

SECTION 4  
GENERAL CONDITIONS

4.1 INTRODUCTION

The guideline specifications and standards presented herein are to assure uniformity and quality of construction of potable water, effluent reuse, and sanitary sewer facilities within Lee County Utilities' Franchise Areas. These guidelines shall be considered in the design and construction of such systems to be installed in Lee County and applicable provisions herein shall be incorporated into all plans and specifications for new systems or connections to existing systems.

These guideline specifications cover the design and review of plans and specifications, installation, inspection, testing, disinfection and acceptance of water distribution systems, effluent reuse distribution systems, and sanitary sewer collection systems and all appurtenant items which are to be installed within Lee County.

4.2 ENGINEER OF RECORD

The Engineer of Record for the project, who is a registered Professional Engineer in the State of Florida, and who is authorized by and representing the Owner/Developer shall attend a Pre-Design Conference, a Pre-Construction Conference and Final Inspection, all to be held with the Department of Lee County Utilities.

The Engineer of Record shall be responsible for the final design and construction of the project. All judgment decisions affecting the design or altering the design will be the responsibility of the Engineer of Record, and the quality of the project shall be the responsibility of the Engineer to prove.

It is intended that the Engineer of Record monitor the progress and quality of the design, and the construction of the project to assure quality and to minimize "punch list" items near completion, as well as follow-up "punch list" to ensure all required work is complete.

4.3 SUBMISSION OF DOCUMENTS

Engineering documents for construction of water, sanitary sewer and/or effluent reuse systems in Lee County Utilities' Franchise Areas shall be submitted for review to the Department of Lee County Utilities' office located in the Edison Ford Square, (Boulevard Plaza Shopping Center), at 2017 Altamont Avenue, Fort Myers, Florida 33901. All plans submitted shall be signed and sealed by a Professional Engineer registered under Chapter 471, Florida Statutes, 1941 and amendments, thereto. Pre-design meetings are required prior to the submittal of any plans or documents. The Department of Lee County Utilities (DLCU) will make every effort to have plans reviewed within 10 working days, but shall be a minimum of 5 working days for review of submittal packages, for approval, rejection, or recommended alterations.

For review purposes the following documents shall be submitted:

- A. Engineering plans, folded (six (6) sets). Plan sheets shall only be accepted on 61 cm x 91 cm (24" x 36") high-quality paper with a scale not greater than 1"=40'. Profile sheets shall be provided for all gravity sewer mains, jack and bore, ditch crossing, casing pipe, and for all other pipe conflicts. Vertical scale shall not be greater than 1"=5'.
- B. Specifications (two (2) sets).
- C. Applicable review and processing fees.
- D. Letter of Intent from owner or agent.
- E. Completed Permit Application for Approval forms (five (5) sets), as required by, but not limited to, Florida Department of Environmental Protection (FDEP), Florida Department of Transportation (FDOT), Florida Department of Health and Rehabilitative Services (HRS), and Lee County Department of Transportation (DOT).

#### 4.4 APPROVAL TO CONSTRUCT

Upon final approval of plans, the Department of Lee County Utilities will forward the project to the Board of County Commissioners for Approval to Construct. After this Approval has been granted, the Department of Environmental Protection and HRS permits will be signed by Lee County and four (4) sets of permits and signed drawings will be returned to the Engineer for Permit Submission. Fire lines are exempt from the Board of County Commissioners' Approval to Construct requirement; however, all other provisions of this Section apply.

Approval to construct is valid for a one-year period. If construction has not begun within this one-year period, new approvals must be requested and shall meet the Department of Lee County Utilities standards in effect at that time.

#### 4.5 COMMENCEMENT OF WORK

Prior to construction, the Engineer and/or Contractor shall arrange a pre-construction meeting in which all affected agencies and parties shall be invited. It is intended that all existing valves and lines be operated by the Department of Lee County Utilities' or their designated personnel only, except in emergency cases. Prior to commencing construction, the contractor shall investigate, with DLCU and their designated field personnel, the location of existing valves in the vicinity so that in case of emergency, the valves can be quickly operated.

All construction work performed must be done by a Contractor licensed in the State of Florida to do the work intended.

No construction work shall be started prior to approval of the plans and specifications by the appropriate County agency(ies), or other agencies having jurisdiction. Additionally, no work shall commence until all necessary permits have been issued and shop drawings have been approved by the design engineer and Lee County Utilities. The County shall be notified not less than 48 hours

in advance of the start of construction and all materials to be incorporated therein shall be available for inspection at least 48 hours prior to installation.

The Engineer shall provide project inspection for all facilities to be dedicated to the County. The Engineer shall keep daily activity reports of the Contractor's activities and progress and furnish copies of said daily activity reports to the County in a timely manner. The Engineer shall also furnish, to the County in a timely manner, weekly progress reports.

Any Contractor working on Lee County Utilities lines, (water, sewer, or reuse), shall be an Underground Contractor licensed in the State of Florida.

#### 4.6 ACCEPTANCE OF FACILITIES

The following items shall be satisfactorily completed prior to the Department of Lee County Utilities forwarding the project to the Board of County Commissioners for final acceptance (Copies of acceptable form letters, acceptance check list, easements, and agreements are shown in Section 11):

##### A. Record Drawings

Prior to acceptance of the project by the Board of County Commissioners, the Engineer shall submit one (1) set of mylar base reproducible plans, two (2) blue line prints, and one (1) set of computer diskette copies of AutoCAD formatted drawings marked "Drawings of Record" which include the original design and all deviations that occurred during construction.

The Record Drawings shall include strap number of each property, vertical and horizontal alignment of all water, sewer, and effluent reuse lines, valves, tees, bends, reducers, hydrants, pump stations, service connections, meter boxes and/or pads, and other pertinent structures.

Pipeline runs in excess of 152.4m, (500'), without fittings shall include vertical alignment information at 152.4m, (500') intervals. Said alignment shall be tied to permanent improvements, such as roadway and/or railroad centerlines and rights-of-way, building and property corners, and shall be certified by a Professional Land Surveyor, licensed in the State of Florida. Record Drawings without detailed locations shown will be rejected. Only following approval of the form and content of the

Record Drawings by the Department of Lee County Utilities will the project be scheduled for Board of County Commission acceptance. The Engineer shall also furnish, to DLCU, a separate letter with his professional seal applied indicating that the work has been completed in substantial conformance with the Plans and Specifications ~~and~~ or as revised and attached and that the project is in substantial conformance with the Department of Lee County Utilities' Operations Manual, appropriately approved edition.

B. Inspection Report

Daily and Weekly Inspection Reports prepared by the Engineer shall be submitted to DLCU prior to requesting a Final Inspection.

The Final Inspection Report will be completed by the Department of Lee County Utilities personnel.

DLCU will perform two (2) Final Inspections at no cost. For all other re-inspections, the Owner/Developer will be charged a \$100 re-inspection fee per re-inspection. Project shall not go to the Board for final acceptance until re-inspection fee(s) have been paid in full.

C. Bacteriological Clearances

Where applicable, testing reports and approvals shall be submitted by Florida Department of Environmental Protection (Health and Rehabilitative Services).

D. Compaction Test Reports

Where applicable, all test reports for compaction shall be signed, sealed, and submitted by a Florida Registered, Professional Engineer from a qualified Testing Laboratory. All locations where testing is performed, whether passing or failing, shall ultimately obtain and show passing results.

E. Concrete Test Results

Where applicable, all concrete strength test reports shall be signed, sealed, and submitted, by a Florida Registered, Professional Engineer, from a qualified Testing Laboratory.

F. Letter of Completion

The Engineer shall certify the construction has been completed in conformance to the approved plans and specifications or the plans as revised and attached and that the project is in conformance with the Department of Lee County Utilities Operations Manual, appropriate edition.

G. Warranty

The Contractor shall guarantee that any defective work will be corrected at no cost to Lee County for a period of one year from the date of acceptance by the Board of County Commissioners. Refer to Section 4.7X.

H. Certification of Contributory Assets

A certification from the Engineer indicating all material(s) installed, and labor and services performed/provided in the construction of the subject project.

I. Release of Lien

A certification by the Contractor waiving any rights to claim liens for work or material used in the subject project.

J. Easement Agreement

If any facilities are to be placed outside existing County owned rights-of-way, ~~or~~ public utility easements, or a Lee County Utilities Exclusive Easement shall be granted by the owner of the property to Lee County. Only Easement Agreement forms prepared by the Department of Lee County Utilities are acceptable. A copy of these forms are shown in Section 11.

All easements shall be accompanied by a 30-year Title Search and shall denote, as a minimum, the Owner(s) of Record and all encumbrances affecting the property.

K. Rebateable Agreement

In those cases where the developer is to be reimbursed for facility extensions, a Rebateable Agreement form shall be submitted. All requests for rebateable agreements must be requested and the terms finalized prior to or along with Final Acceptance. Only forms prepared by the Department of Lee County Utilities will be accepted.

L. Sanitary Sewer Video Inspection

For sanitary sewer gravity lines, the Owner/Developer or Contractor shall obtain the services of a private firm to perform a video inspection of the newly completed gravity sewer mains.

One (1) complete copy of the video inspection in VHS format shall be furnished to the Department of Lee County Utilities. All video taping shall include a 2.5 cm, 5 cm and a 7.5 cm (1", 2" and a 3") reference guide to indicate water depth.

The Department of Lee County Utilities shall have the right to conduct its own, independent video inspection of the new gravity sewer system. The Department of Lee County Utilities' video inspection does not replace the Owner/Developer's video inspection, nor does it relieve the Owner/Developer of the video inspection responsibilities above.

M. Acceptance Check List

Prior to the Department of Lee County Utilities recommendation to the Board of County Commissioners acceptance of the project, the Owner/Developer shall verify that all items in the Acceptance Check List are satisfactorily completed. Failure by the Owner/Developer or his Engineer to monitor the status of the items in the Acceptance Check List shall not constitute grounds for waiver of any of the items by the Department of Lee County Utilities. Acceptable forms for the above submittals are located in Section 9 of this Manual.

N. Shop Drawings

Prior to acceptance of the project by the Board of County Commissioners one (1) copy of each shop drawing approved by the Engineer and DLCU shall be submitted along with an index in an organized book or package. If no shop drawings were required for the project, the

Engineer shall submit a letter attesting to this.

After the project is acceptable to the Department of Lee County Utilities, the Director will schedule the project on the Board of County Commissioners' Agenda for the Board's consideration. At the discretion of the Department of Lee County Utilities' Department Director, a portion of or an entire project may be placed in service prior to Board acceptance, contingent upon Board's final decision.

#### 4.7 GENERAL PROVISIONS

##### A. Definitions and Abbreviations

1. Analogous Words and Terms - For the purpose of these regulations, the following analogous words and terms shall be interpreted to have similar meanings when not inconsistent with the context:
  - a. Words used in the singular number include the plural; and, words used in the plural number include the singular.
  - b. Words used in the present tense include the future tense.
  - c. The word "constructed" includes the word "erected," "built," "installed," "rebuilt," and "repaired."
  - d. The word "structure" includes the word "building."
  - e. The word "include" is a word of enlargement and not limitation.
  - f. The word "shall" is mandatory and the word "may" is permissive.
2. General Definitions - Except where specific definitions are used within a specific section of these regulations for the purpose of such sections, the following terms, phrases, words and their derivations shall have the meaning given herein when not inconsistent with the context:

ACCESSWAY means land that is used or intended to be used for ingress or egress to abutting parcels of land and is not dedicated to the public.

APPLICANT means any individual, firm, association, syndicate, co-partnership, corporation, trust or any other legal entity, or their duly authorized representative conducting activities under these regulations.

ARCHITECT means a professional architect duly registered and licensed by the State of Florida.

BOARD means the Board of County Commissioners of Lee County.

BUILDING means any structure built for the support, shelter or enclosure of persons, animals, chattels or property of any kind which has enclosing walls for fifty (50) percent of its perimeter. The term "building" shall be construed as if followed by the words "or part thereof."

COUNTY means Lee County, Florida.

CURRENT, as used herein, pertains to the regulations in effect at the time an application or plan is presented for acceptance or approval.

DEVELOPER means any individual, firm, association, syndicate, co-partnership, corporation, trust, or any other legal entity commencing development.

DIRECTOR means the Department Director of the Department of Lee County Utilities or his authorized representative.

DRIVEWAY means an accessway which provides vehicle access from a street to a single parcel of land containing two or fewer dwelling units in a single structure and from which vehicles may legally enter or leave the street in a forward or backward motion.

DWELLING UNIT means a room or rooms connected together, constituting a separate, independent housekeeping establishment for a family, for owner occupancy, or for rental or lease on a weekly, monthly or longer basis, and physically separated from any other rooms or dwelling units which may be in the same structure, and containing sleeping and sanitary facilities and one kitchen. The term "dwelling unit" shall not include rooms in hotels, motels or institutional facilities.

EASEMENT means a grant of a right to use land for specified purposes. It is nonpossessory interest in land granted for limited use purposes. Where the term "easement" is preceded by the term "street" or any other adjective, the preceding term describes the easement's purpose.

ENGINEER means a professional engineer duly registered and licensed by the State of Florida.

INDIVIDUAL SEWAGE DISPOSAL SYSTEM OR FACILITY means those sewage systems which include a septic tank, a system of piping and a soil absorption bed or drainfield and as further defined and regulated by Chapter 381 of the Florida Statutes and Chapter 10D-6 of the Florida Administrative Code as may be amended from time to time.

LANDSCAPE ARCHITECT means a professional landscape architect duly registered

and licensed by the State of Florida.

LOT FRONT means the distance measured along a line between the points of intersection of the side lot lines with the street right-of-way or easement.

LOT LINE means a line which designates the boundary of a lot.

LOT LINE FRONT means the lot line which divides the lot from a street right-of-way or easement.

LOT LINE SIDE means any lot line other than a front or rear lot line, dividing said lot from the neighboring lot.

LOT OF RECORD means a lot which is part of a plat which has been lawfully recorded in the plat books in the office of the Clerk of the Circuit Court of Lee County, Florida and is in compliance with Chapter 177 of the Florida Statutes OR a parcel of land, the deed of which was lawfully recorded in the office of the Clerk in the Circuit Court of Lee County, Florida on or before January 28, 1983.

OWNER means any person having a legal or equitable interest in property.

PERMIT means any official document or certificate required or issued by the agency authorizing performance of a specified activity.

PERSON means any individual, partnership, association, corporation, trust, or other legal entity.

PRIVATE WATER SYSTEM means a water system that is supplied by a well, spring or other similar source of water, used for human consumption by four (4) dwelling units or less and is regulated by Chapter 381 of the Florida Statutes and Chapter 10D-4 of the Florida Administrative Code as may be amended from time to time.

PUBLIC SEWAGE SYSTEM means a sewage system that contains a wastewater treatment plant, is not an individual sewage disposal system, and is not regulated by Chapter 10D-6 of the Florida Administrative Code.

PUBLIC STREET means a street that has been dedicated to the public; and the public through use of the street; or the Board through express action at a public hearing, has accepted the offer of dedication. Regardless of the Board's acceptance of the offer of public dedication, the Board may or may not have accepted the street for maintenance purposes.

PUBLIC WATER SYSTEM means a water system that is not a private water system as herein defined, and includes those water systems regulated under Chapter 381 of the

Florida Statutes and defined as "Public Water Systems", "Community Water Systems", and "Noncommunity Water Systems" in Chapter 17-22 of the Florida Administrative Code; and defined as "Public Water Systems" not covered or included in the "Florida Safe Drinking Water Act" in Chapter 10D-4 of the Florida Administrative Code, as may be amended from time to time.

ROADWAY means a general term denoting land, property or interest therein, usually in a strip, acquired for, or devoted to, transportation purposes including the travelway, shoulders and swales.

SERVICE AREA means the geographical region consisting of the lot(s) being served or being proposed to be served by a public facility, including but not limited to public water or sewage systems.

SEWAGE SYSTEM means a system of pipes, pumps, tanks or wastewater treatment plants and all other appurtenances or equipment needed to treat, transport and disposal of sewage.

STREET means;

- (1) an access way which affords the principal means of ingress or egress to two (2) or more parcels of land; or,
- (2) a right-of-way or roadway which affords the principal means of ingress or egress to a parcel of land.

The term "street" is synonyms with the terms "avenue," "boulevard," "drive," "lane," "place," "road," "way," or similar terms.

STREET RIGHT-OF-WAY is a general term denoting land, property or interest therein, usually in a strip, acquired for, or devoted to, transportation purposes which has been dedicated to the public.

STRUCTURE means that which is built or constructed. The term "structure" shall be construed as if followed by the words "or part thereof."

SURVEYOR means a professional land surveyor duly registered and licensed by the State of Florida.

TRAFFICWAY means a public right-of-way the primary, though not necessarily the sole, purpose or use of which is to facilitate through movement of vehicles in substantial volume, rather than the providing of direct access to abutting properties. A trafficway may represent a freeway, expressway, arterial or collector street.

WATER SYSTEM means a system of pipes, pumps, water treatment plants, or water sources, and all other appurtenances or equipment needed to treat, transport and distribute water.

3. Abbreviations:

a. Agencies:

|        |  |
|--------|--|
| AASHTO | American Association of State Highway & Transportation Officials |
| ANSI   | American National Standards Institute                            |
| ASTM   | American Society for Testing Materials                           |
| AWWA   | American Water Works Association                                 |
| DER    | Department of Environmental Regulation                           |
| DLCU   | Department of Lee County Utilities                               |
| DOT    | Department of Transportation - Lee County                        |
| EPA    | Environmental Protection Agency (Federal Government)             |
| FDOT   | Florida Department of Transportation (State)                     |
| NCPI   | National Clay Pipe Institute                                     |
| NEC    | National Electrical Code   |
| NEMA   | National Electrical Manufacturers Association                    |
| NFPA   | National Fire Protection Association                             |
| OSHA   | Occupational Safety & Health Administration                      |
| UL     | Underwriters Laboratories  |

b. General

|     |                                  |
|-----|----------------------------------|
| PVC | - Polyvinyl Chloride             |
| DIP | - Ductile Iron Pipe              |
| psi | - Pounds per Square Inch (gauge) |
| ROW | - Right-of-Way                   |
| gpd | - gallons per day                |
| mgd | - million gallons per day        |
| gpm | - gallons per minute             |
| fps | - feet per second                |

B. Use of County Right-of-Way

Permission for use of County right-of-way or easements shall be obtained from the Lee County Department of Transportation through issuance of a Right-of-Way Construction Permit. Application forms are available at the offices of Lee County Department of Transportation.

Water, effluent reuse, and sewer facilities to be dedicated to the County shall not be installed in utility easements and rights-of-way which have not been recorded in the public records of Lee County.

C. Standards

When standards or specifications are indicated herein by reference, the referenced portion shall apply to the most recent edition of the publication and shall have the same force and effect to the extent indicated by the references thereto, as if they were included herein in their entirety.

D. Approval of Sources of Supply and Materials

The source of supply for any required materials may be subject to approval by the County before shipment to the job site. The Contractor, producer or owner of the supply source may be required to submit representative samples for inspection or tests. The results obtained from testing such samples may be used for preliminary approval, but this preliminary approval will not constitute final acceptance of the materials. All materials proposed for use may be tested at any time during their preparation and use. If after trial, it is found that sources of supply that have been approved do not furnish a product of uniform quality, or if the product from any sources proves unacceptable at any time, the Contractor shall furnish approved material from another source.

E. Approval and Acceptance of Materials

Materials may be sampled either before shipment or after being received at the place of construction. All sampling, inspecting and testing shall be done in accordance with methods hereinafter prescribed. The Contractor shall provide such facilities as may be required for conducting field tests and for collecting and forwarding samples. The Contractor shall not use or incorporate into the work any materials represented by the samples until tests have been made and the material found to be acceptable. Only materials that conform to the requirements of the approved specifications and/or that have been approved by the County shall be used in the work. Any material that, after approval, has for any reason become unfit for use, shall not be incorporated into the work.

All materials furnished by the Contractor shall be new. Before beginning work, the Contractor shall advise and obtain the approval of the County, in writing, for any optional materials allowable under the various headings which he proposes to use. All materials delivered to be

incorporated into the permanent work shall be accompanied by a manufacturer's certification/certified test results as applicable. Said documents shall include identity of manufacturer's certification, project identification, date, quantity, name of material, meet specifications, etc.

F. Sampling and Testing

Except as otherwise provided, sampling and testing of materials and laboratory methods and testing equipment shall be in accordance with the latest published standards (including published tentative) or methods of ASTM, AASHTO, AWWA, or other such organizations recognized as authoritative for the type of test required. Sampling and testing may include, but is not limited to, Standard or Modified Proctor, in place density, and Concrete Compression Strength. The number of and type of samples and tests is to be determined by the Engineer and the County.

The testing of samples and materials, if required, shall be made at the expense of the Contractor, Developer or Builder unless otherwise specifically authorized or approved in writing.

It is expected that all inspections and testing of materials and equipment will be done locally. If the Contractor, Developer or Builder desires that inspections or tests be made outside of the local area, all expenses, including per diem for any duly authorized representative of the County, shall be borne by the Contractor, Developer or Builder.

G. Legal Restrictions and Permits

The Contractor shall be familiar with all Federal, State, County, and other laws, codes, ordinances, and regulations that in any manner effect those engaged or employed in the work, the materials or equipment used in or upon the site, or the conduct of the work. The Contractor at all times shall observe and comply with all Federal, State, County, and other laws, codes, ordinances, and regulations in any manner affecting the conduct of the work.

The Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work. The Department of Lee County Utilities has no responsibility, real or implied, for the actions of the Contractor in the performance of his contract or any damage or injuries which result from the contractual work as performed by the Contractor, his agents, or employees.

H. Public Convenience and Safety

Materials stored at the site of the work shall be so placed and the work shall at all times be so conducted as to cause no obstruction to vehicular or pedestrian traffic. No roadway shall be closed or opened except by express permission of the Lee County Department of Transportation or such other authorized public agency having jurisdiction.

Precaution shall be exercised at all times for the protection of persons and property. The safety

provisions of applicable laws, building codes and construction codes shall be observed. Construction site safety shall be maintained in accordance with FDOT Manual on Traffic Control and Safe Practices and index 600 of the FDOT Standard Specifications for road and bridge construction.

All open excavation shall be monitored by a representative within 152.4 meters (500?) of the excavation at all times. Any excavation which is not attended, shall be refilled, or protected by other means by the contractor, to prevent injury or damage to the general public.

I. Use of Explosives

Explosives shall not be used unless specifically approved in writing by the County. If the use of explosives is so approved, the Contractor shall obtain all the necessary permits from the proper authorities and blasting shall be done in accordance with their regulations. The Contractor shall use the utmost care not to endanger life or property.

The Contractor shall assume all responsibility for damages cause by blasting, and only competent persons shall handle or use explosives. All explosives shall be stored in a secure manner, with each storage placed marked clearly "DANGER-EXPLOSIVES", and shall be in the care of a competent watchman at all times.

The use of explosives shall be in strict compliance with Lee County Ordinance No. 85-45, Blasting Ordinance.

J. Chemical Use

All chemicals used during project construction or furnished for project operations, whether herbicide, pesticide, disinfectant, polymer, reactant or of other classification must show approval of either U.S. Environmental Protection Agency or U.S. Department of Agriculture.

Use of all such chemicals and disposal of residues shall be in strict conformance with instructions.

K. Protection and Restoration of Property

1. The Contractor shall not enter upon private property for any purpose without first obtaining permission, and he shall use every precaution necessary to prevent damage or injury to any public or private property, trees, fences, monuments, and underground structures, on and adjacent to the site of the work.

2. The Contractor shall not do any work that would affect any railway track, pipeline, telephone, electric transmission line, or other structure, or enter upon the right-of-way or other lands appurtenant thereto, until authority has been secured from the proper persons.

3. The Contractor shall be responsible for all damage or injury to property of any character resulting from any act, omission, neglect, or misconduct in his manner or method of executing said work, from his non-execution of said work, or from defective work or materials, and he shall not be released from said responsibility until the work shall have been completed and accepted and the Warranty requirements fulfilled.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect or misconduct in the execution of the work, or in consequence of the non-execution thereof on the part of the Contractor, he shall restore such property, at his own expense, to a condition equal to that existing before such damage or injury was done by repairing, rebuilding and/or restoring.

#### L. Work in Streets

##### 1. Traffic Regulations

The Contractor shall provide bypasses, crossings, and other means for the maintenance of one-way traffic in all streets, and two-way traffic wherever possible in all streets where work is in progress. Construction operations shall be carried on, as required by DOT, except in cases of emergency. The Contractor shall plan and schedule his operation to impose the least possible interference with normal traffic flow; and, any such interference shall be cleared with the Lee County Department of Transportation and/or Florida Department of

Transportation. All work within the travel way shall conform to provisions set forth in the Manual of Uniform Traffic Control Devices (MUTCD) and FDOT Index 600.

##### 2. Guardrails and Barricades

The Contractor shall provide, erect, and maintain effective barricades, danger signals, and signs on all intercepted streets or highways and in other locations where required for the protection of the work and the safety of the public. At a minimum, the Contractor shall adhere to the FDOT Manual on Traffic Control and Safe Practices and Indexes 600 through 614 of the FDOT Standard Specification for Road and Bridge Construction. Barricades or obstructions which encroach or are adjacent to public rights-of-way, shall be provided with lights which shall be kept burning at all times between sunset and sunrise.

Conformity with State, County, and local laws and regulations is required in the use of streets and highways. The Contractor shall be responsible for all damages resulting from any neglect or failure to meet these requirements. Watchmen shall be provided as required by local regulations or as necessary to fulfill the requirements stated herein.

3. Traffic and Services

Adequate means of access to all public and private properties during all stages of construction shall be provided. Unless approval in writing is secured from the Utility Company or County, there shall be no interruption of service to present customers of such utilities requiring repairs, changes or modifications caused by the construction work.

M. Disruption to Existing System Operation

The Contractor shall perform operations necessary for connecting to the existing system at times of minimum flow rate. Said operations shall be accomplished expeditiously in order to minimize service disruption. All schedules shall be coordinated with and approved by the Department of Lee County Utilities or the appropriate utility involved. A minimum of three (3) days notice is required prior to any disruption of service.

N. Minimizing Siltation and Bank Erosion

During all dewatering or other operations involving the use and disposal of water, suitable means shall be provided by the Contractor to minimize soil erosion, siltation, and sedimentation of natural or artificial ditches, drainage channels, streams, lakes or other waterways. Approval of such means proposed by the Contractor prior to any dewatering, pumping or other water-involved operations shall be obtained from the Department of Environmental Protection, Department of Natural Resources, South Florida Water Management District, and/or Lee County Environmental Services, as applicable.

If, in the opinion of these agencies, methods such as stilling basins, baffles, siltation basins, matting, spread-disposal, or recharge pits are required to minimize siltation and bank erosion, the Contractor shall only use those methods in full compliance with the applicable agencies standards.

O. Survey and Construction Stakes

It shall be the responsibility of the Contractor or his designated Engineer to obtain the services of a Florida Registered, Professional Land Surveyor to provide and set in place all construction stakes and marks for lines, grades and measurements necessary or required for the proper control of the work. He shall be responsible for the accuracy and preservation of the stakes and marks. The plans shall also show or describe to reference points or monuments from which the Florida Registered, Professional Land Surveyor shall lay out the work, and the Contractor shall preserve these reference points. The Contractor, his designated Engineer, or the Florida Registered, Professional Land Surveyor shall immediately restore any damaged, dislodged, or lost reference points at his expense.

P. Bench Marks and Monuments

The Owner/Builder or Contractor shall, prior to commencing construction operations, hire or engage the services of a Florida Registered Professional Land Surveyor to make a thorough and diligent search for any and all horizontal and vertical control monument within the construction area. Any survey control found will be tied out sufficiently in such a manner so that after the construction is completed, all of the points can be re-established to their original positions by the Contractor's Licensed Land Surveyor. The ties will be kept in hardbound survey field books. The field notes will be clearly legible and properly indexed. Upon the completion of the project, the Surveyor will file with the County Surveyor a mylar based reproducible drawing, consisting of a sheet or sheets 61 cm x 91 cm (24" x 36") showing a composite of work accomplished. The hard bound field books will accompany the drawings and become the property of the County.

Q. Nameplates

With the exceptions noted, each piece of equipment shall be provided with a substantial nameplate of noncorrodible metal, securely fastened in place and clearly and permanently inscribed with the manufacturer's name, model or type designation, serial number, principal rated capacities, electrical or other power characteristics and similar information, as appropriate. This requirement shall not apply to standard, manually operated hydrants; gate, globe, butterfly, check, or plug valves; accessories and specialties not having an electrical drive or connection.

R. Character of Workmen, Superintendent and Equipment

1. Superintendent and Workmen for County Projects

The Contractor shall employ superintendent, foreman, and workmen who are careful and competent. The County may demand the dismissal of any person or persons employed by the Contractor on the work who shall be incompetent or negligent in the proper performance of their duties, or neglect or refuse to comply with requirements given. Such persons shall not be employed again without the written consent of the County. Should the Contractor continue to employ or again employ such persons, the County may suspend the work until such orders are complied with.

2. Equipment

Equipment used on any portion of the work shall be such that no damage to the work, roadways, adjacent property, or other objects will result from its use.

S. Sanitary Provisions

The Contractor shall provide and maintain in a neat and sanitary condition such accommodations for the use of his employees as may be necessary to comply with the

requirements and regulations of the state, local health department, or other agencies having jurisdiction.

T. Conformity with Plans and Allowable Deviations

The entire installation and each part thereof shall be constructed in the position required, the finished surfaces of structures shall conform to the elevations and gradients specified and all parts of both substructures and superstructures shall be in proper alignment and adjustment.

The Contractor shall provide all frames, forms, false-work, shoring, guides, anchors and temporary structures that may be required to assure these results. Any deviation from the plans and working drawings that may be required must have prior approval of the Design Engineer and the County.

U. Substitutions or Approved Equals

Whenever a material or article required is specified or shown on the approved plans by using the name of the propriety product or of a particular manufacturer or vendor, it shall be considered that this was done only for the purpose of establishing a standard of quality for the specified materials. Substitutions shall not be purchased or installed without written approval from the Design Engineering and the Department of Lee County Utilities.

V. Inspection by Other Agencies

The U.S. Environmental Protection Agency, the U.S. Department of Labor, the Florida Department of Environmental Protection and other authorized governmental agencies having legal interest in the project shall have free access to the site for inspecting materials and work, and the contractor shall afford them all necessary facilities and assistance for doing so. Any requirements to the Contractor resulting from these inspections shall be given through the Director or his agents.

W. Defective and Unauthorized Work

1. All work that has been rejected by the County shall be repaired, or, if it cannot be satisfactorily repaired, shall be removed and replaced at the Contractor's expense. Materials not conforming to the requirements of the specifications shall be removed immediately from the site of the work and replaced with satisfactory material by the Contractor at his own expense.
2. Upon reasonable cause and prior to final acceptance, the County may request the Contractor to remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore the said portions of the work to the condition required by the approved plans and specifications.
3. Failure to reject any defective work or material during construction shall not prevent later rejection upon discovery of sub-standard material and/or workmanship.

X. Warranty

The Contractor shall furnish to the County a guarantee, to remain in full force and effect for a period of one (1) year, minimum, from the date of acceptance of the project by the County, which shall provide that the Contractor shall repair or replace all work performed and materials and equipment furnished that were not performed or furnished in accordance with the approved plans and specifications or that become defective before the expiration of said period of one year. Such guarantee shall be covered by a surety bond, underwritten by a surety licensed to do business in the State of Florida. Notice to the Contractor that any part of the project needs to be repaired, replaced or made good during the guarantee period shall be given in writing by the County. If the Contractor refuses or neglects to do such work within seven (7) calendar days from the date of service of such notice, or in the event such work requires longer than seven (7) calendar days for completion and the contractor has not provided satisfactory evidence of his intention to perform such work within the time limit established by the County, the County may have the work done by others and the cost thereof shall be paid by the Contractor or his surety. The surety bond shall not be released until the foregoing obligations have been fully discharged.

Y. Record Drawings

As the work progresses the Engineer or his designated representative shall record on one set of reproducible drawings all changes and deviations from the original Plans. He shall record the exact location of all changes in vertical and horizontal alignment by offsets and ties at each; sewer, water, electric, gas, communication and other services by off-set distance to permanent improvements such as building and curbs. Upon completion of the work, he shall submit one (1) set of reproducible drawings, two (2) sets of blueline prints certified by the Florida Registered Professional Engineer, who prepared the plans, and AutoCAD compatible diskette copy of the drawings, and other applicable related records to the Department of Lee County Utilities. All valves, tees, bends, reducers, fire hydrants, services, bends and other components of the system shall properly be identified by stationing. In addition, property strap numbers and street names shall be shown on the plan. The County shall withhold final acceptance of the project until the requirement for record drawings and related records has been met.

Z. Notification Requirements

The Engineer is responsible for the scheduling of a pre-construction conference a minimum of one week in advance of any construction.

The Department of Lee County Utilities requires that the Contractor notify their office at least 24 hours in advance of any inspection request.

AA. Subsurface Investigation for County Projects

The Contractor shall be responsible for having determined to his satisfaction, prior to the

submission of County bid, the nature and location of work, the conformation of the ground, the character and quality of the substrata, the types and quantity of materials to be encountered, the nature of the groundwater conditions, the character of equipment and facilities needed preliminary to and during the prosecution of the work, the general and local conditions and all other matters which can in any way affect the work under the contract.

AB. General Requirements for Equipment Installation

1. Equipment Installation

All equipment shall be installed satisfactorily and properly for the specified service and in accordance with the manufacturer's recommendations. All required piping, electrical connections and other necessary items shall be furnished and connected in order to provide a complete operating facility.

2. Modifications to Existing County Equipment

Should modifications to existing County equipment be required in order to achieve the required operational facility, the Contractor shall coordinate all designs and construction procedures with the County and receive advance approval therefrom. Additionally, the Contractor shall consult with and obtain the written recommendations of the existing equipment manufacturer regarding any such modifications and include all such information in the approval presentation.

3. Salvage of Existing County Equipment and Material

Existing County equipment and materials that are to be removed during the course of modification work, including pumps, motors and pump parts; pipe, valves and fittings; electrical and control parts; and other salvable items, shall remain the property of Lee County. The Contractor shall be responsible for transporting salvaged items to the storage area designated by the County. Special care shall be taken for protection and elimination of damage to said items. Material shall be cleaned prior to delivery to the County.

4. Disposal of Existing County Equipment and Material

Existing County equipment and materials removed during the course of modification work, designated by the County for disposal, shall be disposed of in a proper manner at the Contractor's expense.

5. Equipment Operating Tests

Following the installation and final adjustment, all equipment shall be test operated, where possible, under normal and full load conditions for a period of not less than two

(2) hours. Any faults or deficiencies that may appear shall be promptly corrected and the system retested for satisfactory operation. The tests shall be performed in the presence of the authorized representative from the County, who shall be notified not less than five (5) days in advance. After completion of unit operating tests, the completed facility shall be tested in operation under normal conditions for a period of not less than five (5) days to test the suitability of each type of equipment and control and to demonstrate that each item was properly installed, adjusted and is functioning in accordance with requirements. During this period, the Contractor shall instruct designated employees of the County in the proper care, operation and maintenance of all equipment and materials. The Contractor shall furnish all electricity, gas, lubricants, water and other materials required to make tests and shall replace or repair all material or equipment found to be defective or deficient. Timing and performance of tests shall be coordinated with the County.

6. Manufacturer Supervision

The Contractor shall require manufacturers furnishing primary equipment to provide the services of a qualified technical representative for such periods as are necessary to supervise proper installation; perform final adjustments and testing for the operational system; and instruct operating personnel in the use of the equipment. The manufacturer shall certify in writing to the County as to the correct installation and operation of their equipment.

7. Operating Instructions and Parts Lists

The Contractor shall furnish for each piece of operating equipment three complete, neatly bound documents giving the information listed below:

- ? Clear and concise instructions for the operation, adjustment and lubrication and other maintenance of the equipment. These instructions shall include a complete lubrication chart.
- ? List of all parts for the equipment, with catalog and other data necessary for ordering replacement parts.

AC. Extensions to Distribution/Collection Systems

1. General

The Department of Lee County Utilities shall have the right to refuse to extend service if the use is deemed detrimental to its system operation or resource availability.

Lee County may plan extensions to its system through special taxing districts in specific areas of its franchise. The costs of these extensions and terms of payment shall be set

by ordinance and/or resolution in conformance to state law.

2. Oversizing or Extension For Regional Benefit

The County reserves the right to oversize any extension, or extend any facility which may provide a regional benefit, and will pay for such oversizing, or extension, on the basis of additional cost beyond that necessary to serve only the subject development. The County will pay an established unit amount based upon the pipe size of a facility multiplied by the length of that facility. The established unit amount shall be determined by the Department of Lee County Utilities based on the difference in cost between that line size required by the development (minimum 20 cm (8")) for water and 10 cm (4") for sewer force main) and that required by the Department of Lee County Utilities and the County's study of current construction costs. The County will pay the Developer for the cost of the County's share of oversized mains and this payment will be in form of a cash payment. The County also reserves the right to limit the amount of its participation in the cost of oversizing, depending on current economic conditions.

3. Line Extensions

Waterline extensions shall be required across the entire frontage of the property; for corner lots, line extensions shall be required across the entire frontage on both sides of the lot. 20 cm (8?) water mains, or existing line sizes, whichever is larger, shall be continued at the property owner's or developer's expenses.

4. Rebateable Agreements

Rebateable Agreements for water will be based only on the front-footage of the extension. Rebateable Agreements for sewer may be based on front-footage, line capacity, or other mutually agreeable method. All Rebateable Agreements are subject to approval by the Department of Lee County Utilities, County Attorney, and the Board of County Commissioners.

All Rebateable Agreements must be requested by the developer/owner and approved by the County prior to or along with Final Acceptance. The County will make a rebate to the Developer in the amount of fee collected from each new connection made directly to the system extension, less a fee in the amount of 5% of said rebate with a minimum of thirty dollars (\$30.00) per transaction.

The County will make every practicable effort to collect rebateable charges but shall only be liable for monies collected. Such repayments shall only be made during the period in which the Rebateable Agreement is active, but shall not exceed five (5) years.

A developer, builder, corporation, partnership, firm, association or individual shall not be repaid in sums in excess of his original investment, less his pro rata use, on the main

extension.

Additional information and forms for the Rebateable Agreement are found in Section 11.

AD. Easements

No water, sanitary sewer, or effluent reuse facility shall be installed and accepted by the County for operation and maintenance unless it is in a County owned right-of-way, ~~or~~ public utility easement, or Department of Lee County Utilities exclusive easement, with a minimum width of 6 meters (20 feet). Conveyance of all easements shall be by a separate document in recordable form to be approved by the County and shall be accompanied by a written certification that the Developer is the owner in fee simple of the property to be conveyed. No water, sanitary sewer, or effluent reuse lines or facilities to be owned and operated by the County shall be installed under any building or appurtenance unless specifically approved by the Department of Lee County Utilities.

Approved Easement forms are provided in Section 11.

AE. Unauthorized Work on Water or Sanitary Sewer System

No person shall tamper with, work on, uncover, make connection with, or in any way alter or damage any County water, sanitary sewer, or effluent reuse main or appurtenance without written permission of the County. The offending person shall pay the total cost of all charges attributable to such tampering and be subject to all penalties as may be provided by law. The County may discontinue service to the customer for any infraction of this regulation as detailed in Florida Statutes Chapter 812.14.

AF. Unauthorized Meter Turn On or Water Use

No person shall tamper with, work on, or in any way alter a meter or meter device in order to gain unauthorized service. The offending person shall pay an amount equal to the security deposit for said meter size and the total cost of all charges attributable to such tampering and be subject to all penalties.

AG. Color Identification of Systems

All above-ground pipe and fittings, Polyvinyl Chloride (PVC) pipe and fittings, metallic and non-metallic marking tapes, and any other marking device, shall be color coded in accordance with the Utility Location and Coordination Council Uniform Color Guide, which is as follows:

Red            Electrical power lines, cables, conduits and lighting cables.

Yellow        Gas, oil, steam, petroleum or gaseous material.

- Orange      Communication, telephone, alarm or signal lines, cable TV or conduit.
- Blue        Water, irrigation and slurry lines.
- Green       Sewer and drain lines.
- Lavender    Treated effluent.

AH. Flowable Fill

Flowable fill material shall be proportioned to produce a 28-day compressive strength of approximately 50-150 psi.

General mix quantities are as follows:

| <u>Components</u>                           | <u>Pounds per Cubic Yard</u>                                  |
|---|---|
| Cement                                      | 50-100*   |
| Fly Ash or Granulated<br>Blast Furnace Slag | 0-600   |
| Fine Sand                                   | 2,750 (Adjust to yield one<br>cubic yard of flowable<br>fill) |
| Water                                       | 500 (maximum)   |

Weights for fine aggregate and water shall be adjusted according to cementitious content. The mix proportions shall be adjusted for removability, pumpability and flowability. If required, strength test data shall be provided prior to batching.

When flowable fill is called for in the plans, it shall be measured by volume unless the Engineer determines that another method of calculation will provide a more accurate result.

4.8 WASTEWATER REUSE

In locations where treated/filtered effluent reuse water is available, Lee County Utilities-will consider requests from commercial or residential developments to utilize effluent reuse. The quantity of effluent reuse to be received is intended to be approximately equal to the amount of wastewater generated by the Development, unless available quantities, soil conditions, or available open areas do not permit this amount of usage. The Developer shall be responsible to retain a Professional Engineer, registered in the State of Florida, to determine the quantity of effluent reuse which can be effectively utilized by the Development. The Department of Lee County Utilities will consider, on a case-by-case basis for proposed Developments, the anticipated effluent reuse quantity, which can be utilized, the quantity of wastewater flow, and location of the Development with respect to existing effluent reuse lines to determine whether or not any effluent reuse can be provided.