area where a highway is to be constructed or reconstructed will be determined by the Department on an individual case-by-case basis. Factors to be considered in this determination include:
 - (a) Class of highway and type of right-of-way.
 - (b) Type of utility facility.
 - (c) Remaining life of facility relative to the completed highway project, whether it will be physically affected by the construction of the highway and how the facility would be maintained, serviced or replaced.
- (6) An existing unaffected facility overtaken by a highway construction project will not normally be permitted to remain in a location crossing the completed highway project without casing, encasement or other protection as described in this policy, except when the following conditions exist:
 - (a) An existing facility crossing will be permitted to remain under a non-limited access highway where longitudinal underground facilities are permitted, such as curbed highways in cities, municipalities, towns, boroughs and business or residential districts as defined by the Vehicle Code.
 - (b) On all other type highways, the Department will consider utility requests for an existing facility to remain at a location crossing the completed highway project without such protection provided:
 - i. The utility furnishes written assurance that the design and construction methods used in installation reasonably comply with the Department's policy.
 - ii. The utility furnishes complete information on the testing to which the facility was subjected at the time of its construction and agrees to effect any measures, including physical and electronic inspection and/or testing, deemed necessary by the Department to assure the advisability of permitting the existing facility to remain.
 - iii. The utility provides the Department with an acceptable method of making future repairs or replacement of the facility that precludes open cutting of the highway pavement or shoulders.
 - d. Casing and Encasement. Each underground utility facility crossing a highway must be specifically designed by the utility for that location and requires the individual approval of the Department. Underground highway crossings must be cased or encased, except for those types of facility installations that may be permitted to be installed without casing or encasement. See Appendix A, [Figures A-745 and A-746](#) for casing sizes, as well as typical sections showing minimum extent of casings.
 - (1) The method of construction and protection of each crossing must be individually considered.
 - (2) Casing should be considered for the following conditions:

- (a) As an expediency in the insertion, removal, replacement or maintenance of the facility on freeways and at locations where future open cut trenching would be prohibited, such as near bridge footings, or where boring would be impossible, such as areas of rock.
 - (b) As a protection for carrier pipe from external loading or shock, either during or after construction of the highway.
 - (c) As a means of conveying leaking fluids or gases from directly beneath the highway to a point of venting at the right-of-way line or to a safe and permissible point of drainage.
- Encasement, casing and/or capping (a concrete slab over a facility for protection) should be considered for existing facilities that require protection but cannot be relocated, adjusted or replaced.
 - Protection of existing facilities that cannot be relocated or adjusted may be provided by construction of a plate arch, monolithic arch or box around the facility in its existing location. Consideration may also be given to the installation of Department approved allied mechanical protection such as concrete slabs or bridging, providing the utility agrees that future repairs or replacement will be accomplished without open cutting of pavement or shoulders.
 - Casings must be designed to support the dead loads imposed by earth, subbase, pavement, etc., and vehicular loads thereon, be capable of withstanding any internal pressures and, as a minimum, must equal the structural requirements for highway drainage facilities.
 - Casings must be of durable materials with long service life expectancy and comply with industry codes and governmental regulations.
 - Casings, encasement or other protection will normally extend a minimum of 10 feet beyond the toe of slope. Protection may be required to extend to right-of-way lines for access purposes or to allow for future widening of the highway.
 - Casings must be sealed, vented, and drained in the manner prescribed by industry codes and governmental regulations.
 - Uncased crossings may be considered for utility lines carrying electric, telecommunication systems, water, gas, petroleum and petroleum products, steam, sanitary sewage and chemical lines provided they:
 - (1) If using steel carrier pipes, the pipes must be cathodically coated, welded steel pipes.
 - (2) Meet the requirement of the applicable Federal and industry standards with respect to wall thickness for steel, plastic, ductile iron and reinforced concrete pipes.
 - (3) Are designed for operating stress levels in accordance with Federal Pipeline Safety Regulations.
 - (4) Agree that, if in the future the crossing requires replacement, the replacement line will be installed at a new location.

A utility proposing to install an uncased crossing must provide a written statement of certification that all applicable conditions and provisions contained in items 1 through 4 above will be complied with for each crossing.

- On divided highways with a median width in excess of 80 feet casings or encasement will only be required under the traveled way and not through the median area.
- Pipelines located in casings or galleries will be designed to withstand internal pressure and to resist internal and external corrosion.
- Pipe casings of gas lines over 4 inches in diameter which carry gases lighter than air must be sealed and provided with a screened vent on one end at or outside of the highway right-of-way line.

- Casings are not required for a service line connecting a single or multiple customer to a utility's distribution facility.

E. Replacement Policy for Utility Facilities

1. Replacement of Existing Aerial Facilities with Underground on Highway Relocations. This policy will apply where a utility proposes to replace existing aerial facilities with decreased span lengths or with underground facilities required by highway construction projects.

a. Crossing Facilities Underground Replacing Aerial. Where highway right-of-way widths exceed the utility's design criteria for maximum span length limits, the utility may construct underground to replace existing aerial facilities. The Department will consider such underground replacements as facility upgrading unless the underground is, in the opinion of the Department, required by reason of the highway project, e.g.: height of embankment, width of right-of-way, safety, aesthetics, etc.

Department policy does not consider putting utility facilities underground for aesthetic reasons to be a betterment for a utility if the undergrounding is, in the opinion of the Department, required by reason of the highway project.

This does not apply to the following situations:

- Where the project is funded with transportation enhancement monies.
- Where the Department refuses to allow occupancy at a new location within highway right-of-way for safety reasons.
- Where a utility proposes to replace existing aerial facilities with underground facilities not required by highway construction projects.

b. Installation of Spare Duct when Replacing Aerial with Underground Utility Facilities. When it becomes necessary to install underground facilities in order to replace aerial facilities as a result of the proposed highway construction, the utility may install one spare duct for each duct in use, unless the utility documents that its normal policy requires additional ducts.

The proposed use of underground to replace existing aerial facilities should be indicated by the utility at the Initial Design Stage Meeting and so noted in meeting minutes.

At the Final Design Stage Meeting, the utility will confirm the use of underground. The extent of Department reimbursement will be dependent on the utility's justification for the necessity of underground by reason of the highway project. The Central Office Utility Relocation Unit is authorized to approve Department reimbursement and their approval should be indicated in the meeting minutes along with the utility's justification including cost comparisons between aerial and underground. When the utility is unable to satisfactorily justify the need for underground at the Final Design Stage Meeting, the utility may request further consideration by submitting written justification and cost comparisons to the District for Central Office determination.

Should the utility elect to install underground to replace aerial facilities, the utility must submit cost comparisons with its Preliminary Estimate. The estimate will detail the cost difference between underground and aerial with the resultant additional costs shown as betterment on the estimate form.

The Central Office Utility Relocation Unit must give concurrence on all replacement of existing aerial facilities with underground on highway relocations.

To assure approval of the reimbursable agreement, the above cost comparison will always be required.

2. Replacement or Installation of Poles within Utility Pole Crash Clusters. The District will not approve a utility highway occupancy permit application for the installation and/or replacement of poles within the areas of the utility pole crash cluster without review and concurrence of the District Utility and Traffic Units.

This is not intended to eliminate or hinder the utility's use of their Emergency Permit Cards, nor is it intended to establish a policy under which a utility could not replace existing poles within a cluster area. The intent is to have the facilities installed in the safest location possible that increases the existing clear zone area and provides a safer condition for the traveling public.

A pole that requires replacement in an emergency situation may be repaired by the utility under authority of the Department's Emergency Permit Card with subsequent application made to the Department under current highway occupancy regulations. Where practical, a pole should be replaced in a location that complies with the provisions of this policy. However, the pole may be replaced in its existing location as defined in [Section 1.3.C.2.a](#) and [f](#), providing there is no record of a crash involving the pole and the Department has determined that the relocation to another protected location is not feasible from an economic or engineering standpoint (see Appendix A, [Figure A-748](#) for Comprehensive Pole Safety Policy).

3. Replacement of Crash-Damaged Poles. A utility pole requiring replacement due to vehicle crash is repaired or replaced under authority of the Department's Emergency Permit Card for Repairs and followed by submissions of an Application for Highway Occupancy Permit.

Prior to approval of the final location of a crash-damaged pole, the District personnel must determine the acceptability of the replacement pole(s) location in regard to traffic safety.

It is the responsibility of the District to thoroughly investigate permit applications relating to crash-damaged pole replacements and to consult the District Utility Relocation Administrator and Traffic Safety Engineer to determine the acceptability of pole locations.

When a pole was originally located in a position that complied with the provisions of this policy and there is no record of previous crash involvement, the facility may be permitted to remain in that location. However, prior to final location approval of any crash-damaged pole, the site will be field viewed by the Department's District Office personnel to determine whether the facility should be relocated or other provisions made in the interest of safety and the feasibility of such relocation (see Appendix A, [Figure A-748](#) Comprehensive Pole Safety Policy).

F. Utility Corridor

1. Establishment of Utility Corridors on Freeways Joint Development and Multiple Use. In specific situations and under strictly controlled conditions, the Department may provide for joint development and multiple use of limited access highway right-of-way by establishing a longitudinal utility corridor parallel with the highway centerline within which trunkline or transmission type facilities may be installed. Consideration for approval of such corridors will be based on the assurance of satisfactory compliance with the requirements of FHWA's "Installation Within Freeways", and the Department's accommodation policy as defined in this Chapter.

The creation of a utility corridor within limited access right-of-way requires revision of the highway right-of-way and construction plans, written agreements and special highway occupancy permits, in addition to conformance to this policy and approval by the Department's District Office. Submissions recommending establishment of a utility corridor must contain sufficient details on each of the following conditions and must be listed in the same alphabetical order.

For the purpose of this policy, the word "freeway" will mean any limited access highway and "freeway right-of-way" is the full highway right-of-way acquired or to be acquired for construction of the freeway.

- a.** On existing freeways, the utility may request establishment of a corridor by an inward relocation of the limited access line a minimum distance to the extent necessary to permit installation of the utility facility between the relocated limited access line and the existing freeway right-of-way line.

The District Utility Relocation Unit is to establish, through their District Fiscal Unit, a State Project Number, with a special Program Number of 612 (allotment), as soon as a utility requests a corridor be established. This enables the Department to recover monies expended by Department personnel (District & Central Office) for the establishment of the corridor. Costs reimbursable from the utility company are for time expended by Department personnel, materials furnished for engineering, design, highway plan changes (R/W and Construction), right-of-way plan recording, permit fees, inspection cost, furnished material (example mylars, paper, etc.) and any other related items. Upon approval and completion of all

the utility's work, the District Utility Relocation Unit must notify the District Fiscal Unit to process all costs incurred under this special S.P.N. for billing to the utility company.

The Utility must agree, in writing, to pay for these costs when requesting this corridor. The District letter to Central Office Utility Relocation Unit will include the S.P.N. with a statement that the utility agreed by letter to reimburse the Department for cost incurred, and the corridor will be established by an inward relocation of the Limited Access Line to allow the utility to occupy highway right-of-way outside the Limited Access R/W. (See Appendix A, [Figure A - 740](#))

On freeways under design, the utility may request or the Department may suggest that a corridor be established by designing the limited access line inward of the required freeway right-of-way line a minimum distance to the extent necessary to permit installation of the utility facility outside the limited access lines. Excess freeway right-of-way will not be acquired for establishment of this utility strip and the highway designer must verify that the width of right-of-way acquired is the minimum needed for the construction, operation and maintenance of the freeway.

All requests for establishing a utility corridor must be in writing from the utility. When the Department recommends a corridor be established, the utility must concur with this recommendation, in writing. The establishment of the corridor must be shown on the right-of-way and construction plans by plotting the limited access line inward of the required freeway right-of-way line. The District must assure and/or concur that excess freeway right-of-way will not be acquired. The highway designer must verify to the District Utility Relocation Unit that the width of right-of-way acquired is that needed for the construction, operation and maintenance of the freeway right-of-way. The letter from the District to the Central Office Utility Relocation Unit must state that excess right-of-way is not being acquired, the designer has verified this data, and the plans will reflect the limited access line by an inward move.

b. The Department must ascertain that the freeway right-of-way is of ample width to accommodate utility facilities without adverse effect to the design, construction, integrity, and operational characteristics of the freeway and that this right-of-way will not be needed for the foreseeable expansion of the freeway. The utility must indicate its intent to enter into a written agreement that contains specific provisions regarding the maintenance of its facilities within the utility corridor.

c. The utility must assure and the Department must verify that there are no locations where it is feasible to accommodate utilities on frontage roads or adjacent public roads or streets.

d. The utility must acknowledge that the Department will retain ownership of the freeway right-of-way and the control and regulation of the use and occupancy of that right-of-way by utilities will be specified by written agreement. Access for service and maintenance of utility facilities will not be permitted from the thru traffic roadways, or ramps. Access provisions must be specified by agreement.

e. It must be understood that existing fences will be retained or planned fences will be installed at the freeway right-of-way line.

f. The utility is required to show by detailed submission that the proposed installation on the freeway right-of-way within the proposed corridor is the most feasible and prudent location available from the standpoint of the highway user and utility consumer. The answering of this item must include engineering and economic justification.

g. The lateral location and depth of the proposed underground facilities and the lateral location and vertical clearance of proposed aerial facilities must be shown in detail on highway plans and be in accordance with the Department's approved accommodation policy, 23 CFR Part 645 and the AASHTO policy. The District must concur and submit two (2) copies of detailed highway right-of-way plans and cross sections showing the utility's proposed installation.

h. Aerial installations will be limited to self-supporting single pole construction, with vertical configuration of conductors and cables where possible. No more than one line of support poles for aerial facilities will be permitted within the utility corridor.

- i.** The utility must assure the Department that only trunkline or transmission type facilities will be installed and that service connections to utility consumers will not be permitted from the utility corridor.
- j.** The District Environmental Manager must assure that the proper approval is obtained for the level of environmental clearance required. Such approvals may involve the Bureau of Project Delivery and where applicable, the FHWA. The effect of the utility installation on wetlands and agricultural lands must be specifically addressed.
- k.** Where the freeway passes through or along areas of scenic enhancement and natural beauty as described in 23 CFR Part 645, utility installations must be made as provided for therein.
- l.** The utility must indicate the facilities installed within the utility corridor must be of durable materials designed for long service life expectancy and relatively free from routine servicing and maintenance.

Regardless of the situation, whether the utility requests to occupy an existing freeway or there is a mutual agreement on the need for such occupancy on a proposed freeway, the benefits of this policy are to the utility consumer and the highway user. The success of this policy is dependent on the cooperation of the utility and Department personnel involved.

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CHAPTER 2

UTILITY RELOCATION-ELECTRONIC DOCUMENT MANAGEMENT SYSTEM

2.0 INTRODUCTION

A. Purpose. The purpose of the Utility Relocation-Electronic Document Management System (UR-EDMS) is to improve the efficiency of the Utility Relocation business process in preparation for roadway and highway structure construction.

UR-EDMS is a system module within the Department's Electronic Document Management System (EDMS). Accessible through the intranet for Department employees and through the Internet for external business partners, it is a Web-based electronic document management system designed to work with Utility Relocation documents.

EDMS functions as an electronic filing cabinet. The electronic storage and indexing of these documents allows for easier search and retrieval, faster document transfer, better revision control and saves on storage space. It also eliminates lost and misplaced files. The system takes an existing business workflow that involves routing, distribution and approval and automates the whole process decreasing turn-around time and improving overall efficiency.

For additional UR-EDMS training materials contact the Central Office Utility Relocation Unit.

B. Benefits. Some of the key benefits for utility companies to use UR-EDMS are:

- Electronic submissions which allow for faster completion times for reviews and issuing documents/agreements.
- Save time and money compared to corresponding through the U.S. Postal Service.
- Electronic document storage capability
- Electronic signature capabilities and access to pre-populated forms.
- Electronic billing submission.

2.1 EXTERNAL USERS

A. Registration Process. Registering as a business partner is a 3-step process.

Note: If an organization is already a registered business partner and needs to register as an External Utility Business Partner, they must contact the ECMS Help Desk (717-783-7711) for instructions on how to request this additional access.

1. Access the ECMS web site, www.dot2.state.pa.us. Click on the Business Partner title in the navigation bar on the left, and then click on Registration. Download the Business Partner Registration form, print it, complete it and send it to the address indicated on the web site.

Note: Municipalities registering as a Business Partner should register as a government agency business partner.

2. On that same web page, press the Register button (found at the bottom left hand corner of the screen), fill out the requested information contained in all 5 Tabs on the screen and electronically submit this form to the Department.

Suggestion: Complete the paper agreement and then input the electronic registration. Verify that the information on the hardcopy and the electronic forms are the same, submit the electronic registration to the Department and mail in the three page agreement.

3. Once the application has been approved, the organization's designated System Administrator (Tab 4 of the registration information form) will receive an email notification assigning the organization a Business

Partner ID number and a Systems Administrator User ID and password. This email should be received no more than 2 weeks after the Department has received both the paper and electronic registration forms.

B. E-Permitting Business Partners can add UR-EDMS to their Profile. To become an UR-EDMS Business Partner, the E-Permitting Business Partner needs to send a letter of request, ([Figure A-1209](#)) to:

Pennsylvania Department of Transportation
Systems Management Section
Innovation and Support Services Division
Bureau of Project Delivery
P.O. Box 3662
Harrisburg, PA 17105-3662

After obtaining the ECMS Security Approval, follow the directions below to identify personnel to use the UR-EDMS system:

1. First Log into ECMS
2. Next click on the "**Administration**" button on the left side of the screen
3. Click on "**Application Security**" – this should bring up the screen shown in the attachment.
4. The fields should be pre-filled with your information, if not, please fill in your information.
5. Click on "**UREDMSBP Security Groups:**" – this should open two check boxes
6. Click in the box of both, "**External Utility Admin**" and "**External Utility User**".
7. Save and close out. This should give you access to the External UR-EDMS system. Also, this procedure is similar in assigning other personnel to use UR-EDMS. Other engineers would probably just be given "**External Utility User**" rights.

C. Maintaining Users. Registering as a business partner provides organizations with the ability to maintain the UR-EDMS user access that meets their business needs. This includes maintaining user IDs for both employees and any consultants that assist the organization on utility projects.

The designated System Administrator will have the responsibility to:

1. Establish User IDs and passwords for users within the organization.
2. Assign users in the organization to security groups, allowing these users to see and enter/submit information for the organization based on the level of security provide by the security group.
3. Delete users for the organization and reset passwords.

The following two user groups are available to Utility Business Partners within UR-EDMS:

1. External Utility Admin – Users that are assigned to this security group will have the ability to update information for all of the organization's utility projects with the Department. Users in this group also have the ability to reassign projects to other users. At least one person in the organization must be assigned to this group.
2. External Utility User – Users that are assigned to this security group will have the ability to view information for all of the organization's utility projects with the Department. These users will only be able to update those projects that have been assigned to them by an administrator.

For assistance with the user maintenance process, contact the ECMS help desk listed on the ECMS website.

D. UR-EDMS Homepage (<https://www.dot14.state.pa.us/uredmsweb/home.jsp>). On the UR-EDMS homepage business partners will have access to:

1. E-training that can be downloaded.
2. The Department's letting schedule.
3. A contact list of Department utility relocation personnel.
4. UR-EDMS help.
5. A link to ECMS registration.
6. The Department's homepage.

2.2 INTERNAL USERS

A. Workflows. UR-EDMS workflow allows you to interact with UR data and documents to perform specific tasks related to utility relocation. Workflow occurs when work items move through a series of work queues. When the user completes a step, the system removes the work item from the current queue and creates a work item in the next work queue. For example, when the District completes the step to initiate a cost-sharing request for a utility, the system creates a work item for Central Office to process the request.

The system displays and allows you to use data from MPMS, ECMS, and from the UR-EDMS database to assist in completion of the workflow tasks.

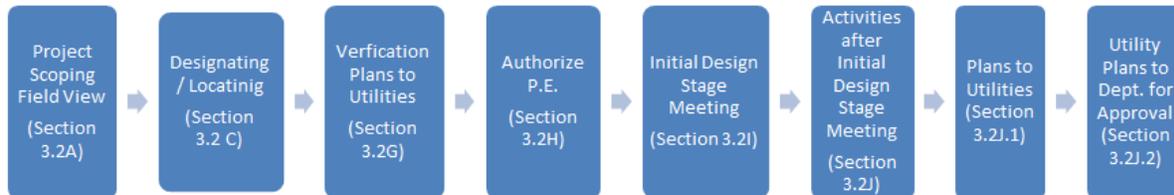
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CHAPTER 3

PRELIMINARY ENGINEERING

3.0 GENERAL

The purpose of this chapter is to outline the process flow of utility relocations during preliminary engineering for highway construction projects.



The Department and its designers understand that utility relocation is an integral part of the highway construction project. For this reason, every effort should be used during the design and construction process to minimize or mitigate the relocation of all utilities. During preliminary design, consult the Constructability Review Checklist (see Appendix Figure A-200) to ensure that the utility relocation process is being considered throughout project delivery.

A. Utility Lead Time Policy. To assure utility engineering and physical relocations are accomplished in a timely manner by affected utilities on a specific highway project, the Department established a policy of lead time for utilities as outlined in Appendix A, [Figure A-502](#), Lead Time for Utilities.

The policy assures that the utilities' time requirements are considered throughout the highway design phase and that communications between the Department and utilities are maintained.

B. Highway-Utility Coordination Meetings. The Department's Engineering Districts will hold periodic meetings with utility companies, municipal authorities and political subdivisions to:

- Inform them of procedures to establish utility clearances for proposed highway projects.
- Answer any questions/concerns applicable to utility issues.
- Provide them with a list of projects that are under study, being designed, and being advertised for construction.

C. Pennsylvania One Call. PA One Call considers the Department to be a single organization when making location requests. The Department currently pays a onetime annual stipend to PA One Call. This payment covers any and all location requests from the Department during a given calendar year. It is important to insure that each individual making location requests through the PA One Call System use the company name "PennDOT".

3.1 TWELVE YEAR PROGRAM

The State Transportation Commission adopts a Twelve Year Program every two years that serves as the project implementation schedule for the Department. Any project proposed for any phase of project development (engineering, right-of-way, construction, etc.) must be approved by the State Transportation Commission and be on the Twelve Year Transportation Program, either as a specific project or as part of a program such as the annual Highway Restoration Program.

The Twelve Year Program is a working document that is continually revised through the Program Management Committee, but a formal update is completed every two years. Local input in the programming of projects is coordinated through the Planning Commissions and the Engineering Districts with overall coordination provided by the Center for Program Development and Management.

3.2 PRELIMINARY ENGINEERING ACTIVITIES

A. Engineering and Environmental Scoping Field Views. A field view at the beginning of a highway project which defines the project parameters, e.g. width of structures, type and depth of pavement, guide rail, drainage, along with general alignment geometry, safety requirements and any other related items. A representative of the District Utility Relocation Unit will attend the field view to determine the probable impact on the existing utility facilities and recommend solutions to possible conflicts. The design of the plan should not be more than 20% complete when this field view is scheduled or held.

The scoping or similar purpose field view should not be confused with the District's project selection process.

B. Preliminary Alternatives Development and Review. These studies are required for all projects on new locations and, where possible, prepared by the Engineering District Office. Preliminary Alternatives Development and Review are undertaken to select and recommend the most practical, economical and justifiable corridor between identified termini. A public hearing is normally held during this phase of project design.

C. Designating and Locating of Existing Underground Utility Facilities. The Department should utilize the best practice of subsurface utility engineering (SUE) on projects to determine the existence and position of underground utility facilities. The most opportune method to accomplish this is by using the services of a designating and locating provider. These services can be provided through a Regional or District open-end contract for in-house projects or if the project is a consultant design project through inclusion of SUE in the project Scope of Work.

All projects that are advertised should include provisions for a SUE provider.

In order to determine if it is practicable to use SUE to determine the existence and position of underground utilities the SUE Impact Form must be completed (see Appendix A, [Figure A-501](#)). The SUE Impact Form should be utilized as a guide as there may be circumstances that warrant higher levels of SUE investigations. The District Utility Relocation Administrator should be involved in the determination of whether to utilize SUE and at what quality levels.

Each District should have an open-end contract for these services and to have all highway projects designated, and where warranted, located by a sub-surface utility engineering firm. Project Managers are to assure this is accomplished at the beginning of the preliminary design phase of a highway project to ensure that consideration is given to avoiding utility relocations.

The Department's designers are to use the information received from the SUE investigation to avoid and/or minimize utility involvement and relocation.

See [Chapter 6, Subsurface Utility Engineering](#), for additional information.

D. Utility Contacts. In accordance with appropriate sections of Publication 10A, Design Manual Part 1A, *Pre-TIP and TIP Program Development Procedures*, the designer contacts, in writing, all known utilities in the project area during location studies to obtain general information regarding their facilities. These letters should be explicit and request any mutually beneficial information available from the utility's files that would minimize project effect on existing facilities. It is not intended for the utility to incur engineering costs in providing this general information.

During Preliminary Alternatives Development and Review, the designer is to forward a letter to all utilities operating within the study corridors advising of the study and requesting general information regarding the existing and any proposed facilities in the area. The utilities should be provided with a map showing the county, township, tentative line locations and termini.

Upon receipt of a notice to proceed with Detailed Alternatives Development and Review, the designer is to forward a letter to all known utilities in the area advising them of the study and requesting general facility information. This transmittal should provide a 1:2000 (1 inch = 200 feet) minimum scale map with sufficient topography to locate the project and shows the county, township, route and project limits.

The District will issue two letters for resurfacing projects and group paving projects with an expedited design phase:

- Notification Letter – This letter is sent before engineering authorization is issued to the utility in the preliminary engineering phase of the project.
- Milestone Date Letter – This letter is sent with the engineering authorization and includes the milestone dates for the agreement package and the return of the executed agreement to the Department, as applicable

based on cost sharing eligibility. The Milestone Letter also conveys the deadline to complete the work in coordination with the contractor's schedule.

The Notification Letter (Appendix A, [Figure A-305](#)) is sent to the utility owner with manhole covers, drains and other surface devices within the project limits. The letter will give notice of the project to the utility owner and give the utility owner the choice of adjusting the manhole covers, drains and other surface devices themselves or requesting the Department to incorporate the work into the Department's contract. A response will be required 30 calendar days from the date of the letter. If the utility owner fails to respond, the District Utility Administrator (DUA) will notify the project manager/contract management unit that the deadline has lapsed. The Department will then incorporate the work into the highway contract and invoice the utility owner for the work, in accordance with the Administrative Code, 71 P.S. § 515(g) (see [Chapter 1, Section 1.2.E](#)).

If the Department receives a response to the Notification Letter, the Milestone Date Letter (Appendix A, [Figure 401](#)) will be issued in conjunction with the authorization for preliminary engineering (see [Section 3.2.H](#)), stating deadlines to have the agreement package and signed agreement returned to the Department, as applicable based on cost sharing eligibility. If the utility owner is going to make the adjustments, there will be a deadline to complete the work in coordination with the contractor's schedule. If any of the deadlines are missed, the DUA will notify the project manager/contract management unit that a deadline has lapsed. The Department will then incorporate the work into the highway contract and invoice the utility owner for the work, in accordance with the Administrative Code, 71 P.S. § 515(g) (see [Chapter 1, Section 1.2.E](#)).

E. Detailed Alternatives Development and Review. This study is undertaken to develop alternate alignments within the corridor approved during the Preliminary Alternatives Development and Review. Detailed Alternatives Development and Review are to develop mainline horizontal and vertical alignments and develop right-of-way plans at 1:2000 (1 inch = 200 feet) scale for total and partial property takes. A second public hearing is normally held during this phase of design.

F. Commencement of Utility Relocation Activities. On federal aid projects, the District Utility Relocation Unit will assure that the District obtains federal programming and authorization for utility relocations at the same time highway design is programmed.

Normal utility relocation activities commence during the Detailed Alternatives Development and Review phase of highway plan development as described in [Section 3.2.E](#). During project design it is imperative that the District Utility Relocation Unit maintain a close liaison with the designer, through the responsible District personnel, to assure that utility information can be made a part of the highway plan without delaying the normal plan development or completion of design (see Appendix A, [Figure A-502](#)).

G. Utility Verification Plans and Related Activities. In accordance with Publication 10A, Design Manual Part 1A, *Pre-TIP and TIP Program Development Procedures*, at the time of the Design Field View and during Detailed Alternatives Development and Review, the highway plan is to show, as accurately as possible, the type, size and location of all existing utility facilities within the area covered by that plan. To accomplish this task the utilities are requested to verify in writing the type, size and location of existing facilities as shown on the plan provided by the project designer.

Most costs involved in the utility's review and verification of existing utility facilities (Design Location Phase) are considered to be mutually beneficial, are not reimbursable costs and do not need authorization. However, should a utility feel they are about to incur costs that could be reimbursable, subsequent authorizations to incur costs must be obtained from the District Utility Relocation Unit (see Sections 3.2H, 3.2I and Chapter 4, Section 4.1P). The utility is required to obtain authorization for acquisition of right-of-way and/or materials needed prior to authorization of physical relocation from the District Utility Relocation Unit.

Although it is intended that the utility obtain this mutually beneficial information with a minimum of field engineering, such verification may require that the utility expend funds for preliminary engineering activities (see [Section 3.2H](#)). Therefore, it may be necessary for the Department to authorize preliminary engineering for specific work required to provide this information.

1. Immediately following Highway Design Approval (see Publication 10A Design Manual Part 1A, *Pre-TIP and TIP Program Development Procedures*), the Designer furnishes one set of the latest available highway plans to all utilities on the project (use sample Letter A as shown in Appendix A, [Figure A-503](#)), and one copy of

Bridge Occupancy Form (see Appendix A, [Figure A-505](#)) with the location of each structure shown by highway stations or segments and offsets. Simultaneously the designer forwards one set of plans and one form to the District Utility Relocation Unit.

Utilities may request authorization for preliminary engineering to provide specific information not available through the utility's facility records. This authorization will be limited to a specific function, e.g. test hole, excavation. Any future engineering will be authorized as it becomes necessary (see Appendix A, [Figure A-522](#)).

The utilities review the verification plans, verify the type, size and location of their existing facilities as shown on the plans, and make any necessary corrections or additions. The utilities must also complete the Bridge Occupancy Form indicating those structures that may be occupied by their facilities. Each utility must return to the Designer, within 30 days, one set of marked verification plans and one completed copy of the Bridge Occupancy Form.

The Designer, after the specified 30-day period of time, must notify the District Utility Relocation Unit of the status of replies from utilities and include a list of those utilities that have not replied. This notification must also include one copy of all completed Bridge Occupancy Forms received from utilities.

The District Utility Relocation Unit forwards one copy of each completed Bridge Occupancy Form to the District Bridge Engineer for information and expedites the remaining replies due from the utilities. Central Office Utility Relocation Unit assistance should be solicited when necessary to expedite late submissions.

2. There will be projects with no Detailed Alternatives Development and Review conducted and the project design will proceed from Preliminary Alternatives Development and Review directly into Final Design or directly into Final Design without any studies. In such cases, the requirements of the Detailed Alternatives Development and Review must be fulfilled (see Publication 10A, Design Manual Part 1A, *Pre-TIP and TIP Program Development Procedures*) during the Final Design and the verification of the type, size and location of utility facilities are to be timed accordingly.

There will also be cases when no public hearing is held during Detailed Alternatives Development and Review and, in such instances, the commencement of utility relocation activities will be adjusted to assure that the Initial Utility Design Stage Meeting is held prior to the final field view.

3. Procedures for Abbreviated Plans. This procedure is designed to provide for the orderly development of plans to minimize the time and efforts required to develop a highway project for a timely letting.

Although projects of limited scope (Minor Projects) can be developed rapidly, certain steps must be taken to assure the proper coordination of utility relocation activities. Therefore, a minor project procedure for utility relocation activities is outlined in [Section 3.8](#).

H. Preliminary Engineering Authorization for Utilities. The utility is authorized to begin the following preliminary engineering activities after the Department receives approval from either FHWA for Preliminary Engineering (D-4232, phase 3) or the Program Management Center (PMC) for 100% State funded projects. A letter establishing the date of preliminary engineering authorization for utilities will be issued by the District Utility Relocation Unit or by the District's design consultant on behalf of the Department (see Appendix Figure A-520). This authorization will allow utilities to:

- Attend the initial design stage meetings.
- Determine the locations of existing facility locations by various degrees of SUE as required.
- Determine any real property interest for the current facility locations.
- Determine the existence of any hazardous materials that may be encountered in relocating the facilities.
- Evaluate any long lead time materials, splicing operations that are needed to perform the relocations.
- Prepare any stream crossing, or other permit applications that will be necessary.
- Request cost sharing, consultant approval and/or incorporation for utility relocations.

- Evaluate if the facility needs to be attached to the proposed structure.
- Identify any conflicts with the proposed new construction and structures.
- Identify a general relocation corridor and preliminary design for the relocated facility.
- Identify any required additional right-of-way required for the relocation.
- Identify Ownership of the poles for overhead utilities, and any known attaching companies including contact information.

I. Plans and Engineering Authorization for Utilities. A letter establishing the date of engineering authorization for utilities will be issued by the District Utility Relocation Unit or by the District's design consultant on behalf of the Department. This takes place immediately following verification of the transmittal of construction and/or right-of-way plans by the designer (see [Section 3.2.G](#)). This authorization is generated:

- When projects are financed with 100% State funds, PMC approval for utilities must be obtained prior to granting authorization for engineering. For resurfacing projects, authorization is sent in conjunction with Appendix A, [Figure A-503](#) (see [Section 3.2.G](#)). On projects where unusually complex utility relocations are encountered, such authorizations may be issued prior to this point in plan development.
- When projects are financed with Federal funds, PMC approval and Federal programming approval (D-4232, phase 5) for utilities must be obtained prior to granting authorization for engineering.

This second authorization will pertain to engineering and related activities necessary to accomplish the utility's relocation and/or adjustments. Costs incurred by the utility subsequent to the date of authorization for items of work requested or approved by the Department may be eligible for reimbursement under the provisions of Sections 412 and 412.1 of the Highway Act, 36 P.S. §§ 670-412, 670-412.1 and Act 89 of 2013 (74 Pa. C.S.A §9501).

The utility engineering activities listed below require National Environmental Policy Act (NEPA) clearance approval and the appropriate utility funding approval(s) mentioned above:

- Performing final utility relocation designs.
- Submitting stream crossing permits.
- Applying for bridge occupancy licenses (BOLs).
- Acquiring right-of-way.

The Districts need to make sure the utilities get the plan (with the minimum plan requirements, see Appendix A, [Figure A-502](#)) and authorization for engineering in time for the utility to do their engineering in accordance with the lead time policy (see the lead time flow chart in Appendix A, [Figure A-502](#)).

The District Utility Relocation Unit's letter authorizing engineering will conform to the sample letter provided in Appendix A, [Figure A-522](#). The paragraph regarding use of a consultant engineer must be included in such letters to Municipal and Authority owned utilities, and to any other utility known to require the services of a consultant.

J. The Initial Utility Design Stage Meeting. The Initial Utility Design Stage Meeting is conducted by the District Utility Relocation Unit in the District with the designer, District personnel, and representatives of all utilities on the highway project (see Appendix A, [Figure A-525](#) for suggested agenda). The purpose of this initial meeting is to discuss the probable methods that may be used to relocate the affected facilities in order to accommodate the highway construction project. The Central Office Utility Relocation Unit should be represented at this meeting when it involves major and/or complex utility problems.

The District Utility Relocation Unit, in cooperation with the designer, schedules the Initial Utility Design Stage Meeting (use sample letter in Appendix A, [Figure A-522](#)) with all the utilities on the project.

The entire project will be discussed at this meeting and various methods of adjustment will be considered for each utility to assure that proposed relocations are in the best interest of all concerned. An initial estimate of utility

relocation costs may be required at this meeting. Any special conditions known to exist may require early authorization from the Department. See [Section 3.2.I](#) for Authorization Procedure.

The District Utility Relocation Unit must:

- Offer to acquire substitute right-of-way for utilities where the utility anticipates right-of-way problems, provided it complies with Section 412 of the State Highway Law and Chapter 7, *Right-of-Way Procedures*, [Section 7.3](#).
NOTE: Utilities must request specific authorization where it is necessary to acquire right-of-way to complete engineering.
- Inform utilities that if they intend to use a consultant engineering firm to design their relocation, the approval of the Department is required and must be in accordance with [Section 3.3.A](#).
- Inform the utilities to immediately notify the District of any material that may be difficult to obtain or that delivery of such material may require early ordering to meet the tentative letting date for the project. The Department may in such cases authorize the ordering of this material in accordance with [Chapter 4, Final Design](#).
- Investigate and identify any utility-related hazardous substance in or on an existing or proposed retired in place (see Glossary) utility facility within the limits of a highway project. See Appendix A, [Figure A-527](#) for the proper procedure for disposing of this material.
- Inform the utilities that have relocations requiring an unusually long period of time to accomplish that the Department may authorize them to proceed with the physical relocation of their facilities prior to the execution of the agreement provided it is in compliance with [Chapter 4, Final Design](#).
- Inform the utilities that in the event any utility is not adequately staffed or equipped to design or construct its relocation the Department will, upon written request from the utility, incorporate the relocation into the highway plan (see [Section 3.4](#)).
- Explain to the utilities that if they would like the Department to include their utility design and/or construction as part of the project that the Department will work to get designers and contractors (that they use) preapproved to do work for the Department.
- Explain in detail the activities that are subsequent to the Initial Utility Design Stage Meeting outlined in [Section 3.2.I](#).
- Ask the utilities if they will require time to get a permit for a stream crossing.
- Inform the utilities about the OSHA clearance requirements.
(https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=14212)

Any utility that proposes to occupy highway structures but had not previously submitted a Bridge Occupancy Form must do so at or immediately after the Initial Utility Design Stage Meeting. The designer will advise the utilities that general bridge drawings showing the type, size and location of the structures will be furnished after the meeting to those utilities requesting bridge occupancy.

Each utility will determine, by stations or segments and offsets, those portions of the plan and cross sections to be furnished to them by the designer, at a later date, for their use in developing a relocation in accordance with [Section 3.2.J](#).

Prints of the requested plan portions will be furnished by the designer to the utilities. If available, cross section sheets may be provided to the utilities.

The District Utility Unit will prepare a project utility relocation estimate to give to the project manager giving particular attention to the accuracy of individual relocation costs and any special problems.

The Initial Utility Design Stage Meeting may be omitted on certain highway construction projects when such a meeting is unnecessary due to the simplicity of utility relocations. The omission of the Initial Utility Design Stage Meeting

does not preclude the requirement of showing the existing and proposed utility facilities on the highway plan. All other activities, commencing with the verification plan, should be performed as prescribed in this Manual.

K. Activities Subsequent to Initial Utility Design Stage Meeting. The prime objective of the following procedure is to provide utility data for the highway right-of-way and construction plans in order to show the location of all existing and proposed utility facilities in the area covered by the plan and the disposition of existing and proposed facilities within the area of the highway project.

A further objective is to include on the highway right-of-way plan, prior to its completion, all substitute right-of-way to be acquired by the Department. See Chapter 4, *Final Design*, Section 4.1.C.

Every effort should be made by the designer, subsequent to the Initial Utility Design Stage Meeting, to expedite further development of the roadway drawings to show highway right-of-way lines and other data pertinent to completing the layout of proposed utility relocations.

In many cases, this will require a 1:500 (1 inch = 50 feet) scale plan to be made available for utilities and may require the designer to enlarge the plan to 1:250 (1 inch = 25 feet) scale for certain portions of the project plan which are necessary for utility design purposes. The designer may also be required to develop certain drainage and/or cross sections at an earlier stage compared to the normal process of plan design.

Immediately after the Initial Utility Design Stage Meeting, the District Utility Relocation Unit will authorize the designer, by letter (see Appendix A, Figure A-540), to forward the specified sheets and/or prints of the plan either directly to the utilities or to the District Utility Relocation Unit. These sheets and prints are to be provided by the designer as soon as plan development permits.

This letter will also remind the designer to furnish general bridge drawings showing type, size and location of structures to each utility that indicated bridge occupancy by submission of a Bridge Occupancy Form.

1. Plans to Utilities. The utilities, upon receipt of these updated highway drawings, will develop their relocation sufficiently to permit the Department to prepare the drawings to show the proposed alignment of the facility as it will be adjusted or relocated to accommodate the highway construction project.

Normal project development would require the staking of the highway project prior to the Initial Utility Design Stage Meeting. There should be adequate staking to permit the utilities to complete their engineering. Additional staking, if required, may be requested from the District Utility Relocation Unit. Requests for staking will be expedited by the District Utility Relocation Unit through proper District personnel.

The utility is to prepare the highway drawings to provide the information listed below and must return one (1) completed set of marked prints and supporting data to the District Utility Relocation Unit or, if so directed, one set to the District and one set to the designer.

- The prints are to be marked to show the new alignment of the entire relocation, whether or not the existing facility is located, or the new facility is to be installed, within or outside of a public right-of-way.
- The proposed alignment of facilities is to be identified by use of the plan symbols shown in Publication 14M, Design Manual Part 3, *Plans Presentation*, Chapter 13, *Engineering Graphic Standards*. The proposed location of poles, manholes, valves, etc. need not be shown on this submission.
- The Department requests that utilities use symbols to identify its existing, relocated and temporary facilities. Symbols must be easily identifiable to show the locations and plan sheets must show a legend of the symbols (see Publication 14M, Design Manual Part 3, *Plans Presentation*, Chapter 13, *Engineering Graphic Standards*).
- Existing facilities within the area to be acquired by the Department for highway purposes that are to be removed or retired in place or are to remain in place will be so indicated.

- The alignment of relocated facilities is to be referenced to highway center line by segment and offset distance perpendicular to the highway centerline; points on the alignment where it changes direction or crosses property lines should also be referenced.
- Show cross-sectional views (profiles) of all underground highway crossings and the elevation of all aerial crossings.
- Provide sufficient existing right-of-way data (right-of-way documents) to allow a determination of the type of right-of-way (width or center line) to be shown on the highway plan.

Utilities that propose to occupy bridges will return to the designer the general bridge drawings marked to show the method and type of attachment requested. The utility must include details on the materials to be used and who will furnish and install the materials. The utility may also have to obtain a Submerged Land License from the Pennsylvania Department of Environmental Protection if occupying a bridge over navigable waters. Simultaneously, the Application for Bridge Occupancy License (Form M-906A) must be prepared and submitted with one set of the related drawings to the Engineering District Office Bridge Unit in accordance with Publication 15M, Design Manual Part 4, *Structures*, procedures.

If Utilities change designers, it's encouraged that they pass along the design information.

2. Utility Relocation Plans to Department for Approval. The District Utility Relocation Unit, upon receipt of the utilities' prints mentioned above and related data, will arrange a meeting with a representative of the District Liaison Engineer or the District Plans Engineer, the Central Office Utility Relocation Unit and, if necessary, the designer to determine:

- That proposed utility relocations are in accordance with Department policy.
- Whether any utility conflicts with the proposed highway could be eliminated by a minor highway design change; for example: a costly utility relocation may be precluded by a revision to highway drainage.
- Whether the designer should prepare separate utility sheets to be made part of the highway plan by reason of plan congestion or because the relocation is not within the area covered by the normal plan sheets.
- Whether detail sheets should be prepared on an appropriate scale to clearly show the proposed utility relocations.

Proposed bridge attachments will be reviewed by the District Bridge Engineer.

Proposed utility relocations that are contrary to Department policy or not shown in sufficient detail must be resolved with the utility through additional meetings, if necessary, with the District and Central Office Utility Relocation Units.

Proposed relocations that conform to Department policy will be approved by the District. The utility will be notified and the designer authorized by letter to plot the relocation on the highway right-of-way and construction plans. Vertical lettering is to be used to identify proposed installations and slant lettering within a triangle to indicate removals or existing facilities (see Publication 14M, Design Manual Part 3, *Plans Presentation*, Chapter 13, *Engineering Graphic Standards*).

The alignment of all existing and proposed facilities is to be shown on the highway plans. The disposition of existing facilities, particularly within the highway's legal right-of-way and required right-of-way, will be labeled to indicate removals, retired in place or active facilities to remain in place.

When the plan has been developed to include the location of utility facilities and all parts of the design that may affect utilities have been completed, the designer is to furnish sheets or prints to all utilities on the project. This plan will be used by the utilities for the upcoming Final Utility Design Stage Meeting and their future preparation of Preliminary Estimates.

Where a utility has facilities located within the project limits and those facilities are determined by the utility to be unaffected by any phase of the proposed highway construction, the utility must respond in writing that their facilities are not affected by the proposed highway construction. This procedure is also described in Chapter 4, *Final Design*, Section 4.2.D.1.

The designer must furnish each attaching utility with detailed bridge plans showing the utility's method of attachment and any special requirements or restrictions. Prints of this plan will be furnished to the Engineering District Office Bridge Unit for preparation, when applicable, of the Agreement for Installation of Utility on Structures, (go to the Utility Relocation Unit portion of the Department's website for a link to the agreement, <http://www.penndot.gov/ProjectAndPrograms/RoadDesignEnvironment/RoadDesign/Right-ofWayandUtilities/UtilityRelocation/Pages/default.aspx>).

3.3 ENGINEERING SERVICES AND CONTRACTS

When a utility is not adequately staffed to perform necessary engineering or equipped to perform physical work with its own forces, the utility may contract to have those services performed by a consulting engineer and/or contractor.

The following prescribes the procedures necessary for approval of such contracts.

A. Consultant Engineers. Whenever the utility determines that it will require the services of a consultant engineer to design its relocation, the utility must obtain the Department's prior approval for the use of a consultant. The utility's request must be prepared and submitted in accordance with the provisions of this Chapter. The consultant's costs incurred prior to the Department's approval may not be eligible for reimbursement.

The Department's letter establishing a date of authorization for engineering to the utilities must include the notification that approval for use of a consultant is required and that the utility's request must be received within 60 days or prior to preparation of the preliminary estimate.

At the Initial Utility Design Stage Meeting, or at the same point in plan development, the District Utility Relocation Unit must determine whether each Municipality or Authority that requires a consultant to design its relocation has responded to the Department's earlier notification of the requirement regarding a request for use of consultant. Any utility that has not submitted its request will be notified in writing that it has 15 days to either submit its consultant request or otherwise notify the Department of its intentions regarding the relocation of its affected facilities to accommodate the project. Should the utility fail to respond within the 15 days, the District Utility Relocation Unit will promptly notify the Central Office Utility Relocation Unit. The Central Office Utility Relocation Unit will then recommend that the relocation be designed by the highway project designer and the work incorporated into the highway contract.

B. Utility Submissions. The utility's request for use of a consultant must include a letter proposal (see Appendix A, Figures A-410 and A-415), prepared by its consultant, which outlines the method of payment for such engineering service and the estimated total engineering costs as defined by the selected consultant. The information required in this proposal pertaining to the method of payment will depend on whether the consultant is under an existing continuing contract with the utility or the consultant is to be hired for one specific relocation. Consultant proposals that provide for a method of payment that is based on a percentage of estimated or actual relocation costs will not be approved.

The utility's submission must include assurance of the selected consultant's qualifications. The information on the consultant's qualifications must be sufficiently informative as to their proven ability to perform the type of engineering required by the particular utility project. A written statement that the consultant has been used by the utility in the past and their work has been satisfactory is important and should be sufficient evidence of their ability.

Occasionally, the utility may have limited or no previous experience with the consultant it proposes to engage for a utility relocation. In such cases, the consultant's proposal must include a listing of projects of similar nature and magnitude that the consultant accomplished for other utilities, and verified by the utility proposing to use the consultant. If the qualifications of a particular consultant have previously been established by the utility and approved by the Department, these qualifications need not be furnished with subsequent requests to use that consultant. However, such requests must state the date that the Department previously approved the consultant.

The utility must furnish a statement that it is not adequately staffed to perform the required engineering.

The utility must also furnish a statement that it will be responsible for evaluation of the consultant's work and will administer the consultant agreement to ensure the propriety of the consultant's charges.

Upon receipt of the utility's request for authorization to use a consultant, the District Utility Relocation Unit will review and recommend approval/disapproval of the consultant proposal to the District Engineer. The District Engineer will grant authorization in writing for the utility's use of consultant.

The District Utility Relocation Unit must notify the utility in writing of approval/disapproval of the consultant's proposal. The utility will be instructed to furnish the Certification of Consultant Form (see Appendix A, [Figure A-400](#)) with the submission of its preliminary estimate package.

C. Existing Written Continuing Contracts. Whenever a utility has an existing written continuing contract with an engineering firm, the terms of that contract may be utilized for utility relocation engineering and inspection on a highway construction project provided:

- The Utility can demonstrate that the engineering firm regularly performs such engineering for the utility's own work under that contract at reasonable costs.
- The method of payment is not based on a percentage of the estimated or actual relocation costs.
- The contract or agreement is more than a retainer and must have a clause or item in it that allows the consultant to perform other engineering services such as repair, replacement, and maintenance of the utility's facilities.

The utility's submission requesting authorization to use an existing written continuing contract must include a copy of that contract along with the consultant's explanation of the method of payment for these services and an estimate of the total engineering costs (see Appendix A, [Figure A-410](#)).

D. Contracts for One Specific Relocation. Whenever a utility is required to enter into an engineering contract specifically for one highway relocation, the Department cannot accept a proposal with the method of payment based on a percentage of the estimated or actual construction costs.

At the time of preliminary estimate package submission described in [Chapter 8, Agreements, Cost Development, Estimates and Billing](#), a copy of the approved engineering contract for a specific relocation (see Appendix A, [Figure A-415](#)) must be submitted with the Estimate Package.

The consultant's proposal must include a total engineering cost estimate utilizing one of the following methods of payment.

1. Actual Engineering Costs Plus A Fixed Fee For Profit. Payment on the basis of the actual cost to the consultant plus a predetermined fixed amount to cover profit only. The actual costs eligible for reimbursement are those directly attributable and properly allocated to the specific project for which the consultant's services have been retained. These may include:

All costs related to the salaries of employees for time directly chargeable to the project and salaries of principals for time they are productively engaged in work necessary to fulfill the terms of the contract.

The consultant's overhead or indirect costs to the extent they can be properly allocated to the project and acceptable to the Department.

This is the recommended method of payment for a "specific relocation" engineering contract (see Appendix A, [Figure A-410](#)).

2. Actual Engineering Costs Times a Multiplier. Payment on the basis of actual costs to the consultant times a fixed multiplier. The multiplier includes the consultant's overhead or indirect costs to the extent they are properly allocated to the project plus a profit. This method will only be approved where it is demonstrated that such engineering is regularly performed by the consultant for the utility on similar projects at reasonable costs.

3. Specific Rates of Pay. Specific rates of pay in which payment for the cost of overhead and for profit are tied directly to the extent the consultant's services are utilized. Specific rates of pay will be approved only for minor utility relocations. The utility will maintain direct control of the time and class of employees to be used,

and it must be demonstrated that such engineering is regularly performed by the consultant for the utility on similar projects at reasonable costs. The determined specific rates of pay are to be established by the consultant and agreed upon by the utility and the Department as being reasonable and proper.

E. Contracts and Contractors. Any contract entered into by the utility to perform work in connection with a reimbursable highway relocation will, except as provided below, be awarded to the lowest qualified bidder, having submitted a bid in conformity with the requirements of and specifications for the work to be performed. Appropriate solicitation of such bids will be accomplished through open advertisement in publications or by invitation to known qualified contractors.

1. Reimbursable relocation work may be accomplished under the terms of an existing written continuing contract with a qualified contractor where it is demonstrated that such work is regularly performed for the utility under that contract at reasonable prices.
2. Where it is satisfactorily demonstrated by a utility that, due to the minor nature and cost of an item of relocation work, it would be impractical to solicit bids, the utility may hire a qualified contractor to accomplish such items of work without prior approval. Examples of items of relocation work are, but not limited to, tree trimming, x-rays of welds, core borings, and field survey and staking.
3. When the minor nature and cost of a relocation or an item of relocation does not exceed \$10,000.00 and it would be impractical for Municipality or Authority to solicit bids, the Municipality or Authority may hire a qualified contractor, subsequent to Department approval.

The Department must be able to determine and document in its files that contractors engaged by a utility are professionally qualified and/or financially capable of performing the necessary relocation work. It will therefore be necessary that whenever a portion of the relocation is to be accomplished by a contractor the utility must complete Page 4 of 5 of the Preliminary Estimate, (see Appendix A, [Figure A-805](#)), and provide, by supplement, any additional information required by this policy.

Municipalities and Municipal Authorities must obtain the Department's concurrence of their proposals prior to solicitation of bids. Therefore, the utility must submit contract proposals as early as possible and, unless previously submitted, such proposals must accompany the Preliminary Estimate package. The District Utility Relocation Unit will review the bid proposal for type and quantity of material, duration of contract, compatibility with sequencing of the highway contractor's operations, and any other related items that may affect the Department's highway contract.

The utility must properly complete and comply with Page 4 of 5 of the Preliminary Estimate for Utility Relocation that will provide the following:

- The required statement regarding the need for contract work, for example: the utility is not adequately staffed or equipped to perform the relocation with its own forces.
- The type or types of proposed contractual methods to be used, namely continuing contract, solicitation of bids (invitation or advertisement) or contractor hired without bidding.
- The Department's approval date of the utility's method used to enter into continuing contracts where applicable.
- Utility's assurance that the company's continuing contractors and the contractors, from whom bids will be invited, are professionally qualified and financially capable of performing the relocation work. When a utility company solicits bids by open advertisement the company must, prior to award of the contract, provide the Department with a list of bidders, the total amounts bid, and assurance of the successful bidder's financial and professional qualifications.

Subsequent to its receipt of bids, the municipality or authority must submit to the Department a list of bidders and the total amounts bid by each. This submission will designate the successful contractor along with assurance that the contractor is the lowest qualified bidder, properly equipped and financially able to promptly effect completion of the proposed work. Contracts will not be awarded until receipt of the Department's concurrence in award.

3.4 INCORPORATION OF UTILITY WORK IN HIGHWAY CONTRACT

Upon written request by the utility, the Department may incorporate the relocation of certain facilities into the highway contract and have the physical work accomplished by the highway contractor. The design of requested incorporated relocations may be performed by the Department's highway project designer or the design may be accomplished by the utility and turned over to the Department for incorporation into the highway contract. An incorporated work agreement, between the Department and utility, must be in place before any utility relocation work can be incorporated into the highway contract.

The Department should supply supporting documents when invoicing a utility for incorporated utility work.

Design must conform to the utility's and Department's Standards, industry codes, State and Federal Regulations, and American National Standards Institute for the type of facility involved.

A. Request for Incorporated Utility Work. Whenever a utility wishes to have the Department design its relocation and have the work incorporated into the highway contract, the utility must inform the District Utility Relocation Unit by letter requesting such design and/or incorporation. The letter of request is to specify the work to be performed by the Department's designer, consultant, and/or contractor and must state that it would be in the best interest of the Department that the work be incorporated or that the utility is not adequately staffed or equipped to perform the work (See Appendix A, [Figure A-1204](#) for an example of an incorporated work request letter). Acceptable requests may be approved by the District. The utility and designer must be notified in writing of the approval to incorporate the design and/or construction. A copy of the utility's letter of request and the District's approval letter will be furnished to the Central Office Utility Relocation Unit along with the estimate package. The designer will consult with the utility on its design requirements and present the final design to the utility for their review and written approval.

B. Forced Incorporated Utility Work. Whenever a Municipality- or Municipal Authority-owned utility refuses to relocate a facility affected by a proposed highway project, the Department is empowered by Section 412.1 of the State Highway Law to design and incorporate the necessary relocation work into its highway construction contract and bill the utility for the relocation costs. Whenever a Public Utility owning and operating a water or sanitary sewer line refuses to relocate a facility affected by a proposed highway project, the Department is empowered by 74 Pa.C.S.A §9501 to design and incorporate the necessary relocation work into its highway construction contract and bill the utility for the relocation costs. District recommendations for the forced design and incorporation of such relocations will be forwarded to the Central Office Utility Relocation Unit, who will obtain the proper approval and authorize the incorporation. Even though such incorporations are accomplished without the utility's consent, the designer must consult with the utility on its design requirements. The completed design must be presented to the utility for its review, under cover of a certified letter from the designer, which notifies the utility that unless written notification to the contrary is received within 15 days, the design will be considered acceptable to the utility (see Appendix A, [Figure A-526](#) for Incorporated Utility Work Item Numbers).

Section 412 of the State Highway Law does not provide for such unilateral action by the Department in regard to utility companies or corporations. Therefore, should the Department's discussions with a utility result in a refusal by the utility to relocate its facilities, the conflict should be brought to the immediate attention of the Department's Office of Chief Counsel by the Central Office Utility Relocation Unit. If required, the Central Office Utility Relocation Unit will contact the Public Utility Commission (PUC). If the PUC is not able to help, the Office of Chief Counsel will be contacted and legal action will be requested. See Chapter 9, *Public Utility Commission Involvement*, Section 9.0A.

3.5 REPLACEMENT OF EXISTING AERIAL FACILITIES WITH UNDERGROUND ON HIGHWAY RELOCATIONS

When a utility proposes to replace existing aerial facilities with decreased span lengths or with underground facilities required by highway construction projects. See Chapter 1, *Laws, Regulations and Accommodation Policies*, [Section 1.3E.1](#).

3.6 REPLACEMENT OR INSTALLATION OF POLES WITHIN UTILITY POLE CRASH CLUSTERS

When a utility highway occupancy permit application for the installation and/or replacement of poles within the areas of the utility pole crash cluster, see Chapter 1, *Laws, Regulations and Accommodation Policies*, [Section 1.3E.2](#).

3.7 ESTABLISHMENT OF UTILITY CORRIDORS ON FREEWAYS JOINT DEVELOPMENT AND MULTIPLE USE

In specific situations and under strictly controlled conditions, the Department may provide for joint development and multiple use of limited access highway right-of-way by establishing a longitudinal utility corridor parallel with the highway centerline within which trunkline or transmission type facilities may be installed. See Chapter 1, *Laws, Regulations and Accommodation Policies*, [Section 1.3F.1](#).

3.8 MINOR PROJECTS

To accommodate procedures for Minor Projects (Publication 10A, Design Manual Part 1A, *Pre-TIP and TIP Program Development Procedures*), certain steps must be undertaken to ensure that proper coordination of utility relocation activities is accomplished. Although the procedures for these "Minor Projects" are designed to expedite the project development, utility requirements on these projects remain essentially the same as on any normal highway project.

In order to establish a procedure for "Minor Projects" it is important to define those types of projects considered to be of a minor nature. Refer to Publication 10A, Design Manual Part 1A, *Pre-TIP and TIP Program Development Procedures*, Chapter 3 for a definition of Minor Projects.

On minor (non-complex) projects where there is minimal or no design lead time, it may be necessary for the District Utility Relocation Unit to proceed immediately into authorization stages for engineering as described in [Section 3.2.H](#).

3.9 RELOCATION OF HIGH VOLTAGE ELECTRIC TRANSMISSION LINES

These require PUC involvement prior to the reference. See [Chapter 9](#), *Public Utility Commission Involvement*.

3.10 CANCELLATION OF PROJECTS

If the Department decides that the highway project will not be built and written authorization to proceed with engineering, acquisition of right-of-way or ordering of materials has been granted, the Department will assume any cost eligible for reimbursement under the provisions of Section 412 and 412.1 of the State Highway Law and Act 89 Utilities (74 Pa. C.S.A §9501).

If the utility is unable to cancel their order and the material is delivered and paid for, the Department will be given satisfactory credit on the purchase price, if the utility desires to retain the material. When the utility does not wish to retain the material and upon Department reimbursement of those costs to the utility, the material will become the property of the Department. If the Department has no need for the material, it will be declared surplus and disposed of by the Department's General Services Office.

If the utility has been authorized to acquire certain right-of-way and the Department has no intent of constructing the roadway, then the utility will dispose of the right-of-way.

3.11 REIMBURSING TO SUPPORT AND PROTECT UTILITY FACILITIES

If the utility facilities are impacted by the highway project and they can be supported or protected in lieu of relocation, reimbursement will be made in accordance with the State Highway Laws and Act 89 Utilities (74 Pa. C.S.A §9501).

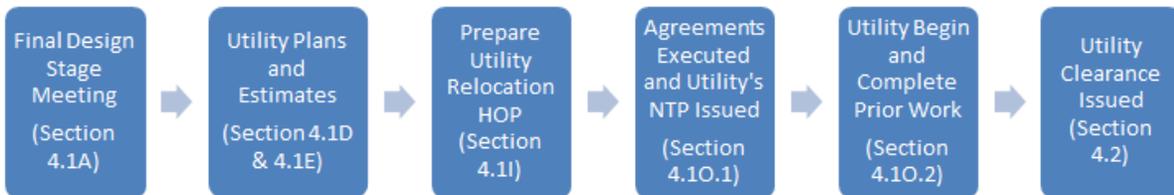
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CHAPTER 4

FINAL DESIGN

4.0 GENERAL

The purpose of this chapter is to outline the process flow of utility relocations during final design for highway construction projects.



The objective of Final Design is to prepare right-of-way and construction plans together with cost estimates, specifications, survey references, bench marks and all notes pertaining to the project. During final design, consult the Constructability Review Checklist (see Appendix Figure A-200) to ensure that the utility relocation process is being considered throughout project delivery.

4.1 FINAL DESIGN ACTIVITIES

A. Final Utility Design Stage Meeting. A Final Utility Design Stage Meeting will be conducted by the District Utility Relocation Unit for final review of proposed utility relocations with the designer, Department personnel and representatives of all involved utilities (see Appendix A, [Figure A-525](#) for suggested agenda). It is intended that such meetings be held for every highway construction project. However, on certain reconstruction projects with minimum utility involvement, the District may forego this final meeting provided all aspects of utility relocations have received the required review and approval.

Final determinations will be made at the meeting on such items as replacement right-of-way, material deliveries, details on incorporated relocations (see Appendix A, [Figure A-526](#)), bridge occupancies, utility contractors and clearance time requirements. Each highway occupancy, especially on non-reimbursable relocations, will be reviewed in detail.

The method and responsibility of the disposition of any and all utility related hazardous substance in or on an existing or proposed retired in place (see Glossary) utility facility will be finalized at the meeting (see Appendix A, [Figure A-527](#) for additional information).

This final meeting will be held in advance of the consultant's submission of the right-of-way plan (or completion of the right-of-way plan by the District designer) to allow sufficient time for any plan revisions that may result from the meeting. It is recommended that this meeting be held 2 to 3 months prior to right-of-way plan completion.

Since the utilities have had an opportunity in the time between design meetings to investigate their right-of-way needs, the District Utility Relocation Unit will recommend, where applicable, definite action for the Department to acquire all remaining right-of-way required by the utilities. This substitute right-of-way is to be acquired in accordance with Section 412 of the State Highway Law and in compliance with Chapter 7, *Right-of-Way Procedures*, [Section 7.3](#). The terminology to be used on the plan must be in accordance with Publication 14M, Design Manual Part 3, *Plans Presentation*, Figure 3.21.

The District Utility Relocation Unit will inform the utilities that the submission of their Preliminary Estimates will be requested as described in [Chapter 8, Agreements, Cost Development, Estimates and Billing](#).

Changes/redesign to plans throughout the project life occur on a regular basis. To the extent possible, these changes should be minimized. Unavoidable changes/redesigns must be communicated to the affected utilities in the form of written correspondence or emails so that the utilities can better recognize these changes.

B. Minimum Plan Requirements (Drawings which accompany application for Utility Relocation Highway Occupancy Permit). The drawings which accompany the Application for Utility Relocation Highway Occupancy Permit must show all pertinent highway features and be of sufficient detail to provide a clear picture of the proposed work to be performed. Some utilities use highway plan sheets for such submissions and the Department encourages the continuation of this practice since all highway appurtenances and most existing utility facilities are shown on such plans.

Utilities may, at a nominal charge, obtain from the local District Office prints of as-built highway plans for use as permit drawings. Utility facilities must be shown on these drawings as described in *Chapter 3, Preliminary Engineering, Section 3.2.J.1.*

1. As a minimum, all highway occupancy drawings for Utility Relocation Highway Occupancy Permit must include the following details, (see Appendix A, [Figure A-705](#)):
 - a. A location map of the general area of the occupancy.
 - b. The proposed occupancy must be located by the highway segments and longitudinal roadway offset distances obtained from a highway construction plan or the straight line segment markings found along the road.
 - c. A clear legend of the work to be performed.
 - d. Edges of pavement.
 - e. Outside edges of shoulders.
 - f. Drainage ditches.
 - g. Major highway drainage structures in proximity to the utility installation.
 - h. Limits of slope.
 - i. Highway right-of-way lines, with any limited access clearly noted.
 - j. Guide rail or curbing. (Designate type of guide rail and offset distance of above ground utility facilities in these areas).
 - k. Minimum vertical clearance over roadway.
 - l. A profile or cross section of each underground crossing of the highway.
 - m. Minimum depth of all longitudinal and crossing underground occupancies.
 - n. Scale of the plan or drawing.

NOTE: Limited Access Permit Plans must clearly show the utility's proposed future access to their facility.

C. Requests for Substitute Right-of-Way. Utility requests for the Department to acquire substitute right-of-way should be initiated as early in highway design as possible.

Chapter 7, *Right-of-Way Procedures, Section 7.3.A* for more information on procedures for requesting substitute right-of-way.

D. Request for Estimate Preparation. When the utility information, as verified at the Final Utility Design Stage Meeting has been incorporated into the plan and it is apparent that no major design changes in the plan are contemplated, reproducible prints of any sheets of the plan that have been revised are furnished to the District Utility

Relocation Unit by the designer to update the plans previously sent to utilities. These prints will be forwarded by the District Utility Relocation Unit to each utility involved with a letter requesting the prompt preparation and submission of the utility's estimate of costs to clear the construction area and the required number of highway prints marked to show the relocation.

Cost sharing requests should be submitted to the respective District Engineering Office as early in highway design as possible, but no later than the utility's Preliminary Estimate package. See [Chapter 8, Agreements, Cost Development, Estimates and Billing](#) for details regarding estimate package and cost sharing requests.

E. Utility's Preparation of Plans. The plans or drawings marked to show the utility relocation must be sufficiently informative to provide a clear picture of all work to be performed and must be forwarded to the District Utility Relocation Unit with the estimate package.

1. The Index Sheet (Sheet 2 of Highway Right-of-Way Plan).
 - a. The location, length, size and/or capacity, type, class and pertinent operating conditions and design features of existing, proposed and temporary facilities related to the project.
 - b. The legend of symbols used.
2. Detail Sheets of Highway Right-of-Way Plan and Supplemental Utility Drawings.
 - a. The location, length, size and/or capacity, type, class and pertinent operating conditions and design features of existing, proposed and temporary facilities by appropriate nomenclature, symbols, legends, and notes.
 - b. By appropriate notes or symbols, the portion of the work to be accomplished at the expense of the utility and the portion of the work chargeable to the State must be shown.
 - c. The supporting plans or drawings must include a cross sectional view referenced to highway cross section drawings or on dimensioned sketches prepared by the utility, referenced to highway data, of each underground crossing of all roadways showing depth to be provided under highway facilities. A typical view will also be required for each aerial crossing of Limited Access and Free Access Roadways showing minimum vertical clearances to be provided over the roadway area. Roadway and longitudinal clearances must be in compliance with Rule 232A of the National Electrical Safety Code (see Appendix A, [Figure A-725](#)).
 - d. The horizontal distance from the centerline of the existing roadway right-of-way to the inside face of each pole or pipeline section, which is marginally located.
 - e. Any facility that is to remain or be relocated within highway right-of-way must be in accordance with the Department's utility accommodation policies as defined by this Manual and 23 CFR Part 645.
 - f. On all underground installations, the utility must provide type(s) of restoration to be utilized within the highway right-of-way (see Appendix A, [Figure A-760](#)).

F. Replacement of Existing Aerial Facilities with Underground on Highway Relocations. When a utility proposes to replace existing aerial facilities with decreased span lengths or with underground facilities required by highway construction projects, see Chapter 1, *Laws, Regulations and Accommodation Policies*, [Section 1.3E.1](#).

G. Replacement or Installation of Poles within Utility Pole Crash Clusters. When a utility highway occupancy permit application for the installation and/or replacement of poles is proposed within the areas of the utility pole accident crash, see Chapter 1, *Laws, Regulations and Accommodation Policies*, [Section 1.3E.2](#).

H. Establishment of Utility Corridors on Freeways Joint Development and Multiple Use. In specific situations and under strictly controlled conditions, the Department may provide for joint development and multiple use of limited access highway right-of-way by establishing a longitudinal utility corridor parallel with the highway centerline within which trunkline or transmission type facilities may be installed. See Chapter 1, *Laws, Regulations and Accommodation Policies*, [Section 1.3F.1](#).

I. Utility Relocation Highway Occupancy Permit (Facilities relocated to accommodate highway construction projects). Whenever highway construction requires a utility to relocate or adjust its facilities and such facilities will occupy a public road or street under the jurisdiction of the Department, the utility is required to obtain prior written authorization for the proposed occupancy.

The Department's authorization for the utility to construct or adjust and occupy the highway right-of-way with its facilities is granted by a Utility Relocation Highway Occupancy Permit. The Utility Relocation Highway Occupancy Permit Form will be based on the utility's plan of relocation submitted as a part of its Preliminary Estimate Package in accordance with [Chapter 8, Agreements, Cost Development, Estimates and Billing](#). The Utility Relocation Highway Occupancy Permit Form will incorporate the Department's current permit and construction specifications. It will be considered as a highway occupancy permit granting permission for the utility to enter upon the highway right-of-way to effect its installation or adjustment and to occupy the right-of-way.

Department policy requires that highway construction plans show the locations of all existing and proposed utility facilities, as described in Chapter 3, *Preliminary Engineering*, [Section 3.2.J.2](#). The acceptability of these locations is determined through a series of meetings and exchanges of information with the utilities, which culminates in the Department's approval of such locations. This policy relies on the proper sequencing and approving procedures described in [Chapter 3, Preliminary Engineering](#), to ensure that each utility facility location has received Department approval, regardless of whether the occupancy is authorized under this procedure or by issuance of a Highway Occupancy Permit. For example, the situations described in section B below do not require authorization under this Utility Relocation Highway Occupancy Permit procedure. However, the location of such facilities would be subject to review under design procedures to preclude conflict with highway construction, future highway operations or other utility facilities.

The provisions of Chapter 459 and Publication 213, *Temporary Traffic Control Guidelines*, will be incorporated by reference into the Utility Relocation Highway Occupancy Permit and must be adhered to, except when specifically modified or amended by the Department. There are a number of location specific items (i.e., average daily traffic counts, roadway configuration, and geometry) as well as the type of work being performed and its anticipated duration that must be considered in the development of the traffic control plans and associated work restrictions.

1. Utility Relocation Highway Occupancy Permit is required when the following conditions apply:

- a.** When above ground utility structures such as poles, anchors or towers, and underground utility structures such as pipes, cables or conduits are relocated or adjusted for a highway construction project, and where aerial cables, conductors or wires cross within limited access right-of-way.
- b.** When an anchor supporting a structure located outside of the highway right-of-way is installed within the highway right-of-way.
- c.** When an unaffected existing utility facility's relative location is changed due to a horizontal realignment or widening of an existing highway. For example, a permit would be necessary where a facility under an existing permit was originally paralleling the highway between the shoulder and the legal right-of-way line and the highway alignment is changed in a manner that would result in the facility being under the reconstructed pavement or shoulders.
- d.** Underground facilities and their appurtenances are adjusted vertically to conform to highway grade changes and to accommodate highway drainage. An exception to this situation is the isolated vertical adjustment in place of manholes, valve boxes, service lines and laterals. These adjustments will be authorized by the District in letter form subsequent to the Department's approval of the utility's estimate and plan package.
- e.** Where a utility is "Not Affected" (see [Section 4.2.B.3.e](#) for a description of Not Affected) by a physical relocation or adjustment but will be overtaken by required right of way, the utility obtains a permit with private status (see Chapter 8, [Section 8.1.L](#) for information about private status agreements).
- f.** When facilities retired in place are in the highway right-of-way, the utility shall remain responsible for them. The Department on reasonable notice may require the removal of retired in place utility facilities and restoration of the right-of-way, when necessary to avoid interference with the operation, maintenance

or reconstruction of the highway. If the utility shall fail to remove the retired in place facility within a reasonable time after such notice, the Department may begin the removal of the facility. Any expenses incurred by the Department arising from retired in place utility facilities shall be reimbursed by the utility or its successor.

2. Utility Relocation Highway Occupancy Permit is not required when the following conditions apply:

a. Aerial conductors, cables, wire or service drops that overhang highway right-of-way, except where limited access right-of-way is involved. A permit is required for the structure that supports such facilities whenever the structure is located within highway right-of-way. It is the responsibility of the utility structure owner to obtain the permit and to assure that all attachments to the structure comply with Federal and State regulations and industry codes.

b. When an anchor is an integral part of a permitted structure at the same location (a stub pole is considered to be an independent structure).

c. When an existing utility facility is not affected by a highway construction project and its relative location is not changed due to a horizontal realignment or widening of an existing highway. Although such facilities may continue to occupy the right-of-way in these cases under the existing permit, this does not preclude the requirements of [Chapter 3, Preliminary Engineering](#), in regard to the utility's verification of the facilities' locations and the accurate representation of these facilities on the highway plans.

d. New utility installations to be constructed simultaneously with a highway construction project. These facilities require a Highway Occupancy Permit, however, their locations must be completely coordinated with highway construction and the relocation of existing utility facilities and be shown on the highway plan in compliance with [Chapter 3, Preliminary Engineering](#).

3. Cellular Communication Facilities as a Utility Facility. The Department considers cellular communication facilities to be a utility facility even though they are not regulated by the PUC. District permit units may issue permits to cellular communications facility owners.

If a cellular facility is located in highway right of way by permit, then the relocation should be handled by the Utility Relocation Unit (under a utility relocation permit)

If a cellular facility has private rights, then the relocation cost can either be handled by the Right-of-Way Unit (under a right-of-way claim) or by the Utility Relocation Unit (under a utility relocation reimbursement agreement). Each District will determine which method would be more practical for their project.

If permits are necessary for new cellular communication facilities to be installed during a highway projects, they should be issued by the Permit Unit.

For limited access highway (freeways), the FHWA should review the proposed installation. The proposed installations will be consistent with the current Stewardship and Oversight agreement and the 23 CFR Section 645.209c. - Installations within freeways.

Cellular communication facility companies should be listed on the plans and the D-419.

4. Application and Issuance of Utility Relocation Highway Occupancy Permits. A utility proposing to occupy highway right-of-way must indicate that intention on its D-4181 Utility Relocation Questionnaire (see Appendix A, [Figure A-800](#)). The utility's plan of relocation and completed D-4181 page 2 will be used to determine acceptability of the proposed occupancy. Submissions must include: an index plan; plan of adjustments and/or relocation; profiles of longitudinal occupancies of underground facilities; cross sections and/or typical sections of all underground crossings and typical crossing profiles of all aerial facilities crossings showing minimum vertical clearances to be shown on D-4181 page 2; and Work Zone Traffic Control plans or applicable figures from Publication 213, *Temporary Traffic Control Guidelines*. The utility must use Department or utility plans that contain data in [Section 4.1.B](#) and/or specific typical plans in Appendix A, [Figures A-702 to A-706](#).

On all underground installations the utility must provide type(s) of restoration to be utilized within the highway right-of-way (see all figures in Appendix A, [Figure A-760](#)).

In most cases, where the provisions of [Chapter 3, Preliminary Engineering](#), have been strictly adhered to, larger scale plans and additional supportive data will not be required. However, where the utility's detailed plan of relocation has not been specifically approved by the Department at the Final Utility Design Stage Meeting or has not been subjected to an equal review and approval process conducted by the District Utility Relocation Unit, the utility will be required to furnish Highway Plan Detail Sheets or equivalent plans, marked to show the proposed occupancy. Such plans must be of sufficient detail with adequate supporting data and cross sectional views to provide a basis for the District Utility Relocation Unit to determine the acceptability of the proposed occupancy.

Preliminary estimate packages that include highway occupancy will be approved by the District Utility Relocation Unit for preparation of the Utility Relocation Highway Occupancy Permit Form (see Appendix A, [Figure A-715](#)). This permit form, which incorporates applicable highway occupancy requirements, permits the utility to enter upon the highway right-of-way to affect its relocation and occupy the highway right-of-way.

Upon completion of the utility relocations, adjustments and/or installations covered under the terms and conditions of the Utility Relocation Highway Occupancy Permit, the utility is required to complete and submit a Certification of Completion Form (see Appendix A, [Figure A-1200](#)) to the appropriate District Utility Relocation Unit for their files. See Chapter 5, *Construction*, [Section 5.1.G](#) for additional information on the Certification of Completion Form.

When a utility occupancy is the result of highway right-of-way overtaking an existing utility right-of-way and the facility is to remain in its original location, the permit will be amended by agreement to provide for the utility's retention of its private right-of-way status. This provision for Department and utility joint use of the right-of-way must be in accordance with Chapter 7, *Right-of-Way Procedures*, [Section 7.2](#) and [Section 4.1.H](#).

J. Utility Relocation Questionnaire and Permit Application, Form 4181 (See Appendix A, [Figure A-800](#)).

The questionnaire, properly completed and signed, provides the Department with pertinent information outlining the proposed relocation, occupancy permits, time required for relocation and other data required for the preparation of a permit or agreement. The Questionnaire must be completed by the utility and the required copies forwarded to the District Utility Relocation Unit with the estimate/permit package.

Utilities proposing to use uncased crossings for underground installation of utility facilities must complete line #10.

If a utility is requesting to occupy limited access right-of-way or requesting private status then the utility must place an "X" in the appropriate field on form 4181 and provide required information (i.e. stations or segments/offsets, distance from centerline, etc.).

Where a utility has facilities located within the project limits and those facilities are determined by the utility to be unaffected by any phase of the proposed highway construction, the utility must respond in writing with either a completed Utility Relocation Questionnaire (D-4181), a completed Utility Relocation Clearance Report (D-4181-UC), or a letter on company letterhead indicating that the facilities are not affected. If the utility companies are using UR-EDMS, they can check the "Not Affected" box and click apply which will generate an email to the District Utility Relocation Administrator.

K. Procedure for Obtaining Approval of the Utility's Traffic Control Plan.

1. Utility's Traffic Control Plan: Shall mean the utility's concept of traffic control which must be in accordance with Publication 213, *Temporary Traffic Control Guidelines*, and defined through a detailed traffic control plan or reference to the applicable figures in Publication 213, *Temporary Traffic Control Guidelines*.
2. Upon receipt of the estimate/permit package, the District Utility Unit shall submit, when applicable, one copy of the Utility's Work Zone Traffic Control Plan or applicable Publication 213, *Temporary Traffic Control Guidelines*, figures to the District Traffic Unit for review, comments and approval.
3. It is not necessary for the District Utility Unit to delay the submission of the estimate package to Central Office pending approval of the traffic control plan. The estimate transmittal shall assure that the Utility's traffic

control plan has been subjected to review and comments by the District Traffic Unit and that maintenance of traffic at the work site shall be in accordance with that approved plan.

4. The District Utility Unit shall have on file, and in UR-EDMS, a copy of the approved utility traffic control plan.

L. Approval of the Type(s) of Restoration to be Used for Utility's Installation of Underground Facilities in Highway Right-of-Way. Utilities are to provide the type(s) of restoration to be utilized on a highway project at the time of request for Highway Occupancy Permit-Utility Relocation or Reimbursable Agreement.

All restoration must be in accordance with the Department's Publication 408, *Specifications*, and PA Code, Title 67, Transportation, Chapter 459, Occupancy of Highways by Utilities and shall be the same type as approved for the highway construction Project, if applicable.

To aid the utility in detailing the restoration, typical drawings and instructions were developed and placed in Appendix A, [Figure A-760](#). These typicals may require modification due to individual District requirements, seasonal restrictions (i.e.: winter months), length of time roadway is unimproved, etc. Any exceptions to the Publication 408, *Highway Specifications*, Chapter 459 or typical drawings must be specifically approved by the District prior to Notice to Proceed with physical relocation.

Upon receipt of the estimate package, the District Utility Relocation Unit shall submit one (1) copy of the utility's restoration drawings and any other related data to the District Construction Unit for review, comments or approval.

It is not necessary for the District Utility Relocation Unit to delay the submission of the utility's estimate package to Central Office Utility Relocation Unit pending approval of the method of restoration. The Estimate Transmittal shall assure that the utility's restoration plan has been subjected to review and comments by the District Construction Unit and that restoration shall be performed in accordance with the approved Plan.

The District Utility Relocation Unit shall have on file, and in UR-EDMS, a copy of the approved method of restoration.

M. Data Required for Revision to a Utility Relocation Highway Occupancy Permit. The utility's original plan of relocation as approved by the Department should be used as the final occupancy plan that is made a part of the permit and imported into UR-EDMS for permanent Department records. Where the utility's actual installation differs from its proposed plan of relocation to the degree described in the following paragraph, as built plans showing such changes must be furnished to the Department. In addition to the as built plans, a revised Form D-4181, pages 1 & 2 must be provided. Information on page 2 must include all previously permitted locations and new locations or deletions. Utilities are required to obtain approval for revised locations to assure compatibility with the Department's utility accommodation policy and to consult with the District Utility Relocation Unit on any questionable installation.

It is acknowledged that field conditions may occasionally dictate changes or modifications in the proposed facility locations that were approved by the Department. Changes or modifications, as defined in Chapter 5, *Construction*, [Section 5.1.F](#), in the utility's approved plan of relocation could affect the operations of the highway contractor and/or the utility's reimbursement. Therefore, such changes will be effected in accordance with Chapter 5, *Construction*, [Section 5.1.F](#). Particular attention should be given to proposed changes that may interfere with facilities of another utility, highway drainage, other appurtenances or conflict with future highway maintenance. In addition, changes in highway occupancy require a supplement to the existing Utility Relocation Highway Occupancy Permit Form.

Changes or modifications of the utility's plan of relocation will be effected in accordance with Chapter 5, *Construction*, [Section 5.1.F](#) for the purpose of contractor coordination and reimbursement where applicable. In regard to highway occupancy policies, notification of such changes are necessary to ensure that revised permits are issued to ensure occupancies are as accurate as possible. Therefore, whenever the utility changes or modifies its plan of relocation, it is required to furnish to the Department as built plans showing such changes and submit by letter (sample in Appendix A, [Figure A-716](#)) a revised Utility Relocation Highway Occupancy Permit Form. For guidance, the following changes require revised plans and permits:

- A change in horizontal alignment of any facility, i.e.: placing a facility closer to or further from the roadway.
- A change in vertical alignment or elevation of an underground facility.

- The location of a highway crossing is moved more than 10 feet.

N. Utility Relocation Clearance Report (Form D-4181-UC, Appendix A, Figure A-1100). In advance of a proposed letting, the District Utility Relocation Unit must forward the Utility Relocation Clearance Report, 4181-UC (see Appendix A, Figure A-1100) to all utilities with facilities within the project limits or impacted as a result of the project and request that the form be signed and returned to the District. When making the request, the District must allow time for the utilities to respond before preparing the Utility Clearance and submitting it to Central Office.

Form D-4181-UC may be used for special arrangements for one or more utilities on an individual project. It is to be used where circumstances preclude preparation of an estimate/permit and plan in a timely manner. The Utility Relocation Clearance Report Form may also be used when a utility is attaching to another utility company's facility and no Department agreements or permits are required.

Utilities must indicate the type of proposed relocations.

- Prior Work must include the actual or estimated completion dates.
- Restrictive, Concurrent and Coordinated Work must show the total number of calendar days required or the number of calendar days required for each work area or location.
 - If utilities are including time to order materials as part of the relocation time, the additional times need to be included on the D-4181-UC.
 - Utilities need to include the notification time (calendar days) needed to mobilize the crew for the work to be completed.
- Utilities must identify areas that have facilities where the relocation is to be performed as Incorporated Work.

Utilities must identify areas that have facilities that are not affected, list conditional restrictions or time requirements and/or any other information that will provide the Department with the current status of utility relocation activities. This will provide sufficient time to make any necessary revision to the contract proposal. Revisions to the form may be furnished by telephone and noted as such by the District Utility Relocation Unit.

O. Pre-Agreement Authorization. There will be occasions when it is essential to authorize utility relocation work, order materials and/or acquire right-of-way prior to execution of the agreement. The District Utility Relocation Unit will request Pre-Agreement Authorization from the Chief of Utilities and Right-of-Way Section in the Bureau of Project Delivery, with the following documentation:

1. MPMS Number.
2. PMC approval date for utility relocation.
3. Projected letting date and/or highway contractor's schedule must be provided.
4. A description justifying the circumstances for the request.
5. A statement that the highway project is on a definite program for construction in the near future and the time required to complete relocation work is necessary to meet the scheduled letting date.
6. There are no contemplated changes to the highway project plan that would have a major effect on the proposed utility relocation work.
7. Any additional information to reasonably justify the request.

Upon authorization, the District Utility Relocation Unit will send a letter to the utility that contains information pertinent to the project and exceptions or conditions to the standard utility agreement. It reminds the utility of the estimated time required to complete the relocations and to notify the District Utility Relocation Unit five (5) days prior to start of physical work. Execution of an agreement must proceed as soon as possible and must be fully executed prior to completion of physical construction on the overall project.

Absent approval for a prior authorization letter as set forth above, agreements must be fully executed prior to commencement of work as set forth in [Section 4.1.O](#) below.

P. Authorization for a Utility to Proceed with the Physical Utility Adjustment on Highway Construction Projects. Authorization for the utility to proceed with physical utility relocation on non-incorporated utility work will be issued by the District Utility Relocation Unit on each individual reimbursable relocation when the fully executed utility agreement for that relocation is received from the Central Office Utility Relocation Unit. A copy of this authorization must be imported into UR-EDMS.

When the utility work is incorporated into the highway contract, the utility agreement must at least be signed by the utility and received by the Central Office Utility Relocation Unit before the highway contractor is issued notice to proceed on the highway project.

The District Utility Relocation Administrator should check with the District Right-of-Way Unit for any negotiated special terms of settlement with property owners and include these terms as part of the utility's notice to proceed.

Utilities with non-reimbursable relocations that have submitted the relocation data described in [Chapter 3, Preliminary Engineering](#), may be authorized to proceed with physical work when the Department's Program Management Committee approves utility activities on the highway project and the highway project is on a scheduled letting. The Prior Authorization to Proceed and the Authorization to Proceed letters can be found in UR-EDMS.

1. General Authorization – Construction. The construction phase of a utility relocation follows the District's letter of authorization to the utility to proceed with this physical work necessary to clear the highway project.

Where a Utility has an executed Master Agreement, authorization can be made for its relocation work pending receipt of an executed Letter Agreement (L.S.E.A.) to cover its work for a specific project provided the authorization complies with [Section 4.1.N](#).

2. Commencement and Performance of Utility Work. Upon receipt of the District's authorization letter to proceed with the physical work, the utility may be expected to commence such work as soon as scheduling will permit in order to clear the construction area of its Prior and Restrictive work. The utility should perform the relocation work in accordance with the relocation plans, as approved terms of the agreement and/or Utility Relocation Highway Occupancy Permit Form.

Utility relocation work which cannot be completed prior to the start of construction but can be accomplished simultaneously without restricting the highway contractors operations may be done concurrently when approved by the Department and noted in the contract proposal as described in [Chapter 5, Construction](#).

Utility relocation work that must be coordinated with the highway contractor's operations must be in the contract proposal, along with a detailed description of such coordinated work and the sequencing of the utility's and the contractor's operations as described in [Chapter 3, Preliminary Engineering](#).

Q. Issue Escalation. During the project delivery process, the Department may be working with a utility that is not being responsive to the Department's utility relocation submission requests. If this utility is regulated by the PUC and the lack of a response is holding up the letting of the project, procedures have been established to escalate issues. See [Chapter 9, Public Utility Commission Involvement](#), Section 9.0A for more information.

4.2 UTILITY CLEARANCE PROCEDURES

A. General. Utility Clearances are required on all highway construction projects. They can be in the form of the Utility Clearance Form D-419, one of the Department's Standard Special Provisions, or a Modified D-419. See Appendix A, [Figure A-1103](#) for a list of standard special provisions.

Utility Clearances inform all concerned parties that, so far as the utility activities are concerned, the necessary arrangements for utility relocations have been made with utility companies to allow the project to proceed to letting. Such arrangements are to occur, to the extent possible, prior to the commitment and commencement of construction by the Department's highway construction contractor.

In those situations in which the utility relocation work is either to be completed prior to the Department's issuance to its highway construction contractor of a notice to proceed or incorporated into the highway construction contract, "Utility Clearance" consists of making arrangements with the utilities for the completion of the utility relocation work.

In those situations in which the utility relocation work is to be completed by the utilities after the Department's issuance to its highway construction contractor of a notice to proceed, "Utility Clearance" consists of gathering information from utilities in an attempt to assist the Department's highway construction contractor in making arrangements with utilities for the completion of utility relocation work.

Once the utility coordination has been approved and written in the D-419, any changes to the utility relocation work must be approved by the Department. Changes made for the contractor's convenience will be performed at the contractor's expense.

"Utility Clearance" also includes, where applicable, making arrangements for the Department to reimburse utilities for all or part of the cost of utility relocation work.

The Utility Clearances are used for the following:

- Status report of utility activities prior to plan completion.
- Preparation of the Contract Bid Proposal.
- Advising prospective bidders of utility involvement, conditional restrictions and time requirements, sequencing of operations, etc.
- Obtaining FHWA (Federal Highway Administration) authorization to advertise for bids and to begin construction on Department contract projects.

It is important that the District Utility Relocation Unit be kept informed by responsible District personnel of the status of all activities in the design, planning, and bidding process. The District Utility Relocation Unit must in turn keep utilities informed of dates such as, letting schedules, bid advertisement, mutually agreed to award delays, pre-bid and pre-construction conferences, and contractor's notice to proceed. The letting dates for each project are also available in the web based UR-EDMS (Utility Relocation–Electronic Document Management System) for utilities that are registered electronic business partners.

B. Preparation of Utility Clearance Form D-419. The District Utility Relocation Units must not submit the Utility Clearance Form D-419 until all acceptable written arrangements are received from utility companies located on the highway project. These written arrangements must be available in UR-EDMS. The Utility Clearance Form D-419 should be put in UR-EDMS prior to submission and review of the PS&E (plans, specifications & estimates) package or no later than two weeks prior to advertisement. For Federal Oversight projects, the Utility Clearance Form D-419 should be available at least three weeks prior to advertisement.

1. Written Arrangements. The statement in [Section 4.2.D](#) is required by 23 CFR Section 635.309 Authorization. This will mean that the Department has made one or more of the following necessary arrangements for each utility:

- a. On non-reimbursable relocations, the Department must have on file:
 - (1) A Form D-4181 Utility Relocation Questionnaire and Permit Application (Appendix A, [Figure A-800](#)) that has been properly completed and signed by either the utility or their Department approved consultant engineer.
 - (2) The utility's existing and Department approved proposed facilities accurately shown on the Department's highway plans.
 - (3) A Form D-4181-UC (Appendix A, [Figure A-1100](#)) that has been properly completed and signed and dated by either the utility or their Department approved consultant engineer.
- b. On reimbursable relocations, the Department must have on file:

- (1) The same documents as stated above and an executed utility reimbursement agreement or an acceptable estimate package from the utility, which constitutes an agreement draft. When an acceptable estimate package is used to let the project, a utility reimbursement agreement must be executed prior to utility notice to proceed for non-incorporated work and prior to contractor notice to proceed for incorporated work.
- (2) For abbreviated incorporated work, the Municipality, Municipal Authority or public utility owned and operated water or sanitary sewer company must provide a signed letter that states they will provide the material and requests the Department to install it (see Appendix A, [Figure 1205](#)) and the signed and dated D-4181-UC form (Appendix A, [Figure A-1100](#)). In lieu of a cost sharing reimbursement agreement, the Department will draft a non-reimbursement agreement that will cover the exchange of services (see Chapter 8, [Section 8.1](#)).

The written arrangements provisions as described above apply to all Department highway and bridge projects.

2. Completing the Utility Clearance Form D-419. The basic form is generated or previewed in the UR-EDMS system. The form is prefilled with Highway Project information and the list of Utilities that was created earlier in the Preliminary Engineering phase. Each utility within the Project Limits is listed on the form with the following information:

- a. Following the utility's name is the type of utility. (ex. electric, water, sewer, etc.)
 - b. Under the utility's name is the contact name, phone number, and e-mail address, (if one is available), for the utility. There can be more than one contact. The contacts can be designated for construction and design. If there is only one contact, it should be the construction contact.
 - c. The work breakdown areas for each utility. There are six different types of relocation work to be designated. They are Prior, Restrictive, Concurrent, Coordinated, Incorporated and Not Affected. The utility will pick what type of relocation work will be performed.
- (1) **Prior Work.** Work that the utility will complete before the Notice to Proceed is issued to the Department's contractor or to the project Sponsor's contractor.

If the utility requests that site preparation activities (e.g., survey staking, clearing and grubbing) be performed in order to begin the Prior Work, these activities should be accomplished using project funds. At the discretion of the District Utility Relocation Unit, project funds can be used either for District personnel (i.e., Maintenance Unit and Survey Unit) to perform the site preparation activities or to reimburse the utility for completing the site preparation activities in conjunction with their Prior Work. Note that Prior Work performed prior to federal authorization (Form D-4232 Phase 5 for federal-aid projects) is not eligible for federal-aid reimbursement.

Every effort should be made to complete all Prior Work before commencement of the highway contractor's operations.

The District Utility Relocation Unit will monitor the progress of Prior Work to ensure that it will be completed before issuance of the highway contractor's notice to proceed. Inspection should be handled per Chapter 5, Section 5.1F. The DUA should assess the status of Prior Work a minimum of four weeks before the letting to determine if it can be completed as Prior Work. If it is found that Prior Work cannot be completed prior to highway contractor's notice to proceed, the District utility personnel must convert the Prior Work to Restrictive Work. This is accomplished by the District Utility Relocation Unit updating the Utility Clearance in the Department's UR-EDMS system a minimum of three (3) weeks prior to the letting of a highway project. The District Utility Relocation Unit must then notify the Project Manager to assure that this change is updated in the ECMS Project Development Checklist. This enables the Central Office Contract Management Section to issue an amendment to the bid proposal for the highway project to prospective bidders.

- (2) **Restrictive Work.** Work that must be completed by a utility or a series of utilities before the highway contractor can operate in that range of stations without any conflict with the utility or series of utilities. After the notice to proceed has been issued to the Department's contractor, Restrictive Work begins when the contractor notifies the utilities that the contractor's notice to proceed has been received from the Department. The details of the conditional restrictions associated with this work should be included in the contract documents. The contractor is not prohibited from working in this area, but operations are limited due to existing utility facilities or utility relocation work being performed.

Each utility in the series of utilities will need to be notified by the contractor when the previous utility's anticipated completion time is nearing. The contractor should stay in contact with the utilities in case a situation arises that would change the anticipated completion time (e.g. utility pulls off the relocation work site to respond to a storm-related emergency).

Each utility that has work classified as Restrictive Work is to be considered as linear construction with the duration for each specified task added together to achieve a total number of restrictive days unless otherwise specified in the contract. The highway contractor must coordinate the notification of each utility in the work sequencing order identified in the Utility Clearance D-419, within the designated notification times.

The Contractor should keep in mind the utility's designated notification times when contacting the next utility to complete the Restrictive Work.

Restrictive Work must be justified to the Department utility personnel. The Department project manager and/or designer must assure that the overall highway contract reflects the time necessary for the utilities to accomplish restrictive work.

Note: To avoid any uncertainty it is advised that milestones for any Restrictive Work be used in the contract. Example: Sta ____ to Sta ____ Restricted Work until 7Jun08 unless otherwise approved by the DE. All utilities should be scheduled activities in the Pre-bid Schedule to determine milestones and restricted durations of series of utilities.

- (3) **Concurrent Work.** Relocation work the utility can accomplish simultaneously with the highway contractor's operations without any restrictions to or conflict with the highway contractor. The number of calendar days required for a utility, or series of utilities, to complete this Concurrent Work will be identified for reference.
- (4) **Coordinated Work.** Relocation work that requires the highway contractor to phase its performance of specific construction operations, such as "clearing and grubbing" or "construct final grade," with the utility relocation work required by a utility, or series of utilities or after relocation operations of other utilities. This type of work may also include restrictions that impact the contractor's operations; therefore it is the contractor's responsibility to coordinate with any utility companies involved in the Coordinated Work.

If there is a series of utilities, the first utility will need to list what the highway contractor's certain specific construction operations is and the remaining utilities will list that they will start their work after the previous utilities finishes their work. The designated notification times of each utility in calendar days should be listed.

The highway contractor must coordinate the notification of each utility in the sequencing order identified in the Utility Clearance D-419, with the utility's designated notification times.

The number of calendar days required for a utility, or series of utilities, to complete this Coordinated Work will begin after the contractor has completed the specific construction operation(s) the utility requires before their relocation work can begin or needed sequencing work with the other Utilities.

- (5) Incorporated Work. Work that the contractor will perform on behalf of the utility, as detailed in the Utility Clearance D-419 to include the relocation work stations, pay item number and name. The Department must also have on file either the utility's letter requesting incorporation of the work into the Department's highway construction contract or a statement of the utility's refusal to accomplish the required relocation.
- (6) Not Affected. These are utility facilities not anticipated to be affected by highway construction. The areas where existing facilities do not require relocation must be described as "NOT AFFECTED". List whether the facility is aerial or underground (U/G). Show the location by S.R. Number and S.M. or stations and indicate whether the facility is Lt. of, Rt. of, or crossing the highway centerline. Specific information, particularly for underground facilities, may be included. An example would be to protect or shield certain utility facilities from certain construction operations.
 - (a) When it has been determined that a utility's facility is "Not Affected," the Department must have on file from the utility either a completed Utility Relocation Questionnaire (D-4181), completed Utility Relocation Clearance Report (D-4181-UC) or a letter on company letterhead that has been signed and dated indicating their facilities are not affected.
 - (b) If the utilities are using UR-EDMS, they can check the "Not Affected" box and click apply which will generate an email to the District Utility Relocation Administrator.

d. Special Arrangements. When arrangements are proposed other than the arrangements provided for in Items (1)-(6) above, approval for use of such "special arrangements" must be requested in writing from the Central Office Utility Relocation Unit.

"Special Arrangements" will be placed on the Utility Relocation Clearance Report Form (see Appendix A, Figure A-1100) that will be used as written arrangements for one or more utilities to clear a project.

e. Conditional Restrictions and Time Requirements. Conditions that affect the utility's ability to perform work, such as; certain times of the day, week or year that a facility cannot be shut down; acquisition of right-of-way by the State; or demolition of buildings, if applicable, these conditions should be stated at the bottom of each type of work they apply to.

f. After the type of utility relocation work, list whether the utility facility is (Aerial) or (UG), underground. This is followed by the SR and stations of the affected facilities and whether the facilities are on the right (Rt) or left (Lt) side of the highway. If stations are not available, then use Segments and Offsets. As described in each definition of the type of work a small description of the work to be performed by the utility and in Coordinated and Incorporated Work entries work to be completed by the Department's contractor. This is followed by the number of required days to notify the utility to mobilize on site and then the number of calendar days for the utility to complete the relocation work. If the Work entry is Prior, then the required anticipated completion date will be the contractor's notice to proceed.

g. See Appendix A, [Figures A-1101](#) and [A-1102](#) for examples of state and sponsored Utility Clearance D-419 Forms. These forms are examples of D-419 used primarily on non-complex projects.

C. D-419 for Moderately Complex and Most Complex Projects. As with the previous description of D-419 for non-complex projects the same form, same structure and format are used (see Appendix A, Figure A-1105). In the moderately and most complex projects, there may be more State Routes in the Project and more locations of affected facilities. A utility facility may have overhead and underground facilities within the same project. This will create the need for more work entries and the need to sequence and phase operations to achieve the most efficient utility relocation accommodation.

1. Work Items should be grouped in contiguous work operations:

- a.** Bullet points for listing utility relocation work under a type of work item can be used. The work listed should be contiguous on the same highway and in the same period. Example;

Restrictive: (Aerial) S.R. 0045, Sta. 4+52 to Sta. 100+56 Right. Notify utility six (6) weeks before relocation work is to begin. Twenty-one (21) calendar days required.

- Utility will install poles T-38, T-39, T-40, T-41, T-42, and T-43.
 - Install down guys on poles T-38 and T-41.
 - Install new facilities to the new pole line and splice into existing plant to energize new plant.
 - Install new services to customers.
 - Remove old plant from old poles..
- b. Start a new work item when changing location, changing phasing operation with project or changing type of work.
- c. Keep list of work items in a progression of the work to be completed on the project site.
- Keep temporary and permanent work in separate work items.
 - Keep install and remove poles in separate work items.
 - Underground work and aerial work should be kept in different work items, except for the connection of the plant.
- d. Aerial utilities that are attached to the same pole line should be listed in order of their attachment on the pole from top to bottom. This may result in the pole owner installing the pole and then attaching facilities after other utilities have attached (i.e. if the pole owner is not an electric company).
- e. If aerial utility is the pole owner, the term "Pole Owner" will be placed after their name.

2. Where the utility is "Not Affected" (see Section 4.2.B.2.c.(6) for definition of "Not Affected") but is overtaken by required highway right of way, the Department must have on file:

- a. An executed private status agreement; or,
- b. Written assurance from the District Utility Relocation Administrator that the private status agreement package will be submitted to the Central Office Utility Unit within 6 months from the project notice to proceed or by the time the project is completed, whichever comes first.

The Districts are required to revise right of way plans that do not properly present utilities that are within required right of way and are either being relocated, adjusted or will remain in place with private status within 6 months from the project notice to proceed or by the time the project is completed, whichever comes first.

If the District does not receive the required information within the time period mentioned above, a private status agreement will not be issued and the utility's rights will not be labeled on the plans in accordance with Publication 14M, Design Manual Part 3, Plans Presentation, Chapter 3, Section 3.7.B1.

3. Utility Clearance for Resurfacing Projects and Group Paving Projects with an Expedited Design Phase. A Modified Form D-419, Utility Clearance for Resurfacing Projects may be used for projects with manhole covers, drains and other surface devices that require adjustments (see Appendix A, [Figure 1104](#)). This form is streamlined and only covers coordinated and incorporated work which meets the criteria of the Administrative Code, 71 P.S. § 515(g), see [Chapter 1, Section 1.2.E](#). In addition to the modified clearance, there will be a project condition in ECMS if the utility agreements are not signed before the project is advertised (see [Chapter 3, Section 3.2.D](#)). The condition can be changed to "do not award" or "do not open bids" if additional time is needed. If the signed draft utility agreements are not returned by the milestone date, the project condition will be satisfied and the Department will incorporate the work into the highway contract and invoice the utility owner for the work (see [Chapter 8, Section 8.4.F](#)).

- a. Modified D-419. Some projects may require a combination of the Standard D-419 and the Standard Special Provisions. This combination of clearance documents is known as the Modified D-419.
- b. Group Projects with drainage, guide rail installation, traffic signalization, and special design-build items may be cleared using a combination of the various Standard Special Provisions, attributes of the Standard D-419 and District Special Design Build provisions, ex. ADA ramps.

D. Utility Clearance Certification. A Utility Clearance Certification must be issued prior to project advertisement for 100% state funded projects and prior to construction authorization (when the FHWA approves the 4232 for construction), which occurs before the project advertisement, on federally funded projects. When the District Utility Relocation Unit submits a properly completed D-419 Clearance form (or a utility standard special provision is lieu of a D-419), through UR-EDMS, the Central Office Utility Relocation Unit will review the document and must certify that all necessary written arrangements have been made, in accordance with [Section 4.2.B.1](#), for all known utility relocations required by the project.

For a Federal Oversight project, the Utility Clearance Certification letter is sent to FHWA and a copy is put in UR-EDMS. For Department Oversight and 100% State funded projects, the Utility Clearance Certification letters are addressed to the appropriate District and are put in UR-EDMS. The Utility Clearance Certification must be included in the Project Development Checklist in ECMS for all projects.

The Utility Clearance Certification must contain one of the following statements:

- For projects that have utility relocations and all necessary arrangement have been made:
 - All necessary written arrangements have been made for all known utility relocation work to be undertaken and completed as required for proper coordination with the construction schedules.
- For projects that do not have utility relocations:
 - There is no known utility work required by these utilities to clear the subject highway construction project.
- When projects are cleared with a Utility Standard Special Provision the following Utility Clearance Certification statement will be used:
 - This is to certify that the Utility Clearance information contained in Contract Document (list the contract document number) and Special Provision (list the Special Provision number) accurately describes the status of the utilities for the subject highway construction project.

This policy applies to all Federal, State and Local projects that have Federal or State funding.

- 1. Federal Participating State Projects.** The Utility Clearance Certification is a requirement of the 23 CFR Section 635.309 Authorization. The FHWA will not authorize the Department to advertise for bids or authorize construction until this statement is issued.
- 2. Federal or State Participating Local or Sponsored Projects.** A local governmental body or sponsor must include the Utility Clearance Certification verbatim in its Utility Clearance Form D-419 or Standard Special Provision. An official of the local government body or sponsor, as part of their assurance that all necessary written arrangements for utility relocations have been made, must sign the statement. The Department's Central Office Utility Relocation Unit will provide a Utility Clearance Certification confirming that the Utility Clearance prepared by the local governmental body or sponsor is correct and in compliance with DM-5 and the applicable federal regulations. See Appendix A, [Figure A-1102](#) for a sample D-419 for a sponsored project.
- 3. 100% State Funded Projects.** The Utility Clearance Certification is a requirement of Central Office. Central Office will not authorize the Department to advertise for bids or authorize construction until this statement is issued.

For information regarding Utility Clearance Certification for Design-Build projects, see Publication 448, *Innovative Bidding Toolkit*.

E. Conditional Utility Clearance Certifications (CUCC) and Project Conditions. If all necessary arrangements have not been made the Central Office Utility Relocation Unit can authorize a conditional Utility Clearance Certification. This conditional Utility Clearance Certification is for unusual circumstances only and is to be considered the exception and not the rule. It must list what necessary arrangements still need to be made. The District Utility Relocation Units wishing to use this conditional Utility Clearance need to provide justification to the Central Office Utility Relocation Unit and state that there is no anticipation of delaying the highway contractor's Notice to Proceed.

1. Conditional Utility Clearance Certifications (CUCC). For projects with unusual circumstances or when all of the necessary arrangements have been made to prepare the Utility Clearance Certification (UCC), except one or two minor items, a Conditional Utility Clearance Certification (CUCC) may be issued to allow the project delivery process to proceed. A CUCC is only a temporary measure to be used in the exceptional circumstances described and it is not to be the rule for expediting delivery of all projects.

The District Utility Relocation Unit wishing to use a CUCC will need to provide justification and ensure that there is no anticipation of delaying the highway contractor's Notice to Proceed. It will also need to include a list of the missing items.

The final UCC must be issued or the conditions must be re-evaluated prior to bid opening. If more time is required to issue the final UCC and it's verified that the missing items will be secured within two weeks, the project condition can be changed from, "Do not open bids" to "Do not award contract" or "Do not issue Notice to Proceed". However, the final UCC must be issued before notice to proceed can be issued to the contractor.

2. Project Conditions. For projects with a CUCC or final UCC but an incorporated work agreement still has to be signed by a utility, a project condition will be entered in ECMS.

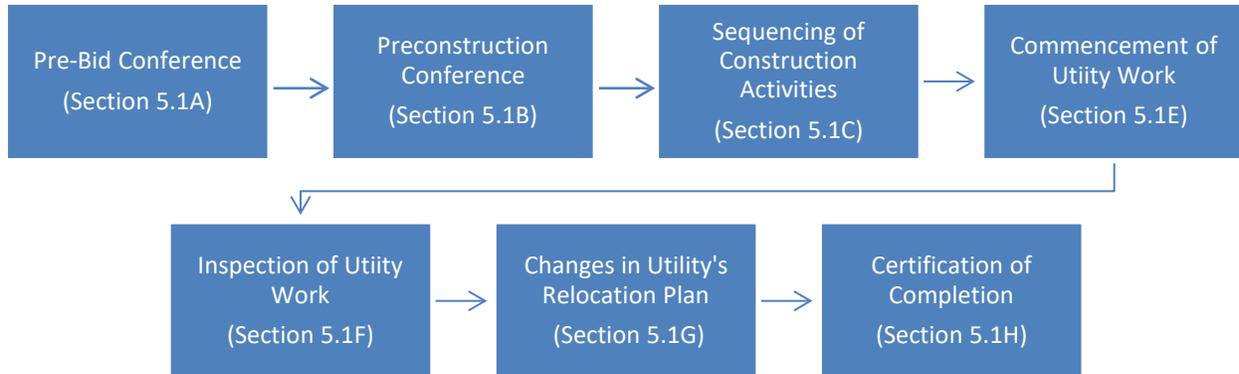
The project condition must be satisfied in ECMS or the condition must be re-evaluated prior to bid opening. If more time is required to finalize the UCC or to obtain the signed incorporated work agreement and it's verified that the signed agreement will be secured within one week, the project condition can be changed from, "Do not open bids" to "Do not award contract". This project condition must be satisfied before notice to proceed can be issued to the contractor.

CHAPTER 5

CONSTRUCTION

5.0 GENERAL

The purpose of this chapter is to outline the process flow of utility relocations during construction for highway construction projects.



5.1 CONSTRUCTION PROCESS

A. Pre-Bid Conference. On major highway construction projects or projects that require sequencing of operations, a Pre-Bid Conference is held in the District Office approximately fourteen (14) days prior to the letting. The District Utility Relocation Unit will notify the utilities of a Pre-Bid Conference. This conference affords the utilities the opportunity to inform the Department and all prospective bidders of the status of their relocation work and discuss in detail the relocation work that will be accomplished concurrently or in coordination with the highway contractor's operations.

B. Preconstruction Conference. On a majority of highway projects, prior to the Department's issuance of a notice to proceed to the highway contractor, a Preconstruction Conference is held in the respective District Office with all concerned parties to discuss matters pertaining to the project.

At this meeting the District Right-of-Way Unit will advise of any special circumstances, restrictions, stipulations, concessions, or special terms of settlement negotiated by the Right-of-Way Unit with property owners. The District Utility Relocation Unit is responsible for instructing the affected utilities of these conditions.

Utilities with facilities in the highway construction area will be represented at the Preconstruction Conference so they can be informed of the contractor's method of operation and be afforded an opportunity to discuss the current status of their facilities in detail and the prior, restrictive, coordinated, and/or concurrent utility relocation work. The Department will coordinate any required scheduling of utility and contractor operations and furnish all utilities with minutes of the conference.

C. Highway Contractor's Sequencing of Operation. The information in the highway contract regarding utility relocations is based on information made available by utilities throughout project design. This information is included in the project proposal and must be taken into consideration and recognized by the highway contractor.

D. Utility Delays. Delays caused by the utility to the highway contractor will not be recognized when the contractor fails to comply with the above paragraph and/or changes the established sequencing of operation for the highway project. See the Publication 2, *Project Office Manual*, Part B, Section 1, page 22-1, *Utility Delay Compensation Adjustments*, for the Department's process for getting approval to use federal funds to pay for delay damages due to utilities.

FHWA has approved contractors to be compensated for delay costs caused by utility relocation delays. They also indicated that they may participate in construction delay claims caused by utilities under certain conditions. The *FHWA Program Guide: Utility Relocation and Accommodation on Federal-Aid Highway Projects* (Sixth Edition, January 2003) policy states that FHWA may participate in delay claims if it is determined that:

1. The utilities were either relocated and/or adjusted prior to advertising for bids, or necessary coordination was arranged with the appropriate utility companies to avoid causing any delay to the construction contractor;
2. The Department's utility accommodation procedures were followed in making arrangements for the relocation and/or adjustments of the utilities;
3. The construction work was delayed through no fault of the construction contractor; and
4. The Department exercised reasonable efforts to control the situation.

Furthermore, the above-referenced policy provides that FHWA should not participate in any construction claims caused by conflicts with underground utilities that would have been avoided if Subsurface Utility Engineering had been used. Subsurface Utility Engineering is to be routinely used for identifying the location of utility facilities. See [Chapter 6, Subsurface Utility Engineering](#).

Publication 408, *Specifications*, Section 111.04(d) provides guidance on the documentation the contractor must submit to document a construction delay caused by utility relocation delays. The District Executive will review the submission and approve/reject the request. If the claim is rejected, the contractor will have recourse to appeal as specified in Publication 408, *Specifications*, Section 105.01(a). If the claim is approved, the submission, with the District Executive decision, will then be submitted to the Director of Project Delivery or appropriate personnel for review and concurrence. The Director of Project Delivery or appropriate personnel will have the Central Office Utility Relocation Unit in the Utilities and Right-of-Way Section review the submission to determine if the utilities were relocated in accordance with the Department's utility accommodation policy and the FHWA Program Guide. The Central Office Utility Relocation Unit will provide the Director of Project Delivery or appropriate personnel with a letter documenting compliance or noncompliance with the Department's utility accommodation policy and the FHWA Program Guide. The FHWA will only participate in those claims where the Central Office Utility Relocation Unit determines that the Department is in compliance with the Department's utility accommodation policy and the FHWA Program Guide.

For all NHS projects, the Central Office Utility Relocation Unit's determination along with the Utility delay claim will be submitted to the FHWA for their review and approval.

E. Commencement and Performance of Utility Work. Upon receipt of the District's letter authorizing the start of physical work, the utility is expected to commence such work as soon as scheduling permits to clear the highway construction area of its prior and restrictive work. The utility should perform the relocation work in accordance with their approved relocation plans, under the terms of the Utility—Commonwealth agreement or permit.

Areas of utility relocation work that cannot be completed prior to the start of construction but can be accomplished without restricting the highway contractor's operations may be done concurrently with the contractor's operations when approved by the Department and noted in the contract proposal as described in [Chapter 4, Final Design](#).

Areas of utility relocation work that must be coordinated with the highway contractor's operations will be so indicated in the contract proposal, along with a detailed description of the coordinated work and the sequencing of the utility and the contractor's operation.

If the contractor requests any changes in the utility work that is outlined in the contract, the contractor needs concurrence from the utilities and the District Utility Relocation Unit.

F. Inspection of Utility Relocation Work. Selected relocation work performed within highway right-of-way is to be inspected by the Department to ensure compliance with the permit, agreement, and established policy and procedure.

It is the responsibility of each utility to provide the District Utility Relocation Unit with written notice of the date that relocation work will be started. In order to schedule inspection, the Department must receive notice from the utility five (5) days prior to the starting date. The utility must cooperate with the Department's inspector and keep

the inspector informed of utility work schedules. When it is necessary to remove utility work crews from active projects, the Department must be informed and notified of the date utility work will resume.

The District Utility Relocation Unit, upon notification from the utility of the date that relocation work is to commence, must inform the District Construction Unit that inspection will be required, unless the work is to be completed as Prior Work. For Prior Work, the District Utility Relocation Unit will meet with the District Construction Unit and/or the District Permit Unit to determine who will perform the inspection. The District Utility Relocation Unit is required to furnish the District Construction Unit and/or the Department Inspection Staff with a copy of the utility's estimate/permit package for use by the assigned inspector.

An inspector assigned to a utility relocation project is responsible for making an accurate record of the relocation work in the Utility Section of the Project Site Activity (PSA) Report in ECMS or on the Utility Inspection Report Form D-4298 (see Appendix A, [Figure A-1201](#)) during the time on the job site. Inspection reporting of utility work must be of sufficient detail to show the progress of work performed by the utility, including location references where the work was performed and confirm that construction is in accordance with the approved location of the utility adjustment. The amount of major items of material installed by the utility (e.g., poles, footage of pipe, length of cable), the equipment used, and the number of workers on the project is important and should be recorded on the report. Any deviation from the approved relocation plan must be immediately brought to the attention of the District Utility Relocation Unit and noted on the report form.

The frequency of inspection should be determined by the type of utility facility involved, the magnitude and location of the utility relocation work, and the quality of previous work and billing accuracy of the specific utility involved. To determine if continuous inspection or spot inspection is required refer to the guideline requirements of Publication 282, *Highway Occupancy Permit Operations Manual* and Publication 408, *Specifications*.

Each Utility Inspection Report form must be completed in duplicate and the accumulated reports are to be forwarded at the end of each work week to the District Utility Relocation Unit. One copy is retained by the District Construction Unit and the other made a part of the District Utility Relocation Unit file.

Any details entered by the inspector into his field inspector's diary of utility relocation work must be transferred to the Utility Inspection Report Form for each day inspection is performed. This transfer is necessary because the information in a field inspector's diary is not readily available.

If utility inspection information is not entered in a field inspector's diary it must be kept in a separate utility diary.

1. Installation of Relocated Underground Utility Facilities. Selected inspection should be considered during the time the facilities are being installed across, longitudinally within or adjacent to the traveled roadway area and near footings of structures or other critical areas. This would ensure compliance with the approved plan as to alignment, depth, clearance, and size of the facility being installed and ensure proper backfill, restoration of pavement, shoulders, etc. The frequency of inspection required for underground utility installation work beyond the areas mentioned above would be dependent on the magnitude of the utility work and should be scheduled to record progress and ensure that work conforms to the approved plan.

G. Changes in Utility's Plan of Relocation. Occasionally field conditions necessitate revision to a utility's approved plan of relocation. It is the responsibility of the utility to report the required change immediately to the District Utility Relocation Unit, justify such revisions, correct any approved highway occupancy data on file with the Department, and comply with established Department policies and procedures regarding highway occupancy and reimbursement requirements. The utility is required to obtain, by letter, the highway contractor's concurrence of their changes prior to starting the physical adjustment and/or relocation of these facilities when they are within the limits of the highway construction project.

In situations of unforeseen utility involvement, the highway contractor and the District Utility Relocation Unit must be informed when the highway project is under the highway contractor's control. It is the highway contractor's responsibility to make arrangements for these unforeseen utility adjustments, including a written request to the District Utility Relocation Unit to function as a liaison between the highway contractor and the involved utility, if necessary. The District Utility Relocation Unit will assure proper documentation is received from the utility and grant authorization as described in [Chapter 4, Final Design](#).

1. Minor Changes to Plan of Relocation. Minor modifications of the plan of relocation may be made by the utility as dictated by field conditions without prior approval by the Department or written confirmation of the highway contractor. All minor changes must be brought to the attention of the Department's inspector assigned to the utility relocation work, if an inspector is assigned, and the inspector must note the change on the Utility Inspection Report form and bring it to the attention of the District Utility Relocation Unit. If no inspector is provided, the change must be fully explained by the utility at the time of Final Billing. See Chapter 4, *Final Design*, [Section 4.1.O](#) for authorization requirements.

2. Major Changes to Plan of Relocation. Major changes in the plan of relocation require Department approval prior to the utility's proceeding with the changes or modification of their facility. A major modification can be defined as changing facility from aerial to underground, a location of a highway crossing, a shift from one side of highway to the other, any increase of plant capacity, etc. Changing the work from utility's forces to hiring of a contractor is considered a major change and also requires prior Department approval.

The District Utility Relocation Unit will establish a date of eligibility for a change in relocation work and authorize the utility to proceed.

Approval for a major change requires a written notification from the utility, complete with marked prints, cost estimates, and explanation of the modification or change in the plan of relocation. The District Utility Relocation Unit will forward such notification and supplemental data to the Central Office Utility Relocation Unit for immediate action and, if applicable, prepare a supplemental agreement to reflect any major changes in the utility's plan of relocation and reimbursable cost. See Chapter 8, *Agreements, Cost Development, Estimates and Billing*, [Section 8.1.I](#) for additional information on supplemental agreements.

See Chapter 4, *Final Design*, [Section 4.1.O](#) for authorization requirements.

H. Certification of Completion. A form certifying that all work is completed must be filled out and signed by both the utility and the Department. This form may be used in conjunction with or in place of the Department's Utility Inspection Report (see Appendix A, [Figure A-1201](#); see Appendix A, [Figure A-1200](#) for the Certification of Completion Form).

A Certification of Completion Form is required on all utility relocations performed for highway construction projects. The utility must prepare and sign the form upon completion of the relocation work, which certifies that all work has been accomplished in accordance with the plans, permits, estimates, materials, and any other applicable data approved by the Department.

It is the responsibility of the District Utility Relocation Unit to make a final inspection of the utility's relocation work after completion by the utility and document as well as verify on the Utility Certification form that the work is completed (see Appendix A, [Figure A-1200](#)).

This certification is to be submitted to the District Utility Relocation Unit by the utility as soon as possible after the completion of the actual relocation and on reimbursable relocations no later than the utility's submission of its Summary of Billing Form for payment. See Chapter 8, *Agreements, Cost Development, Estimates and Billing*, [Section 8.4](#) for billing procedures.

CHAPTER 6

SUBSURFACE UTILITY ENGINEERING

6.0 GENERAL

Existing underground utilities are creating increased risk to Department projects and to the public. Utility congestion increases over time within the limited highway right-of-way. Utility networks are carrying increased operating pressures, more data, and higher voltages. As a result, there is a new statute, Pennsylvania Underground Utility Line Protection Law, Act 287 of 1974, as amended, that requires the Department to use Subsurface Utility Engineering as a means to manage this risk.

6.1 WHAT IS SUBSURFACE UTILITY ENGINEERING (SUE)

A. Description of SUE. Subsurface Utility Engineering (SUE) is known as an engineering process that utilizes new and existing technologies to accurately identify, characterize, and map underground utilities early in the development of a project or in certain cases during construction. During its evolution, it has added elements that go beyond the utility mapping aspect. The American Society of Civil Engineers' (ASCE) current and comprehensive definition is as follows: SUE is a branch of engineering practice that involves managing certain risks associated with utility mapping at appropriate quality levels; utility coordination; utility relocation design and coordination; utility condition assessment; communication of utility data to concerned parties; utility relocation cost estimates; implementation of utility accommodation polices; and utility design.

There are many ways to go about collecting and depicting utility data on plans. Common ways have included allowing or requiring utility owners to draw their facilities on plan sets, using the One-Call system to get marks placed on the ground for subsequent survey, using back hoes to expose utilities, using utility owner records to have someone other than the utility owner draw them on plan sets, correlating records to planimetric features, and so on. Drawbacks to any of these methods are that there are no representations of data quality, completeness, and accuracy, or differentiation on the plans between the methods. The concept of utility quality levels as defined by ASCE and used by the SUE profession solves this problem. This chapter of the Manual will explain how the processes of SUE are used to (a) obtain underground utility data, (b) decide when such data should be collected, and (c) use that data within the project delivery process.

B. Quality Level Definitions and Description of Reliability. ASCE developed a national engineering standard, CI/ASCE 38-02, "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data" in 2002. Its intent was for use as a means for developing a scope of work for utility mapping during the project development process. The guideline presents a system to classify utility data into four "utility quality levels" depending upon the tasks performed by SUE providers. The utility quality level represents the reliability of the data. The guideline describes the tasks necessary to achieve each utility quality level and shows how the utility location data and its corresponding utility quality levels can be depicted on design plans. It describes elements of a scope of work that should undergo discussion, such as project limits and timing, and which utility systems are deemed more critical than others. Ultimately, the guideline allows the project owner and engineer to choose a utility mapping effort commensurate with the perceived project risk in a standardized way. A utility mapping deliverable may have utilities depicted in any mix of utility quality levels, depending upon the request of the Department and/or the ability of surface geophysics to image the utility.

These are the expanded definitions for utility quality levels.

- "QUALITY LEVEL D" – (QLD): EXISTING RECORDS RESEARCH. QLD is the most basic level of information. Information is obtained from the review and documentation of existing utility records, verbal accounts, and/or one-call markings (to determine the existence of major active utilities and their approximate locations). Using only QLD information leads to the most potential risk for the project because one-call marks and utility records may be incomplete, inaccurate, and not detailed sufficiently for

engineering purposes. This increases the chances for unnecessary utility relocations or design changes, or unexpected encounters with utilities during construction.

- "QUALITY LEVEL C" – (QLC): SURFACE VISIBLE FEATURE SURVEY. QLC builds upon the QLD information by adding an independent detailed planimetric site survey for surface-visible appurtenances of subsurface utilities including but not limited to fire hydrants, valves, risers, and manholes. Professional judgment is used to correlate the QLD data to the surveyed features, thus increasing the reliability of both utility location and existence.

It should be noted here that the methods used to obtain QLD and QLC data have traditionally been utilized by design and survey professionals for many years. The main difference between a "traditional" depiction and that from using this ASCE guideline is that now the utility depictions will have a QLD or QLC attribute. This allows the designers and constructors to know the origin of the utility data. The quality of records research is also standardized when using the guideline.

- "QUALITY LEVEL B" – (QLB): DESIGNATING. QLB information is obtained through the application of appropriate surface geophysical methods to identify the existence and approximate horizontal location of utilities (a utility's "designation") within the project limits. Underground utilities are identified by interpretation of received signals generated either actively or passively, and through correlating these received signals with visible objects (QLC) and record data (QLD) to determine function. Designated utilities that can't be identified are labeled as "unknowns." Although approximate has no accuracy associated with it, generally the locations are within inches rather than feet. The more utility congested the area or the deeper the utilities, the less likely it is that the designations will achieve that accuracy. These designations are then surveyed to project accuracies and precisions. Note that surveying existing one-call marks does not lead to QLB data, since the genesis of the marks was not under the direct responsible charge of the professional certifying the QLB depictions, and one-call generally does not address unknown utilities, privately owned utilities, utilities without records, retired in place utilities, and so on. Nor does the professional have knowledge of the field technician's qualifications, training, and level of effort.

There are various geophysical techniques available for acquiring data regarding the existence and two-dimensional locations of underground utilities. Geophysical techniques are non-invasive technologies used to image subsurface conditions in the earth through measuring, analyzing, and interpreting physical properties. Every geophysical technique depends upon the ability to identify contrasts in subsurface materials that include various properties. Examples of common geophysical techniques include: pipe and cable locators; ground penetrating radar (GPR); metal detectors; magnetics, and elastic wave methods. It is important to select a SUE provider that is familiar with, and has access to, various geophysical techniques for the successful designation of underground utilities.

Every geophysical technique has its limitations. Many factors, including characteristics of expected underground utilities, geological conditions at the site, costs, and other environmental and social factors should be considered as criteria for the appropriate selection of geophysical techniques. In general, it is safe to say that more than one instrument and/or technique is necessary to do an acceptable job of designating utilities within a set geographic area. The interpretation of different site environments, such as soil conditions, pipe material, joint type of pipe, and depth of utility may require the expertise of a geophysicist for the proper use of geophysical techniques to detect and map underground utilities.

QLB is the horizontal position of utilities. Although some geophysical methods can estimate a depth to the utility, depth is not a component of QLB data. The amount of knowledge, skill, diligence, and excavation and testing to determine soil conditions required to generate reliable depth through geophysics is generally cost-prohibitive. Nonetheless, if depths are obtained through geophysics (or for that matter through records), those depths can be annotated on the drawings through notes, and used with appropriate cautions. QLB data must be reproducible by surface geophysics at any point of its depiction; in other words, you cannot "connect the dots" which would presume a geophysical signal where there may not have been one. Where there is no signal, utilities should be depicted at QLC or QLD if they meet those requirements, or not depicted at all.

- "QUALITY LEVEL A" – (QLA): LOCATING THROUGH EXCAVATION. QLA data are highly accurate and are obtained by surveying an exposed utility. As such, both horizontal and vertical data are recorded. Survey accuracies are typically set at 1/2-inch vertically, and to project survey standards horizontally (typically the same as for planimetric features). In addition to the applicable standard of care and any other additional standards imposed by commercial indemnity clauses, the accuracy of these location data is also typically guaranteed. Other data typically characterized include material type, surface elevation, utility size/capacity, outside dimensions, and configurations, soil type, and utility condition. The Department only allows vacuum-excitation or hand-digging as the exposure method; water-jet excavation is prohibited due to environmental and pavement restoration integrity issues. The vacuum-excitation system has been used as a leading method for QLA because of its minimally intrusive and non-destructive nature. Exposing the utility at critical points provides highly accurate and reliable underground information vertically and horizontally. QLA data are typically portrayed as a 3-D point location; QLB, QLC, or QLD horizontal data connect the various QLA data points.

The accuracy and reliability of underground information increases from QLD to QLA. The costs of obtaining utility data also increase from QLD to QLA. Figure 6.1 depicts the quality levels of SUE.

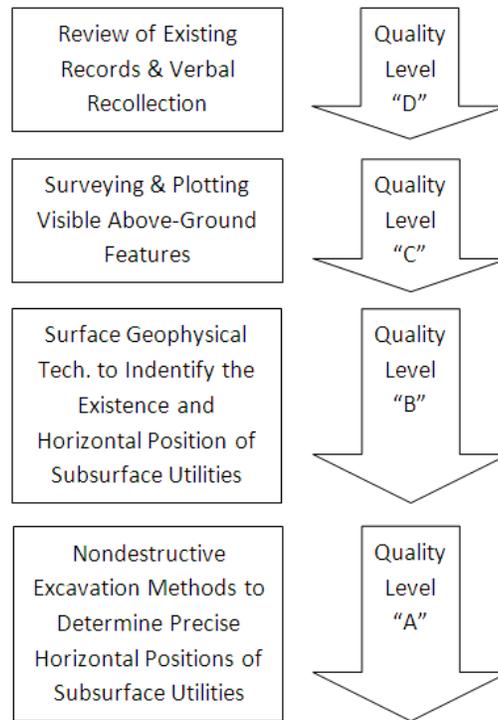


Figure 6.1 - Quality Levels of SUE

6.2 WHY USE SUE

There are many reasons to use SUE on Department projects. There is a successful history of using SUE on Department projects going back to 1988. There are several recent laws, federal policies, and national standards with which the Department desires compliance. Lastly, there are several studies that show that SUE benefits all project stakeholders including designers, contractors, the Department, and utility companies. The proper applications of SUE reduce unnecessary utility relocations, unexpected damages to existing utilities, mis-locations of utilities, change orders and claims, personnel injuries, negative factors for productivity, social and environmental damages,

and other problems related to utilities. The benefits are combined with subsequent savings in time and cost for the entire project.

A. State Law and Federal Policy (PA One Call Law and Federal policy on use of SUE). The use of SUE is required on projects as specified in Section 6.1 of Pennsylvania Act 287 as amended. The PA One Call legislation requires that project owners (i.e. the Department) utilize SUE as follows:

"It shall be the duty of each project owner who engages in excavation or demolition work to be done within this Commonwealth...to utilize sufficient quality levels of subsurface utility engineering or other similar techniques whenever practicable to properly determine the existence and positions of underground facilities when designing known complex projects having an estimated cost of \$400,000.00 or more."

According to the Federal Highway Administration (FHWA) Program Guide, *Utility Relocation and Accommodation on Federal-Aid Highway Projects*, 6th Edition January 2003, "the FHWA should not participate in any construction delay claims caused by conflicts with underground utilities that would have been avoided if subsurface utility engineering had been used." Publication 408, *Specifications*, Sections 101, 102, 105, and 111, allows contractors to be compensated for delay costs caused by utility relocation. Publication 408, *Specifications*, Section 105.06 provides specific information on Utility Infrastructure and Utility Adjustments. [Chapter 5, Construction](#), contains details on Federal participation in utility delay claims.

B. Benefits of SUE. Utility relocations cost money and cause potential project delays. Therefore, adequate utility mapping must be conducted for designers to be able to design the project to avoid utility relocations. Even if a given relocation cannot be avoided, efficient relocation work can be conducted to reduce unnecessary delay through early and frequent coordination, cooperation, and communication. High quality mapping also allows the relocation design to proceed faster by identifying clear corridors for relocations.

The Pennsylvania Transportation Institute of the Pennsylvania State University (PSU) conducted an in-depth benefit-cost analysis in 2007 of 10 SUE projects executed by the Districts. The PSU research shows that, in comparison with projects not utilizing SUE, the total cost savings of SUE projects may range from 10% to 15% on a typical project. However, there is no relationship between SUE benefit and SUE cost as well as no relationship between utility complexity level and the total project cost. There is a strong relationship between SUE benefit-cost and utility complexity level. The benefits and cost of SUE increases as the utility complexity level of the project increases. The conclusion in the research is that SUE quality levels A and B should be used based on the complexity of the buried utilities at the construction site to minimize risks and obtain maximum benefits.

The PSU study estimated that an average of \$22.21 is saved for every \$1.00 spent on SUE. When the overall cost of the project is taken into consideration, the money spent on SUE is minor when compared to the cost savings of avoiding unexpected utility conflicts and unnecessary utility relocations.

An earlier study presented in 2000 titled "Cost Savings on Highway Projects utilizing Subsurface Utility Engineering," was commissioned by the FHWA. In this study Purdue University estimated the quantifiable cost savings of SUE on highway projects. Purdue University developed 21 categories to quantify the savings in terms of time, cost, and risk management after interviewing and surveying DOTs, utility owners, SUE consultants, and contractors. The result of this study shows a total of \$4.62 in savings for every \$1.00 spent on SUE. The study concluded that SUE is a viable technology that reduces project costs related to the risks caused by inaccurate underground information. It also describes that when used in a systemic manner, SUE should result in significant quantifiable and qualitative benefits.

The following list contains categories of costs that can be reduced or eliminated through use of SUE.

1. Utility Relocation Cost. By using SUE in the design stage, the designer will be able to avoid costs incurred by unnecessarily relocating utilities whose locations were mistakenly determined to be in conflict with design. Discovering unexpected utilities or objects that are in conflict late in the design or construction process also creates problems. For example, a design shows a utility line that must be relocated to avoid conflicts with the proposed utility, so the contractor starts to dig for the utility relocation. However, if the utility that was expected to be found does not actually exist, the contractor will identify the mistake in the design immediately after digging. Construction would be shut down or be delayed to address the problem.

Having comprehensive and accurate utility location data early in design also allows the appropriate parties to determine the needs for utility easements. It allows the relocation design to proceed with some assurance that unexpected utility-related obstacles during the relocation process will not be encountered.

QLA data can be obtained early in the design process to identify undesirable utility materials that the Department no longer wants within the right-of-way. Examples include asbestos cement pipe and certain types of plastics. Knowing this early in design may affect relocation issues.

2. Utility Damage Cost. Utility damage costs include personal injury costs, equipment damage costs, and third-party damage costs. If a contractor does not know the existence or exact location of buried utilities, utility-damaging accidents are likely to happen. However, QLB and QLA data allows the designer and the contractor to reduce the potential for utility damages.

3. Emergency Restoration Cost. Emergency restoration cost includes utility restoration costs and project delay costs by the emergency. The use of SUE allows avoiding emergency restoration costs incurred by utility damages.

4. Traffic Delay Cost. Traffic delay cost is primarily the user's time delay cost. The delay may include traffic speed delay and queuing delay. Such a delay cost incurred by hitting utilities can be saved by using SUE. Also, due to the decreased time line of a project that does not encounter unknown or mis-located utilities during construction also decrease traffic delay costs.

5. Business Impact Cost. Business impact cost is the cost incurred by business enterprises resulting from loss of business activity. Business impact cost may occur due to accidentally hitting existing utilities. The time savings from projects using SUE also reduces the amount of time a business is impacted by the project during construction.

6. User Service Cost. User service cost refers to the monetary value for users' inconveniences incurred by loss/delay of service (e.g., loss/delay of internet, gas, cable, telephone, or water). Sometimes utility hits result in service loss, so that service users cannot use the services until the restoration is completed. However, SUE allows the designer to identify the exact information for all utilities so that user service losses caused by hitting utilities are reduced.

7. Environmental Impact Cost. Environmental impact cost is the cost to restore/remediate the impacted environment. An example is the cost for cleaning contaminated ground. Accurate and comprehensive utility data helps avoid environmental impact costs that could be incurred by hitting utilities. Additionally, QLA data may identify existing contaminated soils, for instance near gas stations or from the preferential migration paths that utility trenches provide.

8. Information Gathering and Verification Cost. Information gathering and verification cost is the cost for gathering and verifying utility information without using SUE. Traditional costs for gathering and verifying related utility information can be avoided by using SUE in the design stage. SUE provides all related information in a structured environment so that the designer does not need to spend money and time to gather and verify bits and pieces of information, collected at times not of their choosing.

9. Legal and Litigation Cost. Legal and litigation cost is money spent on the negotiation, arbitration, legal and litigation process to resolve disputes. SUE can reduce legal and litigation costs. Accurate utility information provided by SUE can reduce unexpected problems resulting from claims, change orders, or other reasons so that legal and litigation costs would be reduced.

Table 6.1 below provides a list of cost benefits by cost category.

Table 6.1 - Categories of Cost Savings Due to the use of SUE

Design Cost
Lower project bids
Elimination of redesign
Reduction in the cost of project design
Reduction in project contingency fees
Reduction in costs caused by conflict redesign
Facilitation of electronic mapping accuracy
Minimization of the chance of environmental damage
Introduction of the concept of a comprehensive SUE process
Reduction in right-of-way acquisition costs
Accurate utility relocation designs where utility conflicts are unavoidable
Utility Relocation Cost
Reduction in project delays due to utility relocations
Reduction in unforeseen utility conflicts and relocations
Savings to Overall Construction Cost
Improvement in contractor productivity and quality
Minimization of damage to existing pavements
Increased efficiency of activities by eliminating duplicate surveys
Reduction in redesign costs
Reduction in construction delays due to unknown and unexpected subsurface conflicts
Accurate location and knowledge of subsurface conditions
Elimination of added construction costs due to unforeseen adjustments
Better bids
Earlier project completion time
Lower costs for surface restoration
Contractors Contingency Cost
Inducement of savings in risk management and insurance
Contractor Claims & Change Order Cost
Reduction in claims and change orders
Construction Personnel Injury Cost
Public Injury Cost
Utility Damage Cost
Reduction in delays due to utility hits
Reduction in utility companies' cost to repair damaged facilities
Travel Delay Cost
Reduction in travel delays during construction to the motoring public
Minimization of traffic disruption, increasing DOT public credibility
Business Impact Cost
Improvement in working relationship between DOT and utilities
Service Interruption Cost
Minimization of utility customers' loss of service

6.3 HOW AND WHEN TO USE SUE

A. What is the SUE Utility Impact Rating Form. The SUE Utility Impact Rating Form is designed to recommend appropriate quality levels of SUE based on a utility impact score. The SUE Utility Impact Form (Appendix A, [Figure A-501](#)) was developed to address the legal requirements and comply with the State and Federal laws. The SUE Utility Impact Form provides an analysis to determine if SUE use is "practicable", when SUE should be considered on a project, and what utility quality levels should be utilized based on an analysis of project

criteria. The form is utilized to provide compliance with Act 287, "underground utility damage prevention law". Utility impact rating refers to the utility complexity for a given project, section, or location.

Using the utility impact form consists of performing two steps. Step 1 is a screening process to determine whether QLB and/or QLA data are required for the project, and Step 2 is an evaluation of projects passing Step 1 to select appropriate quality levels of SUE for particular areas of the project. All questions, complexity factors, and designs of steps in the form have been determined through literature reviews and interviews with utility and design personnel within the Department. See Appendix A, [Figure A-501](#) for the SUE Utility Impact Form.

SUE Utility Impact Form

The SUE Utility Impact Form contains two steps of progressively detailed analysis.

- Step 1 determines whether SUE QLB and/or QLA should be considered for a project.
- If Step 1 indicates further analysis is required, conduct Step 2.
- Step 2 looks at additional factors to determine whether SUE QLB and/or QLA should be considered for a project.

Step 1

Project information such as title, cost, description (general summary), and scope (actual work scope) should be filled out before beginning Step 1. If the scope of the project is changed, the utility impact rating analysis should be performed again for that project. Step 1 determines whether SUE (Quality levels A & B) should be utilized for a project.

The questions in Step 1 can be answered with traditional utility information (Quality levels C & D) provided by a one-call system, utility companies, site visits, etc. If there are no boxes checked in Column 2, then it is generally not practical to perform a SUE Quality levels A & B investigation. If any boxes in Column 2 for questions 2, 3, or 4 are checked, the utility impact rating analysis proceeds to Step 2 to calculate a utility impact score and determine the appropriate SUE quality levels.

Step 2

Step 2 determines which SUE quality levels QLB or QLA should be selected for a project/section/location. Title, cost, description (general summary), and scope (actual work scope) should be filled out before answering the questions. The Step 2 questions are answered for a project, a section, or a location, while all questions in Step 1 are for a project. One project can have several sections or locations that have different utility impacts. Step 2 should be conducted for each section or location as necessary so that SUE quality levels can be selected for each section or location.

B. Who is Responsible for the SUE Utility Impact Rating Form. The SUE Utility Impact Form should be completed by the Project Manager, in coordination with the District Utility Relocation Unit. The Project Manager determines the Quality Level of SUE to use on a project.

C. When should the SUE Utility Impact Rating Form be Completed. The Impact Form can be completed as soon as QLD and QLC information is available and no later than the design field view, or if waived, the beginning of final design.

However, the SUE Utility Impact Form will provide the greatest benefit when completed during planning so that good decisions on line and grade can be made that could help to avoid costly or time consuming utility relocations. Once an important design decision is made, it is often difficult to change it due to the cascading effect of decisions.

Since QLD and/or QLC data is necessary to begin the SUE Utility Impact Rating, the Project Manager must put obtaining this data on the critical path. The Project Manager must decide how to obtain this QLD/QLC data. One option is to coordinate this task with the District Utility Unit and the project surveyor. Another option is to use a consultant contract, if project timing allows a consultant to be selected this early in the process.

D. How are QLD and/or QLC data Obtained. The Project Manager may elect to use the District Utility Unit, a consultant, or a SUE provider to obtain and depict this data. Regardless of who obtains the data, the procedures as outlined in CI/ASCE 38-02 (or subsequent editions) and the Department's Work Breakdown Structure Code 2.9.3, Subsurface Utility Engineering Services should be followed.

E. Use of the SUE Utility Impact Rating Form. The SUE Utility Impact Rating Form must be completed and retained in the project file and stored in UR-EDMS for every state highway construction project, except for resurfacing projects (without any drainage or guide rail installations), roadway pavement marking projects or line painting projects. If it is determined that a SUE Utility Impact Rating Form is not needed for the project, the Project Manager must instead draft a justification memo for the project file in order to satisfy the associated Project Development Checklist item in ECMS. .

The results obtained from the form can be modified by the Project Manager as long as there is adequate documentation of the reasons and as long as those reasons comply with the intent of PA Act 287. For example, QLD and/or QLC information may be all the information deemed necessary for a particular project in cases where the Utility Impact Analysis is finished in Step 1. On the other hand, the Department may always opt to obtain QLB and/or QLA information even if the project Utility Impact Analysis does not reach to Step 2.

The form can be used by local sponsors for local projects that have state or federal funding or the local sponsors can use another method of determining a recommended quality level of SUE for a project.

The Utility Impact Scoring Levels and Factors Calculation may return a result between 1.01 and 3.00 in Step 2. The reason the score starts at 1.01 for QLB is because it's assumed if you have to go to step 2 at least one box in column 2 or 3 will be checked. The actual score is not meant to definitively decide a course of action or a determination of the quantity of QLA vs. QLB mapping on a project or section of project. Rather, it is an indicator of the relative utility complexity on a sliding scale and therefore, the level of effort for managing utility risks generally increases as the impact score increases. As the Impact Score trends higher towards 3.0, there is an increasing likelihood that there will be more utility conflicts for which QLA data may be warranted. Project managers should take this into consideration as they budget time and costs for the project, specifically for the utility mapping and utility relocation process. Some QLA data may be required for any project if there is a potential conflict between the design footprint and the existing utility systems, regardless of the Impact Score.

F. How SUE QLB and QLA Data are Used. SUE QLB and QLA data are used by engineers, designers and utility coordinators to mitigate potential utility conflicts. Use of horizontal location information associated with QLB data might include:

- Locating new improvements to avoid, when possible, potential conflicts with existing utilities;
- Locating overhead utilities and their appurtenances which may cause conflicts and impact improvements;
- Detecting the presence of underground vaults which may cause conflicts due to their size and may be a consideration; and
- To determine if the acquisition of new right of way or easements may be necessary, etc.

Use of QLA information might include the horizontal or vertical adjustment of the roadway or structure design; relocation of an existing utility, etc.

G. Use of Previous SUE Information and Data. Information from previous SUE plans will also need a PA One-Call and QLD or QLC to verify that no moves or relocations of facilities have occurred, especially if the previous SUE plans are several years old.

If QLB or QLA information cannot be obtained, utility information that is provided on the plans must be properly depicted at lower QLD or QLC in accordance with Publication 14M, Design Manual Part 3, *Plans Presentation*.

H. SUE Provider Services and Activities. The basic deliverables for utility information are defined in the ECMS Consultant Agreement WBS Code 2.9.3 SUE Services scope of work, in accordance with Publication 14M,

Design Manual Part 3, *Plans Presentation*, Chapter 2, Section 2.13 and CI/ASCE 38-02 Standard, "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data." A sample of plans containing SUE data is provided in Appendix A, [Figure A-506](#). The 2.9.3 WBS code contains the SUE provider requirements for equipment and personnel, activities and deliverables for the SUE quality levels of service. See Appendix A, [Figure A-507](#) for the 2.9.3 WBS code.

Additional SUE services may include:

- Leak detection for water systems and other pipelines under pressure. Road bore location exposes existing utility lines at the point where a proposed road bore will cross. This allows a visual inspection for clearances and the road bore alignment during boring operation.
- Resolving differences in information between the various quality levels of subsurface utility engineering.
- Development of a conflict matrix showing all possible highway/utility conflicts. This involves comparing depicted utilities information with proposed plans (highway, bridge, drainage, maintenance of traffic, and other). The resulting matrix contains columns to record the physical location of each conflict, the name of the utility involved, the nature of the conflict, and action needed. Upon analyzing the information recorded on the matrix, it will be obvious that some conflicts can be readily resolved, some conflicts are questionable and additional information is needed, and some conflicts cannot be resolved.
- Re-formatting of utility deliverables for use in Department or other GIS systems
- Comparing One-Call markings during construction with plans to look for errors or omissions in the utility owners' markings and resolving discrepancies.
- All or any aspects of Utility Coordination.
- Updating of utility mapping during utility relocation activities, or during long duration project development.
- Attendance at public or Department meetings or hearings if utility location expertise is desired.

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CHAPTER 7

RIGHT-OF-WAY PROCEDURES

7.0 GENERAL

This Chapter establishes the responsibilities, requirements and procedures concerning real property interest, provisions for granting private right-of-way, and acquisition of substitute right-of-way, in accordance with Section 412 of the State Highway Law and the procedures for utility access roads.

All replacement right-of-way matters concerning utility relocations must be approved by the Central Office Utility Relocation Unit.

All utility matters requiring legal opinion shall be directed to the Office of Chief Counsel through the Central Office Utility Relocation Unit.

In order that the Department may be eligible for Federal reimbursement on utility relocations designated as Federal participating, the appropriate Sections of 23 CFR Part 645 must be adhered to by the Department.

7.1 REQUIRED DOCUMENTATION OF UTILITY'S REAL PROPERTY INTEREST

When a utility's facilities are overtaken by land acquired for a state highway project and the utility must be relocated or accommodated in place, the utility may be entitled to reimbursement, substitute right-of-way and/or private status under the State Highway Law (36 P.S. Section 670-412). The utility must prove that it holds a Real Property Interest in the land occupied by its facilities. Real Property Interest may be in the form of an easement, affidavit, or in certain circumstances, a license.

Where the utility has a document establishing its property interest, a copy of the document is to be furnished to the Department. Where no document exists, the utility will be required to furnish as many facts as can be stated, in the form of an affidavit, relative to the facility's occupancy which will be evidence that the facilities have been in existence on the ground for at least 20 years, that the said facilities have always been visible for all to see and that no one has ever successfully challenged the utility's right to have its facilities at the location involved. Under the aforesaid circumstances, a legal presumption arises that payment was made by the utility to the real estate owners and that a property right was granted to the utility. A suggested affidavit form is shown in Appendix A, [Figure A-600](#).

If the utility facilities are attached to another utility company facility, the suggested form of the affidavit should be modified accordingly and should be amplified to include such further facts as would indicate that the real estate owner(s) were and are aware of the existence of said facilities. Such further facts may include a statement that maintenance crews of the utility have, from time to time, entered the real estate involved without protest from the owners and that the entrance was for the purpose of performing maintenance work on the aerial facilities attached to other utility company owned poles, number of years attached to the poles and the pole number (I.D. number), and the fact that the owner is and has been aware of the attachment.

Should the utility's facilities be underground, the suggested form of Affidavit should be modified accordingly and should be amplified to include such further facts as would indicate that the real estate owners were and are aware of the existence of said facilities. Such further facts may include a statement that maintenance crews of the utility from time to time went on the real estate involved, without protest from the owners, for the purpose of performing maintenance work on the underground facilities.

It is the responsibility of the District Utility Relocation Unit, when requesting a preliminary estimate, to advise the utility that documentation of its real property interest will be required. This document must be included as part of the utility's preliminary estimate package submission. A reimbursement agreement will not be prepared by the Department until the utility's real property interest data, whether an easement, affidavit, or license, have been received and approved by the Central Office Utility Relocation Unit and the Office of Chief Counsel. Real property interest documents must be labeled properly.

Some reasons for a Real Property Interest document detailed review are:

- The law requires that utilities have a real property interest in order for them to be eligible for reimbursement.
- The available plans may be incomplete or inaccurate.
- As stated above, a reimbursement agreement will not be prepared by the Department until the utility's real property interest data, whether an easement, affidavit, or license, have been received and approved by the Central Office Utility Relocation Unit and the Office of Chief Counsel.

If the Department is acquiring right-of-way for the project a search for utility right-of-way documents should be included in the title search. If utility right-of-way documents cannot be found, then the Department must request the documents from the utility. Late plan changes should be avoided in order to prevent a last minute request for a Real Property Interest.

7.2 RETENTION OF EXISTING RIGHT-OF-WAY STATUS

Whenever an existing utility right-of-way is to be occupied by the Department for highway purposes, thorough consideration should be given to the feasibility of joint highway and utility use of that right-of-way, in lieu of unnecessary or costly relocation.

This policy will apply to longitudinal (parallel) situations involving 1) non-limited access right-of-way where utilities can be accommodated in accordance with highway occupancy provisions of this Manual and 2) utility corridors, when justified, are established along freeways in accordance with [Chapter 4, Final Design](#).

The policy will also apply to crossings of existing utility right-of-way by both limited and non-limited access right-of-way.

Where the width of highway right-of-way is sufficient and utility facilities can remain or be installed in compliance with the Department's utility accommodation policies of this Manual, the Department may provide for joint use of such right-of-way in situations where it would be in the best interest of the utility consumer and the highway user to do so. In such cases the interest to be acquired by the Department in the right-of-way to be used by utilities will be of a nature and extent adequate for the construction, safe operation and maintenance of the highway.

Whenever the utility and Department agree to this manner of accommodation, the Department must provide for the utility's retention of its existing right-of-way status, both on the highway plan and in the agreement. [Section 7.4](#) outlines the proper terminology to be used on the highway plan. An agreement will be prepared, as described in [Chapter 8, Agreements, Cost Development, Estimates and Billing](#), to provide for future Department responsibility regarding reimbursement and acquisition of substitute right-of-way. This agreement details obligations and responsibilities of the Department and the utility in joint used right-of-way, including rights and privileges retained by the utility.

A. Retention of Existing Real Property Interest on other than State Highway Right-of-Way (such as Township, Borough and or County Roads, etc.) The Department can provide private status for utility facilities on right-of-way other than state right-of-way provided that the affected facility has a real property interest on right-of-way being constructed or reconstructed by the Department. These facilities will continue to be regarded by the Department as if the facilities were located outside the public right-of-way for the purpose of determining liability for relocation costs and substitute right-of-way in the event of further involvement with the Department.

This type of private right-of-way status will only be honored by the Department in the event the Department affects the facility by a future project. However, this private right-of-way status is not binding on the local governments. Therefore, the facility owner may become liable for relocation due to local government project.

7.3 ACQUISITION OF SUBSTITUTE RIGHT-OF-WAY

The Department is authorized by Section 412 of the State Highway Law to occupy the right-of-way of utilities for highway purposes. The same section of the law also states that whenever a utility right-of-way is so occupied the

Department will provide a substitute right-of-way on another favorable location, equal in estate to the right-of-way taken and occupied for highway purposes.

The Department encourages the utilities to acquire replacement right-of-way and include the cost for such acquisition in the final relocation billing to be reimbursed by the Department.

Although the utilities prefer to negotiate with property owners for replacement right-of-way, sometimes such negotiations fail and the Department is requested by the utility to acquire a substitute right-of-way as provided for in the State Highway Law.

It is the responsibility of the District Utility Relocation Unit to coordinate the activities of the utility, the designer, the District Right-of-Way Unit and other District personnel in acquiring substitute right-of-way.

A. Requests for Substitute Right-of-Way. Utility requests for the Department to acquire substitute right-of-way should be initiated as early in highway design as possible and, except for unusual circumstances, no later than the final Utility Design Meeting.

The utility's notification will be directed to the District Utility Relocation Unit and include the following:

- Names of property owners and the parcel numbers of the properties affected by the substitute right-of-way.
- One (1) set of highway right-of-way plan sheets, marked to show the exact location, including the centerline segment and offset, and perpendicular offset distance from the roadway centerline to the property to be acquired as substitute right-of-way.
- Copies of utility's existing right-of-way documents for right-of-way overtaken by the highway. The utility should also include a copy of its current right-of-way agreement form for the type of facility affected.

B. Coordinating the Acquisition of Substitute Right-of-Way (Notifications received prior to completion of right-of-way plan and signature authorizing condemnation). Upon receipt of the above notification, the District Utility Relocation Unit will:

1. Prepare and obtain the Central Office Utility Relocation Unit's approval of a description of the rights to be acquired on behalf of the utility in the substitute right-of-way easement. These rights are to be based on the existing right-of-way documents furnished by the utility and prepared in accordance with [Section 7.3.E](#).

NOTE: Rights descriptions are not required for right-of-way owned in fee because the substitute land will be acquired in fee rather than by a limited description easement.

2. Notify the District Right-of-Way Administrator by letter that the forthcoming highway right-of-way plan will include acquisition of substitute right-of-way. The following will be furnished with this letter:

- Names of property owners and the parcel numbers of the properties affected.
- A copy of one of the utility's existing right-of-way documents that is representative of the existing easement to be acquired.
- Any information received from the utility regarding its negotiations with the property owners.
- The approved rights description for the easement, as outlined in Paragraph "1" above.

3. Notify the project manager that the highway plan is to include utility substitute right-of-way. This notification will be by letter and furnish the following:

- Names of property owners and Parcel Numbers of the properties affected.
- A copy of the approved rights description for use in preparing or revising the property plot portion of the right-of-way plan.

- One set of the plans provided by the utility that are marked to show the location of the substitute right-of-way to be acquired.
- The Title Sheet must include reference to Section 412 of the State Highway Law in accordance with Publication 14M, Design Manual Part 3, *Plans Presentation*, and that the plan terminology described in Publication 14M, Design Manual Part 3, *Plans Presentation*, Section 3.7.B. must be used to label the substitute right-of-way on the detail sheets.

C. Coordinating the Acquisition of Substitute Right-of-Way (Notifications received after completion of the highway right-of-way plan and signature authorizing condemnation). Upon receipt of the above notification, which will require revision of the approved right-of-way plan, the District Utility Relocation Unit will:

1. Prepare, and obtain the Central Office Utility Relocation Unit's approval of a description of the rights to be acquired on behalf of the utility in the substitute right-of-way easement. These rights are to be based on the right-of-way documents furnished by the utility and prepared in accordance with [Section 7.3.E](#).

2. Notify the District Right-of-Way Administrator by letter that the approved right-of-way plan and property plats will require revision to include utility substitute right-of-way and request the arrangements be made to affect the plan revision in accordance with established procedures. The following must be furnished with this letter:

- Names of property owners and the parcel numbers of the properties affected.
- A copy of one of the utility's existing right-of-way documents that is representative of the existing easement to be acquired.
- Any information received from the utility regarding its negotiations with the property owners.
- The approved rights description for the easement, as outlined in Paragraph "1" above.
- One set of the plans provided by the utility that are marked to show the location of the substitute right-of-way to be acquired.
- The Title Sheet must include reference to Section 412 of the State Highway Law in accordance with Publication 14M, Design Manual Part 3, *Plans Presentation*, and that the plan terminology described in Publication 14M, Design Manual Part 3, *Plans Presentation*, Section 3.7.B must be used to label the substitute right-of-way on the detail sheets.
- The District Utility Relocation Unit will, at the discretion of the District Right-of-Way Administrator, coordinate arrangements for the utility and the right-of-way negotiator to confer with the property owner in an attempt to obtain the replacement right-of-way without condemnation.

D. Limits of Utility Right-of-Way. The following procedure must be used to ascertain the width of utility substitute right-of-way to be acquired by the Department. The limits of substitute right-of-way acquired by the Department under Section 412 of the State Highway Law will conform to the rights granted to the utility by their existing right-of-way document.

- **Width:** The utility shall be considered to enjoy a right-of-way width whenever the grantor has conveyed such right to the utility and it is so indicated in the existing right-of-way documents. These rights may include maintenance, tree trimming, building restrictions or the assurance of a specified area of clearance around the facility. In such cases, the substitute right-of-way easement to be acquired by the Department shall be identified on the roadway drawings and other official documents by lines to designate the area of defined width restricted for the maintenance of the facility in compliance with the existing right-of-way document.
- When a utility has an existing center line easement affected by highway construction the Department must replace the easement with a width easement. This will be accomplished by using the affected utility's existing center line easement document in combination with the width it normally acquires under its current width easement document.

E. Description of Rights. A utility's rights must be described in detail on the property plat (or on the plan sheet if there is no property plat) when the Department acquires a substitute right-of-way in easement for the utility or when the Department designates a substitute right-of-way for the utility with future easement interest.

If substitute right-of-way with a future easement interest is required and the description of rights is not shown on the right-of-way plan, then the description of rights must be included in a utility reimbursement agreement that contains the appropriate private status language. See Chapter 4, [Section 4.2.B.1.c\(2\)](#) for the District's duty to revise the right of way plan for proper presentation of utilities.

- When utility substitute right-of-way in fee is acquired for a utility or where the utility will occupy the required right-of-way after completion of the project with a future fee interest, a description of rights is not required. It is not required because the substitute right-of-way will be acquired in fee rather than a limited description of rights. For an example of a Description of Rights, see Appendix A, [Figure A-1210](#).
- It is the responsibility of the District Utility Relocation Unit to prepare the rights description for substitute right-of-way consistent with this Chapter and submit to the Central Office Utility Relocation Unit for approval. Upon receipt of approval, the rights description will be furnished to the District Right-of-Way Administrator. The description should also be furnished to the project manager or individual responsible for the preparation of the property plat so that the description of rights can be added to the plans.
- Care must be used in preparing the description of rights to assure that the utility receives the rights to which it is entitled and those necessary to operate its facility. However, care should also be used to ensure that the remaining portions of the affected property are not encumbered and that the rights of the property owner are protected. Although the rights acquired for a particular utility for a specific type of facility are standard, the effect on the individual property must be considered and reflected in the rights description.
- The District Utility Relocation Unit should contact the utility and reach an agreement on the wording of the rights description. Normally utilities are willing to consider the needs and interests of the property owner in the acquisition of replacement right-of-way. District Office consultation with the utility in the development of the rights description will increase the chances for amicable settlement, hold down right-of-way costs, and where declarations of taking is necessary to help avoid preliminary objections from the fee landowner.

General

The property owner's use of the right-of-way will be as detailed as the utility's existing right-of-way document; for example, buildings and the planting of certain trees or shrubs may be prohibited, but agriculture may be permitted.

An existing right of the utility to assign, lease, sell or allow joint use of the right-of-way should be included.

Most utility right-of-way agreements use the terms grantee and grantor which, of course, are not applicable in the acquisition of substitute right-of-way; the terms "utility" and "property owner" should be used.

Ingress and egress should not be acquired indiscriminately or in a manner that would permit use of the entire property when, for example, the substitute right-of-way requires only a back corner of the property and the utility could utilize the right-of-way itself or a public road for access.

Ingress and egress should normally be from public roads or streets where the utility right-of-way crosses these roads.

Where it is absolutely necessary for access across a property to the substitute right-of-way, ingress and egress should be described in detail and restricted to a defined area. In extreme cases the acquisition of right-of-way for an access road may be required (see [Section 7.5](#)).

Unlimited tree cutting rights outside the replacement right-of-way are rarely justified. However, the cutting of dead or danger timber beyond the right-of-way is not an unusual requirement.

SUGGESTED WORDING

Wording for normal cases:

...with the right from time to time, and at any time, to cut down, trim, remove and keep cut all trees and brush upon said right-of-way...

Wording for "dead or danger timber":

...together with the right to trim or remove any tree or trees on this property beyond the limit of said right-of-way that, in the judgment of the utility, are likely to fall and endanger the continuous operation of the aforesaid facility; whenever, in so doing, the utility shall damage the property or growing crops of the property owner, then, and in that event the utility shall reimburse the property owner for any proven damages. The fallen tree(s) shall be removed from the property by the utility, if the owner so directs.

NOTE: Rights descriptions are not required:

- For right of way owned in fee because the substitute land will be acquired in fee rather than by a limited description easement.
- If a utility will be overtaken by the required right-of-way, with or without physical adjustment to the utility facility within the utility's existing property rights, because the utility's existing property rights will be reserved within the area to be acquired by the execution of a utility reimbursement agreement with private status language (physical adjustment) or by a standalone private status agreement (no physical adjustment).

F. Future Easement and Fee Interests. When a utility's substitute right-of-way falls within the area to be acquired by the Department for highway purposes, the Department provides the utility with a future easement interest. The terminology outlined in Publication 14M, Design Manual Part 3, *Plans Presentation*, Section 3.7.B. is to be used on highway plans.

In the event of future vacation of the highway right-of-way, a description of the future easement interests to be acquired on behalf of the utility must be made a part of the property plat. This should preclude any difficulties in vesting the future easement. The description of the future easement interest, based on the utility's existing right-of-way documents, must be prepared in accordance with [Section 7.3.E](#). The Department cannot acquire or provide a future easement interest for a utility who has no compensable interest in the property prior to relocation.

Future interests in fee do not require a description of rights.

1. Where a substitute right-of-way falls both within and outside the required highway right-of-way, the normal description of rights will be prepared with the following paragraph added to provide future easement interest.

"The above rights also define the future easement interest being condemned for (utility) within the highway right-of-way, the said future easement interest to vest in said company if and when the highway right-of-way is vacated."

2. Where the substitute right-of-way is entirely within required highway right-of-way.

- a. The normal rights description will be preceded by the following paragraph:

"Future easement interest acquired for (utility) in accordance with the Act of June 1, 1945, Section 412, as amended, comprised of the following rights:"

- b. The rights description must be concluded with the following paragraph:

"This future easement interest shall vest in the said company if and when the highway right-of-way is vacated."

G. Utility Right of Entry Form. There are certain circumstances where a Right of Entry (Form RW-374U) can be used to complete a utility's relocation. The typical example is where one or two parcels of land have not been

acquired and those parcels are key to the utility's ability to complete its relocation. The property to be acquired is not in dispute and the property owner would be agreeable to sign the right of entry allowing the utility to enter onto the property to install the facility. The property owner's right to just compensation is not precluded by the property owner's agreement to grant the right of entry.

It is not the intent of this policy that the right of entry be used as a normal course of accomplishing the relocation of utilities, but as another tool to use as a last resort.

The utility is responsible for restoring the property to a reasonable condition, which is dictated by the proposed highway construction.

7.4 HIGHWAY PLAN TERMINOLOGY

Although the responsibility for labeling of highway plans rests with the designer, the District Utility Relocation Unit personnel must be knowledgeable of proper plan terminology to assure that utility right-of-way is labeled correctly and in the best interests of the property owner, utility and the Department.

A. Title Sheet. Whenever a highway right-of-way plan provides for the acquisition of substitute right-of-way for a utility the Title Sheet must refer to Section 412 of the State Highway Law.

Plans which show required substitute right-of-way must, in the "authorization" paragraph of the title sheet, refer to Section 412 of the State Highway Law by revising the normal paragraph or adding a separate paragraph as described in Publication 14M, *Design Manual Part 3*, Section 3.2.I.3., e.g.:

ADDED TO NORMAL PARAGRAPH:

THIS PLAN PREPARED PURSUANT TO SECTION 2003(e) . . . AND SECTION 412 OF THE STATE HIGHWAY LAW, AS AMENDED, 36 P.S. SECTION 670-412.

OR AS A SEPARATE PARAGRAPH:

PORTIONS OF THIS PLAN PREPARED PURSUANT TO SECTION 412 OF THE STATE HIGHWAY LAW, AS AMENDED, 36 P.S. 670-412.

For plans revised to add required substitute right-of-way after signature by the Secretary on behalf of himself and the Governor, and the original title sheet did not refer to Section 412, the above described separate authorization paragraph must be added.

The limits of work shown on the title sheet are for acquisition of required right-of-way for highway construction. These limits need not include, nor are they to be revised to include, areas or additional routes, segments, and longitudinal roadway offset distances where required substitute right-of-way is to be acquired.

B. Detail Sheets. Existing utility right-of-way and substitute or replacement utility right-of-way are to be shown on the highway plan detail sheets. The proper terminology to be used is detailed in Publication 14M, *Design Manual Part 3*, Section 3.7.B, *Utility Terminology*.

Utility right-of-ways within the required right-of-way are to be labeled in accordance with Publication 14M, *Design Manual Part 3*, *Plans Presentation*, Section 3.7.B, *Utility Terminology*, and Publication 14M, *Design Manual Part 3*, *Plans Presentation*, Figure 3.21 when the utility has existing rights or is being granted rights.

The courts have held that property acquired for highway purposes may be occupied by public utility facilities without requiring the public service company to obtain a release from abutting property owners.

However, when portions of private property are designated on the highway right-of-way plan as required for slope or channel change, the property owner retains certain rights to the use of these areas. Areas designated as temporary easements for construction revert to the property owner immediately following the Department's need to use the area for construction of the project.

It is therefore necessary when areas designated as slope, channel change, temporary easement or other lesser rights taking are to be crossed by a substitute right-of-way for a utility, that the substitute right-of-way lines, labeled in accordance with Publication 14M, Design Manual Part 3, *Plans Presentation*, Section 3.7.B, be shown through such designated areas.

C. Declaration of Taking (See Publication 378, *Right-of-Way Manual*, Chapter 3, *Acquisitions*). In the event that the District Right-of-Way Unit needs to file a Declaration of Taking (DT) on a parcel that includes required substitute right-of-way for a utility in easement, and the description of rights is not on the right-of-way plan, the District Utility Relocation Unit has the following responsibilities:

- Prepare and obtain the Central Office Utility Relocation Unit's approval of a description of the rights to be acquired on behalf of the utility in accordance with [Section 7.3](#).
- Provide the approved description of rights to the District Right-of-Way Unit for inclusion with their DT request.

The labeling of a utility's right-of-way, whether existing or to be acquired, as shown on the plot plans and/or other plan sheets, must be approved by the District and Central Office Utility Relocation Units. See [Section 7.4.E](#) below.

D. Conveying Substitute Right-of-Way to Utilities (See Publication 378, *Right-of-Way Manual*). After the acquisition of substitute right-of-way by the Department Right-of-Way Unit, it is conveyed to the utility. A Deed - Commonwealth to Utility (RW-377) is prepared by the District Right-of-Way Unit, based in part on information previously furnished by the District Utility Relocation Unit, and forwarded to the Office of Chief Counsel for execution. An original, executed by a Deputy Secretary of the Department, is forwarded to the utility by the District Right-of-Way Unit.

E. Highway Plan Terminology for Utility Right-of-Way. Reference Publication 14M, Design Manual Part 3, *Plans Presentation*, Chapter 3, *Right-of-Way Plans*, Section 3.7 B for the utility right-of-way terminology on Highway Plans.

The authorization to condemn substitute right-of-way will be shown on the right-of-way plan Title Sheet in accordance with Publication 14M, Design Manual Part 3, *Plans Presentation*. The right-of-way plan detail sheet must NOT show an authorization block.

See also Publication 14M, Design Manual Part 3, *Plans Presentation*, Figure 3.21 for Sample Plan Terminology.

7.5 UTILITY ACCESS ROADS

When replacing an existing utility access road, the minimum width of required right-of-way will be that of the existing access road. When providing a utility access road where none previously existed, the width of required right-of-way will be held to a minimum as determined by terrain and by the needs of the utility. Reference Publication 14M, Design Manual Part 3, *Plans Presentation*, Section 3.7.B for the utility access road terminology.

On rare occasions, where justified to the satisfaction of the Department's Office of Chief Counsel, a utility access road may be permitted within highway right-of-way (see Publication 14M, Design Manual Part 3, *Plans Presentation*, Figure 3.22).

CHAPTER 8

AGREEMENTS, COST DEVELOPMENT, ESTIMATES AND BILLING

8.0 GENERAL

The purpose of this Chapter is to outline the agreements, cost development, estimates and billing procedures for utility relocations on highway construction projects.

8.1 AGREEMENTS

A. General. The methods used to determine the reimbursement to utilities by the Department are based on the appropriate sections of The State Highway Law (Act of June 1, 1945 P.L.1242) and The Public Utility Code (P.L.598), No.116 (Act of July 1, 1978).

B. Authority to Contribute. The State Highway Law authorizes the Department to enter into agreements with utilities to contribute toward the expense of relocating facilities to accommodate highway construction projects.

1. Private Right-of-way. It is the policy of the Department to reimburse utilities the actual costs, less betterments, of adjusting in an approved manner, the existing facilities which are located outside of public right-of-way with real property interest in the lands they occupy, whenever such adjustments (or protecting in lieu of adjusting) are necessary to accommodate a highway construction project.

2. Public Right-of-way. Facilities located within public right-of-way, as defined in the Glossary, and require adjustments to accommodate highway projects, will not be eligible for reimbursement and will be adjusted at the expense of the utility, except in those instances where:

a. The utility furnishes evidence that its right-of-way or easement was acquired prior to the date of establishment of the public right-of-way and the utility was never compensated for or provided with a substitute right-of-way when overtaken by the public right-of-way.

b. The utility facilities are occupying public right-of-way with private right-of-way status as defined by a previous Utility/Department agreement.

c. The facilities are owned by a Municipality or a Municipal Authority and those facilities meet the requirements of Section 412.1 of the State Highway Law or the facilities are owned by a public utility that owns and operates a water or sanitary sewer line and those facilities meet the requirements of 74 Pa. C.S.A §9501. The Secretary of Transportation may determine that the Department will share in the actual cost of changing, altering, adjusting or relocating such facilities. The Secretary of Transportation will consider whether the Department will participate in such cost, when the municipality or authority submits a written request or offer as outlined in this Chapter.

d. The facilities are manhole covers, drains and other surface devices and those facilities meet the requirements of 71 P.S. §515(g) (see [Chapter 1, Section 1.2.E](#)).

C. Cost Sharing with Municipality and Municipality Authority Utilities Under Section 412.1 of the State Highway Law and Public Utilities Owning and Operating Water or Sanitary Sewer Lines Under 74 Pa. C.S.A §9501. By direction of the Secretary of Transportation, no employee of the Department is authorized to negotiate, commit or bind the Department to participate in the cost of changing, altering, adjusting or relocating municipality or municipality authority owned facilities and public utilities owning and operating water or sanitary sewer lines. The Department may cost share when the municipality and municipality authority owned facilities or public utility owned and operated water or sanitary sewer facilities are either:

- Located within legal (public) right-of-way.
- Legally occupying a location outside public right-of-way without a real property interest. The Department will cost share for the relocation expense but not for the cost of acquiring substitute private right-of-way.

The Department may cost share with a utility only if the utility's facilities must be relocated or adjusted due to impacts of a highway project. The utility owner must provide justification explaining why the facilities must be relocated or adjusted. Relocations and adjustments due to these impacts are eligible to be paid for with State and Federal funds. State and Federal funds cannot be used for the betterment of a utility. Below are some examples of when utilities are usually considered impacted by a highway construction project.

- Facilities that need to be relocated from a highway or structure that was not planned to be reconstructed or removed when the newer utility facilities were installed or attached in accordance with a highway occupancy permit or bridge occupancy license. In this case, the Department will cost share for 75% of the relocation cost when the utility facilities are less than 4 years old.
- Facilities that are located within public right-of-way, but will lie underneath the proposed roadway or roadway shoulder as a result of highway construction if not relocated.
- Underground facilities that are uncovered during excavation and will interfere with construction.
- Above ground facilities that would be in the traveled way, paved shoulder or clear zone and in locations which interfere with compliance with the Americans with Disabilities Act or interfere with new or reconstructed structures.
- A facility which is brought out of compliance with Department and/or other regulatory agency standards (i.e., minimum required clearances from other facilities and required maximum/minimum depths of the facility to the finished pavement, shoulder or ditch).
- Utility facilities that require slope adjustments due to impacts from other utility relocations.
- Temporary relocation, rerouting and protective measures performed in place of relocating due to impacts may be considered if it is cost-effective.

Below are some examples of when utilities are usually not considered as impacted by a highway construction project.

- Facilities not in direct conflict and only being relocated to upgrade the facilities (i.e., older facilities that are under the roadway and in poor condition but are not impacted by the project). There may be areas where vibrating equipment will be restricted to avoid impacts.
- Where only new curb or barrier is being installed over an existing facility.
- Utility owner wants to replace a large section of a facility that is not affected but is between two affected sections.

1. Types of Cost Share.

a. Abbreviated Incorporated. The Department may agree to perform abbreviated incorporated work. For this type of work, the municipality, municipality authority or public utility owned and operated water or sanitary sewer company must provide a signed letter stating that they will provide the material, request that the Department install it, and verify that the cost will not exceed twenty thousand (\$20,000.00) dollars (see Appendix A, [Figure 1205](#)). These costs should be 50% for materials and 50% for labor. In lieu of a cost sharing reimbursement agreement, the Department will draft a non-reimbursement agreement that will cover the exchange of services. The delivery of the materials must be coordinated with the highway contractor.

b. Municipality or Municipality Authority, 50% or 75% Cost Share. The Department will cost share for 50% (90% on Interstate) when the municipality or municipality authority utility provides all related design deliverables required to meet design phase milestone dates for package submissions (see Cost Sharing Request Letter for 50% with Municipality and Municipality Authority Utilities, Appendix A, [Figure A-300](#)). Design phase milestones shall be established in accordance with the utility relocation lead times defined in DM-5, [Figure A-502](#). If the Secretary approves a request for 90% cost share, the Project Form 4232 for the utility phase must indicate the 90% Federal funding for the Interstate Project.

The Department will increase the cost sharing amount to 75% when the municipality or municipality authority utility work is done as "Prior," "Incorporated Construction," or "Incorporated Design and Construction" and the utility meets accelerated lead-times for the delivery of package submissions. Accelerated lead-times shall not exceed 75% of the applicable lead-times as defined in DM-5, [Figure A-502](#). The municipality or municipality authority will qualify for this increased cost sharing amount if it does one of the following:

- Relocates or adjusts the facility prior to the agreed upon accelerated milestone date (see Cost Sharing Request Letter for Prior Work with Municipality and Municipality Authority Utilities, Appendix A, [Figure A-306](#)).
- Provides all related design deliverables required for the incorporation of the physical work by agreed upon accelerated milestone dates (see Cost Sharing Request Letter for Incorporated Work with Municipality and Municipality Authority Utilities, Appendix A, [Figure A-307](#)).
- Provides all related design deliverables required for the incorporation of the design of the utility relocation into the Department's design contract and incorporates the physical relocation of its facilities into the Department's highway construction contract by the accelerated milestone dates (see Cost Sharing Request Letter for Incorporation of Design and Construction with Municipality and Municipality Authority Utilities, Appendix A, [Figure A-308](#)).

A disincentive will be included for the cost sharing program as stated below.

- The Department will not cost share if the municipality or municipality authority utility fails to meet an agreed upon milestone date, unless the reason for not meeting the date was the fault of the Department or if a new milestone date is agreed upon in writing by both parties. However, if the municipality or municipality authority utility can recover from a missed milestone date and the project letting is not delayed, the Department will then cost share for 25%.

c. Public Utility Owned and Operated Water and Sanitary Sewer, 50% Cost Share. Public utility owned and operated water or sanitary sewer requests for cost sharing of 50% will be considered by the Department. Cost share of 90% will be considered on Interstate Projects. If the Secretary approves a request for 90% cost share, the Project Form 4232 for the utility phase must indicate the 90% Federal funding. For this cost share, the public utility owned and operated water or sanitary sewer must do one of the following:

- Incorporates the design of the utility relocation into the Department's design contract and incorporates the physical relocation of its facilities into the Department's highway construction contract (see Cost Sharing Request Letter for Incorporated Design and Construction Work with Public Water and Sewer Companies, Appendix A, [Figure A-302](#)).
- Provides all related design deliverables required for the incorporation of the physical work by the agreed upon milestone dates (see Cost Sharing Request Letter for Incorporated Work with Public Water and Sewer Companies, Appendix A, [Figure A-303](#)).
- Relocates or adjusts the facility prior to the agreed upon milestone dates (see Cost Sharing Request Letter for Prior Work with Public Water and Sewer Companies, Appendix A, [Figure A-304](#)).

A disincentive will be included for the cost sharing program as stated below.

- The Department will not cost share when the public utility owned and operated water or sanitary sewer fails to meet an agreed upon milestone date, unless the reason for not meeting the date was the fault of the Department or if a new milestone date is agreed upon by both parties in writing.

2. Cost Sharing Milestones. Cost sharing milestones will work as follows:

- The District will be responsible for determining and tracking the agreed upon milestone dates (and any agreed upon changes to those dates) on the tracking sheet in the following folder, "P:\penndot shared\UTILITYYS SHARED\Central Office Utility Unit\Cost Sharing\Tracking Sheet"
- In the appropriate cost sharing request letter, the utility will provide the agreed upon milestones dates for submitting the applicable deliverables.
- The time for tracking design deliverables, as defined in DM-5, will start after the authorization for preliminary engineering has been issued and the plans (with the minimum requirements, see DM-5, [Figure A-502](#)) for final engineering are sent to the utilities.
- If an agreed upon milestone date changes after execution of the reimbursement agreement, a letter will be prepared that shows both parties (the District ADE for Design or designee and the utility) agree to the new dates. The new date will be shown on the tracking sheet.
- If either the District ADE for Design or designee or the utility do not agree with a proposed milestone date change, the date in the cost sharing request letter will apply and the disincentive will be enforced.
- The Central Office Utility Relocation Unit will monitor and report on the statewide program.

3. Cost Sharing Request and Review. The Secretary of Transportation has reserved the authority to make any determination as to whether the Department will share in such costs. Determination will only be made after the municipality or municipality authority or public utility owning and operating water or sanitary sewer lines submits to the Secretary a written request that the Department share in such costs. This request must be dated and include a binding offer that such municipality, municipality authority or public utilities will share in such actual cost at a fixed percentage (see Appendix A, [Figure A-300](#), [A-306](#), [A-307](#), [A-308](#) for municipalities and municipality authorities and [Figures A-302](#), [A-303](#) or [A-304](#) for public utilities that own and operate water or sanitary sewer facilities), and will enter into a formal agreement with the Department under such terms and conditions as the Secretary deems necessary and advisable.

The written request of the municipality, municipality authority or public utility owning and operating a water or sanitary sewer line is to be submitted to the respective District Engineering Office as early in highway design as possible but no later than the utility's Preliminary Estimate package. The Preliminary Estimate must be prepared in accordance with [Section 8.3.A](#) and pro-rated to indicate the estimated cost of relocating facilities presently located within legal (public) right-of-way and the cost of relocating facilities presently located within private right-of-way.

The utility's submission will be reviewed by the District Utility Relocation Unit for completeness and forwarded to the Central Office Utility Relocation Unit for review and preparation of a detailed submission to the Secretary of Transportation for approval. The Central Office Utility Relocation Unit will inform the utility of the Secretary's decision regarding the acceptance or rejection of the offer. A copy of this notification will be provided to the District Utility Relocation Unit.

D. Utility Relocation Agreements. Arrangements for reimbursement, private status and incorporation of relocation work into the highway construction contract may be accomplished through several types of agreements:

1. Standard Reimbursement Agreement
2. Lump Sum Reimbursement Agreement of \$150,000 or less
3. Master and Lump Sum Estimate Agreements for Reimbursable Costs of \$50,000.00 or less
4. Master Casting Project Initiation Form (PIF) for Casting Adjustments
5. Supplement to Standard Reimbursement Agreement
6. Utility Corridor Agreement
7. Second Design and Second Move Agreements

8. Private Status Agreements
9. Local Utility Reimbursement Agreements
10. Abbreviated Incorporated Work Utility Agreements

NOTE: At no time shall the utility make changes to the Department original agreement draft or copies thereof. Any proposed changes must be expressed in letter form and forwarded directly to the Central Office Utility Relocation Unit for consideration.

E. Standard Reimbursement Agreement. An agreement draft based on an approved plan and estimate package must be prepared in accordance with current Department policies. The agreement must define the scope of work, financial obligations of both parties and incorporate by reference the utilities plan and estimate, applicable Federal and State regulations, and when applicable, provide for the utility's retention of any existing private right-of-way to be jointly used by the parties, and reference applicable Federal and State regulations. This type of agreement can be used on resurfacing projects for manhole covers, drains and other surface device adjustments (see [Chapter 1, Sections 1.2.E and 1.3.D.1\(a\)10.](#)).

F. Lump Sum Agreement of \$150,000.00 or Less. When the estimated State's share of the utility's reimbursable relocation cost does not exceed \$150,000.00, the utility may request the Department to enter into an agreement that provides for a Lump Sum payment of the relocation costs.

Where a utility's estimating and accounting procedures are proven to be accurate and consistently comparable to its final billings or where considered advisable, the Department may approve use of a Lump Sum Agreement.

An estimate marked Lump Sum must be completed in detail with amounts shown for each item and sub-item. Information that would normally be provided at the time of final billing, e.g.: credits for salvage, sacrifice life, etc., as outlined in [Section 8.3](#) must be included with the estimate.

The estimated reimbursable share of the relocation costs on a lump sum agreement may not exceed \$150,000.00.

Upon completion of the proposed relocation and/or adjustments, the utility must furnish a written certification that all work, in accordance with the agreement, has been completed. A suggested format for this statement of certification follows:

"I hereby certify that to the best of my knowledge and belief all work contemplated by Agreement Number _____ dated _____, has been completed."

G. Master and Lump Sum Estimate Agreement for Reimbursable Costs of \$50,000.00 or Less

1. **Master Agreement for Reimbursable Costs of \$50,000.00 or Less.** Where a public utility company, (for example: telephone, gas, electric, cable TV), has a uniform system of estimating and accounting acceptable to the Department, the utility may elect to enter into a Master Agreement. That Master Agreement incorporates the basic boilerplate language of the standard reimbursement agreement into a general format that is applicable to most projects. (Go to the Utility Relocation Unit portion of the Department website for a link to the agreement <https://www.penndot.gov/ProjectAndPrograms/RoadDesignEnvironment/RoadDesign/Right-ofWayandUtilities/UtilityRelocation/Pages/default.aspx>).

It is intended that the corporate officers sign and attest the Master Agreement; however, execution of the Supplemental Agreement should be delegated to a local level to be most effective.

2. **Lump Sum Estimate Agreement for Reimbursable Costs of \$50,000.00 or Less.** For individual projects, the Master Agreement must be supplemented with a Lump Sum Estimate/Agreement (LSEA) that defines the financial obligation of both parties and incorporates the utility's Preliminary Estimate. (Go to the Utility Relocation Unit portion of the Department's website for a link to the agreement <https://www.penndot.gov/ProjectAndPrograms/RoadDesignEnvironment/RoadDesign/Right-ofWayandUtilities/UtilityRelocation/Pages/default.aspx>).

The Lump Sum Estimate/Agreement is an attachment to the Master Agreement marked Exhibit "A" and must be completed by the utility for specific individual projects. It embodies the estimate of costs broken down by labor,

material, equipment, and transportation. There is no provision for preliminary engineering or administration costs.

Where appropriate, the utility may elect to submit a signed supplemental Lump Sum Estimate/Agreement, real property documentation, and a plan of relocation for reimbursement of the relocation costs.

The Lump Sum Estimate/Agreement package will be submitted to the District for approval, encumbrance of funds and assignment of an agreement number. Upon completion of these items, the District Utility Relocation Unit will forward the Agreement package to the Central Office Utility Relocation Unit for final processing and for review of real property interest by the Office of Chief Counsel.

Upon completion of the proposed relocation and/or adjustments, the utility must furnish a written certification that all work, in accordance with the agreement, has been completed. A suggested format for this statement of certification follows:

"I hereby certify that to the best of my knowledge and belief all work contemplated by Agreement Number _____ dated _____, has been completed."

H. Master Casting Agreements with Project Initiation Form (PIF) for Casting Adjustments

1. Master Casting Agreements. The adjustment of the utility castings for highway construction has been accomplished in the past by one of the following methods: 1) Utility personnel, 2) by a utility contractor, 3) through negotiation with the highway contractor, or 4) incorporation into the highway contract.

Because coordination between the highway contractors' operations and the utility's personnel or contractor has proved difficult on many milling and resurfacing projects, it is practical in those cases to have the work incorporated and performed by the highway contractor.

The utility may elect to enter into a multi-year Master Agreement for the adjustment of their castings. Fixed adjustment costs for various types of castings on various types of roadway bases are mutually determined and agreed upon for the term of the agreement. A Project Initiation Form will be used to initiate the incorporation of the adjustment of the utility facilities into the Department's project for each specific highway project.

2. For municipalities and municipal authorities, the request must also include a certified copy of a Resolution which is a result of an action taken by the governing body of the municipality or municipality authority, authorizing it to offer to share in a fixed percentage of the cost (see sample resolution in Appendix A, [Figure A-300](#)).

This type of agreement can be used on resurfacing projects for manhole covers, drains and other surface device adjustments (see [Chapter 1, Sections 1.2.E and 1.3.D.1\(a\)10.](#)).

I. Supplement to Standard Reimbursement Agreement. A supplement to the basic Utility Reimbursement Agreement must be prepared under the following circumstances:

- A major change in the "Scope of Work" that requires prior Department approval.
- An increase of 10 percent or more to the pro-rated shares of participation.
- When monetary increases exceed the following limits:

<u>Department's Share of Reimbursement Agreement</u>	<u>Allowable Increase in Dollar Amount</u>
Under \$25,000	\$20,000.00
\$25,001 to \$50,000	\$30,000.00
\$50,001 to \$75,000	\$40,000.00
\$75,001 to \$150,000	\$55,000.00

\$150,001 to \$500,000	\$75,000.00
\$500,001 to \$1,000,000	\$100,000.00
Over \$1,000,001	\$250,000.00

Changes to the basic reimbursement agreement, regardless of the situation, require documentation and explanation.

Questions regarding circumstances requiring an agreement supplement will be directed to the Central Office Utility Relocation Unit.

J. Utility Corridor Agreement. An agreement based on data detailed in Chapter 4, *Final Design*, [Section 4.1.H](#) will be prepared in accordance with Department policy and 23 CFR Part 645. The agreement will define financial obligations of the utility incorporated by reference, the utility's highway occupancy requirements, and any other related data to provide longitudinal occupancy along a limited access highway.

K. Second Design and Second Move Agreements. If a utility is required to perform a second design or relocate its facilities a second time as a result of actions of the Department, the Department may enter into a reimbursement agreement with the utility for all costs associated with the second design or second move. The Central Office Utility Relocation Unit must review and approve the reimbursement and will draft an appropriate agreement based upon the reasons for the second design or second move.

L. Private Status Agreement. This agreement must be executed when utility facilities are located and will remain within the existing or required highway right-of-way and are regarded by the Department as having private rights. A private status agreement obligates the Department to acquire substitute right of way, if necessary, and to bear the cost of future utility relocations resulting from Department projects. The agreement also serves to memorialize that the utility is occupying the right of way by permit and subordinating to the rights of the Department. It is imperative that a private status agreement is executed when the right of way plans show that there is "Right-of-Way Reserved by (utility)", "Right-of-Way Reserved in fee by (utility)", "Substitute Right of Way for (utility) with Future Easement Interest", or "Substitute Right of Way for (utility) with Future Fee Interest."

If a description of rights needs to be part of a utility reimbursement agreement because there is no description of rights on the right of way plan, the District Utility Relocation Unit needs to include the description of rights with the private status information in the utility agreement package to the Central Office Utility Relocation Office (see Chapter 7, [Section 7.3.E](#)).

M. Settlement Agreement. Requests for settlement agreements for utility relocations will be submitted by the District Offices to the Central Office Utility Relocation Unit. The Central Office Utility Relocation Unit will review the request and will forward it to the Office of Chief Counsel. They are required when:

- Physical construction of the highway project or the physical utility relocation work is begun before a utility relocation reimbursement agreement has been fully executed and no pre-agreement authorization letter has been issued pursuant to Chapter 4, *Final Design*, [Section 4.1.N](#).
- A pre-agreement authorization letter was issued pursuant to Chapter 4, *Final Design*, [Section 4.1.N](#), but a utility relocation agreement has not been fully executed prior to completion of physical construction of the overall project. Physical construction of the overall project is complete and no utility relocation agreement was ever executed.
- Requests from utilities to supplement agreements are not received within 365 calendar days following completion of a physical construction of the highway project or the physical utility relocation work.
- Final invoice from utilities submitted after 365 calendar days following completion of the physical construction of the project or the utility work, whichever is later, unless a request for extension of time is approved by the Central Office Utility Relocation Unit for certain situations.

Per Commonwealth policy, settlement requests necessitated by a failure to have a fully executed Utility Relocation Reimbursement Agreement in place in accordance with Department requirements will entail a need for an assessment by Department management.

A request for an extension of time may be granted at the discretion of the Department. The Central Office Utility Relocation Unit will need to approve all requests for time extensions.

N. Local/Sponsored Project Utility Reimbursement Agreement. Local/Sponsored Utility Reimbursement Agreements will be between the utility and local/sponsor project owner. The agreement will be prepared according to the project reimbursement agreement between the Department and the local/sponsor project owner.

O. Abbreviated Incorporated Utility Work. The Municipality, Municipal Authority or private water or sewer company supplies the materials and the Department installs the material. Total adjustment costs of less than \$20,000.00 require a request letter and non-reimbursement agreement. This type of agreement can be used on resurfacing projects for manhole covers, drains and other surface device adjustments (see [Chapter 1, Sections 1.2.E and 1.3.D.1\(a\)10.](#))

P. Resolutions. It is required that municipally-owned utilities and municipal authorities provide a "Resolution" authorizing the signatures of any reimbursement contract between that municipality or municipal authority and the Commonwealth. A draft resolution will be included as part of the agreement draft forwarded to the municipality or authority for signature. The resolution is required in order to show the municipality's or municipal authority's ratification of the preparations made to date. A resolution is the result of an official action taken by the municipality or municipal authority (see Appendix A, [Figure A-301](#)). The duly authorized corporate officials must sign agreements between a privately owned utility company and the Commonwealth. In some cases corporate utilities may deem it necessary to delegate authority to an official other than a corporate officer for signing reimbursement agreements. It is necessary, in that case, for that corporation to furnish a "resolution" authorizing specific individuals or position to sign seals and attests the reimbursement agreement on behalf of the corporation. See [Section 8.1.P](#) for authorized signatures depending on the type of business.

If any resolution is more than a year old when the agreement is signed, the utility should also include a letter stating that the signatures are still valid or submit a new resolution.

Q. Agreement Signatures. Utility relocation agreements must be signed, dated, and delivered to Central Office Utility Relocation Unit within 60 days.

Below is a list of who is authorized to sign and attest the utility relocation agreements.

AUTHORIZED SIGNATURES

TYPE

SIGN

ATTEST

CORPORATION

SENIOR CORPORATE OFFICER

*President, Vice President (VP),
Senior VP, Executive VP, Assistant
VP, Chief Executive Officer, Chief
Operating Officer*

ANYONE OTHER THAN CORPORATE OFFICER MUST BE AS A
RESULT OF BOARD OF DIRECTOR ACTION AT A MEETING

GENERAL/LIMITED
PARTNERSHIP

GENERAL PARTNER

ANYONE OTHER THAN GENERAL PARTNER, NEED POWER OF
ATTORNEY FROM ONE OF THE GENERAL PARTNERS. LIMITED
PARTNER CANNOT SIGN

AUTHORITY

ANY PERSON AUTHORIZED TO SIGN ON BEHALF OF THE
AUTHORITY

RESOLUTION REQUIRED FOR SIGNATURES OR TITLES THAT
APPEAR ON AGREEMENT

MUNICIPALITY

ANY PERSON AUTHORIZED TO SIGN ON BEHALF OF THE
MUNICIPALITY

RESOLUTION REQUIRED FOR SIGNATURES OR TITLES THAT
APPEAR ON AGREEMENT

SOLE PROPRIETOR

OWNER

SOLE PROPRIETOR IS SHOWN IN THE AGREEMENT AS THE
OWNER'S NAME DOING BUSINESS AS NAME OF CO

EX: THOMAS D NEWMAN, DBA WATERFALL COMMUNITY
TELEVISION SYSTEM. FEDERAL ID # IS THE PERSONS SOCIAL
SECURITY #

LIMITED LIABILITY COMPANY

DULY AUTHORIZED MEMBER/
MANAGER

AUTHORIZATION LETTER OR CERTIFICATE OF ORGANIZATION
IS REQUIRED

R. Budgetary Restrictions. For budgetary reasons or other factors that may require a modification of the project letting schedule, it may become necessary for the Department to delay its execution of the utility agreement and authorization for the utility to proceed with the physical work. In such instances the utility will be informed through the District of such action. The Central Office Utility Relocation Unit will acknowledge, by letter to the District, receipt of the agreement draft signed by the utility and advise that the Department's execution of the agreement and authorization to proceed with the physical work is being delayed until some future date with explanation of the delay.

S. Combination Sanitary/Storm Systems. For Municipal and Municipal Authority-owned Combination Sanitary/Storm Systems or public utility owned and operated combination sanitary/storm systems, the Department's responsibilities regarding the relocation costs are impacted by several factors:

- Is the combined system located within the Department's right-of-way?
- Is a Department facility (e.g. the roadway) being serviced by the combined system's storm sewer?
- Is the combined system being relocated as a combined system or as separate storm and sanitary sewer systems?

DEP policy does not always require separation of a combined sewer system. In certain cases, the DEP will renew a National Pollutant Discharge Elimination System (NPDES) Permit for a replacement of the combined sewer systems without separation. The owner of the combined sewer system must submit a detailed analysis that is included in the long-term control plan. Therefore, once it is determined that relocation is necessary, the responsibility should belong to the utility to demonstrate whether or not the DEP will authorize a replacement of the combined sewer system or if separation is required. Evidence of DEP's disposition must be submitted to the Department for inclusion in the project's records. If it is not required, then separation cost will constitute betterment for the utility.

When the combined system impacted is relocated and remains as a combined system, the Department's participation in the cost is as follows:

- If the combined system's storm sewer services the Department's facility (the roadway) and the system is within the Department's right-of-way, then the Department will be responsible for the cost of relocating the combined sewer system. It will be a construction item and the Department will pay 100%.
- If the Department's facility (the roadway) is not contributing water into the combined system's storm sewer, but the system is within the Department's right-of-way, then the cost qualifies for cost sharing under the current cost sharing policy. The cost of relocating the sanitary sewer line can be covered with a standard utility relocation agreement.

When the affected combined system is relocated into separate storm and sanitary sewer systems, the Department's participation in the cost is as follows:

- If the combined system's storm sewer services the Department's facility (the roadway), and the system is within the Department's right-of-way, the cost will be handled as follows:
 - The Department will be responsible for the cost of relocating the storm sewer system as a construction item and will pay 100%.
 - The Department will, if requested, cost share for the sanitary sewer system under the Department's current cost sharing policy.
- If the combined system's storm sewer did not service the Department's facility (the roadway) but the system is within the Department's right-of-way, the cost will be handled as follows:
 - The new storm sewer system will not be handled as a utility relocation item and the utility owner will be responsible for the full cost. Section 412.1 does not allow the Department to cost share for non-utility facilities.

- The new sanitary sewer system will be eligible for cost sharing under the Department's current cost sharing policy. The cost of relocating the sanitary sewer line can be covered with a standard utility relocation agreement.

8.2 COST DEVELOPMENT

A. General

1. Developing and Recording Costs shall comply with 23 CFR Parts 645, 635 and this Chapter. All utility relocation costs will be recorded by means of work orders in accordance with an approved work order system except when another method of developing and recording costs, such as lump-sum agreement, has been approved by the Department and the FHWA. Except for work done under contracts, the individual and total costs properly reported and recorded in the utility's accounts in accordance with the approved method for developing such costs, or the lump-sum agreement, will constitute the maximum amount on which State and/or Federal participation may be based.

Each utility must keep its work order system or other approved accounting procedure in such a manner as to show the nature of each addition to or retirement from a facility, the total costs thereof, and the source or sources of cost. Separate work orders may be issued for additions and retirements. Retirements, however, may be included with the construction work order provided that all items relating to retirements must be kept separately from those relating to construction.

2. Direct Labor Costs. Salaries and wages, at actual or average rates, and related expenses paid by the utility to individuals for the time worked on the project are reimbursable when supported by adequate records. This includes labor associated with preliminary engineering, construction engineering, right-of-way, and force account construction.

Salaries and expenses paid to individuals who are normally part of the overhead organization of the utility may be reimbursed for the time worked directly on the project when supported by adequate records.

Amounts paid to engineers, architects and others for services directly related to projects may be reimbursed when justified.

3. Labor Surcharges. Labor surcharges include worker compensation insurance, public liability and property damage insurance, and such fringe benefits as the utility has established for the benefit of its employees. The cost of labor surcharges will be reimbursed at actual costs to the utility or, at the option of the utility, average rates, which are representative if approved by the Department and the FHWA. The utility must adjust these average rates at least annually to take into account known anticipated changes and correction for any over or under applied costs for the preceding period.

The adjustment of rates must be submitted to the Pennsylvania Department of Transportation, Central Office Utility Relocation Unit for processing to the Comptroller's Office for review and concurrence.

When the utility is a self-insurer, there may be reimbursement at experience rates properly developed from actual costs. The rates cannot exceed the rates of a regular insurance company for the class of employment covered.

4. Overhead and Indirect Construction Costs. Overhead and indirect construction costs not charged directly to work order or construction accounts may be allocated to the relocation provided the allocation is made on an equitable basis. All costs included in the allocation will be eligible for reimbursement, reasonable, and actually incurred by the utility.

Costs not eligible for reimbursement include, but are not limited to, the costs associated with advertising, sales promotion, interest on borrowing, the issuance of stock, bad debts, uncollectible accounts receivable, contributions, donations, entertainment, fines, penalties, lobbying and research programs.

The records supporting the entries for overhead and indirect construction costs will show the total amount, rate, and allocation basis for each additive, and are subject to audit by representatives of the state and federal government.

5. Materials and Supply Costs. Materials and supplies, if available, are to be furnished from company stock except where they may be obtained from other sources near the project site when available at equal or lower cost. When not available from company stock, they may be purchased either under competitive bids or existing continuing contracts under which the lowest available prices are developed. Minor quantities of materials, supplies, and proprietary products routinely used in the utility's operation and essential for the maintenance of system compatibility may be excluded from these requirements. Cost will be determined as follows:

- a.** Materials and supplies furnished from company stock will be billed at the current stock prices for such new or used materials at time of issue. The Buy America and Pennsylvania Steel Products Procurement Act requirements take precedence over 23 CFR §645.117(e) which allow utilities to furnish materials from company stock. This provision allows the utility owner to furnish materials from company stock only in the case where the supplied materials meet the Buy America requirements. Company stock materials that do not meet Buy America and Pennsylvania Steel Products Procurement Act requirements may not be permanently incorporated into a federally funded project.
- b.** Materials and supplies not furnished from company stock will be billed at actual costs to the utility delivered to the project site.
- c.** A reasonable cost for plant inspection and testing may be included in the costs of materials and supplies when such expense has been incurred. The computation of actual costs of materials and supplies will include the deduction of all offered discounts, rebates, and allowances.
- d.** The cost of rehabilitating rather than replacing existing utility facilities to meet the requirements of a project is reimbursable provided this cost does not exceed replacement costs.
- e.** Steel and iron materials used must meet the Buy America and Pennsylvania Steel Products Procurement Act requirements for utility relocations. In order for a manufactured product to be considered subject to Buy America, the product must be manufactured predominantly of steel or iron. The Pennsylvania Steel Products Procurement Act applies to all "steel products," which are defined as rolled, formed, shaped, drawn, forged, cast, fabricated or otherwise processed from steel made in the United States. This includes all machinery and equipment listed in the U.S. Dept. of Comm. Standard Industrial Classifications 25, 35, 37, and made of, fabricated from, or containing steel components.

Utilities can apply for Buy America waivers for materials that cannot be acquired in the States.

When the utility intends to take advantage of the Buy America minimal use allowance (0.1% of construction contract/agreement value or \$2500 whichever is greater) they should notify the Department which product(s) will be non-domestic and their cumulative value as delivered to the project site.

Additional information about Buy America can be found on the FHWA's website at <http://www.fhwa.dot.gov/utilities/buyam.cfm>.

Additional information about and the Pennsylvania Steel Products Procurement Act can be found on the Department's website at: http://www.pennidot.gov/ProjectAndPrograms/Construction/PA_Act3/Pages/default.aspx

Materials recovered from temporary use and accepted for reuse by the utility will be credited to the project at prices charged to the job, less a consideration for loss in service life. Materials recovered from the permanent facility of the utility that are accepted by the utility for return to stock will be credited to the project at the current stock prices of such used materials. The Department or utility, following an opportunity for Department inspection and appropriate solicitation for bids and if determined to have a net sale value, will sell materials recovered and not accepted for reuse by the utility to the highest bidder. If the utility practices a system of periodic disposal by sale, credit to the project will be at the current prices supported by records of the utility.

Reimbursement may be obtained for the total cost of removal when either such removal is required by the highway construction or the existing facilities cannot be abandoned in place for aesthetic or safety reasons. When the utility facilities can be abandoned in place but the utility or highway constructor elects to remove and recover

the materials, reimbursement will not be applicable to removal costs that exceed the value of the materials recovered.

The actual and direct costs of handling and loading materials and supplies at company stores or materials yards and of unloading and handling recovered materials accepted by the utility at its stores or material yards are reimbursable. In lieu of actual costs, average rates that are representative of actual costs may be used if approved by the Department and the FHWA. The utility should adjust these average rates at least once annually to take into account known anticipated changes and correction for any over or under applied costs for the preceding period. The method of calculating the rate should be submitted to the Pennsylvania Department of Transportation, Central Office Utility Relocation Unit for processing to the Comptroller's Office for review and concurrence. At the option of the utility, 5 percent of the amounts billed for the materials and supplies issued from company stores and material yards or the value of recovered materials will be reimbursed in lieu of actual or average costs for handling.

6. Equipment Costs. The average or actual costs of maintenance and depreciation of utility-owned equipment may be reimbursed. Reimbursement for utility-owned vehicles may be made at average or actual costs. When utility-owned equipment is not available, reimbursement will be limited to the amount of rental paid 1) to the lowest qualified bidder, 2) under existing continuing contracts at reasonable costs, or 3) as an exception by negotiation when 1) and 2) are impractical due to project location or schedule.

7. Transportation Costs. The utility's cost, consistent with its overall policy, of necessary employee transportation and subsistence directly attributable to the project is reimbursable.

Reasonable cost for the movement of materials, supplies, and equipment to the project and necessary return to storage including the associated cost of loading and unloading equipment is reimbursable.

8. Credits. Credit to the highway project will be required for the cost of any betterment to the facility being replaced or adjusted, and for the salvage value of the material removed.

No betterment credit is required for additions or improvements which are:

- a. Required by the highway project,
- b. Replacement devices or materials that are of equivalent standards although not identical,
- c. Replacement of devices or materials no longer regularly manufactured with next highest grade or size,
- d. Required by law under governmental or regulatory commission code, or
- e. Required by current design practices regularly followed by the company in its own work with a direct benefit to the highway project.

When the facilities, including equipment and operating facilities, described above are not being replaced but are being rehabilitated and/or moved as necessitated by the highway project, no credit for accrued depreciation is needed.

In no event will the total of all credits required under the provisions of this section exceed the total costs of adjustment exclusive of the cost of additions or improvements necessitated by the highway construction.

8.3 ESTIMATES

A. Preliminary Estimate for Utility Relocation, Form 4181-A (See Appendix A, Figure A-805). The estimate checklist must be completed by the utility and verified by the District Utility Relocation Unit. Compliance with these instructions and completion of the checklist will assure all submissions are complete and accurate.

In accordance with the provisions of [Section 8.1.B](#), the basis of reimbursement for utility relocations is contingent upon the location of existing facilities and their compensable rights.

The Preliminary Estimate, properly completed, provides the Department with a detailed utility cost estimate for the proposed relocation of facilities. The Preliminary Estimate must include a detailed scope of work, permit request if applicable, and any necessary supplemental sheets which may be required to show sufficient details that will provide the Department with a clear picture of all the work to be performed.

Preliminary Estimates prepared by utilities on reimbursable relocations must be completed in detail with estimated amounts shown for each applicable item and sub-item.

The utility must complete the estimate in the following manner and forward the required number of copies to the District Utility Relocation Unit with the estimate package. If this is a sponsored project, the sponsor shall submit to the Department a detailed cost estimate package prepared by the utility or as otherwise outlined in the project reimbursement agreement.

1. Preliminary Engineering. Estimated amounts will be shown for each applicable item of preliminary engineering costs incurred subsequent to the Department's authorization for Preliminary Engineering.

When the services of a consultant engineer are used and such use has been previously approved by the Department as outlined in Chapter 3, *Preliminary Engineering*, [Section 3.3](#), the utility must include with its Preliminary Estimate, a copy of the resultant Engineering Service Contract and a Certification of Consultant (see Appendix A, [Figure A-400](#)). Such contracts, which do not conform to the Department's prior approval, will not be accepted for reimbursement nor will contracts entered into without prior Department approval. Department approval is also required for the use of an existing written continuing contract.

2. Right-of-Way Acquisition. Estimated amounts must be shown for each applicable item of costs to be incurred by the utility in the acquisition of replacement right-of-way.

The utility is required to supply documented evidence of real property interest for facilities originally on private right-of-way, in accordance with Chapter 7, *Right-of-Way Procedures*, [Section 7.1](#).

The utility will determine and make a written valuation of the replacement right-of-way that it acquires in order to justify amounts paid for such right-of-way. This written valuation must be accomplished prior to negotiation for acquisition.

3. Temporary Construction. Whenever temporary construction is justified, the estimated costs for each item must be shown. Supplemental sheets will show a list of materials to be used and the salvage credit breakdown for the temporary construction. An explanation as to the necessity of temporary construction is required with the estimate.

4. Permanent Construction. Estimated amounts for each item must be shown for all permanent construction costs to be incurred in accomplishing the relocation.

a. Contracts (See Chapter 3, *Preliminary Engineering*, [Section 3.3](#)). The utility will be required to show the total estimated amount of all utility relocation work to be performed under an existing written continuing contract or by a proposed contract to be entered into by the utility for this specific relocation.

Page 4 of Preliminary Estimate for Utility Relocation must be in accordance with Chapter 3, *Preliminary Engineering*, [Section 3.3](#).

b. Materials

- (1) A listing of any and all materials to be installed must be attached to the Preliminary Estimate for Utility Relocation itemized by quantity, size and unit cost where they represent relatively major components or cost of the relocation.
- (2) A listing of major items of materials to be removed and/or abandoned must be attached to the Preliminary Estimate for Utility Relocation, itemized by quantity and size only.
- (3) Unit costs, such as broad gauge units of property, may be used for estimating purposes where the utility uses such units in its operation.

5. Removal Costs. Provide estimated costs to remove the existing facilities.

6. Construction Engineering and Inspection. Provide estimated amounts of costs to be incurred by the utility for construction engineering and field inspection of the relocation work.

7. Connecting Costs. Provide estimated cost of connecting the relocated to existing facilities.

8. Accounting. Provide estimated costs for accounting including cost for preparation of estimate and billing.

9. Administration, Indirect Overhead and Supervision. Estimated costs not charged directly to a work order or construction accounts.

10. Total Estimated Costs.

11. Credits. The estimated cost for items of credit must be shown on the estimate and supplemented as follows:

a. Betterment. A credit for Betterment must be shown for any replacement that results in an increase in plant capacity, any upgrading of facilities or any proposed work not required by the highway project. A description of the Betterment and the computations used to determine the credit must be included with the Preliminary Estimate.

The installation of spare ducts, when replacing aerial facilities with underground, may be excluded as a credit provided the circumstances are consistent with the provisions of Chapter 3, *Preliminary Engineering, Section 3.5*.

b. Salvage. A credit for salvage must be shown for material to be removed that has salvageable value. A lump sum must be shown in the Preliminary Estimate for Salvage Credit along with a statement that the Summary of Billing will include a complete description of the credit and the computations used to determine the credit.

c. Expired Service Life. A credit to the project will be required for the accrued depreciation of a utility facility being replaced, such as a building, pump station, filtration plant, power plant, substation, or any other similar operational unit. Such accrued depreciation is that amount based on the ratio between the period of actual length of service and total life expectancy applied to the original cost. Credit for accrued depreciation shall not be required for a segment of the utility's service, distribution, or transmission lines.

12. Total Net Estimated Costs. Total costs after credits have been removed.

13. Percent of Utility With Real Property Interest (Section 412 Costs). Percent of affected facilities determined to have a compensable real property interest. Percentages should be rounded to two decimal places.

a. Cost Participation (Proration Calculations). One of three methods may be used by utilities to determine the percentage of State and utility cost participation: (1) cost basis (see Appendix A, [Figure A-802](#) for sample Cost Basis Proration Work Sheet) (2) length of existing facility affected, and (3) pole count.

- (1) Cost Basis

This method of proration is based on determining the existing major items of plant (i.e. primary lines, utility poles, regulatory stations) affected by the highway construction project. The value of these items is computed using current replacement costs and categorizing the units of existing plant and their cost as they relate to public and private rights.

The current replacement cost of major items of plant without a compensable real property interest divided by the total current replacement costs of affected major items of plant items establishes the utility's percent of financial responsibility.

The current replacement cost of major items of plant with a compensable real property interest divided by the total current replacement costs of affected plant items establishes the Department's percent of financial responsibility.

For the purpose of this method, "Affected" is defined as only the major items of plant, mainline and/or poles that are impacted by the highway construction project.

(2) Length of Facilities

This method of proration is to be used when there are underground mainline (not service lines) facilities or there are facilities attached to highway structures (i.e. bridges) that are affected by the highway project. The "length of facilities" is determined by measuring the total length of mainline (not service lines) affected by the highway construction project.

Affected mainline (not service lines) without compensable real property interest divided by the total length of mainline (not service lines) affected by the project establishes the utility's percent of financial responsibility.

Affected mainline (not service lines) with compensable real property interest divided by the total length of mainline (not service lines) affected by the project establishes the Department's percent of financial responsibility.

For the purpose of this method, "Affected" is defined as only the mainline (not service lines) that is impacted by the highway construction project. Appurtenances such as manholes, laterals, service lines, meter pits, joint restraints, and valves are not included in the proration. The cost of relocating the appurtenances is included in the total relocation cost.

(3) Pole Count

This method of proration is used when there are aerial utility facilities attached to utility poles. This is based on the total number of distribution/transmission poles or towers affected by the highway construction project.

Affected poles without a compensable real property interest divided by the total number of poles affected establishes the utility's percent of financial responsibility.

Affected poles with compensable real property interest divided by the total number of poles affected establishes the Department's percent of financial responsibility.

For the purpose of this method, "Affected" is defined as only the distribution/transmission poles or towers that are impacted by the highway construction project work. Appurtenances such as push poles, guy poles, service poles, down guys, are not included in the proration. The cost of relocating the appurtenances is included in the total relocation cost.

Utility companies should include all affected poles (owned or foreign owned) that their facilities are affixed, attached or otherwise connected to, in the pole count.

"Affected" is determined by facilities that are in the highway construction area and need to be relocated or adjusted for the highway construction project. This may include some facilities that are just outside the project limits but are connected to the affected facilities (i.e. facilities that are being relocated or adjusted for pole alignment or height adjustments).

b. Changes in Cost Participation (Proration Calculation). Once a utility establishes a method of determining proration, that method must be consistently applied to each highway construction project. If a utility wants to change their established method of proration, they need to make a written request to the Department. The Department must approve in writing changes in an established method of proration.

The Department recognizes that, on certain projects, some utilities may have a combination of both underground and aerial affected main distribution/transmission facilities that are affected by the highway construction project. In this case, the utility is to apply the "Length of Facilities" method to the underground facilities affected and the "Pole Count" method to the aerial facilities affected by the project. In these cases, the utility must use two separate agreements or one of the two methods listed below for determining proration. The two methods are:

- (1) The hybrid method of proration. The hybrid method uses a combination of the pole count and length of facilities methods. (See Appendix A, [Figure A-801](#) for an example of a hybrid method of proration).
- (2) The cost basis method of proration.

The Department also recognizes that, on certain highway construction projects, some utilities may only have appurtenances that are affected by the highway construction project (i.e. if a utility pole is not affected but the anchor guy is affected). In this case, the utility may request in writing to use the cost basis method of proration.

c. Streetlights. Streetlights (both attached to utility poles and stand alone streetlights) are handled by one of the 4 ways listed below.

- (1) If there is an agreement with the local municipality that clearly states that the locals are responsible for the relocation of street lights or stand alone street light poles, then the street lights or street light poles will be kept separate from the reimbursement package and reimbursement for relocation should be provided by the locals.
- (2) Stand alone street light poles in private right-of-way with private rights, but owned by the landowner, are to be handled as a right-of-way damage item, separate from the utility relocation process.
- (3) Utility Pole with streetlight attached - treat street light as an appurtenance to the pole.
- (4) Stand alone light pole - treat the light pole as an appurtenance such as a service pole. Regardless of whether or not the pole has private rights/status or is in public right of way without rights or by permit, include the relocation costs in the overall reimbursement package, but do not include the pole in the pole count.

14. Percent of Utility Without Real Property Interest (Cost Sharing). Percent of affected facilities determined not to have a compensable real property interest. Percents should be rounded to two decimal places.

a. State Share (Item M.1 on Appendix A, [Figure A-805](#)). State portion of cost sharing agreement, if applicable. If no cost sharing agreement is in place, the State is financially responsible for 0% of the costs of the affected facilities in public right-of-way without real property interest.

b. Utility Share (Item M.2 on Appendix A, [Figure A-805](#)). Utility portion of cost sharing agreement if applicable. If no cost sharing agreement is in place, the utility is financially responsible for 100% of the costs of the affected facilities in public right-of-way without real property interest.

Once a utility establishes a method of determining proration, that method must be consistently applied to each highway project. The Department must approve in writing changes in an established method of proration.

15. Sacrificed Life. A charge for Sacrificed Life is reimbursable in the amount of computed value of the facilities' unused life, where the highway construction requires the taking and damage of the utility's real property interest resulting in the disposal and removal of facilities that are not functionally replaced.

For Example: the Sacrificed Life is loss of the utility's real property investment in a distribution facility providing service to a structure within the required right-of-way to be demolished by reason of highway construction.

A separate supplemental sheet must be attached to the Preliminary Estimate and must provide the following:

- a. An explanation of the Sacrificed Life charge, i.e.: why the facility is not being replaced.
- b. The location of the facility, indicating the State Route, highway station or segment, and plan sheet.
- c. The year that the facility was installed.
- d. The computations used to determine the charge, including a separate itemization of removal costs, if any. The following formula must be used to compute the Sacrificed Life Charge.

Original Cost of Facility	X	$\frac{\text{Unused Life of Facility}}{\text{Total Life Expectancy}}$	= Sacrificed Life Charged
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The Charge for Sacrificed Life, in the amount estimated using the above formula, will be shown in the reimbursement agreement, separate from the prorated amounts, as totally reimbursable by the Department.

16. Scope of Work. Supplemental sheets, which provide explanations of the scope of work to be performed, must be attached to the estimate. On complex relocations, the reasons for selecting the proposed locations and methods of relocation will be provided, along with any other pertinent information as may be required to provide a clear picture of the work to be accomplished. An explanation of any relocation work that requires coordination or sequencing of operations with the highway contractor is required. The Utility Relocation Clearance Report, form D-4181-UC (see Appendix A, [Figure A-1100](#)), can be used in place of the scope of work as long as it provides a clear picture of the work to be accomplished.

B. Rental Charges Relating to Utility Relocations Required by Highway Construction Projects. The following defines the Department's procedure for determining and documenting reimbursable rental charges relating to joint occupancy of poles and to the occupancy by non-carrying utilities of railroad right-of-way.

1. Pole Rental.

- a. Two or more existing pole lines may require relocation to clear a proposed highway construction project and the construction of a single pole line for joint use of each utility involved may provide the most economical and feasible solution available. Under such circumstances the reimbursable share of pole rental charges will be paid to the attaching utility. The rental charge will be determined on the present worth of future rentals for a 30-year service life period discounted at current market rate.
- b. Where the joint pole rental is applicable, the attaching utility must include the following statements on Preliminary Estimate for Utility Relocation:
 - (1) "As based on an engineering cost estimate, the cost of the proposed joint line construction is considered to be less than the construction cost of an independent pole line," or such other general statement of circumstances to warrant the rental charge to the Department.
 - (2) "Our existing joint use agreement with _____ Company establishes the annual rental rate in the amount of \$ _____ for each pole attachment."

c. The following example shows the approved method of computing pole rental charges in which the Department will participate:

- (1) As a result of a relocation project, a utility may be obligated to pay annual pole rentals in the total amount of \$100.00 for 30 years. Annual Pole Rental of \$100.00 X Capitalization Factor 9.427 (based on 10% rate) = the amount of \$942.70 due the utility.

- (2) In the example cited above the Department will pay the utility the amount of \$942.70, which if invested by the utility at current market rate would provide funds for payment of the rental charge for the 30-year Period.

2. Rental for Occupying Railroad Right-of-Way.

- a. Rental charges may be determined by using the amount of annual rental applied to the number of years indicated in the occupancy agreements between the utilities to determine an amount that capitalized at 10% would provide funds for payment of the rental charges for the life of the agreement not to exceed 99 years.

EXAMPLE: A utility may be obligated to pay a yearly rental to occupy a railroad right-of-way in the amount of \$100.00 for an estimated 90 years. The present value of an annual rental of \$1.00 for 90 years at 10% is found on Capitalization Tables to be 9.999. The following computations show the acceptable method to be used to determine the amount due the utility:

Annual Rental Charge to occupy Railroad Company Right-of-Way of \$100.00 x the Capitalization Factor 9.999 = the amount of \$999.99 due the utility. This amount invested at 10% by the utility will provide funds for payment of the annual rental charges for the 90-year period.

- b. The utility is required to show computations used to determine reimbursable rental charge.

C. Required Number of Plans and Estimates. The number of marked highway plan sheets, questionnaire and preliminary estimates that are required to be submitted by the utilities is determined by whether or not the relocation costs are reimbursable.

1. Utility Relocation Costs, Non Reimbursable. The utility prepares and submits the following to the District Utility Relocation Unit:

- a. One (1) completed Utility Relocation Questionnaire showing all applicable information as described in Chapter 4, *Final Design*, [Section 4.1.J](#). Page 2 of the Questionnaire must be completed if highway occupancy is proposed. Typical drawings shown on page 2 of the Questionnaire must be completed on all proposed utility relocation, adjustments, or replacements when applicable.
- b. One (1) Index Sheet marked to show the location of existing facilities and the proposed location of adjusted facilities.
- c. One (1) set of detailed relocation plans, as described in Chapter 3, *Preliminary Engineering*, [Section 3.2.J.1](#), and any necessary supplemental company drawings for Highway Occupancy as described in Chapter 4, *Final Design*, [Section 4.1.I](#). Applicable typical drawings in Appendix A, [Figures A-702 to A-706](#) may be used when plans and cross sections are not available for the highway project.

2. Reimbursable Utility Relocation Costs. The utility must prepare and submit to the District Utility Relocation Unit:

- a. One (1) Form 4181, Utility Relocation Questionnaire completed in accordance with Chapter 4, *Final Design*, [Section 4.1.J](#).
- b. One (1) Form 4181-A, Preliminary Estimate for Utility Relocation completed in accordance with Chapter 4, *Final Design*, [Section 4.1.J](#) along with supplemental sheets as required.
- c. One (1) set of adjustment plans, including highway plan index, and detail sheets as described in Chapter 3, *Preliminary Engineering*, [Section 3.2.J.1](#) and necessary supplemental company drawings and applicable typical drawings in Appendix A, [Figures A-702 to A-706](#) when plans and cross sections are not available.

In cases where the Pennsylvania Public Utility Commission has assumed jurisdiction, see [Chapter 9, Public Utility Commission Involvement](#).

D. Lump Sum Estimate / Agreement Prepared by the Utility.

1. The requesting utility must have an executed Master Agreement on file with the Department to proceed with a Lump Sum Estimate / Agreement (see the Utility Relocation Unit portion of the Department website for a link to the agreement).
2. Reimbursement by the Department cannot exceed \$50,000.00.
3. The utility completes one (1) original of the Lump Sum Estimate / Agreement form.
 - a. Attach to original Lump Sum Estimate / Agreement:

Real property interest documentation, marked at the bottom right as "exhibit A" a set of relocation plans, marked at the bottom right as "exhibit A."
4. Forward the completed Lump Sum Estimate / Agreement, with attachments, to the District Office.

E. Conventional Lump Sum Agreements up to \$150,000.00.

1. Reimbursement by the Department cannot exceed \$150,000.00. The Utility Relocation Questionnaire Form must be completed in detail.
2. The Utility providing the Lump Sum Estimate for Utility Relocation Form (Appendix A, [Figure A-805](#)) must include sufficient detail to provide the Department with a clear picture of all the work to be performed including any necessary supplemental sheets required to provide such detail.
 - a. All Lump Sum Estimates must be prepared in accordance with the 23 CFR Part 645, the Utility's Standard Accounting and Work Order Procedures, and this Manual.
 - b. Supporting data sheets must accompany the Lump Sum Estimate showing engineering and labor costs and an itemized list of materials to be removed and installed by quantity, type, and unit cost.
 - c. Credits for Expired Service Life, Betterment and Salvage must be documented.
 - d. Charges for Sacrificed Life made in the amount of the computed value of facilities, which are to be removed from private right-of-way and not functionally replaced, must be documented.

F. District Review of Estimate Package. Upon receipt of the Preliminary Estimate package, the District Utility Relocation Unit will thoroughly review the proposed relocation, the estimated cost, and required supporting data. This submission must include any necessary justification to assure that the relocations are in accordance with the existing policies and procedures of the Department and FHWA. The District Utility Relocation Unit will obtain approval of the traffic control plan (see Appendix A, [Figure A-810](#)). On all underground installations the District Utility Relocation Unit will obtain approval of the type(s) of restoration to be used by the utility within the highway project right-of-way (see Appendix A, [Figure A-816](#)). Upon approval, the District will forward the estimate package (see Appendix A, [Figure A-814](#) for an example of an estimate/agreement package checklist) to the Central Office Utility Relocation Unit using UR-EDMS.

G. Central Office Review and Processing of Estimate Package. Provided that the project has an approved Program Management Committee (PMC) action and the project is moving toward a letting, the Central Office Utility Relocation Unit will immediately proceed with the preparation of the agreement draft. Should it be necessary to delay this processing for any reason, the Central Office Utility Relocation Unit will acknowledge receipt of the estimate.

8.4 BILLING

A. Preparation and Submission of Billings. Appendix A, [Figure A-815](#) contains instructions on completion of the Summary of Billing form, plus data required on the Preliminary Estimate for Utility Relocation and Summary of

Billing cost comparison sheet, which must be completed by the utility. Completion of the comparison sheet will distinguish line items on the Summary of Billing that require cost justification.

The Department in accordance with a utility relocation agreement will reimburse the Department's share of the facility relocation costs incurred by a utility on a highway construction project. The agreement will provide the utility with one of the following payment options:

1. Prorated periodic invoices in accordance with the Agreement.
2. A final invoice prepared in accordance with this Chapter and submitted upon completion of the utility's relocation.
3. A Lump Sum Billing based on an agreement prepared in accordance with [Sections 8.1.F](#) and [8.1.H](#).

The 23 CFR Part 645 does not permit estimated partial payments on utility relocations. Interim payments of actual cost incurred are acceptable.

On all reimbursable relocations, no reimbursements will be made by the Department until a fully executed agreement is consummated and sufficient information to answer any outstanding conditions relating to that particular relocation is approved by the Department.

Billings can be submitted electronically via UR-EDMS or mailed, along with the appropriate location code, to the utility post office box at the following address:

Commonwealth of PA – Utility Invoice
[Location Code]
PO BOX 69181
Harrisburg, PA 17106

For information or questions regarding location codes, contact the appropriate District Utility Relocation Unit.

B. Interim Payments or Progress Billings. Regardless of the financial condition or corporate size of a utility, the facility relocations that are required by highway construction projects could place a financial burden on that utility if it would be required to delay billing of costs incurred until completion of each relocation. Therefore, the Department offers the option of interim payments or progress billings submitted on utility invoices.

This option is part of each standard reimbursement agreement and provides that the Department will, upon final execution of the reimbursement agreement, accept an invoice from the utility for the reimbursable portion of the actual costs incurred for preliminary engineering, right-of-way, and materials necessary for the relocation of those facilities. Thereafter, upon incurring additional reimbursable relocation costs, the utility may submit prorated periodic invoices for additional actual costs incurred, provided that those invoices are not submitted more frequently than one hundred twenty (120) days or upon incurring \$10,000.00 additional costs, whichever first occurs. Total periodic billings must not exceed 75% of the total reimbursable costs provided for in the agreement.

The utility need not prepare a Summary of Billing Form for such billings. However, the utility invoice must include the agreement number, county and route and must identify those items and the associated cost for which they are billing. The Department will then process the interim payment in accordance with the terms of the utility agreements, typically within sixty (60) days of receipt of the invoice by the Department.

Upon completion of the relocation work, the utility is required to submit a final bill on a Summary of Billing Form. This submission should include a summary of invoices previously submitted and the balance due the utility.

C. Final Billing. The District Utility Relocation Unit will notify in writing each utility, which has a reimbursement agreement on a highway construction project, of the date of completion of that project.

The final and complete billing of relocation costs incurred are to be submitted by the utility to the District Utility Relocation Unit within 365 days following written notification of completion of the highway construction project.

If the utility fails to submit costs within 365 days following the completion of the highway project, the actual cost paid to the utility to date by the Commonwealth will be considered final payment. If the utility is unable to submit its final

bill within 365 calendar days following written notice of the completion of the highway project, the utility may file a written request with the Department, within 365 days, seeking a limited extension of time within which to submit a final bill. A request for an extension of time may be granted at the discretion of the Department.

The utility must submit an original of its final billing in accordance with the reimbursable agreement.

All final billings will be prepared in accordance with the policies set forth in 23 CFR Parts 645 and 635 where applicable, and the utility's standard accounting and work order procedures. The Summary of Billing will conform as closely as possible to the order of items in the Preliminary Estimate Package. The actual costs for preliminary engineering, right-of-way, etc., must be shown in the Summary of Billing in such a manner as will permit comparison with the approved plan and Preliminary Estimate.

When the Buy America and Pennsylvania Steel Products Procurement Act requirements apply, the utility will be required to certify on the Summary of Billing Form (D-4181-B) that all work billed has been completed in accordance with the Buy America provisions in 23 U.S.C. 313 and 23 CFR 635.410 and Pennsylvania Steel Products Procurement Act provisions in 73 P.S. §1881-§1887. When requested for proof of Buy America and Pennsylvania Steel Products Procurement Act compliance, they must provide a copy of the maintained vendor documentation certifying compliance for each product subject to both acts. For incorporated work when the contractor is providing the materials on behalf of the utility, the Department's prime contractor should supply, as needed, the required certifications as evidence of compliance with both Buy America and the Pennsylvania Steel Products Procurement Act. The documentation extends to all handlers of the product that performed a manufacturing process.

As stated in Publication 408, *Specifications*, Section 106.01, for unidentified steel products, maintain documentation such as invoices, bills of lading, and mill certification that includes certification statements that the steel and iron was melted and manufactured in the United States. Buy America applies to all work, eligible or ineligible for reimbursement by a Federal, State or Local government, that is performed under any contract (Federal, State or Local funded) that results from a National Environmental Protection Act (NEPA) project scope that includes Federal funds in any phase, contract or agreement. Ineligible utility work must be performed separate from a NEPA project Federal, State or Local funded contract(s) in order not to be subject to Buy America requirements.

23 USC Section 123(a) provides for reimbursement to the state when the state pays a utility to relocate. It prohibits the federal government from reimbursing the state when the state's payment to the utility violates a state law or a legal contract between the utility and the state. For example, the Pennsylvania Steel Products Procurement Act prohibits the Department from paying a contractor for steel products that are not properly documented. If the Department pays for steel that is not properly documented, the federal government will not reimburse the Department because the Department's payment violates the state law.

One (1) copy of supporting documents must accompany the Final Billing showing a breakdown of man-hours by date, direct salary costs by classification of employees for all engineering and labor, and an itemized list of materials used by quantity, type, and unit costs. Computations used to determine the charge for Sacrificed Life, and the credits for Salvage, Expired service Life, and Betterment must also be shown.

One (1) copy of all invoices for contracted work and any other related supporting documentation required substantiating the cost incurred. See Appendix A, [Figure A-820](#) for sample job work order.

If there is a substantial difference (+/- 25%) between the total estimated cost and the total actual cost billed, an explanation must be attached to the Summary of Billing.

If there is a substantial increase in the reimbursable cost, a supplemental agreement may be required. See [Section 8.1.I](#) for guidance on determining if a supplemental agreement is required to cover the additional reimbursable cost. If applicable, a supplemental agreement must be completely executed prior to the processing of a utility billing by the Department.

D. Conventional Lump Sum Billing. Lump Sum billings will be based on the detailed Lump Sum Estimate prepared in accordance with this Chapter.

The invoice prepared by the utility must include the following information: Project identification, the Agreement number and a statement that the invoice is a lump sum billing in accordance with that agreement. The invoice will be forwarded to the District Utility Relocation Unit upon completion of the proposed relocation or adjustment with a

written certification prepared by the utility stating that all work contemplated by that agreement has been completed (See Appendix A, [Figure A-1200](#)).

Labor surcharges include worker compensation insurance, public liability and property damage insurance and such fringe benefits as the utility has established for the benefit of its employees. The cost of labor surcharges will be reimbursed at actual cost to the utility or, at the option of the utility, average rates, which are representative of actual costs, may be used in lieu of actual costs if approved by the Department and FHWA. These average rates should be adjusted at least once annually to take into account known anticipated changes and correction for any over or under applied costs for the preceding period.

When the utility is a self-insurer, there may be reimbursement at experience rates properly developed from actual costs. The rates cannot exceed the rates of a regular insurance company for the class of employment covered.

Overhead and indirect construction costs not charged directly to work order or construction accounts may be allocated to the relocation provided the allocation is made on an equitable basis. All costs included in the allocation will be eligible for Federal reimbursement, reasonable, and actually incurred by the utility.

Costs not eligible for Federal reimbursement include, but are not limited to, the costs associated with advertising, sales promotion, interest on borrowings, the issuance of stock, bad debts, uncollectible accounts receivable, contributions, donations, entertainment, fines, penalties, lobbying, and research programs.

The costs of supervision, labor, and expenses incurred in the operation and maintenance of the storerooms and material yards, including storage, handling, distribution of materials and supplies, and costs of purchasing, testing and inspection, are reimbursable. Costs determined by a rate, or other equitable method of distribution that is representative of the costs to the utility may be reimbursed. Under D. -Permanent Construction and/or C. - Temporary Construction, the item -"Handling" must be shown as actual cost or a percentage not to exceed 5 percent provided it complies with [Section 8.2.A.5](#).

All billings must be certified by the utility's auditor or person directly responsible for its accuracy and conformance to 23 CFR Part 645 and the utility's standard accounting of work order procedure.

E. Lump Sum Estimate / Agreement Billings. LSEA billings will be based on the "Lump Sum Estimate Agreement," and be prepared in accordance with this Chapter.

The invoice prepared by the utility must include the following information: Project identification, Lump Sum Estimate Agreement number and a statement that the invoice is a lump sum billing in accordance with that agreement. The invoice will be forwarded to the Department upon completion of the proposed relocation or adjustment with a written certification prepared by the utility stating that all work contemplated by that agreement has been completed (See Appendix A, [Figure A-1200](#)).

All billings must be certified by the utility's auditor or person directly responsible for its accuracy and conformance to 23 CFR Part 645 and the utility's standard accounting of work order procedure.

F. Incorporated Work Invoicing for Resurfacing Projects. In accordance with Administrative Code, 71 P.S. § 515(g) (see [Chapter 1, Section 1.2.E](#)), the Department may invoice and request payment for adjustments made to manhole covers, drains and other surface devices on resurfacing projects if the Department performs the work. The utility owner will be invoiced using the appropriate fund codes (see Publication 51 for funds code set-up). If the invoice is not paid, the following options are available to the Department.

- If the [utility] owner is a municipality, the Department may deduct the costs from any liquid fuel tax payments which shall become due the municipality, but only after notice to the municipality of the amount of the costs and a request for the payment of same. 71 P.S. § 515(g)(3).
- If the [utility] owner is a municipal authority, the Department shall have the authority not to issue the municipal authority any highway occupancy permit if the costs incurred by the Department for performing the work remain unpaid. 71 P.S. § 515(g)(4).

G. District Review and Approval of Final Billing. Upon receipt of the required number of the final billing package, the District Utility Relocation Unit will review the submission for arithmetic accuracy, conformance to the approved plan and estimate, compliance to the Department's policies and comparison to the Department Inspection

Reports. The District Utility Relocation Unit will review and approve for payment or reject the final bill within two (2) months of receipt of the final bill. Additional time may be required for payments that require a supplemental agreement.

The accuracy of the utility's additions and extensions will be verified by the District Utility Relocation Unit. The District Utility Relocation Unit, after determining that the billing package is complete and accurate, will approve the costs and the fiscal documents required for payment.

One (1) copy of the Utility Invoice, Summary of Billing Form 4181B, cost comparison, completion notice and all supporting documents provided by the utility will be maintained in UR-EDMS. After notification of final payment on an agreement having Federal funds, the Central Office Utility Relocation Unit will issue the Certificate of Utility Agreement Completion that will be maintained in the District's file and imported into UR-EDMS.

After the District Utility Relocation Unit imports the final billing package into UR-EDMS and notifies the Central Office Utility Relocation Unit, the Central Office Utility Relocation Unit will issue a Certificate of Utility Agreement Completion for all Federal funded projects to the Comptroller's Office.

If the need arises for an audit after the final bill has been paid, District requests for audits will be submitted to the Central Office Utility Relocation Unit. The request will then be forwarded to the Comptroller's Office for review. In the event of an audit, the utility may be asked to provide documentation support for the costs they billed for the relocation in accordance with 23 CFR Section 645.117. Examples of items that may require documentation support are labor costs, transportation costs, solicitation and quote documentation for contractors and material suppliers.

CHAPTER 9

PUBLIC UTILITY COMMISSION INVOLVEMENT

9.0 INVOLVEMENT OF PUBLIC UTILITY COMMISSION (PUC) IN UTILITY RELOCATION ACTIVITIES

The following is intended to provide a general overview of the issues involved in the relocation of non-carrier utility facilities located in public and private right-of-way as a result of a highway construction project that impacts a highway/railroad crossing. This chapter also discusses the protocol for coordination with and the jurisdiction of the PUC. The highway/railroad crossings are under the exclusive jurisdiction of the PUC, Public Utility Code, Act of July 1, 1978, PL 598, No. 116, 66 Pa.C.S. §§2702 and 2704.

9.1 GENERAL PROCEDURES FOR FILING PUC APPLICATION (REFER TO PUBLICATION 371, GRADE CROSSING MANUAL)

When the highway project includes the construction, relocation, alteration, protection or abolition of a highway/railroad crossing, the Department will file an application with the PUC for approval of the project as it relates to the highway/railroad crossing. All parties involved, including potentially impacted non-carrier utility companies, are served with copies of the application and become parties of record.

After the application is filed, the PUC schedules a field conference to be held at the location of the project. All parties of record are invited to attend and to discuss the proposed highway project. The PUC will establish the jurisdictional limits at the conference with input from the Department.

If all parties of record are in agreement with the proposed project, and if the non-carrier utility companies agree to perform their adjustments or relocations at their initial or sole costs, the PUC will issue an order or secretarial letter approving the advancement of the project. Future plan submissions may be required for final project approval.

A. Hearing Procedure – General. If the parties of record cannot agree with the project aspects, such as utility relocation costs and maintenance responsibilities, at the field conference, the PUC will schedule a hearing to resolve these issues. This process takes approximately one (1) year to be completed. The Office of Chief Counsel must be contacted and will represent the Department at the hearing.

A party of record can agree to perform the work at the "Initial Cost" which reserves the right to request a cost allocation hearing at the completion of the construction of the project. This allows the design development to continue on schedule.

Again, the preparation for and conduct at the hearings is under the guidance of the Office of Chief Counsel legal staff, and is done on a case-by-case basis.

Some of the data required for the utility cost allocation hearing is as follows: total utility relocation costs for the project; costs for utility relocation from public and private right-of-way; costs of utility work to be incorporated in construction project; etc. [Chapter 8, Agreements, Cost Development, Estimates and Billing](#), has details on the methodology to determine the pro-ratio and percentages for utility relocation cost allocations.

The PUC's final order may allocate costs different from those contained in an agreement.

9.2 UTILITY RELOCATION AGREEMENTS AND THE PUC

On some occasions, the Department may be obligated to reimburse a utility for relocation costs, notwithstanding PUC involvement in the project. Refer to [Chapter 8, Agreements, Cost Development, Estimates and Billing](#), for agreement execution procedures when the Department is required to compensate utility for relocation where a utility occupies private right-of-way, exists in public right-of-way via a private status agreement where the Department has agreed to share costs with a municipal utility or there is a PUC order.

A reimbursement agreement is prepared on the basis of an approved detailed plan and estimate submitted by the utility, and executed by the Department and the utility involved. The reimbursement agreement identifies the party responsible for the performance of the utility relocation work and sets forth the percentage of Department and utility participation of related costs incurred in compliance with Sections 411-412.1 of the State Highway Law, 36 P.S. §§670-411-670-412.1. See generally [Chapter 8, Agreements, Cost Development, Estimates and Billing](#).

The parties normally agree to request that the PUC adopt the allocations of utility work as set forth in the agreements. If the relocation work is completed and paid for under the agreement prior to hearing, the PUC will not disturb the agreement's allocation of costs. However, if final payment for work has not been tendered to the utility prior to the PUC hearing, the PUC can determine what allocation of utility relocation costs is just and reasonable. The parties are then bound by the Commission's allocations, unless an explicit clause in the relocation agreement states otherwise.

A. Preparation of Estimate for Cost Data Submission. For the Department to prepare a utility reimbursement agreement, the utility is required to submit a detailed estimate of reimbursable relocation costs in accordance with [Chapter 8, Agreements, Cost Development, Estimates and Billing](#).

9.3 BILLING PREPARATION AND PAYMENT

No payment will be made to a utility for utility relocation work that the Department is not obligated to pay under State and Federal law. Prior to payment for any and all utility relocation costs, the Department and, where applicable, the Federal Highway Administration, must have reasonable assurances that the work completed by the utility is in fact reimbursable. This is accomplished by the utility submission as per [Chapter 8, Agreements, Cost Development, Estimates and Billing](#).

Further, no payment for utility relocation will be made in cases where the PUC is ruling on the allocations of costs for a non-carrier public utility located in public right-of-way, until the PUC issues a final order allocating to the Department, in whole or part, costs for utility relocation work. The Department should request that all utility billings to the Department be on the Department Summary of Billing Forms.

9.4 OTHER RELATED PUC PROCEEDINGS

The PUC also deals with Complaint, Investigation and Miscellaneous Dockets, in addition to handling Applications from the Department and various other parties. The subject matter of these other types of cases often requires involvement by District and Central Office utility relocation staff members, even where the Department has no formal "project". The District Grade Crossing Engineer/Administrator is responsible for advising the District Utility Relocation Administrator if one of these cases involves potential utility relocation issues. It is imperative that the District Grade Crossing Engineer/Administrator and the District Utility Relocation Unit coordinate information and case preparation efforts with the Legal staff as soon as a utility relocation issue is identified.

Moreover, everyone involved must place equal importance on these collateral cases, in relation to Department projects. Even in cases where a state highway is not involved, the Department may have significant financial exposure for crossing construction, replacement or abolition costs. Any crossing alteration may involve the adjustment or relocation of utility facilities.

9.5 RELOCATION OF HIGH VOLTAGE ELECTRIC TRANSMISSION LINES CAUSED BY HIGHWAY PROJECT

The PUC regulations at Title 52, PA Code Chapter 57 require approval of the siting and construction of High Voltage Electric Transmission lines.

If a highway project involves the relocation of a High Voltage Electric Transmission Line (100kV or greater), the electric company must be given PUC approval for the relocation. The electric company may have to file an application if the relocation is extensive.

The Department will not acquire substitute right-of-way for the electric company until the PUC has approved the relocation. Further, the Department will not issue a notice to proceed with the physical relocation of the High Voltage Transmission Line until the electric company has the approval of the PUC.

The District Utility Relocation Administrator should ensure that any relocation of High Voltage Electric Transmission Lines is identified early in the design phase and that the electric company is taking the steps to comply with the PUC regulations to receive approval of the relocation of its High Voltage Electric Transmission Line.

9.6 UTILITY ISSUE ESCALATION TO THE PUC

The PUC has jurisdiction to handle complaints and petitions for unreasonable service (including Emergency Petitions/Orders) per 52 PA Code §3.2 et seq. and to order fixed utilities to take specific actions such as relocating to accommodate the highway project.

If the Department is working with a PUC regulated fixed utility and the fixed utility is not being responsive to Department requests during the project delivery process (e.g. relocation plan submission by a specific date, completing their relocations within a given timeframe, etc.), then the district will issue a letter to the utility from the Assistant District Executive (ADE) of Design (or equivalent that the DUA reports to) to attempt to resolve things at the district level. If the fixed utility does not respond to the formal letter within a stated timeframe, then the District may escalate the issue to Central Office to contact the fixed utility. If Central Office is not successful, then Central Office will ask the PUC to get involved to help resolve the issues.

To request PUC involvement in a specific project, the DUA must coordinate the request through the Central Office Utility Relocation Section by providing the following items:

- Narrative of the project's issue as it relates to the subject utility
- Timeline of coordination attempts made at the District level with the subject utility
- Copy of formal letter sent from ADE to utility company regarding project issue and potential escalation if the utility fails to respond within a specified timeframe
- ADE endorsement to escalate the issue to the PUC

Upon receipt, the Central Office Utility Relocation Section will review the package to ensure that all other courses of action have been exhausted before the Central Office Utility Relocation Section will reach out to the PUC-Bureau of Technical Utility Services (TUS); if necessary, OCC will contact PUC's Law Bureau to seek an informal resolution. If the issue cannot be resolved with the assistance of PUC staff, then the Department has the option, through OCC, to initiate a formal proceeding with the PUC. A formal proceeding at the PUC is the last resort because it is time and resource consuming.

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GLOSSARY

ABBREVIATED INCORPORATED WORK – A type of relocation work where the Municipality or Municipal Authority or public utility owned and operated water or sanitary sewer company provides the material and the Department or the Department's contractor installs it. It is limited to minor adjustments, when the labor costs would be equal to or less than the material costs and the total relocation cost is less than \$20,000.00. The Municipality, Municipal Authority or public utility owned and operated water or sanitary sewer company must provide a signed letter stating that they will provide the material and request that the Department install it. In lieu of a cost sharing reimbursement agreement, the Department will draft a non-reimbursement agreement that will cover the exchange of services. The delivery of the materials must be coordinated with the highway contractor.

AGREEMENT — The legal instrument entered into by the Department and a utility on a highway construction project that outlines the legal and financial responsibilities of both parties.

AUTHORIZATION — The Department's official approval to the utility to proceed with a specific operation. The date of authorization establishes the date of eligibility for the reimbursement of costs incurred on that phase of work.

BETTERMENT — Any increase in the functional capacity of or service improvement in the facility being relocated or adjusted except as required by reason of the highway construction.

BROAD GAUGE — An estimated unit cost derived from historical cost data based on the average installed costs including labor, material, and other associated cost. Used for broad estimating purposes.

CASING — A prefabricated tube (sleeve), installed by open cutting, directional boring, jacking or driving, usually sealed at the ends, sometimes vented where lighter-than-air gases are involved, within which the utility facility is installed. Casings are usually required to avoid the need for trenching through existing pavements, to prevent the destruction of the roadway due to leakage of liquids under pressure, to prevent or contain leaking under pressure, or to facilitate pulling and replacing a utility facility where weight and length of line and type of joint will permit.

CENTRAL OFFICE UTILITY RELOCATION UNIT — The unit of the Utilities and Right-of-Way Section, Bureau of Design, located in Harrisburg, Pennsylvania responsible for developing the Department's policies and procedures for all utility relocation activities in connection with highway and bridge construction projects.

CLEAR ZONE — The portion of the roadside within the highway right-of-way established by the Department, clear of fixed or non-traversable objects. The purpose of such areas is to provide drivers of errant vehicles that leave the traveled portion of the roadway a reasonable opportunity to stop safely or otherwise regain control of the vehicle.

CODE OF FEDERAL REGULATIONS, TITLE 23, HIGHWAYS, PART 645 —The current regulations on utility relocations, that may be modified from time to time, hereinafter referred to in this Manual as 23 CFR. Subpart "A" defines policy, procedure and cost development for utility adjustments. Subpart "B" defines policy and procedure for accommodating utility facilities on federal aid highways.

CONSULTANT — An individual, partnership, or firm with qualified expertise in various disciplines that is contracted by the Department or utility to provide technical services.

COMMONWEALTH, STATE or DEPARTMENT —The Commonwealth of Pennsylvania, Department of Transportation.

COORDINATING MEETING — A periodic meeting, attended by representatives of utilities operating in the District for the purpose of informing those utilities of current policy and procedures and for discussing current topics of general interest.

COST SHARING — The sharing of costs between the Department and any city, borough, incorporated town, township, or municipal authority, or any public utility that owns and operates a water or sanitary sewer line to change, alter, adjust or relocate facilities affected by construction.

DESIGNATION — To horizontally locate an underground utility facility by surface geophysical method or methods. To paint on the ground in the National Color Code of the utility the existing utility location at an interval of 1.2 m (4 Feet) to 15 m (50 feet) and could include utility mains, service lines and/or transmission facilities. To provide this data on Department plans as may be required.

DESIGNER — The personnel of the Department engaged in the design of a highway or bridge project or a consultant engineering firm hired by the Department for that purpose.

DETAIL SHEETS — Plan sheets that show the highway project in detail.

DISTRICT UTILITY RELOCATION UNIT — These units are responsible for the clearance of utility facilities on all highway projects in the District and the implementation of the Department's policies and procedures.

ELIGIBILITY — Reimbursable costs incurred on a project or a specific phase of a project, when authorized, provided they are legally qualified under the applicable State Highway Laws.

ENCASEMENT — Poured concrete or flowable fill, completely or partially surrounding a pipeline installed in a trench.

FEDERAL AID PROJECTS — A project in which some or all phases of work, such as design engineering, right-of-way acquisition, utility relocations or construction, is programmed with the Federal Highway Administration for authorization to proceed with the work and obtain reimbursement to the Department with federal funds.

FEDERAL HIGHWAY ADMINISTRATION or FHWA — The agency that oversees the process of planning, designing, and constructing federally funded highway projects.

FINAL BILLING — The detailed summary of the actual costs incurred by the utility on their relocation, consisting of the completed Form 4181-B and all supplemental sheets necessary to verify and document amounts expended.

FIXED or NON-TRAVERSABLE OBJECTS — Existing, planned, natural or manufactured objects such as trees, drainage structures, non-yielding sign or lighting structures, drainage ditches, retaining walls, rock out croppings, utility structures, etc.

FLOWABLE FILL — Commonly a blend of cement, water, sand and flyash. Typically, it is designed as a low strength, flowable material requiring no subsequent vibration or tamping to achieve complete consolidation.

FREEWAY — A divided arterial highway with full control of access; a limited access highway.

GALLERY — Prefabricated or monolithic structure large enough to permit inspection, repair and/or replacement of utility facility in place. Galleries shall be designed so that most repairs and replacement of sections of utility facility can be made without resorting to pulling the entire utility facility. Galleries are provided for the purpose of performing repair or replacement of a pipeline or lines of extreme importance to the public convenience or safety, or to a dependent industrial installation, where the cost or consequences of a prolonged shutdown would be intolerable.

HIGHWAY CONSTRUCTION PROJECT — The construction, reconstruction, widening or resurfacing of a State Highway, within the existing legal right-of-way or within a new required right-of-way, by contract or by Department forces.

INDEX SHEET — The small scale plan sheet, usually sheet number two, of the highway plan which shows the entire project limits.

INITIAL PAYMENT — First payment to the utility by the Department under the terms of a reimbursement agreement.

INTERIM PAYMENT (Periodic Billing) — Reimbursement by the Department to the utility, either in specified minimum amounts or definite billing periods, as outlined under the terms of a reimbursement agreement.

LOCATING — To vertically locate, by test holes, an underground utility facility. Locating will also include: surveying and providing data of the top and bottom elevations of the located utility facility as well as the existing ground elevation at the site; tying vertical controls to a minimum of the two (2) checked bench marks or available

datum; proper back filling the test hole and restoration of the pavement to an acceptable manner approved by the Department; and providing this data on Department plans as required.

MINIMAL EXCAVATION FOR UTILITY RELOCATION — Excavation of 2 feet or less below current ground surface.

NON-PARTICIPATING — Utility relocations not programmed with the FHWA for reimbursement to the Department from federal funds. Project design, right-of-way acquisition and construction can be participating, while utility relocations can be "non-participating". Particular utility relocations may be handled as non-participating on a federal aid project, even when other utility relocation work on the same project is programmed as "participating".

OFFSET: **A. Surveying Offset** — A distance measured at right angles from the centerline of a highway to a specific point.

B. Roadway Offset — A measured distance along the centerline of a highway from an established segment.

PARTICIPATING — Adjustments or relocations performed after work has been programmed with and authorized by the FHWA; such funds are requested by the State at the pro-rate share applicable for the project where the FHWA requirements are met by the Department and the utility.

PRELIMINARY ENGINEERING — Transportation, labor, equipment and material for field engineering; e.g. survey, test holes, etc., preparation of plans, specifications and estimates and other related preparatory work.

PRELIMINARY ESTIMATE — The detailed relocation cost estimate, prepared by the utility, consisting of completed Forms 4181 and 4181A, highway plan sheets marked to show the relocation and any additional utility drawings or supplemental sheets which are necessary to provide a clear picture of the work to be performed and how the estimated costs were determined.

PRIVATE RIGHT-OF-WAY — Lands in which utilities have a real property interest for the purpose of the distribution and/or transmission of service. This term, when used for determination of eligibility for reimbursement, shall mean any area outside of a public right-of-way excepting lands owned by the Commonwealth or other party that are occupied by right of a license.

PRIVATE RIGHT-OF-WAY STATUS — The status of the facilities located within the highway right-of-way regarded by the Department as having private rights for the purpose of determining liability for relocation costs in the event of further relocation. In this situation the Department is responsible for payment of relocation costs or for providing substitute right-of-way.

PRO-RATED SHARE — The percentage of financial responsibility of the utility and the Department on a utility relocation necessitated by a highway construction project. Generally, pro-ratio is based on the original location of utility facilities.

PUBLIC RIGHT-OF-WAY — The legal right-of-way of any public highway, street, road or alley that is under the jurisdiction of the Department, municipality, or political subdivision. Certain navigable waterways are also designated by law as public right-of-way.

REAL PROPERTY INTEREST DOCUMENT — Evidence of the utility's title to a compensable real property interest.

REIMBURSEMENT — Payment, to the utility by the Department, of the costs incurred to change, alter, adjust or relocate facilities that are affected by construction and are proven to be on private right-of-way or enjoy private status.

RELOCATION — The adjustment, replacement, or relocation of utility facilities as required by a highway construction project, such as: removing and reinstalling the facility, acquiring necessary right-of-way, moving or rearranging existing facilities, changing the type of facility and any necessary safety and protective measures. It shall also mean constructing a replacement facility functionally equal to the existing facility, where necessary for continuous operation of the utility service, the project economy, or sequence of highway construction.

REQUIRED RIGHT-OF-WAY — Private property to be acquired by the Department for transportation purposes by amicable settlement or Eminent Domain proceedings.

RETIRED IN PLACE — Facilities no longer in use and not to be used in the future. They remain the responsibility of the utility until such facility is removed from State highway right-of-way.

SACRIFICED LIFE — A reimbursable charge in the amount of the computed value of the unused life of a utility facility removed from private property and not functionally replaced.

SALVAGE VALUE — The value of utility plant removed, if sold or if retained for reuse, in the amount at which the recovered materials are charged to the utility's accounts.

SUBSURFACE UTILITY ENGINEERING (SUE) — An engineering process that utilizes new and existing technologies to accurately identify, characterize, and map underground utilities early in the development of a project or in certain cases during construction.

UTILITY — A private, public, municipal or cooperative owned line, facility or system for producing, transmitting, or distributing communication, cable television, fiber optic, electric, gas, oil, crude products, water, steam, sanitary waste, and other similar commodities, which directly or indirectly serve the public. The term "utility" shall also mean the utility owner inclusive of any wholly owned or controlled subsidiary.

UTILITY CLEARANCE — The arrangements made by the utilities to accommodate the highway construction project. Utility Clearance does not indicate that the utility facilities are actually removed from the area but that facilities have been either adjusted to accommodate construction or that arrangements have been made to coordinate the relocation work with the highway contractors operations.

UTILITY DESIGN STAGE MEETINGS — Utility/Department meetings, held in the Engineering District, to discuss utility relocations on specific highway construction projects. Two such meetings are usually held on each project, the initial utility design stage meeting for discussion of probable relocation schemes and the final utility design stage meeting to review relocations for inclusion in the highway plans.

UTILITY RELOCATION AGREEMENT — A legal contract document that is used to outline financial and private status obligations between the Department and a Utility.

UR-EDMS — Utility Relocation Electronic Document Management System. The system is used to transfer and store utility relocation documents electronically.

WINDSHIELD ESTIMATE — An early lump sum estimate of relocation costs based on plan review and field inspection, which is used by the Department for programming purposes.

VERIFICATION OF FACILITIES — The furnishing of information by the utility to verify the type, size and location of facilities for the mutual benefit of both parties. Verification of facilities is intended to be accomplished at nominal cost to the utility (e.g.; through maps, records, etc.).

APPENDIX A

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**UTILITY RELOCATIONS
REVIEW GUIDELINES
(QA/QC Program)**

Purpose

The Central Office Utility Relocation Unit should review District Utility Relocation Unit project records to ensure that utility relocation procedures were performed in accordance with Federal Regulations, State Law and State Policies.

Review Teams

The review team should consist of two personnel from the Central Office Utility Relocation Unit.

Review Times

Each District Utility Relocation Unit should have at least one QA/QC review during the calendar year.

Review Process

- The Central Office Utility Relocation Unit should notify the District Utility Relocation Unit one month prior to beginning the review.
- The District should select four projects consisting of the following:
 - A project with federal funding where the preliminary engineering and final design phases have been completed within the last year.
 - A project with 100% state funding where the preliminary engineering and final design phases completed within the last year.
 - A project with federal funding where the construction and billing phases have been completed within the last year.
 - A project with 100% state funding and the construction and billing phases have been completed within the last year.
- Two of the projects (at least one with federal funds) must have complex utility relocations. Complex utility relocation projects consist of:
 - Four or more utility relocation reimbursement agreements.
 - More than six utilities within the project limits.
 - At least one cost sharing request.
 - More than 10 poles or 400 feet of underground line were impacted by the project.
- At least one of the projects must include at least one utility occupying limited access right-of-way.
- See the attached checklists for Preliminary Engineering & Final Design (Attachment A) and Construction & Billing (Attachment B) for specific items to be reviewed.

Review Closeout

- The Central Office Relocation Unit should:
 - Hold a close-out meeting with the District Utility Relocation Unit.
 - Prepare a final report and send that report to the District Utility Relocation Unit.
 - Follow-up (if needed) to ensure corrective actions have been taken to address deficiencies.

**ATTACHMENT A
UTILITY RELOCATIONS QUALITY ASSURANCE (QA)/QUALITY CONTROL (QC)
CHECKLIST FOR PRELIMINARY ENGINEERING & FINAL DESIGN**

District _____	County Name _____	SR & Section _____	MPMS # _____
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Preliminary Engineering

- **Project Design**
 - Was the project designed to avoid or minimize impacts to utility facilities? If so, explain what the Project Manager/Designer did to avoid or minimize impacts to utility facilities. If not, explain why. _____
 - Was Subsurface Utility Engineering (S.U.E.) considered and/or used? If so, was it used to help avoid or minimize impacts to utility facilities? _____
- **Initial Utility Design Stage Meeting**
 - Was an initial utility design stage meeting held? If so, were the items below covered? If not, explain why it was not held. _____
 - Were the utilities informed that if they intend to use a consultant engineering firm to design their relocation, the approval of the Department is required? _____
 - Were the utilities informed to immediately notify the District of any material that may be difficult to obtain? _____
 - Did the District investigate and identify any utility-related hazardous substance in or on an existing or proposed abandoned utility facility within the limits of a highway project? _____
 - Were the utilities informed that should they have relocations requiring an unusually long period of time to accomplish, the Department may authorize them to proceed with the physical relocation of their facilities prior to the execution of the agreement, provided it is in compliance with [Chapter 4, Final Design](#)? _____
 - Were the utilities informed that in the event any utility is not adequately staffed or equipped to design or construct its relocation, the Department should, upon written request from the utility, incorporate the relocation into the highway plan? _____
 - Were the activities that are subsequent to the initial design stage meeting explained in detail (see below)? _____
 - The prime objective of the procedures subsequent to the initial design stage meeting is to provide utility data for the highway right-of-way and construction plans in order to show the location of all existing and proposed utility facilities in the area covered by the plan and the disposition of existing and proposed facilities within the area of the highway project.
 - A further objective is to include on the highway right-of-way plan, prior to its completion, all substitute right-of-way to be acquired by the Department. See [Chapter 4, Final Design, Section 4.1.C](#).
- Were the cost sharing procedures reviewed? _____

Final Design

Final Utility Design Stage Meeting

- Was a final utility design stage meeting held? If so, were the items below covered? If not, explain why. _____
 - Were final determinations made at the meeting on such items as replacement right-of-way, material deliveries, details on incorporated relocations bridge occupancies, utility contractors and clearance time requirements? _____
 - Were the methods and responsibilities of the disposition of any and all utility related hazardous substance in or on an existing or proposed abandoned utility facility? _____
- Was the meeting held in advance of the consultant's submission of the right-of-way plan (or completion of the right-of-way plan by the District designer) to allow sufficient time for any plan revisions that may result from the meeting? It is recommended that this meeting be held 2 to 3 months prior to right-of-way plan completion. _____
- Did the District Utility Relocation Unit recommend, where applicable, definite action for the Department to acquire all remaining right-of-way required by the utilities? _____
- Were cost sharing requests submitted on time? _____
- Were the Preliminary Estimates submitted on time? _____
- Were the utilities given the proper amount of lead time to design their relocations? _____
- Were there any late plan changes that impact utilities that were not originally impacted? _____
- Was utility clearance prepared correctly and submitted prior to the PS&E package? _____

**ATTACHMENT B
UTILITY RELOCATIONS QUALITY ASSURANCE (QA)/QUALITY CONTROL (QC)
CHECKLIST FOR CONSTRUCTION & BILLING**

District _____ County Name _____ SR & Section _____ MPMS # _____

Construction

- Was a Pre-bid Conference held? If so, were the utilities invited to go over the status of their relocations? If not, explain why. _____
- Was a Preconstruction Conference held? If so, were the utilities invited so they can be informed of the contractor's method of operation and be afforded an opportunity to discuss the current status of their facilities in detail and the prior, restrictive, coordinated, and/or concurrent utility relocation work? _____
- Were all permits and agreement issued in time for utility companies to start work? _____
- Did each utility provide the District Utility Relocation Unit with written notice of the date that relocation work should be started? _____
- Did the District Utility Unit inform the District Construction Unit that inspection should be required and furnish the District Construction Unit with a copy of the utility's estimate/permit package for use by the assigned inspector? _____
- Were the utility companies given the required amount of time to relocate their facilities? _____
- Were there any changes to the utility relocation plan? _____

Billing

- Were all agreements executed before any bills were paid for utility relocation work? _____
- Were all billings submitted electronically via UR-EDMS or mailed, with the appropriate location code, to the utility post office box address provide in Chapter 8, [Section 8.4A](#)? _____
- Were total partial billings under 75% of the total reimbursable costs provided for in the agreement? _____
- Was the final and complete billing of relocation costs incurred submitted by the utility to the District Utility Relocation Unit within 365 days following written notification of completion of the highway construction project? _____
- Did the utility provide a copy of supporting documents with the Final Billing showing a breakdown of man-hours by date, direct salary costs by classification of employees for all engineering and labor, and an itemized list of materials used by quantity, type, and unit costs? _____
- Were computations used to determine the charge for Sacrificed Life, and the credits for Salvage, Expired service Life, and Betterment provided? _____

- Did the utility provide a copy of all invoices for contracted work and any other related supporting documentation required, substantiating the cost incurred? _____
- If there was a substantial difference (+/- 25%) between the total estimated cost and the total actual cost billed, or a substantial difference for individual items of cost (e.g., Preliminary Engineering, Right-of-Way, Construction, etc.) was an explanation attached to the Summary of Billing? _____

- Was a supplemental agreement required? _____

CONSTRUCTABILITY REVIEW- UTILITY PROCESS

General

To ensure that the utility relocation process has been considered in a constructability review of a project, this checklist may be used by participants fully engaged in the project delivery process.

This includes:

- Attending scoping field view
- Reviewing right-of-way plan
- Attending all constructability reviews
- Attending preliminary and final utility meeting
- Attending scheduling meeting to come up with the CPM on larger projects
- Reviewing final plans
- Attending pre-bid, pre-construction utility meeting and final inspection

30% Constructability

- Verify verification plans were sent to utilities, use color plans for utilities verification.
 - Verify all third party attachments have been identified through the verification process.
- Review plan to verify utilities are shown properly
- Identify any impacts to any facilities that may require large lead times or need to be avoided
- Review environmental constraints in relations to Utility Impacts
 - Are there any stream restrictions?
 - Is there any tree trimming restrictions?
 - Are there any archeology restrictions?
- Is SUE required
 - QLB
 - QLA- Are test pits required to verify any impacts

60% Constructability

- Review plan and cross sections to identify potential utility impacts
- Review plan for proposed crane pad and swing
 - Will any utilities need protected due to the crane placement?
- Review plan for excavation limits, shoring location and pile placement in relations to the existing utilities.
- Verify comments were addressed from 30% review
- Verify SUE data is shown properly on the plan and cross sections.

90% Constructability

- Review plan and cross sections to identify additional impacts caused by plan changes
- Verify comments were addressed from 60% review
- Review plans for the following

- Verify existing and proposed utilities were looked at when determining temporary pipes needed for E&S controls
- Verify existing and proposed utilities were looked at when determining needs for temporary widening, temporary roadways and temporary traffic control devices
- Verify existing and proposed utilities were looked at when determining the needs for signals, signs or lighting foundations.
- Verify drainage can be installed near existing and proposed utilities
 - Will any existing and/or proposed utilities need supported during the drainage installation?
- Verify benching and undercuts are shown on the cross sections due to potential utility impacts
- Verify curb and guiderail locations do not impact utilities and deflection distances are being met.
- Is Blasting required? If so are there any existing or proposed utilities within the blasting limits.
- Do manhole or valves need adjusted due to change in grades or ADA facilities
- Are vertical clearances being met over the roadway, shoulders and sidewalks
- Are utility facilities that are to remain in place clearly labeled as such on all plan sheets

Prior to Advertisement

- Verify comments were addressed from 90% review and final plan review
- Verify that all reimbursement agreements have been submitted to the Central Office
- Review the final plans in conjunction with the D-419, Utility Clearance
 - Are proposed relocations shown on the plan, including guy wires, fire hydrants, gas meters, etc.
 - Verify that the proposed utilities have clearance with respect to each other
 - Are proposed relocations shown on the cross sections?
 - Review the erection plan to verify the structure can be placed and the required OSHA clearance is met
 - If a line is being de-energized verify the Utility Clearance accounts for the need for one or multiple sessions, the required notification needed for the line to be de-energized, and the hours the line can be de-energized
 - Review the demo plan to verify existing and proposed utilities were considered when removing the structure.
 - Verify the Utility Block matches the D-419, Utility Clearance
- Review the CPM
 - Does the CPM match the lead times shown on the D-419, Utility Clearance?
 - Verify the CPM shows the aerial line lead times in sequential order
 - Does the CPM show the coordinated work occurring prior to the Utility starting that operation?
 - Does the CPM reflect any utility winter restrictions?
 - Verify aerial lead times are shown properly (times should not overlap)

- Can multiple utilities work at the same time (aerial and undergrounds or undergrounds and undergrounds)?
 - If not verify the CPM reflects this.

(Date)

_____, District Executive
PA Department of Transportation
Engineering District _____
_____, PA

_____ County
S.R. _____
Section _____
Cost Sharing Request Letter for
50% with Municipality and
Municipality Authority Utilities

ATTN: Utility Relocation

Dear _____:

This correspondence is submitted in accordance with Chapter 8.1.C of Design Manual Part 5, Utility Relocation, for referral to the Secretary of Transportation.

The proposed Highway Improvement Project of State Route _____, Section _____, between Station _____ and Station _____, located in (name of city, boro, etc.) in (name) _____ County requires the relocation and/or adjustment of certain (type) facilities owned by (utility owner).

It is understood that the cost of relocating and/or adjusting our facilities are normally at our cost and expense, but that under the provisions of Section 412.1 of the Act of June 1, 1945, P.L. 1242, as amended, 36 P.S. §670-412.1, the Secretary of Transportation may determine that the Department will share in such cost.

Accordingly, it is hereby requested that the Department of Transportation share in the costs of the relocation and/or adjustment of our (type) facilities.

The (utility owner) hereby offers to pay 50.00 percent of the actual cost to relocate and/or adjust our (type) facilities, provided the Department of Transportation will share in the balance of the actual cost thereof, less any betterment.

Furthermore, (utility owner) hereby agrees to execute an Agreement prepared by the Department of Transportation with such terms and conditions as the Secretary may deem necessary and advisable.

If the Secretary of Transportation accepts our offer and determines that the Department will share in 50.00 percent, the (utility owner) hereby agrees to provide:

- The justification for utility impacts no later than the agreed upon date of _____, 20__.
- The utility relocation plans, specifications, and estimate/agreement package no later than the agreed upon date of _____, 20__.
- The signed agreement to the Department no later than the agreed upon date of _____, 20__.

(Utility owner) recognizes and accepts that failure to meet the above stated milestones may result in the Department reducing its share to 0.00 percent of the actual cost to relocate and/or adjust our (type) facilities. However, if (utility owner) can recover from a missed milestone date without delaying the project letting, the Department will cost share for 25.00 percent.

Attached hereto and made a part hereof is an executed resolution authorizing (official title) to make the within offer.

(SEAL)

Sincerely

ATTEST:

The

(Title)

BY: _____
(Title)

SUGGESTED WORDING FOR RESOLUTION

In accordance with the requirements of the Pennsylvania Department of Transportation Design Manual - Part 5, Chapter 8.1.C, the _____ does hereby
 (Name of Municipality, Borough, Township, Authority)

authorize the submission of the attached request for the Pennsylvania Department of Transportation to provide a 50.00 percent reimbursement to _____
 (Name of Municipality, Borough, Twp, or Auth)

for all costs, less any betterments, incurred in relocating our _____ facility
 (Type of Facility)

affected by _____ necessitated by the Pennsylvania Department of
 (Project Identification)

Transportation Highway Improvement in _____ County.
 (Name of County)

Also the _____ of said Municipality be authorized and directed
 (Designate Official Title)

to sign a Utility Reimbursement Agreement on its behalf and that the _____
 (Designate Official Title)

be authorized and directed to attest the _____ signature on the Utility
 (Title)

Reimbursement Agreement for this highway project.

Adopted as a Resolution this _____ day of _____, _____
 (Day) (Month) (Year)

Attest: _____ By _____
 (Signature and Designation of Official Title) (Signature and Designation of Official Title)

(Seal)

Certification

I, _____ of the _____
 (Signature and Designation of Official Title) (Name or Municipality, Borough, Township, Authority)

attest that this Resolution, was officially adopted by the _____
 (Name of Council or Board)

at a duly-called meeting of the Authority.

(Seal)

 (Signature and Designation of Official Title)

MUNICIPAL/AUTHORITY RESOLUTION

BE IT RESOLVED by authority of the _____
(Borough Council, Board of Supervisors, etc.)

of the _____,
(Name of Municipality) (Name of County)

County, and it is hereby resolved by authority of the same, that the _____
(Chairman or designated Title)

of said Municipality/Authority be authorized and directed to sign the attached Agreement on its behalf

and the _____ be authorized and
(Sec. or Designated Title)

directed to attest the same.

(Name of Municipality)

ATTEST: _____
(Signature and Title)

BY: _____
(Signature and Title)

(SEAL)

I, _____ of the _____
(Name of Authority)

do hereby certify that the foregoing is a true and correct copy of the Resolution adopted

_____ at a regular meeting of the _____ held the
(Date)

___ day of _____, 20__.

DATE

(Date)

Mr. or Ms. _____, District Executive
PA Department of Transportation
Engineering District _____
_____, PA

_____ County
RE: S.R. _____
Section _____
Cost Sharing Request Letter for
Incorporation of Design &
Construction with Public Water
and Sewer Companies

ATTN: Utility Relocation

Dear Sir or Madam:

This correspondence is submitted in accordance with Chapter 8.1.C of Publication 16, Design Manual Part 5, *Utility Relocation*, for referral to the Secretary of Transportation.

The proposed Highway Improvement Project of State Route _____, Section _____, between Station _____ and Station _____, located in _____ (name of city, borough, etc.) in _____ (name) County requires the relocation and/or adjustment of certain _____ (type) facilities owned by _____ (Utility owner).

It is understood that the cost of relocating and/or adjusting our facilities are normally at our cost and expense, but that under the provisions of 74 Pa.C.S.A §9501 of Act 89 of 2013, the Secretary of Transportation may determine that the Department will share in such cost.

Accordingly, it is hereby requested that the Department of Transportation share in the costs of the relocation and/or adjustment of our _____ (type) facilities.

The _____ (Utility owner) hereby offers to pay 50.00 per centum of the actual cost to relocate and/or adjust our _____ (type) facilities, provided the Department of Transportation will share in the balance of the actual cost thereof, less any betterment.

Furthermore, _____ (Utility owner) hereby agrees to execute an Agreement prepared by the Department of Transportation with such terms and conditions as the Secretary may deem necessary and advisable.

If the Secretary of Transportation accepts our offer and determines that the Department will share in 50.00 per centum, the _____ hereby agrees to provide:

- The justification for utility impacts no later than the agreed upon date of _____, 20____.
- The specifications, and estimate/agreement package no later than the agreed upon date of _____, 20____.
- The signed agreement to the Department no later than the agreed upon date of _____, 20____.

_____ (Utility owner) recognizes and accepts that failure to meet the above stated milestones will result in the Department reducing its share to 0.00 per centum of the actual cost to relocate and/or adjust our _____ (type) facilities.

Sincerely
The
BY: _____
(Title)

(Date)

Mr. or Ms. _____, District Executive
PA Department of Transportation
Engineering District _____
_____, PA

_____ County
RE: S.R. _____
Section _____
Cost Sharing Request Letter for
Incorporated Work with Public
Water and Sewer Companies

ATTN: Utility Relocation

Dear Sir or Madam:

This correspondence is submitted in accordance with Chapter 8.1.C of Design Manual Part 5, *Utility Relocation*, for referral to the Secretary of Transportation.

The proposed Highway Improvement Project of State Route _____, Section _____, between Station _____ and Station _____, located in _____ (name of city, borough, etc.) in _____ (name) County requires the relocation and/or adjustment of certain _____ (type) facilities owned by _____ (Utility owner).

It is understood that the cost of relocating and/or adjusting our facilities are normally at our cost and expense, but that under the provisions of 74 Pa.C.S.A §9501 of Act 89 of 2013, the Secretary of Transportation may determine that the Department will share in such cost.

Accordingly, it is hereby requested that the Department of Transportation share in the costs of the relocation and/or adjustment of our _____ (type) facilities.

The _____ (Utility owner) hereby offers to pay 50.00 per centum of the actual cost to relocate and/or adjust our _____ (type) facilities, provided the Department of Transportation will share in the balance of the actual cost thereof, less any betterment.

Furthermore, _____ (Utility owner) hereby agrees to execute an Agreement prepared by the Department of Transportation with such terms and conditions as the Secretary may deem necessary and advisable.

If the Secretary of Transportation accepts our offer and determines that the Department will share in 50.00 per centum, the _____ (Utility owner) hereby agrees to provide:

- The justification for utility impacts no later than the agreed upon date of _____, 20__.
- The utility relocation plans, specifications, and estimate/agreement package no later than the agreed upon date of _____, 20__.
- The signed agreement to the Department no later than the agreed upon date of _____, 20__.

_____ (Utility owner) recognizes and accepts that failure to meet the above stated milestones will result in the Department reducing its share to 0.00 per centum of the actual cost to relocate and/or adjust our _____ (type) facilities.

Sincerely
The
BY: _____
(Title)

(Date)

Mr. or Ms. _____, District Executive
PA Department of Transportation
Engineering District _____
_____, PA

_____ County
RE: S.R. _____
Section _____
Cost Sharing Request Letter for
Prior Work with Public Water
and Sewer Companies

ATTN: Utility Relocation

Dear Sir or Madam:

This correspondence is submitted in accordance with Chapter 8.1.C of Design Manual Part 5, Utility Relocation, for referral to the Secretary of Transportation.

The proposed Highway Improvement Project of State Route _____, Section _____, between Station _____ and Station _____, located in _____ in _____ County
(name of city, borough, etc.) (name)

requires the relocation and/or adjustment of certain _____ facilities owned by _____.
(type) (Utility owner)

It is understood that the cost of relocating and/or adjusting our facilities are normally at our cost and expense, but that under the provisions of 74 Pa.C.S.A §9501 of Act 89 of 2013, the Secretary of Transportation may determine that the Department will share in such cost.

Accordingly, it is hereby requested that the Department of Transportation share in the costs of the relocation and/or adjustment of our _____ facilities.
(type)

The _____ hereby offers to pay 50.00 per centum of the actual cost to relocate and/or
(Utility owner)
adjust our _____ facilities, provided the Department of Transportation will share in the balance of the
(type)
actual cost thereof, less any betterment.

Furthermore, _____ hereby agrees to execute an Agreement prepared by the Department
(Utility owner)
of Transportation with such terms and conditions as the Secretary may deem necessary and advisable.

If the Secretary of Transportation accepts our offer and determines that the Department will share in 50.00 per centum, the _____ hereby agrees to provide:

- The justification for utility impacts no later than the agreed upon date of _____, 20__.
- The utility relocation plans, specifications, and estimate/agreement package no later than the agreed upon date of _____, 20__.
- The signed agreement to the Department no later than the agreed upon date of _____, 20__.
- The physical relocation of our facilities by no later than _____, 20__.

_____ recognizes and accepts that failure to meet the above stated milestones will result in the
(Utility owner)
Department reducing its share to 0.00 per centum of the actual cost to relocate and/or adjust our
_____ facilities.

Sincerely
The
BY: _____
(Title)

OS-2 (10-08)



“Date”

Name and Title
Utility Company
Address Line 1
Address Line 2

Reference: Project Notification Letter
(insert project short title)
County:
MPMS:
SR-Sec:

Dear Mr./Ms. Name:

This letter is to inform you that your underground facility with surface access may require vertical adjustment for the above referenced highway project.

The project consists of “add information describing the project”.

Please let us know if you will make the adjustments yourself or if you would like to incorporate the work into the Department’s highway contract at your expense. You may be eligible for cost sharing in accordance with Section 412.1 of the State Highway Law.

Please respond to me within thirty (30) calendar days of the date of this letter indicating if you are doing the adjustments or if you want the work to be incorporated in the Department’s highway contract. Failure to respond within thirty (30) calendar days of the date of this letter, will result in the Department incorporating the work into the highway contract and invoicing you for those adjustments. Failure to pay the amount invoiced for the incorporated work will result in the Department deducting the costs from any liquid fuel tax payments or withholding highway occupancy permits, in accordance with 71 P.S. § 515(g).

Thank you.

(Date)

_____, District Executive
PA Department of Transportation
Engineering District _____
_____, PA

_____ County
S.R. _____
Section _____
Cost Sharing Request Letter for
Prior Work with Municipality and
Municipality Authority Utilities

ATTN: Utility Relocation

Dear _____:

This correspondence is submitted in accordance with Chapter 8.1.C of Design Manual Part 5, Utility Relocation, for referral to the Secretary of Transportation.

The proposed Highway Improvement Project of State Route _____, Section _____, between Station _____ and Station _____, located in (name of city, boro, etc.) in (name) _____ County requires the relocation and/or adjustment of certain (type) facilities owned by (utility owner) _____.

It is understood that the cost of relocating and/or adjusting our facilities are normally at our cost and expense, but that under the provisions of Section 412.1 of the Act of June 1, 1945, P.L. 1242, as amended, 36 P.S. §670-412.1, the Secretary of Transportation may determine that the Department will share in such cost.

Accordingly, it is hereby requested that the Department of Transportation share in the costs of the relocation and/or adjustment of our (type) facilities.

The (utility owner) hereby offers to pay 25.00 percent of the actual cost to relocate and/or adjust our (type) facilities, provided the Department of Transportation will share in the balance of the actual cost thereof, less any betterment.

Furthermore, (utility owner) hereby agrees to execute an Agreement prepared by the Department of Transportation with such terms and conditions as the Secretary may deem necessary and advisable.

If the Secretary of Transportation accepts our offer and determines that the Department will share in 75.00 percent, the (utility owner) hereby agrees to provide the information by the accelerated dates listed below:

- The justification for utility impacts no later than the agreed upon date of _____, 20__.
- The utility relocation plans, specifications, and estimate/agreement package no later than the agreed upon date of _____, 20__.
- The signed agreement to the Department no later than the agreed upon date of _____, 20__.
- The physical relocation of our facilities by no later than _____, 20__.

(Utility owner) recognizes and accepts that failure to meet the above stated milestones may result in the Department reducing its share to 0.00 percent of the actual cost to relocate and/or adjust our (type) facilities. However, if (utility owner) can recover from a missed milestone date without delaying the project letting, the Department will cost share for 25.00 percent.

Attached hereto and made a part hereof is an executed resolution authorizing (official title) to make the within offer.

(SEAL)

ATTEST:

(Title)

Sincerely

The

BY: _____
(Title)

SUGGESTED WORDING FOR RESOLUTION

In accordance with the requirements of the Pennsylvania Department of Transportation Design Manual - Part 5, Chapter 8.1.C, the _____ does hereby
(Name of Municipality, Borough, Township, Authority)
authorize the submission of the attached request for the Pennsylvania Department of Transportation to provide a 75.00 percent reimbursement to _____
(Name of Municipality, Borough, Twp, or Auth)
for all costs, less any betterments, incurred in relocating our _____ facility
(Type of Facility)
affected by _____ necessitated by the Pennsylvania Department of
(Project Identification)
Transportation Highway Improvement in _____ County.
(Name of County)

Also the _____ of said Municipality be authorized and directed
(Designate Official Title)
to sign a Utility Reimbursement Agreement on its behalf and that the _____
(Designate Official Title)
be authorized and directed to attest the _____ signature on the Utility
(Title)
Reimbursement Agreement for this highway project.

Adopted as a Resolution this _____ day of _____ , _____
(Day) (Month) (Year)

Attest: _____ By _____
(Signature and Designation of Official Title) (Signature and Designation of Official Title)

(Seal)

Certification

I, _____ of the _____
(Signature and Designation of Official Title) (Name or Municipality, Borough, Township, Authority)

attest that this Resolution, was officially adopted by the _____
(Name of Council or Board)

at a duly-called meeting of the Authority.

(Seal)

(Signature and Designation of Official Title)

(Date)

_____, District Executive
PA Department of Transportation
Engineering District _____
_____, PA

_____ County
S.R. _____
Section _____
Cost Sharing Request Letter for
Incorporated Work with Municipality
and Municipality Authority Utilities

ATTN: Utility Relocation

Dear _____:

This correspondence is submitted in accordance with Chapter 8.1.C of Design Manual Part 5, Utility Relocation, for referral to the Secretary of Transportation.

The proposed Highway Improvement Project of State Route _____, Section _____, between Station _____ and Station _____, located in _____ (name of city, borough, etc.) in _____ (name) County requires the relocation and/or adjustment of certain _____ (type) facilities owned by _____ (utility owner).

It is understood that the cost of relocating and/or adjusting our facilities are normally at our cost and expense, but that under the provisions of Section 412.1 of the Act of June 1, 1945, P.L. 1242, as amended, 36 P.S. §670-412.1, the Secretary of Transportation may determine that the Department will share in such cost.

Accordingly, it is hereby requested that the Department of Transportation share in the costs of the relocation and/or adjustment of our _____ (type) facilities.

The _____ (utility owner) hereby offers to pay 25.00 percent of the actual cost to relocate and/or adjust our _____ (type) facilities, provided the Department of Transportation will share in the balance of the actual cost thereof, less any betterment.

Furthermore, _____ (utility owner) hereby agrees to execute an Agreement prepared by the Department of Transportation with such terms and conditions as the Secretary may deem necessary and advisable.

If the Secretary of Transportation accepts our offer and determines that the Department will share in 75.00 percent, the _____ (utility owner) hereby agrees to provide the information by the accelerated dates listed below:

- The justification for utility impacts no later than the agreed upon date of _____, 20____.
- The utility relocation plans, specifications, and estimate/agreement package no later than the agreed upon date of _____, 20____.
- The signed agreement to the Department no later than the agreed upon date of _____, 20____.

_____(Utility owner) recognizes and accepts that failure to meet the above stated milestones may result in the Department reducing its share to 0.00 percent of the actual cost to relocate and/or adjust our _____ (type) facilities. However, if _____ (utility owner) can recover from a missed milestone date without delaying the project letting, the Department will cost share for 25.00 percent.

Attached hereto and made a part hereof is an executed resolution authorizing _____ (official title) to make the within offer.

(SEAL)

ATTEST:

(Title)

Sincerely

The

BY: _____
(Title)

SUGGESTED WORDING FOR RESOLUTION

In accordance with the requirements of the Pennsylvania Department of Transportation Design Manual - Part 5, Chapter 8.1.C, the _____ does hereby
(Name of Municipality, Borough, Township, Authority)

authorize the submission of the attached request for the Pennsylvania Department of Transportation to provide a 75.00 percent reimbursement to _____
(Name of Municipality, Borough, Twp, or Auth)

for all costs, less any betterments, incurred in relocating our _____ facility
(Type of Facility)

affected by _____ necessitated by the Pennsylvania Department of
(Project Identification)

Transportation Highway Improvement in _____ County.
(Name of County)

Also the _____ of said Municipality be authorized and directed
(Designate Official Title)
to sign a Utility Reimbursement Agreement on its behalf and that the _____
(Designate Official Title)

be authorized and directed to attest the _____ signature on the Utility
(Title)

Reimbursement Agreement for this highway project.

Adopted as a Resolution this _____ day of _____ , _____
(Day) (Month) (Year)

Attest: _____ By _____
(Signature and Designation of Official Title) (Signature and Designation of Official Title)

(Seal)

Certification

I, _____ of the _____
(Signature and Designation of Official Title) (Name or Municipality, Borough, Township, Authority)

attest that this Resolution, was officially adopted by the _____
(Name of Council or Board)

at a duly-called meeting of the Authority.

(Seal)

(Signature and Designation of Official Title)

(Date)

_____, District Executive
PA Department of Transportation
Engineering District _____
_____, PA

_____ County
S.R. _____
Section _____
Cost Sharing Request Letter for
Incorporation of Design &
Construction with Municipality and
Municipality Authority Utilities

ATTN: Utility Relocation

Dear _____:

This correspondence is submitted in accordance with Chapter 8.1.C of Design Manual Part 5, Utility Relocation, for referral to the Secretary of Transportation.

The proposed Highway Improvement Project of State Route _____, Section _____, between Station _____ and Station _____, located in _____ (name of city, borough, etc.) in _____ (name) _____ County requires the relocation and/or adjustment of certain _____ (type) _____ facilities owned by _____ (utility owner) _____.

It is understood that the cost of relocating and/or adjusting our facilities are normally at our cost and expense, but that under the provisions of Section 412.1 of the Act of June 1, 1945, P.L. 1242, as amended, 36 P.S. §670-412.1, the Secretary of Transportation may determine that the Department will share in such cost.

Accordingly, it is hereby requested that the Department of Transportation share in the costs of the relocation and/or adjustment of our _____ (type) _____ facilities.

The _____ (utility owner) _____ hereby offers to pay 25.00 percent of the actual cost to relocate and/or adjust our _____ (type) _____ facilities, provided the Department of Transportation will share in the balance of the actual cost thereof, less any betterments.

Furthermore, _____ (utility owner) _____ hereby agrees to execute an Agreement prepared by the Department of Transportation with such terms and conditions as the Secretary may deem necessary and advisable.

If the Secretary of Transportation accepts our offer and determines that the Department will share in 75.00 percent, the _____ (utility owner) _____ hereby agrees to provide the information by the accelerated dates listed below:

- The justification for utility impacts no later than the agreed upon date of _____, 20____.
- The specifications, and estimate/agreement package no later than the agreed upon date of _____, 20____.
- The signed agreement to the Department no later than the agreed upon date of _____, 20____.

_____ (Utility owner) _____ recognizes and accepts that failure to meet the above stated milestones may result in the Department reducing its share to 0.00 percent of the actual cost to relocate and/or adjust our _____ (type) _____ facilities. However, if _____ (utility owner) _____ can recover from a missed milestone date without delaying the project letting, the Department will cost share for 25.00 percent.

Attached hereto and made a part hereof is an executed resolution authorizing _____ (official title) _____ to make the within offer.

(SEAL)

ATTEST:

(Title)

Sincerely

The

BY: _____
(Title)

SUGGESTED WORDING FOR RESOLUTION

In accordance with the requirements of the Pennsylvania Department of Transportation Design Manual - Part 5, Chapter 8.1.C, the _____ does hereby
(Name of Municipality, Borough, Township, Authority)
authorize the submission of the attached request for the Pennsylvania Department of Transportation to provide a 75.00 percent reimbursement to _____
(Name of Municipality, Borough, Twp, or Auth)
for all costs, less any betterments, incurred in relocating our _____ facility
(Type of Facility)
affected by _____ necessitated by the Pennsylvania Department of
(Project Identification)
Transportation Highway Improvement in _____ County.
(Name of County)

Also the _____ of said Municipality be authorized and directed
(Designate Official Title)
to sign a Utility Reimbursement Agreement on its behalf and that the _____
(Designate Official Title)
be authorized and directed to attest the _____ signature on the Utility
(Title)
Reimbursement Agreement for this highway project.

Adopted as a Resolution this _____ day of _____ , _____
(Day) (Month) (Year)

Attest: _____ By _____
(Signature and Designation of Official Title) (Signature and Designation of Official Title)

(Seal)

Certification

I, _____ of the _____
(Signature and Designation of Official Title) (Name or Municipality, Borough, Township, Authority)

attest that this Resolution, was officially adopted by the _____
(Name of Council or Board)

at a duly-called meeting of the Authority.

(Seal)

(Signature and Designation of Official Title)

CERTIFICATION OF CONSULTANT

I hereby certify that I am the _____ and duly authorized representative of the firm
(title)
of _____, whose address is _____ and

That, except as expressly stated and described herein, neither I nor the firm of _____ has, in
connection with its contract with _____, entered into pursuant to provisions of an
(name of utility)
agreement between the aforementioned utility and the Commonwealth of Pennsylvania:

(a) employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm, company, or person, other than a bona fide employee working solely for me or the aforementioned firm, to solicit or secure the contract, or

(b) agreed, as an express or implied condition for obtaining the award of the contract, to employ or retain the services of any firm, company, or person in connection with the carrying out of the contract, or

(c) paid, or agreed to pay, to any firm, company, organization, or person, other than a bona fide employee working solely for me or the aforementioned firm, any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the contract.

I acknowledge that this certificate is to be furnished to the Commonwealth of Pennsylvania and the U.S. Department of Transportation Federal Highway Administration, in connection with the aforementioned highway construction project, and is subject to applicable State and Federal laws, both criminal and civil.

Attest:

(Signature, Title)

(Signature, Title)

OS-2 (10-08)



“Date”

Name and Title
Utility Company
Address Line 1
Address Line 2

Reference: Milestone Date Letter for Manhole Covers, Drains and Other Surface Devices Adjustments
(insert project short title)
County:
MPMS:
SR-Sec:

Dear Mr./Ms. Name:

[USE THIS PORTION IF THE UTILITY WILL PERFORM THE ADJUSTMENT AND IS ELIGIBLE FOR COST SHARING]

In response to the project notification letter sent on “insert date”, you have indicated that you are going to perform the adjustments. Therefore, you will need to:

- submit the agreement package by “insert date”
- submit the signed agreement by “insert date”
- have the adjustments completed in coordination with the contractor’s schedule, and no later than “insert date”.

If you fail to meet the dates listed above, the Department will incorporate the adjustments into the highway contract and will invoice you for the work.

[USE THIS PORTION IF THE UTILITY WILL PERFORM THE ADJUSTMENT AND IS NOT ELIGIBLE FOR COST SHARING]

In response to the project notification letter sent on “insert date”, you have indicated that you are going to perform the adjustments. Therefore, you will need to have the adjustments completed in coordination with the contractor’s schedule, and no later than “insert date”.

If you fail to meet the dates listed above, the Department will incorporate the adjustments into the highway contract and will invoice you for the work.

[USE THIS PORTION IF THE WORK IS TO BE INCORPORATED]

In response to the project notification letter sent on “insert date”, you have indicated that you would like the work to be incorporated into the Department’s contract. Therefore, you will need to:

- submit the agreement package by “insert date”
- submit the signed agreement by “insert date”

If you fail to meet the dates listed above, the Department will proceed with the incorporation of the adjustments into the highway contract and will invoice you for the work, per Administrative Code, 71 P.S. § 515(g).

Should you require any additional information, please contact, **[TO BE COMPLETED BY DISTRICTS]**

1. Direct Payroll Costs shall consist of the estimated wages to be paid all employees of the consultant regardless of job classification, when directly engaged in work necessary to fulfill terms of the proposed agreement.

This estimate shall show a breakdown of man hours and direct salary costs by classification of employee for each of the following work items: (1) survey and preliminary engineering, (2) preparation of relocation plans and cost estimates and (3) construction engineering and inspection. These three work items are the minimum required and may be further broken down to conform to the consultant's accounting procedures. The following is an example of this cost breakdown, which shall be attached to the proposal.

ESTIMATED DIRECT PAYROLL COSTS

Survey & Preliminary engineering

Civil Engineer	hours @ \$	= \$
Draftsman	hours @ \$	= \$
Survey Party Chief	hours @ \$	= \$
Chainman	hours @ \$	= \$
Rodman	hours @ \$	= \$
TOTAL _____	hours	\$ _____

Prep. of Relocation Plans & Cost Estimates

Chief Engineer	hours @ \$	= \$
Civil Engineer	hours @ \$	= \$
Draftsman	hours @ \$	= \$
	hours	\$ _____

Construction Engineering & Inspection

Civil Engineer	hours @ \$	= \$
Draftsman	hours @ \$	= \$
Inspector	hours @ \$	= \$
TOTAL _____	hours	\$ _____

Total Estimated Direct Payroll Cost \$ _____

2. Indirect costs are those not directly chargeable to the project. Elements of costs which are eligible for reimbursement as indirect costs are limited to those which comply with Federal Procurement Regulations.

Consultants that are involved in highway design contracts with the Department shall use the indirect cost percentage approved by the Department for such contracts. Consultants without prior Department approval of indirect cost percentages may, for estimating purposes, use their current overhead rate based on previous year audit. In either case this calculation is only a provisional rate for estimating purposes and actual costs will be substantiated by Department audit.

3. The amount shown for profit shall be fair and equitable and shall not normally exceed 15% of the combined direct payroll and indirect payroll costs estimated to be incurred by the consultant; profit on direct costs other than payroll and on direct costs by others is not allowed (see Item 4). The consultant is required to explain how the profit figure was derived. The dollar amount shown for profit will be a fixed fee, adjustable only when justified by a change in the scope of work required under the original proposal and basic design agreement.

4. Direct in-house costs, other than payroll (e.g.: subsistence, travel, printing, reproduction, etc.) and direct costs by others hired by the consultant to perform engineering related work (e.g.: core borings, surveys, etc.) shall be estimated separately; profit is not allowed for such costs.

The consultant's proposal shall provide an engineering cost estimate prepared in accordance with the following example.

**ENGINEERING COST ESTIMATE
ACTUAL COSTS PLUS A FIXED FEE FOR PROFIT**

- A. Estimated Direct Payroll Costs (DETAILED estimate per No. 1, above) \$ _____
- B. Estimated Indirect Costs: ____ % of Direct Payroll \$ _____
- C. Estimated Total Engineering Costs (A & B) \$ _____
- D. Fixed Fee for Profit \$ _____
(The amount shown for profit shall be explained by the consultant and shall not normally exceed 15% of "C".)
- E. Estimated direct costs other than payroll and direct costs by others. \$ _____
- F. Total Engineering Costs \$ _____

NOTE: Item "F" includes Estimated amounts for Items A, B & E which will be reimbursed at actual costs and Item "D" which will be paid as a fixed fee in the dollar amount shown.

RE: Proposal for Design

County _____ S.R. _____

Gentlemen:

In accordance with your request, _____ is pleased to submit this proposal
(Consultant)
for engineering services relative to the _____ appurtenances to be relocated resulting
from the _____ County, S.R. _____ alignment along _____.

The scope and services being offered include engineering, the design of the facilities to be relocated, assistance during the construction bid phase and surveillance and inspection services during construction in order to insure the project is constructed in accordance with the approved plans and specifications.

It is proposed the engineering work be performed on actual engineering costs plus a fixed fee for profit.

Accordingly the proposed scope is as follows:

Phase I - Design

1. Conduct site surveying and confirm existing topographic data and prepare _____ revised easement drawings and description.
2. Obtain and review existing _____ drawings and design information
(Consultant Name)
received from Pennsylvania Department of Transportation (the Department) and their consultants regarding relocated connections to _____ facilities.
(Utility Name)
3. Contact all utility companies to locate their underground facilities along the route of the facilities to be relocated in accordance with the PA One Call Act.
4. Site visits to confirm actual locations for design relocations of the of the utility’s existing lines or facilities.
5. Prepare preliminary and final design plans and specifications including erosion and sedimentation control details.
6. Attend project review meetings with the Authority, financial institutions, the Department and the Townships as required.
7. Submission of plans and specifications to the Authority, Township, Pennsylvania Department of Environmental Protection (DEP) and the Department in order to obtain approvals and construction permits for construction of the relocated facilities.
8. Preparation of preliminary and final construction cost estimates of facilities to be relocated.

Phase II - Advertise and Receive Construction Bids

1. Prepare bid sets and submit to prospective bidders as requested.
2. Receive and answer Contractor questions.
3. Prepare and mail addenda to contract documents as required.
4. Assist the Authority in receipt of bids; review and tabulation of bids; make recommendation on apparent low bidder.
5. Submit bids to the Department for approval of costs.
6. Attend project meetings as required.

Phase III - Construction (Estimate 90 Working Days)

1. Survey stakeout for construction.
2. Material/equipment shop drawing review.
3. Surveillance/Inspection of _____ and Department Construction.
(Consultant Name)
4. Attend construction progress meetings.

It is expected the work can be accomplished for the estimated probable cost in the amount of \$ _____ (See attached engineering cost estimate).

It is understood all fees required by the Township (if any), DEP and the Department will be paid by the Authority.

As previously mentioned, and in order to comply with requests by the Department and their design consultants, work has proceeded into preliminary design.

After reviewing this proposal, we would be happy to discuss it with you and answer any questions you may have. After your review and approval please authorize the work to proceed by signing below and returning one copy to this office. We will then forward a copy to the Department for their review and approval.

We appreciate the opportunity to submit this proposal and look forward to working with you on this project. Thank you.

Sincerely,

(Consultant Name)

(Project Manager Name - Project Manager)

The above proposal is hereby accepted:

(Utility Name)

(Signature and Title)

Attest:

Date

ATTACHMENT I

ESTIMATED DIRECT PAYROLL COSTS

Survey & Preliminary Engineering

Civil Engineer	_____	hours @	\$ _____	= \$ _____
TOTAL	_____	hours		\$ _____

Prep. of Relocation Plans & Cost Estimates

Project Manager/Engineer	_____	hours @	\$ _____	= \$ _____
Civil Engineer	_____	hours @	\$ _____	= \$ _____
Draftsman	_____	hours @	\$ _____	= \$ _____
TOTAL	_____	hours		\$ _____

Construction Engineering & Inspection

Project Manager/Engineer	_____	hours @	\$ _____	= \$ _____
Draftsman	_____	hours @	\$ _____	= \$ _____
Inspector	_____	hours @	\$ _____	= \$ _____
TOTAL	_____	hours		\$ _____

Total Estimated Direct Payroll Cost \$ _____

ATTACHMENT II

**ESTIMATED COSTS ESTIMATE
ACTUAL COSTS PLUS A FIXED FEE FOR PROFIT**

1. Estimated Direct Payroll Costs \$ _____
2. Estimated Indirect Costs; _____% of Direct Payroll \$ _____
3. Estimated Total Engineering Costs (1 & 2) \$ _____
4. Fixed Fee for Profit @ 15% \$ _____
5. Estimated direct costs other than payroll and
direct costs by other \$ _____
6. Total Engineering Costs \$ _____

SUE Utility Impact Form

Instructions

-Step 1 is a screening processes and determines whether SUE (quality levels A & B) should be utilized for a project.

-If Step 1 indicates further analysis is required, conduct Step 2.

Step 1

Project information such as title, cost, description (general summary), and scope (actual work scope) should be filled out before beginning Step 1. If the scope of the project is changed, the utility impact rating analysis should be performed again for that project. Step 1 determines whether SUE (Quality levels A & B) should be utilized for a project.

The questions in Step 1 can be answered with traditional utility information (Quality levels C & D) provided by a one-call system, utility companies, site visits, etc. If there are no boxes checked in Column 2, then it is generally not practical to perform a SUE Quality levels A & B investigation. If boxes in Column 2 for questions 2, 3 or 4 are checked, the utility impact rating analysis proceeds to Step 2 to calculate a utility impact score and determine the appropriate SUE quality levels.

Step 2

Step 2 determines which SUE quality levels QLB or QLA should be selected for a project/section/location. Title, cost, description (general summary), and scope (actual work scope) should be filled out before answering the questions. The Step 2 questions are answered for a project, a section, or a location, while all questions in Step 1 are for a project. One project can have several sections or locations that have different utility impacts. Step 2 should be conducted for each section or location as necessary so that SUE quality levels can be selected for each section or location.

Filing Procedure

File a copy of the SUE Utility Impact Form in the project file and upload to EDMS

NOTE: When filling out the utility impact form electronically as a Microsoft Excel Spreadsheet:

Yellow shaded fields will be automatically completed.

Fields with no shading require input from the user.

SUE UTILITY IMPACT FORM-STEP 1					
<i>Steps 1 is a screening process and Step 2 is an evaluation of the project passing Step 1.</i>					
Project Information					
MPMS Number/Title:					
County/SR/Section:					
Project Description: <i>(General Summary)</i>					
Project Scope: <i>(Actual Work Scope Note: If the scope of the project changes, it is recommended that utility impact analysis be done again.)</i>					
No.	QUESTIONS	Column 1		Column 2	
1	Is there evidence of underground utilities in the project area? (based on information from SUE quality level D&C)	<input type="radio"/>	NO	<input type="radio"/>	YES or Unknown
2	Does the project require more than 2 feet of excavation? Note: This includes any temporary construction easements (TCE) or other easements.	<input type="radio"/>	NO	<input type="radio"/>	YES or Unknown
3	What is the likelihood that project will have impact on the existing subsurface utilities?	<input type="radio"/>	No Impact	<input type="radio"/>	Impact
4	Do the utility owners in the project area have accurate utility information?	<input type="radio"/>	Yes	<input type="radio"/>	No
<p>- If there are no boxes checked in Column 2, then it is generally not practicable to perform a SUE quality levels A and B investigation.</p> <p>- If the boxes in Column 2 for questions 2, 3 or 4 are checked, please proceed to STEP 2 to calculate utility impact score and determine the appropriate SUE quality levels.</p>					

SUE UTILITY IMPACT FORM – STEP 2 SUMMARY ANALYSIS									
<p><i>STEP 2 determines which SUE quality level should be selected for a project/section/location.</i></p> <p><i>*NOTE-Step 2 analysis can be conducted at the project level, or for a specific location within the project (e.g., intersection, utility crossing, etc.). Conduct Step 2 detailed analysis as necessary for each potential impact location.</i></p>									
MPMS Number/Title:									
County/SR/Section:									
SUE Impact Location*- Description & Scope: (leave blank when using Step 2 for overall project level impact analysis)									
<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr style="background-color: #666; color: white;"> <th colspan="2" style="padding: 5px;">STEP 2 UTILITY IMPACT SCORE RESULTS</th> </tr> </thead> <tbody> <tr> <td style="width: 50%; padding: 5px;">Utility Impact Score:</td> <td style="width: 50%; padding: 5px;">Recommended SUE Quality Level:</td> </tr> <tr> <td style="background-color: #fff9c4; height: 30px;"></td> <td style="background-color: #fff9c4; height: 30px;"></td> </tr> </tbody> </table>				STEP 2 UTILITY IMPACT SCORE RESULTS		Utility Impact Score:	Recommended SUE Quality Level:		
STEP 2 UTILITY IMPACT SCORE RESULTS									
Utility Impact Score:	Recommended SUE Quality Level:								
UTILITY IMPACT SCORE CALCULATION DESCRIPTION									
1: Total Box Checked	Sum of Column 1	Sum of Column 2	Sum of Column 3						
2: Utility Impact Score	$[(1 \times \text{Sum of Column 1}) + (2 \times \text{Sum of Column 2}) + (3 \times \text{Sum of Column 3})] / n$								
<p><i>This Table demonstrates the process for calculating the utility impact score based on response.</i></p> <p><i>n = Number of the complexity factors considered/checked</i></p>									
UTILITY IMPACT SCORING LEVELS AND FACTORS									
<p><i>This table provides the recommended SUE quality level based on the utility impact score range.</i></p>									
Utility Impact Score	1.01-1.67	1.68-2.33	2.34-3.00						
Recommended Minimum SUE Quality Levels	QLB	QLB/A	QLA						

SUE UTILITY IMPACT FORM – STEP 2 DETAILED ANALYSIS

-Check the utility impact rating to the right that best fits your opinion of the issue. If the answer for the complexity factor is unknown, always check Column 3.

-Refer to page 5 for a detailed description of the complexity factors.

-When using an electronic version for the Step 2 analysis, place cursor over the cell on the spreadsheet for a detailed description of the complexity factor.

No.	Complexity Factors	Column 1	Column 2	Column 3
1	Density of Utilities (number)	<input type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High
2	Type of Utilities	<input type="radio"/> Less Critical	<input type="radio"/> Sub Critical	<input type="radio"/> Critical
3	Pattern of Utilities (number)	<input type="radio"/> Simple	<input type="radio"/> Medium	<input type="radio"/> Complex
4	Material of Utilities	<input type="radio"/> Rigid	<input type="radio"/> Flexible	<input type="radio"/> Brittle
5	Access to Utilities	<input type="radio"/> Easy	<input type="radio"/> Medium	<input type="radio"/> Restricted
6	Age of Utilities (year)	<input type="radio"/> New	<input type="radio"/> Medium	<input type="radio"/> Old
7	Project Area Description	<input type="radio"/> Rural	<input type="radio"/> Suburban	<input type="radio"/> Urban
8	Type of Project	<input type="radio"/> Simple	<input type="radio"/> Moderate	<input type="radio"/> Complicated
9	Quality of Utility Record	<input type="radio"/> Good	<input type="radio"/> Fair	<input type="radio"/> Poor
10	Estimated Business Impact	<input type="radio"/> Low	<input type="radio"/> Moderate	<input type="radio"/> High
11	Estimated Environmental Impact	<input type="radio"/> Low	<input type="radio"/> Moderate	<input type="radio"/> High
12	Estimated Safety Impact	<input type="radio"/> Low	<input type="radio"/> Moderate	<input type="radio"/> High
13	Other Impact-Specify:	<input type="radio"/> Low	<input type="radio"/> Moderate	<input type="radio"/> High

SUE UTILITY IMPACT FORM - STEP 2 COMPLEXITY FACTORS

This section presents detailed descriptions of each complexity factor in order to properly evaluate the utility impact rating that best fits the opinion of the issue in STEP 2.

1. Number of Utilities

Number of utilities indicates the number of buried utilities per roadway cross-section that can be expected to be encountered on the project. If there are many utilities expected to be buried within the project, more reliable data/information will be required to successfully locate the utilities. A higher density of utilities means more utility complexity, which requires getting better information related to underground utilities on the project.

Low	One pipe/roadway cross-section
Medium	2 or 3 pipes/roadway cross-section
High	More than 3 pipes/roadway cross-section and unknown pipes

2. Type of Utilities

Type of utilities indicates service types of buried utilities that can be expected to be encountered on the project. Utilities can be broadly divided into three different categories: (1) municipal, (2) energy, and (3) communication. Critical utilities, such as fiber-optic lines, are buried at a more shallow depth than other types of utilities, so the possibility of accidentally hitting these lines is high. In addition, hitting gas or high voltage lines can have serious impacts. Therefore, critical utilities generally require a greater level of data/information than other underground utilities on the project site.

Less-Critical	Water, forced sewer main, storm water
Sub-Critical	Telephone, electric, television cable, gravity sewer
Critical	Fiber-optic cable, gas, oil, petroleum, high-voltage line, unknowns

3. Pattern of Utilities

Pattern of utilities indicates configuration of buried utilities that can be expected to be encountered on the project. Some areas may have a simple pattern that consists of a few parallel or crossing utilities, while some areas may have a complex pattern that consists of many parallel and crossing utilities. For instance, an intersection in a downtown area may have a more complex pattern of utilities than other areas. A more complex pattern of utilities requires more reliable information.

Simple	One parallel and/or one crossing utility
Medium	2 parallel and/or 2 crossing utilities
Complex	More than 2 parallel and/or crossing utilities

SUE UTILITY IMPACT FORM - STEP 2 COMPLEXITY FACTORS

4. Material of Utilities	
Material of utilities indicates the material types of buried utilities that can be expected to be encountered on the project. This factor is separated into three different categories: (1) rigid, (2) flexible, and (3) brittle. Brittle material requires higher quality levels of SUE than other materials. Some utility materials are more susceptible to damage than others.	
Rigid	Concrete, cast iron, ductile iron
Flexible	PVC, HDPE
Brittle	Such as clay, brick, ceramic, etc., or unknown
5. Access to Utilities	
Access to utilities indicates the difficulty or ease of access to buried utilities that may be encountered on the project. If access to buried utilities is restricted, it will be more difficult to get accurate information on these buried utilities than in areas where access to utilities is easy. It is recommended that higher quality levels of SUE be used when access to utilities is more restricted.	
Easy	Open land
Medium	Few light structures, pavement, median
Restricted	Bridge pier, other big structures
6. Age of Utilities	
Age of utilities may reveal the type of utility material and the physical condition of the utility. Older pipes may have deteriorated extensively and become more easily damaged by an accidental hit during construction activity. In addition, existing records of old utilities may be less reliable.	
New	≤ 10 years
Medium	> 10 and ≤ 25 years
Old	> 25 years
7. Project Area Description	
Project area description indicates the location or nature of the project. This factor is separated into three different categories: (1) rural, (2) suburban, and (3) urban. In general, urban areas have more complex and congested utilities because of higher building and infrastructure density. Therefore, an urban area usually means more congested utilities, so higher quality levels are recommended.	
Rural	Rural areas with lots of open land
Suburban	Suburban areas with few businesses and residences
Urban	Urban areas with many businesses and residences

SUE UTILITY IMPACT FORM - STEP 2 COMPLEXITY FACTORS

8. Type of Project/Section/Location	
<p>Type of project quite often may indicate whether SUE is need. As an example, a pavement resurfacing project that generally requires work only on the pavement surface will not need SUE. Project location and, specifically, the section at which the construction work will take place may reveal traffic volume, accessibility, and potential consequences of accidentally damaging the buried utilities. This factor is separated into three different categories: (1) without excavation, (2) shallow excavation, and (3) deep excavation.</p>	
Simple	Without excavation, i.e., widening, other minor construction work
Moderate	Shallow excavation, i.e., guide rail, low depth pipe replacement, traffic light post, shoulder cutting, minor drainage
Complicated	Deep excavation, i.e., new construction, full-depth reconstruction, bridge foundation, deep-depth pipe replacement, etc.
9. Quality of Utility Record	
<p>Quality of utility record indicates the reliability of existing records on buried utilities. The availability of accurate historical utility records for the project will be able to reduce the potential for accidentally hitting unexpected underground utilities. This factor is separated into three different categories: (1) good, (2) fair, and (3) poor. A poor quality of utility records requires higher quality levels of SUE.</p>	
Good	Very accurate record of utilities
Fair	Not very good record of utilities
Poor	Utilities information/data are not accurate
10. Estimated Business Impact	
<p>Business impact is concerned with the income and property loss of local businesses resulting from accidents due to hitting unexpected buried utilities. At areas near or surrounding high business density, the quality level A of SUE is essential. User impact, access to business, and length of service interruption should also be taken into consideration.</p>	
Low	Very low business impact in the project area
Moderate	Possibility of some business impact in the project area
High	Great business impact in the project area
11. Estimated Environmental Impact	
<p>Potential environmental problems caused by accidentally hitting an in-service utility, such as a gas explosion, oil spill, and/or water flooding, need to be assessed. Project areas with a high potential of environmental impact require a high quality level of SUE.</p>	
Low	Very low environmental impact in the project area
Moderate	Possibility of some environmental impact in the project area
High	Great environmental impact in the project area

SUE UTILITY IMPACT FORM - STEP 2 COMPLEXITY FACTORS

12. Estimated Safety Impact	
Safety impact is concerned with possible injury to people caused by accidentally hitting an in-service utility. Projects located in densely populated areas require a high quality level of SUE to minimize the likelihood of such an impact.	
Low	Very low safety impact in the project area
Moderate	Possibility of some safety impact in the project area
High	Great safety impact in the project area
13. Other Factors-Specify	
Projects having a high potential of other impact factors require a high quality level of SUE to avoid or reduce project risks, i.e., blasting of rocks, relocation of other utilities, etc.	
Low	Very low impact in the project area
Moderate	Possibility of some impact in the project area
High	Greater impact in the project area

SUE UTILITY IMPACT REPORT			
Project Information			
MPMS Number/Title:			
County/SR/Section:			
Project Description: <i>(General Summary)</i>			
Project Scope: <i>(Actual Work Scope Note: If the scope of the project changes, it is recommended that utility impact analysis be done again.)</i>			
DUA Approval:		Date:	
Project Manager Approval:		Date:	
Step 1 Summary			
Step 1 Analysis Recommendation:			
	Generally not practicable to perform a SUE QLA or QLB investigation.		
	Proceed to STEP 2 to calculate utility impact score and determine the appropriate SUE quality levels.		

SUE UTILITY IMPACT REPORT			
Step 2 QL Recommendation and Selection			
SELECTED SUE QUALITY LEVEL(S):			
<p><i>The Project Manager, along with the District Utility Administrator, must work together to select the SUE Quality Level(s) intended for use on the project. The Project Manager has the final decision to use or not to use SUE on a project.</i></p> <p><i>-The selection justification must be documented on the SUE Quality Level Justification.</i></p> <p><i>-Site specific areas may require re-evaluation of Step 2 to determine appropriate SUE Quality Level.</i></p>			
Utility Impact Score Results:			
Utility Impact Score:	Recommended Minimum SUE Quality Level:		
SUE Impact Location-Description & Scope: <i>(blank for overall project level impact analysis)</i>			
Utility Impact Score Calculation Description			
<p><i>This Table demonstrates the process for calculating the utility impact score based on response.</i></p> <p><i>*n = Number of the complexity factors considered/checked</i></p>			
Checked	Sum of Column 1	Sum of Column 2	Sum of Column 3
2: Utility Impact Score	$[(1 \times \text{Sum of Column 1}) + (2 \times \text{Sum of Column 2}) + (3 \times \text{Sum of Column 3})] / n^*$		
Utility Impact Scoring Levels			
<p><i>All factors are based on the result utility impact score calculation.</i></p>			
Utility Impact Score	1.01 – 1.67	1.68– 2.33	2.34 – 3.00
Recommended Minimum SUE QL	QLB	QLB/A	QLA
Impact Level Descriptions:			
Utility Impact Score	Result of utility impact score calculation.		
Recommended Minimum SUE Quality Levels	<p>The minimum SUE quality level recommended by the step 2 analysis.</p> <p><i>The ultimate SUE quality level selected for a project requires the judgement of the Project Manager.</i></p>		

SUE UTILITY IMPACT REPORT

Step 2-Selected SUE Quality Level Justification

-Include a justification of the SUE quality level selected. Include a discussion of the reasons why a SUE quality level chosen is different than the SUE quality level recommended in the Step 2 analysis.

QLB Selected Locations and/or Utilities and Justification

QLA Recommended Test Hole Locations and Justification

UTILITY RELOCATION COORDINATION PROCEDURES & LEAD TIME POLICY

The utility relocation coordination procedures and lead time policy consists of best practices, complexity levels, minimum plan requirements and lead times.

Proper management procedures to improve coordination, establish time schedules and better communication between the District offices and the utility companies will allow all utilities to receive adequate lead times and assure project letting schedules are met.

To assure utility engineering and physical relocations are accomplished by affected utility companies, in a time frame conducive to a specific highway project, the Department has established the following best practices, utility work complexity levels, minimum plan requirements and lead times for utility relocation work.

Best Practices

- Highway Design
 - Highway and street improvements must be designed to avoid or minimize impacts to utility facilities. Utility companies should be included as part of the design process.
 - Adequate levels of Subsurface Utility Engineering (SUE) may be required to determine the horizontal and vertical location of underground utilities (see [Chapter 6](#)).
 - Avoid late plan changes that would impact utility facilities.
 - The District Utility Relocation Unit is to attend all Scoping Field Views to determine the possible impact the project may have on utilities. They will provide District officials anticipated time frame utilities may need to relocate their facilities based on the complexity of anticipated utility work. Project letting dates should reflect the utility company's Lead Time needs. See below for the utility complexity levels.

- Utility Coordination
 - Hold periodic/annual meetings with utility companies, municipal authorities and political subdivisions to discuss future highway projects and determine utility impacts, resolve issues, answer project specific questions and go over the status of projects having major utility relocations.
 - The District Utility Relocation Unit is to receive adequate and complete plans at the scheduled times established in the milestones for the project.
 - The District Utility Relocation Unit must include the scheduled submission date for the written arrangements in the letter authorizing preliminary engineering or on a more complex project; it may be beneficial to hold a Design Field View with the affected utility companies at the project site. At the Field View, the District is to establish dates the Department will have plans available to utility companies and the date the utility will submit their engineering to the Department.
 - Perform a comprehensive review of utility relocation permit applications and plans to ensure compatibility with the Department's design, project goals/intent and to eliminate the need for second moves of utility facilities.

- Lead/Construction Time
 - Make sure utility companies are given adequate time to design the relocations, prepare the permit/agreement packages, obtain their material and complete the relocation.

- Schedules
 - Provide utilities with long-range highway construction schedules and make sure utility companies are made aware of changes in the let schedule dates. It is understood that this schedule is subject to change and should be indicated as such when forwarding to utilities.
 - The Districts should establish milestones to be met on highway projects. It is recommended that Open Plan be used to track the milestones. These milestones, at a minimum, should include dates for Design Field Views and plans to utilities.

- Working Relationship
 - Develop and maintain a good working relationship with the utility companies.

Utility Work Complexity Levels - Utility work complexity levels will be determined by the District Utility Relocation Coordinator as follows:

- **Non-Complex** – A project that only requires minor utility adjustments/relocations should allow up to 10 weeks for the affected utility companies to do their engineering. Engineering work encompasses all work and forms completed up to the scheduling of construction. Other project factors to consider include low density of utilities and/or rural project locations. Below are some examples of non-complex utility work:
 - Adjustment of less than 20 manholes and/or valve boxes
 - De-energizing of power lines
 - Minor relocations of appurtenances
 - No right-of-way required by the utilities
 - No incorporated utility work

- **Moderately Complex** – A project that requires some utility relocation work should allow up to 16 weeks for the affected utility companies to do their engineering. Engineering work encompasses all work and forms completed up to the scheduling of construction. Other project factors to consider include medium density of utilities and/or rural or suburban project locations. Below are some examples of moderately complex utility work:
 - Adjustments of 20 or more manholes and/or value boxes
 - Less than 6 manhole rebuilds
 - The relocation of less than 200 feet of underground utilities
 - 1 to 10 pipe lowering to accommodate cross pipes
 - 10 or less pole relocations
 - No right-of-way is required by the utilities
 - 2 or less utilities with incorporated work

- **Most Complex** – A project that requires extensive utility relocations should allow up to 24 weeks (36 weeks to a year if a railroad, a pipeline or transmission facilities are involved) for the affected companies to do their engineering. Engineering work encompasses all work and forms completed up to the scheduling of construction. Other project factors to consider include high density of utilities, urban project locations, or the presence of high pressure gas lines. Below are some examples of most complex utility work:
 - More than 6 manhole rebuilds
 - The relocation of more than 200 feet of underground utilities
 - More than 10 pipe lowering to accommodate cross pipes
 - 11 or more pole relocations
 - Right-of-way is required by the utilities
 - 3 or more utilities incorporating work
 - The relocation of transmission facilities and substations
 - Installing or relocating a sewer pumping station
 - Installing or relocating large utility pipe (36 inches or more in diameter)
 - Heavy multi-utility coordination is involved

Minimum Plan Requirements for Utilities

- Attachment "A" provides minimum data required for development of plans.

Lead Time Policy Flowchart

- Attachment "B" contains a flow chart and some suggested time frames for adjusting aboveground and underground distribution facilities.

ATTACHMENT "A"

MINIMUM PLAN REQUIREMENTS FOR UTILITIES

During Final Design, all procedures involving utilities shall conform to the requirements specified in [Chapter 4](#) of this Manual.

On some minor type projects we are using 8.5" x 11" or straight-line type plans. On these projects it is necessary that we provide a minimum type plan for use with the utility companies to coordinate any necessary relocations and/or adjustments. These plans may be separate from the plan prepared for contract purposes. However, they should contain the following information:

1. Location of existing affected utility poles with distance from centerline.
2. Edge and width of pavement and shoulder with distance from centerline.
3. Width of right of way, legal and preliminary required, at affected locations.
4. Centerline distance of drainage pipes and inlets with size, if new or existing drainage is being installed or adjusted.
5. Existing and proposed guide rail (type of proposed guide rail and its offset from centerline).
6. Cross-sections where applicable. Each utility shall determine, by segment and longitudinal roadway offset, those portions of the plan and cross sections to be furnished to them by the designer, at a later date, for their use in developing a relocation plan.
7. The location of underground utilities and any surveyed utility facilities.
8. Centerline distance and location of new traffic and street light poles and height along with foundation details to be installed.
9. Conceptual centerline distance and location of new signs over 15 feet in height.
10. Location Map
11. Project limits
12. Location of crash cluster areas, type of fixed objects to be relocated, removed or protected.
13. Profiles of cut and fill where involved.
14. Width and location of curb and sidewalks (Existing and Proposed)
15. Centerline and width of new or existing driving lane.
16. Conceptual Erosion and Sedimentation Plans
17. Electronic and hard copy drawings
18. Benchmarks (when applicable)
19. Existing Utility Pole Numbers
20. Temporary Roadway

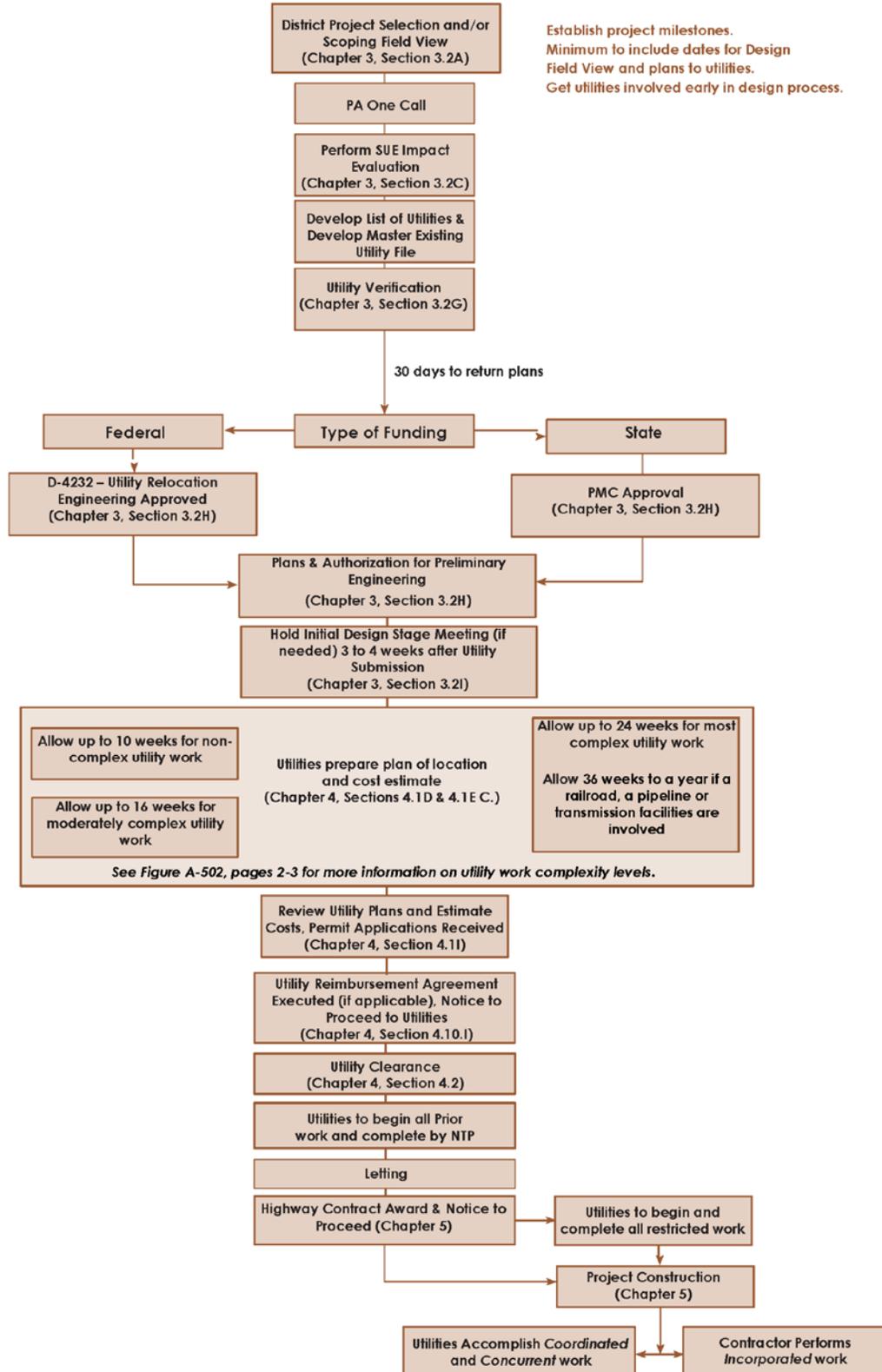
Bridge

1. Sheet pile and pile-driving locations
2. Abutments/Piers
3. Estimated limits of excavation for abutments, footers and piers
4. TS&L Plan (Type, Size & Location Plan)
5. Conceptual clear working area and/or crane placements

Noise Walls

1. Conceptual Noise Wall Information (excavation limits for footers, wall height and under wall height, elevations)

ATTACHMENT "B"
Lead Time Policy Flowchart



Suggested Letter Format

_____ County
S.R.____, Section_____
Verification Plan

(Utility Name and Address)

Dear _____:

We are in the process of performing surveys and preparing right-of-way plans for a Pennsylvania Department of Transportation construction project on S.R._____, Section_____, which is located in _____
(Township, Borough, City and County). This project begins at _____ and
(Station/Segment, Offset) terminates at _____
(Station/Segment, Offset).

In order that we may verify the type, size and approximate location of your existing facilities, we are enclosing two (2) prints of the latest available plan for this project.

Please verify the information contained in these plans or advise us of any additions, changes or corrections required to properly show your existing facilities. It is intended that this mutually beneficial information be provided from available company maps and records.

If in the event it becomes necessary to perform field engineering; e.g.: surveying, test holes, etc., where highway design features may be affected by the location of existing facilities, authorization to perform such specific engineering operations shall be requested from the District Utility Relocation Unit.

Please make any additions, changes or corrections on the prints and return one (1) set to our office on or before _____
(Date).

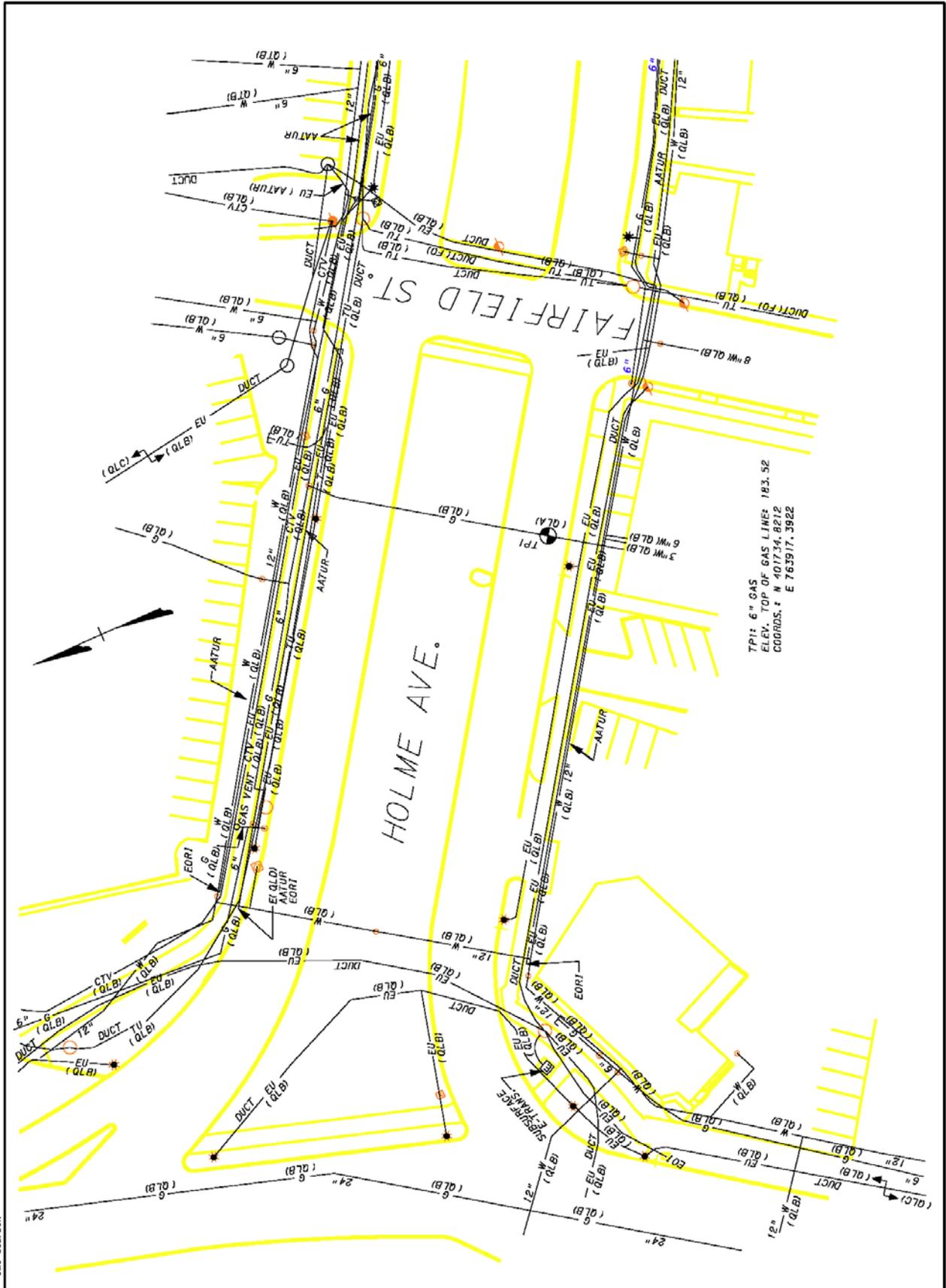
Also attached are four (4) copies of Bridge Occupancy Form (Preliminary), Form 4181X, upon which are shown the locations of proposed structures by highway stationing. Please return with the above prints three (3) copies of Form 4181X, completed to indicate possible bridge occupancy.

For additional information, please contact _____.

Sincerely,

District Executive

Sample Plan Depicting Subsurface Utility Engineering Data



Work Breakdown Structure Code in ECMS

2.9.3	Subsurface Utility Engineering (SUE) Services
Description	Subsurface Utility Engineering (SUE) Services
Objective	Provide services at Quality Levels B and A (as defined in CI/ASCE 38-02) as directed by the Department to aid in the development of right-of-way, preliminary engineering, and construction contract plans for projects selected by the Department.
Statement of Work	<p>Guidance:</p> <ul style="list-style-type: none"> - American Society of Civil Engineers (ASCE) Standard CI/ASCE 38-02, Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data - Publication 16, Design Manual Part 5 - Utility Relocation - Publication 14M, Design Manual Part 3 - Plans Presentation - Publication 212, Official Traffic Control Devices - Publication 213, Work Zone Traffic Control Manual - Pennsylvania Underground Utility Line Protection Law, PA Act 287 as amended - Pennsylvania Code Title 67, Chapter 459 Occupancy of Highways by Utilities, § 459.8, Special Conditions—Subsurface Operations <p>Scope:</p> <p>General Services-</p> <ol style="list-style-type: none"> 1. Project coordination will be handled through the District Utility Relocation Unit. 2. Provide all traffic control and maintenance of traffic operations as required by Publications 212 and 213 and the Manual of Uniform Traffic Control Devices (MUTCD) and local ordinances. 3. Utility companies may require a non-disclosure agreement to release their plans. The scope of work is to include all fees associated with these non-disclosure agreements. <p>SUE Services Requirements-</p> <p>Demonstrate the staff, equipment, experience, and resources to perform all Subsurface Utility Engineering services through Quality Level A, as follows:</p> <ol style="list-style-type: none"> 1. The consultant must have at least one professional engineer registered in the State of Pennsylvania and one professional surveyor registered in the State of Pennsylvania that are on the project team, each with a minimum of two years' experience in subsurface utility engineering. 2. Equipment available to perform the necessary range of Subsurface Utility Engineering services including a minimum of two types of electromagnetic / acoustical designating equipment and a ground penetrating radar (GPR) system (QLB), one air / vacuum excavation system (water jet systems not allowed) (QLA), and all necessary survey equipment. 3. Provide a single project manager to represent the firm in a liaison capacity with the Department in accordance with Publication 442, Specifications for

2.9.3	Subsurface Utility Engineering (SUE) Services
Description	<p>Subsurface Utility Engineering (SUE) Services</p> <p>Consultant Agreements for Project Development Services.</p> <p>4. Capability of providing both electronic and certified hard copy deliverables in approved electronic and plan presentation format in accordance with Design Manual Part 3.</p> <p>The scope of work will include the following minimum activities:</p> <p>A. Designating Services (Horizontal Mapping) (QLB)</p> <p>Perform designating services as directed by the Department, as follows:</p> <ol style="list-style-type: none"> 1. Coordinate with the Department to conduct appropriate records research, investigate site conditions and identify applicable project limits. Contact the registered underground utility protection services and the owner(s) of underground utility facilities that are not members of PA One Call for the existence and location of all underground utility facilities within the project limits. The Consultant may provide plans to those utility owners contacted in which the existence and location of utilities over which they have ownership may be shown, as deemed necessary. Supplement this information through records research and site investigation to confirm the existence and location of the identified utilities. If another party has already completed this step in order to create a QLD or QLC map, then the Consultant shall verify the completeness of this information and document it as necessary. 2. Obtain necessary permits from city, county, or other municipal jurisdictions or railroads to allow the Consultant to work in the existing streets, roads and rights-of-way. 3. Designate the existing utilities and their laterals to existing buildings that are within project limits utilizing visual inspection, field survey, and surface geophysical methods. Designation will include both a search for, and a trace of, existing utilities within the project limits. Unless specifically requested by the Project Manager, utilities designated will not include (a) vault or manhole limits or dimensions, (b) lawn irrigation or sprinkler systems, (c) underground storage tanks, (d) traffic sensor loops in pavement, (e) gravity storm drainage systems or (f) laterals. Physical evidence of all utilities (manhole covers, above-ground pipes, etc.) will be surveyed Perform all reasonable and necessary services to designate and map all utilities within project limits in accordance with applicable professional standards, i.e. CI/ASCE 38-02. For example, when a utility cannot be designated, perform all necessary actions in accordance with CI/ASCE 38-02 to depict it at a lower quality level.

2.9.3	Subsurface Utility Engineering (SUE) Services
Description	<p>Subsurface Utility Engineering (SUE) Services</p> <ol style="list-style-type: none"> <li>4. Survey designating marks and reference to project control provided by the Department. <li>5. Prepare a reference CAD file capable of attachment to the Department's design file, in accordance with the Design Manual Part 3. Ensure that the file: <ul style="list-style-type: none"> <li>• Uses correct symbology and cell libraries. <li>• Is based on benchmarks and/or the same project survey control datum as the Department's design file. <li>• Is set up as a base map. <li>• Uses a scale to such that can be used with Department's design files. <li>6. Perform and document quality control and quality assurance procedures in accordance with Consultant's approved "Quality Assurance Plan" on file with the Department. Once the locations of subsurface facilities are shown on the Department's plans, verify that the plan locations are in accordance with the scope deliverables <p>B. Locating Services (QLA)</p> <p>In performing QLA (test hole) services hereunder, the Consultant will:</p> <ol style="list-style-type: none"> <li>1. Coordinate with the Department to conduct appropriate records research and investigate site conditions. If not previously performed, make all necessary contacts with utility owners. <li>2. Obtain necessary permits from city, county or other municipal jurisdictions to allow the Consultant to work in existing streets, roads, and rights-of-way. The Consultant will not be responsible to obtain permits for boring or other excavating work that is not performed by the Consultant pursuant to this Agreement. <li>3. Excavate test holes to expose the utility to be measured in such a manner that insures the safety of the excavation and the integrity of the utility to be measured. In performing such excavations, comply with Pennsylvania Underground Utility Line Protection Law, PA Act 287 as amended, and coordinate with utility inspectors, as required. <li>4. Investigate, evaluate, measure and record: <ol style="list-style-type: none"> <li>(a) horizontal and vertical location of top and/or bottom of utility referenced to project datum <li>(b) elevation of existing grade over utility at test hole referenced to project datum

2.9.3	Subsurface Utility Engineering (SUE) Services
Description	<p>Subsurface Utility Engineering (SUE) Services</p> <ul style="list-style-type: none"> <li>(c) outside diameter of utility and configuration of non-encased, multi-conduit systems <li>(d) utility structure material composition, when reasonably ascertainable <li>(e) benchmarks and/or project survey control points used to determine elevations that are based on the same project survey control datum as the Department's design file. <li>(f) paving thickness and type, where applicable <li>(g) general soil type and site conditions <li>(h) such other pertinent information as is reasonably ascertainable from test hole site. References to project datum must maintain vertical tolerance to plus or minus 15 mm (0.05ft) based on benchmarks shown on the Consultant's deliverables and horizontal tolerance to applicable surveying standards. <ol style="list-style-type: none"> <li>5. Furnish and install permanent surface markers directly above centerline of utility structure for future use in locating the utility. Show the surveyed location of this surface marker on the QLA data sheet. <li>6. Provide permanent restoration of pavement and properly backfill within limits of original cut and in accordance with the conditions of the permit and PA Code Title 67 § 459.8, Special Conditions—Subsurface Operations. When test holes are excavated in areas other than roadway pavement, these disturbed areas will be restored to the condition that existed prior to excavation. <li>7. Evaluate and compare obtained information with utility information described in utility company records and resolve discrepancies. The Consultant shall recommend additional courses of action to the Project Manager if the discrepancies cannot be resolved with no additional cost to the Department. At minimum, a descriptive note on the project deliverables shall accompany any discrepancy that is not resolved. <li>8. Plot horizontal location and, if applicable, profile view of utility on drawings provided by the Department, if requested. Paper and electronic copies should both be provided to the Department. Information must also be formatted and presented on a detailed and certified QLA data sheet and available as a .pdf electronic file. The format of submitted copies

2.9.3	Subsurface Utility Engineering (SUE) Services
Description	<p>Subsurface Utility Engineering (SUE) Services should be in accordance with Design Manual Part 3.</p> <ol style="list-style-type: none"> 9. Return and review with the Project Manager or his designee, all deliverables. 10. Perform and document quality control and quality assurance procedures in accordance with Consultant’s “Quality Assurance Plan” on file with the Department. Once the locations of the subsurface facilities are shown on the Department’s preliminary plans, verify that the plan locations are in accordance with the scope deliverables <p>Scope Deliverables:</p> <p>Upon completion of designating and/or locating services, provide a reference CAD file, and a paper plan drawing of utilities in units and at a scale determined by the Department. Any QLA data will also be provided on a separate QLA data sheet and as a .pdf file.</p> <p>The final deliverable must be certified by a professional engineer or surveyor licensed in the State of Pennsylvania, by placing their seal on the plans and on any individual QLA data sheets provided in accordance with Design Manual Part 3.</p> <p>All deliverables must conform to Design Manual Part 3, and include the following information:</p> <ol style="list-style-type: none"> 1. The project designation, ECMS, consultant name, work order number, and limits of the area designated. 2. All horizontal and vertical control furnished by the Department. 3. A listing of utility owners. 4. The Quality Level of the depicted utilities. 5. Additional information about Quality Level A consistent with CI/ASCE 38-02. 6. All depth and elevation information furnished by utility owners, annotated by notes on the CAD and paper drawings. 7. A Form for each QLA data point, with the following minimum information for each: <ol style="list-style-type: none"> (a) horizontal and vertical location of top and/or bottom of utility referenced to project datum and project coordinate system (b) elevation of existing grade over utility at test hole referenced to project

2.9.3	Subsurface Utility Engineering (SUE) Services
Description	<p>Subsurface Utility Engineering (SUE) Services</p> <ul style="list-style-type: none"> datum (c) outside diameter of utility and configuration of non-encased, multi-conduit systems (d) utility structure material composition, when reasonably ascertainable (e) benchmarks and/or project survey control used to determine elevations (f) paving thickness and type, where applicable (g) general soil type and site conditions (h) such other pertinent information as is reasonably ascertainable from test hole site. References to project datum must maintain vertical tolerance to plus or minus 15 mm (0.05ft) based on benchmarks shown on the deliverables and horizontal tolerance to applicable surveying standards. <p>8. An electronic (EXCEL format or equivalent) and paper copy summary table for all QLA data, with the following information:</p> <ul style="list-style-type: none"> (a). Test Hole Number (b). Elevation of utility (c) Depth below grade of utility (d). Type of utility (e) Size of utility (f) Material type
Detail	<p>{ EDIT THE FOLLOWING AND DELETE ANY INFORMATION NOT SPECIFIC TO THIS PROJECT }</p> <p>{ THE PREFERRED METHOD OF PAYMENT WOULD BE AS FOLLOWS: Rates of Compensation-The method of payment will be Cost per Unit, based on definable units of work. }</p>

Suggested Letter Format

Date

(Utility Name and Address)

Reference: Authorization to Proceed with Preliminary Engineering
County: _____
SR-Section: _____
MPMS#: _____
Funding: _____
Project Description: _____

Mr./Ms.,

This is your authorization to proceed with the preliminary engineering on the subject project. This authorization includes the following activities:

- Attending the initial design stage meetings.
- Determining the locations of existing facility locations by various degrees of SUE as required.
- Determining any real property interest for the current facility locations (providing copies of utility easements or deeds).
- Determining the existence of any hazardous materials that may be encountered in relocating the facilities.
- Evaluating any long lead time materials, splicing operations that are needed to perform the relocations.
- Preparing any stream crossing, or other permit applications that will be necessary.
- Requesting cost sharing, consultant approval and/or incorporation for utility relocations.
- Evaluating if the facility needs to be attached to the proposed structure.
- Identifying any conflicts with the proposed new construction and structures.
- Identifying a general relocation corridor and preliminary design for the relocated facility.
- Identifying any required additional right-of-way required for the relocation.
- Identifying Ownership of the poles for overhead utilities, and any known attaching companies including contact information.

Costs for work performed and materials furnished to accommodate highway design and construction may be reimbursable to the extent provided by applicable State Highway Laws and Act 89 of 2013 (74 Pa. C.S.A §9501).

This project has an anticipated letting date of *(insert date)*. Steel and iron materials used must meet the Pennsylvania Steel Products Procurement Act requirements for utility relocations. Utility relocations for this project must meet the Buy America requirements as outlined in 23 U.S.C. § 313 and 23 CFR § 635.410, as amended by P.L. 112-141 (MAP-21).

This project consists of *(insert a brief description of the project scope)*. Our initial field investigation has determined that your facilities *(indicate if the facilities are/are not affected and refer to an attached conflict list)*.

Please note, a second letter will be issued at a later date to authorize utility engineering and related activities necessary to accomplish the utility's relocation and/or adjustments, such as:

- Performing final utility relocation designs.
- Submitting stream crossing permits.
- Applying for bridge occupancy licenses (BOLs).

- Acquiring right-of-way.

Physical work on the actual adjustment or relocation of affected facilities may not be started prior to the receipt of Department's specific authorization to proceed with physical work.

Sincerely,

District Utility Administrator
Engineering District

**EXAMPLE - TABULATION OF REQUIRED LIST OF MATERIALS
FOR EACH UTILITY (English)**

ITEM - INSTALLATION OF (UTILITY) FACILITIES				
MATERIALS	FURNISH BY	INSTALL BY	UNIT	AMOUNT
FABRICATED STRUCTURAL STEEL (A 709M, GRADE 345W, UNPAINTED)	CONTRACTOR	CONTRACTOR	LB	
4 INCH DIA. FIBERGLASS CONDUIT	UTILITY	CONTRACTOR	FEET	
CONDUIT EXPANSION JOINTS	UTILITY	CONTRACTOR	EA	
SUPPORT ASSEMBLIES	UTILITY	CONTRACTOR	EA	
.87 INCH Ø A325 BOLTS	CONTRACTOR	CONTRACTOR	EA	
CLASS A CONCRETE	UTILITY	UTILITY	FEET ³	
DRILLED & GROUTED DOWELS	UTILITY	UTILITY	EA	
REINFORCEMENT BARS	UTILITY	UTILITY	LB	
ANCHOR SUPPORT RINGS	UTILITY	CONTRACTOR	EA	

**SAMPLE - TABULATION OF MATERIALS
PROVIDED BY UTILITY**

ITEM 9000-0002 INSTALLATION OF PA. POWER & LIGHT CO. FACILITIES				
MATERIALS	FURNISH BY	INSTALL BY	UNIT	AMOUNT
FABRICATED STRUCTURAL STEEL (A 709M, GRAE 345W, UNPAINTED)	CONTRACTOR	CONTRACTOR	LB	5908
CONDUIT EXPANSION JOINTS	PP&L	CONTRACTOR	EA	25
SUPPORT ASSEMBLIES	PP&L	CONTRACTOR	EA	66
.87 INCH Ø A325 BOLTS	CONTRACTOR	CONTRACTOR	EA	185
30 INCH Ø MANHOLE COVER & FRAME	PP&L	CONTRACTOR	EA	1
SPLICING PLATFORM	PP&L	CONTRACTOR	EA	1
5 INCH Ø GALV. STEEL CONDUIT	PP&L	CONTRACTOR	FEET	111
PRECAST CONCRETE MANHOLE, W/GROUNDING HARDWARE	PP&L	CONTRACTOR	EA	2
5 INCH Ø FIBERGLASS CONDUIT (BRIDGE)	PP&L	CONTRACTOR	FEET	5052
5 INCH Ø FIBERGLASS CONDUIT (BRIDGE TO MANHOLE))	PP&L	CONTRACTOR	FEET	1148
CLASS C CONCRETE ENCASEMENT (BRIDGE TO MANHOLE)	CONTRACTOR	CONTRACTOR	FEET ³	565
TRENCH	CONTRACTOR	CONTRACTOR	FEET	197
2A OR 3A COARSE AGGREGATE FOR MANHOLE	CONTRACTOR	CONTRACTOR	FEET ³	600
ANCHOR SUPPORT RINGS	PP&L	CONTRACTOR	EA	50

Suggested Letter Format

Date

(Utility Name and Address)

Reference: Authorization to Proceed with Engineering

County: _____

SR-Section: _____

MPMS#: _____

Funding: _____

Project Description: _____

Ms.

This is your authorization to proceed with the engineering on the subject project. This authorization includes transportation and labor for field engineering, preparation of plans, specifications and estimates and other related preparatory work in advance of physical construction operations. Costs for work performed and materials furnished to accommodate highway design and construction may be reimbursable to the extent provided by applicable State Highway Laws and Act 89 of 2013 (74 Pa. C.S.A §9501).

This project has an anticipated letting date of (insert date). Steel and iron materials used must meet the Pennsylvania Steel Products Procurement Act requirements for utility relocations. Utility relocations for this project must also meet the Buy America requirements as outlined in 23 U.S.C. § 313 and 23 CFR § 635.410, as amended by P.L. 112-141 (MAP-21).

This project consists of (insert a brief description of the project scope). Our initial field investigation has determined that your facilities (indicate if the facilities are/are not affected and refer to an attached conflict list). It is the utility's responsibility to identify all conflicts and resolutions. This office must receive your relocation design and relocation forms no later than (insert date).

If you choose to incorporate the relocation/adjustment design and/or the physical relocation/adjustment of your facilities, you must submit the letter requesting incorporation to this office not later than (insert date). In the event you require the service of an engineering consultant to design this relocation, a letter proposal prepared in accordance with Publication 16, Design Manual Part 5, *Utility Relocation*, Section 3.3 shall be submitted to this office within 15 days of *this letter's date* for approval. Should you intend to use a consultant engineer under the terms of an existing continuing contract, a copy of that contract is also required. Your submission shall include Certificate of Consultant Form (Figure A-400), Consultant's Proposal Engineering Cost Estimate (Figure A-410), Consultant Agreement for One Specific Relocation (Figure A-415), the method of payment and the estimated total engineering cost as defined by the consultant you select, along with a statement that you are not adequately staffed to perform the required engineering. Your assurance that the consultant is professionally qualified to perform the necessary engineering is also required. Be advised that any costs incurred by a consultant engineer prior to the Department's approval for the use of a consultant may not be eligible for reimbursement.

Physical work on the actual adjustment or relocation of affected facilities may not be started prior to the receipt of Department's specific authorization to proceed with physical work.

Sincerely,

District Utility Administrator
Engineering District

INITIAL DESIGN STAGE MEETING**PRELIMINARY DATA**

1. District Utility Relocation Unit -Sign in sheet.
2. District Utility Relocation Unit -Type of project and financing.
3. Designer - General description and review of scope of Highway Project.
4. Designer - Projected letting date, if known.

ALL UTILITIES

1. District Utility Relocation Unit -Required - Receipt of marked prints showing existing and proposed facilities by use of symbols.
2. District Utility Relocation Unit -Review of preliminary (proposed) plans with each utility.
3. District Utility Relocation Unit -Review need for Bridge Occupancy (Form 4181-X)
4. District Utility Relocation Unit -Use of consultant engineer (See handout).
 - a. Department authorization required.
 - b. Receipt of consultant request within specified time.
5. District Utility Relocation Unit -Required - Notification of proprietary material (in writing).
6. District Utility Relocation Unit -Required - Notification of extensive time for relocation.
7. District Utility Relocation Unit -Acquisition of Substitute R/W.
8. District Utility Relocation Unit -Incorporation into highway contract (request must be in writing).
 - a. Utility to design
 - b. Department to design
 - c. Statement that utility is not adequately staffed.
9. District Utility Relocation Unit -The need to develop special plans and/or cross sections.
10. District Utility Relocation Unit -Conflicting future construction by utilities.
11. District Utility Relocation Unit -Contract let by utility (inform utility must be covered by F.D.S.M.).
12. District Utility Relocation Unit -Identify and investigate any utility-related hazardous substances on project.
13. District Utility Relocation Unit -PUC involvement (Application, Complaint or By Others).

MUNICIPALITIES / PUBLIC WATER & SEWER

1. District Utility Relocation Unit -Cost sharing - 36 P.S. § 670-412.1 and 74 Pa.C.S.A. §9501

CONCLUSIONS - (All Utilities)

1. District Utility Relocation Unit -Review any policy which may resolve problems.
2. District Utility Relocation Unit -Inform utilities of next step-alignment plan (using Symbols).
3. District Utility Relocation Unit -Advise designer to supply highway and bridge plans, cross sections, etc. needed for alignment plans.
4. District Utility Relocation Unit -Supply copies of meeting notes to all affected utilities and other persons.

(Notes must be provided to all in attendance.)

FINAL DESIGN STAGE MEETING

PRELIMINARY DATA

1. District Utility Relocation Unit -Meeting held at least 60 days prior to submission of right-of-way plan to Central Office.
2. District Utility Relocation Unit -Notification of proposed letting (if known) or the projected date.

ALL UTILITIES

1. District Utility Relocation Unit -Review relocations as shown on R/W plans for occupancy, and make any necessary changes.
2. District Utility Relocation Unit -Final determination on such items as substitute R/W, Proprietary Material Delivery, Prior Authorization to Proceed
3. District Utility Relocation Unit -Determine data needed to prepare Preliminary Estimate package, such as Highway Plans, Bridge Plans, Cross Sections, Department Specifications, etc.
4. District Utility Relocation Unit -Review all Bridge Occupancy.
5. District Utility Relocation Unit -Designer - phasing of contractor's operations.
6. District Utility Relocation Unit -Establish a date for submission of Utilities' Estimates and/or Permit Packages.

CONCLUSION

1. District Utility Relocation Unit -Necessary for utility to complete 4181-UC prior to construction meeting.
2. District Utility Relocation Unit -Supply any requested material to utilities.
3. District Utility Relocation Unit -Supply copies of meeting notes to all affected utilities and other persons.

(Notes must be provided to all in attendance.)

PROCEDURE FOR BRIDGE PROJECTS

In addition to the above where utilities are involved, a Design Field View Meeting should be held with the designer, the Department's Utility representative, and the District Bridge Construction Engineer or person equally knowledgeable. The Bridge Construction Engineer or person equally knowledgeable should be responsible for determining the required clearance from the proposed bridge structure for poles and overhead conductors.

A plan showing the existing (if no relocation is required) or the proposed facilities should be included on the highway construction plan.

The bidders should be informed that any changes to this proposal will be at their expense.

The Department has standardized Special Provisions and Pay Items Numbers for Utility Incorporated work.

The following guidelines have been developed and should be followed, except for Master Casting Agreements, when preparing the PS & E package for submission to Central Office:

- All utility incorporated work shall be identified in the highway contract by Special Provision series and the first Pay Item Number as 9000-1001
- Additional utility pay items would increase numerically within the series. Example: 9000-1001 = Grade Adjustment Sanitary Sewer Manholes; 9000-1002 = Rebuild Existing Sanitary Sewer Manhole, etc.

District Contract Management Units shall assist the designer and/or consultant in establishing these numbers.

POLICY ON POTENTIAL UTILITY-RELATED HAZARDOUS SUBSTANCES WITHIN HIGHWAY RIGHT-OF-WAY

The purpose of this policy is to alert project designers to identify all utility facilities which may have, carry or be protected by materials that must be handled and disposed of as hazardous substances.

There can be no guarantee that hazardous substances will be avoided in all cases during highway construction. To avoid future Department liability, it is necessary to identify material and action to be taken to handle these facilities early in highway design.

Hazardous substance problems may increase due to abandoned utility facilities within the highway rights-of-way. These utility facilities must be identified and located during highway design and coordination between the design of a project and the development of the highway contract can be accomplished.

During design of all highway projects, the District Utility Relocation Unit must identify utility companies planning to abandon their lines within the highway right-of-way that may be removed by the highway contractor, and that the following items be addressed:

1. Identification of the substance being carried. (List the hazardous substance.)
2. Identification of the type of protection on the carrier pipe. (List of materials used as protection that are hazardous.)
3. Establish that the pipe will be purged and capped.
4. Determine the potential for hazardous substance contamination in the area of the highway right-of-way surrounding the utility facility to be abandoned.

The utility who owns the abandoned facilities shall verify in writing that it accepts the liability for any hazardous substance which remain in and/or around its abandoned facility. The utility must provide a letter stating that the hazardous material contains X% of asbestos.

Abandonment of underground utility facilities and removal of same by the Department's highway contractor is discouraged where the utility company can feasibly remove these facilities. Where conditions prohibit removal by the utility company, this policy must be strictly adhered to and it is imperative that an item be included in the highway contract which provides for removal of utility facility hazardous substance. It is necessary for the highway contractor to retain records of proper removal and disposal.

The following are sample highway contract items:

1. Description - This work is the removal and/or disposal of any required abandoned utility facility and its properties.
2. Construction - Remove any required abandoned utility facilities and its properties. Have any hazardous substance hauled from the right-of-way to a hazardous disposal facility by a licensed hazardous substance transporter. Once so classified, do not permit hazardous substances to remain on Department property for more than 90 calendar days.

3. Measurement and Payment

A. Non-Hazardous - Lump Sum.

B. Hazardous - The proposal will indicate a predetermined amount of money for this item. All work described above will be paid on a force account basis, as specified in Section _____.

Suggested Letter Format

(DATE)

Project No. _____

_____ County

S.R. _____, Section _____

Agreement No. _____

(Consultant - Name and Address)

Gentlemen:

This is your authorization to send prints and/or reproducibles of roadway plan sheets and cross sections to the utilities listed below. Those plans and/or cross sections were requested by the utility at a meeting held in _____ at on _____ in _____.

(Time)

(Date of Meeting)

(Engineering District Office)

List of Utilities:

- 1.
- 2.
- 3.
- 4.
- 5.

You are further authorized to furnish general bridge drawings to each utility which indicates bridge occupancy by its submission of Form 4181-X, Bridge Occupancy Form (Preliminary).

Sincerely,

District Executive

Copies to:

**SAMPLE
AFFIDAVIT**

COMMONWEALTH OF PENNSYLVANIA:

SS

COUNTY OF _____ :

NOW COMES, _____ who deposes and says that he or she is the _____ of the _____ company; that he or she is duly authorized to make this Affidavit on behalf of the aforesaid Company; that the facilities of the aforesaid Company have been in existence on the ground or underground since _____, 20____, at the location described below:

Information to be provided on each Affidavit	County, Township, Borough or City
	State Route and local name of route (if applicable)
	Highway Stationing or offsets and distance from centerline
	Present property owner(s)
	Year of original installation and most recent replacement
	A statement that right-of-way documents cannot be found

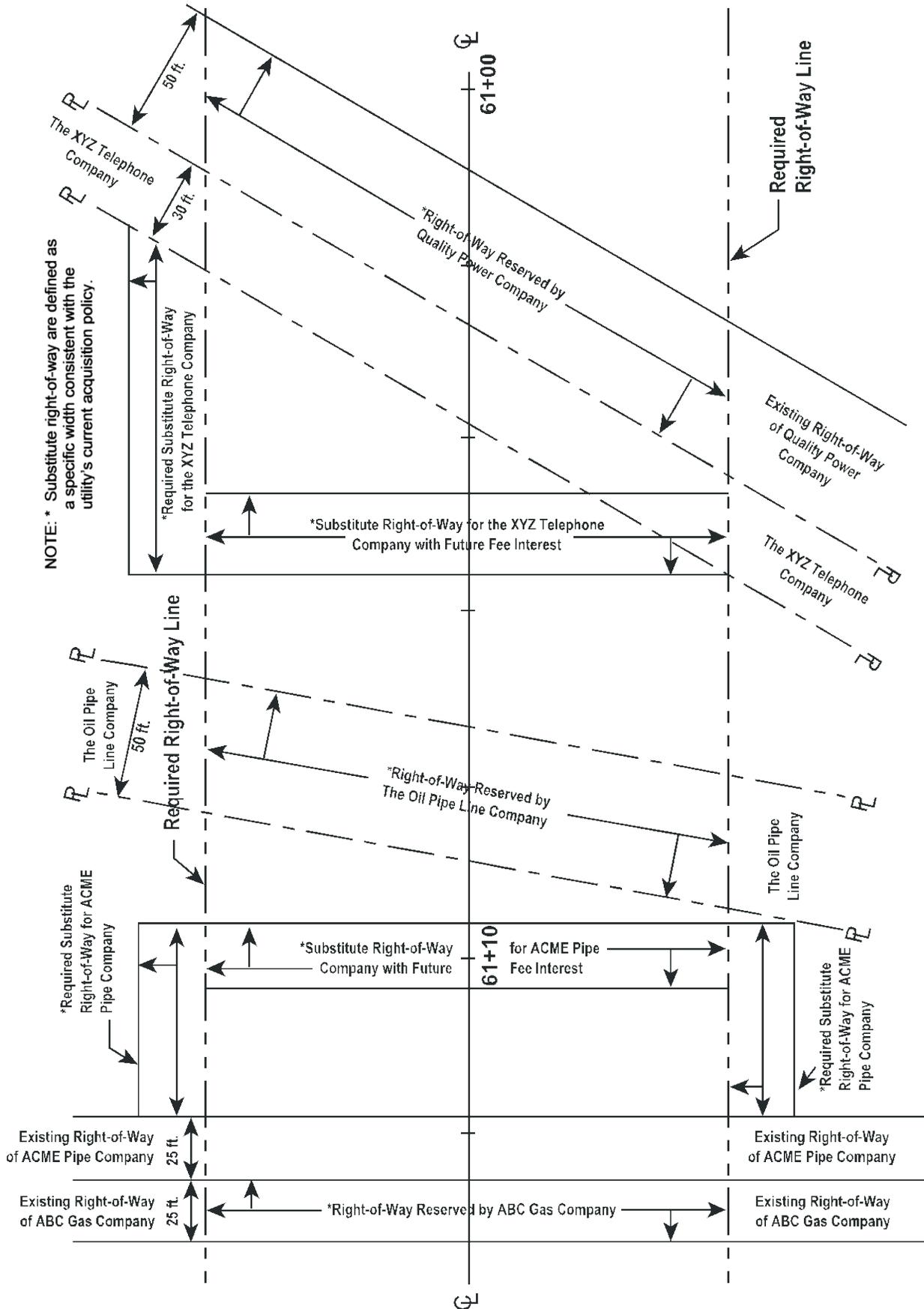
that the said facilities have always been visible for all to see or that the property owner has been aware of the existence of the said facilities (including examples of how the owner is or was aware of the facilities); that no one has ever challenged the said Company's right to have its facilities on the ground at the aforesaid location, and that the said Company asserts a property interest in the nature of an easement for its facilities at the aforesaid location.

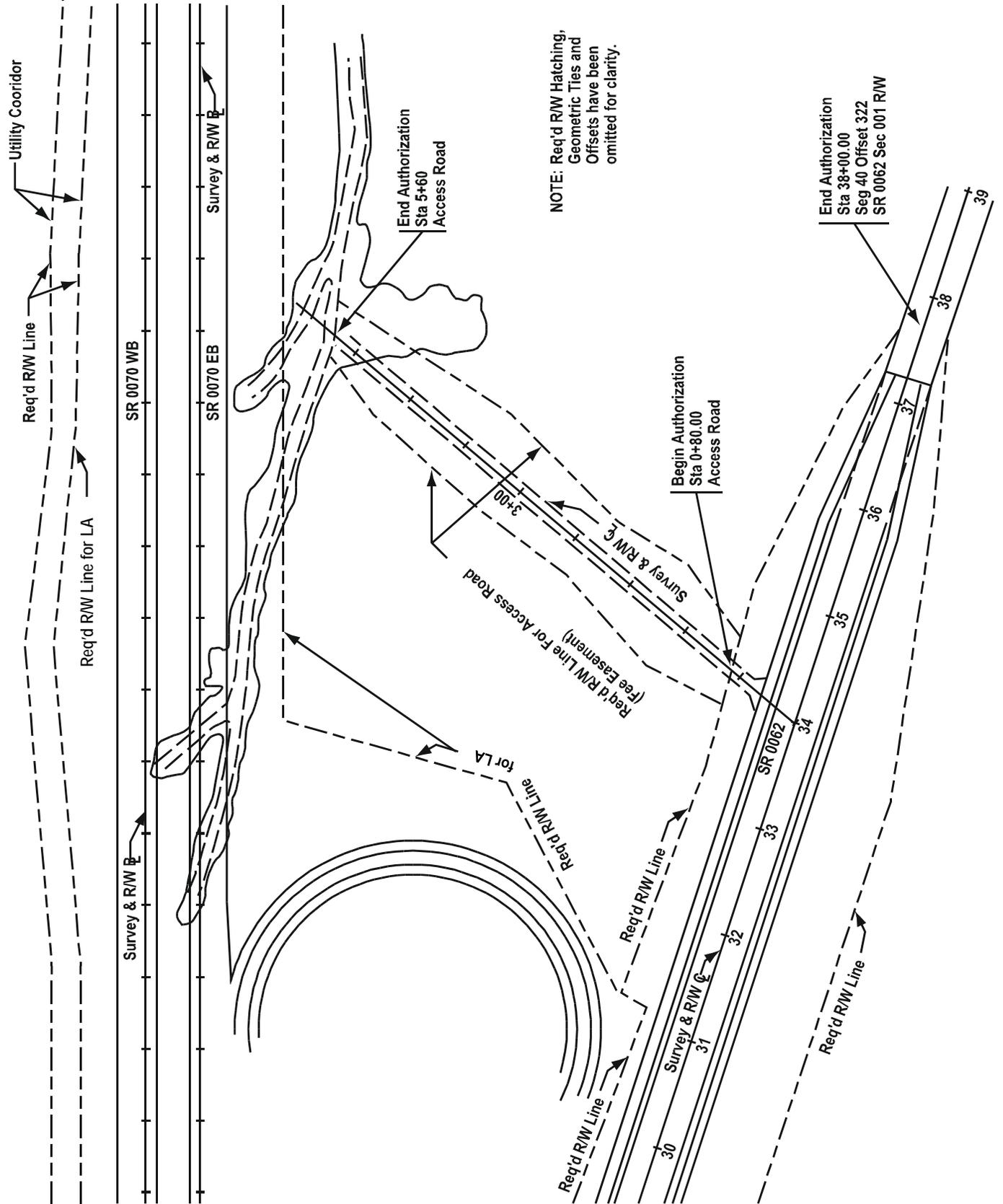
(Name)

(Title)

Sworn to and subscribed before me, a Notary Public, this _____ day of _____, 20____.

(Notary Public)

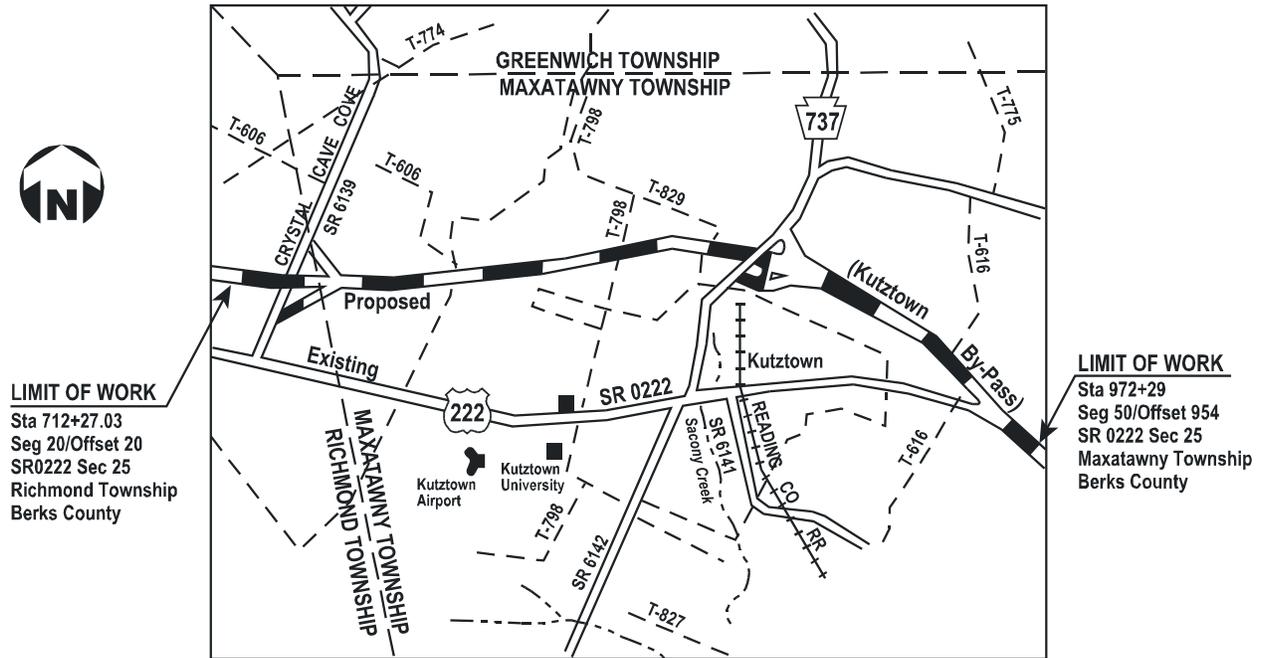




INSTRUCTIONAL SHEET ON THE USE OF TYPICAL DRAWINGS

The use of typical drawings in support of proposed utility relocations shall be limited to the following situations:

- A-702 - Location maps may be used to indicate the approximate location of the project. It is *not* intended as a *replacement* or substitute for an *index plan* showing the general location of existing and proposed utility facilities.
- A-703 and A-704 - Single and multi pole placement drawings Forms 949-A and B are intended for use when detailed highway plans *are not* developed for certain types of highway construction projects.
- A-705 - Utility drawings depicting the proposed relocation of the utility's facilities may be used in support of highway plans or in situations where no highway drawings are developed. The drawing shown in A-705 depicts the minimum detail that is acceptable and is consistent with criteria established in [Chapter 7.3](#).
- A-706 - Manhole, valve and valve box casting adjustment typical drawings are intended to supporting information where those castings are adjusted for resurfacing type projects.
- A-800 - The Utility Relocation Questionnaire and Permit Application, Page 2 of 2 typical drawings are intended to depict the minimum required vertical clearance for aerial facilities over the roadway and shoulders and minimum depth of underground facilities within the highway right of way. These typicals *do not* relieve the utility of the responsibility of providing the necessary clearances and depths on the plans for individual occupancies.



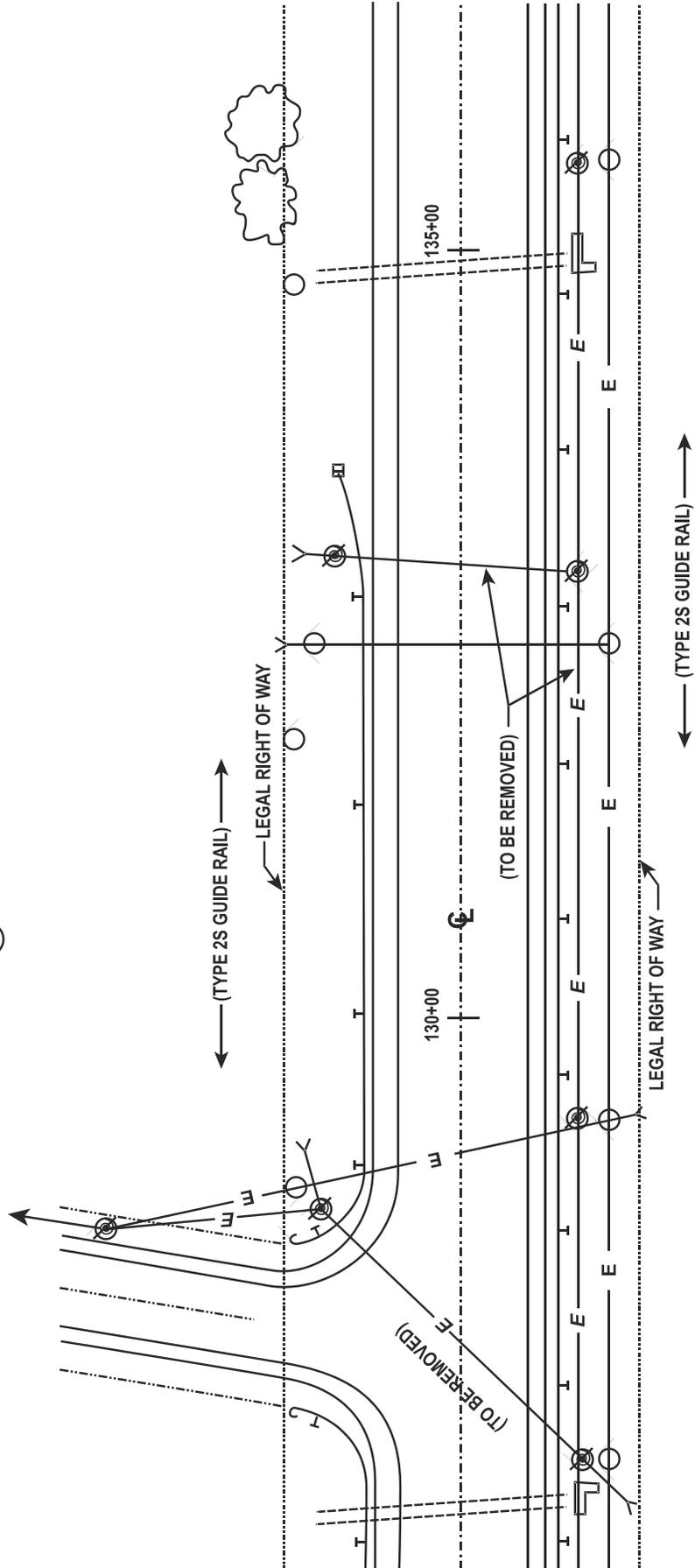
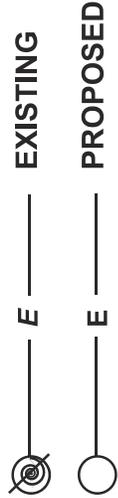
LOCATION MAP



LEGEND

-  Project
-  State Highway
-  Township Road

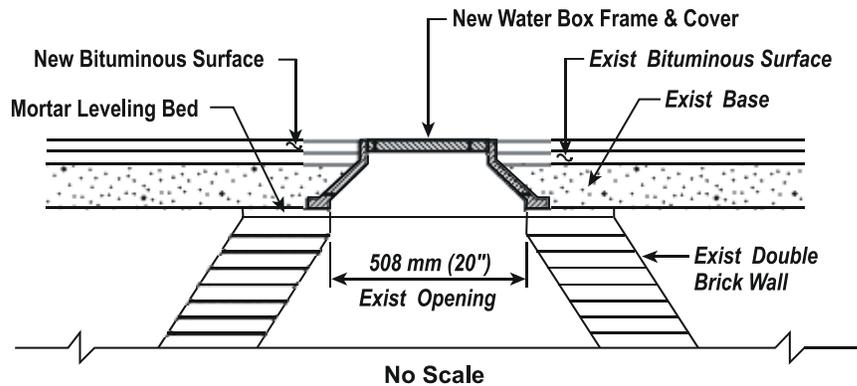
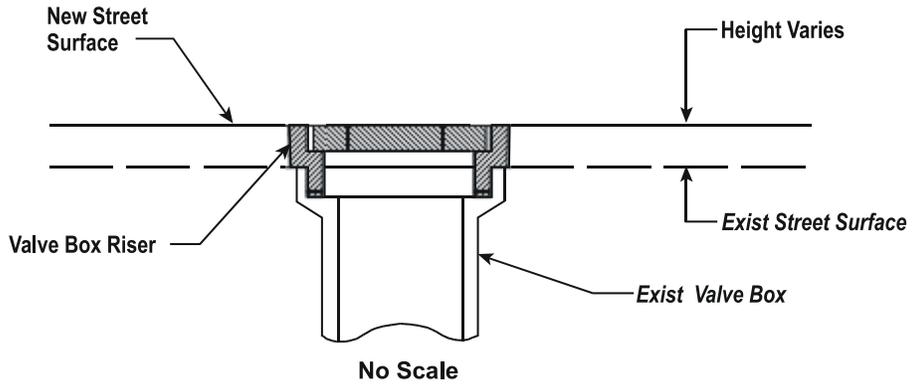
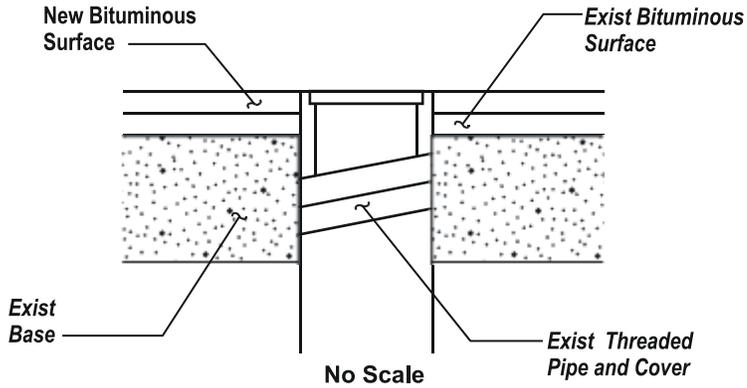
LEGEND



TYPICAL CHANGE IN GRADE

COUNTY _____
SR _____
UTILITY _____

STA _____ TO STA _____



DEPARTMENT OF TRANSPORTATION UTILITY RELOCATION HIGHWAY OCCUPANCY PERMIT

COUNTY County
S.R., Section
SHORT TITLE/LOCAL NAME

PERMIT NO.
DATE:

UTILITY COMPANY NAME
ADDRESS
CITY, PA ZIP CODE

This is your authorization to enter upon and occupy the highway right of way to effect the required adjustment, relocation or installation of facilities (utility work) to accommodate highway construction in the manner and at the location(s) listed on the attached Form D-4181, and further detailed and shown on the plans, drawings, and related data which are in the possession of the PARTIES and incorporated herein by reference and made a part hereof. Said utility work, having been approved by the DEPARTMENT shall, except where hereinafter modified, **be subject to the provisions of 67 PA Code, Chapter 459, Pennsylvania Department of Transportation Regulations governing Occupancy of Highways by Utilities, Publication 213, Temporary Traffic Control Guidelines, the Design Manual Part 5, Utility Relocation, and, where applicable, 23, Code of Federal Regulations (23 CFR)** as well as any restrictions hereinafter set forth.

Any changes or modifications to the proposed utility work contemplated by this permit shall be approved prior to commencement of work and shall be supported by revised plans and drawings. An amended permit shall be issued.

NOTE: A COPY OF THIS PERMIT MUST BE PRESENT ON THE PROJECT SITE.

SECRETARY OF TRANSPORTATION

BY: _____
DISTRICT EXECUTIVE
District Executive
Engineering District -0

Revised Utility Relocation Highway Occupancy Permit

_____ County

S.R. _____, Section _____

Permit No. 900000

Utility: _____

Mr. or Ms. _____, District Executive

PA Department of Transportation

Engineering District _____

_____, PA

Attention: Utility Relocation

Dear Mr. or Ms. (District Executive):

The occupancy contemplated under Utility Relocation Highway Occupancy Permit Number 900000 dated _____ was modified at the locations indicated on the attached list and to the extent shown on the attached as-built plans and drawings.

All changes, modifications or revisions were effected in compliance with the provisions of Design Manual Part 5 and were approved in writing by the Department on _____.

Sincerely,

(Signature)

(Name and Title)

Issuance of Test-Hole Permits

Upon request, by a utility or the Department, for test holes to locate utility facilities on a highway project, a temporary, non-fee test hole permit should be issued by the District Utility Relocation Unit to the facility owner.

The utility area of excavation should be limited to the area of the highway project.

The District Utility Relocation Unit should keep a record of all testhole permits they have issued for a specific project.

The utility must provide plan sheets for testhole locations and restoration details.

Restoration of all test holes shall be in accordance with Chapter 459, Section 459.8(g)6.



County
 S.R. & Section
 Borough/City
 Township
 Mainline Stations

TEST-HOLE PERMIT-
 UTILITY RELOCATION

NO. _____

DATE _____

Gentlemen:

_____ is hereby authorized to enter upon the highway right-of-way for the sole purpose of test hole excavation and restoration in order to determine the affect that proposed highway construction will have on your existing facilities at the Stations listed above and at the locations shown on the plans and/or drawings prepared by the said Utility, and in possession of the Parties hereto which are incorporated herein by reference and made a part hereof. The provisions of 67 PA Code, Chapter 459, Pennsylvania Department of Transportation Regulations governing occupancy of highways by Utilities, the Design Manual Part 5, Publication 213, *Temporary Traffic Control Guidelines*, and, where applicable, the current Federal Highway Administration's 23 CFR are made a part hereof and incorporated herein by reference, as well as any special modifications, privileges, conditions or restrictions hereinafter set forth. This writing shall operate only as a temporary Highway Occupancy Permit to Utility by the Commonwealth for the said excavation.

 SECRETARY OF TRANSPORTATION

BY _____
 NAME TITLE

Letter of Authorization for and Transmitting Test-Hole Permit

_____ County
S.R. _____, Section _____
Temporary Test-Hole Permit

(Utility)

Dear _____:

Attached is a copy of the Test-Hole Permit-Utility Relocation No. _____, dated _____, 20__.

(permit number)

(date)

This is your Authorization to enter upon the highway right-of-way for the purpose of test hole excavation and restoration in accordance with 67 PA. Code, Chapter 459, Pennsylvania Department of Transportation Regulations Governing Occupancy of Highways by Utilities, the Publication 16, Design Manual Part 5, *Utility Relocations* and Publication 213, *Temporary Traffic Control Guidelines*, and, where applicable, the current Federal Highway Administration's 23 CFR.

Sincerely,

District Executive

VERTICAL CLEARANCE

In no instance shall the vertical clearance over the pavement and shoulders of the highway be less than 18 feet (see PA Code, Title 67, Chapter 459, Occupancy of Highways by Utilities). However, higher vertical clearances may be required by the NESC.

Example general vertical clearance guides, based on 175 feet spans, are provided in the following table:

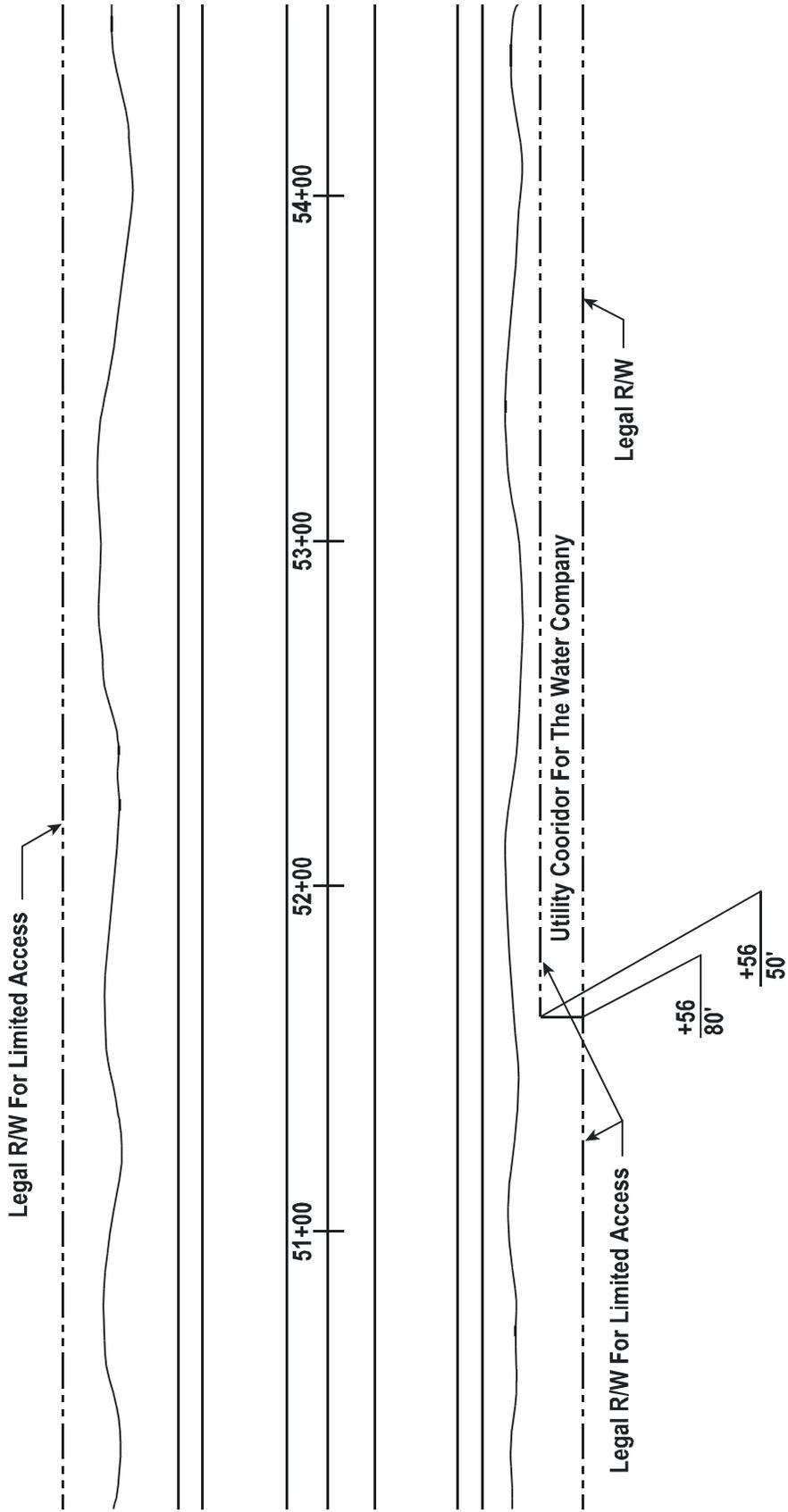
<u>Vertical Clearance*</u>	<u>Line Voltage (volts)</u>
18 feet	0-750
20 feet	750-15,000
22 feet	15,000-50,000
	** Over 50,000

* increase general clearance 0.01 feet for every 12 inches in excess of 175 feet Span

** increase general clearance 0.02 feet for each 1,000 volts over 50,000 volts adjusted to reflect line-to-ground voltage

The span and voltage are not always separate entities; the additional clearance for span and voltage are added together. Example, 275 feet span, 65kV. Span requires 1 foot additional clearance; voltage requires 0.3 feet additional clearance. Total additional clearance = 1.3 feet.

These clearances are provided as examples. Utilities will check the NESC for appropriate vertical clearances for each installation.



**CASING STANDARDS
(English)**

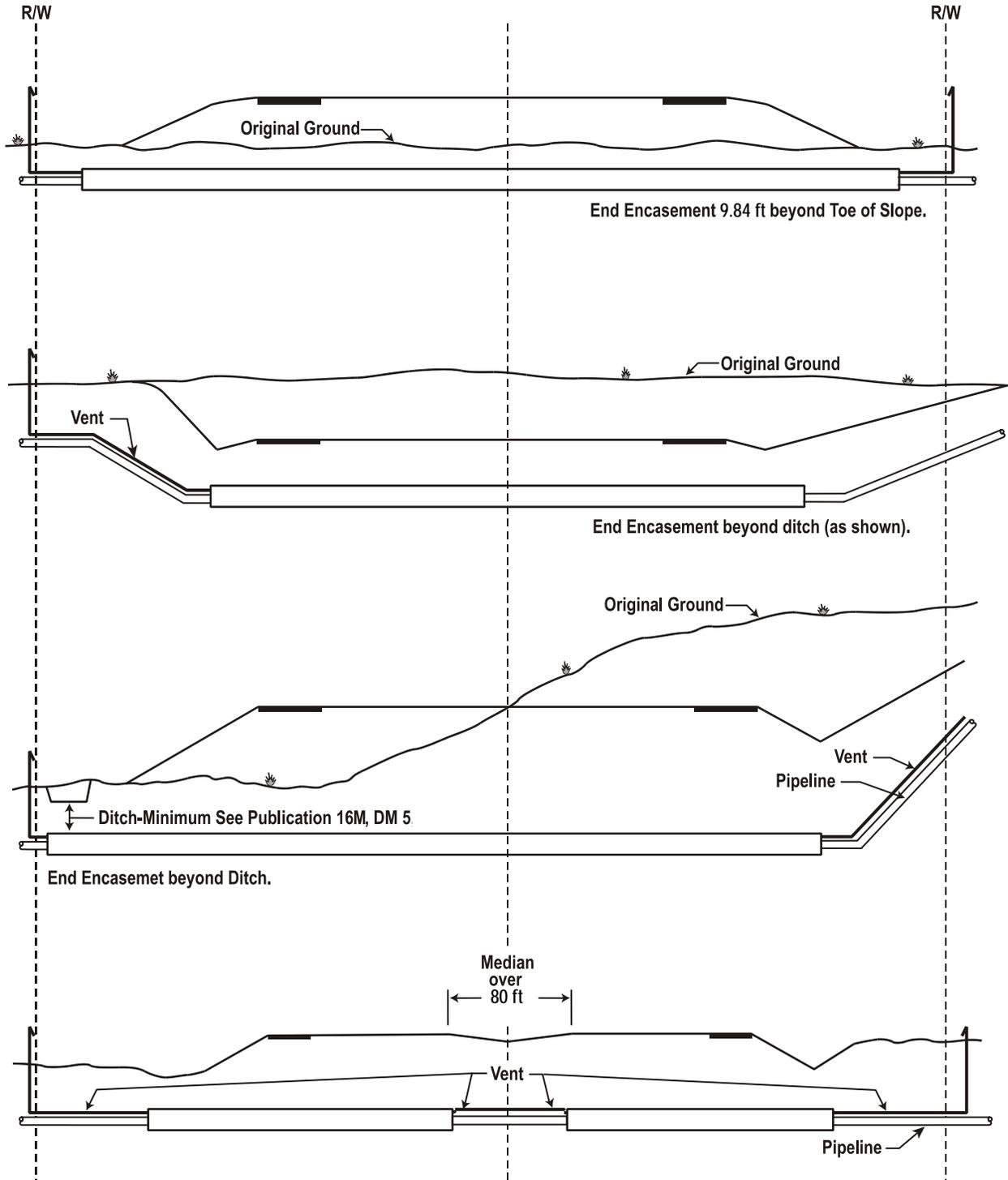
Normal Casing Size For:

<u>Pipe Size</u>	<u>Welded or Slip-on</u>	<u>Bell and Spigot</u>
2 inch	4 inch	6 inch
4 inch	8 inch	10 inch
6 inch	10 inch	12 inch
8 inch	12 inch	16 inch
10 inch	16 inch	18 inch
12 inch	18 inch	24 inch
14 inch	24 inch	24 inch
16 inch	24 inch	30 inch
18 inch	30 inch	36 inch
20 inch	30 inch	36 inch
22 inch	36 inch	48 inch
24 inch	36 inch	48 inch
26 inch	40 inch	54 inch
28 inch	48 inch	54 inch
36 inch	54 inch	60 inch

NOTE: A differential in casing size may be specified under particular conditions.

Pipe sizes shown are nominal diameters.

TYPICAL SECTIONS FOR MINIMUM EXTENT OF CASINGS



COMPREHENSIVE UTILITY POLE SAFETY PLAN

Objective - To reduce the number and potential for future utility pole crashes. This document identifies Key Plan Elements that should be part of a District's on-going safety efforts.

Key Plan Elements

1. An effective permit process that prevents the installation or replacement of utility poles in hazardous locations.
2. As part of the betterment/construction project development, relocate/remove utility poles having a crash history or a high potential for being struck.
3. As an independent process, identify and investigate the feasibility of removing/relocating any utility poles that have a history of multiple hits and are not part of any betterment/construction project as in Element #2.
4. Increase the Utility Industry's awareness of the magnitude of the utility pole crash problem and the fact that they can do something about it.

Action Requirements for Each Key Element

Element #1

1. The Department has an established set of procedures on handling highway occupancy permit applications to determine if any proposed pole location (1) is on a crash cluster list, (2) is a crash damaged pole, or (3) is to be located in limited access right-of-way. These procedures can be found in Publication 170 "Highway Occupancy Permit Manual" (January, 1992). Refer to pages 3-4-5, 3-4-6, 3-4-7 and Figures 3-4 and 3-5 of Publication 170.
2. Regarding modified poles (modular concrete replacement units, metal reinforcing collars and similar devices), no permit will be issued for the placement of a new facility, or for the repair, modification, reinforcement or replacement of an existing facility unless the facility is located in compliance with the criteria as set forth in Pennsylvania Code, Title 67 Transportation, Chapter 459, Occupancy of Highways by Utilities (July, 1989), Section 459.9, page 459-38. NOTE: In condition (g)(1)(iii) of Chapter 459.9, relating to modified poles beyond parallel drainage ditches, it is recommended that modified poles only be placed beyond parallel drainage ditches that are not easily crossed by errant vehicles.
3. Regarding existing in-place modified poles:
 - a. District and county personnel shall notify the District Permit Unit of any modified pole locations that do not meet any of the criteria as set forth in Chapter 459, Section 459.9, page 459-38.
 - b. The District Permit Unit shall then determine if an Occupancy Permit was issued specifically authorizing a modified pole. If a permit was not issued, or did not specifically authorize a modified pole, then the District Permit Unit will notify the owner in writing that the Department requests the removal of the pole(s). The letter should also request that the utility owner remove any other non-permitted modified poles that do not comply with Chapter 459. The Department

does not encourage the use of modified poles within our right-of-way because these extremely rigid poles can intensify the severity of crashes involving the pole.

- c. The utility owner should be given a reasonable time frame to remove the identified modified pole(s). The utility shall be asked to establish a firm date by which corrective action will be taken and then forward this information to the District Permit Unit in writing.
- d. If the pole owner fails to provide a firm date or commitment, then the District Permit Unit should transmit this information by letter to the Central Office Permit Section. The Permit Section will, upon review of the documentation, contact the Chief Counsel's Office for actions to be taken.

Element #2

1. As part of each betterment/construction project development, the District Safety and Design Units should work together in reviewing the project limits along with the utility pole cluster lists and maps to determine if there are any locations which possess a history of utility pole crashes.
2. If locations are identified, then the District Safety Unit, District Utility Relocation Unit and/or District Design Unit should evaluate right-of-way conditions, highway deficiencies, the factors involved in the utility pole crashes, types of potential solutions, etc.
3. During the scoping field views, the District Safety Unit, District Utility Relocation Unit and/or District Design Units should also identify any other pole locations which possess a high potential for being hit even though they may not show up on any utility pole crash listing. The Safety Engineer and/or designer should be aware of and review the following situations:
 - Poles in gore areas.
 - Poles on the outside of curves.
 - Isolated poles located in areas where there are no other surrounding fixed objects.
 - Poles, which are closer to the road than other surrounding, fixed objects.
 - Poles on which there is no documented crash history, but exhibit evidence of being hit (i.e., scrape marks, etc.).
 - Poles, which obstruct sight, distance at intersections.

These locations should also be studied as part of the project development to determine specific pole locations, right-of-way conditions, and types of potential solutions.

4. After the identified locations have been studied, the Safety Engineer and Designer should work together to make utility pole safety improvement recommendations for inclusion into the project scope-of-work. Sound engineering judgment must be practiced when recommending what safety improvements should be included in the project. (For example, it wouldn't be prudent to relocate a string of utility poles 0.3 m (1 ft) back to the edge of right-of-way.)
5. The District Design Unit should work with the District Utility Relocation and Right-of-Way Units on the inclusion of the recommended pole improvements as part of the project.

6. Documentation covering the results of this process shall become a part of each project file. Any pole safety improvements, which are recommended, but not included in the project, should be documented with justifications. This documentation should be used during the review of any application packages that are submitted as a result of this process.

Element #3

1. Using the crash cluster lists and maps from the District Safety Unit; the District Safety Unit, District Permit Unit and District Utility Relocation Unit should work together as described below to identify locations which have a history of multiple hits and are not included as part of any construction project as described in Element #2.
2. The locations should then be analyzed by the District Safety Unit for verification of utility pole crashes, right-of-way conditions, highway deficiencies, types of potential solutions, etc.
3. After problem locations are identified, the District Permit Unit should notify the utility owner(s) to arrange a field view to discuss the problems relating to the existing utility pole locations and the potential solutions. As a minimum, a qualified representative from the District who can address the safety concerns shall attend the field view.
4. If mutual agreement is reached at the field view regarding the proposed solutions, the utility owner shall be requested to submit to the Department, in writing, what corrective action will be taken and when it will be taken. The utility owner's time frame should relate to the type of corrective action to be taken, such as: (1) single poles or short strings of poles can be addressed within a short time period, possibly three to four months - weather permitting, and (2) long strings of poles may require the owner to budget funds in the next budget year. In order to ensure that corrective action has been taken by the utility owner, the District should set up a "tickle" file to track work completed by the utility owner.
5. If the Department and the utility pole owner fail to agree on a corrective solution or the utility owner fails to provide a date which is reasonable, then the District Permit Unit should transmit this information by letter to the Central Office Permit Section which will, upon review of the documentation, inform the Chief Counsel's Office and request advice regarding the rescinding of the permit and/or other actions to be taken.
6. Documentation covering the results of this process shall become a part of each project file. Any pole safety improvements, which are recommended, but not included in the project, should be documented with justifications. This documentation should be used during the review of any application packages that are submitted as a result of this process.

Element #4

1. The District Safety Unit should supply the District Utility Relocation Unit and District Permit Unit with copies of utility pole crash cluster lists and maps. This information should then be sent out to utility owners for their use in combating the utility pole crash problem.
2. The Safety Engineer and/or District Utility Relocation Unit should meet periodically with each utility owner to discuss the utility pole crash problem, status of each owner's safety efforts, needed improvement areas, etc.

Responsibilities

District Executive

- Emphasizes the plan from top management down to rank and file employees.

District Permit Unit

- In charge of the permit process.
- Requests the involvement of various other Department Units (Safety, Utility Relocation, etc.) as required to carry out the permit process.
- Department's liaison with utility owners with respect to the permit process.
- Participates in on-site field views.
- Approves/disapproves utility highway occupancy permit applications.
- Coordinates the removal of modified poles (as specified in the Plan).
- Identifies other pole locations that appear in need of relocation.
- Stresses utility pole safety with utility owners.

District Utility Relocation Unit Administrator

- Department liaison with utility owners with respect to utility relocations, especially on Department construction projects and limited access highways.
- Implements the provisions of Design Manual Part 5.
- Participates in on-site field views including Project Scoping Field Views.
- Identifies modified pole locations.
- Identifies other pole locations that appear in need of relocation.
- Stresses utility pole safety with utility owners.
- Works with the District Safety, Right-of-Way and Design Units on (1) determining what utility pole safety improvements should and can be done, and (2) incorporating these improvements.

Safety Engineer

- Lead Coordinator in the Utility Pole Safety Plan development and implementation. Insures that other units follow through with the safety plan, especially utility owner notification and re-notification, if necessary.
- Identifies other pole locations that appear in need of relocation.
- Participates in on-site field views.

- Determines safety solutions based on sound engineering judgment.

Design Unit

- Works with the Safety Engineer in identifying locations within project limits that should be considered for corrective utility pole treatments as part of each project development.
- Participates in project scoping field views and, as part of the field views, identifies and reviews: hit pole locations, locations which possess a potential for utility pole crashes, utility poles which restrict sight distance at intersections, and modified pole locations, if any.
- Works with the Safety and District Utility Relocation Units on (1) determining what utility pole safety improvements should and can be done, and (2) incorporating these improvements into the project scope.
- Provides right-of-way limits to other units as may be required.

Right-of-Way

- Performs the tasks that are necessary to acquire needed right of way.

Legal (Chief Counsel's Office)

- Shall become involved in cases where the utility owner is in noncompliance with an approved Highway Occupancy Permit and shall render advice if needed, concerning rejection of permit applications.

HIGHWAY RESTORATION DETAILS

Restoration to be utilized on highway construction projects must be in accordance with the Publication 408, *Specifications* and PA Code, Title 67, Transportation, Chapter 459, *Occupancy of Highways by Utilities* and shall be the same type of restoration approved for the highway construction project, if applicable.

It is imperative that the Department be provided details of utility restoration at the time of request for Highway Occupancy Permit-Utility Relocation or reimbursable agreement.

The typical drawings and instructions in Appendix Figure A-760, pages 2 thru 5 may be utilized if applicable and acceptable by the Department for the highway project being constructed.

Any exceptions to the Publication 408, *Specifications*, Chapter 459 or typical drawings must be specifically approved by the District Executive or higher Departmental authority prior to utility construction.

The approved restoration will be a part of the utility's Highway Occupancy Permit-Utility Relocation and must be available on the project site during utility construction.

HIGHWAY CONSTRUCTION PROJECT

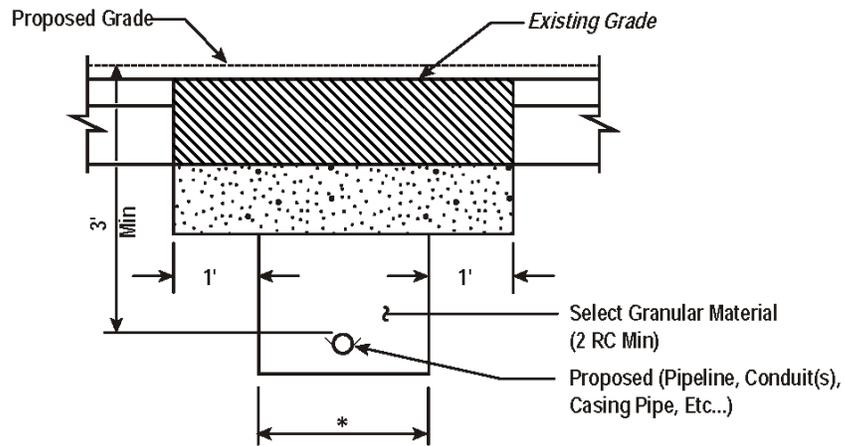
COUNTY _____

ROUTE _____

UTILITY _____

TYPICAL TRENCH / RESTORATION DETAIL (SINGLE PHASE)

BITUMINOUS BASE
NTS



 Depth Bit Conc Base CRSE, Seal Joints with PG 64-22.

 8 inch Depth Cem Conc or Depth Equivalent to Original Pavement * 2 feet Max Trench Width
8 inch Depth Cem Conc with RC-26M * Trench Width Exceeding 2 feet

List Area(s) Or Restoration By Plan Stations, LT and RT.

HIGHWAY CONSTRUCTION PROJECT

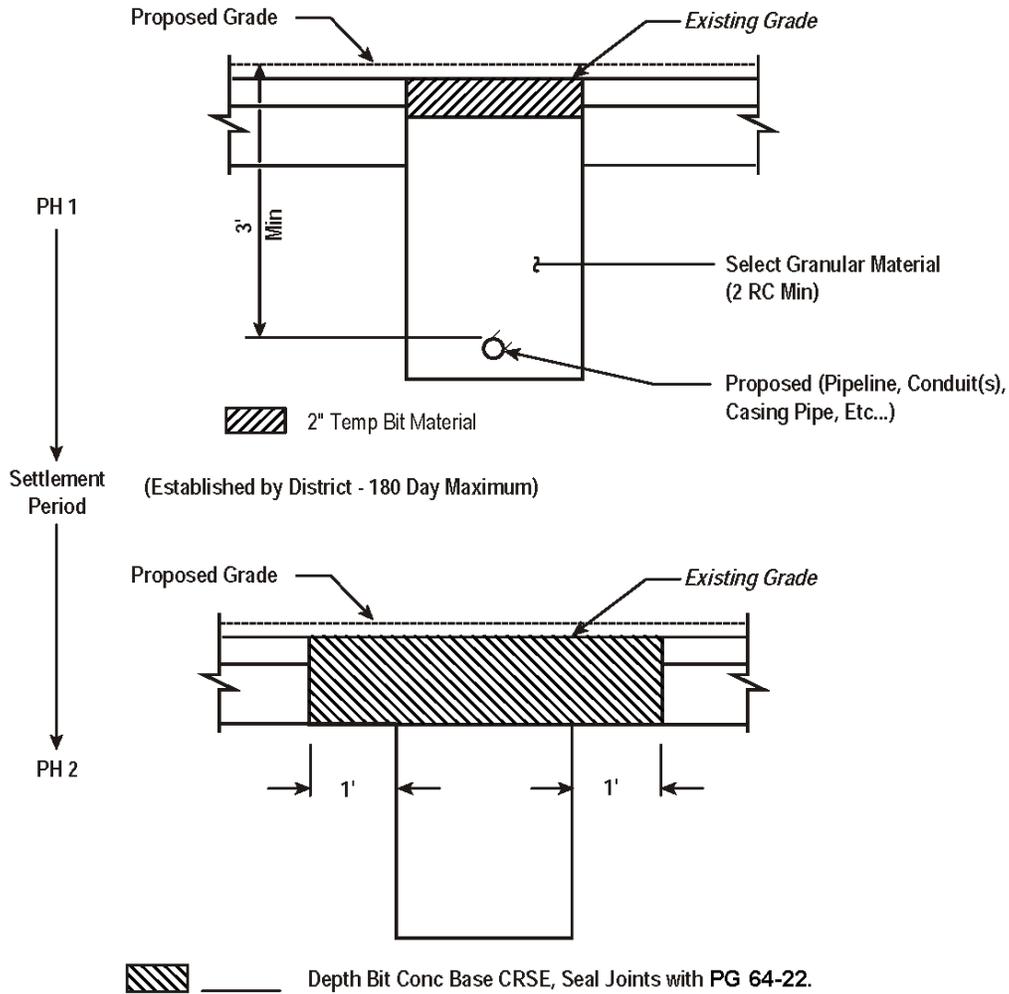
COUNTY _____

ROUTE _____

UTILITY _____

TYPICAL TRENCH / RESTORATION DETAIL (SINGLE PHASE)

BITUMINOUS BASE
NTS



NOTES:

It is understood that if temporary bituminous material is not in place the required number of days prior to Highway Contractor's Notice to Proceed Date, single phase restoration must be performed prior to highway construction operations.

It is mandatory that the District Utility Relocation Office be notified of the "Utility" start work date at least five days prior to commencement of work.

List Area(s) Or Restoration By Plan Stations, LT and RT.

HIGHWAY CONSTRUCTION PROJECT

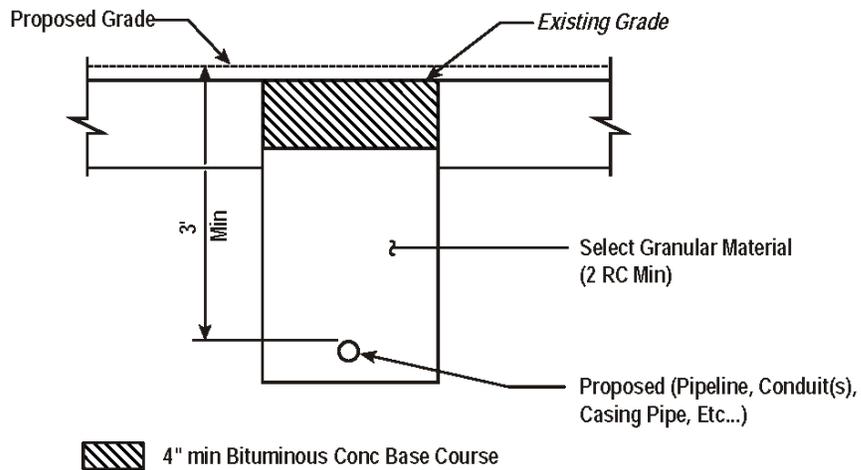
COUNTY _____

ROUTE _____

UTILITY _____

TYPICAL TRENCH / RESTORATION DETAIL
FULL DEPTH RECONSTRUCTION

NTS



List Area(s) Or Restoration By Plan Stations, LT and RT.

HIGHWAY CONSTRUCTION PROJECT

COUNTY _____

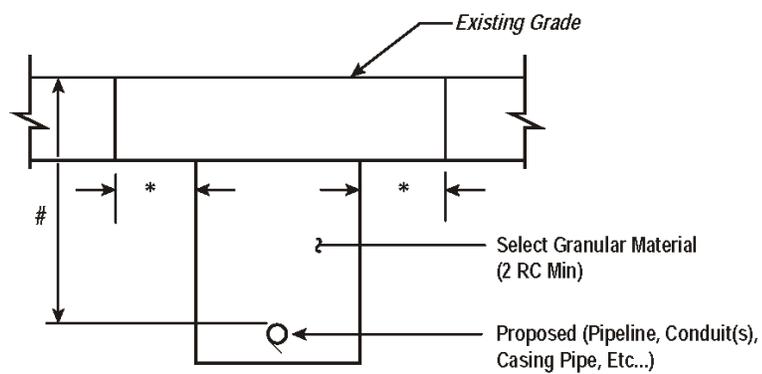
ROUTE _____

UTILITY _____

TYPICAL TRENCH / RESTORATION DETAIL

CONCRETE BASE

NTS



NOTE:

Depth of CEM Conc Equiv to Existing Base with Steel Reinf. - Refer to PennDOT Standard for Roadway Construction, RC-26M (Latest Publication) or the Pavement Design for Subject Project.

* See RC-26M (Latest Publication).

3 feet min. from Proposed Grade - Refer to Pavement Design for Subject Project.

List Area(s) Or Restoration By Plan Stations, LT and RT.

UTILITY RELOCATION QUESTIONNAIRE AND PERMIT APPLICATION (D-4181) INSTRUCTIONS

Page 2 of 4 - Complete the project information (MPMS No., County, State Route (S.R.) & Section, etc.) in the upper right hand of the form.

- Item 1 – List the utility’s legal name, address, SAP Vendor Number and FID Number.
- Item 2 – Identify the type of facility, composition of existing facility, year installed and if an uncased pipeline crossing is required.
- Item 3 – Identify if the facilities are affected (to include being overtaken) by the highway project. If no, please sign, date and return the form. If yes, please complete the remainder of the form.
- Items 4 – Identify if a temporary construction is required to maintain service. If so, provide the reason with the scope of work.
- Item 5 – Give the total estimated number of calendar days for physical construction (see Form D-4181 UC for a breakdown of calendar days).
- Item 6 – Identify if there are any conditional restrictions (i.e. seasonal shutdown, certain times of day or week a facility can be shutdown, acquisition of State Right-of-Way, demolition of buildings). If yes, please include them on the D-4181-UC form.
- Item 7 – Identify if a utility relocation highway occupancy permit (URHOP) will be required. If yes, please complete the additional sheets as needed starting with sheet 3 of 4.
- Item 8 – Identify if traffic control is necessary. If yes, please attach a copy of the appropriate traffic control figure from Publication 213, *Temporary Traffic Control Guidelines*.
- Sign and date the form.

Pages 3 & 4 of 4 - Complete the project information

- State Route – Identify the state route for the proposed facilities.
- Limited Access – Identify if the proposed facilities will be within limited access right-of-way.
- Private Status – Identify if private status is requested for the proposed facilities.
- Type of Occupancy – Identify the type of occupancy for the proposed facilities. See the definitions of Type of Occupancy on the top of page 3 of 4.
- Stations (s) or Segment & Offset – Identify the location of the proposed facilities.
- LF/RT – Identify if the proposed facilities are left or right of the highway centerline. See the drawing at the top of page 3 of 4.
- C/L to Facility – Identify the distance from the highway centerline to the proposed facility. See the drawing at the top of page 3 of 4.
- Facility to R/W Line – Identify the distance from the proposed facility to the right-of-way line.
- Type of Guiderail – Identify the type of existing or proposed guiderail.
- Distance Behind Guiderail – Identify the distance by the existing or proposed guiderail. See the drawing at the top of page 3 of 4.
- Distance Behind Curb or Edge of Pavement – Identify the distance behind the curb or edge of pavement. See the drawing at the top of page 3 of 4.
- Pole No./Pipe Size Etc. – Identify the pole number or pipe size.
- If needed use page 4 of 4 to list additional information.



**UTILITY RELOCATION
QUESTIONNAIRE
AND
PERMIT APPLICATION**

COUNTY _____
CITY, BORO, TWP _____
ROUTE & SECTION _____
FEDERAL PROJ. NO. _____

1. _____ is a Legal Entity qualified to do business in the Commonwealth of Pennsylvania, with its principal place of business located at _____, Pennsylvania.
ADDRESS

SAP Vendor Number _____ and FID Number _____.

2. Type of Facility:
- | | |
|---|---|
| <input type="checkbox"/> Aerial | <input type="checkbox"/> Underground |
| <input type="checkbox"/> Electric | <input type="checkbox"/> Water |
| <input type="checkbox"/> Telecommunications | <input type="checkbox"/> Sewer |
| <input type="checkbox"/> Cable TV | <input type="checkbox"/> Petroleum Products |
| | <input type="checkbox"/> Steam |
| | <input type="checkbox"/> Gas |
| | <input type="checkbox"/> Other |

Composition of existing facility: _____

Year existing facility(s) installed: _____

If applicable, will the requested underground utility crossing be uncased? Yes No
(If Yes, include a certification that states: "I hereby certify that the uncased pipeline crossing(s) meet or exceed the current provisions for uncased pipeline crossings contained in Design Manual Part 5.")

3. Are facilities affected by highway construction?
- No (sign, date and return) Yes (answer questions 5 through 10)

4. Will temporary construction be required to maintain service? Yes No

5. Total estimated number of calendar days for physical construction _____ (see Form 4181 UC for breakdown)

6. Are there Conditional Restrictions that impact adjustment of facility? Yes No
(i.e., seasonal shutdown, certain times of day or week a facility can be shutdown, acquisition of State Right-of-Way, demolition of buildings?)

7. Will a highway occupancy permit be necessary? Yes No
(If yes, complete additional sheets as needed, starting with sheet 3 of 4.)

8. Will Work Zone Traffic Control be necessary? Yes No
(If yes, attach a Traffic Control Plan consistent with Publication 213).

I hereby certify that the information provided above is true and accurate to the best of my knowledge and belief.

Signature & Title Date

Name /Title

Hybrid Method of Proration

Length of Facilities		Pole Count	
Total length of affected line (ft)	(A)	Total number of affected poles (ea)	(Z)
Length of affected line on public r/w (ft)	(B)	Number of affected poles on public r/w (ea)	(Y)
Length of affected line on private r/w (ft)	(C)	Number of affected poles on private r/w (ea)	(X)
Unit price of affected line underground (\$/ft)	(D)	Unit price of affected poles (\$/ea)	(W)
Total Facility Cost (\$) $A * D =$	(E)	Total Pole Cost (\$) $Z * W =$	(V)
State Share of Total Facility Cost (%) $(C / A) * 100 =$	(F)	State Share of Total Pole Cost (%) $(X / Z) * 100 =$	(U)
Utility Share of Total Facility Cost (%) $(B / A) * 100 =$	(G)	Utility Share of Total Pole Cost (%) $(Y / Z) * 100 =$	(T)
State Cost for Facility (\$) $E * (F / 100) =$	(H)	State Cost for Pole (\$) $V * (U / 100) =$	(S)
Utility Cost for Facility (\$) $E * (G / 100) =$	(I)	Utility Cost for Pole (\$) $V * (T / 100) =$	(R)
Combined Total Cost (\$) = E + V			
Combined Total State Cost (\$) = H + S			
Combined Total Utility Cost (\$) = I + R			

Note: These are the values of existing plant using current replacement costs.

CHECKLIST
UTILITY RELOCATION ESTIMATES
RELOCATION PLANS & SUPPORTING DATA

Questionnaire 4181

All items have been completed, including the Permit Application Page 2 of 2.

Preliminary Estimate 4181A

All items have been completed with amounts shown for each applicable item and sub-item and any appropriate attachments should be included.

Particular attention should be given to the following items and associated supplemental attachments:

- Item A. Preliminary Engineering - Use of Consultant Engineer
 - Copy of approved contract
 - Certification of Consultant
- Item B. Right of Way
 - Real property interest documentation
- Item C. Temporary Work
 - List of material to be used
 - Salvage credit breakdown
 - A narrative explaining the necessity for the work
- Item D. Permanent Construction
 - Contracts and incorporated work - Page 3 of 5 completed.
 - List of materials to be installed, removed or abandoned
- Item K. Credits
 - Description of betterment Items and computation for credit
 - Indicate the method used to determine the pro-ration of relocation costs.
 - Number of existing poles affected *
 - Length of existing facility affected *
 - Cost basis *

* Calculations used to determine pro-ration are to be shown on a Supplemental Sheet.

Plans:

- Location Map
- Index Sheet
- Detailed Plan Sheets
- Profiles
- Cross Sections
- Scope of Work



**PRELIMINARY ESTIMATE
FOR UTILITY RELOCATION**

COUNTY	_____
ROUTE	_____
FED. PROJ. NO.	_____

Cost Estimate for Actual Billing Costs **Lump Sum Cost Estimate**

SAP Vendor Number _____ and FID Number _____

Utility _____ Signature _____

Corporate Address _____ Date _____

A. PRELIMINARY ENGINEERING

- 1. Labor
 - (a.) Salaries and wages (in house) _____
 - (b.) Contract (consultant) _____
- 2. Supplies _____
- 3. Transportation _____
- 4. Incorporated into the highway design contract _____
- TOTAL..... _____

B. RIGHT OF WAY ACQUISITION

- 1. Property costs _____
- 2. Labor
 - (a.) Salaries and wages (in house) _____
- 3. Transportation _____
- 4. Contractor _____
- TOTAL..... _____

C. TEMPORARY CONSTRUCTION

- 1. Labor
 - (a.) Salaries and wages (in house) _____
- 2. Material
 - (a.) New material _____
 - (b.) Less salvage _____
 - (c.) Depreciated value _____
 - (d.) Handling (___ %) _____
- 3. Equipment
 - (a.) Utility owned _____
 - (b.) Rented _____
- 4. Contractor _____
- TOTAL..... _____

D. PERMANENT CONSTRUCTION

- 1. Labor
 - (a.) Salaries and wages (in house) _____
- 2. Material (provided by Utility)
 - (a.) Handling (___ %) _____
- 3. Equipment
 - (a.) Utility owned _____
 - (b.) Rented _____
- 4. Contractor _____
- 5. Incorporated into the prime highway contract _____
- TOTAL..... _____
- SUBTOTAL..... _____

Cumulative TOTAL from Page 2 _____

E. REMOVAL COSTS
 1. Labor
 (a.) Salaries and wages (in house) _____
 2. Supplies _____
 3. Transportation _____
 4. Contractor _____
 TOTAL..... _____

F. CONSTRUCTION ENGINEERING AND INSPECTION
 1. Labor
 (a.) Salaries and wages (in house) _____
 (b.) Contract (consultant) _____
 2. Supplies _____
 3. Transportation _____
 4. Contractor _____
 TOTAL..... _____

G. CONNECTING COSTS
 1. Labor
 (a.) Salaries and wages (in house) _____
 2. Supplies _____
 3. Transportation _____
 4. Contractor _____
 TOTAL..... _____

H. ACCOUNTING COSTS
 1. Labor
 (a.) Salaries and wages (in house) _____
 2. Supplies _____
 TOTAL..... _____

I. ADMINISTRATION, INDIRECT OVERHEAD & SUPERVISION..... _____

J. TOTAL ESTIMATED COST _____

LESS CREDITS

1. Betterment _____
 2. Salvage _____
 3. Expired Service Life _____
 TOTAL CREDITS _____

K. TOTAL NET ESTIMATED COST _____

L. PERCENT OF UTILITY WITH REAL PROPERTY INTEREST (412 COSTS) _____ %..... _____

M. PERCENT OF UTILITY WITHOUT REAL PROPERTY INTEREST (412.1 COSTS, IF APPLICABLE) _____ %..... _____

1. STATE SHARE* _____ % _____
 2. UTILITY SHARE* _____ % _____
 TOTAL STATE SHARE OF ITEM K (L + M.1 / K) _____ % (L + M.1) _____

* If cost sharing is not applicable, M.1 = 0.00% and M.2 = 100.00%. All percents should be rounded to two decimal places.

N. SACRIFICED LIFE (VALUE OF FACILITIES REMOVED FROM PRIVATE RIGHT-OF-WAY AND NOT FUNCTIONALLY REPLACED) Totally reimbursable – attach detailed calculations _____

TOTAL ESTIMATED AMOUNT OF REIMBURSEMENT (L + M.1 + N) _____

CONTRACTS

The items of work, so indicated in this Preliminary Estimate, are to be accomplished by contract because the utility may not be adequately staffed or equipped to perform this work with its own forces at the time of the relocation. The following contractual method will be used for the items indicated.

1. Continuing Contracts

The following Preliminary Estimate Items will be performed by the listed qualified contractors who normally perform such work for the Utility at reasonable costs under existing written continuing contracts.

A. Item _____	Contractor _____
B. Item _____	Contractor _____
C. Item _____	Contractor _____
D. Item _____	Contractor _____
E. Item _____	Contractor _____

The Commonwealth approved the method used to enter into continuing contracts on _____.

2. Invitation to Bid:

The following qualified contractors will be invited to bid on Items _____ of the Preliminary Estimate:

- A. Item _____
- B. Item _____
- C. Item _____

3. Open Advertisement for Competitive Bids:

Bids are required for certain items of the propose relocation work when the cost exceed \$10,000. They will be solicited by open advertisement in publications for Items _____ of the Preliminary Estimate.

4. Contractor(s) hired without Competitive Bidding by Municipalities and Municipal Authorities: It is impractical to solicit bids for certain items of the proposed relocation work, the cost of which will not exceed \$10,000.00. A list of the items, the associated contractors and the justifications for each item is attached.

Department's Approval Date _____

5. Relocation Work Incorporated Into the Highway Construction Contract:

It is Cost effective to have certain items of the proposed relocation performed by the highway contractor. Those items of relocation work to be incorporated into the highway contract are described on the attached supplemental sheet along with a list of the material to be installed.

CONTRACTS

- UTILITY COMPANIES OR CORPORATIONS -

The continuing contractors and contractors from whom bids are invited are, in the opinion of the utility company, professionally qualified and financially capable of promptly and efficiently effecting their portion of this relocation.

Prior to the award of any contract for which bids were openly advertised, the Department shall be furnished a list of bidders and the total amount bid, along with assurance that the contract shall be awarded to the lowest qualified bidder, which in the judgment of the utility company, is professionally qualified, properly equipped and financially able to promptly effect completion of the proposed work.

- MUNICIPALITY OR MUNICIPAL AUTHORITY OWNED UTILITIES -

- Prior to solicitation of bids, the municipality or municipal authority shall furnish the Department with a copy of its bid proposal and receive the Department's concurrence.
- Subsequent to its receipt of bids, the Municipality or Authority shall submit to the Department a list of bidders and the total amount bid by each.
- This submission shall designate the apparent successful contractor, along with assurance that he is the lowest qualified bidder which is professionally qualified, properly equipped and financially able to promptly effect completion of the proposed work.
- Such contracts shall not be awarded until receipt of the Department's concurrence in such award.

- ALL UTILITIES -

Preliminary Estimates requesting approval to hire a contractor without competitive bidding (Item 4 above) shall, in addition to the written justification therefore, be supplemented by certification that the contractor to be hired is professionally qualified, properly equipped and financially able to promptly effect completion of the proposed work.

**PROCEDURE FOR OBTAINING APPROVAL
OF THE UTILITY'S TRAFFIC CONTROL PLAN**

1. Utility's Traffic Control Plan: Shall mean the utility's concept of traffic control which must be in accordance with Publication 213, and defined through a detailed traffic control plan or reference to the applicable figures in Publication 213.
2. Upon receipt of the estimate/permit package, the District Utility Unit shall submit, when applicable, one copy of the Utility's Work Zone Traffic Control (plan or applicable Publication 213 figures) to the District Traffic Unit for review, comments and approval.
3. It is not necessary for the District Utility Unit to delay the submission of the estimate package to Central Office pending approval of the traffic control plan. The estimate transmittal shall assure that the Utility's traffic control plan has been subjected to review and comments by the District Traffic Unit and that maintenance of traffic at the work site shall be in accordance with that approved plan.
4. The District Utility Unit shall have on file a copy of the approved utility traffic control plan.

General Checklist
 for an estimate/agreement package to the
 Central Office Utility Relocation Unit

<u>County Name</u>	<u>SR&Section</u>	<u>MPMS #</u>	<u>Utility Name</u>	<u>Agreement #</u>
_____	_____	_____	_____	_____

<u>Estimate package</u> (scan and import as one file)	<u>Document Class</u> Utility Company	<u>Document Type</u> D 4181- A
---	---	--

- | | |
|---|-------|
| ___ - Estimate Transmittal | _____ |
| ___ - SAP Vendor / FID # | _____ |
| ___ - D 4181 (signed by Utility) | _____ |
| ___ - D 4181- UC (signed by Utility) | _____ |
| ___ - Scope of Work | _____ |
| ___ - D 4181- A (signed by Utility) | _____ |
| ___ - Funds Commitment Sheet from SAP | _____ |
| ___ - Pro-ration Calculation Sheet | _____ |
| ___ - List of Material to be Removed | _____ |
| ___ - List of Material to be Install (plus costs) | _____ |
| ___ - Real Property Interest Documents | _____ |
| ___ - Right-of-Way Plans showing <u>existing</u> &
<u>proposed</u> facilities. | _____ |

NOT REQUIRED FOR ALL JOBS

- | | |
|--|-------|
| ___ - Request for Incorporated work | _____ |
| ___ - Cost Sharing Approval | _____ |

NOTES:

- If **plans** are larger than letter size sheets, they should be a separate file attachment, under **document class / type – Utility Company / Utility Type, Size and Location**.
- **Permits** should be generated before the estimate transmittal, so the permit number can be pre-populated on the transmittal sheet. Limited access and private status permits require Central Office involvement.
- **Estimate Transmittal** should be previewed in UR-EDMS, filled out, printed and scanned as the first two pages of the estimate package. If there is Private Status or Limited Access Approval needed, the check boxes on the 2nd page must be marked.
- All **Real Property Interest Documents** should be identified by the facility they belong to (ex. easement agreement or affidavit numbers, pole numbers or lengths of facility, and station(s)) and need to be reviewed by the Office of Chief Counsel. All requests initially need to go through the C.O. Utility Unit.
- **Affidavits** must follow the example in DM-5, Figure A-600.
- **SAP Vendor # and FID #** on the Utility’s documents needs to match the one in the address book and the vendor needs to be aware where payments are going.
- **Funds Commitment Form** must show on the form that the funds are parked.

D-4181-B (6-18)

**SUMMARY OF BILLING
FOR UTILITY
RELOCATION****DISCUSSION AND EXPLANATION OF SUMMARY FORM**

1. All final billing shall be prepared in accordance with Title 23, Code of Federal Regulations, Chapter 1, Part 645, the Utility's Standard Accounting and Work order procedures and the Department's Design Manual Part 5.
2. The Summary of Billing Form 4181-B will follow, as close as possible, the order of the items in the Estimate Form 4181-A in such a manner as will permit comparison with the approved Plan and Estimate Form.
3. Supporting Data sheets shall accompany the Final Billing Form 4181-B showing an itemized breakdown of all labor by classification and hours worked, and list of materials removed and installed by quantity, type and unit cost, in accordance with Design Manual Part 5.
4. Each individual payment of Right of Way shall be supported in accordance with Design Manual Part 5.
5. Work performed under contracts, entered into by bidding, having had prior concurrence of the Department, and as indicated on the Estimate Form 4181-A, must be substantiated by the total amounts of each bid received from the actual bidders.
6. If there is a substantial difference (+/- 10%) between the total estimated cost and the total actual cost billed, or a substantial difference for individual items of cost, i.e., Preliminary Engineering, Right of Way, Construction, etc., an explanation shall be attached to the Summary of Billing Form 4181-B.
7. Labor surcharges include worker compensation insurance, public liability and property damage insurance, and such fringe benefits as the utility has established for the benefit of its employees. The cost of labor surcharges will be reimbursed at actual costs to the utility, or, at the option of the utility, average rates which are representative of actual costs may be used in lieu of actual costs if approved by the Department and the FHWA Division Administrator. These average rates should be adjusted at least once annually to take into account known anticipated changes and correction for any over or under applied costs for the preceding period.
8. Overhead and indirect construction costs not charged directly to work order or construction accounts may be allocated to the relocation provided the allocation is made on an equitable basis. All costs included in the allocation shall be eligible for Federal reimbursement, reasonable, and actually incurred by the utility.
9. The actual and direct costs of handling and loading materials and supplies of company stores or material yards, and of unloading and handling recovered materials accepted by the utility at its stores or material yards are reimbursable. In lieu of actual cost, average rates which are representative of actual costs may be used if approved by the Department and the FHWA Division Administrator. These average rates should be adjusted at least once annually to take into account known anticipated changes and correction for any over or under applied costs for the preceding period. At the option of the utility, 5 percent of the amounts billed for the materials and supplies issued from company stores and material yards or the value of recovered materials will be reimbursed in lieu of actual or average costs for handling.
10. Credits for Expired Service Life, Betterment and Salvage shall be documented in accordance with Design Manual Part 5.
11. A charge for Sacrificed Life made in the amount of the computed value of facilities which were removed from private Right-of-Way and not functionally replaced shall be documented in accordance with Design Manual Part 5.
12. All billing shall be certified by the company's auditor or person directly responsible for its accuracy and conformance to Federal Regulations, the Utility's Standard Accounting and Work Order Procedures and Design Manual Part 5.

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**SUMMARY OF BILLING
FOR UTILITY
RELOCATION**

COUNTY _____

CITY, BORO, TWP _____

ROUTE & SECTION _____

FEDERAL PROJ. NO. _____

ESTIMATE AND BILLING COMPARISON

SUMMARY OF	ESTIMATE	BILLING	+OR-
A. PRELIMINARY ENGINEERING	\$ _____	\$ _____	\$ _____
B. RIGHT-OF-WAY ACQUISITION.....	\$ _____	\$ _____	\$ _____
C. TEMPORARY CONSTRUCTION	\$ _____	\$ _____	\$ _____
D. PERMANENT CONSTRUCTION	\$ _____	\$ _____	\$ _____
1. Labor	\$ _____	\$ _____	\$ _____
2. Material	\$ _____	\$ _____	\$ _____
3. Equipment	\$ _____	\$ _____	\$ _____
E. REMOVAL COSTS.....	\$ _____	\$ _____	\$ _____
F. CONSTRUCTION ENGR/INSPECTION	\$ _____	\$ _____	\$ _____
G. CONNECTING COSTS	\$ _____	\$ _____	\$ _____
H. ACCOUNTING.....	\$ _____	\$ _____	\$ _____
I. ADMINISTRATIVE, INDIRECT OVERHEAD SUPERVISION.....	\$ _____	\$ _____	\$ _____
J. TOTAL CONSTRUCTION COSTS.....	\$ _____	\$ _____	\$ _____
K. LESS CREDITS	\$ _____	\$ _____	\$ _____
1. Betterment	\$ _____	\$ _____	\$ _____
2. Salvage	\$ _____	\$ _____	\$ _____
3. Expired Service Life	\$ _____	\$ _____	\$ _____
L. TOTAL NET COSTS	\$ _____	\$ _____	\$ _____
M. UTILITY SHARE..... %	\$ _____	\$ _____	\$ _____
N. STATE SHARE..... %	\$ _____	\$ _____	\$ _____
O. SACRIFICED LIFE	\$ _____	\$ _____	\$ _____
TOTAL AMOUNT REIMBURSABLE	\$ _____	\$ _____	\$ _____

D-4181-B (6-18)



pennsylvania
DEPARTMENT OF TRANSPORTATION

**SUMMARY OF BILLING
FOR UTILITY
RELOCATION**

COUNTY _____

CITY, BORO, TWP _____

ROUTE & SECTION _____

FEDERAL PROJ. NO. _____

Utility _____

Address _____

Invoice may be Audited at (address) _____

Date of First Billed Expense (including Preliminary Engineering) _____

Date Actual Construction Start by Utility _____

Date of Last Billed Expense (including accounting) _____

A. PRELIMINARY ENGINEERING

- 1. Labor
 - (a.) Salaries and wages (in house) _____
 - (b.) Contract (consultant) _____
- 2. Supplies _____
- 3. Transportation _____
- 4. Incorporated into the highway design contract _____
- TOTAL..... _____

B. RIGHT-OF-WAY ACQUISITION

- 1. Property costs _____
- 2. Labor
 - (a.) Salaries and wages (in house) _____
- 3. Transportation _____
- 4. Contractor _____
- TOTAL..... _____

C. TEMPORARY CONSTRUCTION

- 1. Labor
 - (a.) Salaries and wages (in house) _____
- 2. Material
 - (a.) New material _____
 - (b.) Less salvage _____
 - (c.) Depreciated value _____
 - (d.) Handling (_____ %) _____
- 3. Equipment
 - (a.) Utility owned _____
 - (b.) Rented _____
- 4. Contractor _____
- TOTAL..... _____

Accumulative TOTAL from Page 2 _____

D. PERMANENT CONSTRUCTION

- 1. Labor
 - (a.) Salaries and wages (in house) _____
- 2. Material (provided by Utility)
 - (a.) Handling (_____ %) _____
- 3. Equipment
 - (a.) Utility owned _____
 - (b.) Rented _____
- 4. Contractor _____
- TOTAL..... _____

E. REMOVAL COSTS

- 1. Labor
 - (a.) Salaries and wages (in house) _____
- 2. Supplies _____
- 3. Transportation _____
- 4. Contractor _____
- TOTAL..... _____

F. CONSTRUCTION ENGINEERING AND INSPECTION

- 1. Labor
 - (a.) Salaries and wages (in house) _____
 - (b.) Contract (consultant) _____
- 2. Supplies _____
- 3. Transportation _____
- 4. Contractor _____
- TOTAL..... _____

G. CONNECTING COSTS

- 1. Labor
 - (a.) Salaries and wages (in house) _____
- 2. Supplies _____
- 3. Transportation _____
- 4. Contractor _____
- TOTAL..... _____

H. ACCOUNTING COSTS

- 1. Labor
 - (a.) Salaries and wages (in house) _____
- 2. Supplies _____
- TOTAL..... _____

I. TOTAL ADMINISTRATION, INDIRECT OVERHEAD & SUPERVISION _____

Accumulative TOTAL from Page 3 _____

J. TOTAL CONSTRUCTION COST

LESS CREDITS

1. Betterment _____

2. Salvage _____

3. Expired Service Life _____

TOTAL CREDITS

K. TOTAL NET ACTUAL COST

L. PERCENT OF UTILITY WITH REAL PROPERTY INTEREST (412 COSTS) _____ %

M. PERCENT OF UTILITY WITHOUT REAL PROPERTY INTEREST (412.1 COSTS, IF APPLICABLE) _____ %

N. SACRIFICED LIFE (VALUE OF FACILITIES REMOVED FROM PRIVATE RIGHT-OF-WAY AND NOT FUNCTIONALLY REPLACED TOTALLY REIMBURSABLE; DO NOT PRORATE)

O. LESS THE AMOUNT OF PREVIOUS PAYMENTS

P. TOTAL AMOUNT OF REIMBURSEMENT (L + M + N - O)

I hereby certify that to the best of my knowledge and belief this bill is true and correct and that all costs included herein are properly chargeable to the State as a result of adjusting our facilities to conform to the above-named highway project as shown by this Utility's Plan and Highway Plan and Estimate, and in accordance with the terms of the approved agreement on file with the Commonwealth of Pennsylvania, Department of Transportation.

I further certify that all work billed herein has been completed in accordance with the Department's Design Manual Part 5, Title 23, Code of Federal Regulations Chapter 1, Part 64.5, Subpart A, the Buy America provisions in 23 U.S.C. § 313, 23 CFR § 635.410 and Pennsylvania Steel Products Procurement Act, 73 P.S. §1881- §1187 and in accordance with work order accounting procedure prescribed by the applicable Federal or State Regulatory Board, and that no collusion exists or has existed between members or employees of this firm and other persons, firms or corporations in order to establish an unjust basis for any part of the costs covered by this Invoice.

I further certify that the total value of foreign steel and iron products (need to identify the products) as described in the Buy America requirements for this project is \$ _____, said value being less than 0.1% of the total contract price or \$2,500.00, whichever is greater.

(Name and Title) Date

(Use supplemental sheets to describe the scope of work performed, to explain any unusual charges and to provide the required information in contracts, credits, materials, sacrificed life, etc.).

Approval of the Type(s) of Restoration to be Used for Utility's Installation of Underground Facilities in Highway Right-of-Way

Utilities are to provide the type(s) of restoration to be utilized on a highway project at the time of request for Highway Occupancy Permit-Utility Relocation or Reimbursable Agreement.

All restoration must be in accordance with the Department's Publication 408 Specifications and PA. Code, Title 67, Transportation, Chapter 459, Occupancy of Highways by Utilities and shall be the same type as approved for the highway construction Project, if applicable.

To aid the utility in detailing the restoration, typical drawings and instructions were developed and placed in Appendix Figure A-760. These typicals may require modification due to individual District requirements, seasonal restrictions (i.e.: winter months), length of time roadway is unimproved, etc. Any exceptions to the Publication 408 Specifications, Chapter 459 or typical drawings must be specifically approved by the District prior to Notice to Proceed with physical relocation.

Upon receipt of the estimate package, the District Utility Relocation Unit shall submit one (1) copy of the utility's restoration drawings and any other related data to the District Construction Unit for review, comments or approval.

It is not necessary for the District Utility Relocation Unit to delay the submission of the utility's estimate package to Central Office Utility Relocation Unit pending approval of the method of restoration. The Estimate Transmittal shall assure that the utility's restoration plan has been subjected to review and comments by the District Construction Unit and that restoration shall be performed in accordance with the approved Plan.

The District Utility Relocation Unit shall have on file a copy of the approved method of restoration.

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**UTILITY RELOCATION
CLEARANCE REPORT
INSTRUCTIONS**

- State Route – Identify the state route for the proposed facilities.
- Station to Station or Segment & Offset to Segment & Offset – Identify the location of the proposed facilities.
- RT/LT – Identify if the proposed facilities are right or left of the highway centerline.
- Brief Description of the Adjustment – Identify the type of work required for the relocation/adjustment (i.e., install new pole, relocate gas line, etc.).
- Type of Relocation - Each Location – Identify the type of relocation for each location. See the definitions for the different types of relocations on the form.
- Describe Conditional Restrictions or Time Requirements for Coordinated Work – Identify any conditional restrictions or time requirements for the utility work, including sequencing of utility work. See the definitions for the different types of relocations on the form.
- Calendar Days Required or Date of Completion – Identify how many calendar days are required to complete the work for each location. For PRIOR work, give the anticipated or actual completion date.
 - If applicable, the utilities should also include time to order material, the sequencing of operations between utilities and scheduling crews and outages.
- Sign and Date the form.
- If needed, attach additional sheets to list additional information.

Example D-419 for a State Project

DATE:

SUBJECT: County Name
SR: 0096, Section AAA
MPMS No.: 12345
Federal Project No.:

TO: _____, Director, Bureau of Project Delivery
Attn: _____, Chief Utility Relocation Administrator

FROM: _____, District Executive, District 0
By: _____, District Utility Relocation Administrator

Following is the Utility Clearance (Form D-419) for the above project. This project is scheduled for a June 15, 1999 letting. This certifies that all written responses from all known utilities within the project limits have been received, and are on file in the District Office and are available in the Utility Relocation -Electronic Document Management System (UR-EDMS) as of _____. Therefore; it is recommended that a certification of Utility Clearance be furnished to FHWA.

UTILITIES

Cooperate with the public utility companies and local authorities in the placement, replacement, relocation, adjustment, or reconstruction of their structures and facilities during construction. Contact all utility representatives at least fifteen (15) calendar days prior to starting operations.

PRIOR	Anticipated completion before the Notice to Proceed is issued. Actual or anticipated completion date shown.
RESTRICTIVE	To be completed by the utility or a string of utilities before operating without restriction. Number of calendar days will start after the notice to proceed is issued to the highway contractor and the contractor notifies the utilities.
CONCURRENT	Simultaneous with, but not restricting, the highway contractor's operation. Number of calendar days required.
COORDINATED	Phasing with specific construction operations and/or phasing with the operations of other utilities. Number of calendar days required after completion of a specific construction operation.
NOT AFFECTED	Identifies UTILITY with facilities in the construction area which are not anticipated to be affected. Specific information may be provided by the UTILITY.
INCORPORATED	Utility relocation work to be included into the prime highway construction contract to be completed by the highway contractor.
CONDITIONAL RESTRICTIONS and TIME REQUIREMENTS	Identify conditions affecting the utility's ability to perform a certain type of utility relocation work, i.e., certain times of the day, week, or year that a facility cannot be shut down, acquisition of right-of-way by the State, or demolition of buildings.

Any changes to the utility relocation work must be approved by PennDOT. Changes made for the highway contractor's convenience will be performed at the highway contractor's expense.

XYZ BOROUGH (WATER)

Contact: John Doe, telephone 717-xxx-xxxx, Jdoe@utility.com

NOT AFFECTED: (U/G) S.R. 0096, Sta. 1639+00 Crossing.

PRIOR: (U/G/) S.R. 0096, Sta. 1639+00 Lt. to Sta. 1645+00 Lt. Utility will relocate water line out of construction area. Two weeks notice to mobilize. Actual completion date is May 1, 1999.

XYZ BOROUGH MUNICIPAL AUTHORITY (SEWER)

Contact: John Doe, telephone 717-xxx-xxxx, Jdoe@utility.com

INCORPORATED: (U/G) S.R. 0096, Sta. 1640+00 Crossing. Relocate sanitary sewer line crossing to Sta. 1645+00. Utility Pay Items 9999-9998 and 9999-9999. **CONDITIONAL RESTRICTION and TIME REQUIREMENT:** Service to the factory can only be interrupted between 8:00 p.m. on Fridays to 4:00 a.m. on Sundays.

COORDINATED: (U/G) S.R. 0096, Sta. 1639+00 Rt. to Sta. 1645+00 Rt. Construct final grade. Utility will vertically adjust manhole frames to final grade. Notify the Utility two (2) weeks prior to beginning work. Six (6) calendar days required

XYZ POWER COMPANY (Pole Owner)

Contact: John Doe, telephone 717-xxx-xxxx, Jdoe@utility.com

RESTRICTIVE: (Aerial) S.R. 0096, Sta. 1640+00 Lt. and Sta. 1641+00 Lt. Utility will relocate poles to the right-of-way line. Six weeks notice to mobilize. Ten (10) calendar days required to mobilize.

CONCURRENT: (Aerial) S.R. 0096, Sta. 1642+00 Lt. Utility will relocate guy wire behind existing guide rail. Three (3) calendar days required.

RESTRICTIVE: (Aerial) S.R. 0096, Sta. 1640+00Lt. and Sta. 1641+00Lt. After XYZ Cable Company and XYZ Telephone Company have transferred their facilities, Utility will remove poles. Ten (10) calendar days required to mobilize. Two (2) calendar days required to complete work.

XYZ CABLE COMPANY

Contact: John Doe, telephone 717-xxx-xxxx, Jdoe@utility.com

RESTRICTIVE: (Aerial) S.R. 0096, Sta. 1640+00 Lt. and Sta. 1641+00 Lt. Utility will transfer lines to the relocated power poles. Five (5) calendar days required after XYZ Power Company completes their work. Fifteen (15) calendar days notice to mobilize.

XYZ TELEPHONE COMPANY

Contact: John Doe, telephone 717-xxx-xxxx, Jdoe@utility.com

RESTRICTIVE: (Aerial) S.R. 0096, Sta. 1640+00 Lt. and Sta. 1641+00 Lt. Utility will transfer lines to the relocated power poles after the cable company completes their transfer. Five (5) calendar days required after XYZ Power Company and XYZ Cable Company complete their work. Twenty (20) calendar days required notice to mobilize.

Example D-419 for a Sponsored Project

DATE:

SUBJECT: County Name
SR: 0096, Section AAA
MPMS No.: 12345
Federal Project No.:

TO: _____, Director, Bureau of Project Delivery
Attn: _____, Chief Utility Relocation Administrator

FROM: _____, Municipal Authority Representative or Sponsor

Following is the Utility Clearance (Form D-419) with the Utility Clearance Assurance statement for the above project. This project is scheduled for a June 15, 1999 letting. This certifies that all written responses from all known utilities within the project limits have been received and written arrangements are on file in our office as of _____. Therefore; it is recommended that a certification of Utility Clearance be furnished to FHWA.

UTILITIES

Cooperate with the public utility companies and local authorities in the placement, replacement, relocation, adjustment, or reconstruction of their structures and facilities during construction. Contact all utility representatives at least fifteen (15) calendar days prior to starting operations.

PRIOR Anticipated completion before the Notice to Proceed is issued. Actual or anticipated completion date shown.

RESTRICTIVE To be completed by the utility or a string of utilities before operating without restriction. Number of calendar days will start after the notice to proceed is issued to the highway contractor and the contractor notifies the utilities.

CONCURRENT Simultaneous with, but not restricting operations. Number of calendar days required.

COORDINATED Phasing with specific construction operations. Number of calendar days required after completion of a specific construction operation.

NOT AFFECTED Identifies UTILITY with facilities in the construction area which are not anticipated to be affected. Specific information may be provided by the UTILITY.

INCORPORATED Utility relocation work to be incorporated into the prime highway construction contract.

CONDITIONAL RESTRICTIONS and TIME REQUIREMENTS Identify conditions affecting the utility's ability to perform a certain type of utility relocation work, i.e., certain times of the day, week, or year that a facility cannot be shut down, acquisition of right-of-way by the State, or demolition of buildings.

Example Only

XYZ BOROUGH (WATER)

Contact: John Doe, telephone 717-xxx-xxxx

NOT AFFECTED: (U/G) S.R. 0096, Sta. 1639+00 Crossing.

PRIOR: (U/G/) S.R. 0096, Sta. 1639+00 Lt. to Sta. 1645+00 Lt. Utility will relocate water line out of construction area. Anticipated date of completion, May 1, 1999.

XYZ BOROUGH MUNICIPAL AUTHORITY (SEWER)

Contact: John Doe, telephone 717-xxx-xxxx

INCORPORATED: (U/G) S.R. 0096, Sta. 1640+00 Crossing. Relocate sanitary sewer line crossing to Sta. 1645+00. Utility Pay Items 9999-9998 and 9999-9999. **CONDITIONAL RESTRICTION and TIME REQUIREMENT:** Service to the factory can only be interrupted between 8:00 p.m. on Fridays to 4:00 a.m. on Sundays.

COORDINATED: (U/G) S.R. 0096, Sta. 1639+00 Rt. to Sta. 1645+00 Rt. Construct final grade. Utility will vertically adjust manhole frames to final grade. Notify the Utility two (2) weeks prior to beginning work. Six (6) calendar days required

XYZ POWER COMPANY

Contact: John Doe, telephone 717-xxx-xxxx

RESTRICTIVE: (Aerial) S.R. 0096, Sta. 1640+00 Lt. and Sta. 1641+00 Lt. Utility will relocate poles to the right-of-way line. Ten (10) calendar days required after the contractor's notice to proceed.

CONCURRENT: (Aerial) S.R. 0096, Sta. 1642+00 Lt. Utility will relocate guy wire behind existing guide rail. Three (3) calendar days required.

XYZ CABLE COMPANY

Contact: John Doe, telephone 717-xxx-xxxx

RESTRICTIVE: (Aerial) S.R. 0096, Sta. 1640+00 Lt. and Sta. 1641+00 Lt. Utility will transfer lines to the relocated power poles. Five (5) calendar days required after XYZ Power Company completes their work. Fifteen (15) calendar days required after the contractor's notice to proceed.

XYZ TELEPHONE COMPANY

Contact: John Doe, telephone 717-xxx-xxxx

RESTRICTIVE: (Aerial) S.R. 0096, Sta. 1640+00 Lt. and Sta. 1641+00 Lt. Utility will transfer lines to the relocated power poles after the cable company completes their transfer. Five (5) calendar days required after XYZ Power Company and XYZ Cable Company complete their work. Twenty (20) calendar days required after the contractor's notice to proceed.

(Utility Clearance Assurance Statement when there is utility relocation work)

All necessary arrangements have been made for all known utility relocation work to be undertaken and completed as required for proper coordination with the physical construction schedules.

Or

(Utility Clearance Assurance Statement when there is no utility relocation work)

There is no known utility work required by these utilities to clear the subject highway construction project

Signature of an Official of the Local Government Body or Sponsor

Date

STANDARD SPECIAL PROVISIONS FOR UTILITIES

The following Special Provisions are available on the ECMS website, Construction Projects-Resources menu. Before using these Special Provision, consult ECMS to verify that the Revision indicated below is still in "Active" status.

1) LIST OF STANDARD SPECIAL PROVISIONS USED IN LIEU OF A D-419:

a04201 Utilities--Use When There Are No Utilities Within The Project Limits (Revision B)

Use when there are no utilities within the project limits as determined by the District Utility Administrator in consultation with the Project Manager. The Utility Clearance "Form D-419" is not required when this SSP is included. For use on projects let after April 15, 2011.

There are no Utilities known to be located within the scope and extent of work activity defined for this project.

a04251 Utilities--Use When There Are Utilities Within The Project Limits That Are Not Affected (Revision A)

Use on 100% STATE FUNDED PROJECTS when the utilities within the project limits are not affected by the project scope of work, as determined by the District Utility Administrator in consultation with the Project Manager. The Utility Clearance "Form D-419" is not required but the known utilities should be listed on the construction plan when this SSP is included. For use on projects let after April 15, 2011.

Utilities within the project limits are not affected by the scope of work defined for this project. Although no adjustments or relocations are anticipated, identify and coordinate with utilities and/or municipalities within the limits of work. Arrange for field location markings of these facilities before performing any excavation, drilling, and/or driving.

a04401 Utilities--For Use On Projects With Minimum Excavation (Revision C)

Use on projects that require 24 inches or less in excavation (including but not limited to seal coating, painting, surface treatment, and median barrier installations) as determined by the District Utility Administrator in consultation with the Project Manager. The Utility Clearance "Form D-419" and the utilities listed on the construction plan, are not required when this SSP is included. For use on projects let after April 15, 2011.

Identify and contact all utilities having existing aerial and/or underground facilities located within the limits of work to arrange for marking of the field locations of these facilities before performing any excavation. Although no adjustments or relocations are anticipated, coordinate with utilities and/or municipalities within the project limits.

a04501 Utilities--For Use On Guide Rail Replacement Projects (Revision C)

Use on guide rail replacement projects as determined by the District Utility Administrator in consultation with the Project Manager. The Utility Clearance "Form D-419" and utilities listed on the construction plan are not required when this SSP is included. For use on projects let after April 15, 2011.

Identify and contact all utilities having existing aerial and/or underground facilities located within the work area for marking of the field locations of existing underground facilities before any excavation, drilling, and/or post driving. In addition to the requirements of Standard Drawing RC-54M, maintain required minimum clearance between existing utility poles and proposed guide rail so as to establish a satisfactory mean alignment as determined by the Representative. Do not install any portion of the guide rail end treatment in front of a fixed object.

a04601 Utilities--For Use On Rest And Tourist Information Projects (Revision C)

Use on Roadside Rest and Tourist Information Center type contracts as determined by the District Utility Administrator in consultation with the Project Manager. The Utility Clearance "Form D-419" and the utilities listed on the construction plan are not required when this SSP is included. For use on projects let after April 15, 2011.

Identify and contact all utilities having aerial and/or underground facilities located within the limits of the work area for marking of field locations of existing underground facilities before excavation, drilling, and/or driving.

Contact utilities and make the necessary arrangements for required service connection(s) for sewer, water, electric, telephone or gas.

a04701 Utilities--For Use On Electrical-Type Projects (Revision C)

Use in electrical-type contracts (i.e. traffic signal, highway lighting, and intelligent transportation system (ITS) type projects) as determined by the District Utility Administrator in consultation with the Project Manager. The Utility Clearance "Form-419" and the utilities listed on the construction plan are not required when this SSP is included. For use on projects let after April 15, 2011.

Identify and contact all utilities having aerial and/or underground facilities located within the work area for marking of the field locations of existing underground facilities before any operations. Comply with all Department and Utility industry safety provisions/codes. Coordinate any necessary adjustments with affected utility owners.

c01072 ITEM 8911-YYYY Utility Relocation Information For Design/Build Projects (Revision A)

Use on projects where a Contractor has been tasked to coordinate all aspects of utility relocation activities. All entries in "bold italic" (indicating Contract Document Number, if full or partial design-build, final design is or is not complete, and list of known utilities on the project along with contact names and phone numbers) must be completed by the designer. When using this item, use the work class code(s) X. For use on projects let on or after November 20, 2013.

I. DESCRIPTION - The utility relocation coordination for contract document (*Insert Contract Document Number*) has not been finalized as this is a (*full or partial*) Design/Build Project and final design is not completed. This work is the coordination of any and all utility facility relocation required to complete the project within the project limits as shown on the (*Contract or Conceptual*) Drawings.

II. COORDINATION - Coordinate all utility work required to complete the project. Perform the following, at minimum:

- Contact all utilities identified or having facilities within the project limits within 7 calendar days from the issuance of the Notice to Proceed and thereafter in intervals not to exceed 30 calendar days, and provide updates to the District Utility Administrator (DUA) as to plan development and updated estimates in calendar days for completion of utility relocations for both the utility and contractor;
- Incorporate all utility relocation design and resulting relocation arrangements into the Schedule;
- Coordinate required utility relocation highway occupancy permits and utility reimbursement agreements through the DUA; and
- Coordinate the relocation of any utilities affected by the project. If the utilities claim a real property interest within the project limits, then forward the reimbursement documents including real property interest documentation to the DUA immediately upon receipt. The DUA will forward the information to the Central Office Utility Relocation Unit (COURU) so determination can be made on the real property interest.

Assign a Utility Coordination Manager to this project. *(Delete if utility relocations are not complex)*

Be responsible for the cost and delay of any additional utility relocation that results from changes in the Contractor's plans or construction sequences made subsequent to (1) acceptance of the utility's relocation plans and (2) where the utility has physically moved its facilities based upon those relocation plans.

For all utility relocation coordination activities, follow the procedures as provided in Publication 16, Design Manual Part 5, Utility Relocation.

Throughout the project, upon taking appropriate action, forward all utility documents and correspondence to the DUA for recordation.

Review and approve all documents associated with the utility relocation process requiring signatures within 5 working days of receipt and forward to the DUA for an expedited 30 working day review. The DUA in turn will forward to the Central Office Utility Relocation Unit all documents requiring Central Office approval. Working days are as specified in the Special Provision titled SPECIAL BIDDING – DESIGN-BUILD, Section VII.

Verify the following list of utilities and contact all utilities within the project limits, including any utilities within the project limits not listed.

Utilities: *(List the Utilities on the project, along with contact names, phone numbers and identify any operational restrictions utilities may have that would impact facility relocations (i.e., blackout dates for service interruptions, required lead times to deactivate facilities))*

III. MEASUREMENT AND PAYMENT – Lump Sum

Full payment for Utility Coordination will be made upon completion of all utility facility relocations on the project. *(Modify as necessary to account for complex relocations to be completed by project stages, and where temporary relocations must be restored to original locations)*

DATE:

SUBJECT: Utility Clearance for Resurfacing Project

County:
S.R., Section
MPMS No.
Federal Project No. (U):
(C):

TO:

FROM:

BY:

The following is the utility clearance data (form D-419) for the above referenced project. This project is scheduled for a **[INSERT LETTING DATE]** letting.

This certifies that all written responses from all **underground** utilities within the project limits have been received, are on file in the District Office, and are available in the Utility Relocation - Electronic Document Management System (UR-EDMS) as of **[INSERT DATE]**. Therefore, it is recommended that a certification of utility clearance be issued for this project.

Identify and contact all utilities having existing aerial and/or underground facilities located within the limits of work to arrange for marking of the field locations of these facilities before performing any excavation. Although no adjustments or relocations are anticipated for the aerial utilities, coordinate with them and all of the utilities within the project limits.

UTILITIES

Cooperate with the public utility companies and local authorities in the placement, replacement, relocation, adjustment, or reconstruction of their structures and facilities during construction. Contact all utility representatives at least fifteen (15) calendar days prior to starting operations.

COORDINATED: Phasing with specific construction operations. Number of calendar days required after completion of specific construction operations.

INCORPORATED: Utility relocation work to be incorporated into the prime highway construction contract.

NOT AFFECTED: Identifies UTILITY with facilities in the construction area not anticipated to be affected. Specific information may be provided by the UTILITY.

CONDITIONAL RESTRICTIONS AND TIME REQUIREMENTS:

Identify conditions affecting the utility’s ability to perform a certain type of utility relocation work, i.e., certain times of the day, week, or year that a facility cannot be shut down, acquisition of right-of-way by the state, or demolition of buildings.

Water Authority

CONTACT:
INCORPORATED:

Borough

CONTACT:
INCORPORATED:

Example D-419 for a Department Project (Moderately Complex/Most Complex)

DATE:

SUBJECT: County Name
SR: 0096, Section AAA
MPMS No.: 12345, 44455
Federal Project No.:

TO: _____, Director, Bureau of Project Delivery
Attn: _____, Chief Utility Relocation Administrator

FROM: _____, District Executive, District 0
By: _____, District Utility Relocation Administrator

Following is the Utility Clearance (Form D-419) for the above project. This project is scheduled for a June 15, 1999 letting. This certifies that all written responses from all known utilities within the project limits have been received, and are on file in the District Office and are available in the Utility Relocation -Electronic Document Management System (UR-EDMS) as of _____. Therefore; it is recommended that a certification of Utility Clearance be furnished to FHWA.

UTILITIES

Cooperate with the public utility companies and local authorities in the placement, replacement, relocation, adjustment, or reconstruction of their structures and facilities during construction. Contact all utility representatives at least fifteen (15) calendar days prior to starting operations.

PRIOR Anticipated completion date before the prime contractor's Notice to Proceed is issued. Actual or anticipated completion date shown.

RESTRICTIVE To be completed by the utility or a string of utilities before operating without restriction. Number of calendar days will start after the notice to proceed is issued to the highway contractor and the contractor notifies the utilities.

CONCURRENT Simultaneous with, but not restricting operations. Number of calendar days required.

COORDINATED Phasing with specific construction operations and/or phasing with the operations of other utilities and to be completed by the utility or a string of utilities before operating without restriction. Number of calendar days required after completion of a specific construction operation.

NOT AFFECTED Identifies UTILITY with facilities in the construction area which are not anticipated to be affected. Specific information may be provided by the UTILITY.

INCORPORATED Utility relocation work to be included into the prime highway construction contract to be completed by the contractor.

CONDITIONAL RESTRICTIONS and TIME REQUIREMENTS Identify conditions affecting the utility's ability to perform a certain type of utility relocation work, i.e., certain times of the day, week, or year that a facility cannot be shut down, acquisition of right-of-way by the State, or demolition of buildings.

Any changes to the utility relocation work, must be approved by PennDOT. Changes made for the highway contractor's convenience will be performed at the highway contractor's expense.

XYZ BOROUGH (WATER)

Contact: John Doe, telephone 717-xxx-xxxx, Jdoe@utility.com

NOT AFFECTED: (U/G) S.R. 0096, Sta. 1639+00 Crossing.

PRIOR: (U/G/) S.R. 0096, Sta. 1639+00 Lt. to Sta. 1645+00 Lt. Utility will relocate water line out of construction area. Two (2) weeks notice to mobilize. Actual completion date is May 1, 1999.

RESTRICTIVE: (U/G) S.R. 0104, Sta. 0+00 Rt. to 30+00 Rt. Utility will lower 6-inch water line three (3) feet next to existing location. Two (2) weeks notice to mobilize. Thirty (30) Calendar days required.

INCORPORATED: (U/G) S.R. 0104, Sta. 0+00 to Sta. 30+00 Lt./Rt. Adjust thirty (30) water valve covers. Utility to supply all materials for adjustments. See Design Item 1001-000.

XYZ BOROUGH MUNICIPAL AUTHORITY (SEWER)

Contact: John Doe, telephone 717-xxx-xxxx, Jdoe@utility.com

INCORPORATED: (U/G) S.R. 0096, Sta. 1640+00 Crossing. Relocate sanitary sewer line crossing to Sta. 1645+00. Utility Pay Items 9999-9998 and 9999-9999. **CONDITIONAL RESTRICTION and TIME REQUIREMENT:** Service to the factory can only be interrupted between 8:00 p.m. on Fridays to 4:00 a.m. on Sundays.

COORDINATED: (U/G) S.R. 0096, Sta. 1639+00 Rt. to Sta. 1645+00 Rt. Construct final grade. Utility will vertically adjust manhole frames to final grade. Notify the Utility two (2) weeks prior to beginning work. Six (6) calendar days required

COORDINATED: (U/G) S.R. 0104, Sta. 0+00 Rt. to Sta. 30+00 Rt. Construct final grade. Utility will vertically adjust twelve (12) manhole frames to final grade. Notify the Utility two (2) weeks prior to beginning work. Twelve (12) calendar days required

XYZ TELEPHONE COMPANY (Pole Owner)

Contact: John Doe, telephone 717-xxx-xxxx, Jdoe@utility.com

RESTRICTIVE: (Aerial) S.R. 0096, Sta. 1640+00 Lt. and Sta. 1642+00 Lt. Notify Utility Two (2) weeks in advance of Project. Seven (7) calendar days required.

- Sta. 1640+00 Lt to 1640+00 Lt., Utility will install poles T-38, T-39, T-40.
- Sta. 1640+00 Lt to 1642+00 Lt., Utility will install down guys on poles T-38 and T-41.

XYZ POWER COMPANY (Pole Owner)

Contact: John Doe, telephone 717-xxx-xxxx, Jdoe@utility.com

RESTRICTIVE: (Aerial) S.R. 0096, Sta. 1620+00 Lt. and Sta. 1650+00 Lt. After XYZ Telephone Company install poles T-38, T-39 and T-40. Six (6) weeks notice to mobilize. Twenty (20) calendar days required.

- Sta. 1620+00 Lt. relocate pole 456,213 ft. back
- Sta. 1624+00 Lt. Install pole and down guy
- Sta.1628+00 Sta. 1632+00, Sta. 1636+00 Lt., Utility will install poles.
- Sta. 1646+00, and Sta. 1650+00 Lt., Utility will relocate poles 6 ft. back.
- Sta. 1620+00 Lt to Sta. 1650+00 Lt., Utility will install new strand and plant; tie in and activate new plant and relocate service drops; and remove old plant.

RESTRICTIVE: (Aerial) S.R. 0096, Sta. 1620+00 Lt. and Sta. 1650+00 Lt. Utility will remove poles. Ten (10) calendar days required to mobilize. Eight (8) calendar after Fiber Telecom Company, Dark Fiber company, XYZ Cable Company and XYZ Telephone Company have completed their work.

COORDINATED: (Aerial) S.R. 0104, Sta. 0+00 Rt. to Sta. 30+00 Rt. Clear and Grub right-of-way, survey and stake legal right-of-way, curb line and proposed pole locations. Six (6) Weeks Notification to mobilize. Thirty (30) calendar days required.

- Sta. 1+50 Rt., Relocate pole 45862 one (1) behind right-of-way line.
- Sta. 5+00 Rt., Relocate pole 45863 one (1) behind right-of-way line.
- Sta. 8+25 Rt., Relocate pole 45864 one (1) behind right-of-way line.
- Sta. 12+00 Rt., Relocate pole 45865 one (1) behind right-of-way line.
- Sta. 16+25 Rt., Relocate pole 45866 one (1) behind right-of-way line. Install down guy and anchor.
- Sta. 20+00 Rt., Relocate pole 45867 one (1) behind right-of-way line.
- Sta. 24+25 Rt., Relocate pole 45866 one (1) behind right-of-way line. Install down guy and anchor.
- Sta. 30+00 Rt., Relocate pole 45867 one (1) behind right-of-way line.

COORDINATED: (U/G) S.R. 0104, Sta. 0+00 Rt. to Sta. 30+00 Rt. After all utilities have relocated off old poles, Utility will remove old poles. Notify Utility Ten (10) calendar days in advance to mobilize to site. Five (5) calendar days required.

FIBER TELECOM COMPANY

Contact: John Doe, telephone 717-xxx-xxxx, jdoe@utility .com

RESTRICTIVE: (Aerial) S.R. 0096, Sta. 1620+00 Lt. to Sta. 1650+00 Lt. After XYZ Telephone Company installs poles and XYZ Power Company completes their work. Two (2) weeks notification for mobilization. Utility will install new strand, delash the existing fiber and relocate to new pole line. Thirty (30) days required.

COORDINATED: (Aerial) S.R. 0104, Sta. 0+00 Rt. to Sta. 30+00 Rt. Complete Coordinated work for XYZ Power Company and after Power Company completes their work. Utility will transfer facilities to new poles. Two (2) Notification to mobilize. Seven (7) calendar days required.

DARK FIBER COMPANY

Contact: John Doe, telephone 717-xxx-xxxx, jdoe@utility .com

COORDINATED: (Aerial) S.R. 0104, Sta. 10+00 Rt. to Sta. 20+00 Rt. Complete Coordinated work for XYZ Power Company and after Power Company and Fiber Telecom Company completes their work. Utility will transfer facilities to new poles. Two (2) Notification to mobilize. Four (4) calendar days required.

XYZ CABLE COMPANY

Contact: John Doe, telephone 717-xxx-xxxx, Jdoe@utility.com

RESTRICTIVE: (Aerial) S.R. 0096, Sta. 1620+00 Lt. and Sta. 1650+00 Lt. After XYZ Telephone Company installs poles and XYZ Power Company and Fiber Telecom completes their work. Utility will transfer lines to the relocated power poles. Fifteen (15) calendar days notice to mobilize. Five (5) calendar days required after XYZ Power Company completes their work.

XYZ GAS COMPANY

Contact: John Doe, telephone 717-xxx-xxxx, Jdoe@utility.com

RESTRICTIVE: (U/G) S.R. 0096, Sta. 1620+00 Lt. and Sta. 1650+00 Lt. Replace gas line. Four (4) weeks notice to mobilize. Thirty (30) calendar days required.

Conditional Restriction and Time Requirement; Gas Line can't be taken off line between October and April.

NOT AFFECTED: (U/G) S.R. 0104, Sta. 0+00 Rt. to Sta. 30+00

XYZ PIPELINE COMPANY

Contact: John Doe, telephone 717-xxx-xxxx, Jdoe@utility.com

NOT AFFECTED: (U/G) S.R. 0104, Sta. 25+00, 18-inch Steel pipe crossing highway.

D-4181-IC

CERTIFICATION OF UTILITY COMPLETION INSPECTION

RE: _____ County
S.R. _____ Section _____
Agreement No. _____ Dated _____
Permit No. _____ Dated _____

TO: Secretary of Transportation

Part I

This is to certify that _____
Name of Utility Company
of _____, _____, _____,
Street Address City Zip Code

completed its relocation and/or adjustments for subject project relating to Agreement Number _____, dated _____, in accordance with plans and estimates which have been approved by the Department and made part of the company's executed agreement and/or permit. Attached is written justification verifying the above certification where changes have been made and approved in accordance with the agreement and/or permit.

ATTESTED _____
Name of Utility Company

Name and Title of Signee

Federal Project Number _____

100% State

Part II

On the date of _____ the District Utility Relocation
Month-Day-Year
Technician/Administrator _____ field viewed the
Name
subject project and found the Utility Relocation and/or adjustment work for
_____ to be completed. Attached are
Utility Company
comments which are verification of this finding where applicable.

ATTESTED COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

Signature Date

Name and Title of Signee

INSTRUCTIONS

1. This form is to be completed to show the activities actually observed by the inspector.
2. Complete Form in duplicate. Retain one copy and forward the original to the District Utility Relocation Unit.
3. Report and obtain approval for deviation from the approved relocation plan and estimate.
4. Complete and accurate records are required for Underground Installations. Report should include horizontal and vertical details, and clearances from drainage facilities, etc.
5. Any details entered by the inspector into his field diary inspector's must be transferred on to this report form.

CHANGES AND REMARKS

Changes Authorized By _____
Name and Title Date



UTILITY RELOCATION-ELECTRONIC DOCUMENT MANAGEMENT SYSTEM

PURPOSE

The purpose of the Utility Relocation-Electronic Document Management System (UR-EDMS) is to improve the efficiency of the Utility Relocation business process in preparation for roadway and highway structure construction.

UR-EDMS is a system module within the Department's Electronic Document Management System (EDMS). It is accessible through the intranet for Department employees and through the internet (<https://www.dot15.state.pa.us/uredmsweb/home.jsp>) for external business partners. It is a Web-based electronic document management system designed to work with Utility Relocation documents.

EDMS is a group of computer software and hardware tools that help electronically capture, store, and index paper documents such as application forms, engineering drawings, correspondence, checks, photos, and other documents.

EDMS functions as an electronic filing cabinet. The electronic storage and indexing of these documents allows for easier search and retrieval, faster document transfer, better revision control and saves on storage space. It also eliminates lost and misplaced files. The system takes an existing business workflow that involves routing, distribution and approval and automates the whole process decreasing turn-around time and improving overall efficiency.

BENEFITS

Some of the key benefits for Utility Companies to use UR-EDMS are:

- Electronic submissions which allow for faster completion times for reviews and issuing documents/agreements.
- Save time and money compared to corresponding through the U.S. Postal Service.
- Electronic document storage capability.
- Electronic signature capabilities and access to pre-populated forms.

REGISTRATION PROCESS

Registering as a business partner is a 3-step process.

Note: If an organization is already a registered business partner and needs to register as an External Utility Business Partner, they must contact the ECMS Help Desk (717-783-7711) for instructions on how to request this additional access.

1. Access the ECMS web site, www.dot2.state.pa.us. Click on the Business Partner title in the navigation bar on the left, and then click on Registration. Download the Business Partner Registration form, print it, complete it and send it to the address indicated on the web site.

Note: Municipalities registering as a Business Partner should register as a government agency business partner.

2. On that same web page, press the Register button (found at the bottom left hand corner of the screen), fill out the requested information contained in all 5 Tabs on the screen and electronically submit this form to the Department.

Suggestion: Complete the paper agreement and then input the electronic registration. Verify that the information on the hardcopy and the electronic forms are the same, submit the electronic registration to the Department and mail in the three page agreement.

3. Once the application has been approved, the organization's designated System Administrator (Tab 4 of the registration information form) will receive an email notification assigning the organization a Business Partner ID number and a Systems Administrator User ID and password. This email should be received in about 2 weeks after the Department has received both the paper and electronic registration forms.

For additional UR-EDMS training materials contact the Central Office Utility Relocation Unit.

Contact Info.

Pennsylvania Department of Transportation
 Bureau of Project Delivery
 Utilities and Right-of-Way Section
 P.O. Box 3362
 Harrisburg, Pennsylvania 17105-0094
 Phone: (717) 787-4037 Fax: (717) 705-2380

Links for Utility Relocation Related Sites:

Code of Federal Regulations, Title 23, Chapter 1, Subchapter G, Part 645, Sub part A and B (23CFR)
<https://www.gpo.gov/fdsys/pkg/CFR-2011-title23-vol1/pdf/CFR-2011-title23-vol1-part645.pdf>

Contains the Regulations, policies, and practices dealing with utility relocation and accommodation matters.

PA Code 67, Chapter 459 –Occupancy of Highway by Utilities

<http://www.pacode.com/secure/data/067/chapter459/chap459toc.html>

Regulates the location and construction of utility facilities and other structures within the State highway right-of-way.

FHWA - Program Guide, Utility Adjustments and Accommodation on Federal-Aid Highway Projects
<http://www.fhwa.dot.gov////////reports/utilguid/index.htm>

This guide assist in the administrating Federal-aid highway programs that involve the use of Federal-aid funds for relocation/adjustment of utility facilities and the accommodation of utility facilities and private lines on Federal-aid highway right-of-way.

Material in the 23CFR is reviewed by subject matter in this guide. It provides a historical perspective for several items to explain why certain policy requirements are requirements were established.

This guide incorporates information from several FHWA Headquarters responses to field inquiries, which have served as interpretations or explanations of various policy provisions.

The information in the guide is accurate as of the date of the guide.

Code of Federal Regulations, Title 29, Part 1926, Safety and Health Regulations for Construction; Cranes and Derricks in Construction - Final Rule

https://www.osha.gov/FedReg_osha_pdf/FED20100809.pdf

Contains updated regulations regarding the use of cranes and derricks in construction operations.

Company Letterhead

[Insert Date]

Mr. / Ms. [District Executive's Name]
District Executive
Engineering District [District Number]
[Street Address]
[City, State Zip Code]

Re: Request to Incorporate Utility Work
[Insert County Name] County
S.R. [Insert State Route], Section [Insert Section]
MPMS No.: [Insert MPMS Number]

Dear Mr. / Mrs. [District Executive's Last Name],

We are requesting that the utility adjustments of the [insert type facility] be incorporated into the Department's prime construction contract because we are inadequately staffed to perform these adjustments and it would be in the best interest of the Department to incorporate this work.

Signature

Name and title [Insert name and title]

Company Letterhead

[Insert Date]

Mr. or Ms. [District Executive's Name]
District Executive
Engineering District [District Number]
[Street Address]
[City, State Zip Code]

ATTN: District Utility Relocation Administrator

Re: Request for Abbreviated Incorporate Utility Work
[Insert County Name] County
S.R. [Insert State Route], Section [Insert Section]
MPMS No.: [Insert MPMS Number]

Dear Sir or Madam:

We are requesting that the minor adjustments of the [insert number and type of facility] be incorporated into the Department's prime construction contract because we are inadequately staffed to perform these adjustments and it would be in the best interest of the Department to incorporate this work. The labor costs are estimated to be equal to or less than the material costs and the total relocation cost is estimated to be less than \$20,000.00.

We will supply all necessary material needed for these adjustments provided the Department pay for the labor required for these minor adjustments. It is understood by both parties that a non- reimbursement agreement for this work is required.

Signature
Name and title
[Insert name and title]

List of Utility Relocation References in other Department Publications

Publication 2, *Project Office Manual*

- Section B.1.11, Daily Utility Inspection Report, Form D-4298
- Section B.3.1, Preparation of Work Orders on Construction Contracts

Publication 8, *Construction Manual*

- Section 100, Relations with Public Utility Companies

Publication 10, *Design Manual Part 1, Transportation Program Development and Project and Project Delivery Process*

- Chapter 2.1, Project Complexity Levels/Utility Impacts
- Chapter 7.2, Final Design – Utility Coordination

Publication 10, *Design Manual Part 1C, Transportation Engineering Procedures*

- Chapter 3, Utility Identifications & Verifications
- Chapter 4, Utility Coordination

Publication 13M, *Design Manual Part 2, Highway Design*

- Chapter 2.18.I, Utilities

Publication 14M, *Design Manual Part 3, Plan Presentation*

- Chapter 2.6.T, Utilities
- Chapter 3.7, Utility Terminology
- Chapter 14.7, Subsurface Utility Engineering Abbreviations

Publication 15M, *Design Manual Part 4, Structures*

- Chapter 3.5, Utilities

Publication 51, *Plans, Specifications and Estimate Package Delivery Process Policies & Preparation Manual*

- Appendix 1.A., Project Development Checklist
- Appendix 1.E., Fund Code Name Prefix Chart

Publication 408, *Specifications*

- Section 105.06, Control of Work
- Section 108.03, Performance and Progress

Publication 448, *Innovating Bidding Toolkit*

- Chapter 3.1.6, Low Bid Design-Build Process – Utility Involvement
- Chapter 3.2.3.2.6, Low Bid Design-Build Process – Utility Special Provisions
- Chapter 4.1.6, Adjusted Bid Design-Build Process – Utility Involvement
- Chapter 4.2.1.3.6, Adjusted Bid Design-Build Process – Utility Special Provisions
- Appendix A, Design-Build Project Screening Checklist

Publication 740, *Local Project Delivery Manual*

- Chapter 6, Utility and Railroad Coordination

General Checklist Request to Occupy Limited Access Right-of-Way

<u>County Name</u>	<u>SR&Section</u>	<u>MPMS #</u>	<u>Utility Name</u>	<u>Permit #</u>

1. Make sure there's no longitudinal occupancy (see DM-5, [Chapter 1.2.E](#))

2. Will access be from outside or within L/A R/W? If within, how will the utility access them (see [Chapter 1.3.A](#))?

3. Check aerial and underground clearances (see [Chapter 1.3.B. – 1.3.D](#)).

4. Are the utility facilities outside a specified clear zone area? If not, explain why (see [Chapter 1.3.C](#)).

(Underground Facilities Only)

1. Are the underground utility facilities going to be cased (see [Chapter 1.3.D](#))?

2. If uncased, do they meet one of the six conditions listed below (see [Chapter 1.3.D](#))?

• Uncased crossings may be considered for utility lines carrying water, gas, petroleum and petroleum products, steam, sanitary sewage and chemical lines provided they:

- (1) Are cathodically protected and coated welded steel pipes for crossings of free access and limited access highways.
- (2) Are plastic pipe crossings of free access highways ONLY.
- (3) Are ductile iron or reinforced concrete pipe (sewer and water only).
- (4) Meet the requirement of the applicable Federal and industry standards with respect to wall thickness.
- (5) Are designed for operating stress levels in accordance with Federal Pipeline Safety Regulations.
- (6) Agree that, if in the future the crossing requires replacement, the replacement line will be bored at a new location.

Did Central Office give concurrence? _____

Pre-Job Checklist

DATE: _____

PROJECT: ECMS# _____, _____

TO: Contractor: _____
Department PM: _____

FROM: Email: _____

Pre-Job checklist:

- Explain types of relocations on project- See Utility Clearance for more information.
 - o _____
- Changes in contact information
 - o _____
- Relocation work that has been completed
 - o _____
- Sensitive utilities which are to remain in place
 - o _____
- Utility Issued Notice to Proceed (NTP) & Highway Occupancy Permit (HOP)
 - o _____

Contractor to:

- Place PA One Call
- Set up Utility Meeting with all utilities within the project limits within _____ weeks of the Notice to Proceed (NTP date _____)
- If changes are made in Construction and impact utilities the following must occur.
 - o The contractor must notify all utilities involved by this change by writing. Contractor to send out meeting minutes to all parties along with the District Utility Unit.
 - Central Office will not consider a utility delay claim without this information
 - o The change must be addressed by the contractor, Department's PM and the Utility Unit to determine if it is contractors convenience.
 - Utilities are to be avoided that is why some are designed around with the intent of using specialized equipment

Notes:

Regulations:

- Publication 13M, Design Manual Part 2, *Highway Design*
 - Highway and street improvements must be designed to avoid or minimize impacts to utility facilities. This is in accordance with State and Federal regulations (PA One Call, 23 CFR and Federal Program Guide on Utility Relocation and Accommodation of Federal-Aid Highway Projects) and must be done.
- PA One Call
 - Tolerance Zone- Any excavation within the tolerance zone is performed with non-powered hand tools or by non-invasive methods until the marked facility is exposed.
 - Section 5 (4) within the tolerance zone the excavator shall employ prudent techniques, which may include hand-dug test holes to ascertain the precise position of such facilities.
- Publication 408, *Specifications*
 - 105.06 a. Contractor to give due notice to the responsible party in sufficient time for that party to organize and perform such work in conjunction with or in advance of construction operations, make arrangements for Utility adjustments necessary to perform the work as indicated in the contract documents.
 - 107.12 Do not damage overhead and underground facilities and structures or property within or adjacent to the project. Use special care in the performance of the work in order to avoid interference or damage to operating utilities or plants: however, where there is any possibility of interference or damage, make satisfactory arrangements with responsible corporate officers of the utilities or plant, covering the necessary precautions to be used during the performance of the work. Make these arrangements, subject to review, before work is started. (see 105.06 (d) for damage to Utility Infrastructure)
 - 108.03 b. Incorporate Utilities in the schedule coordination.
 - 202.3 c. Utility Disconnections- Before starting work, make the arrangements with the proper authorities for turning off and disconnecting utilities in connection with demolition operations. Perform the work according to local requirements.
 - 202.4 c. Disconnections are incidental to demolition.

[Organization's Letterhead]

[Date]

(Name)

Pennsylvania Department of Transportation
Engineering and Computing Management Division
Bureau of Project Delivery, P.O. Box 3662
Harrisburg, PA 17105-3662

RE: Existing ECMS Business Partner,
Registered as E-Permitting ECMS Business Partner Type
Business Partner ID: *****
FID: *****

Dear Ms./Mr. **(Last Name)**:

(Organization's Name) is requesting that the Authority's business partner relationship type be modified to include UR-EDMS in addition to the Firm's current listing as a ECMS Business Partner and E-Permitting Type in ECMS.

Please contact me at (phone number) with any questions regarding this matter.

Very Truly Yours,
(Organization's Name)

(Printed Name)
(Title)

Description of Rights

Instructions and Example

When a utility requests substitute right-of-way they send a notification to the District Utility Unit.

The notification should include (information from Chapter 7, [Section 7.3](#)):

1. The names of the property owners and the parcel numbers of the properties affected by the substitute right-of-way.
2. Marked highway right-of-way plan sheets
3. Copies of the utility's existing right-of-way documents for right-of-way overtaken by the highway project.
4. The utility should also include a copy of its current right-of-way agreement form for the type of facility affected.

The District Utility Unit will prepare the description of rights based on the existing right-of-way documents and in accordance with Chapter 7, [Section 7.3.E](#).

Please note that the right-of-way documents will need to be reviewed and approved by the Office of Chief Counsel before the Central Office Utility Relocation Unit (CO) can give a final approval on a description of rights. CO can review and provide comments on the rights descriptions prior to my final approval.

Attached is an example of a description of rights you may modify (according to the utility's existing right-of-way documents and current "standard" right-of-way agreement) for a particular utility/project.

COUNTY NAME
S.R. 0000, SECTION 000
MPMS 00000
UTILITY NAME

EXAMPLE DESCRIPTION OF RIGHTS

(1st paragraph has a reference to Section 412)

REQUIRED RIGHT OF WAY EASEMENT FOR UTILITY COMPANY NAME, IN ACCORDANCE WITH THE ACT OF JUNE 1, 1945, P.L. 1242, SECTION 412, AS AMENDED.

(Utility's right and easement width)

WITH THE RIGHT FOR THE UTILITY, IT'S SUCCESSORS AND ASSIGNS, A PERMANENT _____(') FEET IN WIDTH EASEMENT, TOGETHER WITH THE RIGHT TO OCCUPY SUCH AREA AS MAY BE NECESSARY TO CONSTRUCT A TYPE OF LINE AND ALL NECESSARY APPURTENANCES THERETO, WITH THE RIGHT OF INGRESS AND EGRESS FROM S.R. (****) , ITS SUCCESSORS, LESSEES AND ASSIGNS, FOR THE PURPOSE OF CONSTRUCTION, RECONTSTRUCTING, RENEWING, REPAIRING, REPLACING, RELOCATING, PARALLELING, RENOVATING AND MAINTAINING SAID TYPE OF LINE AND APPURTENANCES OR ANY PARTS THEREOF, ACROSS, THROUGH AND UNDER LAND TO BE CONVEYED BY THE PROPERTY OWNER WITH THE RIGHT FROM TIME TO TIME, AND AT ANY TIME, TO CUT DOWN, TRIM, REMOVE AND KEEP CUT ALL TREES AND BRUSH UPON SAID EASEMENT.

(Property Owner 's use of the easement)

PROPERTY OWNER RESERVES THE USE AND ENJOYMENT OF THE PREMISES EXCEPT FOR THE EASEMENT HEREIN GRANTED AND EXCEPT THAT NO BUILDINGS OR STRUCTURES OF ANY KIND SHALL BE PLACED OR ERECTED BY THE PROPERTY OWNER WITHIN _____(') FEET OF ANY TYPE OF LINE LAID HEREUNDER

(Utility to pay for Damages)

UTILITY AGREES TO PAY ANY DAMAGES TO CROPS, TREES, AND FENCES CAUSED BY LAYING, MAINTAINING, REPLACING AND REMOVING SAID TYPE OF LINES; AND IN THE EVENT THAT SUCH DAMAGES ARE NOT MUTUALLY AGREED UPON, THE SAME SHALL BE DETERMINED BY THREE DISINTERESTED PERSONS, ONE APPOINTED BY THE PROPERTY OWNER, ONE BY THE UTILITY, AND THE THIRD BY THE TWO SO APPOINTED, AND THE AWARD OF SUCH THREE PERSONS SHALL BE CONCLUSIVE.

(Utility's future easement interest)

THE FUTURE EASEMENT INTEREST SHALL VEST IN THE SAID COMPANY IF AND WHEN THE HIGHWAY RIGHT-OF-WAY IS VACATED.