

ALABAMA DEPARTMENT OF TRANSPORTATION UTILITY MANUAL

Alabama Department of Transportation

1409 Coliseum Boulevard
Montgomery, AL 36110

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PREFACE

The Alabama Department of Transportation is responsible for constructing, maintaining and operating State highways safely and efficiently for the benefit of Alabama citizens. The use of State highway right-of-way (ROW) by public utilities is a privilege extended to utility companies by the State and the Department, to best serve the public interest. The Department believes that substantial benefits may be gained by allowing utilities to use highway ROW and supports this practice as being in the public interest where practical and when adequate controls are employed. The Department has established herein policies, rules, and regulations for accommodation of utilities while reasonably minimizing the impact that these facilities have on highway safety, operations, and maintenance.

This manual replaces all previous utility manuals, directives, and other documents issued by the Department. It outlines the conditions and procedures under which public utilities will be permitted to occupy public ROW within Alabama.

Since much of our current ROW is crowded and costs of acquiring new ROW are continually climbing, increasing reliance is being placed on obtaining maximum capacity and optimum use from existing highway facilities. This requires that strong emphasis be placed on eliminating potential conflicts between highway and utility functions and on minimizing conflicts between the various utilities. This generally includes locating above-ground obstacles as far as possible from the travelway and locating underground facilities where they will not conflict with highway improvements or other utilities. Utility owners with facilities on public ROW must accept responsibility: 1) to protect the public investment in ROW, roadbed and structures and (2) to maintain adequate traffic service and safety for the highway user during installation, maintenance, and operation of their facilities.

The Department is responsible for exercising firm control over use of space on State ROW. This manual has been prepared to provide the Department with reasonable controls over utility functions, and interests in using State ROW. The public interest can best be served with thorough communication between the Department and the Utilities regarding (1) guidelines and procedures described herein, (2) the guidance under which they are implemented and (3) the plans for development and construction of new utility and highway facilities.

Overview of Manual Contents

Chapter 1	Introduction and Purpose
Chapter 2	General Guidelines and Procedures
Chapter 3	Legal Basis
Chapter 4	Permits and Agreements
Chapter 5	Planning and Design
Chapter 6	Construction
Chapter 7	Reimbursements

Appendices

Chapter 1

INTRODUCTION AND PURPOSE

1.1 GENERAL INTRODUCTION

This manual outlines the general practices, policies, and procedures which affect the relationship between the Alabama Department of Transportation, hereafter referred to as ALDOT or the Department, and those entities desiring to place utility lines and appurtenances within the right-of-way (ROW) of state highways. This manual outlines and explains the many requirements and procedures necessary to accomplish utility relocation, maintenance, or new utility construction work in conjunction with highway-project construction.

1.2 OBJECTIVES

The overriding goal of this document is to allow the user to locate and understand the regulations and procedures which are most pertinent to the portion of the utility process with which they are dealing. The highway-utility process embraces a large and exceedingly complex series of issues. These issues have been simplified and condensed in this manual, so they may be located easily by the user.

This document has been prepared by the Department to meet several primary and specific objectives:

1. To provide standard arrangements for permitting the installation of utilities on existing ROW and relocating utilities for highway construction, so that the work can be performed with the least delay and with the minimum interference with highway contractors or other utilities; to minimize service disruptions and damage to utility facilities; to minimize hazardous conditions; to assure that standards, specifications, and environmental considerations are met; to reasonably preclude liabilities and claims of all types; and when necessary, to coordinate utility work with highway contractors' operations.
2. To assure utility work is done properly, is of high quality, and is done in a timely manner; and that utility owners are reimbursed (where appropriate) properly and promptly.
3. To outline procedures and conditions which must be met for federal reimbursement, when utility work is a portion of a federal-aid project.

1.3 NATIONAL PUBLICATIONS ADOPTED

The Department hereby formally adopts and thereby makes a part of this document, by reference, the American Association of State Highway and Transportation Officials (AASHTO) publications, [*A Guide for Accommodating Utilities Within Highway Right-of-Way*](#) (also called *AASHTO Accommodation Guide*), latest edition, [*A Policy on the Accommodation of Utilities Within Freeway Right-of-Way*](#) (also called *Freeway*

Policy), latest edition, the *Federal-Aid Policy Guide* (also called FAPG) and 23 CFR 645 Parts A, B, and C. <https://www.transportation.org/>.

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

1.4 SCOPE

1.4.1 AUTHORITY

Under Alabama Code, the Department has been vested the authority and responsibility to regulate the use of all utilities on state highway ROW to ensure the safety of motorists and the proper operation of highways. Applicable portions of Alabama law are reviewed in a latter chapter of this manual. The guidelines, policies, and procedures stated in this manual have been formulated by the Department to regulate Utilities on State ROW.

1.4.2 APPLICATION

This manual applies to all public and private utilities, including, but not limited to, electric power, telephone, cable TV, lighting, water, gas, oil, petroleum, steam, chemicals, sewage, drainage, irrigation, and similar lines that are located, adjusted, or relocated within the ROW of highways under the jurisdiction of the Department. (Underground, surface, and overhead facilities, whether singular or in combination, are covered by this document).

1.4.3 LIMIT OF AUTHORITY

This manual is primarily for use by representatives of the Department in regulating and controlling utilities within State ROW. It does not alter current regulations or authority for installing utilities or for determining financial responsibility for replacing or adjusting utilities.

The rules and regulations contained herein are limited to matters which are the responsibility of ALDOT for preserving the integrity of the highway and its safe operation. Where laws, codes, rules or orders of the Alabama Public Service Commission, Alabama Department of Environmental Management, industry, municipalities, or counties prescribe a higher degree of protection than provided in this document, the prescription of the higher degree of protection shall govern.

1.5 ORGANIZATION

1.5.1 ALABAMA DEPARTMENT OF TRANSPORTATION

The Department establishes policies and practices with which to conduct its business. These are based upon specific acts of the Alabama Legislature, and upon the rules and regulations of the Department that have the force and effect of law. The Department also adopts guidelines, policies, and operating procedures with which to carry out its rules and regulations. This manual is the main document through which the Department publishes its established guidelines and policies.

DEPARTMENT CENTRAL OFFICE

The Department's Central Office is located at 1409 Coliseum Boulevard, Montgomery, Alabama. This complex houses the offices of general administrators and Bureaus. The Bureaus provide policy and supervision of specific functional areas for the Department (e.g., Construction Bureau, Design Bureau, Legal Bureau, Maintenance Bureau, and Right-of-Way Bureau).

The Right-of-Way Bureau and the Maintenance Bureau handle all utility issues. The Right of Way Bureau has a Utilities Section that is devoted to handling all utility issues with current or future roadway construction plans. The State Utilities Engineer represents the Right of Way Bureau Chief, who represents the Chief Engineer. The Utilities Section is responsible for all applications for agreements and some permits for new installations when the work will take place after the beginning of a highway field location survey, and before the Department's final acceptance of the highway project for maintenance.

The Maintenance Bureau has set policy through its [Permit Manual](#) for the accommodation and maintenance of utilities within existing state highway ROW.

DEPARTMENT FIELD OFFICES

The Department's principal field offices are located in five (5) Regions of the State, each with two (2) Area Operations Offices as shown in the table on the next page. The Regional Areas are subdivided into District Offices. The organizational structure of the Regions can be found on the ALDOT website under the [ALDOT Maps page](#).

Region	Region Office	Area Offices	
East Central	Hoover	Alexander City	Birmingham
North	Huntsville	Guntersville	Tuscumbia
Southeast	Montgomery	Montgomery	Troy
Southwest	Mobile	Grove Hill	Mobile
West Central	Tuscaloosa	Fayette	Tuscaloosa

The Region Engineer is responsible for all *utility* activities in the field. The Region Utility Managers coordinate their activities with the Utilities Section of the Right of Way Bureau and the Maintenance Bureau located in the Central Office.

The District Administrators are normally responsible for the first level of processing of utility permits, and for inspection of utility construction and maintenance activities. They have the most direct contact with utilities field operations.

1.5.2 ORGANIZATION OF THIS MANUAL

The chapters of this manual have been arranged logically to address major components of utility work. Chapter contents are briefly discussed in the following paragraphs:

CHAPTER 1 — INTRODUCTION AND PURPOSE

Describes the Department's objectives in preparing this manual, the general scope of the manual, and the organization of the Department and the manual.

CHAPTER 2 — GENERAL GUIDELINES AND PROCEDURES

The most frequently used guidelines of the Department have been *included* in this chapter so that the user may locate information quickly.

CHAPTER 3 — LEGAL BASIS

Contains federal and state documents that govern utility-highway interactions in Alabama. The relationship between these documents is defined, and some of the more prominent provisions are identified.

CHAPTER 4 — PERMITS AND AGREEMENTS

Describes the two major categories of approval documents, (1) permits for requests initiated by the Utility during normal day to day highway operations and (2) agreements for relocations (conflict with highway construction), or for installing new utility

facilities during an on-going highway construction project. Utility-Consultant Engineer agreements are also discussed.

CHAPTER 5 — PLANNING AND DESIGN

The Utility is normally responsible for the complete design of its facilities. This chapter explains how utility design fits within the highly-structured highway design process utilized by the Department. The responsibilities of the Department and utility are outlined to allow cost-effective design and to minimize utility conflicts.

CHAPTER 6 — CONSTRUCTION

Introduces the general requirements for construction of utility facilities on state ROW including the provisions for inspection, record keeping and pre-construction meetings.

CHAPTER 7 — ESTIMATES AND PAYMENTS

Provisions for payment to utilities for relocation (where appropriate) are included in this chapter.

APPENDICES

Contains definitions, federal and technical documents pertinent to the utility process, example forms, and other useful information.

1.6 HOW TO USE THIS MANUAL

The type of utility action required governs the criteria for all the decisions that must be made, and the steps for review and approval of these decisions to safely accommodate.

The procedure which the Utility follows for requesting approval, the information which the Utility must provide for the review by the Department, and other factors are dependent upon the specific type of request. This is illustrated by [Figure 1-1](#) which is a flow chart descriptive of several common utility requests.

1.6.1 PERMIT OR AGREEMENT

Normally, the highway is under the control of maintenance forces, and a permit is used to secure the approval by the Maintenance Engineer or designated representatives. If the highway project is in the design phase or is undergoing construction, an agreement is used to secure approval by the Transportation Director, through the ROW Bureau. Additional explanation of the difference in permits and agreements may be found in [Chapter 4](#).

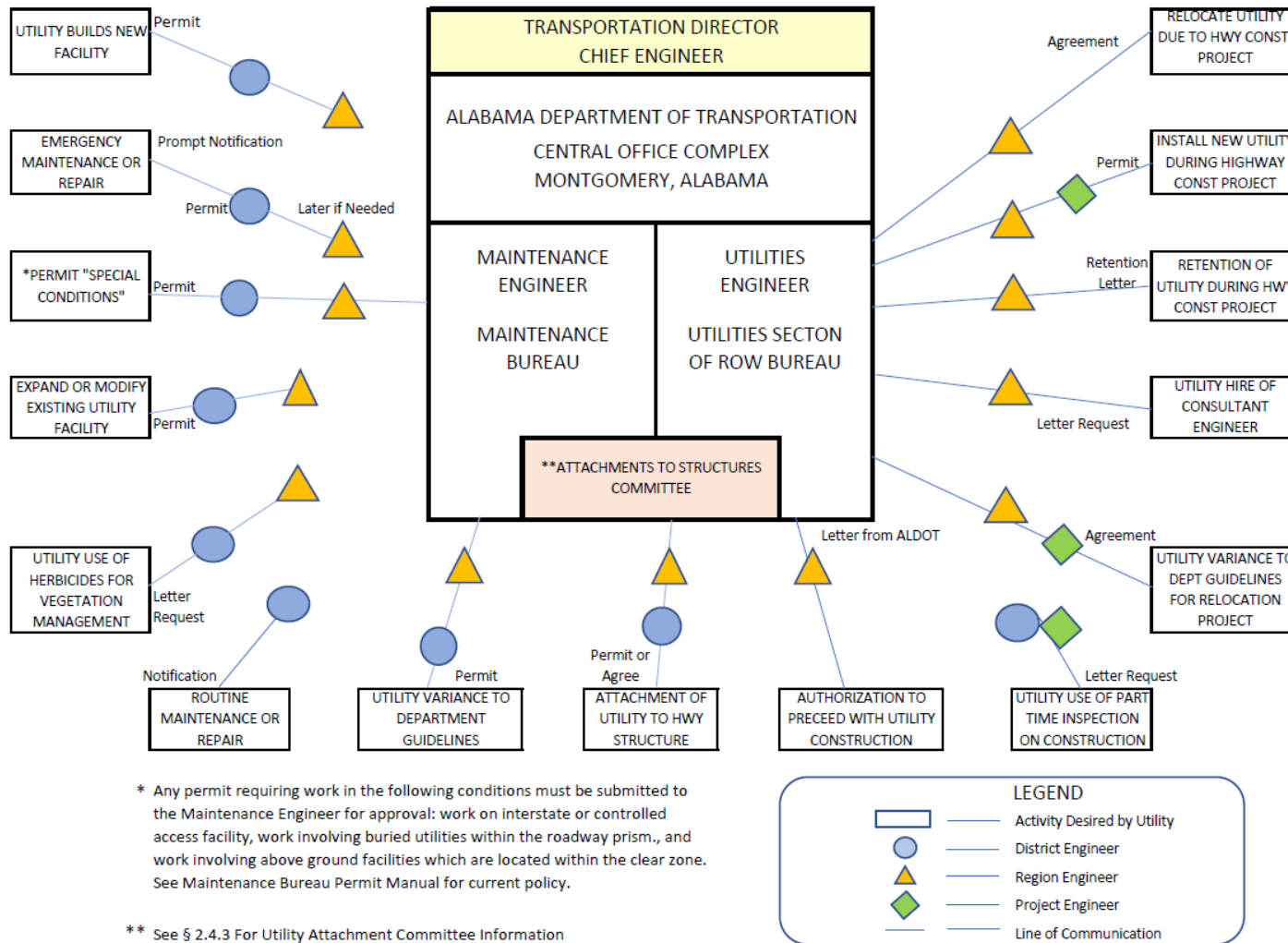


Figure 1-1. Flow Chart for Several Common Utility Activities

Chapter 2

GENERAL GUIDELINES AND PROCEDURES

2.1 INTRODUCTION

The majority of the Department's general guidelines and procedures affecting utilities have been gathered into this chapter. They have been sorted alphabetically to make specific information easier to find.

The material in this chapter describes the most pertinent portions of the Department's printed guidance affecting utilities. Although many guidelines and procedures are listed, this chapter is not all-inclusive. For example, it is more appropriate to discuss some major topics (such as agreements or reimbursement issues) in other portions of this manual.

Procedures which have only minor effects on utilities may not be discussed in this manual at all if they are covered more appropriately in other Department documents. The utility information included in this chapter is frequently used by highway and utility organizations.

In preparing these guidelines and procedures, the Department leaned heavily on documentation provided by the Federal Highway Administration, American Association of State Highway and Transportation Officials (AASHTO), technical guidelines accepted by industry, its experience in dealing with utility entities within Alabama, local conditions, and other factors which support reasonable and appropriate guidelines.

The *Federal-Aid Policy Guide and 23CFR 645 Parts [A](#), [B](#), and [C](#)*, the [*AASHTO Accommodation Guide*](#), and the [*Alabama Department of Transportation Standard Specifications for Highway Construction*](#), latest edition (hereafter called ALDOT *Standard Specifications*) were the major sources for the material in this chapter. The written policies, guidelines, and procedures of the Department; the suggestions of Department employees; and comments of utility industry representatives were among additional sources of information used in preparing this document.

2.2 LISTING OF GUIDELINES AND PROCEDURES

This chapter contains a detailed discussion of the Department's guidance upon several key subjects as follows:

<u>Section</u>	<u>Title</u>
<u>2.3</u>	As-Built Drawings
<u>2.4</u>	Attachments to Highway Structures
<u>2.5</u>	Blasting and Rock Excavation
<u>2.6</u>	Bond Requirements
<u>2.7</u>	Clear Zone
<u>2.8</u>	Coordination and Communication
<u>2.9</u>	Design—General Considerations
<u>2.10</u>	Drainage Pipes, Ditches, and Canals
<u>2.11</u>	Inspection
<u>2.12</u>	Local Government Agreement to Regulate
<u>2.13</u>	Location of Utilities—General Criteria
<u>2.14</u>	Maintenance, Servicing, and Repairs
<u>2.15</u>	Municipal Connecting-Link Roads
<u>2.16</u>	Non-Compliance—Actions by Department
<u>2.17</u>	Occupancy and Use Agreements (Permits)
<u>2.18</u>	Overhead Power and Communication Lines
<u>2.19</u>	Pipeline Guidelines
<u>2.20</u>	Preservation, Restoration, and Clean Up
<u>2.21</u>	ROW Acquisition
<u>2.22</u>	Sanitary Sewers
<u>2.23</u>	Scenic Enhancement
<u>2.24</u>	Staking of Proposed Utility Facility
<u>2.25</u>	Traffic Control Plan (TCP)
<u>2.26</u>	Underground Electric Power & Communication Lines
<u>2.27</u>	Variances
<u>2.28</u>	Vegetation Management
<u>2.29</u>	Wetlands

2.3 AS-BUILT DRAWINGS

The Department and other utilities must be provided accurate information about the location of existing utility facilities so highway construction and maintenance, installation of additional utility facilities, and the safety of the public might be provided by the Department. For these purposes, the Department must maintain files of as-built utilities drawings. As-Built Drawings may be required in digital or electronic form from a 3D field survey that is tied to project control points or GPS coordinates including elevations of underground utilities.

2.3.1 NO SIGNIFICANT DEVIATION

Where there has been no significant deviation from the plans, specifications, locations, and conditions covered by the original approved permit or agreement, the plans submitted by the Utility with the original permit or agreement may be used as as-built drawings. In this case, the utility submittal will consist of a letter to the Region Engineer verifying there has been no significant deviation from the approved conditions, so no as-built drawings will need to be submitted, and that the original drawings will be stamped "As Built" and signed by the engineer representing the Utility.

2.3.2 DEVIATION FROM PERMIT OR AGREEMENT

When construction conditions require deviations or the Utility desires to make deviations from the approved permit or agreement, permission must be secured from the Department authority that originally approved the permit or agreement. After construction, when there have been significant deviations, the Utility will submit as-built drawings showing the actual locations (horizontal and vertical if necessary), types, sizes, transmittants, voltages, and other descriptive data. The as-built drawings will be prepared to the same scale as the Department's Plans for the highway section covered by the permit or agreement. The Utility will submit the as-built drawings to the Department's Region Engineer or Project Engineer within 90 days of the acceptance of the work by the Department.

2.4 ATTACHMENTS TO HIGHWAY STRUCTURES

2.4.1 ATTACHMENTS DISCOURAGED

There are inherent problems in the areas of liability, safety, maintenance, and future modifications, and bridge inspection that are created by attachments to structures. Therefore, the Department has adopted a general policy of prohibiting attachments to structures except in extreme cases. Under normal conditions where it is feasible and reasonable to locate utility lines elsewhere, attachments to highway structures will be avoided.

Utility lines may be attached to a highway structure only when all the following conditions exist:

1. No other practicable alternative is available, including private easement
2. The attachment will not create a hazard to the public
3. The public interest will suffer if approval is not granted
4. The structural integrity of the structure will not be threatened by the attachment
5. None of the Department's basic interests will be substantially compromised by the attachment

For safety reasons, the Department looks more favorably upon some types of utilities than upon others where attachments to structures are considered. In general, the order of descending compatibility with highway structures are communications and water. Gas and electric power lines will not be considered for highway structure attachment.

Where similar, competing utilities (for example, long distance telephone companies) desire attachment to a structure, the Department normally requires they share facilities. Shared facility use requires advanced planning and coordination on the part of the Utilities.

2.4.2 APPROVAL PROCESS

If the applicant desires to attach a utility facility to a structure, then each of the conditions listed above must be addressed in writing as a portion of the permit or agreement application. Details of the utility attachment must be provided, including plans, specifications, a thorough cost estimate for the proposed installation to the structure, and the cost for alternative methods of crossing at the same location. The original permit or agreement application package plus four additional copies of all information must be forwarded to the Department.

Permit applications for attachment will be reviewed in the normal manner by District and Region Offices. Where the District and Region Engineer agree that a bridge-structure attachment may be justified, the application is then forwarded to the Maintenance Bureau at the Department's Central Office for further review. Where the request involves an agreement, the process also involves the Area Utility Manager at the local level and the Utilities Section in the Central Office.

2.4.3 UTILITY ATTACHMENT TO STRUCTURES COMMITTEE

The Director has established a standing committee to consider utility attachments to structures. The committee reviews and investigates attachment requests to identify those that meet the criteria for attachment, and to make recommendations to the Director. The Director then may approve or disapprove the request.

The Committee is comprised of five individuals selected to provide the appropriate level of expertise in the review process. They are (1) the State Maintenance Engineer, (2) the State Bridge Engineer, (3) the Region Engineer of the Region where the request originated, (4) the ROW Bureau Chief, and (5) the State Utilities Engineer. The Maintenance Engineer will chair the committee. During its deliberations, the Committee will consider factors such as the following:

1. Negative effects the proposed attachment will have on the structure
2. Availability of a suitable location on the bridge structure for the attachment

3. Feasibility of alternative means of making the crossing without attachment
4. Cost comparisons between attachment to the structure and use of alternative means

The applicant will be required to furnish relevant data to facilitate the committee's deliberations. The data may be supplemented by the Department.

2.4.4 GENERAL REQUIREMENTS

In addition to the specific requirements for communication systems and specific guidelines for pipelines which are presented in subsequent adjacent subsections, the following are examples of requirements generally applicable to utility attachments:

1. All utility attachments to structures shall have prior approval of the State Bridge Engineer. Detail drawings shall be submitted for review and approval prior to any work being performed.
2. The attachment will be adequately supported and free to expand and contract independently of the structure
3. All utility installations will be isolated and insulated from the structure to avoid causing corrosion
4. No utility facilities will be allowed in a location where they would be vulnerable to damage or rupture by a traffic accident and thus create a traffic hazard
5. Utilities attached to structures will maintain a vertical clearance to highways, railroads, and waterways, or as otherwise needed, greater than the vertical clearance of the structure itself
6. The plans for any requests for attachment to a structure will clearly indicate the type of transmittants and maximum working pressure for which permission is being requested
7. Any changes in the transmittants or pressure beyond that reviewed and approved in the original installation must be subjected to an additional review process for approval from the Department
8. Where appreciable live or dead loads (not provided for in the original design) are to be added to a Department structure, stress calculations signed and sealed by a professional engineer registered in Alabama must show that the structure can safely withstand the additional stress

2.4.5 PIPELINES ATTACHED TO STRUCTURES

The following provisions have been adopted by the Department as guidance where pipelines are permitted for attachment to structures:

1. Pipeline attachments to bridges which cross over highways, railroads, or streets will not be considered

2. Pressure pipelines will have shut-off valves installed within a reasonable distance on each side of the bridge
3. Where a casing is not provided for a pipeline attachment to a bridge, additional protective measures will be taken, and these measures will employ a higher factor of safety in the design, construction, and testing of the pipeline than would normally be required for cased construction
4. Where pipelines are attached to a highway structure, they will be sufficiently insulated and isolated from the structure

2.4.6 COMMUNICATION SYSTEMS ATTACHED TO STRUCTURES

Communication line attachments will be insulated and grounded and will be carried in protective conduit or pipe from their point of exit from manhole to manhole. The cable will be carried beyond the abutments of the structure to manholes at or reasonably close to each bridge end.

2.5 BLASTING AND ROCK EXCAVATION

All use of explosives within or adjacent to State ROW will be in strict accordance with the provisions of the *ALDOT Standard Specifications*, article 107.11, "Use of Explosives". Blasting will be included as a part of the permit application, or agreement as an amendment thereto. A Department inspector will be on the project at all times when blasting operations are being conducted.

2.5.1 ACCEPTANCE OF LIABILITY

The Utility must assume liability for all resulting damages when using explosives on State ROW. The Utility's letter of notification must contain a statement accepting all responsibility and liability.

2.5.2 SAFETY EMPHASIZED

Article 107.11 of the *ALDOT Standard Specifications*, "Use of Explosives," incorporated by reference above describes the minimal acceptable level for safety. The Utility shall provide protection in excess of these requirements when sound engineering judgment dictates.

2.5.3 NOTIFICATION REQUIRED

Prior to detonating explosives within State ROW, the Utility will supply advance written notification to the Region Engineer of the date, time, and location of blasting. The letter will include a statement that the Utility accepts all responsibility and liability for damages resulting from the use of explosives. The Utility will warn each utility company with facilities in the vicinity prior to blasting. Warning signs will be placed on all roads in the immediate vicinity of blasting. Locator services such as "call before you dig" or "one call service" should be contacted where they are available.

2.5.4 BLASTING NEAR STRUCTURES

Blasting generally will not be permitted within *100 feet* of a bridge or a major structure.

2.5.5 ROCK EXCAVATION

The following applies to all trenched construction including, but not limited to, water mains, sanitary sewer mains, gas mains, and other pipelines.

When rock excavation is specified, it will be an extra bid item in addition to the normal contract items. For contracts let by a Utility, whether using company forces or a utility-consultant engineer as the designer, the Utility will have the option of specifying all of the excavated material as "unclassified excavation" or setting up a pay quantity for "rock excavation." The Department prefers the excavation be "unclassified excavation" to avoid unbalanced bids. If the utility work is in a known rock area or if other factors indicate that rock excavation will be required, the designer will specify a pay quantity for rock excavation, and a minimum of 20% of the total anticipated excavation will be specified as such.

Nominal quantities will not be acceptable for rock excavation in the contract. It will be paid for on a lineal *foot* per *foot* of depth basis, the depth to be measured from the top surface of the rock to the required excavation depth. Thus, the width of the trench will not be considered.

If the excavated material is unsuitable for backfill, it will be disposed of as specified, and replacement material meeting the backfill specifications will be furnished by the contractor. Payment for the contractor-furnished backfill will be considered a part of the bid price for line-pipe installation (on a per *foot* basis).

At sites of utility relocation projects, rock excavation is hereby defined as material that cannot be removed with the normal excavation equipment used on the project. It is further defined as material requiring drilling and/or blasting prior to its removal from the trench site. The following do not qualify for rock excavation: (1) soft or disintegrated rock that can be removed with a hand pick, power-operated excavator, or shovel; (2) loose, broken, or previously-blasted rock or broken stone in rock fills or elsewhere; and (3) rock which has fallen into the excavation from outside the minimum limits of measurement allowed.

2.6 BOND REQUIREMENTS

Any Utility obtaining an approved permit is required to file a surety bond with the Department before any construction work can be started. The bond will meet the requirements of Article 103.05 of the *ALDOT Standard Specifications*. The bond must be in the legal name of the Utility. A cash deposit or certified check upon a solvent bank may be accepted by the Department in keeping with [§ 23-1-4, Code of Alabama 1975](#).

The bond will be issued on Department Form [BM-174](#) (Appendix D) in a manner acceptable to the Maintenance Bureau and Legal Bureau of the Department.

The purpose of the bond is to ensure completion of the utility construction work, including restoration and clean-up of the ROW. The bond will cover the period from the beginning of construction until one year after the date of the Department's acceptance of the completed project.

2.6.1 BLANKET BOND

If a utility anticipates a continuing sequence of work and multiple permits with the Department, the Department may approve a blanket bond covering multiple projects. This type of bond will be issued on Department Form [BM-175](#) (Appendix D). The Blanket Bond is good for a time period no longer than one year. A Continuation Certificate must be obtained if there is a desire to extend this timeframe.

2.6.2 WAIVING OF BOND

Surety bonds may occasionally be waived at the discretion of the Department. The decision to waive the bond requirement will be based upon factors such as the following:

1. The Utility's record, taking into consideration past cooperation and the quality of work on previous installations
2. The type and extent of work to be performed (There is less inherent risk in some types of utility work than in others)
3. The Utility shall prove the ability to reimburse the Department for any and all damages resulting from the Utility's activities under the permit.

2.6.3 AMOUNT OF BOND

The amount of the bond is determined by the scope of work and the risk involved. The Region Engineer is authorized to establish the amount of the required bond and will normally depend on a recommendation from the District Administrator who is more familiar with local roads, other facilities in the ROW, the Utility's day-to-day operations, and other local factors affecting bond requirements.

2.7 CLEAR ZONE

The Department intends to provide reasonable protection to motorists through adoption of a clear-roadside policy and establishment of a roadside clear zone. These actions are taken to provide a motorist who leaves the travel way a reasonable opportunity to recover control of a vehicle and avoid accidents.

The clear zone is that area beside the travel way provided for vehicular recovery. Obstacles normally are removed to provide lateral clearance. This clearance is not a fixed, mandatory dimension. It is site specific and varies with the type of obstacle, the category of highway, the allowed speed of vehicles, the presence of horizontal curves, the steepness of roadside slopes, and other factors.

The most desirable treatment is the removal of objects from the clear zone. Where this is not practical, acceptable treatments such as making the object breakaway or shielding the object, so vehicles will not hit it should be investigated. The criteria in this document are to be applied on a site-by-site basis for individual obstacles or conditions. The appropriate clearance and treatment will be based upon an evaluation of safety, economics, and other factors pertinent to an engineering analysis. In all cases, the clearance and treatment are guidelines rather than absolute standards.

2.7.1 NATIONAL GUIDELINES

The basis for the Department's clear-zone policy as applied to utilities within State ROW may be found in the [AASHTO Roadside Design Guide](#) (hereafter called the RDG) and the [AASHTO Geometric Design of Highways and Streets](#) (hereafter called the *Green Book*). These AASHTO documents contain a comprehensive discussion of the clear-zone concept, pertinent portions of which are summarized in this document.

For a normal highway situation, the calculation process to determine the minimum clearance has been simplified. Tables have been provided in the [RDG](#) to assist in selecting the appropriate lateral clearances. The clear-zone information in the [RDG](#) will be what utility companies shall use when locating within State ROW. The tables found in the [RDG](#) suggests the approximate center of a range to be considered, not exact values that must be used. Engineering judgment of factors affecting the site should be applied to determine the applicable value within this range.

For horizontal curves, the minimum clearance may need to exceed the values shown in the [RDG](#). The designer may choose to increase the clear zone width by using the expansion factors found in the [RDG](#). This modification is especially applicable where accident histories or site investigations show that accident potential could be significantly lessened by using the increased clear zone width and that such an increase is cost effective. Refer to the latest version of the [RDG](#) for further guidance on applicable clear-zone requirements.

2.7.2 DESIRED VERSUS MINIMUM HORIZONTAL CLEARANCES

The Department desires that utility facilities with above ground appurtenances be placed as far from the travel way as practicable. The optimum required location is near the ROW line. Deviations may occur when the ROW line follows an irregular pattern to which consideration may be given to a reasonable alignment for facilities, or when it may not be realistic to place utilities near the ROW line, to which reduced clearances may be necessary. Where reduced clearances must be used, the minimum clearances, which are normally acceptable to the Department, may be found in the latest version of the [RDG](#).

2.7.3 MINIMUM HORIZONTAL CLEARANCES IN URBAN AREAS

Urban conditions are characterized by low-speed highways that usually have curbs and gutters. The Department encourages above-ground utilities and appurtenances in urban areas be placed as close to the ROW line as practicable.

SPEED NOT GREATER THAN 35 mph

CURBED HIGHWAY

Above-ground utility appurtenances will be constructed a minimum of *6 feet* behind the face of the curb. If the lane adjacent to the curb is a parking lane, the minimum dimension may be reduced to *2 feet* behind the face of the curb.

WITHOUT CURB

The minimum distance from the travelway to an above-ground utility appurtenance will be derived from the [RDG](#). Refer to the latest version of the [RDG](#) for further guidance on applicable clear-zone requirements.

SPEED GREATER THAN 35 mph

High-speed, urban arterials are considered to be the same as high-speed rural highways for clear-zone considerations. Refer to the latest version of the [RDG](#) for further guidance on applicable clear-zone requirements.

2.7.4 MINIMUM CLEARANCES IN RURAL AREAS

Rural conditions are characterized by lower traffic volumes operating at higher speeds. Collisions involving vehicles and fixed objects are likely to be more severe than similar accidents in urban areas. Therefore, lateral clearances generally are wider than those of corresponding urban areas.

RURAL COLLECTORS AND LOCAL ROADS FOR SPEEDS NOT GREATER THAN 35 mph

The minimum horizontal clearance will be *10 feet* between the edge of the travelway and the utility appurtenance. The *10-foot* general dimension might be expanded in certain instances. Refer to the latest version of the [RDG](#) for further guidance on applicable clear-zone requirements.

HIGH-SPEED RURAL HIGHWAYS

Refer to the latest version of the [RDG](#) for further guidance on minimum lateral clearance dimensions applicable to these roads.

FREEWAYS AND EXPRESSWAYS

High-speed, limited-access facilities will have a high level of clear-zone safety treatment. The minimum horizontal clearance for above-ground utility facilities normally will be *30 feet* and may be greater for steep slopes or higher traffic volumes. Refer to the latest version of the [RDG](#) for further guidance on applicable clear-zone requirements.

2.7.5 NEW INSTALLATIONS VERSUS EXISTING FACILITIES

For all new utility facilities, the provisions of these guidelines will apply in full. Greater safety for the motorist may be obtained with relatively little increase in cost for the Utility.

For relocation of existing facilities, clear zone decisions are more difficult because this work is relatively more expensive and often does not provide a commensurate decrease in accidents. The Department considers an engineering analysis based on accident history, accident potential, safety cost effectiveness, and other pertinent factors as the appropriate method for clear zone determinations on relocated existing facilities.

When existing facilities are completely replaced as part of routine maintenance activities, or when utility facilities are upgraded in capacity, changed in function, or otherwise modified significantly, these clear zone guidelines will be implemented in the same manner as for new facilities.

2.7.6 UNUSUAL CONDITIONS

Limited or irregular ROW, existing utility facilities, sharp horizontal curves, or other conditions may make selection of appropriate clearances difficult. The *RDG* and the [Green Book](#) provide detailed guidance for these cases. The State will conduct an engineering analysis of individual locations or conditions to identify the most appropriate clear-zone treatment.

Where the Utility feels that the identified clear zone treatments are not practicable, the Utility bears the responsibility of demonstrating that alternative clearances or treatments are more appropriate.

2.7.7 STORED MATERIALS AND EQUIPMENT

Permanent or temporary storage of materials and parking of vehicles and equipment (when not used in actual placing of the utility within the State ROW) will be as far from the edges of pavements as practical. As a minimum, the stored material, the parked vehicles and equipment will conform to clear-zone criteria. Generally, such materials, vehicles, or equipment will not be permitted within *30 feet* of the travelway. In circumstances where this requirement is not feasible, requests should be made to and approved by the Project Engineer prior to storing anything any closer.

2.7.8 SUMMARY

In all cases, when new facilities are to be installed or existing utilities are to be relocated, the Department recommends that the maximum practicable lateral clearance be utilized. The dimensions outlined in this clear-zone guideline will be utilized where placement at the ROW line is not otherwise feasible or practicable.

2.8 COORDINATION AND COMMUNICATION

All parties benefit from early and frequent communication regarding utility work within the ROW. Many of the utility conflicts and difficult construction situations encountered by the Department, utilities, and highway contractors, might have been prevented or minimized through advanced coordination and communication.

2.8.1 NOTIFICATION TO THE DEPARTMENT

Many of the policies and guidelines in this manual call for communications between the Utility and the Department, or for communication to third parties.

The following listing outlines many of the requirements or suggestions for coordination and communication. It does not represent all of the communications possible or required; however, it does illustrate the types of instances in which coordination and communication enhance the highway-utility process.

2.8.2 GENERAL NOTIFICATIONS TO THE DEPARTMENT

Table 2-3 is an alphabetical listing of frequently addressed topics, which are covered in this manual, concerned with utility work on State ROW. Included in this table are the section reference and corresponding reference title of the appropriate guidelines. The user should consult the full guideline to ensure the comprehension of its purpose and content.

TABLE 2-3 Examples of Required Notification

TOPIC	REFERENCE	REFERENCE TITLE
Abandoned Lines	§ 2.26	Underground Electric Power & Communications
As-Built Drawings	§ 2.3	As-Built Drawings
Beginning of Work, or of Weekend/Holiday Work-Notification	§ 2.17	Permits
Blasting	§ 2.5/§ 2.19	Blasting
Pipeline Guidelines	§ 2.19	Pipeline Guidelines
City/Town Facilities-Adding To	§ 2.16	Municipal Connecting-Link Roads
City/Town Facilities-Repair Of	§ 2.16	Municipal Connecting-Link Roads
City/Town Facilities-Work by Other Forces	§ 2.16	Municipal Connecting-Link Roads
Emergency Notification	§ 2.11	Inspection
Erosion — Temporary Control	§ 2.20	Preservation, Restoration, and Clean Up
Final Inspection	§ 6.8	Inspection and Record Keeping
Inspection	§ 2.11	Inspection
Inspector — Part Time	§ 2.11	Inspection
Inspector's Identity	§ 2.11	Inspection
Maintenance — Routine	Chapter 4	Permits and Agreements
Pavement Open Cut in Emergency Conditions	§ 2.14	Maintenance, Servicing, and Repairs
Pipelines — Change in Use	§ 2.19	Pipeline Guidelines
ROW Acquisition	§ 2.21	ROW Acquisition
Scenic Areas	§ 2.23	Scenic Enhancement
Service Tap — Short Side	Chapter 4	Permits and Agreements
Traffic Control Plan — Changes	§ 2.25	Traffic Control Plan
Traffic Flow — Interruption of	§ 6.7	Traffic Control Plan
Variances	§ 2.27	Variances

2.8.3 SUMMARY

The Department strongly encourages full and free communication and coordination between its own employees, utilities, and third parties affected by utility construction, operation, or maintenance.

2.9 DESIGN — GENERAL CONSIDERATIONS

The utility owner is responsible for the design of the new or relocated utility facility and for ensuring that the design is in compliance with the codes and standards of appropriate technical organizations and jurisdictions.

The Department is responsible for review of the Utility's proposed work as shown on their agreement or permit with respect to the location, manner of installation, or manner of attachment. The Department may scrutinize the measures the Utility will take to preserve the safe and free flow of traffic, the structural integrity of the highway or the highway structure, the ease of highway maintenance, the appearance of the highway, and the integrity of the utility facility.

2.9.1 INDUSTRY CODES AND STANDARDS

Utility installations on, over, or under the ROW of state highways and the utility attachments to highway structures will (as a minimum) be of durable materials designed for long service life expectancy and minimum need for routine service and maintenance. Installations will meet the following requirements:

1. Electric power and communication facilities will conform with the current applicable [*National Electrical Safety Code*](#)
2. Water lines will conform with the currently applicable specifications of the [*American Water Works Association*](#)
3. Pressure pipe lines will conform with the currently applicable sections of [*American National Standards Institute \(ANSI\)*](#), Standard Code for Pressure Piping; Title 49 CFR, parts [192](#), [193](#), and [195](#); and applicable industry codes
4. Liquid petroleum pipelines will conform with the currently applicable recommended practice of the [*American Petroleum Institute for Pipeline Crossings under Railroads and Highways*](#)
5. Any pipeline carrying hazardous materials will conform to the rules and regulations of the U. S. Department of Transportation governing the transportation of such materials

2.9.2 VISUAL QUALITY

Ground-mounted, utility facilities will be of a design compatible with the visual quality of the specific highway section being traversed. Additional restrictions may be found in the Department's policy on scenic enhancement ([§ 2.23](#)) in this chapter.

2.9.3 EXPANSION

On new installations or relocation of existing utility lines, provision should be made for known or planned expansion of the utility facility, particularly for those located underground or attached to bridges. They will be planned to minimize hazards and interference with traffic when additional overhead or underground lines are installed subsequently.

2.9.4 PERMIT RESPONSIBILITY

Any necessary permits, including the accommodation of utilities, highway ROW, and environmental controls, will be the responsibility of the Utility. The Department disallows the practice of utility owners having their contractors secure permits. The guideline on Permits ([§ 2.17](#)) in this chapter contains additional responsibilities of the Utility.

2.10 DRAINAGE PIPES, DITCHES, AND CANALS

Drainage facilities installed across highway ROW generally will be designed and constructed in accordance with the Department's specifications for highway culverts.

Appurtenances which would constitute a hazard to traffic will be located outside the clear roadside area. Ditches and canals that closely parallel the highway will be discouraged. Where ditch-rider roads are adjacent to ditches or canals that cross the highway, consideration will be given to safety, traffic operations, and economic features when providing for the continuity of such roads.

2.10.1 STORM SEWERS

Storm sewer systems depend upon gravity flow to move rainfall runoff. This makes them sensitive to vertical alignment, and frequently makes it difficult to adjust the location of the lines to avoid conflicts during construction. In this regard, storm and sanitary sewers are similar and may receive priority in space allocation over other utilities.

2.11 INSPECTION

Both the Utility and the Department normally have inspectors at the utility construction project, as explained in the following paragraphs. Additional references to inspectors may be found in [§ 6.1.5](#) and [§ 6.8](#) of this document.

2.11.1 DEPARTMENT'S INSPECTOR

The Utility interfaces with either the Region Engineer, Project Engineer, or designated Department construction inspector, depending upon the type of project and whether the Department's approval was by permit or agreement. When the utility project is constructed under an approved agreement, the Department's field representative is the Project Engineer, or an employee designated as a construction inspector. For utility projects constructed under an approved permit, the Department's field representative (inspector) is usually the District Administrator, or a designated employee.

2.11.2 UTILITY REQUIRED TO PROVIDE INSPECTOR

It is the responsibility of the Utility to maintain a full-time inspector on any major relocation or new installation within the ROW. The inspector will ensure to the Utility and the Department that the installation is made in full compliance with the provisions of this manual and the conditions and locations contained in the approved permit or agreement.

UTILITY'S OWN EMPLOYEE OR CONSULTANT

The Department encourages Utilities to use their own employees for inspection of utility work. On those occasions where the Utility must secure the services of an engineer-consultant for the design of the facilities, it is permissible to have the field inspection performed by the consultant. However, the Department desires that the Utility use its own employees for the inspection of utility construction projects even if the design was performed by an engineer-consultant.

PART-TIME INSPECTOR

Where the relocation or installation is of short duration or reasonably limited size, the inspector may serve on a part-time basis or may rotate among several such projects. If the use of a part-time inspector is desired the Utility must request specific approval by the Region Engineer or Project Engineer. A part-time or rotating inspector must visit each authorized location each day in which the Utility undertakes work actions and must be present a sufficient amount of time to assure compliance with standards and locations outlined in the approved permit or agreement. If the inspector is not full-time, the Region Engineer or Project Engineer must be notified of the times and dates the inspector will visit each site.

NAME AND ADDRESS

The Utility is required to supply the Region Engineer or Project Engineer with the name of the individual who will serve as the inspector, along with this person's address and telephone number. The Utility must also supply the name, address, and 24-hour-per-day telephone number at which a designated person may be reached in case of an emergency.

QUALIFICATIONS AND DUTIES

The Utility's inspector will have adequate training and experience to execute assigned duties. The inspector will maintain records of the times and dates of visits, observations, the status of the utility contractor's work, and other information which might be pertinent to documenting that the Utility satisfactorily is meeting the conditions, standards, and approved locations contained in the approved permit agreement.

2.11.3 INFORMATION AT THE JOB SITE

For purposes of inspection the Utility must have the following items at the job site at all times: (1) a copy of the approved permit or agreement, (2) copies of plans and specifications which accompanied the permit or agreement, (3) a copy of [Part VI of the Manual on Uniform Traffic Control Devices](#), (4) the Traffic Control Plan (TCP), and (5) the name, telephone number, and address of the Utility's designated person to be contacted in case of an emergency.

2.12 LOCAL GOVERNMENT AGREEMENT TO REGULATE

A city or county must agree to regulate the ROW use within its jurisdiction by utilities or private lines on federal-aid projects authorized after November 29, 1968, on a continuing basis in accordance with the guidelines and utility accommodation policies approved by the Department and the Federal Highway Administration (FHWA) for city and county roads.

2.13 LOCATION OF UTILITIES - GENERAL CRITERIA

The Utility Manual shall be the primary criteria on location of utilities on State ROW. Additional guidance can be found in the [AASHTO Freeway Policy](#) & the [AASHTO Accommodation Guide](#).

2.13.1 HIGHWAY ROW

The following statements govern the location and design of utility installations within highway ROW in this State:

LATER ADJUSTMENT/TRAFFIC INTERFERENCE

Utility lines will be located to minimize need for later relocation to accommodate future highway improvements and to allow the servicing of lines with minimum interference to highway traffic.

LONGITUDINAL INSTALLATIONS

Longitudinal installations will be located on uniform alignment as near as practicable to the ROW line to provide a safe environment for traffic operation and to preserve space for future highway improvements or other utility installations.

CROSSINGS

Utility line crossings of the highway will cross generally perpendicular to the highway alignment where it is feasible and practicable. All efforts should be made to avoid crossing over bridges and their abutments when practical. The Utility bears the responsibility for justifying the need to cross in a manner other than what is desired by the Department.

CLEAR ZONE

The horizontal and vertical location of utility lines within the highway ROW limits will conform with the clear-zone policies applicable to the system, type of highway, and specific conditions for the involved highway section; and the location of above-ground utility facilities will be consistent with the clearances applicable to all roadside obstacles for the type of involved highway (see [§ 2.7](#)).

OTHER CONSIDERATIONS

In all cases, full consideration will be given to the measures reflecting sound engineering principles and economic factors necessary to preserve and protect the

safety of highway traffic, efficiency of maintenance, integrity of the structure, and quality of the highway esthetics.

URBAN STREETS

Location of utility installations on urban streets with closely abutting improvements are special cases which must be resolved in a manner consistent with the prevailing limitations and conditions

2.13.2 FREEWAY ROW

NEW UTILITIES

New utilities will not be permitted to be installed longitudinally within the control-of-access lines for any interstate or other controlled access highway.

UTILITIES CROSSING FREEWAYS

In order to cross a freeway, new utility installations and relocations of existing utilities must be authorized by a permit or agreement. The Department expects the number of such crossings will be minimized, and that when approved, they will occur (to the extent practicable) at right angles to the freeway.

Where authorized, utility crossings or utilities along roads or streets crossing freeways will be in compliance with the [*A Policy on the Accommodation of Utilities within Freeway Right-of-Way*](#) and the provisions of this manual.

2.13.3 ADDITIONAL LOCATION CRITERIA

Individual types of utilities such as pipelines, electric power, or communication lines, may be subject to additional location restrictions. This supplemental information may be found in the discussion of the specific Utility's guidelines contained in this chapter.

All utilities, new and relocated, are subject to the restrictions of the clear-roadside policy and clear-zone lateral clearance dimensions. This information is contained in [§ 2.7](#) of this chapter. The Department also may find it necessary from time to time to impose additional location restrictions for safety, traffic maintenance, or other reasons. In all cases, the clearing required for locating on State ROW shall be the responsibility of the Utility.

2.14 MAINTENANCE, SERVICING, AND REPAIRS

All utility facilities will be kept in good states of structural repair and appearance. The Utilities maintenance operations will conform to all other pertinent instructions in these guidelines, and to the conditions of its approved permit or agreement.

2.14.1 DEFINITION OF MAINTENANCE

For the purpose of this document, maintenance is defined as that work required to keep an existing facility in a good state of repair without adding to its physical makeup or changing its physical capacity.

2.14.2 DEFINITION OF REPAIR

For purposes of this document, repair is defined as that work required because of a failure of a utility facility and consists essentially of replacement in kind and in place of components of the facility.

2.14.3 FREEWAYS

Any utility facilities crossing the control-of-access limits of freeways will not be maintained, serviced, repaired, or operated from the through-traffic highways, or connecting ramps, except in times of extreme emergencies.

2.14.4 NOTIFICATION

Utilities may perform routine maintenance on State ROW; however, they must supply advance notice to the Region Engineer of the time, date, and location of the proposed maintenance, service, or repair activity.

2.14.5 TRAFFIC CONTROL

For the safety of the public, its own employees, and the Department's employees, the Utility is expected to utilize the provisions of [Part VI, Manual on Uniform Traffic Control Devices \(MUTCD\)](#), for traffic control in work zones during maintenance, service, and repair activities (see [§ 2.25](#)).

2.14.6 EMERGENCY CONDITIONS

The Department recognizes that under emergency situations it may be necessary immediately to commence maintenance, repair, or other actions to protect the safety of the public. In these cases, the Utility must notify the Region Engineer as promptly as possible. When the emergency condition is under control, the Utility will take actions to bring the situation into compliance with the provisions of this document.

Once the emergency has subsided, the Department may stop the Utility's actions, if the Utility fails to comply.

2.15 MUNICIPAL CONNECTING-LINK ROADS

In 1949 the State of Alabama Legislature devised a system to designate certain city and town streets as key routes to connect or extend certain State roads. This was done for the general benefit of the State, to allow the Department to provide funding and guidance for the design, construction, and maintenance of these highways. The Department was authorized and required to maintain and repair these designated city and town roads. State highway route numbers were consequently assigned to them.

The Legislature placed certain stipulations and conditions upon the Department, and upon the cities or towns. Example restrictions bearing upon utilities include the following:

1. The Department must maintain these roads, but the maintenance will not extend beyond the back of the curb and gutter (where curb and gutter exist), nor beyond the back of the highway ditch or the toe of the fill slope (where no curb and gutter exist) except that the Department may place and maintain such facilities as highway markers outside of these limits
2. The city or town is responsible for drainage that enters its own storm sewer system, but the Department maintains highway drainage structures that are not a part of the city or town system
3. The city or town has authority to make repairs to its underground or overhead facilities without asking the Department's permission, but they must notify the Department immediately if this work affects the free flow of traffic, and the city or town must repair the pavement in a satisfactory manner if it is disturbed during this work
4. Any additions to city or town facilities that affect the part of the city street designated as a connecting link must be planned in a conference with Department officials
5. Any work that (a) affects the connecting link portion of the street, and (b) is performed by anyone other than city forces, cannot be done until the Department has issued a permit. These permits are subject to the approval of the city or town.

2.15.1 DEPARTMENT ACTIONS

The Department will process permits for and exercise control over all utility work within the State ROW.

Many of the requirements for proper and safe utility installation and operation do not end at the State ROW limits. The Utility companies will comply with the provisions of this manual for all its adjacent operations which extend beyond the State ROW limits.

2.15.2 CITY/TOWN RESPONSIBILITY

Cities and towns are required to control by permit the placement and operation of utilities within their ROW. The Department does not intend to replace or usurp municipal authority in this area.

Where the city or town repairs its underground or overhead facilities, the Region Engineer will be notified prior to the beginning of repair, if the work affects the free flow of traffic. The Department also expects any pavement repair necessitated by such city or town work will be in conformance with the Department's standards.

Where the city or town adds to its facilities, the Department's local Region office expects to participate in a joint planning conference to establish the details of the work. For utility work done by contract (or by other than the municipality's own forces) that affects the area maintained by the State, the Department will exercise permitting authority.

2.15.3 UTILITY RESPONSIBILITY

Utilities which perform work on or near municipal connecting-link roads should expect coordination will be required to obtain the approval of the Department, the municipality, or both. The separate but compatible requirements of the Department and the municipality may exceed the individual requirements of either of the two entities.

2.16 NONCOMPLIANCE — ACTIONS BY DEPARTMENT

The great majority of all utilities with which the Department deals take great care to operate in a manner that is cooperative and conducive to the Department's mission of protecting the public's interest within the highway ROW. On occasion, there arises a need for the Department to take administrative or corrective actions against a Utility, and the following guidelines have been prepared for that purpose.

2.16.1 FAILURE TO COMPLY

The Region Engineer or Project Engineer may issue a written stop order to a Utility that has failed to act in compliance with the conditions of its approved permit or agreement. The stop order will state and describe in detail each condition or action not in compliance. Upon correction of the non-compliance, the Region Engineer will rescind the stop order in writing.

2.16.2 CONTINUED FAILURE TO COMPLY

Where the Department finds that the Utility has continued to abuse any of the conditions specified in the preceding paragraph, and upon recommendations of the Region Engineer, the Department's Maintenance Engineer may revoke the Utility's permit, or the Director may revoke the Utility's agreement. In drastic instances, the Department may refrain from issuing any additional permits or agreements until the Utility is compliant with the requests of the State.

2.16.3 FAILURE TO SECURE PERMIT OR AGREEMENT

Where the Department finds that a utility is relocating, adjusting, or making new installations within the ROW without having secured an approved permit or agreement, the Region Engineer will order, in writing, a complete and immediate stop of all unpermitted utility work. The stop of work will remain in effect until the Utility has submitted a permit or agreement application, and the application has been completely approved. Actions in this manner can cause the Utility to lose the privilege for locating on State ROW moving forward.

2.16.4 ORDER TO REMOVE

The Department through its Director is empowered to order the removal of utilities which have been installed without permit or agreement, which have been installed improperly, which have damaged the facilities of other Utility entities, or which otherwise do not meet the provisions of this document. Should the Utility fail to satisfactorily remove such facilities and to restore the ROW to its original condition, the Department may choose to conduct the removal and restoration process itself and will require compensation from the Utility.

2.16.5 RESTORATION OF DAMAGED FACILITIES

The Utility is responsible for reconciling any conflict with the facilities and plant of any other Utility within the ROW, considering the prior rights established by each. Damage inflicted to other Utility facilities or physical plant must be corrected by the Utility at fault.

2.16.6 EMERGENCY CONDITIONS

The Department recognizes that in emergency situations it may be necessary to immediately commence maintenance, repair, or other actions to protect the safety of the public. In these cases, the Utility will notify the Department as promptly as possible. When the emergency condition is under control, the Utility will take actions to bring the situation into compliance with the provisions of this document. Once the emergency condition has subsided, the Department may stop the Utility's actions, or otherwise enforce the conditions of this policy, if the Utility fails to comply.

2.17 PERMITS

2.17.1 WHEN REQUIRED

Permits are required for many purposes. The following listing is not all inclusive, but several of the most common conditions for which permits are required are illustrated by the following:

1. New installation of utilities
2. Major modifications to existing utility facilities
3. A change in transmittants, or increase in operating pressure above that originally approved by the Department, or any change in type, function, or physical location of a facility
4. Aerial service connections, or accessory equipment, or wire substitution, or addition to existing poles, or to supporting structures crossing any traveled portion of a freeway or highway

Prior approval by the Department is required before any of these actions can begin.

2.17.2 WHEN NOT REQUIRED

Permits are not required for many types of common situations. However, written notification by the Utility, to the Region Engineer, will be required. The exceptions below will be performed with no significant interruption of normal traffic flow and must be approved by the Region Engineer. Permits are not required for the following list of example conditions:

1. Sub-surface service connections not paralleling or crossing any traveled portion of the highway (short side service) and aerial service connections not requiring additional supporting structures within the ROW on highways other than freeways (short side services)
2. Normal maintenance operations (work required to keep the existing facility in a state of good repair without adding to its physical makeup or changing its functional capacity)
3. Passing through or in conduits or pipe encasements already in place where the additional installation does not require the physical disturbance of the surface or sub-surface of the ROW, and does not change the type, nature, or operating conditions of the originally approved facility

2.17.3 EXPIRATION OF PERMIT

If a Utility does not install a facility covered by a permit within one year of the written authorization to proceed with such installation, the Utility may request (in writing) an extension of up to one year without having to file a new permit application. If the extension is not approved, or if the extension is granted but the project is not accepted before the expiration of the extended period, then the original permit is revoked and a new authorization for the installation of the facility must be obtained from the Department.

2.17.4 BEGINNING OF WORK OR WEEKEND/HOLIDAY WORK — NOTIFICATION

The Utility will notify the Region Engineer in writing at least 24 hours prior to beginning work on any installation covered by a permit or agreement with the Department. When the Utility desires to work on highway ROW on weekends or holidays, it will secure permission of the Region Engineer 48 hours in advance of the time it plans to begin work.

2.17.5 FINAL INSPECTION

The Utility will notify the Region Engineer in writing when it considers the work to be completed. The Region Engineer or his representative will inspect the work promptly and either accept or reject it. When the Region Engineer or his representative considers the restoration and cleanup of the ROW to be satisfactory, he will notify the Utility in writing. The Utility's responsibility for the work will remain in effect for one year from the date of acceptance and will include all portions of the ROW affected by the Utility's facilities. Typical concerns are settled trenches, erosion, and exposed pipelines.

2.18 OVERHEAD POWER AND COMMUNICATION LINES

2.18.1 TYPE OF CONSTRUCTION

Several criteria pertinent to the type of overhead lines that will be allowed are presented in the following list:

1. Any longitudinal installations of overhead lines on the highway right of way will be limited to the single-pole type of construction.
2. Joint use of single-pole construction is encouraged where more than one utility is involved, especially at locations of reduced ROW width.
3. Only one longitudinal pole line will be allowed, and this will be restricted to only one side of the highway.
4. Power lines installed on single-pole construction shall be limited to 40 kV or less.

2.18.2 VERTICAL CLEARANCE

The minimum vertical clearance for overhead power and communication lines above the highway, and the lateral and vertical clearances from bridges will conform with the [*National Electrical Safety Code \(NESC\)*](#) of the U.S. Bureau of Standards, latest edition. Techniques and terminologies for making measurements will be in compliance with the NESC. In no instance will an aerial crossing have less vertical clearance over the highway than *18 feet* or less than NESC clearances across other terrain. Utilities shall check the NESC for appropriate vertical clearances for each installation and certify compliance.

2.18.3 LOCATION

RURAL AREAS

On and along conventional highways in rural areas, pole lines and related facilities will be located as near as practical to the ROW line. As a minimum the poles will be located outside the clear roadside area for the highway section involved.

URBAN AREAS

In keeping with the nature and extent of roadside development along conventional highways in urban areas, facilities will be located as near as practical to the ROW line. In curbed sections the utilities will be located as far as practical behind the face of the outer curb, and, where feasible, behind the sidewalks. As a minimum, the poles will be placed outside the clear roadside area for the highway section involved.

NARROW URBAN ROW

Location of overhead utility installations on highways with narrow ROW or on urban streets with closely abutting improvements are special cases which must be resolved in a manner consistent with the prevailing limitations and conditions. Before a utility is located at locations other than the ROW line, consideration will be given to designs employing self-supporting, armless, single-pole construction with vertical alignment of wires or cables, or other techniques permitted by governmental, or industrial codes conducive to a safe traffic environment. Exceptions to these clearances may be made where poles and guys can be placed at locations (1) behind guard rails, (2) beyond deep drainage ditches, (3) beyond the toe or top of steep slopes, (4) beyond retaining walls, or (5) at other similar, protected locations.

GUY WIRES

Guy wires to ground anchors and stub poles will not be placed between a pole and the travelway where they encroach upon the clear roadside area. Guy wires inside the highway ROW will be avoided wherever it is feasible to do so. Guy wires to ground

anchors located within the ROW will be protected with a shield to prevent their being cut during roadside grass cutting operations, or to prevent personal injury to maintenance personnel who might run into them.

IRREGULAR ROW

Where irregular-shaped portions of the ROW extend beyond the normal ROW limits, variances in the location from the ROW line will be allowed to maintain a reasonably uniform alignment for longitudinal overhead and underground installations, so long as they do not adversely affect the maintenance operations of the ROW or impinge upon the clear roadside area.

MEDIAN

Longitudinal installations of poles, guys, or other related facilities will not be located in a highway median. On crossings of the highway no facility will be located in a freeway median nor in a highway median less than 80' in width. Poles and other appurtenances for highway lighting may be located in the (non-freeway) median if other alternatives are determined to be impractical, and if suitable protection is provided to the highway user.

BRIDGE CLEARANCES

Aerial power or communication lines will not cross over bridges where it is possible to avoid such installations. This is necessary to allow the Department sufficient room to operate equipment to maintain bridges. Lateral clearance from a bridge will be sufficient to allow construction and maintenance of the bridge structure. A minimum vertical clearance of *25 feet* from the top of the barrier rail will be maintained. A minimum horizontal clearance of *25 feet* will be maintained from the neat lines of the structure. Note: these are minimums, and there may be circumstances where utilities are required to be farther away from the structure. In no instance will the lateral and vertical clearances from bridges be less than those required by the [*National Electrical Safety Code \(NESC\)*](#), of the U.S. Bureau of Standards, latest edition.

2.19 PIPELINE GUIDELINES

The Department has adopted the general guidance of the [*AASHTO Accommodation Guide*](#) for pipeline relocations, installations, and accommodations, supplemented, where necessary, by the Department to reflect its experience and the need for compatibility with local conditions.

2.19.1 LOCATION AND ALIGNMENT

ANGLE OF CROSSING

The angle of all crossings will be based on economic consideration of practical options. The crossing will be located as nearly perpendicular to the highway alignment as practicable.

UNSUITABLE CONDITIONS

Conditions which are generally unsuitable or undesirable for pipeline crossings will be avoided. Examples of these types of locations include deep cuts; locations near footings of bridges, culverts, and retaining walls; across at-grade intersections or ramp terminals; at cross drains where flow of water, drift, or stream bed load may be obstructed; within basins of an underpass drained by a pump if the pipeline carries a liquid or liquefied gas; and in wet or rocky terrain where it will be difficult to attain required bury. This list is illustrative and is not intended to be all-inclusive.

PARALLEL LOCATIONS DESIRED

On longitudinal installations, utility locations parallel to the pavement at or adjacent to the ROW line are preferable to minimize interference with (1) highway drainage; (2) structural integrity of the travelway, shoulders, and embankment; and (3) the safe operation of the highway. As a minimum, their lateral location will, where practical, be offset a suitable distance beyond the slope, ditch, or curb line to ensure the structural quality of the highway is not impaired.

Where the ROW line follows an irregular pattern, consideration will be given to reasonable alignment for pipelines and pole lines.

NEAR ROW LINE

Utility installations will normally be placed within *5 feet* of the ROW line. In those situations where the Utility believes that such location is not practicable and proposes another location, the permit plan or sketch must include a satisfactory explanation for such placement.

NOT IN SHOULDER OR MEDIAN

Utility installations will not be allowed in the highway shoulder nor in the median. When a road is changed from two-lane to four-lane, all reasonable efforts will be made to clear the median of all utilities.

MAINTENANCE CLEARANCES

Vertical and horizontal clearances between a pipeline and a structure, a highway facility, or a utility facility will be sufficient to permit maintenance of the highway and the pipeline. A minimum clearance between the near edge of a structure and a pipeline is required to allow sufficient room for maintenance of the bridge or culvert footing. This dimension will be established on a project by project basis. In extreme cases where ROW is limited, the Utility may be forced to go under the drainage facility. An underground utility's crossing of a stream or river will have a minimum horizontal clearance of *25 feet* to any footing.

REVIEW REQUIRED

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

2.19.2 BURY OF PIPELINES

The critical controls of bury on a pipeline crossing are the low points in the highway cross-section. Usually these are the bottoms of the longitudinal ditches as shown on [Figure 2-1](#). In establishing the depth of bury below an unpaved ditch, consideration will be given to potential increases in ditch depth from scour, ditch maintenance operations, or the need to increase the capacity of the ditch. On longitudinal installations the critical controls for bury are usually the depths of lateral drainage facilities, landscaping, buried utility lines, bridge structures, and likely highway maintenance operations. The minimum required bury of pipelines within the States ROW are explained in the following paragraphs:

UNDER DITCHES

The minimum bury under ditches will be *3 feet*. Where desired, additional buried depth may be required.

UNDER PAVEMENT

Where ditches are not involved, such as on curb and gutter sections, the minimum required bury under pavement for new or relocated installations will be *4 feet*. Where desired, additional buried depth may be required.

OTHER SITUATIONS

The minimum bury for utility installation within the ROW in other situations will be *3 feet* on all types of highways. When installations must pass beneath highway drainage facilities, clearances will be approved on a project by project basis depending on the type of utility involved.

MINIMUM BURY NOT POSSIBLE

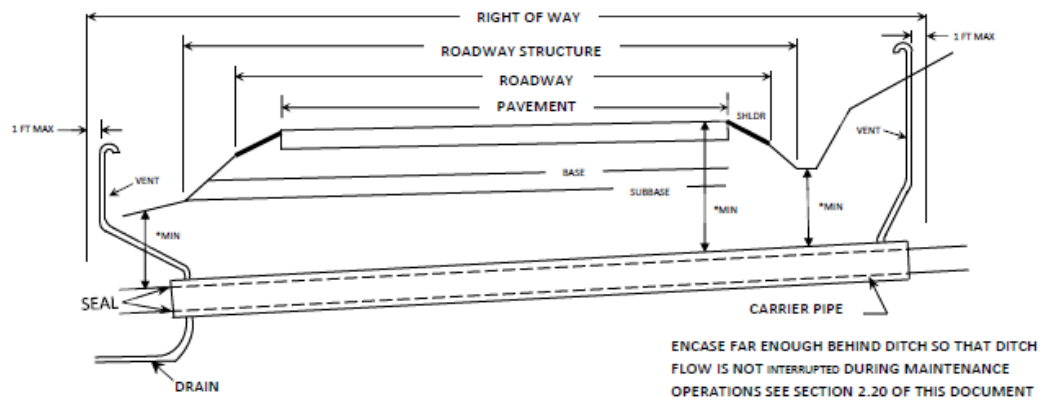
Where less than minimum prescribed bury is necessary because of other utilities, water table, ordinances, or similar reasons, the pipe will be protected with a casing or concrete slab not in contact with the pipeline, or other suitable measures acceptable to the Department. Where less than minimum prescribed bury is necessary, a variance must be approved, and the Utility bears the responsibility of justifying that minimum bury cannot be obtained and of supplying the Department with sufficient documentation to verify the pertinent circumstances in support of the request.

HAZARDOUS TRANSMITTANTS

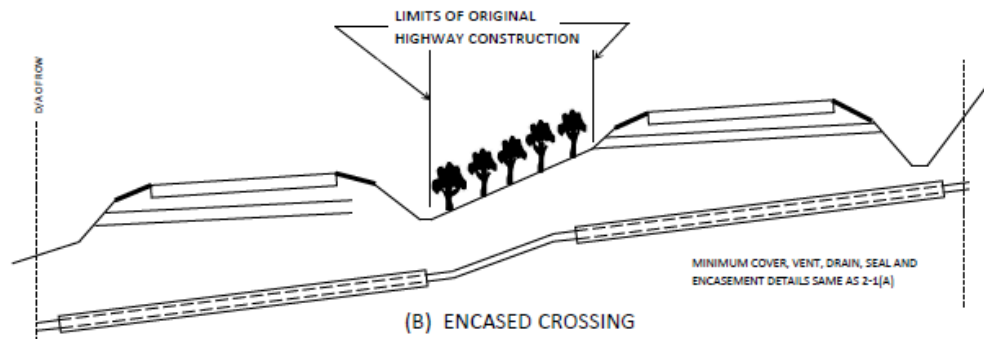
Cover for pipelines carrying transmittants which are flammable, corrosive, expansive, energized, or unstable will not be granted a variance for the minimum prescribed bury outlined in these standards.

NATIONAL AND LOCAL CODES

The Utility will not place a facility with less than the minimum depth required by national, state, local, or other applicable industrial codes governing the particular type of transmittant. A partial list of accepted industrial codes may be found in [§ 2.9](#) and [Chapter 5](#) of this manual.

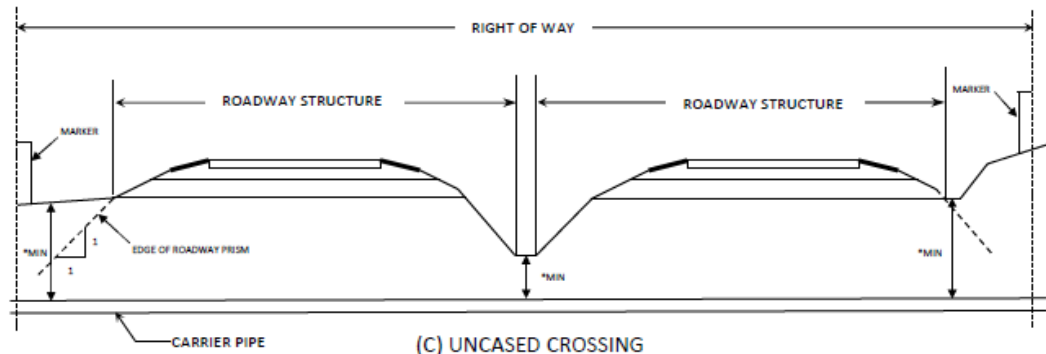


(A) ENCASED CROSSING



(B) ENCASED CROSSING

FOR THE BIFURCATED ROADWAY ABOVE. ENCASEMENT IS NOT REQUIRED ACROSS THE NATURAL TERRAIN. HOWEVER, ENCASEMENT IS CONTINUOUS ACROSS A TYPICAL DIVIDED ROADWAY.



(C) UNCASED CROSSING

FIGURE 2-1

EXAMPLES OF FEATURES FOR PIPELINE CROSSINGS

2.19.3 ENCASEMENT

The Department requires the encasement of all utility facilities placed under the highway unless otherwise exempted within this manual, or unless a utility obtains approval to forego encasement. The encasement maximizes safety of traffic and structural integrity of the highway. Where a utility desires to place a facility under the highway prism without encasement, it must file a variance request. The Department places the burden of proof on the Utility if it contends that encasement is unnecessary. The following controls are provided for encasement of pipeline crossings of the highway.

WHERE REQUIRED

Casings may be required for the following conditions and in other instances when indicated by the Department:

1. If expedient for the insertion, removal, replacement, or maintenance of carrier pipe crossings of freeways, expressways, and other controlled access highways, and at other locations where it is necessary in order to avoid open-trenched construction
2. As protection for carrier pipe from external loads or shock either during or after construction of the highway
3. As a means of conveying leaking fluids away from the area directly beneath the traveled way to a point of venting at or near the ROW line, or to a point of drainage in the highway ditch or a natural drainage way

Encasement or other suitable protection may also be required for any pipeline (1) with less than minimum bury, (2) near footings of bridges or other highway structures or across unstable or subsiding ground, or (3) near other locations where there may be hazard.

TRANSMITTANTS TO BE ENCASED

Where the Utility cannot give satisfactory assurance to the Department that the highway user and the highway structure are adequately protected without the use of encasement, casing will be required for (1) pressurized carrier pipes crossing under major highways, and (2) carriers of transmittants which are flammable, corrosive, expansive, energized, or unstable, particularly if carried at high pressure or potential.

COATED PIPE

If coated pipe is used for jacking or boring, the same pipe may not be used for a carrier pipe unless a method is devised to ensure that there is no damage to the pipe coatings.

PAVEMENT SUPPORT

Rigid encasement or suitable bridging will be used where support of pavement would be impaired by depression of flexible carrier pipe. [Figure 2-2](#) illustrates this process.

STRUCTURAL DESIGN

Casings will be designed to support the load of the highway plus any superimposed loads. They will equal or exceed the structural requirements for highway drainage facilities. Casings should be composed of materials of satisfactory durability for conditions to which they may be exposed.

LENGTH OF ENCASEMENT

Where encasements are used they will (where practical) extend (1) as far from the toe of the fill slope as the depth of the pit required to install or maintain the encasement and pipeline or (2) back of the ditch far enough to allow the ditch to function as a drain while the pit is open for the installation of the encasement and carrier pipe or (3) far enough to pull the carrier pipe and prevent water from the ditch from getting into the encasement or subgrade of the highway during construction or maintenance operation.

On curbed sections, encasement will extend outside the outer curb to a point far enough that the face of the pit (to install or maintain the encasement or pipe) will not be closer than *6 feet* from the face of curb. Where appropriate, the encasement will extend to the access control line, to the outside of frontage roads, or to an indicated line that allows for future widening of the highway.

SEAL

Casing pipe will be sealed at the ends with an approved flexible material to prevent flowing water and debris from entering the annular space between the casing and the carrier.

APPURTENANCES

The installation will include necessary appurtenances such as vents and markers. Where possible on crossings the vents will be located at the ROW line so that they serve as markers for the pipeline crossing of the highway. (See [Figure 2-1](#)).

2.19.4 ALLIED MECHANICAL PROTECTION FOR ENCASEMENT

For a few situations, pipeline crossings may be installed without encasement. Normally such an installation is limited to open-trenched construction and service lines with inside diameter less than or equal to 2 inches. Examples of encasement and allied mechanical protection are shown on [Figure 2-3](#). The guidance in the following paragraphs applies when providing allied mechanical protection to uncased pipeline crossings of the highway.

CARRIER PIPE DESIGN

On uncased construction, the carrier pipe will conform to the material and design requirements of appropriate utility industry and governmental codes and specifications. In addition, the carrier pipe will be designed to support the load of the highway plus any superimposed loads when the pipe is operated under all its intended ranges of pressure. The installation will employ a higher factor of safety in the design, construction, and testing than normally would be required for cased construction. On new installations, or for retention of existing utility facilities under proposed highway construction, the utility's engineer, in accordance with the provisions of the state laws and regulations that regulate the practice of engineering in the State of Alabama, will certify to the Department that these facilities provide maximum reasonable protection to the highway facility, and minimum potential maintenance of the utility and highway facilities.

PROTECTION OF EXISTING PIPELINES

Suitable bridging, concrete slabs, or other appropriate measures will be used to protect existing uncased pipelines if shallow bury or their location make them vulnerable to damage from highway construction or maintenance operations. [Figure 2-2](#) illustrates an example of the protection methods. Existing pipelines may remain in place without further protective measures if they are of adequate depth and do not conflict with highway construction or maintenance operations provided that both highway and utility officials are satisfied that the lines are and will remain structurally sound and operationally safe.

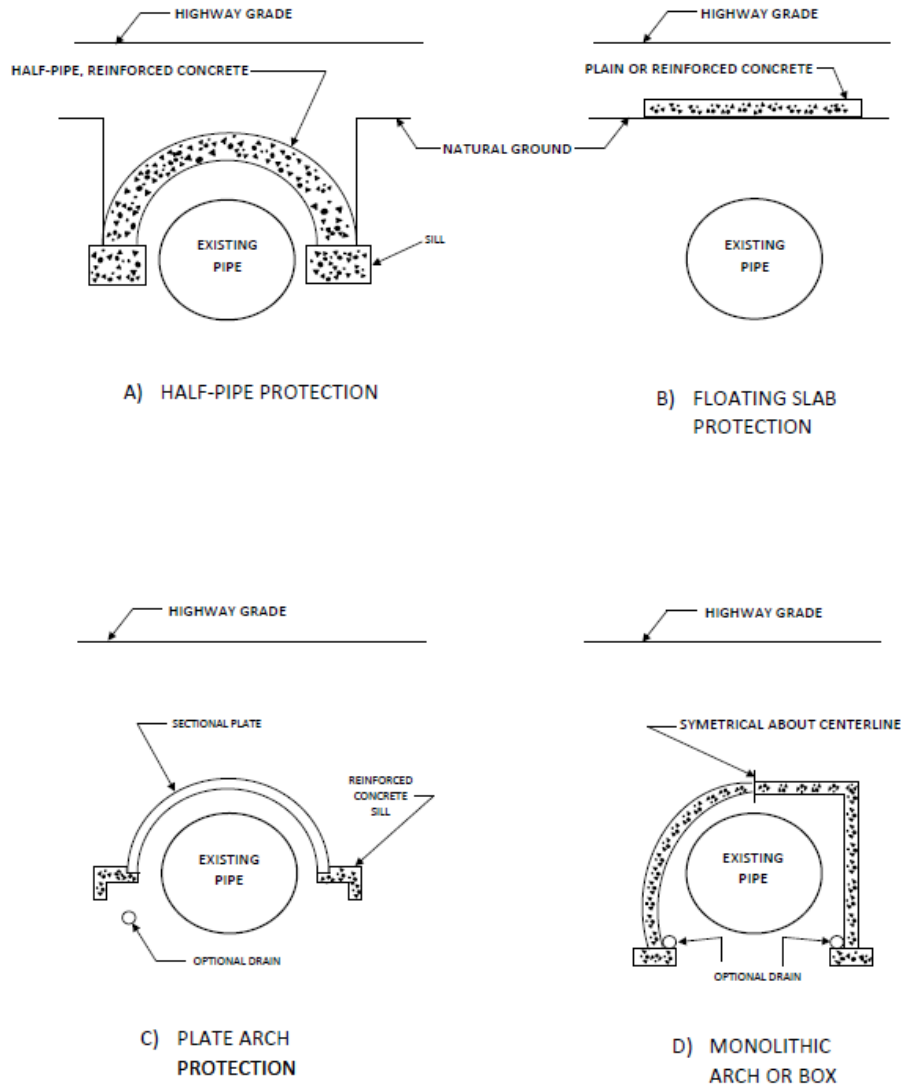


FIGURE 2-2
EXAMPLES OF PROTECTION OF EXISTING PIPELINES

Chapter 2 General Guidelines and Procedures

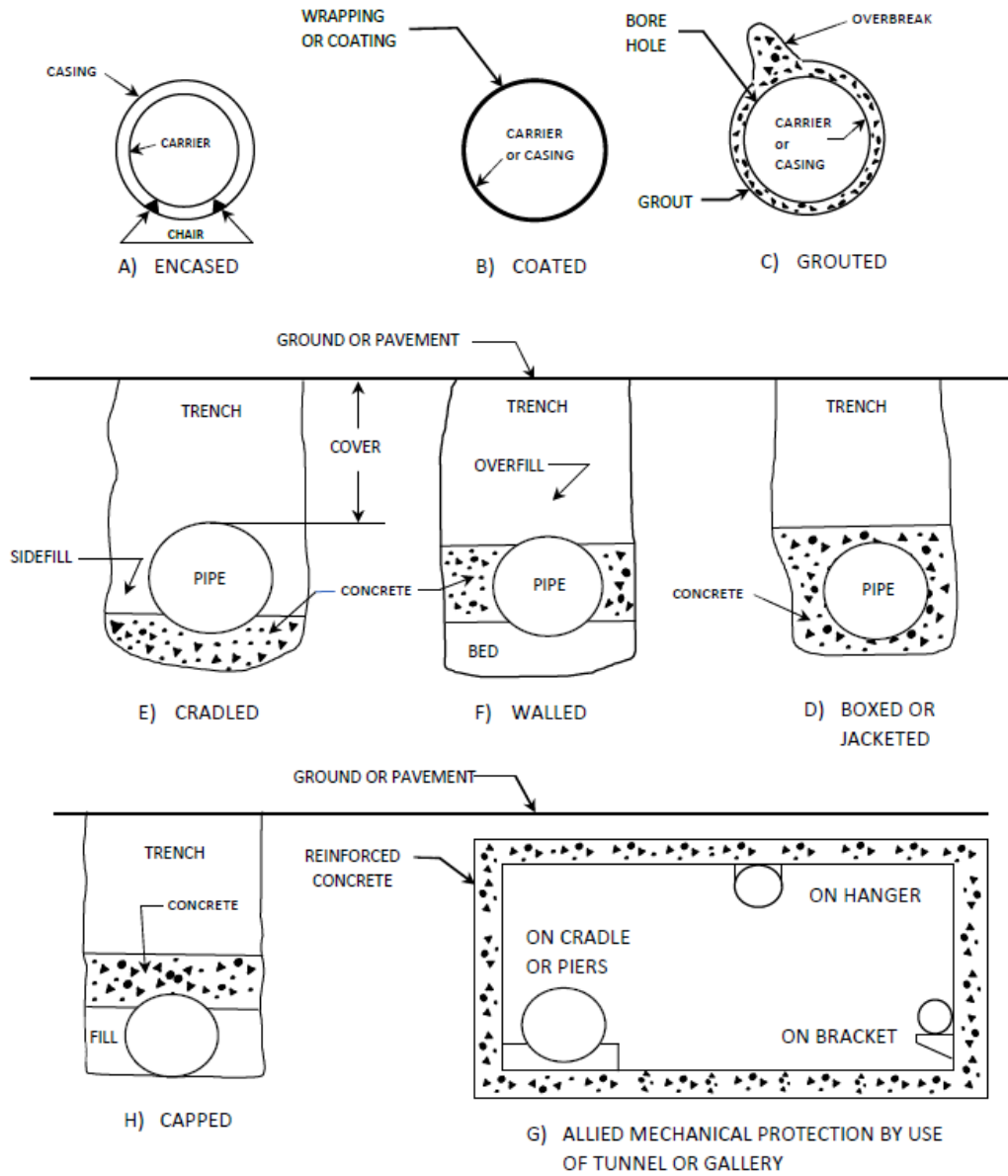


FIGURE 2-3
 EXAMPLES OF ENCASEMENT AND ALLIED
 MECHANICAL PROTECTION (FROM AASHTO, 1994)

IN LIEU OF ENCASEMENT

Uncased crossings of welded steel pipelines carrying transmittants which are flammable, corrosive, expansive, energized, or unstable, particularly if carried at high pressure or potential, may be permitted, provided additional protective measures are taken in lieu of encasement. These measures will employ a higher factor of safety in the design, construction, and testing of the uncased carrier pipe. Thicker-wall pipe, radiograph testing of welds, hydro-static testing, coating and wrapping, and cathodic protection are some of the features that will be included in the design. The Utility bears the responsibility of documenting to the Department that such treatment provides safety equivalent to, or exceeding, that of a cased crossing.

In order to place an uncased carrier under a highway facility, a variance request is required for both reimbursable and non-reimbursable adjustments. A variance request is required prior to, or with a request for authorization of relocation assemblies and/or permits. Variance requests for uncased crossings will not be approved subsequent to authorization of relocation plans and permits which show cased crossings.

The Utility bears the responsibility of demonstration to the Department that an uncased crossing is in the best interest of the public, the Department and the Utility. Consideration should be given to the cost of installation and cost of future maintenance, as well as the interest of the Utility's facility. Each variance request shall be evaluated based upon individual merit.

Each variance request must include, but may not be limited to, the following minimum requirements:

A. Design, Construction, Testing

Additional protective measures shall be taken in lieu of encasement in the design, construction, and testing of uncased carriers. Measures shall include, but shall not be limited to:

1. Higher factor of safety in the design, construction, and testing of uncased carriers
2. Welded steel pipe
3. Thicker walled pipe
4. Radiographic testing of welds
5. Hydrostatic testing
6. Coating and wrapping
7. Protective concrete slabs under ditch lines
8. Cathodic protection

B. Professional Engineer's Certification

A qualified Professional Engineer shall certify the following:

1. The carrier will be designed to withstand all internal and external stresses, during and after construction operations, and during any subsequent maintenance operations.
2. The carrier will be designed, constructed and tested in accordance with all applicable federal and state requirements and in compliance with accepted industry standards.
3. The uncased crossing provides a degree of safety equal to or greater than an encased crossing.

C. Utility's Certification

A certification will be required from the Utility stating that the uncased carrier will be designed, constructed, tested, and maintained in accordance with all applicable federal, state, and local requirements.

Additional requirements may be needed on a case by case basis.

ENCASEMENT ALTERNATIVE FOR NATURAL GAS PIPELINES

An alternate allowing uncased crossings will be allowed for natural gas pipelines greater than 2" in diameter when the following requirements are met:

1. Minimum cover of 5' under ditches and other points on the ROW and 6' under the pavement.
2. Pipe wall thicknesses is two incremental wall thicknesses greater than the design thickness as per Title 49, CFR [192](#) and [195](#).
3. The length of the increased thickness equals that of an encased crossing design for the site.
4. The pipe shall have a fusion bond epoxy protective coating. If installed through directional drilling, an abrasion resistant coating is required over the fusion bond epoxy coating.
5. Shall not be installed by jack and bore.
6. Cathodic Protection is required.
7. Welded steel pipe shall be used.
8. Radiographic testing done on all welds.
9. Post installation pressure testing is required.
10. Depth of uncased crossing under an interstate highway is at a minimum depth of 10' at any point on the ROW.

UNCASED SERVICE LINES

Uncased service-line crossings of continuous-roll, type "K" copper pipelines with inside diameter *2 inches* or less may be permitted. Uncased service-line crossings with inside diameter not greater than *2 inches* may be permitted for natural gas service lines provided wrapped or coated steel pipe is used. Otherwise, all water and gas service lines will be encased. Joints in uncased service lines will not be allowed under the roadway prism. PVC or PE encasement, with nominal size less than or equal to *4 inches*, will be allowed for water service lines. Such encasement shall be Class 200 or higher.

Service lines for water and gas serve no more than two customers.

UNCASED PIPE MATERIALS

Where trenched construction and backfill is allowed by the Department, uncased water lines or sanitary sewers may be allowed within the highway structure provided that ductile iron pipe is used.

MAINTENANCE OF UNCASED LINES

Where the Utility justifies not casing its facilities crossing the highway structure and the Department issues a permit accordingly, the Department considers such approval to be prima facie evidence that the utility owner will not open cut the highway structure for the purpose of maintaining the facility except in emergency situations. An emergency is a situation which threatens the safety of the public. Where emergency situations require the highway be open cut, the Utility will promptly notify the Region Engineer, and at the same time exercise every reasonable means to ensure the safety and convenience of the traveling public.

If failure occurs in an uncased crossing, the Department may require the Utility to abandon the failed crossing and to replace it by boring, jacking, or other methods to avoid damage to the pavement or base structure.

2.19.5 APPURTENANCES

Vents, drains, markers, manholes, and valves are examples of appurtenances to pipeline installations. Controls for use of appurtenances include the following.

VENT STANDPIPES

Where used, vent standpipes will be located and constructed so they do not interfere with maintenance or use of the highway and so not concealed by vegetation. Preferably, they will be placed from 0 to *1 foot* inside the fence or ROW line. An example is shown on [Figure 2-1\(a\)](#). In urban areas, vents will be allowed only where they do not affect pedestrian traffic.

In the situation where a gas pipe is lined (for example, a new plastic liner may be placed inside an existing galvanized pipe) and there is no space between the liner and the pipe, this pipe does not qualify as encased pipe and no venting is required.

DRAINS

The Utility will provide drains for casings, tunnels, or galleries enclosing carriers of liquid, liquefied gas, or heavy gas. Drains may outfall into roadside ditches or at locations approved by the Department. The outfall will not be used as a wasteway for purging the carrier unless that is specifically authorized.

MARKERS

The Utility will place readily identifiable and suitable markers along or within *1 foot* of the ROW line to indicate the location of the underground utility crossing. Example markers are shown in [Figure 2-1 \(c\)](#). The marker will show an accurate offset to a longitudinal utility installation within the highway ROW. Markers will be placed at spacing, agreed-upon by the utility company and the Region Engineer, depending upon the type of installation and its potential hazard to the highway user, the highway structure, the highway ROW, maintenance personnel working on the highway ROW, or the facility itself. Where curb-and-gutter highways are involved, an exemplary, suitable marker may be a metal plate or disc affixed to the curb. Vent pipes also may serve as a marker for these crossings. If free-standing markers are used, they will be of sufficient height for visibility during mowing operations.

MANHOLES

The structures will be designed and located to cause the least interference to other utilities and future highway expansion. Every effort should be made to minimize manhole installations at street intersections and in the normal wheel path of driving lanes.

All access manhole rings and covers installed within the State ROW will be the traffic-bearing type. When manholes are allowed to remain inside the paved area, the Utility will be responsible for adjusting manhole or valve-box covers in conjunction with resurfacing operations by the Department. Telephone junction boxes and similar appurtenances located outside the paved area should be able to withstand an HS-20 truck loading.

VALVES

To isolate the crossing, valves will be installed in lines at or near ends of structures and near unusual hazards unless hazardous segments can be isolated within a reasonable distance by other readily available sectionalizing devices. Automatic shut-off valves are preferred unless the Utility shows that such installation could be hazardous or have adverse effects on the utility system.

CATHODIC PROTECTION LOCATION

Cathodic protection for pipelines will be placed by the utility owner at locations that preclude damage to highway bridges, reinforced concrete culverts, or other structures.

DETECTION OF NON-METALLIC PIPE

When installing non-metallic pipe underground the utility owner will install suitable markers that will enable the pipe to be located by electronic detection devices. Metallic tape or 12-gauge copper wire may be used for this purpose.

2.19.6 RESTRICTION AGAINST VARIED USE

Subject to safety regulations adopted by the State of Alabama or the Federal government, the following precautionary measures apply to pipeline installation.

REQUIRED INFORMATION

Pipeline installation, relocation permits, and agreements will specify the class of transmittant; the maximum working, test, or design pressures; and the design standards for the carrier.

CHANGES

When it is anticipated there will be a change in the class of transmittant, or an increase in the maximum design pressure specified in the permit or agreement, the Utility will give the Region Engineer advance notice and obtain approval for such changes. The notice will also specify the applicable codes to be used.

The operating pressure for gas and water systems will be allowed to vary as long as it does not exceed the design strength of the pipeline. Such variations as are reasonable will not be considered to be changes in pressure.

2.19.7 INSTALLATION

TRENCHED CONSTRUCTION AND BACKFILL

The integrity of the pavement structure, shoulders, and embankment slopes are the primary concern for this type of construction. The following guidelines have been prepared to address this concern:

TRENCHES

Where trenches are used, the shape and shoring will meet [Occupational Safety and Health Act \(OSHA\)](#) standards.

BEDDING

Bedding will be provided to a depth of 6 inches or half the diameter of the pipe, whichever is smaller. Bedding will consist of granular material free of lumps, clods, stones, or frozen materials and will be graded to a firm but yielding surface without abrupt change in bearing value. Unstable soils and rock ledges will be excavated from the bedding zone and replaced by suitable materials or stabilized in place. The bottom of the trench will be prepared to provide the pipe with uniform bedding throughout the length of the installation. The Region Engineer may waive the bedding requirement if the existing material in the bottom of the trench is satisfactory to provide uniform bedding of the pipe.

BACKFILL

When placed under the highway prism, backfill will conform to the Department's [ALDOT Standard Specifications](#) in force at the time of installation. If the Region Engineer is uncertain of the backfill density, he will notify the Utility and have Department personnel perform appropriate density tests. The owner will be charged the actual costs of the tests.

Backfill inside the highway ROW but not under the highway prism will be compacted to a density at least equal to the density of the surrounding soil. This will be accomplished by the use of tools and methods approved by the Region Engineer.

STATE FORCES

In some instances, the Department may require that backfill or paving be performed by its own forces, or under its direction, at the expense of the Utility, when the Region Engineer considers it to be necessary for the protection of the traveling public or the highway structure.

PAVEMENT STRUCTURE

The pavement structure will be restored in appropriate layers, utilizing materials at least equal in quality and thickness of layer as the original construction.

SIDE ROADS AND PRIVATE ROADS

Underground installations placed parallel to highways under the Department's jurisdiction, and which cross side roads and private drives within the normal State ROW, will be installed and maintained under the same standards as State-controlled routes. Full consideration will be given to the highway user, property owner, side roads, and private drives so they are not blocked without the consent of the Region Engineer, who may wish to take into consideration the desires of the property owner. In general, the standards or requirements for crossing side roads and private drives within the normal highway ROW will be the same as those crossing the highway itself except where written permission from the Region Engineer is given in particular cases.

For side roads and private drives, the following criteria give the method of installation:

1. If the road or street is unpaved, the utility may be installed by open cut and backfill in accordance with these accommodation standards.
2. If a paved road or street has an average daily traffic (ADT) less than 500, the utility will be installed by boring, but it normally will not be encased.
3. If a paved road or street has an ADT greater than 500, the utility will be installed by boring and encasing in accordance with the requirements found in these standards.
4. Private driveways and wide commercial-establishment paved aprons (such as for convenience stores and gas stations) represent special cases. They may be open cut with permission of the Region Engineer, providing that access to the commercial establishment can be maintained during the process. In making the decision, the Region Engineer may wish to honor the desires of the property owner.

BLASTING

Any blasting within the highway ROW will be in compliance with the blasting guideline in this chapter ([§ 2.5](#)) and will be approved in the permit or agreement

OPEN SURFACE ROADS

When a utility facility is installed across or under the highway prism of an open surface road, the backfill and riding surface will be restored as specified by the Region Engineer.

UNTRENCHED CONSTRUCTION AND GROUTING

The following guidelines have been prepared to control the placement of pipelines that are installed using techniques other than trenched construction.

DRIVING

Pipe driving generally is possible only in very favorable soil conditions. This method may be permitted for pipes up to *3 inches* outside diameter. For depth of cover exceeding *6 feet* driving may be permitted for pipes up to *5 inches* outside diameter where soil conditions will permit.

CORING

No sluicing will be permitted within the highway prism during coring activities.

WET-BORING

Wet boring or excavations which utilize high pressure fluid or hydro-jets is not currently an approved method for installation of pipelines underneath the highway. Utilities desiring to use this method must file a variance request. The addition of free water, which is not under pressure and is used as a lubricant to free an auger bit jammed in the borehole, will not be considered "wet-boring", and will not require a variance, as long as the engineer is satisfied that the structural integrity of the highway will not be impaired.

TRENCHLESS TECHNOLOGY

Methods of boring and tunneling which utilize the addition of environmentally safe lubricants, or drilling mud, will not be considered "wet-boring", and will not require a variance as long as the engineer is satisfied that the structural integrity of the highway will not be impaired.

PORTALS

Portal limits will be *6 feet* back of the face of curb or outside the highway prism.

OVERSIZE BORING AND GROUTING

The Utility will restrict the oversize of the boring excavation to a reasonable minimum. Any void created by the boring process shall be grout backfilled.

UTILITY TUNNELS AND BRIDGES

Where these installations are justified, they will conform to the culvert and bridge practice of the Department. Since the need for these installations is rare each request will be handled on case by case basis.

2.19.8 RETENTION AND RELOCATION OF EXISTING PIPELINES

The Department has provided the following controls to govern the disposition of existing pipelines that fall in the path of highway construction projects.

RETENTION

An existing facility may be retained provided (1) it meets all the requirements of codes and standards for safety of the utility facility, the highway contractor, and the finished highway or (2) it can be protected in place. [Figure 2-2](#) illustrates several acceptable types of protection.

ADJUSTMENT

An existing pipeline will be relocated in plan or grade where (1) the pipe bedding will be depressed by highway loads, (2) the top of the pipe is too close to the highway grade, or (3) the pipeline is too weak to support highway loads and cannot be adequately protected in place.

HIGHWAY CONSTRUCTION OPERATIONS

In cases where normal highway construction operation may endanger a pipeline to be retained in place, the Project Engineer will contact the Utility and have the pipeline location identified precisely in line and grade. Temporary protection (such as steel plates, timber mats or earth bridges) may be required until sufficient cover has been constructed or the danger period has passed.

2.20 PRESERVATION, RESTORATION, AND CLEAN UP

2.20.1 TEMPORARY EROSION CONTROL

The temporary erosion control methods used by the Utility will comply with [ALDOT Standard Specifications](#), applicable special provisions, and [ADEM](#) water quality requirements in effect at the time the work is performed.

2.20.2 DISTURBED AREAS

The areas disturbed by utility installation or relocation will be kept to a minimum. The Utility will conform to the regulations of the [Environmental Protection Agency \(EPA\)](#) and the [Alabama Department of Environmental Management \(ADEM\)](#) in the installation and maintenance of its facilities. The methods used for restoration will be in accordance with ALDOT's *Standard Specifications*, all applicable special provisions, including special provisions for utility use and occupancy agreements. All solid sod or other cover which is disturbed by the Utility must be replaced in like kind by the Utility. The vegetation will be maintained for a sufficient length of time by the Utility to ensure a living and growing sod or cover.

The condition of the ROW at any time during (or after) the completion of the Utility's installation or maintenance operation is subject to the approval of the Region Engineer. Where drainage ditches must be obstructed temporarily, they will be restored to a passable state at the end of each construction day.

2.20.3 VEGETATION

Trees or shrubs to be cut or trimmed during a utility installation or relocation will be specified on the Utility's plans. No additional trees or shrubs will be cut, trimmed, sprayed, or damaged in the installation or relocation without the permission of the Region Engineer. Any damage to vegetation caused by the Utility beyond the scope of permission will be restored or replaced by the Utility. Where the Utility does not restore or replace adequately, the Department may do so and require compensation from the Utility.

Additional details of Department guidelines Utilities must comply with for spraying, cutting, or trimming vegetation may be found under the separate guideline for vegetation management (see [§ 2.28](#)). Utilities must comply with this guideline.

2.20.4 DRAINAGE

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

2.21 ROW ACQUISITION FOR HIGHWAY CONSTRUCTION

The acquisition will be in conformance with provisions of the [Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970](#), as amended, the current [Code of Federal Regulations](#), and the current [Code of Alabama](#). Utilities are able to locate on State ROW only when it is deemed that there is sufficient room for accommodation.

When a utility facility is located on private ROW (either by deeded easement or fee simple ownership) that is being acquired for the construction of a highway project, the Utility can choose either of the following: 1) to relocate onto their own newly purchased easement or property; or 2) choose to forfeit their prior rights designation and locate on State ROW (if sufficient space is available and pending approval from the Department).

2.22 SANITARY SEWERS

Sanitary sewers and other pipelines that operate by gravity flow require they receive priority among utilities within State ROW

2.22.1 GENERAL PROVISIONS FOR SANITARY SEWERS

The guidance in [§ 2.19](#) for pipelines is generally applicable to sanitary sewers. The Department will utilize the following portions of that topic in evaluating or providing for sanitary sewer pipelines:

1. Location and Alignment
 - a) Angle of Crossing
 - b) Parallel Conditions Desired
 - c) Maintenance Clearance

2. Bury of Pipelines
 - a) Under Ditches
 - b) Under Pavement
 - c) Other Situations
3. Installation
 - a) Trenched Construction and Backfill
 - b) Untrenched Construction and Grouting
4. Appurtenances
 - a) Manholes

2.22.2 SPECIAL CONSIDERATIONS

NPDES PERMIT

Permit applications for locating sanitary sewer lines on Department ROW will be accompanied by a letter from the [Alabama Department of Environmental Management \(ADEM\)](#) stating that the proposed sanitary sewer lines will not cause the applicant to be in violation of its [National Pollutant Discharge Elimination System \(NPDES\) permit](#).

TESTING OF LINES

The installation will be subjected to low air pressure tests in accordance with the latest standards of ADEM.

2.23 SCENIC ENHANCEMENT

The type, size, and spacing of utility facilities can alter substantially the scenic quality, aesthetic appearance, and view of the highway roadside and adjacent scenic areas. Additional controls are justified and necessary in certain areas to preserve and enhance the scenic nature of designated locations.

2.23.1 NEW INSTALLATIONS

New utility installations, including those inherent to highway purposes, such as for highway lighting, rest areas, or recreational areas, are not normally allowed on highway ROW or other lands, which are acquired or improved with Federal-aid or direct Federal highway funds and are located in or adjacent to areas of scenic enhancement or natural beauty. Such areas include public park and recreation lands, wildlife and aquatic refuges, historic areas as described in the United States Code ([23 U.S.C. 138](#)), scenic strips, overlooks, rest areas, and landscaped areas. The Department may allow exceptions to the above policy within the guidance established in the following paragraphs.

NEW FACILITIES

New underground or aerial installations may be allowed only when they do not require extensive removal damage, or alteration of trees or terrain features visible to the highway user, or when they do not impair the aesthetic quality of the lands being traversed.

NEW AERIAL INSTALLATIONS

New aerial installations will not be allowed at locations where there is a feasible and prudent alternative. When there is no such alternative, they may be allowed only when the following conditions exist:

1. Other locations are not available, or are unusually difficult and costly, or they are less desirable from the standpoint of aesthetic quality
2. Placement underground is not feasible technically, or is prohibitively cost
3. The proposed installation will be made at a location and would employ suitable designs and materials which give the greatest weight to the aesthetic qualities of the area being traversed (suitable designs may include but are not limited to, self-supporting, armless, single-pole construction with the configuration of conductors and cables in a vertical plane).

FREEWAYS

For new utility installations crossing freeways, all other freeway provisions in this manual must be satisfied, in addition to the considerations in the preceding paragraphs. Longitudinal facilities are not allowed on the ROW.

DOCUMENTATION REQUIRED

Utility owners desiring to place utilities within the scenic areas outlined in this guideline bear the responsibility of demonstrating to the Department they have met the conditions for issuance of such permit by submitting appropriate documentation addressing each pertinent item in this policy statement.

2.24 STAKING OF PROPOSED UTILITY FACILITY

2.24.1 PERMIT OR AGREEMENT APPLICATION

During the permit or agreement application process, the Utility may be required to stake the proposed location of any new, relocated, or adjusted facility. For example, the Utility may be asked to stake the proposed line when it requests the initial visit from the Department's representative for review of potential installations. The purpose of the staking is to facilitate the field review by showing the Utility's proposed position with respect to the ROW line, the highway prism, highway structures, drainage facilities, other utility facilities, or other pertinent features.

2.24.2 PRIOR TO CONSTRUCTION

When it is likely construction or maintenance activities could involve existing underground utilities, it may be desirable to locate and identify these facilities prior to the beginning of work. When it is required by the Region Engineer, the Utility will identify the location of each underground facility. The location will be identified with stakes, paint, or other temporary on-the-ground markings, color coded by utility type. The color code system is as follows:

RED — Electric power lines or conduits — distribution, transmission, and municipal electric systems

YELLOW — Gas or oil pipelines — distribution and transmission — all pipelines carrying hazardous or dangerous materials including petroleum products, steam, and compressed air, or compressed gases

ORANGE — Communications lines including telephone and other communication systems, police and fire communications, and cable television

BLUE — Water systems and slurry pipelines

GREEN — Storm and sanitary sewers (gravity systems)

PURPLE — Radioactive material

2.24.3 OTHER INSTANCES

At any point during the permit or agreement acquisition process or construction activities, the Region Engineer may require the Utility to restake the proposed utility location. The Department anticipates such requests will be infrequent and will be limited to those occasions where difficult evaluations or decisions must be made by the Department.

2.25 TRAFFIC CONTROL PLAN

[MUTCD, Part VI](#), latest edition, covers in detail the required aspects of the Traffic Control Plan (TCP) during utility construction and maintenance operations on or adjacent to any public highway, road, or street. Public utilities, private utilities, contractors under contract with utility companies, and others engaged in utility construction, or maintenance, are specifically placed under the requirements of the [MUTCD](#).

2.25.1 PROCESSING OF TRAFFIC CONTROL PLANS

It is the Utility's responsibility to design the appropriate TCP, whether for a permit or an agreement, to meet the current requirements of the [MUTCD](#). The Department's Project or Region Engineer may request a copy of the TCP for his own information purposes.

2.25.2 CHANGES TO THE TRAFFIC CONTROL PLAN

The Utility company should revise the TCP as site conditions require. The Department views this as part of the installation or relocation process and accepts no responsibility for the content of the TCP. The Utility is responsible for assuring that the revised TCP meets the requirements of the [MUTCD](#).

2.26 UNDERGROUND ELECTRIC POWER AND COMMUNICATION LINES

2.26.1 GENERAL

ELECTRICAL AND COMMUNICATION LINES

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

BURY

The minimum required depths of bury (or cover) depends upon the type of highway facility, the type of utility, the location within the ROW, and other factors. Examples of minimum bury include the following:

1. Underground electric power lines will have a minimum cover under ditches and within the limits of the ROW of *4 feet*. Minimum cover under pavement will be *4 feet*. Installations within the highway prism will be encased.
2. Underground communication lines will have a minimum cover under ditches and within the ROW limits of *3 feet* on conventional highways and freeways. Minimum cover under pavement will be *4 feet*. These facilities may be uncased within the limits of the highway structure provided the Utility agrees not to open cut to maintain these facilities except under extreme emergencies.

APPURTENANCES

Pedestals or other above-ground utility appurtenances installed as part of buried cable plant will be located just inside the ROW line, well outside the highway maintenance area and outside of the clear-roadside area.

REVIEW REQUIRED

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

SPARE CONDUIT OR DUCT

On both cased and uncased installations, particularly on crossings of the highway, consideration will be given to plans that call for the placement of spare conduit or duct to accommodate future expansion of underground lines.

ATTACHMENT TO STRUCTURES

The Department's guideline ([§ 2.4](#)) for communication line attachments to highway structures will be followed.

GENERAL CONTROLS

The general controls outlined in the Department's policy for pipelines ([§ 2.19](#)) as related to markers, installation, trenched or un-trenched construction, and relocation, will be followed on underground installation of electric power and communication lines. Accurate markings of underground electric power lines are required.

PLOWING OPERATIONS

Subject to the approval of the Department, a Utility may be allowed to plow in a utility facility, provided it is able to maintain reasonable controls to ensure that the horizontal installation can be made within 1 *foot* of the approved location, and that the stipulated minimum cover can be obtained and maintained. It is the utility company's responsibility to provide the Department with a recommended procedure for restoring the highway ROW to its original state, or to an acceptable condition. Such installation will be allowed only between the highway prism and the ROW limits. No plowing operations will be allowed within the highway prism area.

ABANDONED LINES

Where lines are abandoned in place, Department employees and other utilities have no way of knowing whether the abandoned lines are active. Often ROW that could be used for additional utility lines and carriers cannot be used. Therefore, when a utility abandons a line, it must notify the Region Engineer in writing. The Region Engineer may require removal of the abandoned line, and if so, the Utility must secure a permit or agreement for the removal action.

2.26.2 LOCATION AND ALIGNMENT

PARALLEL LOCATIONS DESIRED

On longitudinal installations, locations parallel to the pavement at or adjacent to the ROW line are preferable to minimize interference with (1) highway drainage; (2) the structural integrity of the traveled way, shoulders, and embankment; and (3) the safe operation of the highway. As a minimum, where practical, their lateral location will be offset a suitable distance beyond the slope, ditch, or curb line as the Department may stipulate.

PERPENDICULAR CROSSINGS

Crossings will be located as near perpendicular to the highway alignment as practical.

UNSUITABLE CONDITIONS

Conditions which generally are unsuitable or undesirable for underground crossings will be avoided. These include locations in deep cuts; near footings of bridges, culverts and retaining walls; across at-grade intersections or ramp terminals; at cross drains where flow of water, drift, or stream bedload may be obstructed; within basins of an underpass drained by a pump; and in wet or rocky terrain where it will be difficult to maintain minimum bury.

2.26.3 CASED AND UNCASD CONSTRUCTION

UNCASD

Where it is acceptable to both the Utility and the Department, underground communication cables crossing the highway may be installed without protective conduit or duct, provided the Utility agrees not to open cut to maintain said facility, except in extreme emergency. An emergency is a situation that affects the health and safety of the public. Normally this type of installation will be limited to small bores for wire or cable facilities where soil conditions permit installation by boring a hole about the same diameter as the cable and pulling the cable through. Underground electric power lines will not be allowed to cross the highway without casing.

LENGTH OF ENCASEMENT

Encasements will extend a suitable distance beyond the slope or ditch line to allow installation or maintenance of the utility line without disrupting the highway. On curbed sections it will be extended outside the outer curbs by at least *6 feet*. Where appropriate, the encasement will extend to an indicated line that allows for future widening of the highway.

POSSIBLE ENCASEMENT

Consideration will be given to encasement or other suitable protection for any wire or cable facilities (1) with less than minimum prescribed bury, (2) near the footings of bridges or other highway structures, or (3) near other locations where there may be hazard. PVC or PE encasement, with nominal size less than or equal to *4 inches*, will be allowed for encasement of telecommunication lines. Such encasement shall be Class 200 or greater.

DOCUMENTATION

The Utility is required to furnish reasonable explanation and documentation for the control and construction methods to be employed for crossing of the highway before the proposed installations will be considered by the Department. This is to ensure the necessary protection of the utility facility and the integrity and operation of the highway facility.

PROTECTION

Where less than minimum cover is allowed across ditch sections, and where underground, encased electrical power lines cross ditch sections, a floating slab of concrete is recommended for protection of the facility and for highway maintenance operation. An example is shown in [Figure 2-3 \(g\)](#).

2.27 VARIANCES

The Department recognizes there may arise conditions for which the general guidelines and provisions of this manual do not best serve the public interest. Utilities may elect to request a variance when in their opinion such conditions are encountered.

The request for variance will be a portion of the permit or agreement application. The Utility must clearly show the following:

1. The policy provision or guideline for which the variance is being requested
2. The condition which the Utility believes warrants the granting of a variance
3. A thorough explanation including safety, aesthetic, economical, or other data which bear upon the issue

4. Sufficient and appropriate documentation of the Utility's contention

The Utility bears the full responsibility of demonstrating to the Department's satisfaction that the variance is the most appropriate way to serve the public interest.

The Utility should provide early communication and coordination with the Department when such a request is anticipated. The Department will conduct investigations as necessary to evaluate the Utility's request for variance. This may include field visits, reviews of the Utility's practices and procedures, audits of the Utility's financial records, or other actions which may allow the Department to evaluate the request fairly and satisfactorily.

In those situations where the Utility contends that it is financially unable to provide relocation of its facilities, it may request to be relieved of this financial burden (pauper designation). This will involve filing a variance request. The Department anticipates that approval of such requests will be rare and will occur only after completion of thorough examination or audit of the Utility's complete financial records has been conducted.

2.28 VEGETATION MANAGEMENT

The Utilities will be required to conform to Department policies and practices for vegetation management for their operations within State ROW. The [*Alabama Department of Transportation Manual for Roadside Vegetation Management*](#) (hereafter called the *Vegetation Management Manual*) serves as the primary guidance document for these activities. The Department also utilizes provisions from its [*Maintenance Manual*](#), its [*Guidelines for Operation*](#), and the *Laws of Alabama Relating to Agriculture* for vegetation management.

2.29 WETLANDS

The installation of privately owned lines or conduits on the State ROW, for the purpose of draining adjacent wetlands onto the State ROW, is prohibited. This practice is considered to be inconsistent with [Federal Executive Order 11990, Protection of Wetlands, dated May 24, 1977.](#)

Chapter 3

LEGAL BASIS

3.1 INTRODUCTION

The basic authority of the Department derives from the sovereignty of the State of Alabama within the federation of like states that is the United States of America. Its sovereignty and that federation are defined and described in the current versions of the United States Constitution, the Alabama Constitution of 1901, and their amendments.

3.2 CODE OF ALABAMA 1975

The specific authorities and responsibilities of the Department under the provisions of the current state constitution, as amended, have been assigned by state law and through interpretation of the state law by the courts. That body of law resides in published form in the [Code of Alabama 1975](#) and is updated routinely.

The majority of the provisions of the code that apply specifically to the Department are in the eight chapters of title 23. Its designation is Title 23, Highways, Roads, Bridges and Ferries. [Section 23-1-20](#) provides for the creation of the Department and [§ 23-1-40](#) specifies its general duties and powers.

Several following paragraphs refer as examples to some of the individual sections that are particularly pertinent to Department relations with utilities.

[Section 23-1-4](#) requires the utility owner obtain permission from the Department for work within State ROW and empowers the Department to regulate that work. It requires bonding for work and against possible damages.

[Section 23-1-5](#) requires the utility owner to make necessary facility relocations. It specifies by whom the appropriate portions of the costs of such relocation will be borne, authorizes the Department to enter contracts for the purposes of the section, and defines pertinent terms. The provisions of this portion of Alabama Code have been followed closely in establishing the Department's policies and procedures for reimbursement for utility relocation work (see [§ 7.1 - 7.8](#)).

[Section 23-1-85](#), allows utilities, to be constructed, buried, or placed along the margin of the ROW of public highways, except in cases where ALDOT has jurisdiction.

Section [23-1-110 through 113](#) provides for various legal responsibilities in connection with municipal connecting-link roads.

3.3 UNITED STATES CODE

[Title 23, Highways](#), of the U.S.C. and pertinent supplements comprise the majority of federal law concerning highways, state highway departments, affected utilities, the FHWA, the U.S. Department of Transportation (DOT), and the Secretary of Transportation (Secretary). Two sections of the title are of particular importance as they relate to utilities on ROW.

[Title 23, U.S.C., § 123](#) is the section specifically devoted to utilities within highway ROW. It specifies the principles that govern FHWA participation in the costs for the relocation of utilities within highway ROW.

[Title 23, U.S.C., § 315](#) is the portion of the code that invests the Secretary with very broad powers to regulate and to enter agreements in order to carry out the purposes of that title of the code.

3.4 CODE OF FEDERAL REGULATIONS

The [Code of Federal Regulations \(CFR\)](#) in its fifty titles comprises the regulations promulgated by the administrative and regulatory agencies of the national government. Title 23—Highways is the pertinent portion of the code. The CFR and the FR are published by the Government Printing Office, Washington, D.C. They are also available in many public libraries. The majority of regulations pertinent to utilities in highway ROW appear in Subchapter G—Engineering and Traffic Operations of Chapter I—FHWA, DOT of Title 23. Some parts of the title are of particular application to utilities.

[Section 630.1010 of 23 CFR Part 630](#), among other provisions, requires that each state highway department (SHD) require the preparation and implementation of a traffic control plan for each section of highway along which construction operations are planned.

[23 CFR Part 645—Utilities](#), comprised of subparts [A](#), [B](#), and [C](#). Subpart A specifies conditions for utility relocations, adjustments and reimbursement, while Subpart B addresses accommodation of utilities. Subpart C addresses the deployment of broadband infrastructure.

3.5 SUPPORTING FHWA DOCUMENTS

The FHWA has prepared some documents based upon the CFR both to provide for economical routine distribution to those concerned, and to provide explanation and interpretation of the policies and provisions published in the regulations.

The *Federal-aid Policy Guide* (FAPG) and 23CFR 645 Parts [A](#), [B](#), and [C](#) are published and updated periodically by the FHWA. It is a compilation of regulations and policy for the Federal-Aid highway program and is distributed by FHWA to all its offices and all State Highway Agencies. The part, on Utilities is contained in subchapter G, Engineering and Traffic Operations, of the policy guide. More than ninety-five percent of their contents are quotations from pertinent portions of 23 CFR. The policies and procedures presented in the *Federal-Aid Policy Guide and 23CFR 645 Parts A, B, and C* have been adopted by the Department as its own policy. A copy of the appropriate section of the *FAPG* is appended to this manual for your convenience.

3.6 PERTINENT LOCAL ORDINANCES

Counties and municipalities may adopt ordinances that are utility-related that are more stringent than those of national or state. When that is the case, the more stringent provisions govern.

Chapter 4

PERMITS AND AGREEMENTS

4.1 GENERAL

The Department is charged with controlling and protecting the State ROW and utilizes a request-review-approval system for such control. Prior to any utility installation being located on or over the ROW, the Utility must enter a written accord with the Department. This accord between the Department and the utility owner is separated into two major categories, (1) agreements that are used whenever the proposed utility actions will occur during a Department highway construction project and (2) permits that are used for new utility installations on State ROW.

4.1.1 AGREEMENTS

An agreement is required whenever proposed highway construction conflicts with existing utility ROW or facilities (regardless of who is responsible for the cost or by what method the utility work will be accomplished), or when the Utility desires to add new facilities during an ongoing highway construction project. Typically, agreements are initiated by the Department for utility relocation projects.

4.1.2 PERMITS

A permit is required for virtually all other utility actions on the ROW (except those that occur during highway construction projects). It is required for additions to or upgrades of existing utility facilities, for installing new utilities on existing ROW, and for changes in voltage or pressure of existing utilities. There are exceptions to these requirements, such as for routine maintenance, and for the connections of short-side service taps not requiring additional structural support within the ROW.

For these exceptions, no significant interruption of normal traffic flow is anticipated. Written notification by the Utility and approval by the District Administrator will be required. A more complete listing of when a permit is, or is not, required may be found in chapter two of this manual under Permits ([§ 2.17](#)).

A permit or agreement has two functions. It is a contract between the Department and the Utility for construction or placement of utility facilities on the ROW, and is a permanent record indicating that the Utility has permission for its installation to exist within, over, or across the state-controlled ROW. As contracts, these permits, and agreements require that forms and supporting documents be prepared in a judicious manner. They should be clear, concise, and in enough detail to describe completely the requested ROW usage.

It is recommended that prior to a Utility seeking a grant or other financial aid for installation of a facility on the ROW, the Utility contact the Department to determine if the project can be permitted.

4.2 PERMITS

4.2.1 TYPES

Permits are initiated by the Utility and are required when utility installations are to be placed or modified on existing State ROW, when no modification or improvement to the highways or bridges is expected, and when the ROW is under the control and supervision of the Department's regular maintenance forces.

The Department's Maintenance Bureau has prepared a limited series of permit application forms which cover the normal situations a utility initiates a request to utilize the ROW, or to modify its existing facilities on the ROW. These forms are listed and described on ALDOT's website (link provided below). The Utility should select and execute the appropriate form to fit its purpose. Where the Utility has doubts about which form to use, it should contact the District Administrator or the Maintenance Bureau for advice.

Although permits are required for almost all utility actions, there are a few exceptions. These exceptions and conditions requiring permits have been outlined previously in the introduction to this chapter and in [§ 2.17](#).

<https://www.dot.state.al.us/business/permits/index.html>

4.2.2 NORMAL PERMIT PROCESSING

Permit applications will be submitted by the Utility to the appropriate Personnel. For the latest procedure/approval process refer to the [Maintenance Bureau Permit Manual](#).

The Department is not required to submit permits to the FHWA for concurrence except under the following circumstances:

1. The proposed installation is not in accordance with the policies and procedures of this manual, as approved by the FHWA for use on federal-aid highway projects
2. The proposed installation includes longitudinal installations on federal-aid freeways involving special-case exceptions for State installations, as described in *FAPG and 23CFR 645 Parts A, B, and C*.

ORIGINAL FORM REQUIRED

In all cases, the permit application submitted to the Central Office must (1) contain the original signatures of the District Administrators and Region Engineers and (2) be submitted on an original Department permit form. A copying-machine reproduction of the form may not be used as the original for the permit application. Standard forms for utility permit applications may be obtained from ALDOT's website.

For required copies of the permit application submitted with the original, the Department will accept reproductions made by copying machines if they are of good quality and made directly from the original.

4.2.3 PERMIT CONTENTS

When preparing its permit application, the Utility must select and execute the appropriate permit form, and ensure that the permit submittal includes (as a minimum) or by reference incorporates the following:

1. A permit form
2. Compliance with the policies and procedures contained in this manual and other pertinent Department documents
3. A general description of the size, nature, type, and extent of the utility installation to be located on the state ROW
4. Exhibit "A"— plan drawings (plans, profiles, and cross-sections when appropriate) and specifications of materials signed by the Utility's engineer of record (or where applicable, the appropriate corporate official responsible for the drawings) showing the following:
 - a. Other existing utilities in the immediate vicinity of the proposed installation, indicated by symbols using the Department's Standard Legend (see [appendix](#)); and the proposed utilities shown using the applicant's own symbols with an attached legend
 - b. The travelway (edge of pavements or back of curbs)
 - c. The ROW lines
 - d. The controlled-access lines
 - e. The approved-access points
 - f. The horizontal and vertical locations of the proposed facilities when appropriate
 - g. A description of the types of materials to be used
 - h. The extent of liabilities and responsibilities associated with future relocation of the utilities to accommodate highway improvements

- i. Any action to be taken by the Utility in case of noncompliance with Department requirements
- j. The name(s) and phone number(s) of the person(s) to contact in case of emergency (1) during construction and (2) after construction while the Utility is in normal operation
- k. Other provisions deemed necessary to comply with applicable laws and regulations

The Department will furnish to the Utility copies of any drawings in its possession (for the cost of reproduction) for use in preparing the permit and supporting documents when requested to by the Utility.

4.2.4 DISTRIBUTION OF PERMIT APPLICATIONS

Applications shall be completed according to the [Permit Manual](#) any field deviations from the initial drawing (deviations require approval by the Department). Shall be documented and forwarded to the Department to serve as a record of the facilities "as built." See the as-built guidelines ([§ 2.3](#)).

4.2.5 BOND REQUIREMENTS

Before any construction work is started, a surety bond written by a surety company authorized to do business in the state of Alabama must be delivered to the Department, unless that requirement is waived by the Department. Bonds will be prepared and executed in a manner acceptable to the Department's legal staff and normally will be issued using the Department's [Form BM 174](#).

A more complete description of bonding requirements may be found in Chapter 2 of this manual, under the bonding guideline ([§ 2.6](#)).

4.3 AGREEMENTS

4.3.1 GENERAL

An agreement is the approval mechanism for relocation of existing utility facilities when changes are initiated by the Department because of proposed highway or bridge construction, or when the Utility desires to construct new facilities during a highway construction project. This written agreement defines the Department's and the Utility's separate responsibilities for financing and accomplishing the relocation work. The circumstances under which the Department may be liable for such costs and the method for developing relocation costs are covered in chapter seven of this

manual. Agreements fall into several general categories listed and briefly described in the next portions of this manual.

4.3.2 CATEGORIES OF AGREEMENTS

STANDARD AGREEMENTS

Standard agreements are those entered into by the Department and the Utility addressing normal utility situations, when utility construction is not covered by an existing master agreement and when not complex enough to require a special agreement. Standard agreements are formulated by completing a set of standard forms and furnishing exhibits. Examples of standard agreements are included in the [Appendix F](#).

MASTER AGREEMENTS

Master agreements may be entered between a utility and the Department to cover multiple individual relocations. These agreements contain the regulations and provisions required in conjunction with work performed on all highway projects. Master agreements may be beneficial when multiple projects are tied together to be included in the same construction letting.

A master agreement is, by necessity, specific for each individual utility and varies depending upon the individual utility's needs. A utility desiring to execute a master agreement should contact the ROW Bureau for guidance. Although it is the responsibility of the Utility to prepare the master agreement, the ROW Bureau will assist. Throughout the initial preparation, it is necessary that close coordination between the Utility, the ROW Bureau, and the Department's legal staff be maintained. After the master agreement has been approved, documentation and supporting data for individual projects are the same as for a standard agreement except that an agreement form is not necessary, and the supporting information is submitted with a letter of transmittal.

SPECIAL AGREEMENTS

Special agreements are reserved for the most complex situations. Examples are relocating major transmission facilities, main energy sources, pumping stations, and modifications that have a zone of influence within the utility system greater than the immediate project area. Decisions on whether a special agreement will be required will be made by the ROW Bureau Chief in consultation with the Department's legal counsel, the Utility's engineer, and the Utility's legal advisor.

4.3.3 THREE-TIERED APPROACH

All agreements, regardless of type (standard, master, or special) will be made along the same format. The Department prefers that utility relocations by utility companies for the accommodation of highway construction projects be done in three distinct phases. The general actions for agreement processing and the contents of the phases are shown on [Figure 4-1](#), and are briefly listed as follows:

PHASE ONE - CONCEPTS

This phase will be originated by the utility company upon notice that it must relocate its facilities due to highway or bridge construction or modification by the Department. Notice will normally consist of a letter from the Region Engineer and prints of partial highway plans as they exist at completion of [GDGP Step 32](#). On reimbursable projects, time charges for company employees are reimbursable after the date of receipt of the letter and partial plans. A preliminary engineering study will be conducted by the utility company to complete Phase I. The results will be furnished to the Department and will include but not be limited to the following:

1. The initial concept design of the relocated utility facility (this may be as simple as a series of one-line sketches drawn to approximate scale delineating each conflict between the existing utility and the Department's plans, showing the existing and proposed locations of the utility in plan view only, and using the Department's Standard Legend of symbols and codes) ([See Appendix C](#))
2. A cost estimate broken down into categories of projects costs including the following:
 - a. Construction
 - b. Engineering
 - c. Right of Way
 - d. Legal
 - e. Administrative
3. A completed copy of the utility-consultant engineer agreement, if appropriate

PHASE TWO - PLANS, SPECIFICATIONS, AND ESTIMATES FOR UTILITY WORK

This phase will be initiated by the utility company upon written notification of the Region Engineer and after the Department's Plan-in Hand inspection comments have been resolved ([Step 66.02 of the GDGP](#)). At the end of this phase, the Utility's submittal to the Department will include but not be limited to the following.

PLANS

The plans (including digital versions) for relocation of utility facilities will include, at a minimum, the components as follows:

1. A cover sheet with a vicinity map showing the overall project and designating each conflict as it relates to the highway project stationing
2. Relocations shown in plan, profile, and cross section as required, drawn to the same scale as the applicable highway plan-and-profile sheet, and using the [Department's Standard Legend \(Appendix C\)](#) of symbols to the extent that they will apply
3. Relocations shown relative to the highway project stationing
4. Details and special drawings as required to adequately prescribe the required work
5. Summary of quantities separated into items of work generally accepted and used in the industry for unit price contracts on construction projects for that utility.

SPECIFICATIONS

For reimbursable projects which the Utility lets by contract or which the Department includes in the highway construction project, the Utility will provide written specifications for the Department's review. The specifications will be suitable to guide and control the Utility construction project. The Department does not stipulate the format or exact content of these specifications, except for the following:

1. The specifications will be separate from the technical specifications.
2. Each technical specification will be numbered and keyed to the number for the applicable item of work shown on the summary-of-quantities sheet.
3. It is suggested that the technical specifications for each item of work follow generally the five-paragraph format used in the Department's [ALDOT Standard Specifications](#) as follows:
 - a. Description (general)
 - b. Materials
 - c. Construction requirements
 - d. Method of measurement
 - e. Basis of payment

ESTIMATES

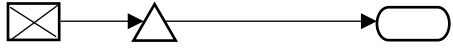
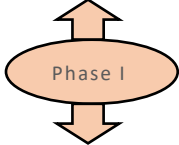

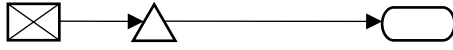
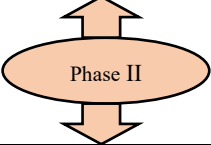


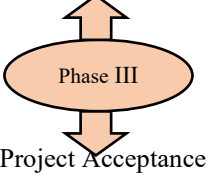
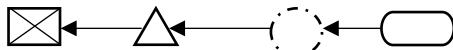




For reimbursable projects, the Utility will furnish a detailed and specific estimate delineating the project construction cost. The estimate will be broken down into individual line items corresponding to the numbering system for the technical

specifications as described above. Form [U-10](#) in the Appendix F provides the basis for estimates to accompany agreements, although utilities which have adopted their own similar forms may use them instead of form U-10.

PHASE THREE - CONSTRUCTION AND RELATED ACTIVITIES

Phase three will be initiated by the Utility upon receipt of a written notice to proceed from the Department. This phase will include the actual construction of the relocation as required by the highway improvement along with the necessary related engineering, and field inspection. If during the construction phase, it becomes necessary to deviate from the original plans and specifications (with the approval of the Department), this phase will include preparing and furnishing to the Department a set of drawings showing the as-built details of the facility.

Figure 4-1. Coordination of Highway/Utility Relocation Design Efforts.

Utility Design Engineering Activity	Highway Design	Engineering Activity
PHASE	PROCESSING SEQUENCE	ACTION
GDCP Step 32		Department authorizes utility to begin Phase I, and supplies preliminary plan sets showing in-place utility facilities.
		Utility submits consultant agreement (when required), then completes Phase I, and submits initial design concept and cost estimate to the Department.
GDCP Step 66.02		Department authorizes utility to begin Phase II and sends updated plan sets to utility.
		Utility completes Phase II, and submits SAHD Agreement form, construction plans, specifications, and detailed cost estimate to Department.
GDCP Step 68.01-100		Department authorizes utility to begin Phase III (construction) when right of entry is secured.
		Utility completes construction, notifies Department and requests a final inspection. Utility submits as-built drawings and final invoice (if applicable) to the Department.
<div style="border: 1px solid black; border-radius: 15px; padding: 10px; text-align: center;"> <p>LEGEND</p> <p>  Alabama Department of Transportation  Region Engineer  Project Engineer, if ALDOT has appointed one  Utility ALDOT's Guide to Developing Construction Plans GDCP </p> </div>		

4.3.4 TYPES OF AGREEMENTS

Agreements used by the Department can be categorized further depending on the type of utility project (retention, relocation, or new construction), the party responsible for performing the utility design and the utility construction work (the Utility or the Department), and whether or not the work is reimbursable. For example, there are several common methods for performing the utility construction as illustrated by the following:

1. Utility's own forces
2. Utility's continuing contract
3. Utility's low bid contract
4. Combination of 1, 2, and 3
5. Department's highway contractor (only in special limited cases)

It would be difficult to provide a single agreement form to cover all the possible variations for reimbursement, project type, and design/construction responsibility. Likewise, it would be unwieldy to provide a new form for each unique set of circumstances. The Department has elected to utilize a limited number of standard agreement forms. Samples of these forms are appended to this manual, and original copies of the forms may be obtained from ALDOT's website (link provided below).

The Utility is responsible for completing the appropriate State of Alabama Highway Department, SAHD, form and any additional supplemental forms, attaching any required exhibits or documents, and submitting the package to the Department at the end of phase II of the utility work.

<https://www.dot.state.al.us/business/permits/uasuPermits.html>

NEW UTILITY FACILITIES DURING A HIGHWAY CONSTRUCTION PROJECT

Occasionally a utility will desire to construct new facilities while the highway is undergoing a Department planned construction project. In these instances, the Utility should submit a Special Permit.

4.3.5 COMPLETING THE AGREEMENT FORM

Each of the standard agreement forms has unique requirements. For example, [SAHD No. 5](#) is a simple letter stating that the Utility desires retention of its facilities placed by prior approval without any relocation during the upcoming highway construction project. The form requires no attachments or further explanation. Other SAHD forms

require supplementary materials, and each form should be reviewed thoroughly to determine its inherent requirements.

CONTENTS OF THE AGREEMENT APPLICATION

The items listed below will normally constitute the minimum submittal package. Additional requirements may be contained within the appropriate Department SAHD forms or specified by the Utilities Engineer. The essentials are the following:

A letter of retention ([SAHD No. 5](#)) or

1. An executed agreement form
2. Form [U-10](#), Estimate Form
3. Complete drawings and specifications (if required) (see [§ 4.2.3.4](#))
4. Documentation of the Utility's rights in the land occupied by the facilities to be relocated (this does not have to be a part of the agreement package; however, it must be completed prior to any reimbursement)
5. Copy of the continuing contract if this method is used (this item must be submitted prior to initiation of construction)

Additional submittal requirements, such as review of bid advertisements, and review of low bids, may be found in the chapter on construction (see "contract let by owner" in [§ 6.5.4](#)).

The Department will furnish the Utility copies of any drawings in its possession for use in preparing the agreement and supporting documents, when requested by the Utility.

The Department encourages continuing contact from the Utility during this portion of the project. Questions should be directed to the Region Utility Manager.

TIMING OF THE AGREEMENT SUBMISSION

Not all the agreement materials are submitted at the same time. When the Utility utilizes the three-phase process, portions of the agreement-submittal package are submitted at the end of both Phase I and Phase II.

At the beginning of Phase I, the Utility determines whether the services of a consultant engineer will be required, and, if necessary, submits a utility-consultant engineer agreement. At the end of Phase I, the Utility submits the initial design concept and the preliminary project cost estimate.

After the Department authorizes Phase II, the Utility completes the appropriate SAHD form, construction plans, specifications, cost estimate, and work completion schedule, and forwards them to the Department for review. All verbal and written

communications should also be included to promptly and completely inform the Utilities Section of the Utility's desired actions. This submittal package should be delivered to the Utility's Section by step [86.03 Final Utility Submittal](#).

Bid documents must be submitted, reviewed, and approved by the State Utilities Engineer prior to a low bid contract for utility work being advertised.

4.3.6 AGREEMENT PROCESSING

The normal processing of utility relocation agreements is illustrated on [Figure 4-1](#). The Department's direct contact with the Utility is through the Region Engineer. Once the construction project has started and the Department has appointed a Project Engineer, who is normally included in the processing sequence. Close coordination and cooperation between the Utility and the Department are of vital importance to a smooth and successful flow of information during the entire process.

Certain reimbursable agreements must be reviewed by the FHWA. Non-reimbursable agreements normally are not subjected to FHWA review and thus the amount of processing time is reduced.

All reimbursable utility agreements must have the approval of the Governor of the State of Alabama as required by Alabama code and administrative law.

4.3.7 SUBMISSION OF AGREEMENT APPLICATIONS

The Utility will submit the agreement application to the Region Engineer.

Two copies each of the appropriate SAHD agreement form containing original signatures, estimates, specifications, and plans are required.

SUBMISSION TO THE UTILITIES SECTION

The Region may require other documents be either original-signature copies or properly attested. Upon approval of the Region Engineer, submittal sets will be forwarded to the Utilities Section.

4.3.8 DISTRIBUTION OF AGREEMENT APPLICATIONS

After final approval, one copy of the submittal set will be retained in the ROW Bureau's Utilities, and another set will be returned to the Region Engineer for appropriate distribution to the Utility and within the Region.

4.4 UTILITY-CONSULTANT ENGINEER AGREEMENTS

4.4.1 GENERAL

When the Utility company is not adequately staffed to perform the necessary architectural/engineering (AE) or other professional services needed for the relocation of facilities to accommodate proposed highway projects, the Utility may employ consultants to perform these services. The Department will participate in the amounts paid for these services based upon the eligibility for reimbursement and the actual cost of the services. A written agreement between the consultant and the Utility must exist to describe the services to be provided and the fee arrangements for the services. The Department strongly encourages the use of continuing contracts, and will participate in the cost of such services performed under an existing continuing contract where it is demonstrated (1) that such consulting is periodically performed for the Utility in its own work, (2) the cost is reasonable, and (3) an updated copy of the continuing contract is on file in the ROW Bureau's Utilities Section.

The use of consultant services on reimbursable projects requires prior approval by the Department. The Utility may apply for approval to use consultant services through a two-step, written procedure. First, the Utility submits a statement that it is not adequately staffed to perform the work. After the Department has approved this request, the Utility completes the second step by submitting the following items:

1. An executed Utility-Consultant Engineer Agreement
2. The certificate of the consultant (see Utility-Consultant Engineer Agreement in [Appendix F](#))
3. A list of qualifications of the consultant
4. A cost estimate for the consulting work
5. A work schedule

The Department will review the adequacy of the written agreement between the Utility and the consultant and the consultant's certificate. The Department will consider the reasonableness of the fees and make comparisons with standard rates in the area for similar services by using the fee estimating graph, ([Figure 4-2](#)). The Department will also consider the qualifications of the individual or firm being proposed. The approval of the consultant will be for a specific project and for specific phases within that project.

The total cost estimate (Item 4 in the preceding list) developed by the consultant shall be considered as a ceiling, and any anticipated overrun is subject to Department approval prior to incurring these costs.

LICENSING AUTHORITY

Engineering consulting firms must have one or more engineers regularly licensed to conduct utility work in Alabama, as required by the [State Board of Registration for Professional Engineers and Land Surveyors](#). Engineering firms interested in becoming licensed in Alabama may contact:

Alabama Board of Professional Engineers and Land Surveyors

PO Box 30445
Montgomery, AL 36130-4451
Phone: (334) 242-5568
Toll Free: (866) 461-4640
Fax: (334) 242-5105

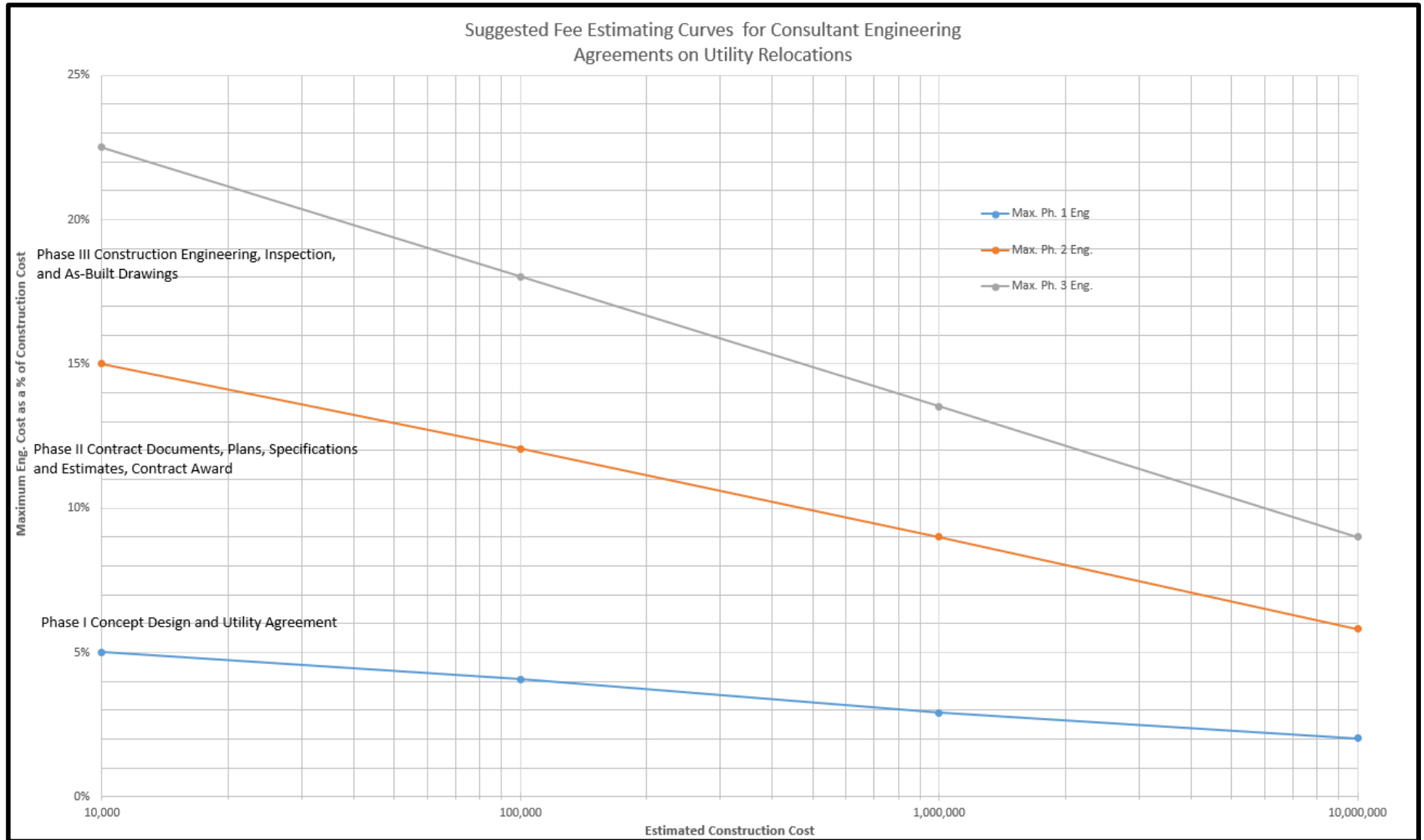
LOSS OF LICENSE

Any engineer who possessed a license from the Alabama Board for Engineers and Land Surveyors, but whose license has been rescinded, is ineligible to conduct utility-engineering work on Department ROW until such license is restored.

4.4.2 REQUIRED QUALIFICATIONS OF CONSULTANT ENGINEERS

The Department is charged with maintaining the integrity of the state highway system including the oversight of work performed by utilities on ROW of the system. As a condition for engineering firms who perform utility work, the Department requires that each must be properly licensed. This action is taken to ensure that those working within the ROW are knowledgeable of the principles of this manual, have demonstrated that they can execute high quality work, and are familiar with the intricacies and coordination required for utility construction projects.

Figure 4-2 Suggested Fee Estimating Curves for Consultant Engineering Agreements on Utility Relocations



4.4.3 CONTENT OF AGREEMENT

The preparation of a [Utility-Consultant Engineer Agreement](#) is the responsibility of the Utility and the consultant; however, the Department prefers that the agreement be prepared in accordance with the guide below to allow prompt and timely payment for consultant services, particularly when highway projects are delayed for economic or other reasons. An overhead and labor additive schedule should be included with the agreement, and its associated cost estimate should be broken down into three distinct phases of work and payment schedules. This type of agreement is preferred by the Department because it allows reimbursement and possible termination at the end of any one of three distinct phases. These three phases should coincide, as closely as possible, with the three phases of the universal format for the agreement between the Utility and the Department as discussed in [§ 4.3.3](#) of this manual. The three phases of the Utility-Consultant Engineer Agreement should be as follows:

Phase I. Concept design and utility consultant engineering agreement

1. Preliminary Construction Plans
2. Construction estimates
3. Participation in preparation of utility agreement (if needed)

Phase II. Contract documents, plans, specifications, estimates, and contract award

1. Detailed construction plans
2. Specifications
3. Detailed construction cost estimates
4. SAHD Reimbursable Agreement
5. Bid documents and bid tabulations and award recommendation.

Phase III. Construction engineering, inspection, and as-built drawings

1. Location and layout
2. Inspection
3. Other construction-related services
4. Contract documents and as-built drawings

The Utility-Consultant Engineer Agreement should include a fee schedule for the various items of work which are to be performed for the Utility. The agreement should be broken down so there is a fee for performing each of the three separate phases.

4.4.4 TIMING OF AGREEMENT SUBMISSION

The [Utility-Consultant Engineer Agreement](#) is submitted for the Department's review as one of the first actions during Phase I of a reimbursable utility relocation project. After securing the Department's approval, the consultant may then participate in the remainder of Phase I.

The Department encourages the use of continuing contracts for acquisition of consultant engineering services, since this will expedite the approval process.

4.4.5 CONSULTANT FEE REIMBURSEMENT AND ESTIMATES

The *FAPG and 23CFR 645 Parts A, B, and C* requires that reimbursement for work done on federal-aid projects, including architectural and engineering (A/E) services, be reimbursed based on the actual work performed. In the case of A/E services, reimbursement is based on the fee schedule contained in the Utility-Consultant Engineer Agreement and the actual amount of work performed. Reimbursement for A/E services may not be based on a per-centum of the construction cost.

Although compensation for A/E services is based on the actual amount of work performed, the Department does allow the initial estimate for consultant services to be based on an acceptable per-centum of the estimated construction cost. The Department has prepared a set of curves, [Figure 4-2](#), which are acceptable for use in preparing consultant fee estimates for utility relocations. These curves were prepared by analysis of the Department's historical data on consultant fees for utility projects, and by comparison with curves and tables which have been suggested from other sources such as the American Society of Civil Engineers, the Alabama Department of Environmental Management, the Farmers Home Administration, and the Alabama Department of Economic and Community Affairs. The Fee Graph is cumulative in nature. The lowest line is the allowable fee for Phase I. The middle line is the sum of Phases I & II. To obtain the allowable percentage for Phase II, subtract the percent for Phase I. To determine the allowable amount for Phase III, subtract the percent in the middle line.

All consultant engineers and utility owners should be aware that all invoices are subject to audit at the Department's discretion. This applies to both partial and final invoices. The invoice, or invoices, may be audited up to three years after final payment is made to the Utility. If an engineering agreement exceeds \$150,000.00, a pre-audit of the engineer's overhead account is mandatory.

4.4.6 REIMBURSEMENT

With respect to relocation of facilities located on State ROW, the Department is prevented by State law from expending State funds for utility relocations, except those funds required to match Federal-aid. The State may reimburse the Utility (when it qualifies) up to the point of participation of Federal-aid funds and matching State funds. The conditions under which a utility qualifies for reimbursement when Federal-aid funds are involved are not delineated here, as they are clearly stated in *FAPG and 23CFR 645 Parts A, B, and C*, and they are outlined in [Chapter 7](#) of this manual.

"Betterment" is defined as: "Any upgrading of the facility being relocated that is not attributable to the highway construction and is made solely for the benefit of and at the election of the Utility". "In-kind" is defined as: "A relocation facility that is functionally equivalent to the pre-existing, or in place utility facility. This includes a facility that is functionally equivalent in both material and capacity". If betterment is involved, an arrangement for pro-rata sharing of cost will be utilized. The arrangement for pro-rata sharing of cost will be stated in a written agreement between the Utility and the Department.

Two complete estimates must be prepared. The first is for a relocation "in-kind" (or functionally equivalent). The second estimate will be for the Utility's desired relocation plan including "betterment". The second estimate will be of the same material as the first or "in-kind" estimate, when applicable. If the betterment option is allowed by the Department, the Utility must participate in the expense. The percentage of the Department's participation is found by dividing the "in-kind" estimate by the "betterment" estimate. The Utility's participation is 100% minus the Department's participation.

EXCEPTIONS TO THE REIMBURSEMENT POLICY

There are certain exceptions to the general policy stated above. Each of these special cases must be handled on an individual basis, as it may require an interpretation by the Department's legal staff, and on occasion, by the State Attorney General's office. If a Utility believes that it qualifies under Alabama Code for reimbursement with state funds when Federal-aid funds are not involved, or are only partially involved, the ROW Bureau should be contacted for a determination as to whether it qualifies for reimbursement with state funds.

Chapter 5

PLANNING AND DESIGN

5.1 INTRODUCTION

This chapter includes an explanation of how utility planning and design merge into the highway design, construction, maintenance, and operation process. Procedures are provided for early coordination with the Department, for submittal of utility designs, for review by the Department, and for obtaining the Department's approval to construct the proposed utility facility.

5.2 GENERAL DESIGN SITUATIONS

There are many types of utility design situations, and they vary depending upon the nature of the facility and upon many other factors. The design of an overhead communication line is not the same as the design of a sanitary sewer, so the type of utility is the dominant consideration in the technical aspects of design.

The design process is initiated for many reasons. Utilities have needs for upgrading their older facilities and for adding new facilities to meet increased demands. Systematic replacement programs are undertaken as technology changes to provide more efficient and economical systems. Highway construction projects necessitate utilities be relocated or their line and grade be adjusted to accommodate the new highway.

If the project is initiated by the Utility, the Department's role is largely limited to review of the Utility's proposed facility during the permit application process. The Utility bears all expense for design and construction of these types of projects. If the project is initiated by the Department because of highway construction (utility relocation or retention), the State's role is expanded. The Department first supplies notice to the Utility of the possible need for changes, and as the highway design emerges, supplies preliminary plans and other information that allow the Utility to plan and design its changes. A high degree of coordination is desirable during the process. The Department's role is to supply notice and ensuing design information, to review the Utility's proposed facility during the permitting process, and to provide reimbursement to the Utility where applicable.

5.2.1 DESIGN—GUIDELINES

The technical aspects of all forms of utility design are governed by industry codes and standards, by this manual, and by other Department publications like [ALDOT Standard Specifications](#). The Utility is expected to exercise reasonable care in following accepted guidance during the planning and design of its facilities.

A separate guideline ([§ 2.9, Design—General Considerations](#)) has been included in the manual. It is applicable to all types of utility design, regardless of how initiated.

It describes the general responsibilities of the Utility and the Department, lists several applicable industry codes and standards, describes provisions for quality of materials, urges minimization of maintenance, requires consideration of future expansion, and sets out several other design provisions.

5.3 COORDINATING UTILITY DESIGN WITH HIGHWAY DESIGN

For utility projects initiated by the Department due to an upcoming road construction project, early notification and good coordination are desired. The Department's highway design process is extensive, and the Utility components occur at fixed points within this process.

The highway design procedure currently adopted by the Department is called the [Guide for Developing Construction Plans \(GDCP\)](#). In the latest version of the GDCP, the steps are numbered from 1 to 100 to correspond to the percent of completion of the plans. For example, GDCP step 30 corresponds to plans that are 30% complete. A usefully condensed description of the design procedure used in the Department can be provided by the following item groupings:

<u>GDCP No.</u>	<u>Step(s)</u>
1-13	Design preliminaries
14	Design initiation
15-30	Primary design integration
31-64	Secondary design integration
65	Plan-in-hand inspection (PIH)
66-84	Design refinement
85	Plans-specifications-and-estimate inspection (PS&E)
86-100	Design completion

The highway design has been underway for some time before the Utility first becomes involved during step 30. The initial aspects of highway design must be completed, and the preliminary alignment and grade must be selected before utility conflicts can be identified.

At step 30 in the GDCP process, the Utilities Section receives plans showing existing

utility facilities. The plans are provided to the Region and they will forward them to the Utility to determine if they are in conflict. If the Utility determines they are in conflict, then they are to proceed with their own preliminary design and relocation estimate (if the Utility is reimbursable). There should also be communication with the Department's designers to avoid the introduction of new utility conflicts and to make sure the Utility relocation design completely clears conflict with construction.

Utilities should always base their final design plans and estimates on highway plans that are at least 65% complete but should not wait until GDCP Step 65 to begin designing. Utilities should also be sent plans at GDCP Step 85 to determine if any additional changes to their plans are necessary.

5.3.1 PRE-DESIGN CONSULTATION

Pre-design conferences can reduce the costs of highway facilities and improve design efficiency. They allow the highway designer the opportunity to meet with Departmental field personnel and representatives of the affected utilities. Their visit to the site with local departmental personnel, and with the Utilities' engineers, will facilitate further cooperation, and allow the planning and preliminary engineering of both the Utilities' engineers and the highway designer to move forward in concert.

5.3.2 COORDINATION CONTINUITY

The GDCP provides for continuation of coordination between the highway designer and others whose jurisdictions are affected by the design. Step 2.02 of the GDCP indicates that the designer is to consult the Location Memorandum about utility conflicts that will affect the highway design. In the secondary design integration phase, GDCP steps 6.01, 18.04, 61.08, 62.03, 68.0, 68.04, additional coordination by the highway designer regarding utility conflicts is needed.

After step 30 of the GDCP, the Utility receives initial information to initiate its design process. From that time forward, the Utility is encouraged to continuously coordinate its design with the developing highway design.

5.4 DESIGN RESPONSIBILITIES

The responsibilities for the design of the highway facilities ultimately rest upon the designer, but they must be aided by engineering participants in the Department and in the affected utilities.

5.4.1 UTILITIES' REPRESENTATIVES

The Utilities' representatives are responsible specifically for comprehensive planning and technical design of the total utility facility. They are responsible for ensuring the design follows the codes and standards of the appropriate technical organizations; is within the accepted practices and policies of the affected utility firms; and, is within the ranges of design allowed within this manual and other Department publications.

The Department strongly encourages the three-tier process for engineering services on utility projects as described earlier in this manual ([§ 4.3.3](#)). The first tier should provide for the conceptual planning of the necessary facilities and should include the production of schematic facility drawings and a preliminary estimate of costs for the facilities. The second tier of services should include the detailed design of the facilities and result in the production of detailed construction plans and specifications, including a detailed cost estimate. The third tier of services should cover letting the contract, and engineering services needed during the construction of the project. Such a system of agreements will benefit the Utility by allowing earlier reimbursement of eligible costs to the Utility by the Department and will allow the utility engineering work to stop at an appropriate point should the highway project be delayed.

5.4.2 UTILITIES' CONSULTANTS

It will be to the considerable benefits of the Utility and of the Department for the Utility that employs engineering consultants to design its facilities to maintain a continuing contract. The Utility is encouraged to use three-tiered agreements for the acquisition of such engineering services.

In addition to the responsibilities a consultant assumes, under the consulting-engineering-services agreements discussed above, there is the legal requirement that each consultant be registered to practice as a professional engineer in the state of Alabama. If the consultant is part of a corporation, that corporation must hold a certificate to practice engineering in the state issued by the [Alabama State Board of Registration for Professional Engineers and Land Surveyors](#) ([§ 6.3.2](#)).

5.5 UTILITY DESIGN GUIDELINES

The Guidelines applicable to utilities on State ROW include the following AASHTO documents: [*A Guide for Accommodating Utilities Within Highway Right-of-way*](#), [*A Policy on the Accommodation of Utilities Within Freeway Right-of-way*](#), and the [*Alabama Department of Transportation Standard Specifications for Highway*](#). In addition to these references, there are industry-consensus standards that represent conventional prudence for the design and construction of specialized facilities for various types of utilities. Such industry standards and codes will be of practical assistance to the designers of utility facilities. Examples of industry-consensus standards were provided during the discussion of design guidelines in [§ 2.9](#).

5.6 DESIGN SCHEDULE

The timing of various design-related activities of departmental and utilities agents is dictated predominantly by the Department's 100-step [Guide for Developing Construction Plans \(GDCP\)](#).

The most important consideration to emphasize is that with the occurrence of each of the steps, some affected individuals receive additional information or responsibilities that require the completion of some portion of the Utility's facilities design. If the entire process is to be completed in a timely fashion to minimize the costs, it is important that the time for completion of each task be agreed upon, and that it be honored.

5.7 COST AVOIDANCE

5.7.1 COST AVOIDANCE DURING DESIGN

The use of continuing contracts between the Utilities and their engineering consultants is seen as a means of avoiding costs and delays often encountered in the preparation, approval, and execution of consultant agreements each time a new project causes the need for such services. The use of three-tiered agreements discussed in [Chapter 4](#) of this manual helps shorten the time required for reimbursement of the Utility for each of the three independent portions of the consultant's eligible services.

The publication of judgment guidelines for fees for engineering services for the routine design of utilities facilities ([Figure 4-2](#)) should speed the approval process and avoid costs caused by delays of that process. These guidelines are for use in situations that are acceptable for departmental participation in reimbursement for the design of facilities of customary, or routine nature.

Each of the above procedures are described or specified in greater detail in other parts of this manual, but they are mentioned again here because they have the potential for positive effects on the design process.

5.7.2 COST AVOIDANCE CONTRIBUTIONS BY THE UTILITY

The Department encourages utilities, their contractors, and their construction inspectors to search for efficient design and construction procedures. Where such procedures are found, utilities are encouraged to bring them to the attention of the Department's representatives. After investigation, the Department may wish to issue change orders for the utility work. The Utility consequently may benefit from reduced construction costs, or from savings of operational expenses.

Chapter 6

CONSTRUCTION

6.1 GENERAL REQUIREMENTS

This chapter outlines the general requirements for utility actions during the construction phase of a project. The requirements discussed in this chapter are not intended to be all inclusive, but to provide guidance for the most common situations. The Utility must also comply with other requirements of this manual, with the Department's [ALDOT Standard Specifications](#), and with the Department's other policies and guidelines.

6.1.1 TYPES OF CONSTRUCTION

This chapter covers all types of utility construction projects. It outlines procedures and practices for utility construction projects necessitated by highway construction such as relocations and retentions in place, new installations initiated by utilities, and other types of construction. The following material is intended to cover both reimbursable and non-reimbursable utility work.

6.1.2 QUALITY AND TIMELINESS OF WORK

CONFORMANCE WITH PLANS

The Utility's completed facilities will be in substantial conformance with the plans which constitute a part of their approved permit or agreement.

TIMING OF WORK

Upon receipt of the notice to proceed, the Utility shall commence work. The Utility will actively pursue completion of the work to reach the earliest possible completion date, and to minimize subsequent interference with the highway contractor. The Department should schedule adequate time from the notice to proceed for the Utility to complete work prior to project letting.

SCHEDULE REQUIRED

Prior to initiating construction, the Utility shall provide a work completion schedule as part of its SAHD agreement submission.

WORK STANDARDS

All utility installations will conform with the applicable portions of this manual and the current edition of the [ALDOT Standard Specifications](#), rules and regulations of the Public Service Commission, applicable national professional and technical organization codes, and any special provisions or specifications which the

Department has made a part of the permit or agreement.

MAINTENANCE AND REPAIRS DURING CONSTRUCTION

The Utility will be responsible for the care and maintenance of its partially completed work on the ROW. Any repairs to the ROW or other facilities arising out of the Utility's construction or maintenance activity will be performed immediately upon notification by the Department.

WARRANTY OF WORK

The Utility will warrant its work for a period of one year following the Department's acceptance. The Utility is expressly responsible for the condition of pavement, shoulders, patches, and vegetation following patching, tunneling, boring, trenching, or excavation operations.

6.1.3 REQUIRED COMMUNICATIONS

NOTICE TO DEPARTMENT

The Utility will provide written notice to the Department at least 24 hours before starting work authorized by a permit or agreement. Upon completion of the work the Utility will supply written notice to the Department within 30 days. There are other specific instances in which the Utility must notify the Department. Examples may be found in the guideline on "Coordination and Communication" in Chapter 2 of this manual ([§ 2.8](#)).

CONTRACTORS, SUBCONTRACTORS, AND AGENTS

Utility companies often use consulting engineers, independent contractors, subcontractors, or other agents to perform their construction work and inspection. The Utility will inform its agents of the conditions of the letter of authorization, the approved permit or agreement, and the Department's utility regulations and guidelines.

COORDINATION WITH HIGHWAY CONTRACTOR

Items of Utility relocation or retention work that must be coordinated with the highway contractor's operations will be indicated in the Utility's permit or agreement application. Utility actions cannot be undertaken concurrently with highway contractor operations without prior approval of the Department. The Utility will perform all work in a manner that causes minimal disturbance to highway contractors

or other utilities working in the ROW.

6.1.4 INTERPRETATION OF PERMIT OR AGREEMENT

The authority to decide all questions as to the intent of the permit or agreement documents, and to the required compliance with the agreement, or permit, or agreement documents, rests with the State's Maintenance Engineer for permits and/or ROW Bureau Chief. The approval authority may choose to delegate such decisions.

6.1.5 INSPECTION

The Utility is required to maintain an inspector at the job site. The Department will also have an inspector at the job site. The types of inspectors, their qualifications and duties are discussed in more detail in [§ 2.11](#) of this document. Procedures for inspection and record keeping are found in [§ 6.8](#) of this document.

Occasionally, the Department may incur additional or unusual expense of inspection or testing, to ensure compliance with the terms of the permit due to inadequate control on the part of the Utility. When this occurs, the Utility will be required to reimburse the Department the actual cost of the inspection or testing.

6.1.6 BOND REQUIREMENTS

The Utility will be required to provide the Department a suitable surety bond prior to initiating construction. Bonding requirements are included in Chapter 2 of this manual ([§ 2.6](#)). It should be consulted for a more detailed description of the required bond.

6.1.7 INSURANCE

A utility is expected to have full insurance coverage prior to initiating construction. Insurance coverage must satisfy the provisions of Section 107.15 of the [ALDOT Standard Specifications](#).

6.2 METHODS OF CONSTRUCTION

The Department may authorize several methods for construction of utility facilities on State ROW. The Department recognizes the following construction procedures:

1. Company forces
2. Continuing contract
3. Low bid contract
4. Inclusion in the Department's highway contract (only in special limited cases)
5. A combination of any or all of the above

6.3 APPROVED UTILITY CONTRACTORS

6.3.1 INTRODUCTION

The Department is charged with maintaining the integrity of the state highway system, including the oversight of work performed by utilities on the ROW. As a condition for performing construction activities, the Department requires a firm to be a licensed contractor. This action is taken to ensure those working within the ROW are knowledgeable of the principles of this manual, have demonstrated they can execute high quality work, and are familiar with the intricacies of such work, and coordination required for utility construction projects.

6.3.2 REQUIRED QUALIFICATIONS

Utility construction firms must be licensed to conduct construction in Alabama, as required by the State Licensing Board for General Contractors. Contractors interested in becoming licensed may contact:

Alabama Licensing Board for General Contractors Executive
Secretary
2525 Fairlane Drive
Montgomery, AL 36116
Phone: (334) 272-5030
Fax: (334) 395-5336

Loss of License

Any firm which has possessed a license from the State Licensing Board for General Contractors, but which has been rescinded, is ineligible to conduct utility construction on Department ROW until such license is restored.

6.4 UTILITY CERTIFICATE

A utility certificate is issued by the ROW Bureau Chief prior to receiving bids for construction of a highway project. The certificate clarifies the status of each utility involved in relocation efforts or certifies that no utilities are involved or impacted by the construction activities within the highway project area. The certificate is issued prior to the bid letting date for the highway project. It is published in the Special Provision portion of the Highway Contract Specifications and becomes part of the Contract. Many other aspects of finalizing a plan set rely on this information and it is important this information be provided by Final Back Check (GDGP Step 90).

The utility certificate process applies to relocation actions (or to utility work approved by the agreement procedure). It does not apply to the permit approval procedure.

6.4.1 CONTENT OF THE UTILITY CERTIFICATE

The certificate includes enough material to reflect the status of utility work within the construction limits of the proposed highway construction project. Knowledge of the status and the projected time frames for completion of each utility relocation is important to contractors who are bidding on the highway contract.

DATES ENTERED ON THE CERTIFICATE

For all dates entered on a utility certificate, use the actual date for past events. Use estimated dates for future events.

Where the date is estimated, it will be identified as such and that it is based upon the Utility firm's written estimate of design and construction times, and the Utility Manager's knowledge of the probable dates of authorization of utility work.

CONTENT

The utility certificate will normally contain, as a minimum, the following topics:

STATUS OF AGREEMENT

State agreement approval status (i.e. pending approval or approved).

NOTICE TO PROCEED

List the dates on which utilities were issued Notice to Proceed.

BEGINNING OF WORK

List the date that each Utility began its work, or the date work will begin, and it will be referenced to the Notice to Proceed.

COMPLETION OF WORK

List the dates on which each Utility has or will complete relocation work.

COORDINATION WITH HIGHWAY CONTRACTOR

When the Department cannot avoid extending utility relocation work into the highway contract period, the certificate will state the Utility actions that will occur during highway construction and require mutual coordination between the Utility and the highway contractor. The certificate will also include an estimate of the number of days of utility work that will occur during the highway contract.

Region personnel should encourage a prompt completion of utility relocation work to minimize conflict with highway construction activities.

6.4.2 RESPONSIBILITY FOR PREPARATION OF CERTIFICATE

The basic information for the certificate originates with the Utility Manager, who conducts discussions with both the Utility and Department design personnel to verify key dates and work steps in the utility relocation process. The Utility Manager frequently begins this work by conducting a detailed interview with the Utility and maintains liaison with the Utility throughout the design and construction period.

6.4.3 TIMING OF THE UTILITY CERTIFICATE

A draft of the certificate shall be submitted with GDCP 90.0, Final Back Check Submittal. The certificate is completed by the ROW Bureau Chief and is supplied to the Department's Construction Engineer for GDCP 95.0, Construction Submittal.

6.4.4 COORDINATION WITH CONSTRUCTION PERSONNEL

The Utility Manager will have knowledge of the Utility's relocation plans and schedules. The Utility Manager should advise both the Region Construction Engineer and Pre-Construction Engineer of any unusual circumstances anticipated

in the utility relocation work.

6.5 AUTHORIZATION

6.5.1 APPLIES TO AGREEMENTS, BUT NOT PERMITS

The authorization process applies to all utility actions approved by agreement. It does not apply to utility actions approved by permit.

Formal authorization is required before relocation work can begin. The Utility may not initiate relocation work without an approved agreement, a letter of authorization, and a notice to proceed for construction. The following information outlines the classifications of authorization involved in the utility-relocation process and typical contents of letters of authorization.

6.5.2 Authorization Sequence

There are normally three separate steps in the authorization process for utility relocation work. In descending order of authority, they occur at the [FHWA](#), the Department's Central Office, and the Department's Region Office.

FHWA

For selected federal-aid projects, the FHWA Division Administrator will issue a letter of authorization to the Transportation Director of the Alabama Department of Transportation. This letter will contain dates and conditions which allow the Department to proceed with any phase of a project that has previous or concurrent program approval. On other federal-aid projects, the letter of authorization is issued by the Department's Office Engineer. On non-federal-aid projects, this step is omitted.

CENTRAL OFFICE

The Department's Central Office issues authorization to the appropriate Region for work on all projects, whether federal-aid or state funded. The authorization document allows utilities to proceed with any phase of a project, whether previously or concurrently under agreement. The date of authorization in this letter establishes the date of eligibility for reimbursable construction expenses incurred in the relocation work. For federal-aid projects the date will conform with the date of authorization granted by FHWA.

REGION OFFICE

The appropriate Region of the Department will issue a letter of authorization (Notice to Proceed) to the Utility for work on any phase of a project which has been authorized previously by the Department and the FHWA, for which the Department has "right of entry" on the property involved. The Utilities Engineer shall be copied on the letter of authorization.

6.5.3 CENTRAL OFFICE LETTER OF AUTHORIZATION

Generally, the letter of authorization issued by the Central Office will consist of a letter of transmittal, the cost estimate and the approved agreement. For federal-aid projects, the FHWA's letter of authorization will also be included. For non-reimbursable utility work, the cost estimate and the FHWA letter will be omitted.

6.5.4 REGION LETTER OF AUTHORIZATION

The Region Engineer's letter of authorization includes a letter of transmittal, plans, cost estimate (where appropriate), the FHWA letter of authorization (where appropriate), and the fully executed agreement.

Five topics normally will be included in the Region's letter of authorization. There also may be conditional authorizations or special conditions in either the FHWA or Central Office letters of authorization. The Region Engineer will reflect these conditions and may also include his own special conditions or provisions in the letter in addition to the items discussed in the following paragraphs.

RIGHT OF WAY

The letter will review the status of the Department's ROW acquisition for the project, especially where it affects the utility relocation work. The Region Engineer may point out where the Utility will be relocated onto new ROW.

Occasionally, the Department's ROW acquisition will not be completed and may interfere with a utility's relocation work. In this case, the Region Engineer may, at his discretion, issue a conditional authorization. The condition might allow the Utility to conduct limited actions, order materials, and purchase its own ROW, while not beginning actual relocation work until complete authorization is received from the Region.

CONTRACT LET BY OWNER

Where the Utility intends to let a contract for the relocation project, the Region's letter of authorization should outline the steps required. These requirements include submission to the Department of detailed construction plans, work completion schedule, proposal for bids, and the public advertisement for bids. Where the owner is not going to advertise publicly for bids, the submission will include a list of five or more qualified contractors from whom the owner plans to solicit bids. After the acceptance of public or solicited bids, the Department will review the results of the three lowest bidders, and if appropriate, authorize the award of a contract.

LIAISON WITH DEPARTMENT

The representative of the Utility, who is in responsible charge of the work, must initiate communication and maintain liaison with the District Administrator, Project Engineer, or the Department's designated inspector.

NOTIFICATION

The Region letter should remind the Utility that it must notify the Region Engineer in writing 24 hours prior to the beginning of work and the completion of work. The Utility must supply notice of when and where it will be working on the job, when its part-time inspector (where approved by the Department) will be on the job, and when special activities, such as blasting, will be taking place. This is necessary to allow the Department to inspect and inventory the work, to keep daily records, and to facilitate coordination and communication among the involved parties.

The letter of authorization should state the Utility's attendance is required at the pre-construction meeting. When the Region is aware of special actions included in the highway or utility project or believe there are unique conditions requiring close coordination, this may be stated in the Region's letter of authorization.

The letter of authorization is the tool that the Department uses to grant authority to the Utility to begin its work on state ROW. In general, the letter will contain the date that the contractor may begin work, and other special provisions which allow the Department to protect the safety of the public, ensure the integrity of the highway, and properly reimburse the Utility.

6.6 PRE-CONSTRUCTION MEETINGS

Pre-Construction meetings are held to improve coordination and communication among the parties involved on a construction project. The Department schedules a meeting for each highway construction project. The Department also may call additional meetings with the Utilities involved. Both types of meetings are discussed in the following paragraphs.

6.6.1 Highway Pre-Construction Meeting

It is the practice of the Department to convene a pre-construction meeting with the highway contractor before the contractor is allowed to begin work. Utilities within the limits of work will be among the affected parties notified of the meeting and will be expected to attend.

Ideally, a majority of the utility relocation work will have been completed by the time the project is awarded to the highway contractor; however, in rare circumstances, this is not always the case. The attendance of the Utilities is particularly important where utility work has not been completed in advance of highway construction but must be coordinated closely with the highway contractor's work.

ATTENDEES

The highway pre-construction meeting will include the highway contractor and his representatives, Department construction personnel, and the parties who are normally invited to a utility pre-construction meeting.

AGENDA

The meeting will be chaired by the Region Engineer or his representative. At the meeting, the Utility will indicate the type and location of its existing facilities. It will also explain proposed relocations, retention, or new work. The highway contractor will outline his proposed schedule of operations and construction procedures. The Department's role will be to coordinate the scheduling of contractor and utility operations, to encourage the utmost cooperation by all parties, and to facilitate the timely completion of the work.

The topics of interest include those listed for utility pre-construction meetings in the following section. All parties will be encouraged to discuss fully any pertinent points of interest.

6.6.2 UTILITY PRE-CONSTRUCTION MEETING

When a utility project is extensive or complicated, the Department may call for a Utility pre-construction meeting before allowing the Utility to begin its work on the ROW.

ATTENDEES

This meeting normally will include the Region Construction Engineer; the Department's Project Engineer; the District Administrator; the Utility Manager; Department inspectors; the Utility that holds the permit or agreement; the Utility's engineer, inspector, and contractor; and other utilities near the utility work.

AGENDA

Typical agenda for a pre-construction meeting may include, but not be limited to, the following:

1. Technical aspects of the utility work
2. Required coordination between the parties
3. Department utility policies
4. Required approval for changes during construction
5. Work schedules
6. Traffic control plan
7. Sequence of construction
8. Safety of the public and employees
9. Affected property owners
10. Drainage provisions
11. Record keeping
12. Invoices and reimbursements (where appropriate)

6.7 TRAFFIC CONTROL PLAN

The contractor must have and utilize a properly designed Traffic Control Plan (TCP).

The Utility will maintain signs, lights, barricades, pavement markings, flagmen, and other traffic control devices in its TCP to guide and protect traffic, and to warn and safeguard the public in a manner that is reasonable. See guideline [§ 2.25](#) in this manual.

6.7.1 COPY OF TCP AT JOB SITE

The Utility will be required to have the following items at the job site:

1. A copy of its approved permit or agreement.
2. A copy of the plans and specifications which accompanied the permit or agreement.
3. A copy of its TCP.
4. A copy of [Part VI of the Manual on Uniform Traffic Control Devices](#).
5. The name, telephone number, and address of the Utility's designated person to be contacted in case of an emergency.

6.7.2 INTERFERENCE WITH TRAFFIC

Except in emergencies, the Department will not allow closure of a highway lane unless the Utility has obtained an approved plan for the closure. The Department also reserves the right to prohibit utility work during peak-traffic-flow hours when this work may seriously interfere with traffic movements. Where the Utility anticipates work activities will be conducted during peak-traffic-flow hours, its proposed TCP should indicate the times of work and the proposed traffic control measures.

6.8 INSPECTION AND RECORD KEEPING

A description of Department and utility inspectors, their qualifications, and their duties may be found in [§ 2.11](#) and [§6.1.5](#) of this document.

The proper inspection and inventorying of work, and the preparation of accurate daily records, is a necessity for any Department utility construction project. These records are the documents from which invoices are prepared, verified for accuracy, and used to reimburse the Utility. Alabama and federal statutes require that payment of any invoice be based upon the Department's records of the contractor's work, and the importance of these records cannot be over emphasized.

6.8.1 REGION MONTHLY REPORT ON UTILITY RELOCATION PROJECTS

For utility projects approved by agreement, a monthly report is required. On the first day of the month, after the letter of authorization to the Utility, and at intervals of one month, the Project Engineer will prepare and submit to the Region Office a "Utility Relocation Progress Report." The Department's standard [Form SP-3](#) will be used for this purpose.

CONTENT OF THE FORM

[Form SP-3](#) is used to convey to the Department the status of each utility working on a relocation project. The form identifies whether work and project records are satisfactory, and the percentage of completion for each utility.

UNSATISFACTORY PROGRESS

In those cases, where the Utility is not progressing satisfactorily the Utility Manager should take action to resolve the issue.

COMPLETION OF WORK

When [Form SP-3](#) indicates that a Utility has completed its reimbursable work, the Utility Manager requests the Utility submit its invoice for reimbursement at the earliest possible time. If the invoice is delayed more than 60 days following completion of the work. The reimbursement agreement requires the final bill be submitted within six months following the date of completion of the work.

6.8.2 UTILITY RECORD KEEPING ON REIMBURSABLE WORK

On reimbursable work, the Utility will keep records that show materials, labor, and incidentals applied during each construction day. These records will be utilized for preparation of invoices for submittal to the Department. The Department does not prescribe the format or content of the Utility's daily records; however, the following items are suggested as useful topics:

1. Weather conditions, including average temperature and amount of precipitation (this is especially important if work is prohibited because of inclement weather).
2. A narrative description of work performed by the Utility or the Utility's contractor.
3. Conflicts, changes, problems, and instructions encountered during the day.
4. Periods of non-work.
5. Names of supervisors on the project.
6. Names of employees and the hours worked.
7. Type of work (e.g., force account, contract, or sub-contract), and the hours worked.
8. Equipment used on the job by type and number of hours used.
9. Major materials consumed including a description of quantity; size; and whether new, removed, salvaged, reused, or scrapped.
10. Notifications given to the Department's representative (by name).

11. Materials received and stockpiled for the project.
12. Actions by the Department, other utilities, or the highway contractor that might lead to delays in the progress of utility construction.
13. Damages incurred to utility facilities.
14. Photographs of damages or unusual conditions.
15. Any unexpected conditions encountered during the construction project and not shown on the approved permit, or agreement, or highway construction plans.
16. Verbal instructions received from the Department, the highway contractor, or other officials.
17. Circumstances or matters which may require further investigation, decisions, or documentation.

The Utility has an opportunity to reconcile its daily records with those of the Department. This will assist the Department in verifying invoices submitted by the Utility and will speed the processing of invoices, which should lead to quicker reimbursement for the Utility.

6.8.3 DEPARTMENT RECORD KEEPING

The District Administrator and project inspection personnel normally keep detailed records of the progress of all utility projects. This is necessary to verify utility requests for reimbursement resulting from relocation projects. The Department is responsible for inspection of work; for compliance with plans, specifications, and the requirements of this manual; for inventorying the material used and other issues of reimbursement; for checking invoices to ensure they can withstand an audit; and for otherwise maintaining the best interests of the public and the Department during utility construction projects.

DAILY UTILITY RELOCATION REPORT

The Department's District Administrator, or designated inspector, completes [Form SP-1](#) "Daily Utility Relocation Report" (appended) at the close of each work day. Normally, this form is checked against the records of the Utility. The two sets of documents should be compatible, although it is not necessary they agree in every detail.

A [Form SP-1](#) is completed each day for each Utility working on the project. This degree of reporting detail is necessary to provide accurate records for verification of utility activities during a project.

6.8.4 GUIDELINES FOR DEPARTMENT INSPECTORS

This portion of the manual outlines general suggestions for record keeping by

Department personnel. These are to be considered as minimum levels, and frequently it may be necessary to expand record keeping fitting the requirements of individual projects.

The suggested topics outlined above for record keeping by the Utility ([§ 6.8.2](#)) are pertinent to the diary of Department inspectors in addition to the following activities.

INITIAL FAMILIARIZATION

When first assigned to a project, the Department's Project Engineer, District Administrator, or inspector should become familiar with the permit or agreement, project plans, and cost estimates. This will help to form an understanding of the Utility's proposed activities and sequence of work.

COMMUNICATION

The Department's inspector, or project representative, is encouraged to make early contact with the Utility, and to maintain liaison throughout the course of the construction project. The name of the Utility's representative, dates and locations at which the Utility will work, anticipated difficulties, coordination with the highway contractor, and other topics may be discussed to assist the Department's inspector in reviewing the work.

DAILY RECORDS

The Department's representative will complete [Form SP-1](#) daily on reimbursable projects. The inspector should mark the Utility's daily progress on a set of plan sheets from the approved permit or agreement, with color coding to represent the date of each action by the Utility.

Upon completion of the daily [Form SP-1](#), the project inspector will request that the Utility compare daily records. The Department's inspector should ask the Utility's representative to sign [Form SP-1](#) in the designated location. The Utility is not required to sign this form, and if the representative declines, the inspector should note such in the space provided on the form.

EFFECT OF UTILITY'S WORK METHOD

The Department's inspectors should be aware of the Utility's work method, i.e., own forces, low bid contractor, or continuing contract forces. The Utility also may use options with any of these methods. For example, it may use the low bid contract method for labor and equipment but furnish its own materials.

Regardless of the construction method, the inspector should locate in the contract

documents, or the Utility's estimate, the method of billing and payment for construction items, and should prepare daily records that reflect accurate assessments of the work done under each of the items listed in the approved estimate.

Regardless of the Utility's construction methods, the Department's individual assigned to inspection of utility relocation work should have a copy of the cost estimate and plans from the Utility's approved permit or agreement in his possession when performing inspection work.

COMPLIANCE WITH APPROVED PLANS AND ESTIMATE

The Department's inspector will check to see that work is being performed as specified in the approved permit or agreement, plans, and estimate. If not, the non-compliance should be reported immediately to the Department's District Administrator, Project Engineer, or Utility Manager as appropriate. Examples of non-complying items include units of work or materials which are not included in the approved estimate, changes in the construction plans, or deviation in quality or procedure from the approved permit or agreement.

LOCATION OF UTILITIES

The Department's inspector may check, from time to time, the horizontal and vertical locations of any Utility facility for faulty location, and may require the facility be corrected, or removed, and replaced at the appropriate location.

KNOWLEDGE OF FAPG

Department personnel responsible for utility relocation work should become familiar with applicable portions of the current *Federal-Aid Policy Guide and 23CFR 645 Parts [A](#), [B](#), and [C](#)* governing utility construction, betterment, salvage credits, and billings. An understanding of these items is essential to ensuring that utilities comply with federal requirements on reimbursable projects.

COOPERATION

The Department's intent is to provide the highest level of cooperation and communication with the Utility. This role falls upon the inspectors of all parties. It is to the advantage of both the Department and Utility to compare and reconcile daily job records, to notify each other of expected difficulties, to investigate methods to save time or funds, and otherwise to pursue the successful completion of the project.

6.9 CHANGES IN APPROVED WORK

6.9.1 MINOR CHANGES

The Department's Project Engineer (or District Administrator, as appropriate) has the authority to approve minor alterations in plans or character of work when such are necessary or desirable during the progress of the work. Generally, these changes will be made when they assist in obtaining satisfactory completion of the proposed construction. The alterations will not be considered as a Department waiver to any of the conditions of the agreement or permit.

It is the responsibility of the Utility to notify the Project Engineer (or District Administrator, as appropriate) of any needed changes on the job that are beyond the scope of the original permit or agreement. If the need for minor changes to the project arise, both the Department's inspector and the Utility's representative should provide adequate documentation in their daily records of the nature of the change, the reasons for it, and the final action.

6.9.2 MAJOR CHANGES

For a major change from the approved conditions of the permit or agreement the Utility shall submit design drawings, cost estimate, written explanation, and justification for the modification. This submission is made to the Region Engineer, who will forward it to the ROW Bureau's Utility Section along with his recommendation for approval or disapproval.

6.9.3 AS-BUILT DRAWINGS

Where changes from conditions of the permit or agreement occur during construction, the Utility will be required to reflect these changes on as-built drawings at the end of construction. Where there are no changes from the conditions of the approved permit or agreement, the Utility may submit a letter to certify that the original plans accurately reflect as-built conditions. (See [§ 2.3.1](#))

6.9.4 CHANGES IN FORCE ACCOUNT WORK

Where the Utility is performing force account work, and desires to use personnel or equipment not included in the approved estimate, plans, and agreement, changes must be approved by the Region Engineer and the Central Office prior to performance of the additional work. This will be considered a major change.

The Utility must demonstrate the prices of the sublet work are reasonable. Solicitation of bids or utilization of a continuing contract are examples of ways the

Utility may demonstrate reasonableness of price.

6.9.5 CHANGES IN CONTRACT WORK

Where the Utility desires change to its contract work, it will initiate a written request to the Region Engineer for the Department to issue a change order. The Department will treat the change request in the same manner as changes to contracts for highway and bridge projects. The only difference in utility contracts and highway contracts is that the change order and the supplemental cost estimate are separate documents for utility work, and they must be treated as such.

The Utility will prepare a written request which will include a set of plans, a copy of the supplemental cost estimate reflecting the changes, and written justification for the change. The request will be sent to the Project Engineer for processing.

6.9.6 SUPPLEMENTAL ESTIMATES

If for any reason there is a deviation from the approved estimate of the cost of the project, the Utility must obtain an approved supplemental estimate prior to receiving reimbursement. The types of changes which require a supplemental estimate include, but are not limited to, additions of new items of work, changes in equipment, subletting, work not included in the original estimate, utilization of categories of personnel not previously approved for force account work, and similar items.

If the Region Engineer approves the change in the supplemental estimate, a copy of the estimate and a set of plans are sent to the Central Office for review and approval.

6.10 OVERRUNS

On a construction project an "overrun" is an increase in the quantity of the work item above the amount in a previously approved cost estimate or supplemental cost estimate. Overruns occur because construction plans are only estimates of the required work. Once the project has begun, unforeseen, or changed conditions, or other issues may necessitate a change in the work which results in overruns.

Overruns in work items lead to difficulties in reimbursing the Utility, and in accounting for funds expended on utility projects. Department inspectors frequently locate overruns through the tabulation of contract items based upon daily project records. When found, they should be reported promptly to superiors.

6.10.1 IDENTIFICATION AND REPORTING OF OVERRUNS

It is important for both the Utility and the Department's representative identify and report overruns as early as possible. This will help minimize problems with inspection, documentation, and reimbursement throughout the remainder of the project.

Utilities will report suspected overrun items to the Department's representative as soon as they are aware of the prospect of overrun. Department inspectors should be aware of the importance of overruns, and promptly call them to the attention of the District Administrator, Project Engineer, or Utilities Manager as appropriate.

6.10.2 MINOR OVERRUNS

The Department normally does not place significance upon overruns which are no greater than 10 percent of the approved estimate for a specific item. As a general rule, these minor overruns do not require an explanation by the Utility; however, the Central Office may occasionally require justification for a particular item when the overrun is less than 10 percent. In these cases, the Department's Utilities Section will identify the item and request the Utility justify the minor overrun.

6.10.3 MAJOR OVERRUNS

If an overrun exceeds 10 percent of the approved estimate for any major item, the Department considers it a major overrun. The Utility, the Utility Manager, and the Project Engineer (or District Administrator, as appropriate) jointly, will review the work and determine the cause of the overrun. After the investigation, project records should be updated to reflect the cause, the anticipated total overrun, and any other pertinent facts. If the Utility desires reimbursement for a major overrun, the invoice must be accompanied by the Utility's explanation and justification, and by a statement of concurrence by the Project Engineer (or District Administrator, as appropriate), and the Utility Manager.

Chapter 7

REIMBURSEMENTS

7.1 REIMBURSEMENTS

Reimbursements are made by the Department to the Utility for completed work on reimbursable projects. The Utility may request a single payment after completion of the project or may request partial payments at intervals of not less than 30 days, beginning 30 or more days after formal notification of Agreement approval from the Department, and after engineering, or relocation, has begun.

This section of the manual will describe reimbursable projects and reimbursable items, the format and method to be used by utilities to request payments, and the Department's reimbursement method and schedule. Credits to the Department for items such as salvage value, betterment, and temporary relocation are described, as are cost overruns, and the method of contesting payments.

7.2 DOCUMENTS CONTROLLING PAYMENT

This manual and the appended *Federal-Aid Policy Guide and 23CFR 645 Parts [A](#), [B](#), and [C](#)* contain the guidelines controlling payment from the Department to utilities for relocation of utility facilities located on existing or proposed highway ROW under the jurisdiction of the Department.

7.3 REIMBURSABLE PROJECTS, AGREEMENTS, AND ITEMS

This subsection describes the types of projects, agreements, and line items which are eligible for reimbursement.

7.3.1 ELIGIBLE PROJECTS

PRIVATE ROW

If a utility is located on its own existing private ROW, the Utility is automatically eligible for reimbursement for utility facility relocation. The reimbursement will include both relocation costs and payment for new private ROW, unless relocated to public ROW. If the Utility moves to public ROW and is required to relocate again, the new private ROW, if required, would be at the Department's expense. ([SAHD No. 2](#))

INTERSTATE PROJECTS

Any relocation of utility facilities required by the Department in relation to an Interstate highway project is eligible for reimbursement.

FEDERAL-AID PROJECTS

Utility relocation required by the Department on highway projects receiving any federal participation (with the exception of the Interstate system) is eligible for reimbursement if the gross receipts of the Utility involved are less than *\$250 million annually*.

STATE PROJECTS

To be eligible for reimbursement for state financed highway projects, the Utility involved must be certified by the Department's External Audit Section to be a "pauper." The Utility must file a variance request ([§ 2.27](#)), must undergo a financial audit, and must otherwise demonstrate that it is unable to bear the cost of the relocation of its facilities before it can be certified as a pauper.

LAND OWNED BY UTILITIES

On all projects, State or Federal, where the Utility facilities are located on utility property or on land where the Utility has property rights, the Utility is eligible for reimbursement.

FURTHER INFORMATION

For further information concerning reimbursements, see [Section 23-1-5](#), Code of Alabama, 1975, as amended.

7.3.2 Eligible Agreements and Construction Contracts

Payment will be made by the Department to the Utility for relocations made under master agreements, special permits, and Agreement [SAHD No. 2](#) (see [§ 4.3](#) and [Appendix F](#)). Payment will be made under either Agreement [SAHD No. 2](#) or Agreement [SAHD No. 3](#) for engineering work performed by the Utility or by the utility-consultant engineer.

Payment will be made for the following construction-completion methods if other requirements for reimbursement eligibility are satisfied:

1. Lump sum contract.

2. Continuing contract; invoices submitted to the Department under continuing contracts must refer to a specific continuing contract on file with the Department or must attach the contract to the invoice; a statement such as "the continuing contract will follow" is unacceptable.
3. Low bid contract.
4. Company forces.
5. Combinations of the above.

7.3.3 REIMBURSABLE ITEMS

The list of line items normally eligible for reimbursement follows:

1. Preliminary engineering (all engineering performed after receipt of the Department's notice to proceed and prior to contract letting; including Phase I—concepts and Phase II—plans, specifications and estimate if performed under the three-tier engineering arrangement; if in-house engineering is used, reimbursable work begins when the Department authorizes the Utility to begin Phase I (see [Figure 4-1](#)); if a utility-consultant engineer is used, reimbursable work begins after Department approval of utility's request to approve the engineer) The Utility can be reimbursed after the Utility consultant engineering agreement is approved.
2. Construction engineering (such items as stake out, inspection, testing, and preparation of as-built construction drawings, known as phase III under the three-tier plan).
3. Relocation work.
4. Stored materials (the Department will pay the Utility's or contractor's cost for stored materials purchased for the project, once stored at a secure site and verified by the Project Engineer or his representative, as per *Federal-Aid Policy Guide and 23CFR 645 Parts A, B, and C*)
5. Private ROW (as described in [§ 7.3.1](#)).

7.4 WHO, WHEN, AND HOW PAID

In all cases, only the Utility is reimbursed by the Department; contractors retained by the Utility and utility-consultants engineer are reimbursed by the Utility. No advance payments will be made, although partial payments for completed aspects of the project may be made at intervals specified below.

Reimbursement may be requested by the Utility 30 days after its receipt of formal notification of approval of agreement, and again every 30 days thereafter. Payment may be requested less frequently as the Utility desires. Thus, if preliminary engineering has been completed 30 days after notification of approval of agreement, an invoice may be submitted to the Utility Manager.

The Utility is required to submit a final invoice within six months of completion of the project.

7.4.1 PAYMENT REQUEST FORMAT

No generic payment request forms are available due to the complex nature of the work tasks which may be involved; however, sample invoices are presented in the appendix. It is important the invoice be presented in a format that will ensure its compatibility with the previously approved cost estimate (Form [U-10](#) in Appendix F) or the Utility's similar form which has been approved by the Department). This will provide a rapid method for Department personnel to verify items, quantities, and amounts on the invoice for rapid payment. The Department developed a standardized payment request form ([Form SP-4](#)) to eliminate the many cover letters attached to invoices. It is our hope this form will provide a rapid method for Department personnel to verify items, quantities, and amounts on the invoice for repaid payment. A routinely accepted practice is for the Utility to place a cover letter over the list of line items submitted by its contractor; in addition, the Utility should complete the top portion of the [Form SP-4](#) and attach a copy of this form to the various copies of the invoice to be submitted for payment.

In general, only two types of formats for payment requests are used by the Department. Examples of both are presented in [Appendix F](#) and their format is as follows: one is for lump sum invoices; the other covers all other invoices. In either case, an audit of the final invoice by the Department's External Auditors may be required. Thus, detailed records should be kept by the Utility and all subcontractors concerning costs paid under the agreement. Failure to retain enough, accurate, detailed records may result in the Department's denial of all or portions of the Utility's invoice, or in the Department's request that the Utility return portions of reimbursements already received. Federal regulations require project records be kept for three years after final payment is received.

LUMP SUM INVOICE FORMAT

Lump sum invoices are submitted only once: at the end of the project. One original invoice, with notarized signatures and a [Form SP-4](#), are submitted to the Department with the following requirements:

1. Typewritten on letter sized paper.
2. Cover letter on utility letterhead.

3. Reference to project number.
4. Statement that work began on a certain date and ended on a certain date.
5. Statement of dollar amount due.
6. Any other requirements imposed by the Department upon this utility or relocation project.
7. Certification of completion of work.

FORMAT FOR OTHER INVOICES

For invoices other than lump sum, one original invoice, with notarized signatures and a [Form SP-4](#), are submitted with the following requirements:

1. Typewritten on letter sized paper.
2. Cover letter on utility letterhead.
3. Typewritten Reference to project number.
4. Itemized listing of completed work on sheets attached to letterhead.
5. Statement of percent of total work completed.
6. Statement of summary of dollar amount due (total amount due minus previous payments equals amount due).
7. Signature of an authorized utility official.
8. Any other requirements imposed by the Department upon the Utility or relocation project.
9. Beginning date and completion date.
10. Certification of completion of work.

When utility forces are performing the construction, equipment costs should be based on prior records if available. If no records exist, the current edition of *Rental Rate Bluebook for Construction Equipment* prices should be used.

7.5 DEPARTMENT CREDITS

Line items included in the utility invoice will indicate credits to the Department in four separate situations: betterments, temporary utility relocation, salvage, and expired service life. All such items will have been previously addressed in the agreement governing the work.

7.5.1 BETTERMENT

Betterment to the utility facilities occurs when the relocated utility is upgraded, or replaced with utility facilities which are functionally superior, and is done solely for the benefit of the Utility. In such cases, the Department will only pay for relocation of a functionally equivalent facility.

An agreement with the Alabama Department of Transportation provides for reimbursement for "in-kind", or functionally equivalent, facilities only. The Alabama Department of Transportation will not pay for "betterment".

As previously described in [§ 4.4.6](#), two bids are required when betterment is involved: one for in-kind, (or functionally equivalent), work and another estimate for betterment work. The base bid is for the in-kind replacement, and therefore is the maximum amount that will be reimbursable.

The owner will be required to pay, as betterment, the estimated percentage increase over the functional equivalent replacement of the total construction cost. The rate of participation on non-exempt Federal-aid projects will be determined at the time the utility agreement is approved by the [FHWA](#). The Department will not participate in the cost of any alternate bids other than previously approved arrangements for pro-rata sharing of cost. The engineering fee will be pro-rated in accordance with base bid/alternate bid (engineering fee for alternate bid) providing this amount does not exceed the State's procurement guide for engineering services on similar work.

Additionally, if the Utility lets a low bid contract where alternate proposals for "in-kind" and "betterment" are both in the contract, and it elects to let the contract for betterment, the following may happen:

Contractor A is the low bidder for the "in-kind" work but is the number three bidder for the "betterment" work. Contractor B is the low-bidder on the "betterment" work but number two on the "in-kind" work. In this case, the Department will authorize the contract to be awarded to Contractor B, with the stipulation that all reimbursement will be based on the bid as presented by Contractor A. The difference in Contractor A's low-bid for the "in-kind" work and Contractor B's low-bid for the "betterment" work is the cost to be borne by the Utility.

7.5.2 TEMPORARY UTILITY RELOCATION

Materials credit: During some relocations, a temporary utility facility may be erected which will be dismantled and returned to the Utility's stores inventory before the end of the project. In this event, all materials which can be returned to the Utility's stores inventory must be returned, and the Department receives a 90% credit for the materials cost (reflecting a 10% cost for use) as a line item on the invoice (see [Sec.645.117](#) of FAPG).

7.5.3 SALVAGE CREDIT

When the relocation has been completed, the correct amount of salvage credit is to be determined (see Sec. 645.117 of FAPG) and shown on the final invoice as a credit to the cost of the project. Each final invoice will contain a statement regarding salvage credit whether or not any credit is due.

The Department urges that when the Utility employs a contractor to perform the relocation, the utility construction contract contains a clause stating that all salvageable materials become the property of the contractor, and that the contractor shall so reflect in his bid.

7.5.4 EXPIRED-SERVICE-LIFE CREDIT

Expired-service-life credit is involved in very few relocation projects. The Utility should contact the Department for guidance when this situation is encountered.

7.6 DEPARTMENT PROCESSING PROCEDURES

Once the utility invoice has been received, the Department begins standard payment processing procedures. The following procedures normally result in payment to the Utility within 45 days of receipt of a properly executed lump sum invoice, and within 90 days for any other properly executed invoice:

1. The Utility Manager checks the accuracy of the invoice and sends one copy to the Project Engineer for quantity verification.
2. After confirming the quantities, the Project Engineer retains the copy of the invoice and replies to the Utility Manager by signing the [SP-4](#) form. If there is a discrepancy between the invoice and project records write "See attached letter" in the [SP-4](#) signature line. List all discrepancies and recommendations in cover letter.
3. The Utility Manager prepares and attaches two copies of an invoice check sheet.
4. The Region Engineer approves the invoice on the [SP-4 Form](#). If there is a discrepancy between the invoice and project records write "See attached

- letter" in the [SP-4](#) signature line. List all discrepancies and recommendations in cover letter.
5. The Utility Manager retains a copy of the invoice for his records, then sends the original to the ROW Bureau's Utilities Section.
 6. The Utilities Section verifies the accuracy of the invoice, recommending payment, by signing the [SP-4 Form](#). If there is a discrepancy between the invoice and project records write "See attached letter" in the [SP-4](#) signature line. List all discrepancies and recommendations in cover letter.
 7. The Utilities Section retains a copy of the invoice and sends the original to the External Audit Section.
 8. An audit is performed if requested by the Utilities Section, if the engineering agreement exceeds \$150,000, or if deemed necessary by the Chief External Auditor.
 9. Upon completion of the audit, the External Audit Section retains one copy of the invoice and sends the original and one copy of the invoice to the Bureau of Finance and Audit for payment and one copy of the invoice to the Office Engineer to be filed.
 10. The Bureau of Finance and Audit produces the check and forwards it to the State Comptroller for his signature.
 11. The signed check is returned to the Bureau of Finance and Audit, which mails the check to the Utility.

Two situations typically cause the payment procedure to consume the full 90-day payment period: (1) the invoice states that over 80% of the total work has been completed or (2) major additions or overruns are involved. Either case may trigger an audit by the Department's External Audit Section. An audit takes place if the agreement exceeds \$150,000. At the Department's discretion, an audit may take place if the agreement is less than \$150,000. The depth of the audit may range from telephone conversations with utility personnel, to visits by External Auditors to inspect utility records and procedures.

7.7 COST OVERRUNS

A minor cost overrun on a construction item will not require further explanation on the invoice if the overrun is less than 10%. A major overrun occurs when the overrun on an individual line item meets or exceeds 10%. In that case, written explanation of each overrun must accompany the submission to the Department. An example of a sufficient explanation might read "Cost overruns on line item number 4 totaling \$_____ were due to the necessity of using eleven utility poles instead of ten" (see also [§ 6.10](#)).

If the total cost overrun on the project exceeds 20% of the original agreement amount, a Supplemental Agreement is required.

7.8 CONTESTING PAYMENT

If the Utility disagrees with the reimbursement determination made by the Utilities Engineer, the disagreement should be brought to the attention of the ROW Bureau Chief. If the problem cannot be resolved at that level, the Utility may request the disputed claim be subjected to the Department's standard procedure for resolution of such claims (see § 109.10 of [ALDOT Standard Specifications](#)).

APPENDIX

APPENDIX ITEMS

ITEM	TITLE
A	Glossary
B	Acronyms and Abbreviations
C	Standard Legend for Utilities
D	Bond Forms for Construction
E	Form: Occupancy and Use Permits
F	Standard Agreements, Forms, and Guides

APPENDIX A

GLOSSARY

GLOSSARY

Adjustment. The required modification to an existing utility facility to eliminate a conflict with a proposed highway construction project; for the purposes of this manual all adjustment actions shall be included under the term “relocation.”

Agreement. A contract document between the Department and a utility delineating the separate responsibilities for accomplishing and financing utility relocations and adjustments necessitated by highway construction or modifications.

Arterial highway. A highway primarily used to provide high speed, high volume network for travel between major points in both urban areas.

Authorization, or letter of authorization. Any written authority given the Utility by the Region Engineer.

Average daily traffic, or ADT. The average number of vehicles that pass a point on a roadway during a period of 24 consecutive hours. Unless it is otherwise described it usually denotes the average of that value pertinent to a duration of observation of 365 consecutive days.

Back slope. The sloping surface in a cut section between the outside edge of the ditch and the outside edge of the cut section where the cut intersects the natural grade.

Backfill. Replacement of suitable material compacted (as specified) around and over a pipe, conduit, casing, or gallery; or the material used to backfill an excavation.

Bedding. The structural system of soil or other suitable material upon which a pipe, conduit, casing or gallery is supported.

Blue Book. The *Rental Rate Blue Book for Construction Equipment*, current issue, published by Dataquest; company of Dunn and Bradstreet Corporation, 1290 Rider Park Drive, San Jose, California 95131, telephone 408-437-8001.

Bury. The depth of burial below the surface grade to the top of the casing of a cased carrier pipe or to the top of an uncased carrier pipe or the top of the duct for a telephone or electric line.

Cap. A rigid structural element that surmounts a pipe, conduit, casing or gallery.

Carrier. A pipe that directly encloses a transmitted liquid or gas.

Casing, or encasement. A larger pipe that encloses a carrier.

Central Office. The Alabama Department of Transportation’s headquarters at 1409 Coliseum Boulevard, Montgomery, Alabama 36130-3050.

Clear recovery area. That portion of the roadside, within the highway right-of-way as established by the Department, free of non-traversable hazards and fixed objects the purpose of which is to provide drivers of errant vehicles which leave the traveled portion of the roadway a reasonable opportunity to stop safely or otherwise to regain control of the

vehicles; the nature and extent of which may vary with the type of highway, terrain traversed, and road geometric operating conditions; and the establishment of which for various types of highways and operation conditions should be guided by the AASHTO *Roadside Design Guide*, current edition.

Clear zone or clear roadside policy. The policy employed by the Department to provide a clear recovery area in order to increase safety, improve traffic operations and enhance the aesthetic quality of highways by designing, constructing and maintaining highway roadsides as wide, flat and rounded as practical and as free as practical from natural or manufactured hazards such as trees, drainage structures, non-yielding sign supports, highway lighting supports, utility poles and other and other ground-mounted structures (the policy addresses the removal of roadside obstacles which are likely to be associated with accident or injury to the highway user, or when such obstacles are essential, the policy provides for appropriate countermeasures to reduce hazardous. Countermeasures may include placing utility facilities at locations which protect out-of-control vehicles using breakaway features and impact attenuation devices or shielding) for which full consideration should be given to sound engineering principles and economic factors in all cases.

Coating. A material applied to or wrapped around a pipe used primarily to protect against corrosion or abrasion.

Compensable interest evidence. An indenture prepared by the Utility and confirmed by the Department's Legal Counsel that verifies the Utility's right to occupy a specified tract of real property (this must be supported by copies of easement other appropriate legal documents).

Conduit *or* duct. An enclosed tubular way for protecting wires or cables.

Connecting-link roads. See Municipal Connecting-Link Roads.

Consultant certificate. A statement appended to the utility-engineer consultant agreement in which the engineer consultant certifies the absence of collusion in obtaining the contract.

Continuing contract. A written contractual agreement between a utility company and outside agency (either an engineer or a contractor) for which the term of the contract is a definite specified period of time (usually on year); for which the amount of work is indeterminate and unspecified; for which the various types of work units, unit charge rates and supplier of materials to be used are specified; for which the charge rates for equipment may be included in the unit price charges for each type of work listed or may be specified and charged for separately; to be acceptable to the Department, the document must be in normal use by the Utility and must be on file with the Central Office on the Department before any agreement based upon it between the Utility and the Department can be consummated.

Contract work. The work performed under a contract approved by the Department and let to contract by the Utility on a low bid basis (this is not to be confused with utility work included in a roadway or bridge contract let by the Department).

Control of access. The condition where the right of owners (occupants of abutting land or other persons) to access, light air or view in connection with a highway is fully or partially controlled by public authority.

Conventional highway. An arterial highway without access control.

Cradle. A rigid structural element below supporting a pipe, conduit, casing or gallery.

Department. Alabama Department of Transportation.

Director *or* Transportation Director. The chief executive officer of the Alabama Department of Transportation, the Alabama Department of Transportation Director.

Distribution line. That part of a utility system connecting its transmission lines with its individual customers or with service lines of the individual customers.

District. A subdivision of the Alabama Department of Transportation Region for the supervision of construction and maintenance operations (there are from six to twelve Districts within each of the five Regions) which are usually made up of one or more counties.

District Administrator. The engineer in charge of one of the District offices of the Alabama Department of Transportation.

Drain. An appurtenance to discharge liquid contaminants from casings.

Emergency. A situation where the safety of the traveling or public or the structural integrity of the highway facility is placed in immediate jeopardy.

Encroachment. Unauthorized use of highway right-of-way or easements as for signs, fences, buildings, utilities, parking or storage.

Engineering agreement. An agreement executed by the Utility and an outside engineering consultant covering preliminary and/or construction engineering services necessary for accomplishing required work.

Engineers license <engineer's certificate>. Issued by the State of Alabama Board of Registration for Professional Engineers and Land Surveyors.

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

FHWA. The Federal Highway Administration.

Flexible pipe. A plastic, fiberglass or metallic pipe having a large ratio of diameter to wall thickness which can be deformed under load without stressing the pipe material beyond the design factor of safety.

Force account work. Work paid for by reimbursing a utility for the actual costs for labor materials and equipment usage incurred in the performance of the work as directed, including a percentage for overhead and profit.

Freeway. An expressway with full control of access.

Front Slope. The graded sloping surface between the outside edge of the shoulder of a roadway section and the inside edge of any adjacent ditch in a cut section or the toe of the slope of a fill section.

Frontage road. A local street or road auxiliary to and located on the side of an arterial highway for service to abutting property and adjacent areas for control of access to the highway.

Full control of access. The authority to control access to give preference to through traffic by providing access connections only with selected public roads by prohibiting crossings at grade or direct private driveway connections.

Gallery. An underpass for more utility lines.

Grounded. An electric system connected to the earth or to some extended conducting body which serves instead of the earth whether the connection is intentional or accidental.

Grout. A mortar made from Portland cement, water and fine sand used to fill abandoned pipe.

High-grade highway. A highway having a minimum of four lanes divided by a median or a highway having two or more lanes and an average daily traffic volume of 3,500 vehicles or more.

Highway prism or roadway prism. That portion of the earth supporting the roadway structure and allied drainage ditches and/or structures (see [Figure 2-2 \(c\)](#)).

Highway, street or road. A public way for purposes of vehicular travel, including the entire area within the right-of-way.

Inspector. The authorized representative of the Department or the Utility (as appropriate) assigned to make detailed inspection of contract or permit performance.

Intermediate-grade highway. A paved highway having a minimum of two lanes and having an average daily traffic volume which is less than 3,500 vehicles.

Invoice. The claim or billing by the Utility for reimbursable costs.

Jacket. A concrete-encasement poured around a pipe that has no annular space.

Long-side service. A utility service line that requires crossing the travelway.

Low-grade road. Any road having an unpaved surface.

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

Maintenance. The work required to keep an existing facility in a good state of repair without adding to its physical makeup or changing its physical capacity.

Manhole. An opening in an underground system which may be entered for installations, inspections, repairs, connections and tests.

Median. The portion of a divided highway separating the travelway for traffic in opposite directions.

Municipal connecting-link roads. Designated city and town streets and roads or portions thereof, including viaducts and bridges which constitute the route of connection between or extension of state roads in the Alabama highway system. The legislature has provided that the cost, manner, extent of maintenance, repair, construction and reconstruction of these roads may be by the State independently or in cooperation with the city or town involved (§ 23-1-110).

Oblique. Crossing at an acute angle.

Occupancy agreement *or* permit. The document by which the highway authority regulates and/or gives approval of the use and occupancy of highway right-of-way by utility facilities or private lines when the highway is not in an active construction project.

Overfill. Backfill above a pipe.

Overrun. An increase in the quantity of any item of work or material required to complete the relocation work more than the quantity shown in the original cost estimate or supplements thereto.

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

Partial control of access. The authority to control access is exercised to give preference to through traffic to a degree that, in addition to access connections with selected public roads, there may be some crossings at grade and some private driveway connections.

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

Permit *or* occupancy agreement. The document by which the highway authority regulates and/or gives approval of the use and occupancy of highway right-of-way by utility facilities or private lines.

Pipe. A tubular product made as a production item for sale as such (cylinders formed from plate during fabrication of auxiliary equipment are not pipe as defined here).

Plans. The contract drawings which show the location, character, dimensions and details of the prescribed work, including layouts, profiles, cross sections and other details or reproductions thereof.

Pressure. Relative internal pressure in pounds per square inch (psi).

Project Engineer. The engineer in charge of the Department's efforts to monitor and oversee the contractor's efforts on active highway construction projects.

Region. A territorial subdivision of the state of Alabama comprised of several counties where construction and maintenance operations are supervised.

Region Area. A subdivision of a Region. (each Region has 2 Areas).

Region Engineer. The engineer in charge of one of the five regions in the Alabama Department of Transportation.

Regulatory body or agency. Any governmental agency that sets or monitors the rates charged to customers by a utility (for example, the Public Service Commission is a regulatory agency for the various telephone companies within Alabama; however, the Alabama Department of Environmental Management is not considered to be a regulatory agency for a water system because it does not set rates).

Relocation. The replacement in another location of an existing utility facility to eliminate a conflict with a proposed highway construction project; for this manual the term "relocation" includes adjustments to utility facilities.

Repair. In-kind work (labor and materials) done to return a failed utility back into service.

Right-of-Way. A general term denoting a legal interest in real estate usually in a strip acquired for or devoted to transportation systems or public utilities.

Right-of-Way Bureau. The Bureau responsible for procuring and clearing properties required for use as ROW. Also, handles the permitting of utilities on State ROW and relocation of Utilities if in conflict with state construction projects.

Right-of-Way Bureau Chief. Individual who oversees the process of acquiring, clearing, and permitting or relocation of utilities on State ROW.

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

Roadside. A general term denoting the area adjoining the outer edge of the roadway (extensive areas between the roadways of a divided highway may also be considered roadside).

Roadway. That portion of a highway including shoulders for vehicular use (a divided highway has two or more roadways).

Roadway prism or highway prism. See Highway prism.

Safety Rest Area. A roadside area with parking facilities separated from the roadway, provided for motorists to stop and rest for short periods (and which may include drinking water fountains, toilets, tables and benches, telephones, information and other facilities for travelers).

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

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

Service line. A water or gas line connection to one or two customers with a distribution line deflection up to 3.0%.

Service tap. The actual connection of a service line to a distribution line.

Short-side service. A service line that does not require the crossing of the travelway.

Sidefill. Backfill alongside a pipe.

Slab, floating. A slab between, but not contacting pipe or pavement.

Sleeve. A short casing through a pier or abutment of a highway structure through which a pipe or wire may be passed.

Transmission line. That part of a utility system connecting its main energy or material sources with its distribution system to which individual customers usually are not connected.

Travelway. That portion of the roadway for the movement of vehicles, exclusive of shoulders and auxiliary lanes.

Trenched. Installed in a narrow open excavation.

Untrenched. Installed without an open excavation in the ground or pavement surface, such as by jacking, boring or plowing.

Utility. A private, publicly or cooperatively owned line, facility or system for producing transmitting or distributing communications, cable television, power electricity, light, heat, gas, oil, crude products, water, steam, waste, storm water not connected with highway drainage or any other similar commodity, including any fire or police signal system or street lighting system which directly or indirectly serves the public (utility shall also mean the utility company inclusive of any wholly owned or controlled subsidiary).

Utility Certificate. A statement issued by the Utilities Engineer, by or before the construction submittal, which is thirteen weeks prior to receiving bids for a highway construction contract. The purpose of which is to assist all bidders by clarifying the status of each utility relocation effort.

Utilities Engineer. The engineer responsible for reviewing utilities on State ROW and the relocations of utilities in conflict with construction projects.

Utilities Section. That unit within the Right-of-Way Bureau of the Central Office responsible for utility matters on active Department projects.

Vent. An appurtenance to discharge gaseous contaminants from a casing.

Walled. Partially encased by concrete pored alongside the pipe.

APPENDIX B

ACRONYMS AND ABBREVIATIONS

A/E or AE	-----	Architectural Engineering Firm
AASHTO	-----	American Association of State Highway and Transportation Officials
ADEM	-----	Alabama Department of Environmental Management
ADT	-----	Average Daily Traffic
AED	-----	Associated Equipment Distributors
ALDOT	-----	Alabama Department of Transportation
ANSI	-----	American National Standards Institute
AWWA	-----	American Water Works Association
CADD	-----	Computer Aided Drafting and Design
CFR	-----	Code of Federal Regulations
CPMS	-----	Comprehensive Project Management System
DOT or U.S. DOT	-----	United States Department of Transportation
EPA OR U.S. EPA	-----	United States Department of Environmental Management
ETS	-----	Environmental Technical Section
FAPG	-----	Federal Aid Policy Guide
FHWA	-----	Federal Highway Administration
FR	-----	Federal Register
GDCP	-----	Guide for Developing Construction Plans
GIS	-----	Geographic Information System
HA	-----	Highway Agency
MUTCD	-----	Manual of Uniform Traffic Control Devices
NESC	-----	National Electrical Safety Code
NPDES	-----	National Pollution Discharge Elimination System
OSHA	-----	Occupational Safety and Health Act
PIH	-----	Plan-in Hand
PS&E	-----	Plans, Specifications and Estimate
ROW	-----	Right-of-Way
SAHD	-----	Standard Agreements, HD Series
SHA	-----	State Highway Agency
TCP	-----	Traffic Control Plan
TVA	-----	Tennessee Valley Authority
U.S.C.	-----	United States Code
U.S. EPA or EPA	-----	United States Environmental Policy Agency
U.S. DOT or DOT	-----	United States Department of Transportation

APPENDIX C

STANDARD LEGEND FOR UTILITIES

STANDARD LEGEND FOR UTILITIES		
	Existing	Proposed
Power Pole		
Light Pole		
Telephone Pole		
Anchor		
Stub (Power)		
Stub (Telephone)		
Electric Duct		
Direct Burial Electric Cable		
Overhead Electric Cable		
Electric Manhole		
Tower		
Telephone Pedestal		
Telephone Duct		
Direct Burial Telephone Cable		
Overhead Telephone Cable		
Telephone Manhole		
Sanitary Sewer		
Sewer Manhole		
Storm Sewer		
Water Main		
Water Valve		
Fire Hydrant		
Water Meter		
Gas Main		
Gas Valve		
Gas Regulator		
Direct Burial Cable TV		
Overhead Cable TV		

APPENDIX D

Bond Forms for Construction

BM-174	This is a surety bond for a single construction project to cover the cost of returning ALDOT ROW to good condition if a utility fails to do so after utility work is completed.
BM-175	This is a statewide blanket bond to cover the cost of returning ALDOT ROW to good condition if a utility fails to do so after utility work is completed. This bond is applicable for a single utility for one year. A continuation certificate may be requested if work exceeds one year.

(Click on Hyperlink to Access the Form)

APPENDIX E

FORM: OCCUPANCY AND USE PERMITS

Form	Title
Special Permit	Permit Agreement for the Accommodation of New Utility Facilities on State Right-of-Way.
MB-01	Permit Agreement for the Accommodation of Utility Facilities on State Right-of-Way.
MB-02	Special Permit Agreement for Installation of Utilities on State Right-of-Way.
MB-03	Permit Agreement for the Accommodation of Utility Type Facilities on State Right-of-Way.

(Click on the Form Text to Access)

APPENDIX F

STANDARD AGREEMENTS, FORMS AND GUIDES

FORM	SHORT TITLE	FULL TITLE
GDCP		ALDOT Guide for Developing Construction Plans
SAHD No. 1	Non-Reimbursable Agreement (#1)	Non-Reimbursable Agreement for Relocation of Utilities on Public Right-of-Way
SAHD No. 2	Reimbursable Agreement (#2)	Reimbursable Agreement for Relocation of Utility Facilities on Private or Public ROW
SAHD No. 3	Reimbursable Agreement, Work by State Contractor (#3)	Reimbursable Agreement for Relocation of Utility Facilities. Work to be done by State Contractor
SAHD No. 4	Non-Reimbursable Agreement, Work by State Contractor (#4)	Non-Reimbursable Agreement for Adjustment of Utility Facilities, Work to be done by State Contractor
SAHD No. 5	Retention Letter	Letter of Retention of Utility Facilities; No Conflict with Project
SAHD No. 6	Supplemental Agreement	Supplemental Agreement for Utility Relocation Cost Overruns
SAHD No. 8	Reimbursable Agreement, Work for ALDOT	Agreement for Construction of Utility Facility to serve Alabama Department of Transportation needs
SAHD No. 12	Agreement to Terminate	Agreement to Terminate a Reimbursable Utility Relocation Agreement
SP-1		Daily Utility Inspection Report
SP-3		Utility Relocation Progress Report
SP-4		ALDOT Utilities Section Statement of Charges
UCE Agreement	Utility Consultant Engineering Agreement	Agreement for Engineering Services by Consultant on Utility Projects
U-10 Form		Cost Estimate

(Click on the Form Text to Access)