

CHAPTER 10 - UTILITY LOCATIONS

INDEX

Section	Topic	Page
10.1	Plans Required	10.1
10.2	Design Standards	10.2
10.3	Location	10.2

CHAPTER 10 UTILITY LOCATIONS

10.1 PLANS REQUIRED

Any utility or other facility constructed in County ROW shall have construction plans submitted and approved in accordance with requirements of Chapter 3 in these standards. No construction permit shall be issued for construction of new utilities or extension of existing utilities without prior construction plans approved by Arapahoe County.

To avoid delays and redesigns on large projects and in areas where future road improvements are expected, plan and profile sheets are required at street crossings. Additional plan and profile sheets may be required due to the complexity of a project or possible utility conflicts, and will be determined on a case by case basis by the Staff Engineer. A pre-design meeting should be held with the Staff Engineer or authorized representative to discuss the requirements of the plan submittal. The County will assist the utility company in determining what future roadway profiles and improvements are expected to minimize future utility relocations.

Utility layout and design shall conform to the requirements listed within Chapter 10 and in section 9.8.5 of these Standards.

Exceptions:

1. Service taps or laterals to individual properties when not installed with main line.
2. Minor maintenance projects may be exempt from submitting formal construction plans. In such cases however, a sketch and traffic control plans must accompany the permit application. Utility companies may be exempt from the requirement of a professional engineer's signature and stamp on the construction plans if the project is of a nature that would not warrant design by a registered professional engineer, as determined by the County Engineer.
3. Requirements for submitting plan and profile sheets may be waived upon written request of the utility company. This exception does not apply to water and sewer line projects.

10.1.1 A guide to determine if a project will require formal plans is shown below. If two or more of the criteria are checked **yes** then formal construction plans may be required.

Characteristic of Street Cut	No	Yes
1. Longitudinal to traffic more than 300'	<input type="checkbox"/>	<input type="checkbox"/>
2. Transverse to traffic - crosses more than one traffic lane, requires lane closure, detours, flagging	<input type="checkbox"/>	<input type="checkbox"/>
3. Is the street-major collector, minor arterial or major arterial	<input type="checkbox"/>	<input type="checkbox"/>
4. Is street improved, i.e., paved	<input type="checkbox"/>	<input type="checkbox"/>
5. Is pavement patching required	<input type="checkbox"/>	<input type="checkbox"/>
6. Is estimated cost greater than \$50,000	<input type="checkbox"/>	<input type="checkbox"/>

10.1.2 If formal plans are required, Arapahoe County will notify the applicant within 48 normal business hours of receiving the permit application.

10.1.3 The applicant's completed facility shall be in conformance with the drawings or sketches referred to above, unless a variance has been requested and approved by Arapahoe County.

10.1.4 When plans are required and the proposed facility involves pressure pipe lines, the following additional data is required:

- A) Design pressure of pipe.
- B) Normal operating pressure.
- C) Maximum operating pressure.
- D) Nominal composition of material in pipeline.

10.2 DESIGN STANDARDS

10.2.1 All work in connection with the utility authorized by the permit shall be done in a neat and workmanlike manner to the satisfaction of the Public Works and Development Department. The details of construction of the same shall conform to the requirements in effect at the time of permit issuance.

10.2.2 All utilities including water, sanitary sewer and storm sewer shall be stubbed out to the ROW at all locations that are planned for future tie-ins. Other reasonable stub-outs may be requested by the County based on sound engineering judgment and knowledge of adjacent development.

10.2.3 All manhole lids, utility access covers and range box access covers shall be depressed below the adjacent finished street surface in accordance with these standards.

10.2.4 During initial construction, utility companies may be required to install all utilities within a Schedule 40 PVC sleeve across all public streets to accommodate future repairs without street cuts. Sleeves shall be installed at a minimum depth of 48" to the top of the pipe from the top of the curb. Sleeve location shall be determined on a case-by-case basis.

The Developer shall be required to install additional utility sleeving at all arterial and collector intersections as determined by the County Engineering Staff, including at any intersection along a collector or arterial, which may warrant signalization. Sleeving shall be installed across all streets of the intersection.

10.3 LOCATION (See also Standard Details SP. 20 – SP. 22 in the Appendix)

For the following, potholing should be done prior to and/or during construction in order to assess the location(s) of other utilities. The Construction Documents shall satisfy the requirements of the individual Water and Sanitation District prior to approval by Arapahoe County. When Water and Sanitation District requirements differ from these Roadway Standards the more restrictive shall apply unless a variance is approved by the County that is supported by the Water and Sanitation District.

10.3.1 Water

Water mains should be located on the Northerly and Easterly sides of the streets when possible. Deviations from these criteria will be acceptable where conditions dictate. Provide a minimum 10' horizontal separation from existing or proposed sanitary sewer lines. Fire hydrants will be located 3' minimum from back of curb, 2' minimum from back of attached walk, or 10' minimum from edge of pavement if no curb is present.

10.3.2 Sanitary Sewer

Sanitary sewer lines should be located on the southerly and westerly sides of the street when possible. Deviations from these criteria will be acceptable where conditions dictate. Sanitary Sewer should be offset five (5) feet from centerline.

10.3.3 Storm Sewer

Storm sewer lines should be located on either side of street, beneath curb, gutter and walk to provide direct access to storm inlets when possible. Deviations from these criteria will be acceptable where conditions dictate. Utility clearances (except water and sanitary) from storm sewer outer pipe wall shall be a minimum of 2 feet. Manhole rims and covers shall have a minimum one (1) foot clear distance from any gutter pan.

10.3.4 Natural Gas

Gas mains should be located either within the right-of-way or in an adjacent easement on the southerly and westerly sides of the street when possible. Deviations from these criteria will be acceptable where conditions dictate. For utility companies that wish to run double mains (a main on each side of the street), the requirement of north and east/south and west may be waived by the Director, PWD.

10.3.5 Power

Generally, power lines should be located in the northerly and easterly sides of the street either within the right-of-way or in an adjacent easement when possible. Deviations from these criteria will be acceptable where conditions dictate.

10.3.6 Telecommunications

Telecommunication lines should be located in the northerly and easterly sides of the street either within the right-of-way or in an adjacent easement when possible. Deviations from these criteria will be acceptable where conditions dictate. It is the preference of the Public Works and Development Department to bore fiber optic line beneath conflicting utilities.

10.3.7 Additional Structures

Landscaping within public easements and ROW.

Generally all poles, signs, trees and shrubbery shall conform to Arapahoe County "Streetscape Guidelines". Streetscape Guidelines can be found in the Land Development Code, Section 3-300.