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# POLICIES, SPECIFICATIONS, AND PROCEDURES FOR THE CONSTRUCTION AND PLACEMENT OF UTILITIES IN LEON COUNTY, FLORIDA

Prepared by
The Department of Public Works
Division of Utilities

May 15, 1981

RETURN TO CHARLES W. FR
LEON COUNTY COURTHOUSE RM.

TABLE OF CONTENTS

Table of Contents (continued)

## LIST OF FIGURES

# CHAPTER I

## INTRODUCTION, OVERVIEW, AND DEFINITIONS

### SECTION 1.1.0. - Introduction and Purpose

A. The purpose of this document is to outline the procedure any person, firm, corporation, utility, or governmental entity would need to follow to obtain a County authorized water and sewer service area and to construct, own, and operate, or expand a water or sewer system within the unincorporated area of Leon County pursuant to Leon County Ordinance 80-29. Also, this document and the policies promulgated by the Leon County Board of County Commissioners delineates procedures for other units of local government to acquire contiguous areas to the Water and Sewer Zone pursuant to Sanitary Sewer and Water Agreement(s) and Leon County Ordinance 80-29.

B. In addition, this document outlines the procedures any person, firm, corporation, utility, or governmental entity would need to follow to obtain a facility construction permit or right-of-way placement permit.

C. Also, this document outlines Leon County approved utility construction standards and minimum material specifications for the construction of water/sewer systems in the unincorporated area of Leon County and the construction and placement of utilities on Leon County rights-of-way.

D. Finally, this document outlines Leon County policies in regard to enforcement, fees, and bonds required to construct or place utilities in Leon County rights-of-way pursuant to Leon County Ordinance 81-17.

### SECTION 1.2.0. - Existing Policies and Procedures

The policies, procedures, and specifications outlined in this document supersede any previous policies, procedures, or guidelines for the construction or expansion of water or sewage disposal systems in the County Water and Sewer Zone, and for the construction or placement of utilities in the unincorporated area of Leon County.

### SECTION 1.3.0. - Authorized Utility Service Areas

Any person, firm, corporation, utility, or governmental entity who desires to obtain an authorized area to construct, operate, or own a public water system or public

sewage disposal system within the unincorporated area of Leon County pursuant to Leon County Ordinance 80-29 is required to follow and perform those procedures outlined in Chapter II of this document or such other regulatory documents as may be agreed to between the County and other units of local government.

SECTION 1.4.0. - Regulatory Responsibilities Within City/County Water and Sewer Zones

The County shall regulate all non-City owned public water and sewer systems within the exterior boundaries of the City Water and Sewer Zone and all public water and sewer systems within the County Water and Sewer Zone. The City shall regulate all City-owned water and sewer systems within the City Water and Sewer Zone. Specific regulatory responsibilities and procedures pursuant to the City/County Agreement and County Ordinance 80-29 are outlined in Chapter III of this document.

SECTION 1.5.0. - Leon County Facility Construction Permits

Any person, firm, corporation, utility, or governmental entity who desires to obtain a Leon County Facility Construction Permit to construct or extend a public water or sewage disposal system within the Leon County Water and Sewer Zone is required to follow and conform to those procedures outlined in Chapters IV and VI of this document.

SECTION 1.6.0. - Leon County Right-of-Way Placement Permits

Any person, firm, corporation, utility, or governmental entity who owns and/or operates a utility in the unincorporated area of Leon County shall first obtain a Leon County Right-of-Way Placement License and Permit pursuant to Leon County Ordinance 81-17 and in accordance with those policies, procedures, and specifications outlined in Chapters V and VI of this document.

SECTION 1.7.0. - Minimum Material Standards and Specifications

Any person, firm, corporation, utility, or governmental entity who desires to obtain a permit to construct a public water or sewer facility in the Leon County Water and Sewer Zone or place a utility on any County rights-of-way is required to meet minimum material standards and specifications as outlined in Chapter VI of this document.

SECTION 1.8.0. - Construction Standards and Specifications

Any person, firm, corporation, utility, or governmental entity who has obtained a permit to construct a public

water or sewer facility in the Leon County Water and Sewer Zone or has obtained a permit to construct or place a utility on any County right-of-way is required to follow County approved construction standards outlined in Chapter VII of this document.

SECTION 1.9.0. - Definitions

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| ANSI | The American National Standards Institute. |
| ASTM | The American Society for Testing and Materials. |
| Authorized Water/Sewer Service Area | A legally described area located within the County Water and Sewer Zone in which there exists either an exclusive or nonexclusive sewer and/or water service agreement between a person, firm, corporation, utility, or governmental entity and Leon County for the rights and responsibility to deliver such service. |
| AWWA | The American Water Works Association. |
| Board of County Commissioners (Board) | The Leon County Board of County Commissioner Leon County, Florida. |
| Casing | Conduit placed in or under road surfaces for the purpose of supporting the grade design. |
| City | The City of Tallahassee, Florida. |
| City Zone | The initial City Water and Sewer Zone and contiguous area additions approved pursuant to the 1980 City-County Sanitary Sewer and Water Agreement, excluding all non-City owned water/sewer service areas located within the exterior boundaries of the City Zone. |
| Corrective Measures | A task or action required to correct a deficiency. |
| County | A political subdivision of the State of Florida known as "Leon County" and its governing body and staff representatives. |
| Culvert | Any structure not classified as a bridge or casing which provides an opening under the roadway. |

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| Default | Conditions set forth in County Ordinance 80-29 which conveys to the County the right to enter upon the premises of a system; operate the system; possess, keep, and maintain all system records; and transfer the system to County ownership. |
| Deficiency | A deviation from County approved material specifications, construction standards, or a deviation from the approved plans. |
| Department | The Leon County Division of Utility Services Department of Public Works, and its representatives. |
| Engineer | A professional engineer registered in the State of Florida. |
| Equipment | The machinery, public safety devices, employee safety devices, support items, and supplies necessary for the acceptable completion of the task. |
| Exclusive Authorized Service Area | A defined geographical area of the Leon County Water and Sewer Zone which is provided water and/or sewage disposal service by one County approved system owner. |
| Facility | A public sewage disposal or water system. |
| Facility Construction Permit | A Leon County authorization to construct a public water or public sewer facility or to expand an existing facility. |
| Facility Construction Permit Application | The completed Leon County application form with the appropriate attachments submitted under the provisions of County Ordinance 80-29 and the policies of the Board of County Commissioners. |
| FDER | The Florida Department of Environmental Regulation. |
| Grace Period | A specified time established by the Inspector which will allow the permittee to delay the performance of corrective measures necessary to address deficiencies found in the permitted construction operation. |
| Inspector | An authorized representative of the County and the Department who acts within the scope of the duties assigned to ascertain that construction is according to the approved |

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| Inspector (continued) | application and attachments, the conditions of the permit, and the safety and welfare of the public. |
| Leon County Water and Sewer Zone | The geographical area of Leon County except the City Water and Sewer Zone as outlined in the City/County Sanitary Sewer and Water Agreement. |
| Maintenance Bond | The financial guarantee of the completed water or sewer system construction or utility placement for a period of one year following the approval of the final inspection. |
| Minor Maintenance Repairs | Any repairs to the well and/or associated well site appurtenances, and repairs to a wastewater treatment facility, or any repairs to the distribution/collection system involving three or less continuous joints of pipe. |
| NSF | The National Sanitation Foundation. |
| Nonexclusive Authorized Service Area | A defined geographical area of the Leon County Water and Sewer Zone that may be supplied water and/or sewage disposal service by more than one person, firm, corporation, or governmental entity. |
| Performance Bond | The financial guaranteeing of work and conditions of the issued water or sewer facilit construction permit or right-of-way placemen permit. |
| Permittee | The utility owner or the authorized representative who has been empowered by the utility owner to bind the utility owner to the terms and conditions of the facility construction permit or right-of-way placemen permit. |
| Plans | One or more drawings including reproductions thereof showing the location, character, dimensions, and details of the work to be accomplished, bearing the signature, date, and the relationship to the permittee of the person preparing the plans. |
| Potentially Hazardous Roads | A list of Leon County maintained roads which are determined by the Department of Public Works to be potentially hazardous to the traveling public, should the flow of traffic be hindered or impeded. |

Potentially Hazardous Roads (continued)

The following criteria shall be used to designate a major County thoroughfare:

(a) Legal Speed Limit;

(b) Volume of Traffic;

(c) Adverse Geographic Features.

The list shall be maintained and updated regularly by the Department of Public Works.

Project Supervisor

A person experienced in the type of work being performed and who has the authority to represent the permittee in a routine decision making capacity concerning the manner and method of carrying out the work authorized by the issued permit.

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| Public Sewage System | Any sewage disposal system serving more than eight (8) residential, commercial, or industrial units. |
| Public Water System | Any water system serving more than eight (8) residential, commercial, or industria units. |
| Right-of-Way | All properties deeded or leased to the County, easements dedicated to the public County maintained roads, and any areas that shall become one of the above mentioned areas via recorded subdivisions dedicated to the County. |
| Right-of-Way Placement License Application | A completed Leon County application form with appropriate attachments submitted under the provisions of Florida Statute 125.42 and the policies of the Board of County Commissioners. |
| Right-of-Way Placement Permit Application | A completed Leon County application promulgated by Ordinance 81-17, and under the provisions of Leon County policies and procedures for the construction and placement of utilities. |
| Roadbed | That portion of the right-of-way occupied by the road surface and subgrade. |
| Road Surface | Surfaces of the thoroughfare, edge of pavement to edge of pavement, and the subgrade underneath. |
| Routine Service Drops and Taps | A normal service connection between a service customer and a readily accessible and adjacent utility pole, water main, sewer main, gas main, or utility service outlet. |
| Service Area Application | A completed Leon County Application form for a Water/Sewer Service Area with appro riate attachments submitted under the purview of County Ordinance 80-29, and County policies and procedures. The application is submitted after the pre-application is complete and the applicant has received written notification of approval of the conceptual plans. |
| Service Area Pre-Application | A completed Leon County pre-application form with the appropriate attachments sub mitted by any firm, utility, corporation, or governmental entity who desires to construct, own, or operate a water/sewer facility within a defined area of the |

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| Service Area Pre-Application (Continued) | Leon County Water and Sewer Zone under the purview of County Ordinance 80-29 and County policies, specifications, and procedures. The pre-application procedure must be complete and be approved prior to the applicant submitting a Service Area Application. |
| Shoulders | That portion of the right-of-way outside the edges of the traveled way extending to the top of the front slopes. The shoulders may be either paved, as with sidewalks, or unpaved. |
| Sewage Collection System | Pipes, conduits, manholes, lift stations, and any other appurtenances or equipment used in the conveyance of wastewater. |
| Sewage Disposal System (Sewer Facility) | Any plant, system, facility, property, or pipes used in the conveyance or treatment of wastewater, excluding septic tank systems |
| Specifications | The directions, provisions, casting work plans, and all stipulations contained in the plans or in the permit setting out or relating to the method and manner of performing work, or the quantities and qualities of materials and labor to be provided under the permit. |
| Substantial Change | A substantial deviation from the approved plans that may conflict with other utility structures; create a hazard to the public; does not conform to County specifications; or in the opinion of the Inspector, a plan deviation that warrants the review and approval of the Department. |
| Surety | The corporate body or individual which is bound by the performance bond with and for the permittee, or the permittee when cash deposit is the method of guaranteeing performance of work, adequacy of materials, safety, liability for debts, and liability for claims and compensation and damages. |
| System Owner | The person, firm, cooperative, company, or municipality, who has the Board of County Commissioners' written approval to construct, own, and operate a public water or sewage disposal system in the Leon County Water and Sewer Zone. |

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| Total Estimated Cost of Construction (TECC) | The pre-determined total estimated cost of the project excluding those costs incurred from engineering, legal and land acquisitio |
| Utility | Person, firm, cooperative, company, corporation, or municipality using County right-of-way to collect, distribute, or transmit water, sewage, gas, electricity, telephone messages, or television signals. |
| Utility Corridor | A specific portion of Leon County right-of-way specifically provided for the placement of utility lines and appurtenance |
| Water System (Water Facility) | Includes any plant, wells, pipes, tanks, reservoirs, systems, facilities, properties valves, and meters used in the treatment an distribution of potable water. |
| Unincorporated Area | All areas of Leon County excluding the corporate limits of the City of Tallahassee |

# CHAPTER II

## AUTHORIZED UTILITY SERVICE AREAS

SECTION 2.1.0. - General

2.1.1. Any person, firm, corporation, utility, or governmental entity who desires to construct, operate, or own a public water system or public sewage disposal system shall first obtain a Leon County authorized service area by following the application procedure outlined in this chapter.

2.1.2. Any owner of an authorized water or sewer service area who desires to expand outside the authorized area shall first apply for and receive approval for an amended County authorized service area. The application procedure outlined in this chapter may be used for the purpose of amending an existing authorization service area.

SECTION 2.2.0. - Nature of Authorization

2.2.1. Such authorization shall be granted for such time as may be established by the County.

2.2.2. Such authorization shall normally grant to the public water or sewage disposal system owner the exclusive right within a specific geographical area to own, acquire, construct, operate, and maintain the system specified in the authorization.

2.2.3. The owner of such authorized system shall be required to serve upon request any owner, tenant, or occupant on any parcel of land within the authorized area which abuts upon a public easement or right-of-way wherein is constructed, or pursuant to the terms of the authorization will be constructed, a public water or sewage disposal system.

2.2.4. Such authorization may be made exclusive or nonexclusive upon such reasonable terms and conditions as are established by the County.

2.2.5. Acceptance by the owner of the authorization for the system from the County conveys to the County in the event of default by the owner as defined by Leon County Ordinance 80-29, the right to enter upon the premises, possess, keep and maintain all system records, operate the system, and perform such repairs and maintenance of the system as are necessary to provide the services required by the system. At such time as the County assumes the operation of the system, it shall become the owner of the system and thereafter shall receive all revenues from the system.

SECTION 2.3.0. - Application Procedure

2.3.1. Any person, firm, corporation, utility, or governmental entity who desires to construct, operate, or own a public water system or public sewage disposal system within the unincorporated area of Leon County, or who desires to amend an existing County authorized service area, shall first submit a pre-application.

2.3.2. The following data shall be submitted with the pre-application:

a. A boundary description on a copy of the Leon County Property Appraiser's map of the geographical area for which authorization to operate such system is sought.

b. A copy of the most recent assessment roll of the Leon County Property Appraiser showing the name, address, item number, and description of all property within the area for which authorization is sought.

c. Conceptual drawings indicating tentatively the system to be constructed, plant location, location of collection system, and any other general information that will determine when and where services will be supplied within the area described.

d. Information as to the proposed method of financing the public water or sewage disposal system for which authorization to construct or operate such system is sought.

2.3.3. Upon the Board receiving a completed pre-application with all pertinent data and the $200 pre-application fee, the County will have 30 calendar days to schedule a public hearing.

2.3.4. All property owners listed on the tax rolls within the area for which authorization is sought shall be notified by the Department of such a pre-application and of the time and place set for the public hearing at least ten (10) days prior to the date of the hearing by mail. The post mark date shall be at least ten (10) days before such hearing.

2.3.5. The County shall provide the public notice of the hearing on the pre-application, which shall be published once each week for two (2) successive weeks in a newspaper of general circulation published in Leon County, the first publication to be no sooner than twenty (20) days prior to the hearing and in substantially the following form:

NOTICE IS HEREBY GIVEN THAT _____ has applied to the Board of County Commissioners of Leon County, Florida, for the authorization to operate a water/sewage disposal system, embracing the following described lands in Leon County, Florida, to-wit:

(Description of area by public road, street, or landmark) Said Board of County Commissioners will hold a public hearing at _____ o'clock ___.m., on said application in the meeting room of the Board of County Commissioners of Leon County, Florida, on the _____ day of _____, 19___, and all persons affected or interested in such application are invited to be present at said time and place to voice their approval or disapproval of said application.

Dated this _____ day of _____, 19___.

_____
Chairman, Board of County Commissioners
Leon County, Florida

2.3.6. Upon the completion of the pre-application procedure and the administration's approval of the conceptual plans, the applicant upon receiving written notice may proceed to submit an application for authorization to construct and operate a public water or sewage disposal system in the area for which a pre-application has been approved.

2.3.7. The applicant may submit the application for a "unit" or "phase" of the authorized service area in accordance with the conceptual plans, schedules, and section 3.3.9. below.

2.3.8. A separate application shall be submitted by the applicant for each additional "unit" or "phase" of the authorized service area in accordance with the conceptual plans, schedules, and section 2.3.9. below.

2.3.9. As a part of the application, the applicant shall be required to obtain a Leon County Facilities Construction Permit in accordance with the policies and procedures outlined in Chapter IV.

2.3.10. The following data shall be submitted with an application fee of $150 plus $2 per proposed tap.

a. Legal descriptions of all properties upon which treatment facilities, wells, lift stations, or other portions of the water or sewage disposal systems will be located other than mains and lines.

2.3.10 (continued)

b. A description of the facilities to be provided, including a construction implementation schedule upon which the facilities will be constructed in each portion of the geographical area for which authorization is sought.

c. A set of plans and specifications prepared under the direction and supervision of an engineer for the system to be built, together with a copy of the operating procedures for such systems (where applicable).

d. A list of the proposed rates and fees to be charged to users of the system.

e. An estimate of operating costs and revenues on an annual basis for the first three (3) years of operation.

f. An estimate of the total capital requirements of the system and the amount of anticipated indebtedness, terms for the repayment of the indebtedness, and the security required thereafter.

g. A completed Leon County Facilities Construction Permit Application and a completed FDER Construction Permit Application, if the application is for the construction of a biological wastewater treatment facility.

h. Copies of any agreements between the system owner and other persons relating to the construction or operation of the system.

i. Instruments of transfer in the event the system is to be transferred to the County at the end of the authorization period.

j. Such other data as the County may deem appropriate.

2.3.11. Upon the County receiving all the required application information to the satisfaction of the County Administrato the County shall process the Leon County Facilities Construction permit application following those procedures outlined in Chapter IV of this document.

2.3.12. When the County has determined that all areas of the authorization application and the Leon County facilities construction permit application have been satisfied, the applicant will be notified that the facilities construction permit will be issued upon the County receiving the appropriate performance bond, surety, and when applicable, the approval from FDER.

2.3.13. A letter of authorization to construct the system will be granted along with the appropriate permit. Special conditions may be set out in the letter of authorization.

2.3.14. When a hardship can be demonstrated by the applicant, the normal calendar for the Department to review the permit application may be amended by notifying the Public Works Administrator. If the Administrator concurs, the Department may be directed to immediately process the application.

2.3.15. The utility may be placed in operation after the completion of the construction as outlined in Chapter IV of this document.

SECTION 2.4.0. - Appeals

2.4.1. Any aggrieved person may appeal a decision by the County Administrator pursuant to this chapter as outlined in Section 5.B. of Leon County Ordinance 80-29.

2.4.2. The procedure for such appeals shall be as follows:

a. The aggrieved party shall in writing request an appeal to the Board of County Commissioners designating the specific activity of the County Administrator sought to be reviewed.

b. At least twenty (20) days notice of the time and place of such hearing shall be given. Each party at such hearing shall have the opportunity to present evidence, cross-examine witnesses and submit such information as they deem appropriate supporting their respective positions. Any party is entitled to be represented by an attorney at such hearing.

c. In lieu of hearing the appeal itself, the Board of County Commissioners may appoint a hearing examiner who shall promptly render to the Board written findings of fact and conclusions of law with regard to the issue presented.

d. Probative effect shall be given to evidence which would be admissable in civil proceedings in the Courts of this state, but in receiving such evidence, the exclusionary rules of evidence shall not be used to prevent the receipt of evidence having substantial probative effect.

e. When the appeal is heard by the Board of County Commissioners, the Board shall render its final order in writing within ninety (90) days of the final hearing or in the event that the matter was heard by a hearing examiner, the Board shall render its final order within forty-five (45) days of the receipt of the hearing examiner's findings of fact and conclusions of law.

2.4.3. An aggrieved party will be deemed to have exhausted his administrative remedies upon the rendition of the Board's final order.

# CHAPTER III

## REGULATORY RESPONSIBILITIES WITHIN CITY/COUNTY WATER AND SEWER ZONES

### SECTION 3.1.0. - Specific Responsibilities

3.1.1. The City shall be the management and regulatory agency for the City water and sanitary sewer service within the City Zone, and Leon County shall be the water and sewer management and regulatory agency for all public facilities located in the County Water and Sewer Zone including those non-City owned facilities located within the exterior boundaries of the City Zone.

3.1.2. Leon County Ordinance 80-29 and Leon County Policies, Specifications, and Procedures for the Construction and Placement of Utilities in Leon County, excluding Leon County right-of-way placement permits, shall not apply to the City within the City Zone. County policies, specifications, and procedures for the permitting and placement of utilities on County rights-of-way do apply to the City within the City Zone.

3.1.3. The City of Tallahassee shall not be required to obtain a Facilities Construction Permit on expansions to City systems within authorized service areas located within the County Zone.

3.1.4. Leon County Ordinance 80-29; Leon County Policies, Specifications, and Procedures for the Construction and Placement of Utilities in Leon County; and the City/County Sanitary Sewer and Water Agreement shall apply to all non-City owned public water and sewage disposal facilities located within the exterior boundary of the City Zone.

3.1.5. Leon County Ordinance 80-29 and Leon County Policies, Specifications, and Procedures for the Construction and Placement of Utilities in Leon County shall apply to all public water and sewage disposal facilities located in the County Water and Sewer Zone.

3.1.6. A City application to acquire a Leon County authorized service area in the County Water and Sewer Zone shall conform to all applicable Leon County policies, specifications and procedures: Leon County Ordinance 80-29; and the City/County Sanitary Sewer and Water Agreement.

3.1.7. Expansions of water or sewer systems within County approved water or sewer service areas located within the exterior boundary of the City Zone will be in accordance with the County Ordinance 80-29 and the City/County Sanitary Sewer and Water Agreement.

3.1.8. Expansions of County approved water or sewer service areas outside the City Zone will be in accordance with County Ordinance 80-29.

3.1.9. Expansions of the City Zone into the County Water and Sewer Zone shall be in accordance with the City/County Sanitary Sewer and Water Agreement and all applicable portions of County Ordinance 80-29.

3.1.10. Expansions of the County Zone into the City Water and Sewer Zone shall be in accordance with the City/County Sanitary Sewer and Water Agreement and all applicable portions of the City Code.

SECTION 3.2.0. - Sewer and Water Zone Expansion Procedures

3.2.1. A completed Contiguous Area Application shall contain the following information:

a. A Boundary description on a copy of the Leon County Property Appraiser's map of the geographical area for which authorization to operate such system is sought.

b. Conceptual drawings indicating:

(1) The system to be constructed;

(2) Plant location;

(3) Collection or distribution system details;

(4) Implementation schedule; and

(5) Any other general information that will determine when and where services will be supplied within the area described.

c. Information as to the proposed method of financing the system.

d. An application fee of $350 plus $2 per proposed tap.

3.2.2. The application will be delivered to the County Administrator.

3.2.3. When the application is determined to be complete by the Department, the Board of County Commissioners shall approve or deny the request within thirty (30) days of receipt of the completed application.

3.2.4. Approved applications will be processed by the Department and the applicant notified as to the approval.

3.2.5. If the applicant desires, the application may be delivered to the Department for review, comments, modifications,

and recommendations prior to the application being submitted to the County Administrator. At which time, the Board of County Commissioners shall approve or deny the request within thirty (30) days of receipt of the application.

3.2.6. Upon written certification by the City Engineer that the water and sewer system is substantially complete in accordance with the application for authorization and submission of as-built drawings, it shall become a part of the City Water and Sewer Zone.

## CHAPTER IV

## LEON COUNTY FACILITIES CONSTRUCTION PERMITS

### SECTION 4.1.0. - General

4.1.1. Any person, firm, corporation, utility, or governmental entity who desires to construct a public water system or a public sewage collection system in the Leon County Water and Sewer Zone shall first acquire a Leon County Facilities Construction Permit from the Department.

4.1.2. The possession of a valid Leon County Facilities Construction Permit authorizes the construction of a public water system and/or a public sewage collection system or the expansion of a previously permitted and constructed public water system and/or public sewage collection system, and the placement of such facilities on County rights-of-way. A Right-of-Way Placement License may be a part of a Facilities Construction Permit.

4.1.3. Routine taps and minor maintenance repairs on existing water systems or sewage collection systems shall be exempt from having to obtain the Leon County Facilities Construction Permit but shall be required to obtain a Right-of-Way Placement Permit when such work affects the pavement or roadbed in accordance with Chapter V.

4.1.4. Projects that involve the installation of up to 500 feet of 6-inch diameter water distribution line or less, or 8-inch sewage collection line or less, for the purpose of making no more than four (4) service connections may be allowed to proceed with such construction upon obtaining verbal approval from the Department; however, the notification and inspection procedures and the standards and specifications in Chapters VI and VII shall still be adhered to.

4.1.5. The Utility Owner who utilizes Section 4.1.4. to expand a facility shall be responsible to submit a completed Right-of-Way Placement Permit Application, in lieu of a Facilities Construction Permit Application, within seven (7) calendar days following the verbal approval.

4.1.6. The Utility Owner who utilizes 4.1.4. to expand a facility shall submit as-built drawings on all such expansions to the Department once each year and/or prior to a second Section 4.1.4. expansion on the same section of line.

### SECTION 4.2.0. - Permitting Procedure

4.2.1. Qualified applicants who desire to construct a public water system or public sewage collection system that

is intended to be connected to a County-owned facility shall submit four (4) copies of the Leon County Facilities Construction Permit Application along with four (4) blueline copies of the proposed construction drawings if the system lines are 10-inches in diameter or less.

To construct a public water distribution or public sewage collection line that is greater than 10-inches in diameter, the applicant shall submit six (6) blueline copies of the proposed construction drawings.

4.2.2. Qualified applicants who desire to construct, extend, or modify a privately owned public water system or public sewage collection system shall submit six (6) copies of the Leon County Facilities Construction Permit Application along with six (6) blueline copies of the proposed construction drawings.

4.2.3. The Department shall review the permit application for compliance with Ordinance 80-29, County approved design specifications, FDER rules and regulations, and coordinate the application with the Leon County Division of Environmental Services.

4.2.4. The County, upon completing the initial review, shall advise the applicant of the status of the permit application.

4.2.5. When approval of FDER is required, a check in the amount of $20 made out to the Florida Department of Environmental Regulations shall be accompanied with the permit application.

4.2.6. The review process will include, but is not limited to, the following areas:

(1) Conformance with the approved pre-application conditions for the non-county owned systems;

(2) County application form completed by the utility owner;

(3) Material Specifications of the plans;

(4) Design specifications of the plans commensurate with generally accepted design standards and all technical reference manuals and publications listed in Chapter 17-6, Florida Administrative Code;

(5) Completeness of the engineer's report commensurate with the scale of the project submitted.

(6) Plans for the project approved by the engineer of the utility owner;

(7) Source and storage capacity (new or existing systems);

(8) Operator records and reports for the previous 12 months (if applicable);

(9) Most recent chemical analysis (existing systems);

(10) Bacterial analysis for the previous 12 months (existing systems);

(11) Certification of operator(s);

(12) Chlorination system;

(13) Utility corridors (4.1.6.);

(14) Capacity of the existing system lines;

(15) Capacity of the existing treatment plant;

(16) Parameters of operation with reference to Chapter 17-16; Florida Administrative Code;

(17) Metering devices;

(18) Flood plain locations;

(19) Areas of possible cross-connections;

(20) Appropriate application fee(s);

(21) Distance between the proposed treatment facility, lift stations, pre-treatment facility, and the nearest residential or commercial structure;

(22) Systems site plan and layout;

(23) Well placement and the procurement of a Northwest Florida Water Management District's well permit; and

(24) Other drawings or data which may be required by State and Federal agencies.

4.2.7. A Facilities Construction Permit Application to modify or expand an existing system, other than to improve unit operation or capacity of the system, shall be denied without further considerations if the existing facility under review is in violation of FDER Primary Drinking Water Standards; or is functioning at 95% or more of its design capacity; or extends beyond the boundaries of an Authorized Service Area or the City Zone.

4.2.8. The Department shall actively review all completed permit applications within thirty (30) calendar days and shall notify the applicant of approval or denial of the application or extend the review process so that any

unresolved deficiencies may be addressed. A permit application shall not be approved until all known deficiencies are resolved.

4.2.9. Any aggrieved person may appeal a decision by the Department by requesting in writing an appeal by the County Administrator.

4.2.10. Upon completion of the appeal procedure in Section 4.2.9., an aggrieved person may then appeal a decision by the County Administrator by following the appeal procedure outlined in Section 2.4.0. of Chapter II.

4.2.11. Plans shall be forwarded by the Department to FDER as necessary for FDER approval.

4.2.12. The Department shall be responsible to review and process the application according to the information and data attached. The Department is not responsible for the accuracy of the statements and data submitted.

4.2.13. Upon forwarding a County approved application to FDER, the County shall become the permit agent between the applicant and FDER, and subsequently deal with FDER in the processing of the application. In this manner, the permit application review process is facilitated; and the time required to process the application is greatly reduced.

4.2.14. The Department will immediately notify the applicant, by telephone, upon the approval of the application.

4.2.15. After approval of the application by the County and/or FDER, Leon County will issue the permit plus one copy of the approved plans back to the applicant upon receiving a performance bond in the amount of 100% of TECC and with a surety approved by the County.

4.2.16. The applicant may retrieve the application from the Department prior to the approval of FDER. However, FDER shall retain the $20 application fee.

4.2.17. The approved ocnstruction schedule submitted with the application for authorization to construct and operate a system will commence upon the applicant's receipt of the Leon County Facilities Construction Permit. The

applicant's failure to implement the plans according to the approved construction schedule may lead to default under Section 3.B.6.a., Leon County Ordinance 80-29.

4.2.18. The approved plans for non-federally funded projects will have an effective life of two (2) years or a life equal to the approved construction schedule, whichever is less, following the approved date stamped on the approved sets of blueline drawings by the Department.

4.2.19. Time limit extensions to previously approved plans may be allowed upon written request to the Department. If the Department determines that the extension does not adversely conflict with changes occurring within two (2) previous years, and will not create an adverse impact on the community in relation to previous conditions agreed upon, the extension request will be granted for a period not to exceed the approved construction schedule. The Department shall coordinate time limit extensions with FDER as necessary.

4.2.20. Substantial changes to approved facilities construction plans will be approved only after review and concurrance by the Department.

4.2.21. The applicant, upon receiving the signed Facilities Construction Permit along with the approved set of plans, will proceed to construct the facility in accordance with the standards and specifications outlined in Chapters VI and VII of this document and any provisos which may be attached by FDER or the Department.

4.2.22. Within ninety (90) days following the final inspection by the County, the owner shall submit as-built plans (drawing certified by the owner that the system as installed is in substantial compliance with the plans and specifications outlined in the approved application.

4.2.23. Upon completion of the final inspection and approval by the Department, approved chemical and/or bacterial analysis by the Department, and when all water distribution lines are disinfected and flushed, the County shall issue a written authorization to place the system in service. The performance bond shall be released upon receipt of the "as-built" plans.

# CHAPTER V

## LEON COUNTY RIGHT-OF-WAY PLACEMENT LICENSES AND PERMITS

### SECTION 5.1.0. - Right-of-Way Placement License

5.1.1. Any person, firm, individual, association, partnership, trust, public, private or not-for-profit corporation, governmental entity, or any other group of combination thereof which desires to construct, maintain, repair, operate, or remove lines for the transmission of water, sewer, gas, power, telephone, other public utilities, and television under, on, over, across, and along any Leon County highway or right-of-way shall obtain a license from Leon County in accordance with Leon County Ordinance 81-17, and any and all policies promulgated thereto.

For those water and sewer systems authorized pursuant to Leon County Ordinance 80-29, the authorization may constitute such license.

5.1.2. Applications for a Right-of-Way Placement License may be obtained from the Department; and, when submitted, the application shall contain a list of those County roads for which such license is requested, or a map of the general area for which the license is sought.

5.1.3. By submitting the application, the applicant (if the license is granted) agrees to repair any damage or injury to the right-of-way and to repair the right-of-way promptly, restoring the same to a condition at least equal to that immediately prior to the infliction of such damage or injury; and, the license shall hold the Board of County Commissioners of Leon County, Florida, and members thereof, harmless from the payment of any compensation or damages resulting from the exercise of the privileges granted in the license or the placement permit promulgated thereto.

5.1.4. Upon issuance of the license, the licensee agrees to move or remove such water, gas, sewage, power, telephone, other utility, and television lines at no cost to the County.

5.1.5. The fees for the Right-of-Way Placement Permit License shall be as follows:

a. For water and sewer facilities authorized under Leon County Ordinance 80-29, the license fee is included in the fees set forth in Section 2.3.10. of Chapter II of this document.

b. For all other utilities and entities, the fee shall be $10.00.

## SECTION 5.2.0. - Right-of-Way Placement Permits

### 5.2.1. General

A County right-of-way placement permit shall be obtained from the Department and posted at the work site prior to any utility construction or placements on or over any County rights-of-way. There are six exceptions to this requirement.

1. Repairs under emergency conditions, such as service failures or public hazards. An after-the-fact permit application shall be submitted within seven (7) calendar days following the repairs.

2. Routine service drops and taps not affecting the pavement, roadbed, drainage structures, or the flow of traffic.

3. Routine service line change-outs not affecting the pavement, roadbed, drainage structures, or the flow of traffic.

4. Routine utility system maintenance not affecting the pavement, roadbed, drainage structures, or the flow of traffic.

5. A utility system repair not affecting the pavemen roadbed, drainage structures, or the flow of traffic.

6. When the permittee possesses a valid Facilities Construction Permit.

### 5.2.2. The Right-of-Way Placement Short Form

Certain types of minor road surface and subgrade disturbances such as service connections, minor maintenances operations and repairs may not require the submission of the full Leon County Right-of-Way Placement Permit Application and attachments. Such activities shall only require the submission of, and approval of, a Leon County supplied Right-of-Way Placement Short Form, prior (except for emergencies) to the start of the job. Activities eligible for the Short Form must meet the following criteria as applicable.

1. The job is not to disturb more than 27 square fee (3 square yards) of pavement surface.
2. The job cannot close off the total flow of traffi
3. Manhole installations and/or adjustments.
4. Items 2-5 of Section 5.2.1. above that only hinde or impedes the flow of traffic on Potentially Hazardous Roads.

The rights acquired by submitting the Right-of-Way Placement Short Form does not relieve the Permittee in adhering to all other applicable areas of this document and as defined by the Department.

5.2.3. Application

The permit application package consists of the completed permit application form provided by the County, accompanying plans, drawings, and a check for the permit fee made payable to the Board of County Commissioners, Leon County. The original and two (2) copies of the permit form with three (3) copies of the drawings and other pertinent documents shall be submitted. Two (2) copies are retained for use by the Department. The original application, plans, drawings, and a permit are returned to the applicant. The applicant shall be in possession of the permit prior to construction and shall have the permit readily available at the construction site during construction.

5.2.4. Preparation of Plans and Drawings

Plans and drawings shall adequately describe the existing site conditions where the proposed construction or maintenance operation is to take place. The plans shall contain detailed information as to the type and location of other utilities and physical structures; such as bridges, driveways and culverts, and any other physical item that would be of concern. The plans shall also describe the proposed operation; such as, jack and bore, open cut, trenching, with specifics on such things as the type of pipe, casing material, and soils to be employed. Finally, the plans shall contain information as to the backfill and compaction operation and type and method of final dressing and road restoration. Cross-sections, profiles, key maps, etc. shall be used as needed to describe the above required information.

5.2.5. Coordination with Other Utilities

The applicant has the responsibility to notify all other utilities located in the projected construction area, list the utilities notified on the application, and certify on the permit application that such utilities have been notified. Prior to construction, the permittee is responsible to notify the appropriate utilities when constructio will begin.

5.2.6. Objections from Other Utilities

The Department will date all applications as they are received, and there will be seven (7) calendar days following this date for other notified right-of-way users to register their objections to the proposed construction with the Department.

To expedite the permitting procedure, the applicant may submit along with the application, signed letters of concurrence from the other notified right-of-way users. The seven day waiting period may be waived by the Department upon receipt of all applicable letters.

If objections to the construction are received by the applicant, the objections shall be noted on the permit application.

All correspondence regarding the permit or construction procedures will be handled directly with the permittee, his delegate, or the project supervisor of the job.

5.2.7. Proper Corridors for Placements

Where reasonable possible, transmission lines will be placed in the corridors and at depths or heights established in figures 5.1. and 5.2.

All plans and drawings accompanying a permit application shall reflect the use of the appropriate corridors where possible. When slopes or buffer areas are insufficient to accommodate the utility in its normal place, or if another utility is already occupying that corridor, considerations for approval by the Department shall be on an individual basis.

5.2.8. Existing Drainage Structures

Drainage culverts, drain pipes, driveway pipes, or other facilities installed for drainage purposes shall not be cut, modified, or removed without first obtaining approval by the Operations Division or Engineering Division of the Department of Public Works. Drainage structures are sized and installed to accommodate a design flow rate. The placement of utilities lines should not decrease or otherwise impede the design flow capability of such structures.

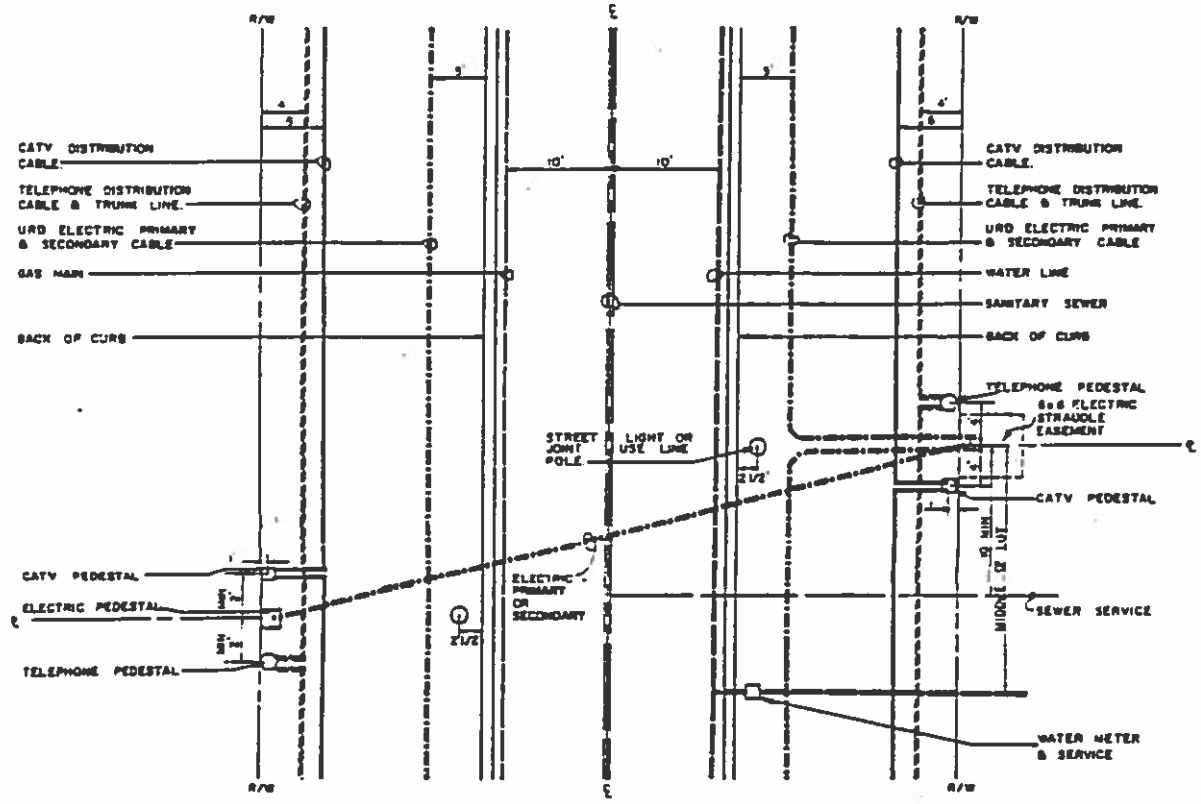
5.2.9. Placement Depth

Unless otherwise approved by the Department, minimum vertical clearance for underground utilities will be in accordance with the utility placement guides in Figures 5.1. and 5.2.

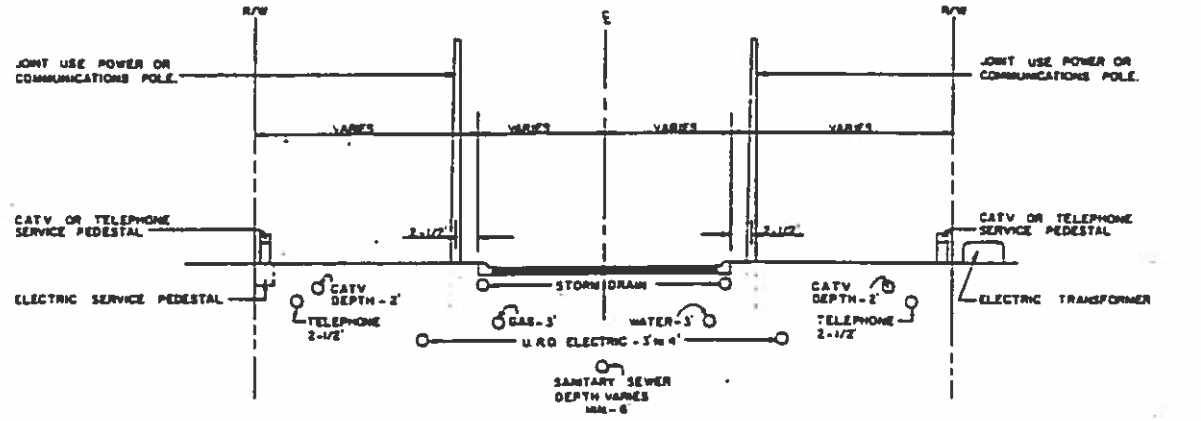
5.2.10. Gas Mains and Lines

Gas mains shall not be less than 36-inches below the top of the pavement or ditch bottom. When the 36-inch minimum depth cannot be obtained below a ditch bottom without causing technical transmission difficulties, a 4-inch

RECOMMENDED GUIDE
for
UTILITY PLACEMENT
WITHIN A PUBLIC RIGHT-OF-WAY
WITH CURB AND GUTTER




TYPICAL PLAN




TYPICAL CROSS SECTION

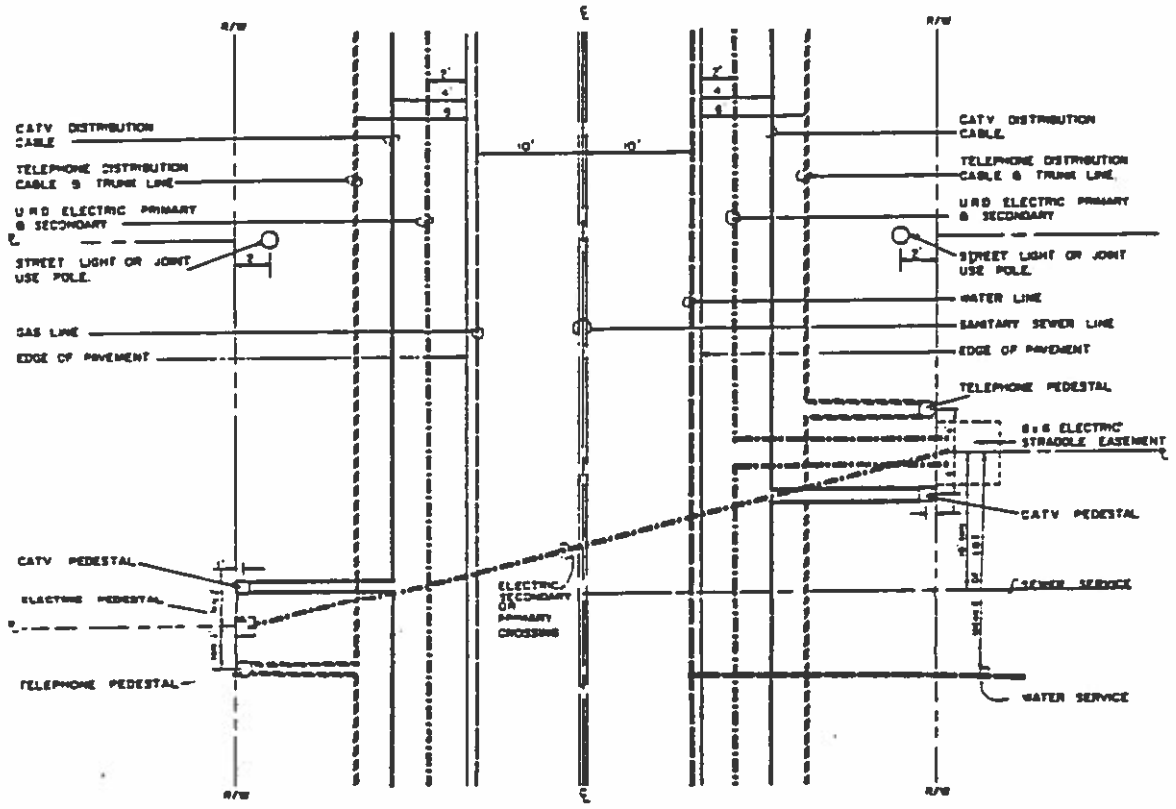
NOTE
THESE PLANS APPLY TO ALL STREET AND R/W WIDTHS EXCEPT WHERE ADEQUATE SPACE BETWEEN EDGE OF PAVEMENT & R/W IS NOT AVAILABLE OR WHERE OTHER FEDERAL OR STATE REGULATIONS APPLY

ALL DEPTHS ARE MINIMUM BELOW ESTABLISHED GRADES. STORM DRAIN ALIGNMENT SHALL NOT VARY MORE THAN 2' ON EITHER SIDE OF ON BEHIND CURB.

WATER MAIN TO BE INSTALLED 10 NORTH AND EAST OF ℄ SEWER MANHOLES TO BE INSTALLED ON CURVES AT INTERVALS TO ALLOW LINES NOT TO RUN OUTSIDE CURB. GAS MAIN TO BE INSTALLED 10 SOUTH AND WEST OF ℄

FIGURE 5.1.

RECOMMENDED GUIDE
for
UTILITY PLACEMENT
WITHIN A PUBLIC RIGHT-OF-WAY
WITHOUT CURB AND GUTTER

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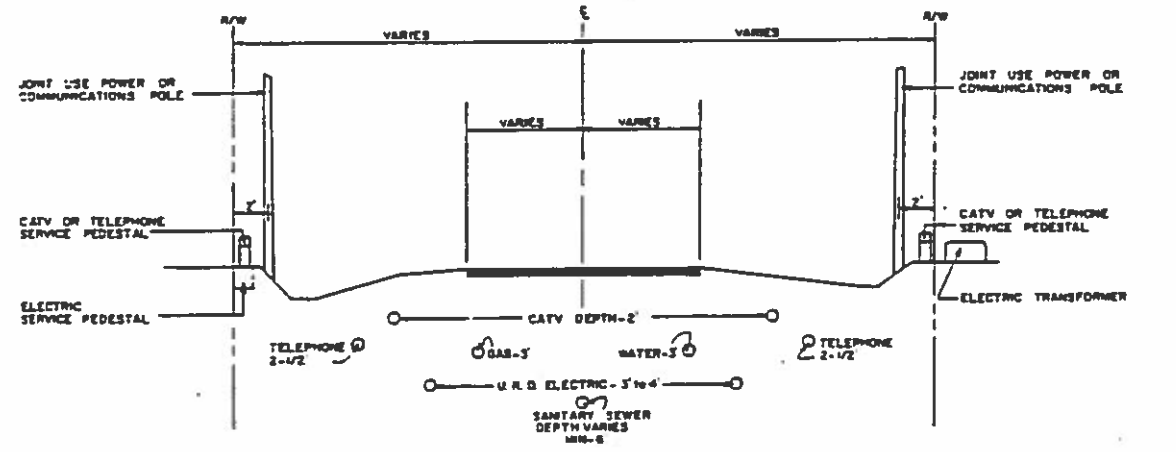


TYPICAL CROSS SECTION

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ALL DEPTHS ARE MINIMUM BELOW ESTABLISHED GRADES STORM DRAIN ALIGNMENT WILL NOT VARY MORE THAN 2' IN FRONT OF OR BEHIND CURB

WATER MAINS TO BE INSTALLED NO NORTH AND EAST OF ℄ GAS MAINS TO BE INSTALLED TO SOUTH AND WEST OF ℄

FIGURE 5.2.

concrete slab or ditch liner which is 2-feet wider than the diameter of the transmission main may be utilized; thus not requiring the 36-inch minimum depth. But the gas main shall not be less than 18-inches below the concrete slab or liner.

The placement of gas service lines should not be less than 18-inches in depth on County rights-of-way.

5.2.11. Removal of Facilities from the Right-of-Way

Abandoned transmission lines and any associated utility appurtenances shall be removed from the right-of-way and backfilled to specifications, at the owner's expense, upon the request of the Department or the County Engineer.

Whenever the construction, repair, improvement, maintenanc safe and efficient operation, alteration, or relocation of all or any portion of poles, wires, pipes, cables, casings, or other facilities and appurtenances authorized hereunder is necessary, they shall be immediately removed from said right-of-way, reset or relocated thereon by the utility owner, as required by the Department; and at the expense of the owner, unless full reimbursement for such work is authorized by the owner and the County agrees to accomplish the work for the owner.

5.2.12. Utility Platform Structures

Utility Platform Structures, such as terminals, transformers, and amplifiers, shall be placed within two (2) feet of the edge of the right-of-way if possible. Variances from this standard must be approved by the Department.

5.2.13. Application Fee

The required Leon County Right-of-Way Placement Applicatio shall be accompanied with an application review and inspection fee. A check or money order is to be made out to the Board of County Commissioners, Leon County. The Right-of-Way Placement Permit Application Fee shall be based on the following schedule:

(a) Road Pavement Disturbance:

| | |
|---|---|
| $25 | Less than 3 square yards |
| $75 | 3 sq.yds. to 50 sq.yds. |
| $150 | 50 sq.yds. to 100 sq.yds. |
| $1.50/sq.yd. | 100 square yards and over |

(b) Unpaved Right-of-Way Surfaces:

| | |
|---|---|
| $10 | Less than 20 linear feet |
| $20 | 20 linear feet to 100 linear feet |
| $20+10¢ per foot over 100 feet | 100 linear feet and over |

(c) Power Pole Installation: $5 per pole set

(d) Above Ground Line Installation: $10 per permit and One permit per job site

(e) All Other Disturbances: $10 per permit

5.2.14. The work permitted by the Placement Permit shall commence within 60 days of issuance. Issued and outstanding permit that have been executed within 60 days will be void.

SECTION 5.3.0. - Performance Bond

Prior to the Department issuing the Placement Permit, the applicant shall deliver to the County a performance bond as outlined in Chapter VIII of this document. Normally, the bond will be returned after final inspection and approval. The performance bond submitted for the acquisition of a Facilities Construction Permit shall satisfy the bonding requirement under this section.

SECTION 5.4.0. - Material Specifications and Construction Standard

5.4.1. Material Specifications

Minimum material standards and specifications for the construction of utilities on County rights-of-way will be in accordance with those minimum standards and specifications outlined in Chapter VI of this document.

5.4.2. Construction Standards

The standards of construction, safety precautions, and road/work site restoration will be in accordance with minimum standards and specifications outlined in Chapter VII of this document.

SECTION 5.5.0. - Unauthorized Placements

5.5.1. Without an Approved Placement Permit

Excluding those exceptions described in Section 5.2.0., any person, firm, corporation, utility, or governmental entity who places a utility, or is in the process of placing a utility, on a County right-of-way without first acquiring a County Right-of-Way Placement License and Permit, in accordance with Sections 5.1.0. and 5.2.0., is in violation of County Policy and Leon County Ordinance 81-17.

5.5.2. With Approved Placement Permits

Any person, firm, corporation, utility, or governmental entity who is in possession of a right-of-way placement permit but begins the placement project without first notifying the Department in accordance with Section 7.1.2., is in violation of County Policy and Leon County Ordinance 81-17, and is not authorized to commence the utility placement.

5.5.3. Enforcement Policy

The Inspector upon discovering an unauthorized placement operation or the unauthorized and completed placement operation is authorized to act in accordance with the enforcement policies and procedures set forth in Chapter VIII of this policy document.

SECTION 5.6.0. - Permittee Liability

5.6.1. General

The permittee is responsible for all construction and work performed within County rights-of-way as determined by the permit application and attachments during the actual placement and for one full year following the date of the final inspection and approval. The permittee will normally be covered by a performance bond during the construction and placement period.

5.6.2. Permit Period

If during the one year following the final inspection and approval, the Inspector finds that further work is require for such reasons as reasons, backfill subsidence, inferior materials or workmanship, the Inspector shall notify the permittee accordingly and arrange a time to inspect the corrective measures performed by the permittee. The permittee shall not be responsible for damages and/or conditions created by other developers, contractors, or local residents.

5.6.3. Placement Permit Non-Compliance

If upon being notified, the permittee fails to perform corrective measures to address a deficiency during the permit period, the permittee shall be in non-compliance of the right-of-way placement permit. The permittee shall then be required to post a maintenance bond and restitute any and all cost that the County incurred to restore the right-of-way prior to ever securing another right-of-way placement permit, as outlined in Chapter VIII of this document.

CHAPTER VI

MINIMUM MATERIAL STANDARDS AND SPECIFICATIONS

SECTION 6.1.0. - Polyvinyl Chloride Pipe (PVC)

6.1.1. Water Distribution

a. Pipe - PVC pipe shall meet all requirements of ASTM D-2241 and Material Code (PVC 1120), Schedule 40, pressure rating 160 psi, ASTM Resin Specification D-1784 and made to SDR 26 dimensions. All PVC pipe shall be either coupled or belled at one end.

b. Fittings - All plastic joints under 2-inches in diameter shall be in accordance with the manufacturer's specifications. All piping joints for pipes 2-inches or larger in diameter shall be rubber gasket type joints.

c. Service Connections - Service connections on plastic mains shall be made by use of a plastic tee or double strap saddles (Mueller H13014 or equivalent). All service tubing shall either be manufactured from ultra-high molecular weight density polybutylene ASTM-D-2666 standards, copper tubing, or galvinized.

6.1.2. Sewage Gravity System

a. Pipe - Pipe shall conform to the latest revision of D-3033 or D-3034. Four inch pipe shall be SDR 33.5. Pipe eight inches and larger shall be SDR 35.

b. Fittings and Joints - Fittings shall have an SDR equal to that of the same size pipe. Pipe shall be jointed similar to "Plas-Tyton," "Bell-Ring," or "Ring-Tite". Fittings for PVC pipe shall have bell or spigot rubber ring joints identical to that of the pipe as specified by ASTM D-3033 or D-3034.

6.1.3. Sewage Force Mains

a. Pipe - PVC shall be pressure rated at a minimum of 160 psi. Pipe shall be manufactured from approved Type 1, Grade I, PVC conforming to ASTM D-1784 and shall meet all requirements of ASTM D-2241 with standard dimension ratio of SDR 26.

b. Fittings and Joints - Pipe joints shall have thickened wall integral bells or extruded, machine couplings. Pipe shall be joined using compression type joints similar to "Plas-Tyton," "Bell-Ring," or "Ring-Tite". Each joint shall have a pressure rating equal to or greater than the pipe with which it is used.

Pipe and coupling shall be approved by NSF. Fittings for use with PVC pipe shall be either PVC or cast iron for fittings 4-inches or smaller. For fittings 6-inches and larger, joints shall be suitable for pipe being used and in accordance with NSF. All fittings shall be pressure rated in excess of the rated pipe being used.

SECTION 6.2.0. - Cast Iron Pipe, Valves, Fittings, and Joints

6.2.1. Water Distribution

a. Valves - Valves shall conform to AWWA Standard C500-80, "Gate Valves - 3-inches through 48-inches for Water and Other Liquids". Valves shall be of cast iron construction with mechanical joint ends (AWWA C111). Valves shall be of the non-rising stem type and furnished with a two-inch operating nut. Valves may be furnished with "O" ring packing or conventional stuffing box packing. Valves shall open counter-clockwise and close clockwise.

b. Fittings (crosses, tees, bends, etc.) - may be of either cast iron or ductile iron conforming to ANSI A 21.20 and AWWA C110-77. Fittings shall have all mechanical joint bells unless otherwise permitted. Fittings shall be coated inside and outside with bituminous coating approximately 1 MIL thick. All bursting, hydrostatic tests of 3.0 times the rated working pressure.

6.2.2. Sewage Gravity System

a. Pipe - Cast iron pipe shall conform to latest ANSI Specification A21.1, latest edition, using 45,000 psi ring modulus of rupture; 21,000 psi bursting tensile strength.

Design shall conform to ANSI Specifications A21.6 or A21.8.

Pipe shall be cement lined in conformance with latest ANSI Specification A21.4.

b. Joints - Cast iron pipe joints shall conform to applicable portions of the latest amendment to Federal Specifications WW-P-421b, Type II or Type III

For Type II joints, rubber rings and joint lubricant furnished by pipe manufacturer shall be used.

For Type III joints, high strength annealed cast iron bolts and either plain or duck tipped gaskets shall be used.

c. Fittings - Fittings for use with cast iron pipe shall conform to latest ANSI Specification 21.10.

6.2.3. Sewage Force Mains

a. Pipe - Cast iron pipe shall conform to latest ANSI Specification A21.6 or A21.8 and shall be suitable for 100 psi working pressure. Pipe thickness shall be in conformance with latest ANSI Specification A21.1. Cast iron metal shall have tensile strength of 18,000 psi and modulus of rupture of 40,000 psi. All pipe shall be coated on outside with coal tar pitch and the inside shall be cement lined. Cement lining shall conform to latest ANSI Specification A21.4.

b. Joints - Joints shall be the push-on or mechanical type conforming to ANSI Specification A21.11 when it is to be installed below grade. When it is to be installed above ground or in buildings, ANSI B16.1 shall be followed.

c. Fittings - Fittings shall be rated for not less than 150 psi working pressure, be suitable for the service required and shall conform to the requirements of the latest edition of AWWA Specification C-110, ANSI Specification A21.10 or ANSI Specification B16.1 with 125 pound flanges as applicable. Joints shall be in accordance with the type of pipe being used. Fittings shall be lined and coated as specified for pipe.

6.2.4. Gate Valves Used With Polyvinyl Chloride Pipe (PVC)

a. Two-inches and Larger - All gate valves shall comply with AWWA Standard C-500-61, and the following design specifications:

All gate valves are to be iron body, bronze mounted double disc, non-rising stem, paralleled seat type. Gate valves shall have a minimum working pressure of 200 psi and be tested at 400 psi. Non-geared valves shall be furnished with "O" ring packing (two "O" rings). The disc mechanism shall be designed so the seating pressure is applied equally at four separate contact points near the outer edge of each disc. The type of end connection shall be determined by the type of pipe used. Two (2) inch and three (3) inch pipes can have a two-point wedging mechanism.

b. One and one-half inch and smaller - One and one-half inch and smaller gate valves shall be equivalent to Mueller H-10915.

SECTION 6.3.0. - Ductile Iron Pipe

6.3.1. Water Distribution System

a. Pipe - Ductile Iron Pipe shall be a minimum Class 50, manufactured to meet ANSI A21.51 and AWWA C151 latest revision. Pipe shall be cement-mortar lined with seal coat specified in ANSI 21.4 and AWWA C104. Pipe shall have push-on compression type joints, whose only accessory is molded rubber gaskets. All ductile iron pipe shall be listed by Underwriters Laboratory, Inc.; each piece of pipe shall be hydrostatically tested to 500 psi by the manufacturer.

b. Joints - Same as specified under 6.2.3.b.

c. Fittings - Same as specified under 6.2.1.b.

6.3.2. Sewage Gravity System

a. Pipe - Ductile iron pipe shall conform to latest ANSI Specification A21.50 and A21.51 using 60,000 psi minimum ultimate strength; 42,000 psi minimum yield strength; and 10% minimum elongation metal.

All pipe shall be cement-mortar lined. Cement lining shall conform to latest ANSI Specification A21.4. Cement-mortar lining shall be coated with bituminous seal coat applied as soon as possible after cement lining has been completed.

b. Joints - Joints shall be push-on or mechanical joint types conforming to latest ANSI Specification A21.11. Mechanical joint glands for ductile iron pipe may be gray cast iron.

c. Fittings - Fittings for use with Ductile Iron pipe shall conform to latest ANSI Specification B16.1. Mechanical joint glands for ductile iron pipe may be grey cast iron.

Joints for fittings shall be mechanical or slip-type for buried use, and shall be flanged, Class 125, for use in above-grade piping.

6.3.3. Sewage Force Mains

a. Pipe - Ductile iron pipe shall conform to latest ANSI Specification A21.50 or A21.51 using 60,000 psi minimum ultimate strength; 42,000 psi minimum yield strength; and 10% minimum elongation type metal. Thickness shall be as required for Class 50, laying condition "B," with 30-inches of cover. All pipe shall be coated on outside with coal tar pitch, and the inside shall be cement-lined. Cement lining shall conform to latest ANSI Specification A21.4.

b. Joints - Joints shall be of Push-on or Mechanical Joint Type conforming to the latest ANSI Specification A21.11 where pipe is installed below grade. Where pipe is installed above ground or in buildings, joints shall be according to latest ANSI B16.1 with 125 pound flanges. Mechanical joint glands for ductile iron pipe may be grey cast iron.

c. Fittings - Fittings shall be Class 250 and shall conform to latest ANSI Specification A21.10. Joints shall be suitable for use with type of pipe furnished Fittings shall be lined and coated as specified for pipe.

SECTION 6.4.0. - Galvanized Pipe

Pipe in two (2) and four (4) inch sizes may be galvanized steel with threaded ends to be joined by galvanized steel couplings. Pipe shall meet ASTM Specification A120-68a. The galvanized pipe shall be coated with zinc inside and outside by the hot dip process. The weight of zinc coating shall be greater than 1.802 pounds per square foot. The pipe shall have a working pressure of 150 psi and a minimum hydrostatic bursting strength of 600 psi.

SECTION 6.5.0. - Vitrified Clay Pipe

a. Pipe - Vitrified clay pipe and fittings shall be extra strength, salt-glazed or unglazed, manufactured in accordance with and meeting requirements of ASTM C700.

b. Joints - Joints at a minimum, shall meet the requirements of ASTM C425. Detached compression ring for joints shall be either natural rubber or Neoprene and shall be either extruded or continuous molded type.

SECTION 6.6.0. - Backfill Material

6.6.1. Type "B"

Type "B" material shall be a select granular material free from organic matter and of such size and gradation that desired compaction can be readily attained. When tested in accordance with latest ASTM D422, it shall conform to the following requirements"

a. Maximum size not to exceed 3 inches.

b. At least 95% shall pass 1-1/2 inch sieve and not more than 10% shall pass No. 200 sieve.

c. Uniformity Coefficient shall be six or greater.

d. Material shall have a sand equivalent of 35% or greate

Material may be clean natural sand or gravel, imported quarry waste, select excavation or a mixture thereof.

6.6.2. Type "D"

Type "D" Material shall be material obtained from the contractor's excavations. Such backfill material shall be free of debris, deletrious materials, organic materials, and expansive soils, and shall contain no material larger than four (4) inches.

6.6.3. Gravel Base

Gravel base shall be clean, washed, well-graded rounded gravel or crushed rock of 1-1/2 inch maximum size and 3/8 inch minimum size.

6.6.4. Bedding

Bedding material shall be 3/4 inch nominal size coarse aggregate. When tested in accordance with latest ASTM D422, it shall conform to the following gradation requirements:

| | |
|---|---|
| Passing 1 inch sieve | 100% |
| Passing 3/4 inch sieve | 90-100% |
| Passing 3/8 inch sieve | 20-55% |
| Passing No. 4 sieve | 0-10% |

Bedding material for PVC force main shall be free from any rock, stone, or gravel larger than 3/4 inch for a distance of 12 inches from the pipe.

Material shall be free from soft, laminated, and thin pieces.

SECTION 6.7.0. - Casing Materials

(a) The selected casing shall be compatible with any material it is to transport or otherwise contact.

(b) All encasement pipes or uncased carrier pipes shall be new and of round, smooth wall, leakproof construction. Used pipe in good condition may be used if approved by the Inspector prior to beginning the work.

(c) The use of casings (not encased carriers) with wrapped protective covers will not be allowed.

(d) All steel casings shall conform to the following minimum thickness requirements:

| Nominal Outside Diameter Inches | Minimum Wall Thickness Inches |
|---|---|
| 3/4 | 0.113 |
| 1 | 0.133 |
| 1-1/4 | 0.140 |
| 1-1/2 | 0.145 |
| 2 | 0.154 |
| 4 | 0.188 |
| 6 | 0.188 |
| 10 | 0.188 |
| 12 | 0.188 |
| 24 | 0.250 |
| 30 | 0.312 |
| 36 | 0.375 |
| 42 or greater | 0.500 |

Minimum thickness for pipe diameters not shown shall be the same as required for the next larger size listed above.

(e) All plastic pipe must meet or exceed the following strength and composition standards:

PVC (Polyvinyl Chloride) ASTM D 1785
PE (Polyethylene) ASTM D 2447
PE for pipes over 3-1/2 inches diameter ASTM D 2513
PV (Polybuthylene) ASTM D 2662
CAB (Cellulose Acetate Butyrate) ASTM D 1503
ABS (Acrylonetrate-Butadiene-Styrene) ASTM D 1527
RTRP (Reinforced Thermosetting Resin Pipe) ASTM D 2996 or D 2997

SECTION 6.8.0. - Steel Liner Pipe

Steel liner pipe shall be welded steel pipe conforming to the requirements of AWWA C202-64 Grade B.

SECTION 6.9.0. - PVC Carrier Pipe

Pipe for gravity sewer shall conform to the requirements of ASTM D3033 or D3034 and SDR 35/

Pipe for force main crossings or for water main crossings shall conform to the requirements of ASTM D-1784 and meet all requirements of ASTM D-2241 and SDR 26.

SECTION 6.10.0. - Concrete

(a) Concrete for cradles shall be Class A.

(b) Concrete for construction of manhole bases shall be Class A.

(c) Concrete for encasement of lines for drop connection for manholes shall be Class B.

(d) The required minimum 28-day compressive strength for the various classes of concrete shall be as follows:

| | |
|---|---|
| Class A | 3500 psi |
| Class B | 3000 psi |
| Class C | 2500 psi |

(e) Concrete shall conform to the requirements of the following table:

| Class of Concrete | Minimum Cement Content (lbs/cu.yd.) | Maximum Water/Cememt Ratio (lbs/lb) | Slump (Inches) |
|---|---|---|---|
| A | 564 | 0.51 | 2 - 4 |
| B | 517 | 0.58 | 2 - 4 |
| C | 470 | 0.62 | 2 - 4 |

SECTION 6.11.0. - Prestressed Concrete Pressure Pipe

Pipe shall be in accordance with AWWA C301-79.

# CHAPTER VII

## CONSTRUCTION STANDARDS AND SPECIFICATIONS

### SECTION 7.1.0. - Construction Coordination with the Department

#### 7.1.1. Pre-Construction Conferences

At any time prior to construction, a pre-construction conference may be requested by the Department or the permittee. Pre-construction conferences will be held at a location specified by the County. These conferences are generally asked for and held to discuss plan alternatives, routes, substitutions of materials, and any other topics that might affect the quality, time of construction, safety, or the health and welfare of the public. It is expected that the permittee's contractor will attend any pre-construction conference called by the permittee or the Department.

#### 7.1.2. Inspector

(a) The permittee shall adhere to the following schedule when notifying the Department of the applicant's desired time of construction beginning.

| Day | Minimum Prior Notification Time |
|---|---|
| Tuesday-Saturday | 24 hours |
| Sunday | 48 hours |
| Monday | 72 hours |

(b) The Inspector shall check the work site to insure that the construction personnel are in possession of approved plans and permit, that safety devices are in place, and discuss any matters concerning the project. If all is in order, the Inspector will verbally approve the construction to begin and so note on the plans if requested.

(c) If the permittee does not appear within 1/2 hour of the agreed upon time and place, the permittee is required to contact the Inspector again and set up another meeting time. If the Inspector fails to show within 1/2 hour of the agreed upon time, the permittee may begin work without inspection; however, the permittee is not relieved of the responsibility to comply with the permit or County Ordinances and Policies; and if subsequent inspections reveal deficiencies, then the permittee must correct the same immediately. The official log, maintained in the Department, is the document listing notification of construction; and all parties shall be bound by the entries made within this log.

7.1.3. Field Changes to Plans

Substantial changes to the plans are only permitted after obtaining permission from the Department and the changes have been noted on the previously approved plans and signed off by the Engineer of Record.

7.1.4. The Project Supervisor

During construction, the Inspector shall monitor the work for compliance with the approved plans. Deficiencies found by the Inspector will be made known to the Project Supervisor. The Project Supervisor shall cause immediate corrections to be made. A Project Supervisor shall be present at all times during the actual construction.

7.1.5. Construction Completion

The permittee shall notify the Inspector within one (1) day after construction and resotration work is completed and arrange to meet the Inspector at the work site. The Inspector shall inspect the affected area, and if no further work is indicated at this time, shall note on the construction plans that the final inspection has been completed. If either construction or restoration deficiencies are noted, the Inspector shall inform the permittee; and the permittee shall immediately cause the deficiencies noted to be corrected and again call the Inspector for re-inspection.

7.1.6. Project Completion

If, upon final inspection, the Department has determined that the work site has been restored to a condition equal to or better than that which existed immediately prior to construction, the Inspector shall notify the permittee that no further restoration action is required at this time and enter the project completion in the official log.

SECTION 7.2.0. - Traffic Control

7.2.1. Public Safety

Safety devices and the detouring of traffic are utilized to prevent the creation of any obstruction or conditions which may become dangerous to the traveling public, pedestrians, and personnel working at the construction site. The devices are normally visual aids in the form of information, instructional, warning and prohibition signs, barricades, torches, use of flagmen and detour signs.

7.2.2. Initial Signs and Placements

(a) The appropriate above mentioned public safety devices shall be in place prior to the placement of material or equipment on a work site that would require such safety precautions.

(b) As work begins and progresses, signs and flagmen shall be placed, replaced, moved, or taken down, accordingly, to provide maximum information and safe road conditions for the traveling public. The instructions set forth in the Manual on Uniform Traffic Control Devices for Streets and Highways by the U.S. Department of Transportation will be strickl adhered to as minimum requirements. The permittee may voluntarily increase sign requirements as a situation warrants or the Inspector may direct additional signs or relocation of existing signs. Illustrations for most of the signs required are presented in Figures 7.1 and 7.4.

(c) The placement of signs for convenience to the permittee and which are detrimental to the traveling public is prohibited.

7.2.3. Detour Routes

Detour routes may not be established where the public would be unreasonably inconvenienced as determined by the Department. Plans to detour traffic must be included in construction and right-of-way permit applications.

The responsibility to place the necessary signs, flagmen, and other safety devices on approved detour routes is the same as for the work area.

7.2.4. County Public Road Signs and Property

The permittee shall be responsible for removal and replacement of any existing County road signs or property that interferes with the authorized construction operation. Any damaged property shall be replaced by the permittee at the expense of the permittee.

7.2.5. Electric Powerline Installation

When lines are being placed over traffic lanes, warning signs shall be placed at appropriate distances on each end of the work area as illustrated in Figure 7.1. Flagmen will be posted to warn on-coming motorists during the entire crossing operation.

After all conductors have been "pulled-in" and secured, the bucket-truck, flagmen, and warning signs will be removed from the roadway.

At no time will the road be open to traffic when over-head lines are less than eighteen (18) vertical feet from the road surface.

Procedures for crossings of high voltage lines across major County roads when guard poles are needed will be approved by the Department on an individual basis.

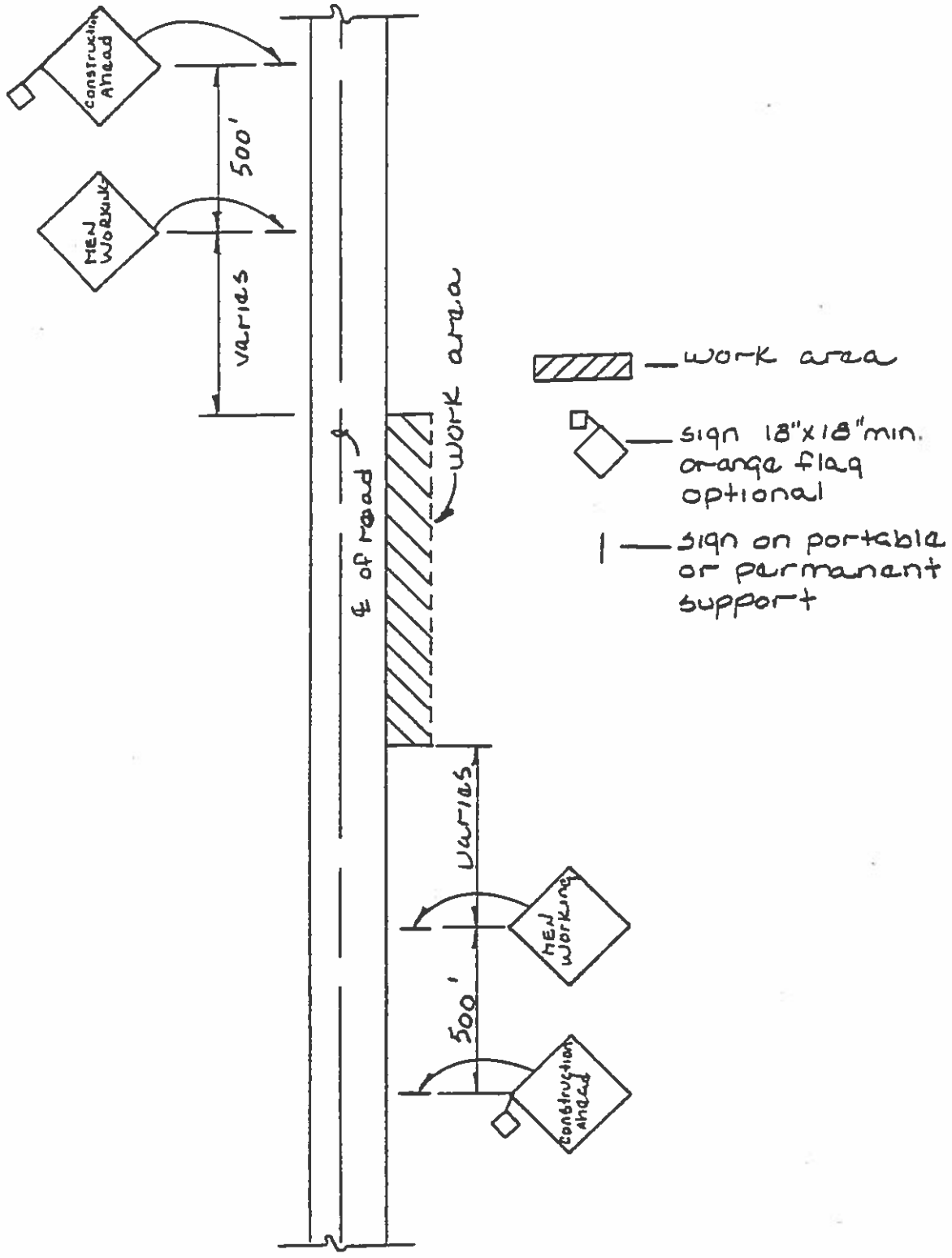
7.2.6. Use of Signs

(a) Street and highway construction and maintenance signs fall into three major categories, which are Regulatory Signs, Warning Signs, and Guide Signs. Many signs normally used elsewhere will find application for signing construction and maintenance operations.

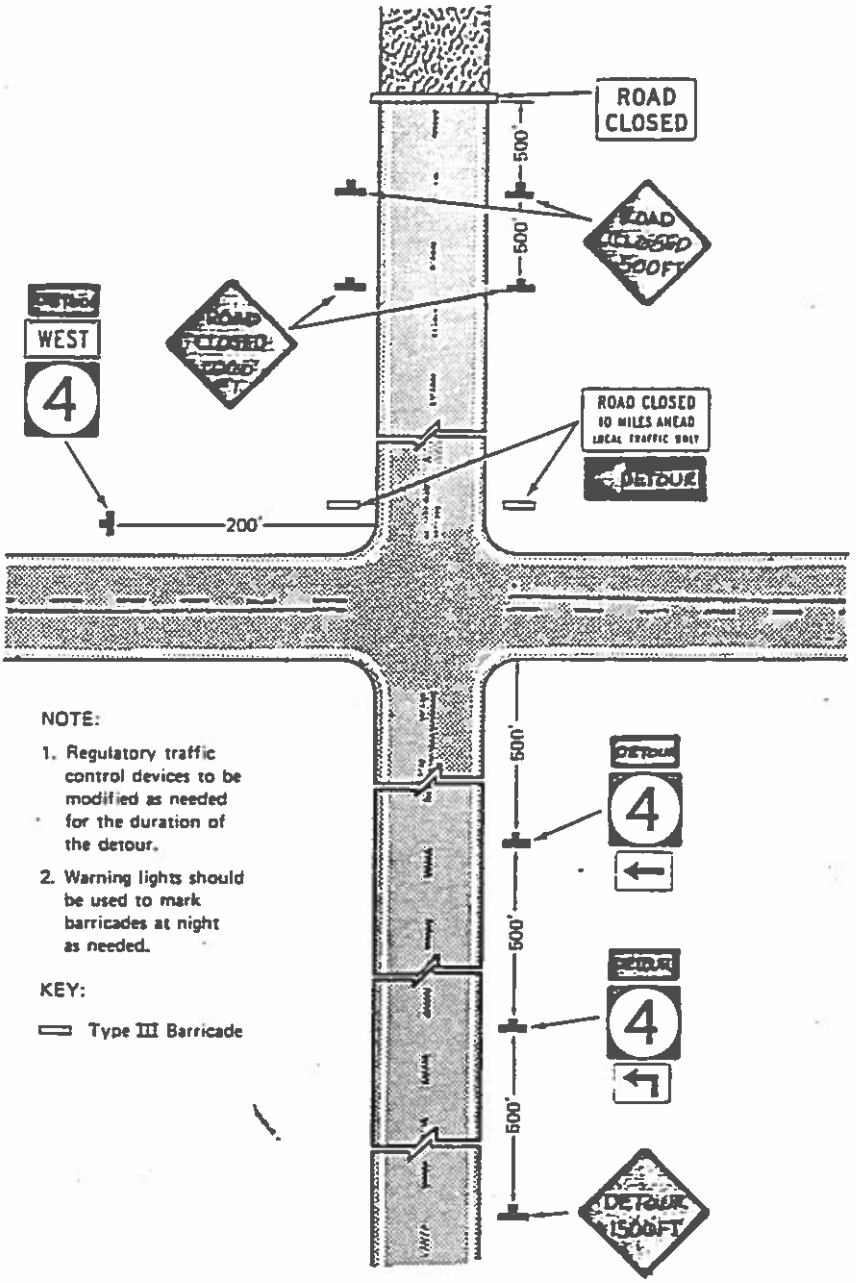
(b) Special construction and maintenance signs follo the basic standards for all highway signs as to shape. Warning signs in construction area shall have a black legend on an orange background. Existing yellow warning sings already in place within these areas may remain in use. Color for other signs shall follow the standard for all highway signs. The use of striped (other than the standard border) or other geometric patterns or contrasting colors on or around any sign in an attempt to make it more conspicuous, distracts attention from the message and defeats the prupose of maintaining uniformity and simplicity of design. Such practice is contrary to standards and is accordingly disapproved. However, warning lights in conjunction with signs is permitted, so long as they do not inter fere with a clear view of the sign face.

(c) After daylight hours, signs shown in Figure 7.2 are to remain erected, but illuminated or reflectorized.

(d) Design and color of regulatory and warning signs shall be in conformance with the Manual of Unifo Traffic Control Devices for Streets and Highways published by the U.S. Department of Transportati




TYPICAL APPLICATIONS - SHOULDER WORK
UTILITY OPERATIONS
FIG. 7.1 VII-5




*Typical application—roadway closed beyond detour point.*

Figure 7.3 and Figure 7.4 are typical applications of the use of the appropriate traffic control devices on a two-lane highway where one lane is closed and flagging is provided.

7.2.7. Drums, Barricades, and Other Commonly Used Signs

(a) The design, color, and application of drums, barricades, and all other regulatory and information signs shall be in conformance with the Manual of Uniform Traffic Control Devices for Streets and Highways published by the U.S. Department of Transportation.

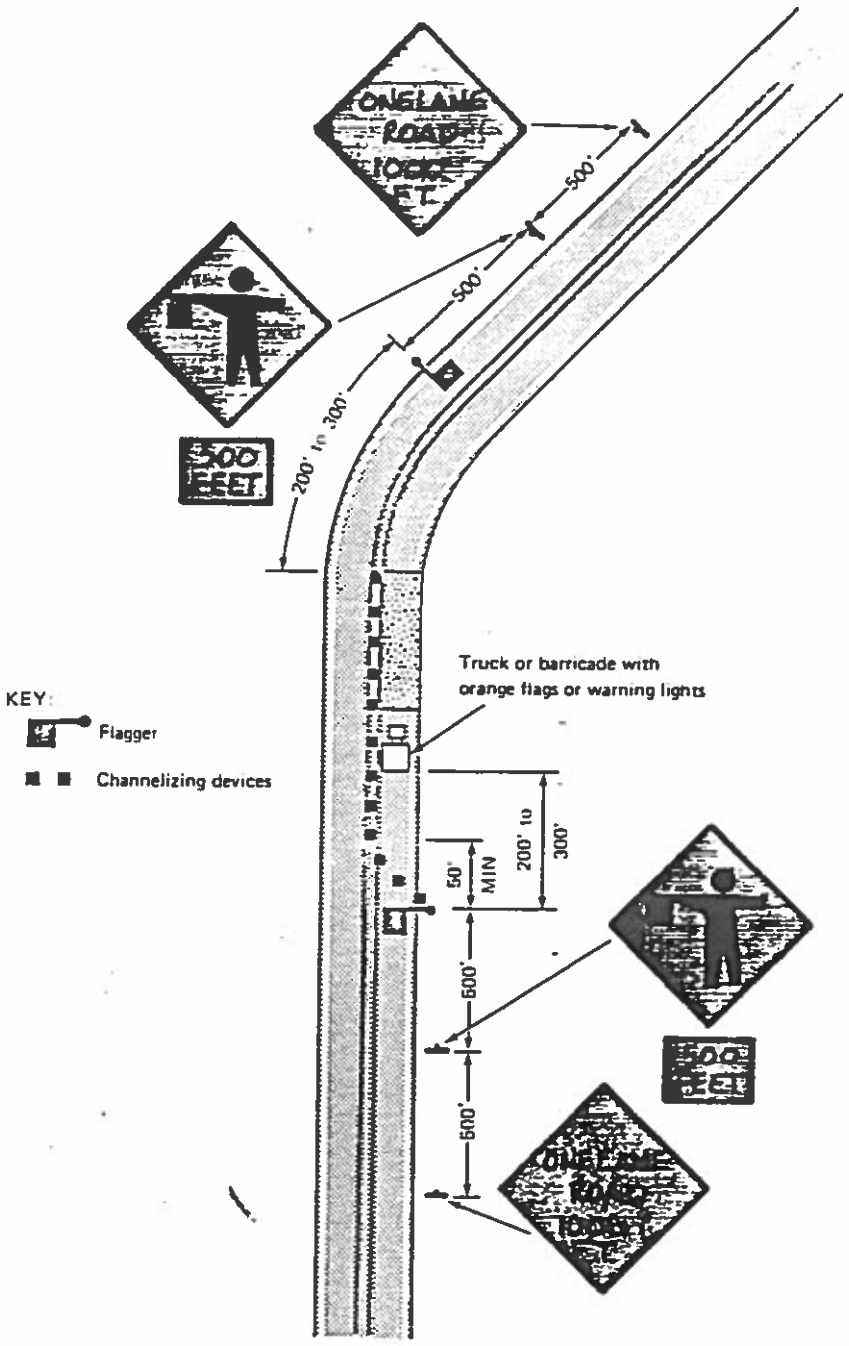
(b) The "ROAD CLOSED" sign shall be used where the roadway is closed to all traffic except contractor's equipment or officially authorized vehicles. The sign is to be erected at or near the center of the roadway on or above the appropriate barricade. The "ROAD CLOSED" sign shall not be used where traffic is maintained or where the actual closure is some distance beyond the sign.

(c) The "LOCAL TRAFFIC ONLY" sign should be used where through traffic must detour to avoid a closing of the road or street some distance beyond, but where the road or street is open for traffic up to the point of closure. It shall carry the legend "ROAD CLOSED (10) MILES AHEAD--LOCAL TRAFFIC ONLY" or optionally for urban use, "STREET CLOSED TO THROUGH TRAFFIC," and shall be accompanied by the appropriate detour signing.

SECTION 7.3.0. - Excavation-Pipe Installation-Backfilling

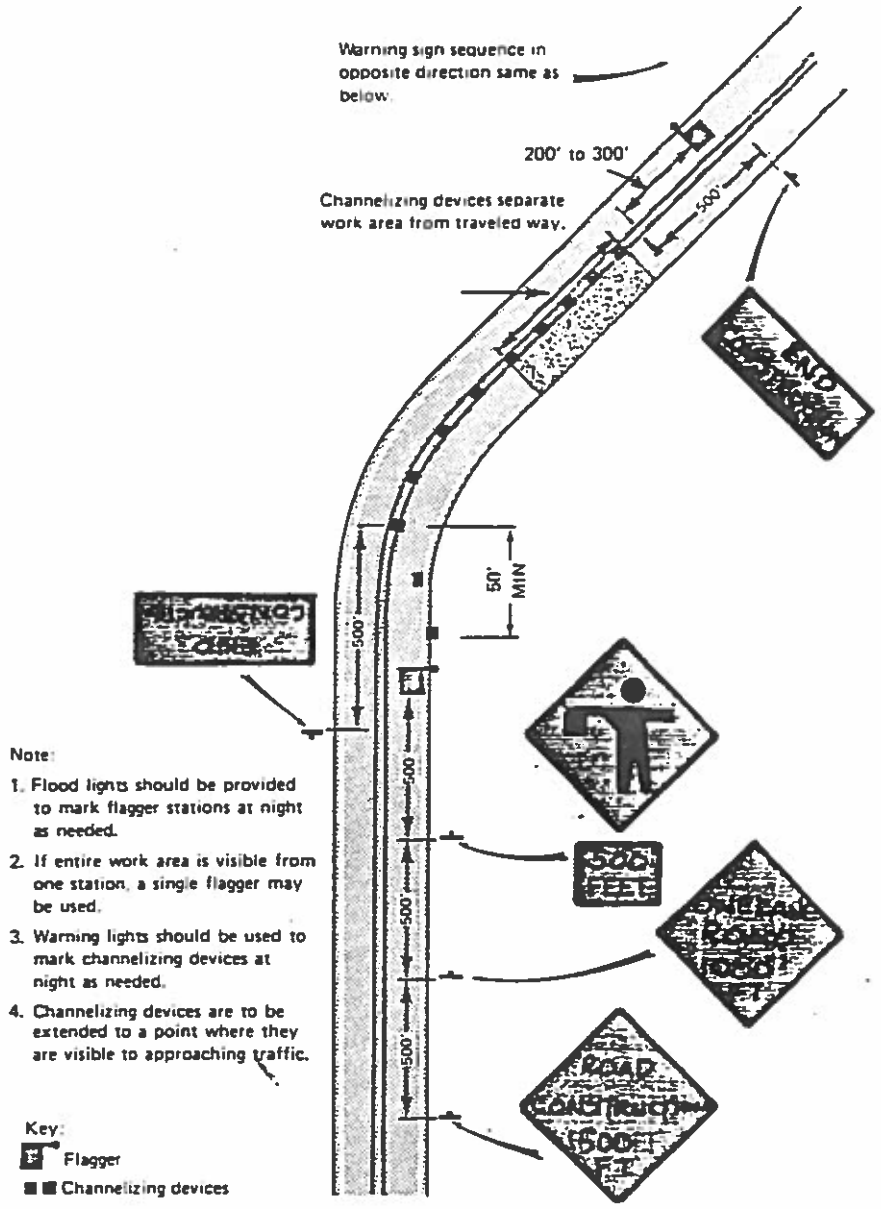
7.3.1. Clearing and Grubbing

Vegetation such as trees, shrubs, and grass, which interferes with construction, may be removed, except for certain trees and shrubs which are designated to remain undisturbed. All shrubbery, ornamental trees, and other such plantings including those within construction areas shall be satisfactorily replaced before the final approval of construction. All areas disturbed during construction shall be restored to a condition equal to or better than that existing prior to beginning work. All clearing and grubbing shall be performed in accordance with Leon County Environmental Ordinance 73-10, as amended by 73-57 and 75-5, and Leon County Tree and Landscape Ordinances 78-7 and 78-8.




*Typical application—daytime maintenance operations of short duration on a 2-lane roadway and flagging is provided.*

FIGURE 7.3 VII - 8




*Typical applications of traffic control devices on 2-lane highway where one lane is closed and flagging is provided.*

FIGURE 7.4 VII - 9

Trimming of branches or roots shall be limited to minimum clearance necessary, and accomplished by making clean, unbroken cuts. Wounds on limbs or roots 1/2-inch in diameter or greater shall be painted with a suitable protective compound. Leon County Tree Ordinance 78-7 shall be adhered to.

7.3.2. Control of Water

Control of ground water shall be such that softening of the trench floor or formation of "quick" conditions or "boils" shall be prevented. Dewatering systems shall be designed and operated so as to prevent removal of natural soils.

Static water level shall be drawn down below bottom of excavation so as to maintain undisturbed state of natural soils and allow placement of backfill to required density. A dewatering system shall be installed and operated so that the ground water level adjacent to the excavation is not reduced to the extent which would damage or endanger nearby structures or property.

Release of ground water to its static level shall be performed in a manner so as to maintain an undisturbed state of natural foundation soils, prevent flotation or movement of all structures and pipelines.

Deviation from this procedure shall only be allowed when a suitable alternative, approved by the Inspector, is used which will adequately address the problem.

7.3.3. Excavation

a) All excavated material retained for backfill shall be piled in a manner so as not to endanger the work or obstruct sidewalks, driveways, or drainage. Fire hydrants, valve pit covers, utility boxes, and other utility controls shall be unobstructed and accessible at all times during the construction.

b) Trenches shall be excavated to the required depth and to a width sufficient to provide the necessary working room only. If the trench is on or along a roadbed, saw the pavement along a neat, straight line a width to exceed that width of the bucket that would be used to excavate underlying soils. Trench sides shall be vertical up to at least the mid-point of the horizontal pipe. Loose pavement materials must be removed from the immediate construction site, taking precautions not to mix with soils intended for backfill use (Type "D" soils). If excavation is carried below what is required, the overcut depth shall be backfilled with Type "B" bedding material and compacted to within 95% of the original density. Holes

of ample size shall be cut under and around all joints and to assure that the barrel of pipe rests uniformly and in continuous contact with the supporting ground for its entire length.

c) When rock is encountered, the excavation shall continu to a depth at least 6-inches below the required grade and backfilled to grade with 6-inches of Type "B" material.

d) Where pipe laying ceases at the end of the day or for any cause, the end of the pipe shall be securely closed in order to prevent the entrance of water, mud, or any other objectional matter.

7.3.4. Sheeting and Bracing

The applicant shall maintain safe working conditions at all times. If the Inspector determines that the sides of the trench are in need of structural support to protect the workmen, the Inspector will suggest sheeting and bracing, or some other method to adequately support the trench walls, to the project supervisor and so note the suggestion in his daily log. It is the responsibility of the permittee and/or Engineer of Record to provide for support of the trench walls when needed.

7.3.5. Pipe Laying and Jointing

The following standards for pipe laying shall be adhered to where applicable:

| MATERIAL | STANDARD |
|---|---|
| Clay Pipe | ASTM C12 |
| Cast or Ductile Iron Pipe | AWWA C600 except testing and sterilization |
| PVC Pipe | ASTM D2321 |

Pipe shall be laid either on a prepared bed or undisturbe earth in bottom of trench shaped as required to fit pipe or upon a layer of properly placed bedding material.

7.3.6. Unsuitable Material Below Pipe Grade

Wherever excavation exposes unsuitable materials such as muck, clay, quicksand, or other unstable material at the trench bottom, which in the opinion of the Inspector, is unsuitable foundation upon which to lay or support pipe, the material shall be removed to a depth necessary to reach material having adequate bearing capacity. Space created by removal of this unsuitable material shall be backfilled using Type "B" backfill or bedding material as determined in Section 5.6.0. Backfill material shall

be placed in 6-inch layers and compacted, using mechanical compaction equipment, to a density equal to 95% of maximum density determined by the Standard Proctor Compaction Test, ASTM D598, latest edition, each layer being compacted to required density prior to placing next layer. The expense for a proctor test performed shall be borne by the permittee.

7.3.7. Thrust Blocks and Anchors

All plugs, caps, tees, and bends of force lines shall be provided with thrust blocks, restraint joints, or other approved thrust restraint method.

7.3.8. Backfilling

Backfill soils will conform to the minimum standards for Class "D" type material as specified in Section 6.6.0. Soft and yielding materials which will not compact readily shall be removed from the work site and suitable materials will be brought in to be used as backfill materials. The Inspector at his discretion may require the permittee to provide a soils report at the expense of the permittee from a certified soils testing agency or other agency acceptable to the County which provides laboratory testing indicating the soils intended for backfill comply with those standards specified for Class "D" materials. A copy of this report shall be furnished to the Inspector.

7.3.9. Initial Backfill

After pipe has been properly laid and inspected, Type "D" backfill shall be carefully placed around the pipe to a depth of twelve inches over the pipe. Backfill material shall be carefully placed in horizontal layers not exceeding six inches in loose depth, and equally on both sides of pipe, and shall be spaded, "walked-in," and compacted to obtain a minimum density of 95% of maximum density as determined by ASTM D698 (Standard Proctor Density). When one layer is completed on both sides of a pipe, a second layer shall be started. Backfill material shall not be obtained from trench walls. Mechanical tamping equipment may be used as approved by the Inspector.

7.3.10. Subsequent Backfill

Above the level of initial backfill, the trench shall be filled with material placed in accordance with one of the following classifications. The excavated top soils shall be used last in the backfill, and the surface of the trench restored to its original elevation.

a. Compacted Backfill

Trenches within street right-of-way, paved areas, and areas frequently subjected to vehicular traffic shall be backfilled with minimum soil Type "D" backfill material compacted as indicated in Section 7.8.0. on road restoration.

b. Plain Backfill

Material for plain backfill shall be Type "D". Backfill material shall be placed in horizontal layers and compacted following a procedure approved by the Inspector such that settlement forming a depression along the excavated area will not result.

c. Backfill for Structures

Backfill for structures shall be compacted backfill, as specified in paragraph (a) above, for a minimum distance of five feet from the outside wall of structure or to undisturbed excavation wall if nearer.

d. Compaction by Flooding

The permittee may compact granular backfill materials above level of initial backfill by flooding provided he has secured prior approval from the Inspector for each location. When compaction by flooding is to be done, backfill material shall be coarse grained gravel gravel-sand, or sand, free of clay, having not more than 5% by weight which passes a No. 100 U.S. Standard sieve and no material which pases a No. 200 U.S. Standard sieve. In addition, the character of soil through which trench passes shall be clayey-gravel or gravel-sand-silt mixtures which posses permeability sufficient to result in flooding water being drained away in a reasonable time not to exceed three days. All tests required to determine if backfill material or soil adjacent to trench is suitable for compaction by flooding shall be the sole responsibility of the permittee.

7.3.11. Disposal of Surplus Material

The unauthorized random "dumping" of surplus materials on private property or County rights-of-way or easements is strickly prohibited.

The permittee shall indicate to the Inspector what area is to be used for the disposal of surplus material and show evidence of authorization to the Inspector that he has the right to use this area.

If no area is available for this purpose, the County Sanitary Landfill is to be used.

7.3.12. Dust Control

If it is determined by the Inspector that dust has become a safety hazard or nuisance during the construction period, the permittee shall utilize water or calcium chloride to reduce the dust concentration.

## SECTION 7.4.0. - Field Testing of Water Distribution and Wastewater Collection Systems

7.4.1. Water Main and Sewer Force Main Pressure Test

After the pipe is laid and flushed, the system shall be hydrostatically tested in accordance with AWWA Standard C600. The Inspector is to be present during the examination.

7.4.2. Gravity Sewer Test

A low pressure test shall be performed prior to final inspection. The testing shall be performed in the presence of the Inspector, and the Inspector shall be notifie in accordance with 7.1.1. Generally, the sewers will be tested from manhole to manhole or from manhole to the end of the sewer if there is no manhole at the end. Service connections along the sewer main will be included in the testing.

The test procedure shall be conducted in the following manner:

(1) The permittee shall clean and remove all debris, sil earth, or other material from the sewer prior to the testing. The sewer shall be flushed with water by the permittee.

(2) Test plugs will be installed within the pipe at each manhole.

(3) If the pipe to be tested is below the ground water table, the permittee shall determine, in a manner suitable to the Insepctor, the depth of the ground water above the pipe invert immediately prior to testing the sewer. All gauge pressures in the test shall be increased by the amount of this back pressu due to ground water submergence.

(4) Air shall be added slowly to the test portion of the pipe until the internal air pressure is raised to 4. psig. A stabilization time of five minutes will be used to allow entering air to equalize with the temperature of the pipe wall.

(5) If the internal air pressure decreases, the time required for the pressure drop from 3.5 to 2.5 psig will be observed and recorded. This time interval shall be compared with the established standards.

The minimum times for pressure drop from 3.5 to 2.5 psig shall be the times derived from the following equations from ASTM C828.

(1) Single pipe size:

a. $t=(0.085/q) \times d$

where:

t = minimum time for pressure to drop from 3.5 to 2.5 psig., sec.
q = 0.003 = permissible air loss per square foot of internal pipe surface, $ft.^3/min.$
d = nominal inside diameter of pipe, inch.

b. $t = (0.022/Q) \times d^2L$

where:

Q = 2.0 = allowable total air loss, $ft.^3/min.$

L = Length, ft.

(2) Two pipe sizes in the test section:

a. $t=(0.085/q) \times (d_1^2L_1 + d_2^2 + L_2)/(d_1L_1 + d_2L_2)$

b. $t=(0.022/Q) \times (d_1^2L_1 + d_2^2L_2)$

An infiltration/exfiltration test will only be allowed when site conditions and circumstances demonstrate that the test would evaluate the structural integrety of the system more effectively than the low pressure examination. Department approval is required and the test procedure will be outlined by the Department. Maximum allowable infiltration/exfiltration shall be less than 100 gallons per day per inch diameter per pipe mile.

SECTION 7.5.0. - Boring and Jacking

7.5.1. General

Crossings shall be made under the existing pavement unless trenching has been approved by the Department. It shall be the responsibility of the utility provider to contact the Department, prior to the design of the utility installation, and request and receive a variance from this policy.

A request for variance from this policy, after the design and construction bidding procedure has been completed, will not be approved on the basis of cost, time delays, or required contract changes because of the required subgrade crossing operation.

7.5.2. Closed End Jacking

Closed end jacking is permitted for pipes or casings up to three (3) inches (O.D.). Closed end jacking is permitted up to five (5) inches (O.D.) below six (6) feet of overburden. Larger pipes shall be jacked only with the end open for clean out purposes as jacking progresses.

Closed end jacking of plastic pipe, or open end jacking without an auger for continuous clean out of the bore as jacking progresses, will not be allowed.

7.5.3. Mechanical Boring

Mechanical boring may be used for any pipe size or in conjunction with the installation of a liner pipe. Jetting or water sluicing methods, jetting with compressed air, or tunneling devices with vibrating type heads that do not have positive control of the conduit displacement and grade shall not be allowed.

7.5.4. Liner Pipe Installation

The liner pipe shall be installed in accordance with standard jacking and boring procedures unless otherwise approved by the Inspector.

7.5.5. Pit Excavation

The construction shall not interrupt traffic on the roadway. The pit shall be no closer than four (4) feet from the edge of pavement or two (2) feet from a curb section, unless otherwise authorized by the Department. The pit shall also be excavated and backfilled in the manner described in Section 3 of this Chapter.

SECTION 7.6.0. - Casings

7.6.1. Casings are required for underground crossings of utilities where the carrier conduit is of insufficient strength due to composition or cover or such that it cannot reasonably be jacked.

7.6.2. When casing is used for transportating flammable gasses or fluids, the casing should extend to the top of the slope and be vented at the outside of the right-of-way line.

An air pressure test for leaks shall be conducted in the presence of the Inspector upon completion of each crossing at a minimum test pressure of 20 psi in accordance with FDOT's Utility Accomodation Guide. In all cases, (with or without cases) the construction will be as specified by Federal Standards as listed in

Florida Public Service Commission Rule 25-12.03, as amended by Order No. 5221 issued by the Commission on September 17, 1971, together with any subsequent modifications thereto. In addition, gas lines with an operating pressure equal to or greater than 60 psi, and all other flammable fuel lines shall be covered by a four (4) inch concrete slab when the depth from the top of the pipe to the earth surface is less than 36 inches.

SECTION 7.7.0. - Codes and Standards

The latest edition of the established standards of the following organizations shall be followed as if they were fully written herein and constitute a part of the specification requirements, except where otherwise specified:

(a) National Fire Protection Association - "National Electrical Code".

(b) Occupational Safety and Health Administration - "O.S.H.A.".

(c) Appropriate Leon County Ordinances, Policies, Rules, and Regulations.

SECTION 7.8.0. - Flushing and Disinfecting

All new water systems, or extensions to existing systems shall be flushed and disinfected before being authorized to be placed in service. AWWA Standard C601-68 and State of Florida Health Standards shall be followed. Flushing rate for mains eighteen (18) inches and smaller shall be at 2.5 fps.

SECTION 7.9.0. - Road Restoration

7.9.1. General

In addition to those specifications outlined in Section 7.3.3., the following procedure will be adhered to when a trench is located within a roadbed, any paved area or other areas frequently subjected to vehicular traffic.

(a) Trench Bottom Excavation

The trench bottom for the installation of water mains may be flat bottom. The trench bottom for all other pipes shall be shaped to conform to the shape of the bottom 120-degrees of bell and pipe barrel.

(b) Backfill

The initial backfill operation shall be according to Section 7.3.8.(a). The remainder of the trench will be backfilled and compacted in size to nine inch layers to within five (5) inches of the existing pavement as depicted in Figures 7.5 and 7.6. The compaction shall meet 95% of the original density when using the Standard Proctor Test.

7.9.2. Restoration of Roadbeds

(a) General

Restoration of pavement cuts will be handled in the following manner (Note Figures 7.5 and 7.6 for the specifics).

Full road width paving is required when a cut is made in a paved road for more than 50 linear feet. The area beginning 25 feet before the cut and 25 feet beyond the cut must be repaved the full width of the existing pavement with one (1) inch of Type II asphalt in addition to normal patching.

Full road width paving shall also be required when multiple lateral cuts are made on a section of road, and it is determined by the Department that the number of cuts and closeness of cuts accumulated and/or proposed severely reduces the structural integrity of the road surface or subgrade.

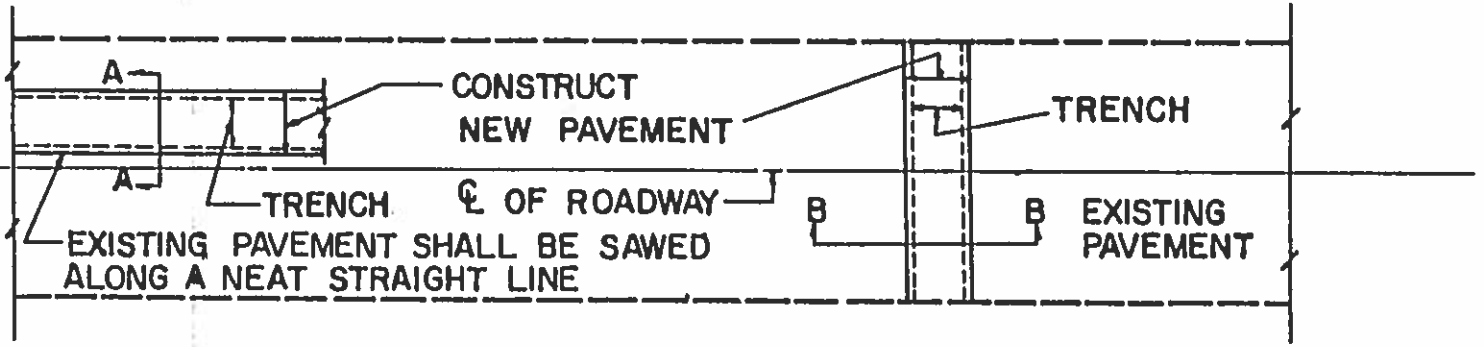
Restoration of the road base is accomplished by placing sand asphalt upon the compacted backfill in two (2) inch compacted lifts; or 2,500 psi compressive concrete may be used. In either case, the trenc will be filled up to one (1) inch of the top of the pavement. When sand asphalt is used and tacking has been accomplished, Type II ashpalt may immediately be placed to complete the patch. When 2,500 psi concrete has been used, 24 hours of curing time is required and the final tacking and patch will not be placed prior to 24 hours from when the concrete was placed.

(b) Surface Preparation

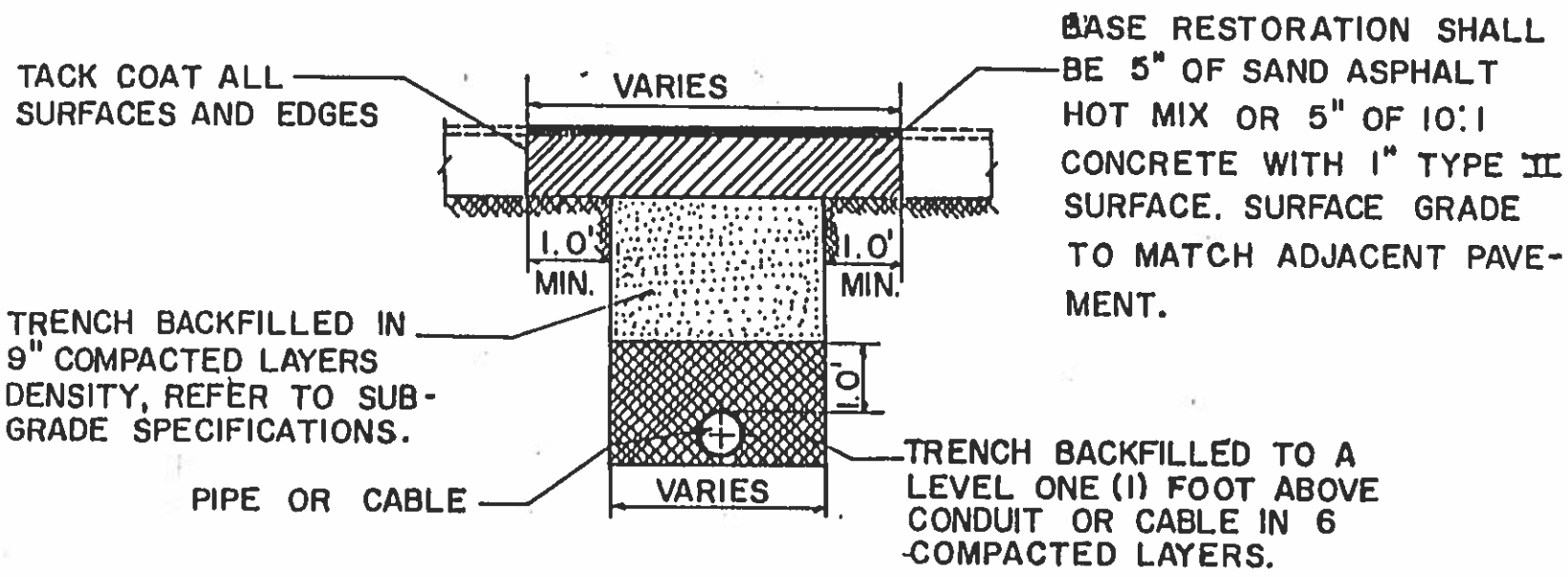
To increase the surface size of the patch area, which increases the weight bearing capacity of the area patched, cut back the pavement 12 inches on both side of the trench to a total depth of six (6) inches, exposing the road base, and immediately remove all loose materials, storing them away from the work area

The cut shall be made with tools approved by the Inspector.

# PAVEMENT RESTORATION FOR TRENCHES

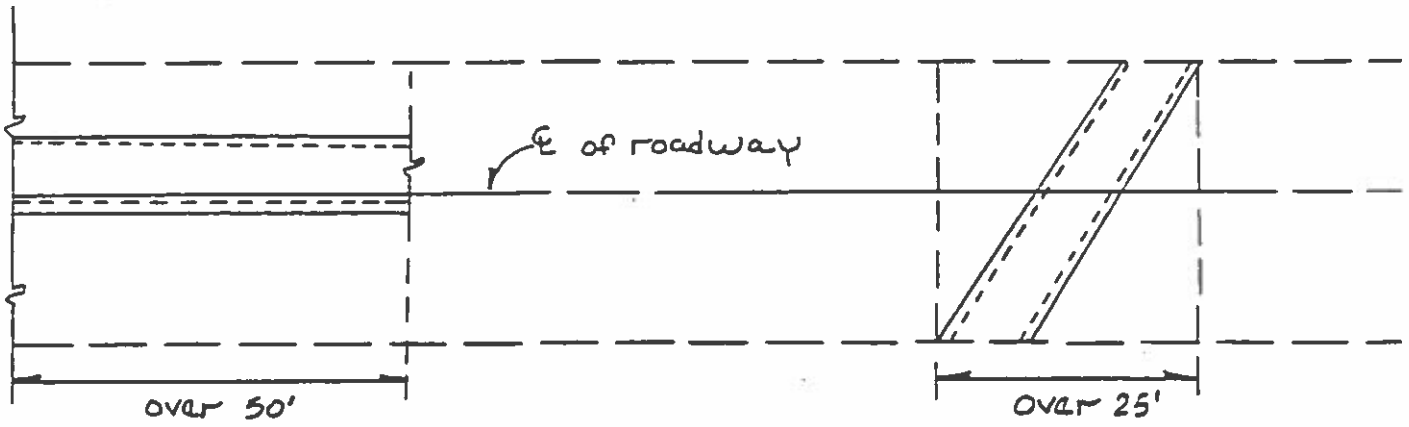



PLAN

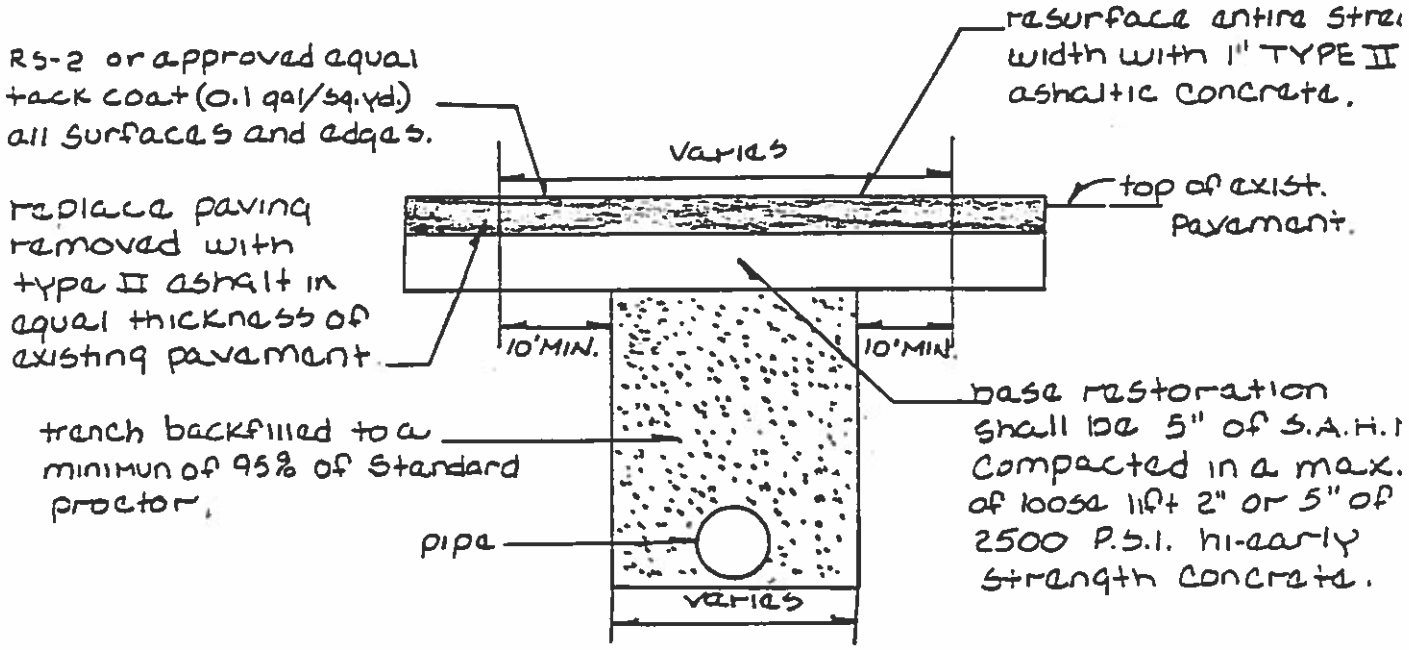



SECTION A-A & B-B

NOTE: PAVEMENT RESTORATION FOR LONGITUDINAL CUTS IN COUNTY STREETS SHALL INCLUDE FULL LANE WIDTH RESURFACING FOR EACH LANE WITHIN WHICH THE CUT EXTENDS.




LONGITUDINAL DIAGONAL




## PAVEMENT RESTORATION FOR TRENCHES

IN LONGITUDINAL CUTS OVER 50' AND DIAGONAL CUTS OVER 25'.

FIG. 7.6 VII-20

(c) Asphalt Patch

It is important that the bonding surface be as clean as practical, and free of all loose material that tack materials may seal properly. Before the asphalt may be placed, the bonding area must be uniformally tacked with RS-2 emulsified asphalt or other comparable materials approved by the Inspector. Rate of tack application is 0.1 gallons per square yard. The coat may be applied by hand methods using cloth materials such as mops or rags for linear cuts or longitudinal cuts of less than 50 linear feet are made. Pressure distribution must be used when cuts are more than 50 feet in length to prevent the tack materials from solidifying and losing adhesive characteristics prior to applying the asphalt. Normally, the patch material will be placed and compaction begun within 15 minutes after tacking.

All asphalt materials delivered to the job must arrive at the work site at 230$^{o}$ to 310$^{o}$ and not be less than 205$^{o}$ prior to the compaction operation.

The patch job is complete when the appropriate patch material is placed back in one (1) inch compacted lifts, if using a small upright compactor, or two (2) inch compacted lifts, if using a layer type compactor, until the seams of the patched surface area are level with the existing pavement and the patch is crowned 1/4 inch to prevent the patch from sinking below the existing pavement due to settling.

(d) Manhole Openings and Other Appurtenances

When a manhole or any utility appurtenance of this order is placed within a County right-of-way, the top of the structure may be even with, but not greater than 1/4 of an inch above, the adjacent surface. The backfilling of the structure shall conform to those standards outlined in Section 7.3.8. To resore the road base and existing paving, cut the pavement back to subgrade 12 inches from the manhole or appurtenance leaving clean, even margins. Restore by using 2,500 psi concrete to refill the road base area and paving cut. Appropriate hand tools such as a float or trowel shall be used to cause a smooth surface and to slope the concrete from the top of the structure to the margin of the cut.

(e) Unpaved Roads

When unpaved roads or any portion of a right-of-way is cut, the cut area must be compacted back to obtain equal or greater density of the adjacent undisturbed soils.

The permittee shall be responsible for and maintain the immediate completed restoration work for a period of one year from the date of final inspection. The permittee shall not be responsible for damages or conditions created by a third party, except if caused by inferior work by the permittee.

The area cut must be leveled and any soil evenly distributed. Seeding, sodding, and shrubbery procedures are found in Section 7.9.0. of this chapter.

The top of manholes will not be located closer than one (1) foot beneath the surface of the road unless an acceptable alternative method which will secure the manhole structure is provided. Prior approval by the Department is required for exception to the one (1) foot rule.

## SECTION 7.10.0. - Final Dressing

### 7.10.1. General

Clean up is an essential part of the construction job.

Clean up shall be completed as promptly as practical. The final inspection will not be complete until all areas covered under "clean up" are fulfilled. The following areas are to be completed as they apply to the specific construction area.

### 7.10.2. Grassing and Mulching

When applicable, grassing and mulching of all disturbed areas shall begin immediately after installation is completed and before inspection. Any yards or parts of rights-of-way in front of private property which have a grass mat will be re-sodded with like sod, or otherwise to the satisfaction of the Inspector.

### 7.10.3. Sprigging

Apply 4-8-4 fertilizer at the rate of six hundred pounds per acre to those areas to be sprigged. Use only live sprigs which match the existing grass and which have uninjured roots. The sprigs are to be placed in rows and the distance between rows shall not exceed one (1) foot. The sprigged area shall be watered appropriately.

### 7.10.4. Sodding

Immediately before sod is placed, 4-8-4 fertilizer shall be applied at the rate of six hundred pounds per acre by mechanical spreaders or broadcasting and raking. The sodded area shall be water appropriately.

7.10.5. Seeding

All areas to be seeded shall be fertilized with 12-8-8 NPK dry fertilizer applied at the rate of 400-600 pounds per acre and thoroughly worked into the soil. Grass seed shall be a mixture of 20 parts of bermuda and 80 parts of pensacola bahia seed, applied with mechanical distributors at the rate of 100 pounds per acre. During the months from October to January, the grass seed mixture shall be 50 parts winter rye and 50 parts pensacola bahia seed. All seed and fertilizer used shall meet the specifications of the State Department of Agriculture.

Erosion prevention, repairs, replanting, reseeding, and resodding of the construction area shall be the responsibility of the permittee until the soils and surfaces are stabilized.

7.10.6. Mulching

When mulching is determined to be necessary by the Department, seeded areas shall be uniformally mulched in a continuous blanket immediately following seeding at a rate of 1-1/2 tons of hay or straw per acre. Hay with noxious seeds or plants is not acceptable. Decayed, moldy, or brittle hay is not acceptable. The thickness shall be adequate to hold the soil but loose enough to favor the development of grass. Immediately following the mulch distribution, the mulch shall be anchored to the soil by means of a seed drill, disk harrow (set to cut only slightly), or other suitable equipment which will secure the mulch but prevent the loss of mulch from wind and rain. String lines placed at sufficient intervals is also acceptable for this purpose.

On slopes where machinery cannot be used, mulch may be anchored in place by hand or spading, string lines, or non-metallic open weave fabric. Mulch areas shall be watered immediately after distribution and anchoring.

7.10.7. Hydro-Seeding

Under this method, the seed, fertilizer, and mulch are mixed with water which produces a slurry. The slurry shall be distributed over the area to be seeded. The concentration of seed and fertilizer are specified in Section 7.9.5.

The equipment for mixing the slurry and for applying the slurry over the areas to be seeded shall be capable of applying a uniform slurry over the entire area and shall meet the approval of the Inspector.

The mulch material shall be included in the slurry mixture and shall be applied at the rate of 1,000 pounds of mulch material per acre. Mulch material shall consist of wood cellulose fiber material especially prepared for this purpose. It shall be prepared in such a manner that it will contain no growth-inhibiting or germination-inhibiting factors and shall be dyed an appropriate color for readily determining the rate of spread by visual observation. The slurry shall be uniform and homogenous, forming a blotter-like ground cover and impregnated uniformally with grass seed. Rainfall and water shall be able to percolate to the under-fiber material. Other types of mulch material may be used upon the Inspector's review and approval.

The permittee shall maintain the grassed areas in a satisfactory condition until the grass has reasonably sprouted and taken hold.

# CHAPTER VIII

## ENFORCEMENT AND BONDING POLICIES AND PROCEDURES

### SECTION 8.1.0. - General

8.1.1. The permittee, upon receiving a Leon County Facilities Construction Permit or Right-of-Way Placement Permit, is authorized to perform only the work outlined in the permit application and attachments, and any conditions prescribed by F.D.E.R. and the Department as a requisite to the granting of the permit. The permittee, while in the process of accomplishing the permitted activity, is legally obligated to follow and/or perform all requirements promulgated by Ordinance 80-29, Ordinance 81-17, State Statutes, and all County policies relating to utilities construction and placement.

8.1.2. During the construction or placement operation, the Inspector shall monitor the work for compliance with the approved plans and specifications. Deficiencies found by the Inspector shall be made known to the permittee or project supervisor. The permittee or project supervisor shall cause immediate corrections to be made.

8.1.3. A project supervisor shall be present at all times during construction. When a deviation or potential deviation is discovered that would require a substantial change, all work shall stop except any corrective measures necessary to address a deficiency or to prevent a hazard to the public or any structure.

### SECTION 8.2.0. - Facilities Construction Permit--Non-Compliance

8.2.1. When the Inspector determines that a deficiency in materials or workmanship exists, or substantial deviations from the approved plans has occurred, and if the Inspector determines that said deficiency does not place other utilities, private property, or any structure in jeopardy, nor creates a hazard to the public, the Inspector may approve a grace period, normally up to 72-hours, for the corrective measures to be completed. Otherwise, the corrective measures necessary due to a deviation from the plans, materials, or workmanship, shall be accomplished by the permittee immediately upon notification by the Inspector.

8.2.2. A grace period shall not be approved when the Inspector determines that further construction of the facility will cause the required corrective measures to become more technically or financially impractical to complete at a later date than if corrective measures were completed immediately.

8.2.3. The Inspector shall record the specifics of the deficiency or deviation and grace period in the Inspector's field journal and on the Department's and permittee's sets of approved plans.

8.2.4. The permittee assumes any and all liabilities created by the permitted construction and any deficiencies or deviations from the permitted construction.

8.2.5. Upon completion of the work to correct the deficiency, and/or at the end of the grace period, the Inspector shall review the site to determine if the deficiency has been corrected.

8.2.6. If the Inspector determines that the specified corrective measures have not been initiated or satisfactorily completed by the end of the grace period, the permittee shall be deemed in non-compliance of the issued permit. The Inspector shall notify the Department of such non-compliance.

8.2.7. The Department, following review of the non-compliance, shall be authorized to initiate any or all of the following enforcement procedures:

a) Grant an extended grace period and repeat a follow-up inspection;

b) Issue a Stop Work Order and request the Board to revoke the authorization to construct the facility. See Section 8.5.0.;

c) Call on the performance bond surety for completion of the necessary corrective measures; or

d) When immediate repairs are required to prevent possible injury to the public, the Department shall cause such repairs to be made, the cost of which shall be paid by the permittee prior to being allowed to continue work on any portion of the project.

SECTION 8.3.0. - Right-of-Way Placement Permit or Short Form Non-Compliance

8.3.1. The Inspector shall monitor the permitted work for compliance according to the permit application and attachments and for any conditions set forth by the Department. If a deficiency or deviation from the plans is found during the placement operation, the Inspector shall notify the permittee or project supervisor of the deficiency, and the permittee or project supervisor shall make corrective measures of the deficiency specified by the Inspector, normally the same day.

8.3.2. If the Inspector determines that corrective measures are needed immediately to protect the County and private property, or for the protection of the public, the Inspector shall instruct the applicant to complete the corrective measures immediately.

8.3.3. If, upon final inspection, the Inspector determines that further corrective measures are required to complete the placement in accordance with County policies, the Inspector shall notify the permittee and inform him of the deficiency found and establish the date of another inspection. The project shall not be considered complete, and the Inspector shall not sign off on the project, until the deficiency has been corrected.

8.3.4. If immediate corrective measures are not taken by the permittee, and the state of construction is such that there is a danger or hardship to the public, the Inspector shall notify the Division of Operations and arrange for the completion of the corrective measures. It shall be recorded in the Inspector's journal that the permittee is in non-compliance of the approved plans and specifications. The Department shall then notify the County Administrator and agenda a recommendation by the Board to call the Performance Bond. When the Division of Operations completes the corrective measures, the cost incurred to the County to complete the corrective measures shall be reimbursed to the County from the bond proceeds.

8.3.5. If after the established date of a follow-up inspection the corrective measures are not initiated, the Inspector shall notify the Department; and the Department shall arrange for the Division of Operations to complete the corrective measures. It shall be recorded in the Inspector's journal that the permittee is in non-compliance of the approved permit. The Department shall notify the County Administrator and agenda a recommendation to the Board to call the Bond.

8.3.6. If, during the one year following the final inspection and approval, the Inspector finds that further work is required for such reasons as erosion, backfill subsiding, inferior materials and/or workmanship, the Inspector shall determine the urgency of the corrective measures as specified in this section and notify the permittee accordingly. The Inspector shall arrange a time to inspect the corrective measures.

8.3.7. If the corrective measures are still not completed satisfactorily by the permittee, the Insepctor shall notify the Department; and the Department shall have the corrective measures completed. The permittee shall be in non-compliance of the placement permit; and the

Department shall require the permittee to reimburse to the County the cost to perform the corrective measures and to post a Maintenance Bond prior to the issuance of another Right-of-Way Placement Permit to that permittee.

SECTION 8.4.0. - Unauthorized Right-of-Way Placements

8.4.1. Unauthorized Placement

The Inspector, upon discovery of an unauthorized placement operation, shall determine the nature of the violation. If the party responsible for the activity cannot demonstrate that the activity is an emergency, the Inspector shall notify the Department.

8.4.2. The Department shall discuss and consider the circumstances and severity of the violation and shall be authorized to take any and all of the following enforcement procedures:

a) Allow the completion of the activity and officially record the violation accordingly;

b) Have the Inspector instruct the responsible party of the activity to submit a Right-of-Way Placement Application within two (2) days following the violation;

c) Order the work to stop and instruct the violator to perform the necessary measures to prevent a hazard to the public and restore the right-of-way;

d) Notify the Sheriff's office and request assistance in resolving the violation. The County Administrator's office shall be so notified.

8.4.3. When it comes to the attention of the Department that an unauthorized placement has occurred, the Department shall make every attempt to determine the party responsible for the activity.

8.4.4. If the Department is not able to readily determine the responsible party, the Department may take such action as is reasonably necessary to determine the identity of the responsible party; and costs of such actions to be borne by the responsible party.

8.4.5. Upon the determination of the responsible party, the Department shall discuss the violation with the County Administrator's office to determine the appropriate measures to be taken.

8.4.6. Nothing herein shall preclude the County from seeking an injunction to obtain compliance with these requirements.

SECTION 8.5.0. - Stop Work Orders

8.5.1. The construction operation of permitted facilities shall be discontinued except for remedial work when found in violation of County policies and procedures, and if in non-compliance of the permit.

a) When the Department issues a stop work order, no further work shall be performed from that moment on, except the required work to alleviate the deficiencies and safety hazards. The Stop Work Order shall remain in effect until the Department issues a written authorization to lift the order.

b) A Stop Work Order shall be posted at the job site.

c) Upon completion of the required work, the Department shall provide written authorization to proceed with the operation and remove the Stop Work Order, which has been posted at the job site.

d) If unauthorized construction activities persist at anytime after the notification to shut down the operation, the Inspector shall notify the Division Director, the Public Works Administrator, or the next available Department Officer. The Department shall notify the permittee and project supervisor that they are in violation of the Stop Work Order, and may request the arrest and prosecution thereof if the work persists.

e) The Stop Work Order is directed not only to the permittee but also to the person or firm actually performing the physical labors of constructing or maintaining the utility or the person responsible for the construction or maintenance of the utility. Continued work in violation of the Stop Work Order is a misdemeanor punishable by fine not to exceed $500.00 or by imprisonment in the Leon County Jail not to exceed sixty (60) days or by both fine and imprisonment. Each day workers perform in violation of the Stop Work Order is a separate violation.

8.5.2. If the required work is not performed within twenty (20) calendar days following the issuance of the Stop Work Order, it shall be determined that the project is incapable of being completed by the permittee; and the permit may be revoked and the performance bond may be called to complete the project, as determined by the County.

SECTION 8.6.0. - Performance Bonds

8.6.1. Prior to the commencement of facility construction, the utility owner shall obtain and deliver to the County a performance bond in an amount of 100% of the total estimated cost of construction with a surety approved by the County. The County may waive the requirement for a performance bond upon the receipt of other adequate assurance of the owner's ability to perform its obligation under the authorization.

8.6.2. The use of the performance bond does not preclude the County from pursuing further default measures in a manner described in County Ordinance 80-29.

8.6.3. Prior to the commencement of the right-of-way placement, the permittee or utility owner shall obtain and deliver to the County a performance bond in an amount of 100% of the total estimated cost of right-of-way restoration.

SECTION 8.7.0. - Maintenance Bonds

8.7.1. Any Right-of-Way Placement Permit permittee who has violated a provision of these policies, specifications, and procedures with regard to a prior project may be required to place with the County a maintenance bond for any subsequently issued permits.

8.7.2. When a maintenance bond is required, it shall be set at an amount of equal to 10% times the estimated cost of construction, or right-of-way restoration cost, whichever is appropriate, and shall last a period of one year.

EXHIBIT V

**RECOMMENDED LANGUAGE CHANGES**
**"Policies, Specifications, and Procedures for the Construction and Placement of Utilities in Leon County, Florida"**

Chapter 5

Section 5.2.7.0. Proper Corridors for Placements

Where reasonably possible, transmission lines will be placed in the corridors and at the depths or heights established in figures 5.1.0., 5.1.1., 5.2.0, and 5.2.1.

All plans and drawings accompanying a permit application shall reflect the use of the appropriate corridors where possible, including applications for the replacement of exisiting utilities. When slopes or buffer areas are insufficient to accommodate the utility in its normal place, or if another utility is already occupying that corridor, considerations for approval by the Department shall be on an individual basis.

Section 5.2.7.1. Lateral Crossing Service Stub-Outs

All underground placements along County rights-of-way which are intended to provide service to contiguous lands shall include the placement of service stubs laterally crossing the right-of-way, beyond the travelled roadway. Along rights-of-way bordered by subdivided land, such services shall be placed, at the minimum, so as to provide service to the opposite side of the right-of-way, at the lot lines for alternating subdivision lots. Along rights-of-way bordered by undeveloped lands, such service stubs will be placed, at the minimum, at 500 foot intervals.

Laterally crossing service stubs shall also be placed at intersections of the right-of-way with other roadways where adjacent lands are to be provided service by the utility placement being permitted so as to allow the provision of service without future disturbance of the travelled roadway.

Chapter 7

Section 7.3.10.1. Use of Shrinkless Backfill

In lieu of the use of the backfill materials stated in Section 6.6.0. and the backfilling methods stated in Sections 7.3.9., 7.3.10. and 7.9.1.b. the permittee may utilize shrinkless backfill to fill the trench, excluding the surface of the trench.

In order to allow grasses and other natural cover to establish itself, the final six inches of trenches located off of the travelled surface of the right-of-way shall be filled with the excavated topsoils and compacted in accordance with the specifications stated in 7.3.9. and 7.3.10.

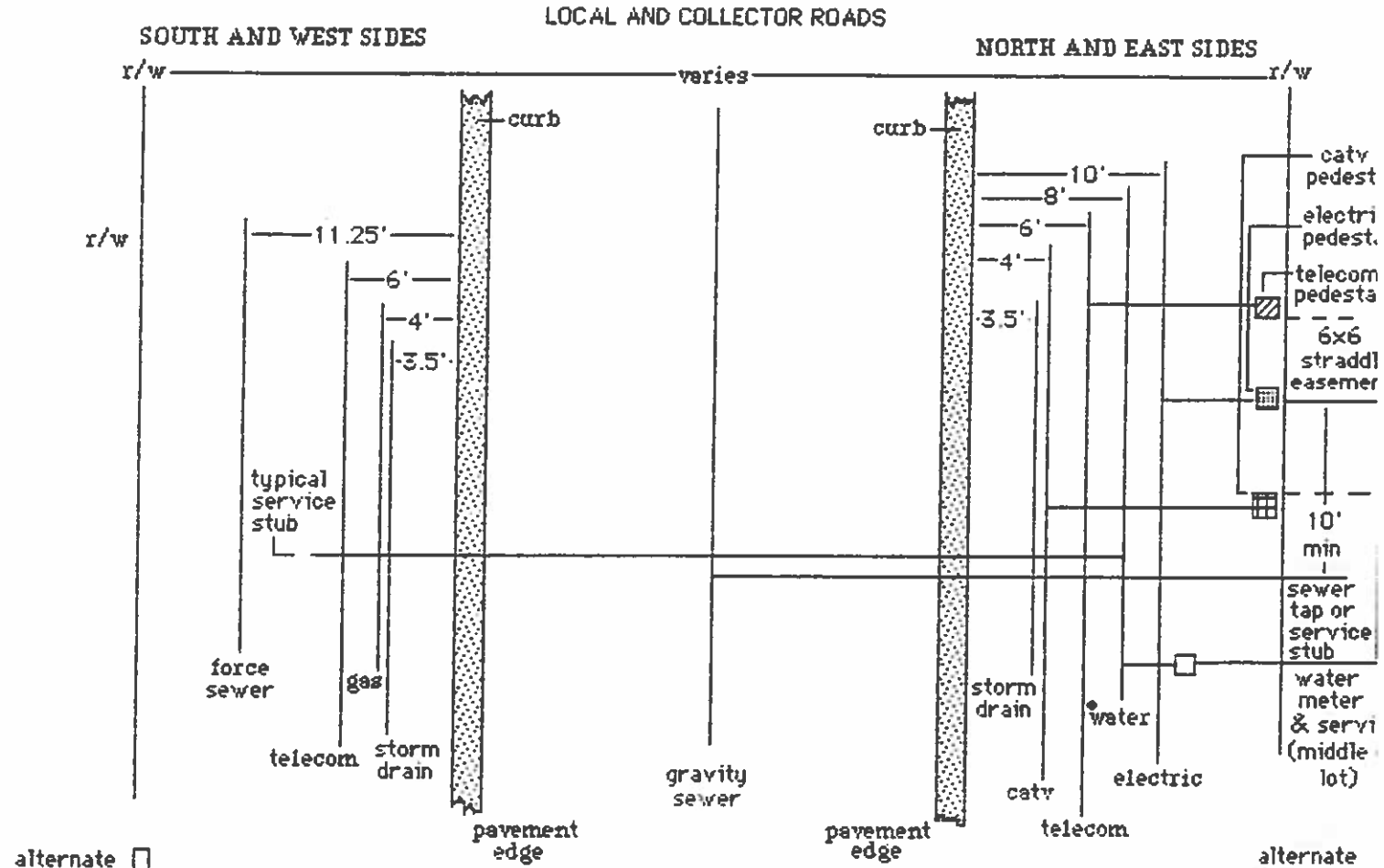
Trenches located within a roadbed, any paved area or other areas frequently subjected to vehicular traffic shall have the final five inches of restoration accomplished in accordance with Figures 7.5 and 7.6

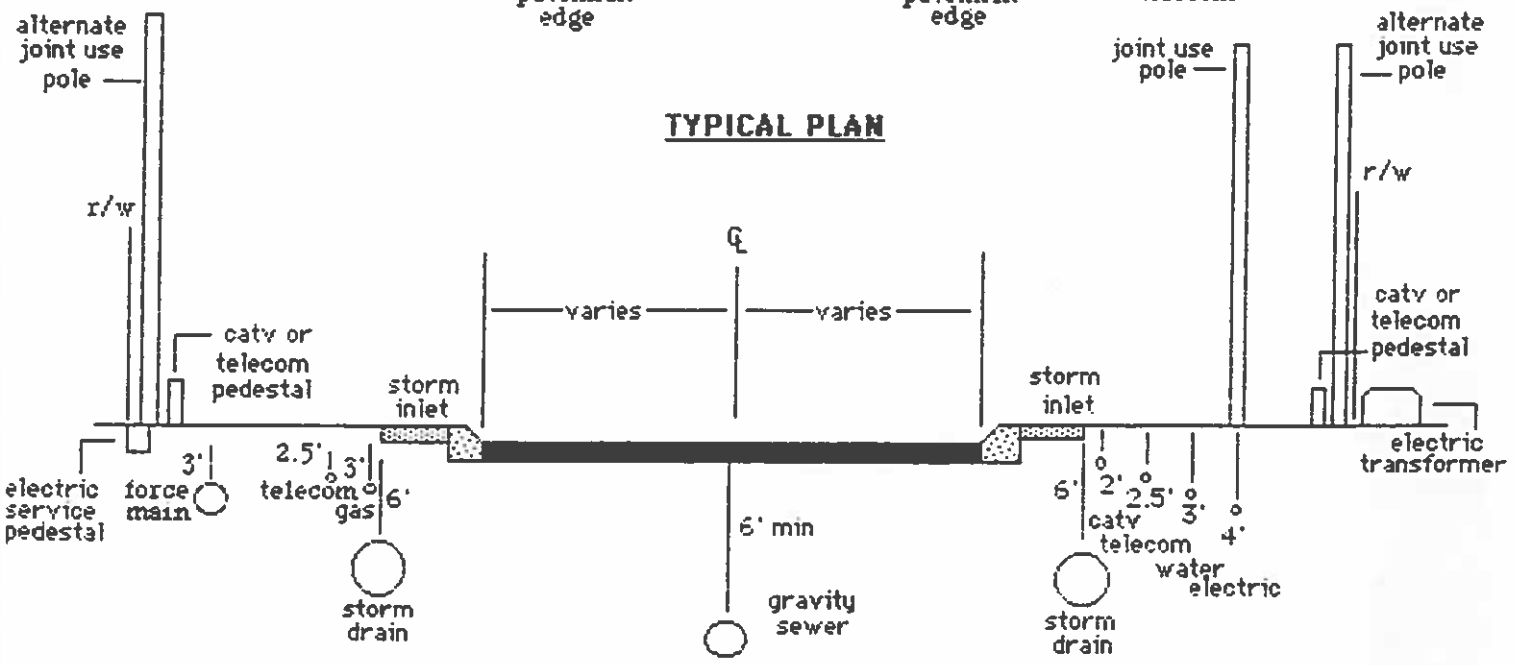
EXHIBIT I

# RECOMMENDED GUIDE FOR UTILITY PLACEMENT

## PUBLIC RIGHT-OF-WAY WITH CURB AND GUTTER

LOCAL AND COLLECTOR ROADS




**TYPICAL PLAN**

**TYPICAL CROSS SECTION**

**NOTE**

these plans apply to all street and r/w widths except where adequate space between edge of pavement & r/w is not available or other Fed. or State regs apply

All depths are minimum below established grades. Storm drain will not vary more than 2' in front of or behind curb.

Deflection required at storm drain inlets.

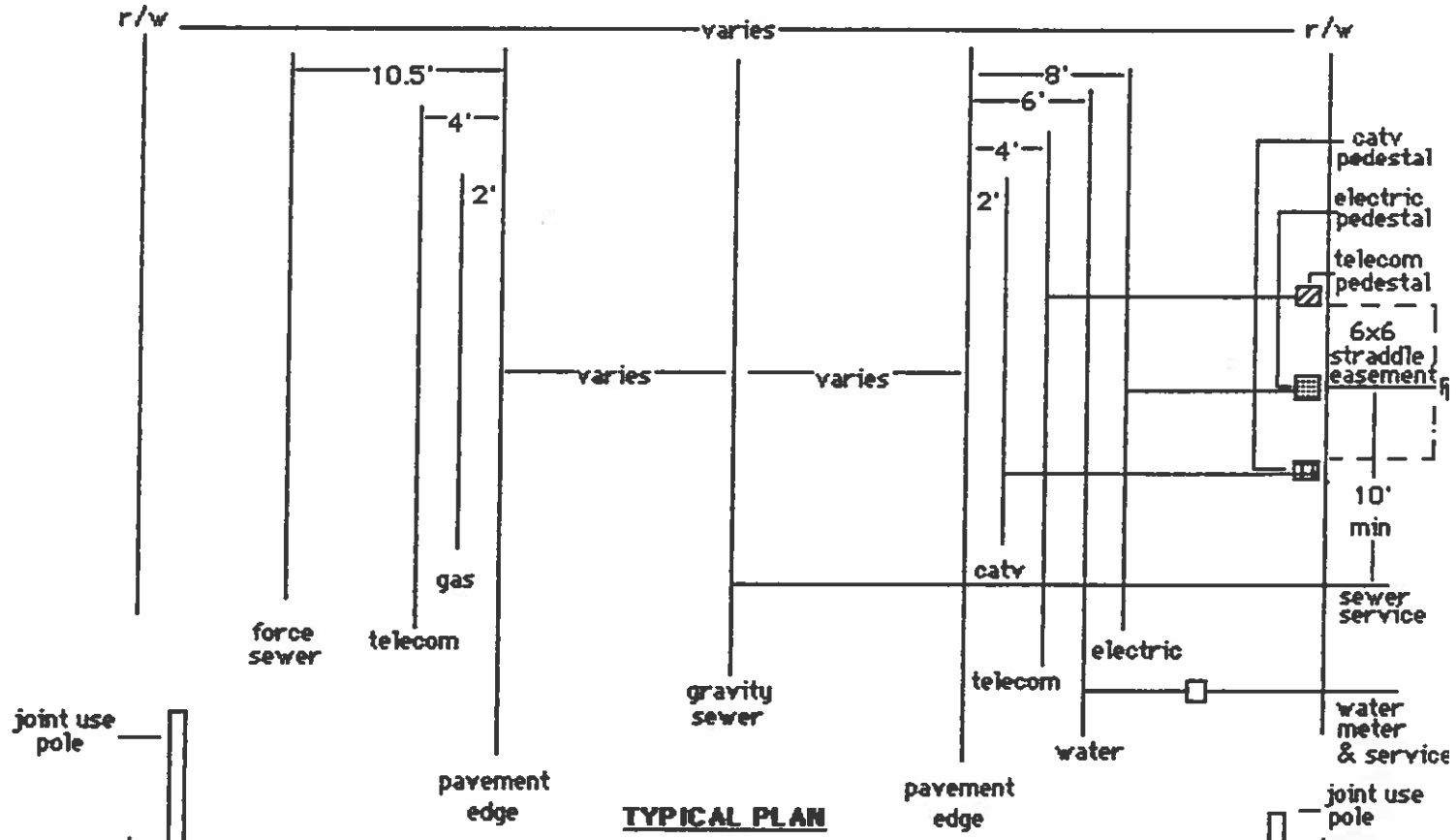
Fig. 5.1.0

# RECOMMENDED GUIDE FOR UTILITY PLACEMENT

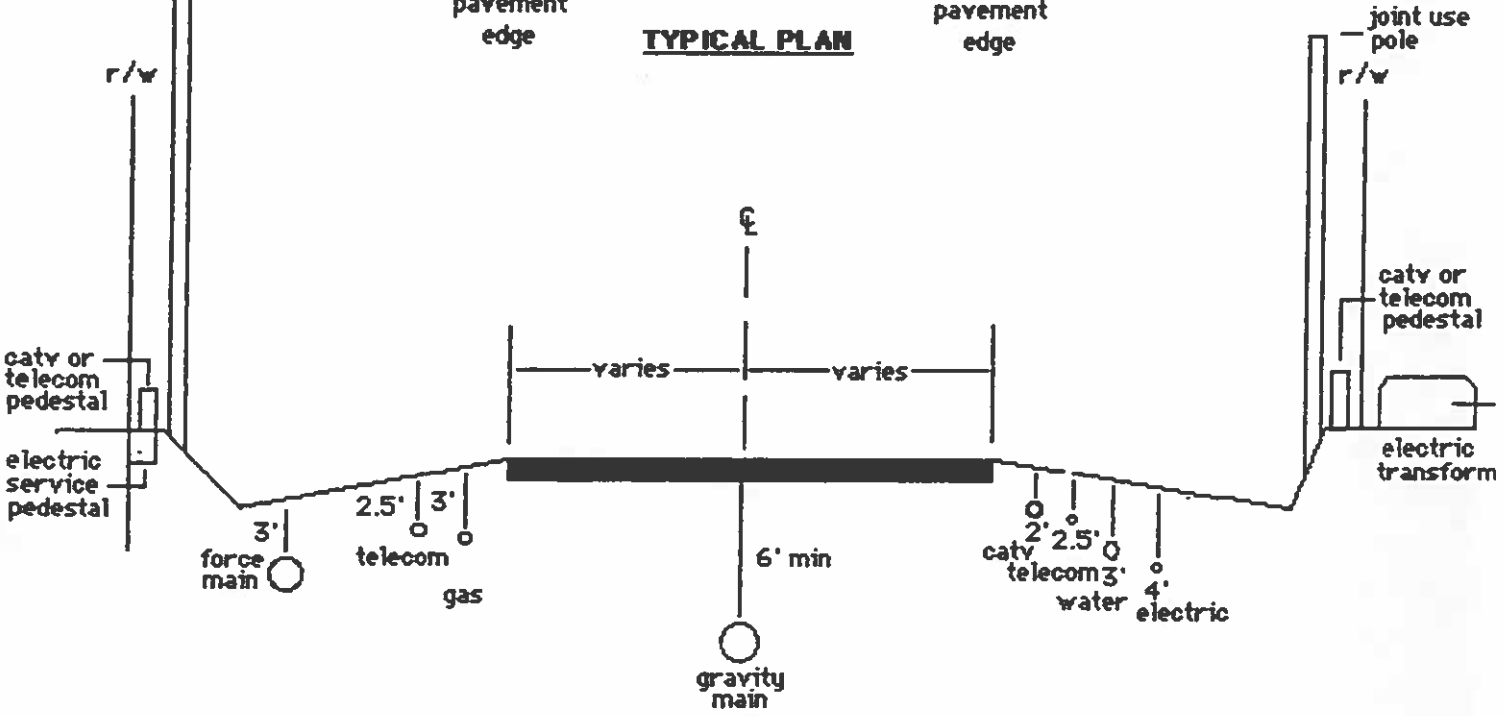
EXHIBIT II

## PUBLIC RIGHT-OF-WAY WITHOUT CURB AND GUTTER

SOUTH AND WEST SIDES — LOCAL AND COLLECTOR ROADS — NORTH AND EAST SIDES




**TYPICAL PLAN**




**TYPICAL CROSS SECTION**

**Note**

these plans apply to all street and r/w widths except where adequate space between edge of pavement & r/w is not available or other Fed. or State regs. apply

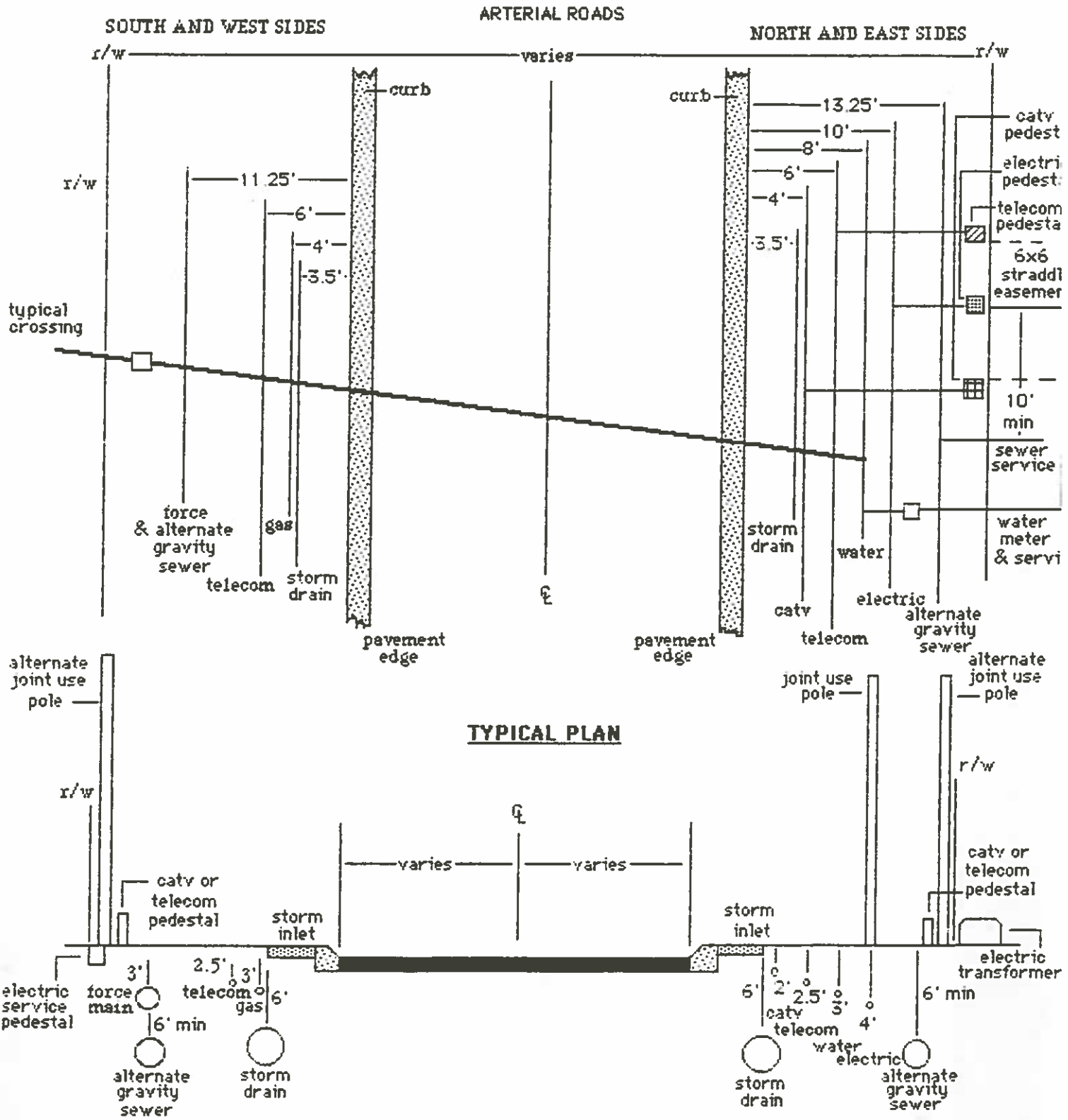
All depths are minimum below established grades.

Fig. 5.2.0.

# RECOMMENDED GUIDE FOR UTILITY PLACEMENT

EXHIBIT III

## PUBLIC RIGHT-OF-WAY WITH CURB AND GUTTER




**NOTE**

these plans apply to all street and r/w widths except where adequate space between edge of pavement & r/w is not available or other Fed. or State regs apply

All depths are minimum below established grades. Storm drain will not vary more than 2' in front of or behind curb.

Deflection required at storm drain inlets

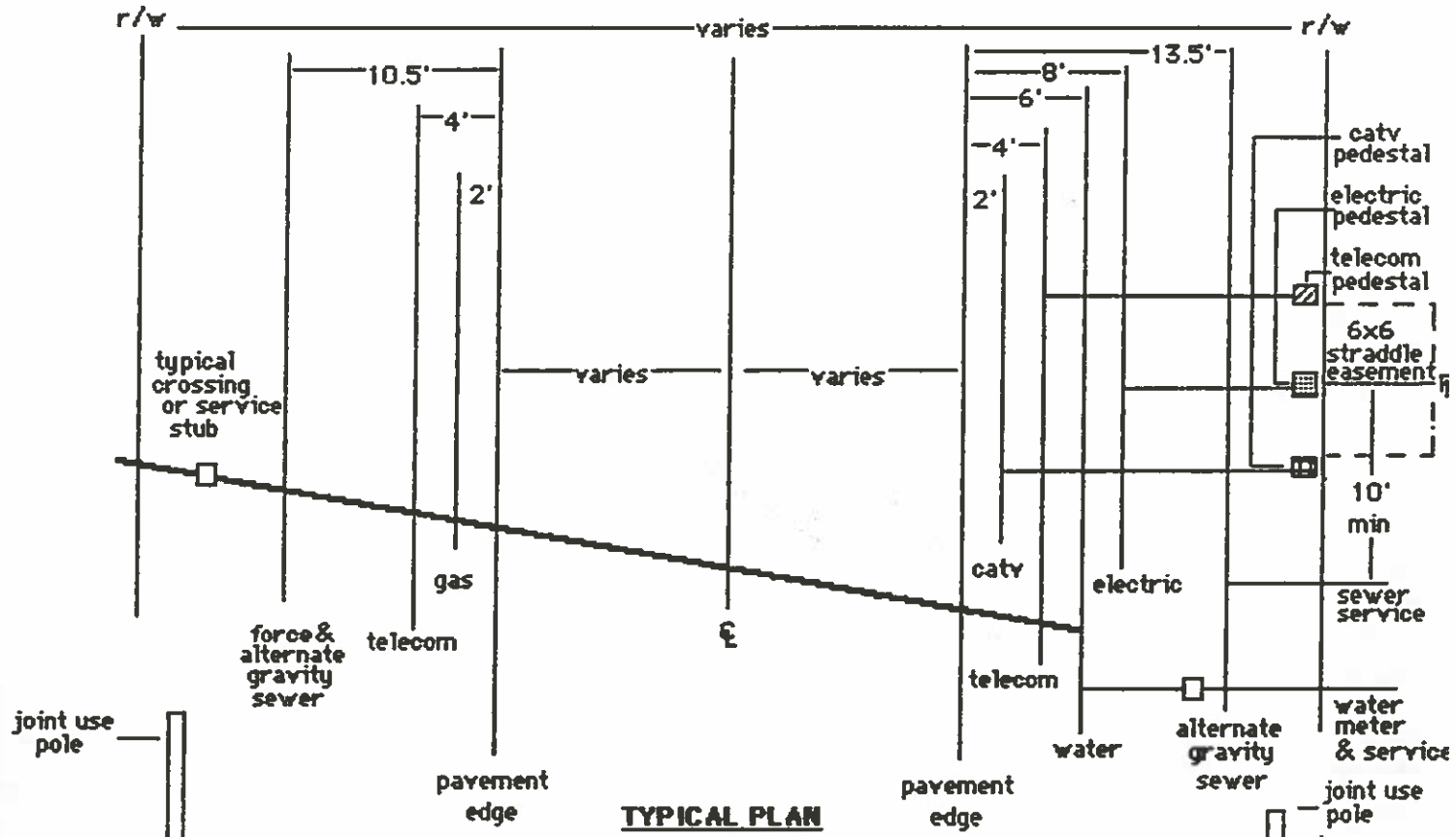
Fig. 5.1.1.

# RECOMMENDED GUIDE FOR UTILITY PLACEMENT

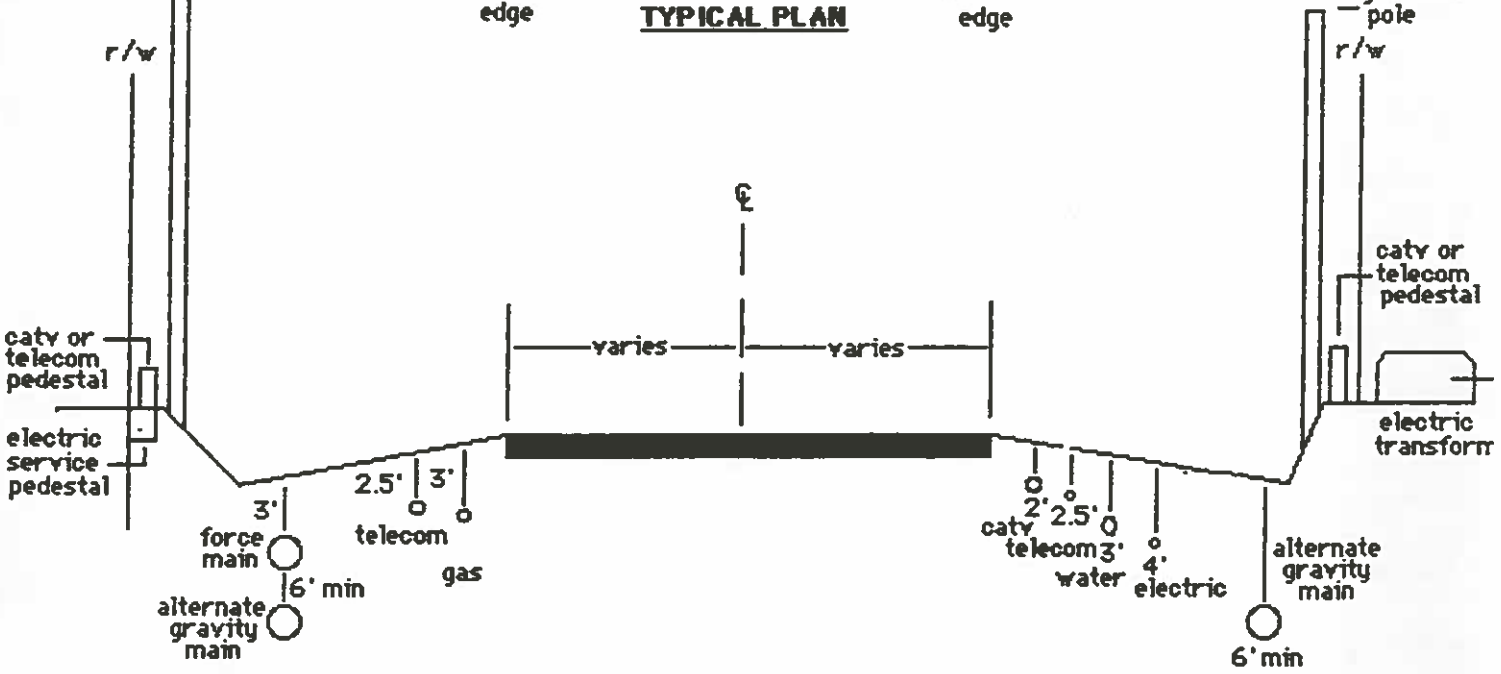
EXHIBIT IV

## PUBLIC RIGHT-OF-WAY WITHOUT CURB AND GUTTER

SOUTH AND WEST SIDES — ARTERIAL ROADS — NORTH AND EAST SIDES




**TYPICAL PLAN**




**TYPICAL CROSS SECTION**

**Note**

these plans apply to all street and r/w widths except where adequate space between edge of pavement & r/w is not available or other Fed. or State regs. apply

All depths are minimum below established grades.

Fig. 5.2.1.