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Chapter 4 Utilities and Other Right-of-Way Uses

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Section 4.1.1-4.1.1

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CHAPTER 4 UTILITIES AND OTHER RIGHT-OF-WAY USES

4.1 OVERVIEW

All activities using the County's rights-of-way for other than transportation are subject to the Standards in this chapter, which regulates these activities through the Work in the Right-of-Way Permit processes. Detailed permit requirements are contained in Chapter 5 Permits and Inspections.

4.1.1 Purpose

The purpose of this chapter is to provide guidelines for those proposing to perform work or place a privately owned structure within the County's right-of-way. The main focus of the criteria within this chapter is on utilities, however, it also discusses the importance of coordination and the expectation of those performing any and all work within the County's right-of-way.

4.1.2 Chapter Content and References

Table 4-1 outlines the chapter content and references used as a basis for the standards established in Chapter 4.

Table 4-1. Contents and Basis of Utility and Other Right-of-Way Uses

Intent Use	ECM Content	ECM Section(s)	Reference Document(s)
Planning			
	Rights	4.2.1	1
	Uses	4.2.2	1
Design			
	Requirements and Standards	4.3.1 - 4.3.4	1
	Utility Locations	4.3.5	2
	Installation Standards	4.3.6 - 4.3.8	2, 3
	Mailboxes	4.4	1
Construction			
	Permitting	5.3, 5.5 and 5.7	1
	Inspections	5.11 and Appendix K	1
	Acceptance	5.3 and 5.5	1

References

1. El Paso County Land Development Code
2. Utility District (location dependent) Installation Standards/Specifications
3. US Department of Transportation, Manual on Uniform Traffic Control Devices

4.1.3 Standard Drawings

Table 4-2 identifies the standard drawings that are included in Appendix F as an enforceable part of these Standards. The Standard Drawing shall be used in all applications for which a public improvement is to be designed. Any deviations from a

Standard Drawing shall be approved by the ECM Administrator and noted in the construction plans.

Table 4-2. Standard Drawings

Figure Name	Detail/Description	Approval Date
SD_4-1	Urban Local (low volume) Roadway - Utility Placement	
SD_4-2	Urban Local Roadway - Utility Placement	
SD_4-3	Urban NonResidential Collector Roadway - Utility Placement	
SD_4-4	Urban Residential Collector Roadway - Utility Placement	
SD_4-5 & 4-5A	Urban Minor Arterial Roadway - Utility Placement	
SD_4-6 & 4-6A	Urban Principal 4-Lane Arterial Roadway - Utility Placement	
SD_4-7 & 4-7A	Urban Principal 6-Lane Arterial Roadway - Utility Placement	
SD_4-8 & 4-8A	Urban Expressway 4-Lane Roadway - Utility Placement	
SD_4-9 & 4-9A	Urban Expressway 6-Lane Roadway - Utility Placement	
SD-4-10	Rural Gravel Local Roadway- Utility Placement	
SD_4-11	Rural Local Roadway - Utility Placement	
SD-4-12	Rural Minor Collector Roadway - Utility Placement	
SD_4-13	Rural Major Collector Roadway - Utility Placement	
SD_4-14 & 4-14A	Rural Minor Arterial Roadway - Utility Placement	
SD_4-15 & 4-15A	Rural Principal 4-Lane Arterial Roadway - Utility Placement	
SD_4-16 & 4-16A	Rural Principal 6-Lane Arterial Roadway - Utility Placement	
SD_4-17 & 4-17A	Rural Expressway 4-Lane Roadway - Utility Placement	
SD_4-18 & 4-18A	Rural Expressway 6-Lane Roadway - Utility Placement	
SD_4-20	Utility Trench Repair Detail (asphalt pavement)	
SD_4-21	Utility Trench Repair Detail (newly overlaid pavement)	
SD_4-22	Utility Trench Repair Detail (concrete pavement)	
SD_4-23	Utility Trench Repair Detail (flowable fill)	

4.2 PLANNING

4.2.1 Rights of Utilities

Section 38-5-101, Colorado Revised Statutes, authorizes the placement of utilities within the County's right-of-way. While the County is obligated to allow the public right-of-way to be used to provide development with sanitary and storm sewers, water mains and service lines, gas mains and service lines, electrical main lines and service lines, telephone cable

lines and service lines, etc., the County must establish and enforce these Standards for design, installation, and maintenance of utilities and other facilities within the right-of-way. The County must enforce these Standards to protect the value and use of the right-of-way and roadways for transportation.

4.2.2 Use of Right-of-Way Policy

A. Coordination with Roadway Improvements

Every attempt shall be made to coordinate proposed utility and facility installations with existing conditions and other proposed construction activities, such as utility main lines and service lines to all lots, tracts or parcels of land shall be placed prior to completion of roadways.

B. No Disturbance of Roadway Surface

When roadway construction is completed, utility and facility placement shall not disturb the roadway surfaces, except for an emergency repair. Jacking or boring under the surface will be required for new utility placement in hard surfaced roadways. The size of disturbed area necessary to install a utility or facility shall be kept to a minimum.

C. Coordination with Other Utilities

Each utility company or district must coordinate with the other utility companies in the location of its utility; that is, the companies shall mutually ascertain the most satisfactory location of their utility.

D. Impact Traffic Operations and Safety

Accommodation of utilities and other facilities within the County's right-of-way shall not materially degrade or adversely affect traffic operations, safety, maintenance or the structural integrity of the roadway.

4.3 UTILITY DESIGN

4.3.1 Permit Required

A Work in the Right-of-Way Permit shall be obtained from the ECM Administrator for the placement of utilities within the County's right-of-way. The installation of utilities in dedicated right-of-way in new subdivisions will be exempt from requiring a Work in the Right-of-Way Permit, but such installations shall obtain approval of a layout plan showing proposed utility locations prior to beginning construction. The approved layout plan(s) shall be submitted as part of the Construction Permit.

A Work in the Right-of-Way Permit shall be obtained from the ECM Administrator for the maintenance of utilities within the County's right-of-way.

4.3.2 Damages Caused by Utility Installations

Any damage to existing installations caused by the installation of utilities shall be repaired or replaced at the expense of the permit holder, contractor or utility company making the installation. Examples of existing installations include culverts damaged or cut, sidewalks

cut or undermined, curbs or gutters cut or undermined, fencing cut or damaged, vegetation destroyed, hard surface cut or undermined.

4.3.3 Adjustment or Relocation Cost Obligations

Utilities are deemed acceptable to the ECM Administrator if they are installed per plans showing horizontal and elevation control, within the County's right-of-way, and approved by the ECM Administrator. In the case where utilities are installed prior to or without plan approval, the utility company will cover expenses for relocation and adjustments due to road improvements or reconstruction.

4.3.4 General Standards

A. Existing Utility Districts

Where a utility district exists and has adopted installation standards, the utility district's requirements shall be followed and used in preparing the utility design.

B. Area Not Currently in a Utility District

In areas not covered by a utility district, the standards contained in this section shall be used in preparing the utility design. These standards generally follow industry codes that are used by the utility companies for design and installation of their facilities.

4.3.5 Utility Location

A. Minimize Relocation and Disruption of Traffic

Utility facilities shall be located to minimize the need for future relocation, to accommodate roadway improvements, and to provide service access to such facilities with minimum disruption to roadway traffic.

B. Minimize Disruption of Other Utilities

Utility equipment or facilities to be installed in the County's right-of-way shall not disrupt the operation of existing utilities. Other utilities, including but not limited to electrical, telephone, cable TV, and fiber optic lines, are preferred for underground installation at locations compatible with other utilities, storm drains, and future roadway construction.

C. Precedence of Gravity Systems

Gravity systems, whether sanitary sewer or storm drainage, shall have precedence over other systems in design and construction.

D. Aboveground Utilities

1. Compatibility

The location of poles, vaults, boxes or other aboveground utility objects shall be compatible with driveways, intersections, and other roadway features. They shall not interfere with sight distance, signage, traffic signals, drainage facilities, etc. Where possible, utilities shall share

facilities to minimize the number of obstructions in the County's right-of-way.

2. Clear Zone

The placement of aboveground utility facilities or equipment within the County's right-of-way shall conform to the "clear zone" guidelines in Chapter 2. Utility poles and other aboveground utility equipment shall be placed outside of clear zone areas unless a deviation is approved by the ECM Administrator and provisions for vehicular safety are installed.

3. Roadway Vertical Clearances

A 19-foot minimum vertical clearance for overhead lines shall be maintained over all County roadways. The minimum vertical clearance for overhead power and communication lines above the roadway and the minimum lateral and vertical clearance from bridges shall comply with state and federal standards.

4. Pedestrian and Bike Path Clearances

Utility poles and equipment shall not be placed in pedestrian or bicycle facilities, or protrude into the vertical space over sidewalks, walkways or bikeways. As specified in Chapter 2, there shall be an unobstructed vertical clearance of at least 7 feet above the surface of any sidewalk and 10 feet above any bike path. A 2-foot horizontal clearance shall be maintained between the edge of any bike path and any vertical utility obstruction.

E. Underground Utilities

1. Scoping Meeting

A Scoping Meeting is required with the ECM Administrator for all proposals to install underground utilities in the right-of-way of any arterial or expressway roadway or in more than 2,000 feet of right-of-way of non-arterial roadway. Final approval of all utility installations within the road right-of-way rests with the ECM Administrator even if the utility ownership falls within an existing utility district.

2. Longitudinal Placement

Longitudinal placement of underground utilities in the County's right-of-way shall comply with the typical utility locations shown in the utility Standard Drawing in Appendix F. When determining the planned longitudinal placements of utilities, the design engineer shall consider the roadway functional classification in the Major Transportation Corridors Plan to try to anticipate future roadway alterations and limit the need for relocation of utilities in the future.

3. Lateral Placement

Lateral placement of underground utilities across a County right-of-way shall be as near a right angle to the road centerline as practicable. Utility crossings should avoid deep cuts, bridge footings and retaining walls, or locations where roadway drainage would be affected. Utility crossings may be designated by the ECM Administrator.

4.3.6 Underground Utilities Standards

A. Cover and Separation

Cover over underground utilities and the separation between underground utilities shall conform to applicable federal and state regulations, these Standards, and the Standard Drawings in Appendix F.

1. Water Lines

- Water Mains: At no time shall a water main be placed less than 5 feet in depth measured perpendicularly to the ground line at any point of the road cross section.
- Water Service Lines: At no time shall water service lines be placed less than 5 feet in depth measured perpendicularly to the ground line, at any point of the road cross section, to the right-of-way line.
- Meter Boxes: Meter boxes shall be set at the inside edge of the right-of-way line, but not within curb ramps. Where a utility easement exists adjacent and parallel to the right-of-way, meter boxes shall be placed in the utility easement.
- Fire Hydrants: Fire Districts must be contacted to determine location, spacing, and equipment standards.

2. Sanitary Sewer Lines

- Sewer Mains: At no time shall a sewer main be placed less than 5 feet in depth measured perpendicularly to the ground line at any point of the road cross section.
- Sanitary Sewer Service Lines: At no time shall sewer service lines be placed at a depth of less than 5 feet measured perpendicularly to the ground line at any point of the road cross section, to the right-of-way line.

3. Gas

- Gas Mains: At no time shall the depth of gas mains be less than 3 feet as measured perpendicularly to the ground line at any point of the road cross section.
- Gas Service Lines: At no time shall the depth of gas service lines be less than 2.5 feet, as measured perpendicularly to the ground

line at any point of the road cross section, to the right-of-way line.

4. Electrical Lines

- Main Lines: At no time shall the depth of electrical main lines be less than 4 feet as measured perpendicularly to the ground line at any point of the road cross section.
- Service Lines: At no time shall the depth of electrical service lines be less than 2.5 feet, as measured perpendicularly to the ground line at any point of the road cross section, to the right-of-way line.

5. Telephone and Cable TV

- Telephone Cable TV Main Lines: At no time shall the depth of telephone main cables be less than 2.5 feet, as measured perpendicularly to the ground line at any point of the road cross section.
- Telephone and Cable TV Service Lines: At no time shall the depth of telephone service lines be less than 2.5 feet, as measured perpendicularly to the ground line at any point of the road cross section, to the right-of-way line.

B. Casings

1. When Required

Casings shall be installed for roadway crossings when required by appropriate industry codes or by the ECM Administrator. Casings may be required in the following situations:

- To facilitate the insertion, removal, replacement or maintenance of a carrier line crossing or other circumstances where it is necessary to avoid open trench construction.
- To protect carrier lines from external loads or shock during or after construction of a road.
- To protect jacked or bored installation of coated carrier lines unless assurance is provided that no damage will result.

2. Type and Sizing

The type of casing used shall meet industry and applicable state and federal standards and shall be designed to withstand road loading. The casing shall be sized to accommodate other compatible utilities and future needs.

3. Extension

Within the County's right-of-way, casing pipes shall extend to the outside of curbs or ditches or beyond the toe of fill slopes.

4. Ends Sealed

Casing pipes shall be sealed at both ends, except for necessary vents or drains.

C. Carrier Pipes

Carrier pipes, i.e., pipes that directly enclose a transmitted fluid or gas, shall conform to the material and design requirements of the appropriate utility industry and state and federal codes and specifications.

Carrier pipes shall be designed to withstand road loading plus all loads imposed under all ranges of operating pressure from zero to maximum internal pressure.

D. Marking

Location markers and emergency information shall be provided by the utility when required by applicable state and federal standards.

E. Appurtenances

1. Vents

Vents may be required for casings, tunnels, and galleries enclosing carriers of fluids or gases in accordance with state and federal standards. Vent standpipes shall be located as close to the right-of-way line as possible to minimize interference with road operation and maintenance, and shall not be concealed by vegetation.

2. Drains

Drains may be required for casings, tunnels or galleries enclosing carriers of fluids or gases in accordance with state and federal standards. Drains for carriers of hazardous materials shall be directed to artificial holding areas to prevent possible surface or groundwater contamination. Drains for which only water or other non-hazardous liquids may discharge may be directed into roadway drainage systems at locations approved by the ECM Administrator. The drainage outfall shall not be used as a waste way for routine purging of the carrier pipe unless specifically authorized by the ECM Administrator.

3. Manholes

Manholes shall be designed and located in a manner that will cause the least interference to other utilities or future road expansion.

4.3.7 Underground Utility Installation Standards

A. General

All utility installation, maintenance, and repair shall conform to these Standards and Appendices F and K.

B. Logistical Planning

Logistical planning shall be coordinated with and approved by the ECM Administrator as part of an approved Work in the Right-of-Way Permit. Logistics plans shall include requirements for advance warning signs, directional signs, flagmen, lighting, and all such standard traffic control devices deemed necessary. Upon approval of the logistics and construction plans, implementation of logistics plans shall be complied with by the utility company performing the work to best guarantee the safety of the motorist, pedestrian, workers, and equipment.

C. Maintenance during Peak Traffic Periods

Utility construction maintenance activities on heavily traveled roadways are prohibited during the peak traffic volume periods. The ECM Administrator shall establish appropriate work hours for all projects. The closing of any lane to traffic shall have written approval from the ECM Administrator.

D. Alternative Installation Methods

1. Plowing

Plowing of communication and electrical lines on or adjacent to existing roads by means of a vibratory plow may be allowed by the ECM Administrator provided the structural integrity of the roadway will not be impaired. Plowing may be no closer than 4 feet from the pavement. Use of a "static" type plow is not allowed.

2. Boring

Boring may be required for pipelines or conduits to cross roads, instead of trenching, as directed by the ECM Administrator. If sufficient right-of-way exists, the length of the bore shall extend a minimum of 4 feet from the edge of the pavement. Unused holes or abandoned casings shall be backfilled. Water boring under roadways shall not be permitted. Existing carriers and conduit installed under a roadway shall be physically located prior to boring.

4.3.8 Utility Installation on Roadway Structures

A. General

Attachment of utility lines to a roadway structure, including bridges, may be allowed where such attachment conforms to sound engineering practice for preserving the roadway structure and ensuring its safe operation, maintenance, and appearance. Attachment of any utility to any bridge within the County's right-of-way requires the approval of the ECM Administrator.

Attachment of a utility shall not be considered unless the structure is designed to support the additional load and can accommodate the utility facility without limiting features such as ease of maintenance.

B. Placement of Utility Features

Utility features, such as manholes or access panels, shall not be placed within the roadway portion of the structure.

C. Hazardous Substance

A pipeline carrying a hazardous substance shall not be attached to a roadway structure unless specifically approved by the ECM Administrator.

D. Clearance Requirements

The utility attachment shall not reduce any clearance requirement of the structure. Attachment to the outside of a structure shall be avoided unless there are no reasonable alternatives.

E. Vibration and Noise

Utility mountings shall be of a type that does not create noise from vibration.

F. Sleeves Required

Any hole created in a structure abutment shall be sleeved, be of a minimum size necessary to accommodate the utility line, and be sealed to prevent any leakage of water or backfill material.

G. Alignment

A utility line behind an abutment shall curve or angle out to align outside the roadbed area in as short a distance as is operationally practicable.

H. Communication and Electric Lines

Communication and electrical power line attachments shall be suitably insulated, grounded, and preferably carried in protective conduit or pipe from point of exit from the ground to re-entry. Carrier pipe and casing pipe shall be properly isolated from electric power line attachments.

4.4 MAILBOXES

4.4.1 United States Postal Service (USPS) Coordination

Mailbox type and location require approval of the USPS. Discussions with the local postmaster early in the project design process are important to ensure proper coordination.

4.4.2 Mail Box Types

To assist in clarifying the differences between the types of mailboxes typically installed within the County's right-of-ways, the following three descriptions were developed:

- Type 1 is a typical post mounted individual mail box
- Type 2 is an individual mail box that has been modified by the owner through the addition of a larger/permanent supportive structure
- Type 3 relates to cluster boxes

These descriptions are only applicable to this section and were primarily developed to assist in determining the different levels of actions required for locating and installing these types of mailboxes within the County's right-of-way.

4.4.3 Work in the Right-of-Way Permit Required

A Work in the Right-of-Way Permit shall be obtained from the ECM Administrator to locate either Type 2 or 3 mailboxes within the County's right-of-way.

4.4.4 Mailbox Construction Plans

Construction plans shall clearly show the proposed location or relocation of either Type 2 or 3 mailboxes. Construction plans shall include a statement that the postmaster has approved the proposed mailbox type(s) and location(s). The statement shall be signed and dated by the local postmaster or authorized representative prior to obtaining approval of a Work in the Right-of-Way Permit.

The relocation of Type I mail boxes will be done so through direct coordination between the owner and local postal carrier.

4.4.5 Location and Installation

A. Lower Functional Classification Roadway

Where a choice of roadway locations exists, mailboxes shall be located on the lower functional classification roadway.

B. Not Impede Access or Sight Distance

Mailboxes shall be located so as not to impede access or sight distance visibility.

C. Clear Zone Placement

Type 2 or 3 mailboxes located within a roadway clear zone shall have breakaway features.

D. Temporary Relocation

If it becomes necessary to remove or otherwise disturb existing mailboxes, the mailboxes shall be temporarily placed so their function will not be impaired. The boxes shall be reinstalled in accordance with the local postal carrier's requirements.

4.4.6 Road Improvements

Turnouts for mail delivery vehicles shall be installed to serve cluster mailbox units located along arterial or collector roads, or any road with a posted speed of 35 MPH or above.

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