



DEVELOPER POLICY MANUAL

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**GRAND STRAND WATER AND SEWER AUTHORITY
WATER AND WASTEWATER DEVELOPER POLICY MANUAL**

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Effective Date: These regulations shall take effect on and after July 1, 2011.

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**Sidney F. Thompson
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PREFACE

The purpose of this manual is to provide for the orderly development of water and wastewater systems to meet the needs of residents, businesses, and visitors in the Grand Strand Water and Sewer Authority service area. The guidelines have been developed with the intent to accommodate the individuality of each project while maintaining high standards and an orderly procedure.

The policies and procedures set forth by this manual are applicable to all utility contractors, engineers, developers and others installing water and/or sewer facilities connecting to GSWSA systems. These high standards and the professional processes are necessary to control the quality and overall integrity of water and sewer extensions of which GSWSA assumes operational and maintenance responsibility and to ensure the water and wastewater systems will provide low maintenance and reliable service to the customers of GSWSA.

Although efforts have been made to make this document thorough and reflective of GSWSA requirements for customers who wish to connect to the GSWSA system, it is recommended that contact be made with GSWSA on a continued basis to ensure familiarity and compliance with the most current policy standards prior to planning water and/or wastewater system extensions. The GSWSA reserves the right to revise this policy manual without prior notice in order to provide water and sewer systems of the highest integrity possible.

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CHAPTER 1

DEFINITIONS AND GENERAL TERMS

1.1 INTRODUCTION OF CERTAIN TERMS OR WORDS

Except as specifically defined herein, all words used in this Regulation have their customary dictionary definitions. For the purposes of this policy, certain words or terms used herein are defined as follows:

- 1.1.1 Words used in the present tense include the future tense. Words used in the singular include the plural and words used in the plural include the singular.
- 1.1.2 The word "**shall**" is always mandatory.
- 1.1.3 The word "**may**" is permissive.
- 1.1.4 The word "**lot**" includes the word "**plat**" or "**parcel**".
- 1.1.5 The word "**person**" includes a firm, association, organization, partnership, trust company, or corporation as well as an individual.

1.2 DEFINITIONS

1.2.1 ALTERNATIVE SEWER

Non-conventional sewer system, i.e. small diameter gravity sewer or pressure sewer system.

1.2.2 AUTHORITY

The Board of Directors of the Grand Strand Water & Sewer Authority and its delegates.

1.2.3 CONTRACTOR

A person or entity authorized to perform water and sewer utility construction by the State of South Carolina Licensing Board for Contractors, or the North Carolina Licensing Board for General Contractors.

1.2.4 CONSTRUCTION PERMITS

Permits issued by governing agencies including, but not limited to, SCDHEC, SCDOT, Office of Coastal and Resource Management, etc., authorizing the construction of water/sewer systems.

1.2.5 CONSTRUCTION PLAN

Documents prepared by a registered engineer that reflect all applicable design standards and technical specifications of the Authority and SCDHEC for the installation of necessary water and sewer facilities.

1.2.6 DRP

SCDHEC Delegated Review Program for construction permitting.

1.2.7 DEVELOPER

Any person, firm, corporation or other legal entity improving and/or subdividing property for commercial, industrial or residential purposes.

1.2.8 DEVELOPMENT

Property improved and/or subdivided for commercial, industrial or residential purposes.

1.2.9 FEES

All current Authority rates and charges as contained in the latest Authority rate resolution.

1.2.10 ENGINEER

A person registered as a Professional Engineer in good standing with the South Carolina Board of Engineering Examiners.

1.2.11 LAND SURVEYOR

A person registered as a Land Surveyor by the South Carolina Board of Engineering Examiners.

1.2.12 LOT

A parcel of land used as a building site or intended for water and wastewater use, immediate or future.

1.2.13 PLAT

A map or drawing upon which the development plan is presented for approval.

1.2.14 RESIDENTIAL EQUIVALENT UNIT- REU

A unit equal to one average household's water or sewer use.

1.2.15 SUBDIVIDER

Any person, firm, corporation or other legal entity subdividing land within the jurisdiction of Horry County for the purpose of industrial, commercial or residential development.

1.2.16 SUBDIVISION

The division of a tract, parcel, or lot into two or more lots or building sites, or other divisions for the purpose, whether immediate or future, of sale, legacy, or building development and includes all division of land involving a new street or change in existing streets and includes re-subdivision and, where appropriate, relates to the process of subdividing or to the land or area subdivided. Subdivision shall also refer to uses of land not ordinarily considered a subdivision but requiring utility installations. Examples of these uses are mobile home parks, multi-family projects, townhouses, and planned unit developments.

1.2.17 UNIT

Residential: Any single dwelling designed for occupancy by one family with one kitchen.

Commercial: Any business within a building that is designed for occupancy by one or more tenants, shall have unit equivalency calculated utilizing approved unit contributory loading guidelines with a minimum of 1 REU per account.

1.2.18 UTILITY RIGHT OF WAY/ EASEMENT

Private right-of-ways or easements granted to the Authority shall not be deemed dedicated to the public but shall be for exclusive use of the Authority. For an example of the standard right-of-way form required by the Authority, see the right-of-way form (Appendix 2). The Authority reserves the right, at its sole discretion, to amend or modify said standard form.

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DEVELOPERS' PROCEDURES

Preface: These procedures shall be followed by a project developer in order to plan, construct and have accepted for service any water and/or wastewater extension to the Authority's system that is to serve any single or multi-unit development.

2.1 PROCEDURES AND ACTIVITY SEQUENCE

1. Submission of Letter of Availability to New Services Department.
2. Authority response to Letter of Availability
3. Letter of Intent Submittal, Construction Plan Submittal, design calculations, 8 1/2" x 11" USGS location map, and project specifications if not approved by SC DHEC. The overall property boundary is to be provided on GIS diskette, if available.
4. Authority Approval of Construction Plan
5. Construction Permitting
6. Pre-Construction Conference
7. Construction/Inspection
8. Service Authorization/Authority Acceptance.

All fees shall be paid prior to the Authority issuing construction Notice to Proceed.

2.2 LETTER OF INTENT

2.2.1 Letter of Intent

The first step required of a developer is to file a Letter of Intent (LOI) to develop. (See Appendix 1 for form.) The letter is to be forwarded to the attention of the New Services Department, Planning and Engineering Division, Grand Strand Water and Sewer Authority, P. O. Box 2368, Conway, S. C. 29528. All further correspondence regarding the review of the project should be directed to the New Services Department. The letter should include the following information:

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1. Name of developer and development firm. If designated contact person or project manager is different, then that information is also required.
2. Name, address, telephone number, legal description of the owner(s) i. e, name of owners as stated on deed of the property to be developed and Federal Tax ID Number.
3. Identification of property to be developed by tax map, block and parcel number and any other pertinent information such as subdivision name and lot number, general plat of property, name and/or highway number of adjacent streets and highways and adjacent property owners as may be necessary to properly identify the property.
4. Nature of development contemplated and proposed number and type of units, square footages and proposed construction schedule and phases as applicable.
5. Services requested (water, sewer, any special requirements).
6. Quality of waste to be delivered to the Authority's system for treatment (domestic, industrial, commercial).
7. If available, a site plan and building floor plan containing pertinent descriptive information can be submitted to assist the Authority in its evaluation of its ability to provide service.

2.2.2 Letter of Intent Response

Within 10 working days of receipt of the Letter of Intent, the Authority will respond in writing advising the developer on the availability of water/sewer and the requirements for obtaining service.

2.3 CONSTRUCTION PLAN SUBMITTAL

2.3.1 GENERAL

The Authority will require submittal of one (1) set of certified engineering plans with supporting design criteria and calculations. The Authority will review the plans and approve, disapprove or request additional information within thirty (30) working days.

Any project that has been inactive for 6 months after the Authority's approval of plans may be considered void and removed from active status.

Once the project is voided, any future return to active status will require that the project be resubmitted as a new project and new fees may be assessed.

Should developer submit plan revisions after receiving plan approval, additional plan review fees may be assessed and due prior to pre-construction meeting.

In general, developers shall be required to provide utility easements to the Authority from a public right-of-way, project access way or at the discretion of the Authority to adjacent properties from the utilities which they will be dedicating to the Authority for O & M. This provision is made so that the Authority's utility system can be looped, interconnected and extended in an efficient and effective manner for the benefit of the Authority's entire customer base. The requirement for these easements, their location and their width shall be at the sole discretion of the Authority. Where they are required, these easements shall be clearly shown on the construction plans and record drawings before they will be approved by the New Services Department or the Authority's Inspector.

The Authority's design, construction and materials specifications are available upon request. The Authority reserves the right to amend its specifications without prior notice.

2.3.2 ALTERNATIVE SEWER SYSTEMS

In order to provide sewer service in areas where conventional sewer systems are not technically feasible, or the only available sewer is an alternative effluent collection system, the Authority will evaluate projects for approval to construct alternative sewer systems on a case by case basis.

2.3.3 PLAN REQUIREMENTS

1. All plans shall be prepared by a licensed engineer and shall have his/her seal and signature certification on the plans. A note is to be included on the construction plans that all construction is to be in accordance with all GSWSA and SCDHEC requirements, standards and specifications.

2. The plan of the proposed development shall be clearly and legibly drawn to a scale no smaller than one (1) inch equal to sixty (60) feet or as deemed appropriate by GSWSA and shall be no larger than 24" x 36". All written notes or numbers will be 1/8" minimum.

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3. If the plan requires more than one sheet, a key showing locations of the several sections shall be provided and match lines shall be drawn on each sheet.
4. Proposed name of project, lot, block numbers and tax map number.
5. North arrow, graphic scale, written scale and date, including the month, day and year that the original drawing was completed and the month, day and year for each revision of the original drawing. Title block with engineer's name, address, and telephone number. Name of owner of record of development with address and telephone number.
6. A vicinity or location map, for the purpose of locating the property being developed, drawn at a scale of no less than one (1) inch equals two thousand (2,000) feet and showing the relation of the property to adjoining properties, streets, roads, municipal boundaries, and subdivisions.
7. Total tract boundaries of the property being developed and total acreage of property being developed. Name, registration number, and seal of registered surveyor. Reference any information provided by others.
8. Show all existing streets with names/numbers, including streets of record (recorded but not constructed), on or abutting the tract, including right-of-way widths.
9. In case of re-subdivision of an existing development, provide a copy of as-built plan with proposed re-subdivision and other utility modifications superimposed.
10. Show location and names of streams, lakes, swamps, and wetlands and any other water courses. Areas subject to flooding shall be designated. Indicate MSL elevations for all above areas.
11. Specify whether proposed water and/or sewer lines are to be placed in existing easements or right-of-ways. Show locations of poles, towers, and other utilities within the existing right-of-ways.
12. Show size, location and type materials of existing sewers and water mains. Indicate drains, culverts, or other underground facilities within the street or within the right-of-way of streets or roads adjoining the tract which may interfere with water and sewer lines proposed. Grade, rim, and invert elevations of existing sewer to be extended shall be shown.

13. Layout of all lots with lot numbers including phase lines and proposed water and sewer systems shall be included. Layout of streets, roads, alleys, public crosswalks, including widths. Road names shall be shown. Total number of lots and the use designation of lots. The unit density within each area shall be indicated.
14. All other proposed utility easements and right-of-ways including power, gas, telephone, TV cable, and storm drainage systems outside of road right-of-ways. Designate land that is to be conveyed to the Authority.
15. Layout of fire protection system, including location/type backflow preventers.
16. Utility easements for gas, electric lines, telephone, CATV proposed to cross or share proposed water and/or sewer lines shall be designated.
17. Provide profiles and cross sections of streets and ditches. Indicate finished grade elevation and existing grade elevation of street and storm drainage facilities.
18. Sewer profile sheets shall indicate inlet/outlet invert elevations, manhole top elevation, pipe slope, length, finish ground elevation and type of pipe. Plan views of sewer system shall include service locations, and station numbers.
19. The location and elevation of a bench mark. All elevations are to be referenced to a USGS bench mark or a TBM established from a USGS monument.
20. Water line designs shall denote sizes and all appurtenances, valves, backflow prevention devices, tees, and bends, and where necessary, detailed blow-ups of interconnections shall be shown. Location of fire hydrants and/or any special appurtenances provided in the water system design shall be shown. Applications requiring backflow prevention devices shall be in accordance with the Authority's Backflow Prevention Requirements.
21. Detailed pump station site layout including proposed dimensions and delineation of boundaries.
22. Designation of the owner of the pump station site.

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23. Proposed layout of force main including profiles, type of pipe, discharge point design and air release valve locations.
24. Design of the storm water drainage plan.
25. Any other information considered by either the developer or the Authority to be pertinent to the review of the plan.
26. Catalogs, cuts, diagrams, performance curves, and charts published by manufacturers and complete electrical components for all equipment shall be provided.
27. Any project which has water and/or sewer service immediately adjacent to the site shall provide the following in addition to those outlined above as applicable.
 - a. Site plan showing location of all proposed and existing utility lines.
 - b. Layout of streets, parking lots, etc.
 - c. Floor plan showing designated use of all areas.
 - d. Internal plumbing plan including fire protection system and water meter size.
28. Water and Wastewater transmission and distribution mains shall be designed for installation within an existing or proposed public right-of-way. Grand Strand Water and Sewer Authority may at its discretion grant specific exceptions. The granting of an exception may be contingent upon the developers compliance with additional easement, material, and design requirements.
29. Water systems shall be designed so as to provide fire flow protection as outlined in the Grand Strand Water and Sewer Authority Water System Standards and Specifications.

2.4 SUBMISSION OF PROJECT RELATED DOCUMENTS

2.4.1 REQUIRED CERTIFICATION AND/OR PERMITS

The following certificates and/or permits/applications shall be provided by the developer prior to approval to construct by the Authority.

1. Two (2) copies of completed State Department of Transportation encroachment permit applications.

2. Two (2) copies of completed County encroachment permit applications.
3. Copies of any and all permits and/or permit applications to all regulatory agencies.
4. Completed application for railroad crossings where applicable with permit fee.
5. Executed Developer Agreement Form. (Appendix 5)
6. Executed treated wastewater utilization application (if applicable) (13).
7. All applications as specified herein for project administered under the SCDHEC Delegated Review Program.
8. Two (2) copies of all easements recorded at Horry County RMC for any portion of the project which crosses private property not owned by the developer. Easements must be assigned from grantee to GSWSA.

2.4.2 DRP SUBMITTAL FOR WATER AND SEWER SYSTEMS

The Authority has been approved by the South Carolina Department of Health and Environmental Control's Bureau of Water to participate in the DRP for construction permitting. Please see Appendix 13 for current DRP submittal requirements.

1. The following water system projects qualify for the Delegated Review Program:
 - a. All water distribution line extensions for 12 inch diameter or smaller lines provided the proposed waterlines are to tie to approved lines.
 - b. All booster pump station projects with a design size of 1,000 GPM or smaller.
2. The Delegated Review Program does not include the following water projects:
 - a. Wells or well head piping,

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- b. Water treatment plant facilities (new, modifications, or expansions),
 - c. Raw water intake structures,
 - d. Chemical treatment of any type,
 - e. Any bottled water source and/or distributor,
 - f. Elevated storage facilities, or
 - g. Any new technology.
3. Sewer projects that qualify for the Delegated Review program are as follows:
- a. All gravity sewer line extensions for 16 inch diameter lines or smaller.
 - b. All pump station projects with a design size of 2,000 GPM or smaller.
- In the event the Authority is not to operate and maintain a sewer system, e.g. pump station/force main, then the developer is required to provide the Authority a certification as to who is to have operational and maintenance responsibility for the system.
- c. All 16 inch diameter or smaller force mains.
4. The DRP program does not include the following sewer projects.
- a. pressure sewers
 - b. STEP systems
 - c. small diameter sewer systems
 - d. wastewater treatment facilities (New modifications or expansions)
 - e. effluent outfall construction (gravity, force main or pump stations) from wastewater treatment facilities.

Incomplete submittals will delay processing of the project. Please ensure that the submittal package contains all required items in the necessary quantity. The Delegated Review Program is only for the issuance of the SCDHEC permit to construct. Final operating approval must be issued by the Region 6, Myrtle Beach District Office prior to the project being placed into operation.

2.5 FEES

2.5.1

All quoted fees shall be based on the Authority approved Rate Resolution in effect at time of project submittal. However, the fees due shall be based on the approved rate resolution in effect at the time fees are actually paid. Payment of fees by a customer to Grand Strand Water and Sewer Authority (GSWSA) and acceptance of fees by GSWSA is not a guarantee of immediate service to the applicant's property until the following has occurred:

1. The subdivision's water and/or sewer systems are completed;
2. The water and/or sewer system has received regulatory approvals from the South Carolina DHEC; and
3. The water and/or sewer systems have been accepted by GSWSA.

2.5.2 MINIMUM MONTHLY CHARGE

Minimum monthly fees shall begin immediately upon payment of impact and other related fees and charges, thereby reserving water and/or sewer service. These fees include the water, sewer and fire availability charges and the base customer charge.

2.5.3 ASSIGNMENT OF PREPAID FEES

Impact fees are assigned to the specific parcels of property that comprise the Development as they are used to fund the extension of lines to the Development. The impact fees will remain assigned to the Development property unless a transfer thereof is approved by GSWSA due to unusual or special circumstances. Any assignment of impact fees shall be within the sole discretion of GSWSA and shall be especially scrutinized so as to ensure that GSWSA is not extending lines without basis for recovering the cost of the investment in the lines. The subdivision of a property to which prepaid impact fees have been assigned will require the property owner to notify GSWSA in writing as to the apportionment, if any, of the prepaid impact fees. These impact fees shall be described in the deed of the newly created parcel and a copy of said deed evidencing the impact fees assigned to the new parcel shall be to GSWSA.

2.5.4 REFUND OF FEES

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Any request for a refund of prepaid impact or other fees, other than deposits, will only be considered by GSWSA upon receipt of a written and duly notarized request by the Developer of the property and project manager. In order to be considered, a request must be submitted before the time that GSWSA has provided service to the property. In the case where a refund may be warranted, an administrative and processing fee will be charged by GSWSA and deducted from the amount to be refunded to the Developer. Further, the value of any work or services performed by GSWSA in order to provide the water and/or wastewater services requested by the Developer will also be deducted from the amount to be refunded to the Developer. If the services or work related to the improvements by GSWSA exceeds the amount of the impact fees paid by the Developer, no refund shall be given. These services or work related to the Developer Extension shall include, but not be limited to, project studies, engineering costs, materials ordered, or labor incurred in initiation or construction of the lines.

2.5.5 SEPARATE MONITORING

In the case where the Authority believes additional waste materials are being added to the wastewater in sufficient quantities or strengths to warrant separate wastewater monitoring and to ensure accurate billing and charges for wastewater treatment, it may require the discharger to install additional equipment and establish pretreatment and monitoring at his own expense in accordance with Authority requirements.

2.5.6 EXCESS IMPACT ON SYSTEM

The Authority may require that developments or projects that will place demand upon the Authority in excess of its existing system capacity be required to perform infrastructure upgrades to existing Authority systems (e.g. pump stations, force mains, water mains) necessary to accommodate the additional flows.

An off-site pumping construction charge will be assessed to recover costs associated with upgrades to existing pump stations and force mains required due to excess flows from new off-site developments. The charge will be evaluated on the developer fee quote.

2.5.7 PROJECT FUNDING

When a developer project requires construction of off-site water and/or sewer improvements that may be beneficial to the Authority system wide, the Authority may participate in funding the required improvements.

2.5.8 COMMERCIAL ACCOUNT MINIMUM REU CALCULATION:

The Authority has established the following REU assessment based on water meter size:

Meter Size	REU's
¾"	1 ó 3
1"	4 ó 6
1-1/2"	7 ó 15
2"	16 ó 28
4"	29 ó 148
6"	149 +

All fees shall be based upon the Authority's approved Rate Resolution in effect at the time fees are actually paid. Fees will be based on the higher of the minimum REU's allowed by specific meter size or the calculated demand REU's.

2.5.9 MULTI-UNIT BUILDINGS WITH COMMON SERVICE LINES:

All multi-unit buildings where multiple units share a common sewer service line will be provided Sewer Service Line Maintenance for a monthly fee.

2.6 PUMP STATIONS ACCEPTABLE TO THE AUTHORITY

The Authority has approved submersible, non-clog pumps for all subdivision or large-scale commercial applications. Grinder pump stations may be approved for smaller applications. Grinder pump stations will be evaluated on a case-by-case basis and, if approved, shall conform to all Authority standards. See the Authority's Sewer Specifications for a more detailed discussion of requirements for all types of pump stations.

Pump stations serving residential and commercial developments, subdivisions and multifamily complexes, shall be located on a site dedicated to the Authority. The site shall be accessible to Authority personnel 24-hours per day. All other pump stations shall be sited adjacent to the road right-of-way where the receiving force main is located if the Authority is to operate and maintain the facility. The length of force main installed on private property shall be minimized. The Authority will assume operation and maintenance of force mains from the pump station to the main. Easements will be granted the Authority for all portions of lines on private property.

2.7 BACKFLOW PREVENTION SERVICE AGREEMENT AND EASEMENT

Each owner/developer requesting water service through a connection requiring a backflow prevention device shall complete and execute a Cross Connection Prevention Service Agreement and Easement (See Appendix

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10). The easement enables the Authority to conduct a required annual inspection and perform needed maintenance.

The service agreement and easement shall bind the grantor and all successors so long as a testable backflow prevention device is required.

2.8 ALTERNATIVE EFFLUENT DISPOSAL

2.8.1 It is the policy of the Authority to require new development projects including or associated with golf courses or other open space or natural areas which the Authority judges to be economically feasible for treated effluent disposal to enter into agreement with the Authority to dispose of treated effluent (See Appendix 12) and to incorporate into the design and development of the project land area sufficiently suitable for the disposal of treated effluent equal to the volume expected to be produced by the project. Permitting of the land application site will be conducted in conjunction with SC DHEC, the developer, and the Authority.

As an alternative to a land disposal site, the developer may be required to share in the costs of alternative disposal methods.

Developments which have been determined by the Authority to be required to dispose of treated effluent will be required to present an executed treated wastewater utilization agreement or an agreement to participate monetarily to secure an alternative method of disposal to the Authority prior to receiving construction plan approval.

2.8.2 ESTABLISHED EFFLUENT DISPOSAL SITES

New developments will not impair use of a previously designated treated effluent land application site.

2.9 INDUSTRIAL PRE-TREATMENT

Any project proposing to discharge or having the potential to discharge wastewater other than unpolluted wastewater, which is wastewater containing no free or emulsified grease or oil; no acids or alkalis; no phenols or other substances that produce taste or odor in receiving water; no toxic or poisonous substances in suspension, colloidal state or solution; no noxious or otherwise obnoxious or odorous gases; not more than 10 mg/l each of suspended solids and BOD; not any other substances or any other substances that will cause any violation of receiving water quality standards, shall be required to submit a pre-treatment plan acceptable to the Authority before the Authority shall provide

service. The pretreatment plan shall be consistent with the Authority's Sewer Use Resolution and Industrial Pretreatment Permit Procedures.

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CHAPTER 3

CONSTRUCTION PROCEDURES

3.1 PRE-CONSTRUCTION CONFERENCE

The purpose of the conference is to outline coordination with Authority operations personnel, testing, inspection procedures, and project administrative procedures necessary to place the system(s) into operation, and dedication/final acceptance requirements.

At such time that the Authority has approved all construction plans/documents, all necessary permits and easements have been obtained and all administrative and construction related fees have been paid, a pre-construction conference can be scheduled by the Authority upon the following:

1. The consulting engineer shall be responsible for initiating coordination of the pre-construction conference with the New Services Department by submitting the following: Two sets of plans, water and sewer construction permits, developer project fees, encroachment permits, and shop drawings of all materials.
2. Pre-construction meeting requests received by the close of business on Monday will be scheduled for the following Monday.
3. The engineer and contractor are required to attend. Others who may attend are the developer, South Carolina Department of Transportation, Horry County Public Works, SCDHEC and any other party deemed pertinent to the project.
4. No construction shall commence on any water/sewer utilities until a pre-construction conference is conducted and notice to proceed is issued by the Authority.

3.2 CONSTRUCTION PHASE REQUIREMENTS

3.2.1 CONFORMANCE

Water and sewer improvements shall be constructed in accordance with all applicable standards and specifications established by the SC DHEC and the Authority. Nonconformance with established construction methods shall be cause to reject all construction.

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3.2.2 Wet Taps

Where the extension of a water main or force main is necessary, the Authority shall make all wet taps unless conditions warrant a waiver of this requirement by the Authority. If the Authority elects to allow a contractor to make a wet tap, the contractor shall coordinate the tap with the Authority for an acceptable time and assignment of an inspector to monitor the tapping procedure.

3.2.3 ACCESS

The Authority shall have access to the project premises during reasonable hours to perform inspections to ensure compliance with construction requirements.

3.2.4 SEWER EXTENSIONS

Extensions from existing manholes must be performed in the presence of an Authority inspector. Upon completion of the first section of gravity sewer, the contractor is required to plug the extension. The plug is not to be removed until service authorization is given. Failure to meet this provision violates Section 11 of Act 337 of the Acts and Joint Resolutions of the State of South Carolina of 1971, therefore, making the contractor subject to fines and/or imprisonment.

3.2.5 CONSTRUCTION OF A MANHOLE OVER EXISTING GRAVITY SEWER LINES

Manholes shall be constructed in the presence of the Authority's inspector. Any manhole constructed on an existing line must be approved by an Authority inspector prior to cutting into the existing operational sewer line.

3.2.6 FORCE MAIN TIE INS

All tie-ins of force mains into existing manholes must be done in the presence of an Authority inspector.

3.3 WATER USE POLICY

3.3.1 CONSTRUCTION WATER

Filling and flushing of new water mains consumes large quantities of non-metered water over the period of system construction. The methods for contractors utilizing water for construction purposes and coordination with Authority personnel are the responsibility of the contractor.

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1. In the event the Authority installs a wet tap for a main line extension, it can install a 1" service line, gate valve and dual check valve with the wet tap as a source for the contractor to acquire water from the Authority's existing system for the purpose of construction needs, pressure testing and disinfection of the new system.
2. In the event the new main line is to extend directly from a capped line or tee, the contractor can install one 1" tapping saddle, corporation stop, service tubing, dual check and gate valve under the observation of an Authority inspector.
3. Large flows required for flushing and filling must be coordinated with the Authority's Inspections Department. Only Authority personnel are to operate or give permission to operate any valve for providing water for heavy flushing and filling. Main line valves separating approved and non-approved systems are to remain closed at all times except when opened by Authority personnel for line flushing. Water can be acquired through the 1" service line specified above anytime as needed.
4. Construction water charges will be based on a per REU rate within a development. No additional cost will be assessed for construction water unless the Authority has determined that water used is excessive.
5. All main line valves interconnecting existing and new water systems shall remain closed until such time that the Authority approves the system for operation and permanently open the valve(s).
6. The Inspector will periodically check the tap valve during the project development and should it be found opened without prior authorization the developer may be charged water thief charges as outlined in the water audit.
7. The contractor shall notify the Inspector prior to flushing the new water line. Any contractor failing to notify the Inspections Department for coordination of water used for flushing or opening of the main control valve, a water thief charge may be applied.
8. All fines and/or water charges must be paid prior to receiving service authorization and acceptance of the system for operations and maintenance.

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9. The Water Department will open the new project main control once service authorization has been given.

3.3.2 HYDRANT USAGE

1. Fire hydrants or post hydrants shall be operated only by Authority personnel.
2. In the event the use of a hydrant is requested for the purpose of filling a tanker, hydro-seeder, etc., the person requesting water should:
 - a. Complete a hydrant use application with the Authority's Customer Service Department.
 - b. Pay the prevailing deposit for securing a hydrant meter to be installed by the Authority's meter department.
3. Upon completion of use of the hydrant, the applicant shall contact the Customer Service Department to remove the meter. The applicant will be refunded the deposit less any outstanding volume usage charge plus any charge for damage to the meter.

3.3.3 WATER FILLING STATIONS

An additional source of bulk water provided by the Authority for non-potable use is via several metered "filling stations" at the following locations:

1. Garden City Well
2. Pirateland Well
3. Tern Hall Well
4. Myrtle Ridge Pump Station
5. Tilly Swamp Well
6. Wampee Well

Each station has a standard fire hose connection. The customer must provide their own hose to extend from the Authority's connection to their tank.

3.3.4 UNAUTHORIZED USAGE

Unauthorized water usage is in violation of Authority policies, rules, and regulations and subjects the user to unauthorized usage fees. If an

unauthorized connection is discovered, any device used as part of the unauthorized connection may be confiscated by the Authority. Should a responsible person be found at the unauthorized connection, they will be advised to disconnect and remove any devices being used.

3.4 CONSTRUCTION INSPECTION

3.4.1 GENERAL INSPECTION

Routine, unscheduled inspection of on-going projects will be made periodically during construction by an Authority inspector. Authority inspectors will perform periodic checks during construction to ensure that the contractor is complying fully with the permitted project design, specifications, and policies and procedures of the Authority. Any deviation or revision to the approved engineering plans must be brought to the attention of the Authority's Inspector. Any deviations considered major by the Authority Inspector must then be submitted in writing with a revised plan to the New Services Department for approval. No deviations or revisions shall be initiated by the contractor until the Authority has approved the change(s) in writing. At the option of the Authority, full time inspection by the Authority's inspector or the Engineer's inspector may be required. The developer will be responsible for any related increased costs connected with full time inspection by the Authority or Engineer's Inspectors.

3.4.2 STOP WORK ORDER

Failure to adhere to the approved plans and/or specifications established for the construction of a project or adherence to applicable requirements of the Authority may warrant issuance of a Stop Work Order. Copies of the Stop Work Order will be sent to the developer, engineer, and contractor. Approval to restart construction shall be issued once all noted discrepancies have been corrected or procedures to make such corrections have been approved. Any construction performed by a contractor while under Stop Work Order will be considered unacceptable by the Authority.

3.4.3 SPECIFIC SYSTEM MINIMUM REQUIREMENTS

General:

The project engineer shall provide a weekly inspection report(s) to the Authority's assigned inspector on each individual active project. For purposes of this requirement, a project shall be considered active for the period between the pre-construction meeting and final acceptance for O & M by the Authority.

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Currently there is no prescribed format for these weekly reports. However, as a minimum the reports must include: what was installed during the period, what installations were witnessed/not witnessed by the engineer or his/her inspector, a general indication of the quality of the work, installation conditions, the name of the inspector, the contractor and contractor's foreman. The weekly report must be signed by the project engineer of record.

Pre-construction:

Shop drawings of project materials and components approved by the engineer are to be provided to the Authority's New Services Department prior to the pre-construction conference. At the pre-construction meeting, the shop drawings shall be generally reviewed for consistency with Authority standards and specifications.

Following the pre-construction meeting but prior to start of construction, the Authority's inspector shall field inspect all materials and components on the project site. For all materials not initially on-site, the contractor shall provide 24 hour notice to the Authority's inspector prior to subsequent deliveries of materials so that they may also be inspected. The Authority's inspector may require that any materials installed prior to material inspection be uncovered and/or replaced. Approval of materials by the Authority's inspector shall not negate the contractor's or material supplier's guarantee of quality materials and workmanship in conformance with SC DHEC and GSWSA standards.

Testing Lines

Developers shall perform pressure testing to ensure the integrity of their installed water and sewer lines. The testing shall be coordinated with the Authority's project inspector. No official testing shall occur without the inspector's approval. Only testing which occurs after all other utilities have been installed and site conditions are approved by GSWSA inspector will be acceptable to the Authority.

Gravity Sewers (additional requirements):

In addition to pressure testing, gravity lines shall be tested for excessive deflection by mandrill testing. All testing is to be coordinated with the Authority's assigned inspectors. Also during the course of construction, run tickets for rock bedding are to be provided to the Authority's inspector on a weekly basis upon request. Run ticket information shall include: project name and location, type of rock, date of delivery and weight of material delivered.

Pressure Lines (additional requirements):

In addition to witnessing all final pressure tests, the contractor shall uncover restrained fittings for inspection as required by the Authority's inspector.

Pump Stations:

The contractor shall provide a minimum of 48 hour notice prior to excavating for and setting a wet well. Following the setting of the wet well sections, the Authority's inspector shall field approve the final layout of the pump station site irregardless of what is indicated on the approved construction plans. The contractor shall provide 24 hour notice of pouring concrete to create the wet well hopper bottom.

3.4.4 FINAL INSPECTIONS

A final GSWSA inspection will be conducted simultaneously with the DHEC inspection. The project engineer is responsible for coordinating the inspection schedule with the Authority. Prior to the inspection, two (2) sets of as-built construction plans shall be provided to the Authority's inspector at least ten (10) days prior to the scheduled final inspection. All pressure testing shall be completed prior to the final inspection. All satisfactory pressure test reports shall be presented to the Authority's Inspector at the final inspection. The final inspection requires the attendance of the engineer and contractor. The Authority inspector will make a punch list of any items to be corrected or will state that the project has been constructed substantially in accordance to the permitted plans and specifications.

3.4.5 FOLLOW-UP INSPECTION

A follow-up inspection may be requested by the project engineer once all punch list items noted during the final inspection have been corrected. Should the follow up inspection prove that all punch list items have been satisfactorily completed, final construction approval can be issued by the Authority's inspector.

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4.1 FINAL AS-BUILTS

4.1.1 GENERAL

A field survey will be performed and drawings will be created showing all items that will be transferred to the Authority. This field survey will be based on the SC Grid Coordinate System (NAD 83) and the construction drawings will be modified to reflect the field as-built survey. This field survey can be performed by GPS to Mapping Grade standards (1-meter ±). All survey points shall become a part of the as-built CAD file (on a separate layer or level) (See Section 4.1.4).

As-built drawings should be produced in a clear and legible manner. Only information pertinent to the water and/or sewer systems facilities being dedicated to the Authority should be shown. No reference shall be made to any future or proposed facilities. The information noted below is required to be on all as-builts submitted to the Authority for approval:

1. Project name, location, parent tax map number, and adjacent property owners.
2. Delineation of project boundaries.
3. All lot and/or building numbers. Tax map number of all subdivided lots.
4. North arrow, vicinity/location map.
5. Name of developer, engineer, and contractor with each group's associated information (i.e. address, telephone number).
6. Title block must contain: project name, as-built preparer's information (i.e. address, telephone number), graphic scale, date of as-built and latest revision description/date (if applicable).
7. Sheet number in consecutive order. Water as-built drawings must precede sewer as-built drawings.
8. All street/road names and road/highway numbers.

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9. Lettering and numbers shall be a minimum of 1/10" in height.
10. Graphic scale of as-built drawings shall not be smaller than one (1) inch to sixty (60) feet (i.e. 1" = 60').
11. One (1) set of three (3) mil mylars (original double matte) and five (5) sets of paper copies must be provided on twenty-four (24) inch by thirty-six (36) inch sized sheets.
12. All pertinent as-built information must be shown within the twenty-two (22) inch by thirty-four (34) inch area of the plans.
13. Xerox copies on mylar and mylar to paper copies are not acceptable.
14. Each as-built sheet (i.e. paper and mylar) must bear the seal and signature of the certifying engineer.
15. Mylar must be clear and easily reproducible. Dark and unclear mylars will not be acceptable.
16. One (1) set of the paper copies shall be emboss sealed and signed by the certifying engineer.
17. The size and type of materials of all utility lines.
18. Measurements shall be accurate to within one foot and sufficiently dimensioned on drawing.
19. Property lines with bearings/distances, existing buildings and all existing utilities should be shown.
20. All pipe and utility crossings (water, sewer, electric, cable, telephone, gas, etc.). Vertical and horizontal separation distances, depth of cover and pipe materials should be included.
21. Special construction should be noted on as-built drawings (e.g. open cut and repair, directional bore, bore and jack).
22. An electronically generated profile and plan shall be provided as a part of the overall project as-built for each directional bore where installed.
23. All property lines (including lot lines), subdivision boundaries, rights-of-way, and easements will be shown.

24. Indicate easements/dimensions over all lines to be dedicated to GSWSA that are not in dedicated right-of-way.
25. Indicate general easement width information (i.e. width is determined by 1:1 slope criteria based on depth to bottom in increments of five (5) feet with a minimum of fifteen (15) feet in a note/table form. See GSWSA Standard Detail.
26. Where any sewer facilities are located within private property through which an easement will be granted, these facilities shall be located by surveyed metes and bounds.

4.1.2 WATER SYSTEM

1. Water lines located within paved road right-of-ways shall be referenced to the centerline, edge of pavement, back of curb, or right-of-way boundaries at intervals deemed necessary by GSWSA. Water lines not within road right-of-way shall have line markers installed on site as deemed necessary by GSWSA Inspector and reflected on project as-built.
2. Termination points of service lines shall be tied down by dimension from property corner and dimension from back of curb or edge of pavement. Tie down dimensions to various objects in special cases may be required at GSWSA's discretion.
3. All access roads to wells and pump stations must be shown. Actual locations of all water mains must be shown and references to permanent structures.
4. Main line valves, bends shall be referenced to sewer manholes or fire hydrants, or permanent structures (see Item five (5) below), as approved by GSWSA. Each valve cluster (at tees and bends) and each mainline valve (along runs) shall be located and SC Grid Coord value (to nearest foot) shown on plan. A minimum of two (2) tie-down dimensions are required for each fitting.
5. A permanent visible object can be defined as building corners, manholes, fire hydrants, valve markers, edge-of-pavement, back-of-curb, power poles, light poles or any other visible object that most likely will remain in place after all grading and development is complete or as approved by project inspector.
6. "Blow-up" diagrams shall be shown for valves and fittings at road intersections and areas where valves/fittings are clustered. Blow-up

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diagrams shall indicate type of valve/fitting, size and at least two (2) tie-down dimensions to the nearest permanent visible objects. All dimensions shall be shown to the nearest foot. These dimensions may be computed from field survey locations when greater than twenty-five (25) feet.

7. The following certification statement must appear on all as-built drawings and shall be signed by the engineer and show his registration number: *I hereby certify that the water utilities as shown have been installed in accordance with the approved construction drawings and specifications and are, to the best of my knowledge, as shown on these plans.*

Engineer Date

Registration Number

4.1.3 SEWER SYSTEM

1. Sewer forcemains and gravity sewer located within paved road right-of-ways shall be referenced to the centerline, edge of pavement, back of curb, or right-of-way boundaries at intervals deemed necessary by GSWSA. Sewer forcemains and gravity sewer not within road right-of-way shall have line markers installed on site as deemed necessary by GSWSA and reflected on project as-built.
2. Force main fittings and valves that cannot be readily tied to permanent structures shall be located via concrete monument situated within the easement containing the force main at all bends and at maximum 200 foot intervals on straight runs. Each valve, bend, tee or pumper connection shall be located and SC Grid Coord value (to the nearest foot) shown on plan.
3. Manholes may be dimensionally tied to building corners, fire hydrants, property corners or other permanent structures as approved by GSWSA. Each manhole shall be located and SC Grid Coord value (to the nearest foot) shown on plan.
4. A schedule table of gravity sewer line tangents shall be provided with the following: from manhole to manhole, length, slope, pipe material, size information.

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5. A schedule of gravity sewer manholes shall be provided with: manhole number, rim elevation, invert-out elevation, and invert-in elevation information.
6. Service lateral termination points shall be located by station numbers from the nearest downstream manhole (0+00) and increase in the upstream direction. Station and offset (L or R) shall be shown to the nearest foot from the sewer main to the termination point of the service lateral at the property line.
7. End of service laterals shall be located from property corners.
8. Include the name, address and telephone number of the contractor that installed the system/s and the date of installation.
9. Elevations referenced to a USGS benchmark shall be shown for the following:
 - a. Rim, invert-in, and invert-out elevations within manholes.
 - b. Top of force main manifold points to force mains and manholes.
 - c. Pump station wet well bottom, top slab, bottom of control panel, gravity influent lines, invert, pump on, pump off, lead pump on, lag pump on, high water alarm, and pump station finished grade elevation.
10. Pump Station detail plan shall be submitted as separate sheets. The plans will include as a minimum:
11.
 - a. A Pump Station Site Plan at a scale of one (1) inch to five (5) feet (i.e. 1" = 5') to show property lines, access road and easements, fencing/offsets, wet well, control panel, yard hydrant, gravity sewer, control manhole, force main, valves, and emergency force main connection
 - b. A Pump Station Sectional View Drawing showing pump station wet well bottom, top slab, bottom of control panel, gravity influent lines, invert, pump on, pump off, lead pump on, lag pump on, high water alarm, and pump station finished grade elevation.
 - c. Chart of pump engineering data with system head curve and performance curve.
 - d. Pump Station Schedule with influent pipe information and elevation, wetwell diameter, wetwell top elevation, high water level, low water level, floor elevation, alarm signal

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on, lag pump on, lead pump on, pump off, pump model, pump impeller, discharge pipe size, check valve size, plug valve size, design flow, design head (TDH), voltage, phase, horsepower, and rpm (pump/motor).

- e. Relevant construction and component details.
- f. When more than one sheet is required, items (a), (b), (c), and (d) shall appear on the same sheet.

NOTE: CAD drawings that may be modified by the engineer to fit his particular project are available from GSWSA upon request.

- 12. The following certification statement must appear on all as-built drawings and shall be signed by the engineer and show his registration number: *I hereby certify that the sewer utilities as shown have been installed in accordance with the approved construction drawings and specifications and are, to the best of my knowledge, as shown on these plans.*

Engineer Date

Registration Number

4.1.4 FINAL AS-BUILT DIGITAL DATA SUBMISSION

In addition to the mylar drawings, the engineer shall provide all drawings in CAD form showing facilities that are dedicated to GSWSA. The CAD files submitted shall be identical to those plotted in mylar form, except for signatures and seals placed by hand. Water and sewer services shall be located and South Carolina coordinate value (to the nearest foot) shall be shown. Overall project boundary (new plan, PUD, boundary survey, etc.) is required in CAD form upon submission of the first phase in multi-phase projects. All drawing elements shall be submitted referencing South Carolina State Plane (SCSP) Coordinates. Features in drawing files that are stored in drawing units must be translated to represent real world locations as referenced by SCSP coordinates. As specified in the SC Code of Laws Chapter 2, Title 27 (The South Carolina Coordinate Act, amended 31 Mar89), elements referencing SCSP (formally identified as the South Carolina Coordinate System) will utilize the North American Datum of 1983-1986 Adjustment (NAD83 [1986]) for horizontal control and be measured in International Feet (not US Survey Foot). Vertical control will reference the North America Vertical Datum of 1988 (NAVD88) and shall include measures using the US Survey Foot. The SCSP system includes a

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single zone identified as Federal Information Processing Standard zone 3900 (FIPS 3900). Caution must be exercised in performing all conversions involving submitted data to ensure the correct use of the International Foot. Errors in conversion can exceed four linear feet. It is not the intention of GSWSA to replicate legal surveys. With this in mind, control of plan features may be tied to the SCSP system using traditional surveying or GPS methods. The method employed to gain the geodetic control shall be identified in the submitted metadata file.

Drawing features shall include layer names as indicated in Appendix A. Features other than those thematically defined by the individual layer name/description shall not be included in that layer. Systems using numbered levels, such as Microstation, include a conversion table in the .dxf file creation process that can be used to specify named layers.

No polylines or annotation shall be stored in blocks. Explode all blocks that do exist. (Block references migrate to GIS as a single point at the block intersection point.)

All points shall be stored as "POINT" or "BLOCK REFERENCE" (cannot be softdesk point or aecc_point or any other feature type).

All new water, sewer, parcels, and streets shall be made visible prior to submission-all other layers can be turned off. Note that all new construction shall not be on the same layer as existing. All SCSP coordinates should be displayed in the plan view, not in details. In addition, all data pertinent to the utility and land base drawings provided shall be drawn in Model Space.

A CADD cell library of utility feature symbols has been created for your use upon request. This will ensure that all new water and sewer features will be created properly to facilitate import into GIS.

Additional layers (not identified in Appendix A) may utilize any open layer beyond the 40 reserved layers.

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Appendix A

Graphic File (.dwg, .dgn or.dxf)
Specifications

Suggested Layer Name	Layer Name Examples	Feature Type	Layer Description
WL (size "inches")	WL4, WL6, WL8, etc.	Polyline	Waterline
WV (size "inches")	WV4, WV6, WV8, etc.	Point	Water Valve
FHV	FHV	Point	Fire Hydrant Valve
HYDLAT	HYDLAT	Polyline	Hydrant Lateral
FL (size "inches")	FL4, FL6, FL8, etc.	Polyline	Fire Line
WS (size "inches")	WS1, WS2, WS4, etc.	Polyline	Water Service Line
WM	WM	Point	Water Meter
FH	FH	Point	Fire Hydrant
PH	PH	Point	Post Hydrant
WRED	WRED	Point	Water Reducer
WARV	WARV	Point	Water Air Release Valve
WBS	WBS	Point	Water Booster Station
WDIM	WDIM	Text	Water Related Dimensions
WTEXT	WTEXT	Text	Water Text
WEASEMENT	WEASEMENT	Polyline	Water Utility Easement
WEASETEXT	WEASETEXT	Text	Water Easement Text
SEWER (size "inches")	SEWER4, SEWER6, etc.	Polyline	Gravity Sewer Line
MH	MH	Point	Gravity Manhole
SRED	SRED	Point	Sewer Reducer
SARV	SARV	Point	Sewer Air Release Valve
FM (size "inches")	FM4, FM6, FM8, etc.	Polyline	Sewer Force Main
SV (size "inches")	SV4, SV6, SV8, etc.	Point	Sewer Valve
SS	SS	Polyline	Sewer Service Line
CO	CO	Point	Cleanout
EONE	EONE	Point	E One Pump Station
STEPTK	STEPTK	Point	Step Tank
SETTTK	SETTTK	Point	Settling Tank
SPS	SPS	Point	Pump Station or Lift Station
PC	PC	Point	Pumper Connection
SDIM	SDIM	Text	Sewer Related Dimensions
STEXT	STEXT	Text	Sewer Text
SEASEMENT	SEASEMENT	Polyline	Sewer Utility Easement
SEASETEXT	SEASETEXT	Text	Sewer Easement Text
RW	RW	Polyline	Right of Way Delineating
LL	LL	Polyline	Lot Line
EP	EP	Polyline	Edge of Pavement (bc)
SDLINK	SDLINK	Polyline	Storm Drain culvert, pipe, etc.
SDNODE	SDNODE	Point	Manhole, junction box, etc.
SDTEXT	SDTEXT	Text	Storm Drain text

4.2 MAINTENANCE BOND

In the event a developer wishes to obtain service authorization from the Authority for the project prior to the completion of all punch list items noted by the Authority during the final inspection and/or if paving, ditching, installation or other utilities or any other activities which may harm the water and/or sewer systems remain, a maintenance bond shall be posted until such time as the punch list and/or other construction activities have been satisfactorily completed and approved by the Authority. The maintenance bond can be either certified check, cash or by letter of credit from an acceptable financial institution, and shall be for ten (10%) per cent or as deemed necessary by the Authority of the certified cost of the water and/or sewer system constructed for the project as certified by the project engineer.

The maintenance bond must remain in effect until all punch list items, all other construction, and the revised as-builts are completed, if necessary, and approved by the Authority.

4.2.1 FOLLOW-UP INSPECTION

The project engineer shall be responsible for coordinating a follow up inspection with the project inspector to be attended by the project engineer, contractor, Authority inspector and Authority operations personnel. Upon completion of the inspection, the Authority's inspector will determine if all punch list and/or other work has been satisfactorily completed. Should the project inspector approve the release of the maintenance bond, he will authorize the New Services Department to proceed with the release of the maintenance bond without interest.

In the event that punch list items are not completed within a reasonable time after a project has been approved for operation, or if the developer has failed to renew the letter of credit as requested by the Authority, the developer will be notified via mail at least five (5) working days, giving notice that the process to exercise the bond in order to complete the punch list is to commence. Failure by the developer to complete a project punch list in a reasonable time may jeopardize service requests within the development until the punch list is completed.

4.3 SERVICE AUTHORIZATION

Service authorization can be issued by the New Services Department upon receipt of all required documents from the engineer, contractor, developer, and agencies as set forth below for the water and/or sewer systems constructed. All documentation should be submitted to the attention of the New Services Department. No work orders to install water meters nor inspect sewer connections will be issued without service authorization.

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Engineer

1. The engineer's construction certification and test results. Test results must include two (2) consecutive satisfactory bacteriological samples from a DHEC approved testing lab.
2. An executed Authority Certificate of Non-Litigation form.
3. Letter of approval from SC DOT and/or Horry County Public Works for work performed under encroachment permit.
4. Certified cost of the water system and certified cost of the sewer system with quantities of new service lift stations to be itemized separately, i.e. fence, wetwell, pumps, and electrical/control panel.
5. Contractor's one year guarantee on materials and workmanship.
6. The Department of Health & Environmental Control's Approval to Place into Operation for the project.

Authority:

1. Project As-Builts approved by the GSWSA Project Inspector.
2. Satisfactory confirmation bacteriological sample result report from the Authority's Water Operations Department for the water system constructed.
3. The Authority's inspector report indicating all punch list items noted during the final inspection have been corrected, or if the system is approved conditioned upon the posting of a maintenance bond.

Developer:

1. Properly executed deed conveying the water and/or sewer system(s) as constructed to the Authority along with partial release of mortgage (as applicable).
2. Payment in full of any charges associated with excess usage of water during construction, repairs made by the Authority, or any other charges which may be outstanding for the project.
3. Maintenance bond (as applicable, see Section 4.2).

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4. List of tax map numbers for each lot within a subdivision.
5. Computer disk of the subdivision plan showing lots and streets; lot numbers and tax map numbers will be shown on each lot.
6. Those projects having pump station sites dedicated to the Authority will submit six (6) surveyed parcel plats showing fence location within the parcel boundaries. All property to be deeded to GSWSA shall show property boundaries by metes and bounds established by a registered land surveyor. Pump station plats must be approved for recording by Horry County Planning prior to submittal to GSWSA.

4.4 FINAL ACCEPTANCE

Provided the following are satisfied, the Authority will provide the developer a letter of final acceptance for the water and/or sewer system for perpetual operation and maintenance and release the maintenance bond (if applicable) less any charges for any repairs or maintenance by the Authority.

1. The satisfactory completion of all punch list items as determined by the Authority or the completion of punch list items by the Authority by means of exercising the developer's maintenance bond.
2. Payment in full of any applicable fees or charges associated with the project to the Authority including any repairs by the Authority.

4.5 ACCEPTANCE OF REDUCED GRADE GRAVITY SEWER LINES

Contractor installing gravity sewer lines that do not meet the minimum grade requirements of the Developer Policy and Sewer Specifications may be approved under the following circumstances and conditions:

1. When it comes to the attention of the Engineering Department that sections of gravity sewer lines do not meet GSWSA or DHEC's minimum recommended grade, the professional engineer for the project should submit to DHEC and GSWSA information and calculations documenting the effect the reduced grade will have on the sewer velocity.
2. If DHEC gives their approval to the line section installed below minimum grade, the Engineering Department will make a recommendation to the Chief Executive Officer concerning GSWSA's acceptance of the line with reduced grade.
3. If the decision is to accept the line, the developer will be assessed a one time maintenance cost to be determined by GSWSA.

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4. If the decision is not to accept the line, the developer will be advised through his engineer that the line must be reinstalled at the proper grade.

APPENDICES

LETTER OF INTENT FORM

1. PROPOSED PROJECT NAME: _____

2. LOCATION OF PROPERTY TO BE DEVELOPED: Provide Tax Map and lot number; Subdivision name and lot number (if existing); Name and/or highway number of adjacent streets and highways (attach general location map).

3. NAME OF DEVELOPER: (Name, address, telephone #)

FEDERAL I.D. # (for commercial developers) _____

4. PROPERTY OWNER(S): (Name, address, telephone #)

5. ENGINEER (Name, address, telephone #)

6. CONTACT PERSON: (Name, address, telephone #)

7. NATURE OF PROPOSED RESIDENTIAL DEVELOPMENT: Describe the proposed project, i.e. subdivision, mobile home park, PUD, golf course development, shopping center, apartments, etc.

8. NATURE OF PROPOSED COMMERCIAL DEVELOPMENT: Retail shop square footage, restaurant seating, motel rooms, manufacturing facility employees, etc.

-
-
9. A. WATER AND SEWER EXTENSION REQUIRED: ___ YES, ___ NO
B. WATER ONLY ___ YES, ___ NO
C. SEWER ONLY ___ YES, ___ NO

10. CONSTRUCTION SCHEDULE:

- A. Anticipated Start Date: _____
B. Anticipated Completion Date: _____
C. If project is to be phased, please list below the number of units to be constructed for each phase and dates planned for the start and completion of each phase.

ADDITIONAL NOTES:

11. Signature of developer/authorized agent

Date: _____

any building or other structure should be contiguous to any water and/or sewer utility lines or facilities that no claim for damages or compensation shall be made by the grantor(s), his, its or their heirs and assigns, on account of or by reason of any damage that might occur to such building or structure, or the contents thereof, by reason of the construction, operation, maintenance, repair or negligence of the construction, operation, maintenance, repair or improvement of said water and/or sewer utility facilities or their appurtenances, or any accident or mishap that might occur therein or thereto.

The grantor(s) further covenant and agree that in the event the grantor(s) elect to make any improvements within or on the right-of-way herein granted, either by way of landscaping, construction of entrance or exit driveways, parking areas, or otherwise and subsequent repairs, maintenance, relocations, substitutions, additions, or improvements by the Grand Strand Water and Sewer Authority to its utilities located in, or to be located in, the within granted right-of-way are necessary and in that event, the grantor(s) shall be responsible and pay for the cost of any and all restoration and replacement of landscaping, driveways, and parking areas which may be disturbed by the Authority and, further, to hold harmless, excuse and release the Authority from any and all responsibility to restore, replace, or pay damages for any such landscaping, driveways, or paved areas which may be disturbed by the Authority in the exercise of its rights hereunder.

The grantee, upon timely request by the grantor(s), will cut and stack along the right-of-way such useable timber as is on the right-of-way herein granted so that same may be removed by the grantor(s). The grantor(s) herein by these presents, warrant(s) and covenant(s) that there are no liens, mortgages, or other encumbrances affecting or pertaining to the right-of-way herein granted, except as follows: _____

and that the grantor(s) is (are) empowered and vested with authority to enter into and execute the within grant or right-of-way.

All other and special terms and conditions of this right-of-way are as follows: _____

The payment and privileges above specified are hereby accepted by the grantor(s) in full settlement of all claims and damages of whatever nature for said grant of right-of-way herein described.

TOGETHER, with all and singular, the rights, members, hereditaments and appurtenances to the said premises belonging, or in any wise incident or appertaining.

MORTGAGE RELEASE (INDIVIDUAL)

STATE OF SOUTH CAROLINA)
) PARTIAL RELEASE OF MORTGAGE
COUNTY OF HORRY)

FOR VALUE RECEIVED, the undersigned _____
_____, does hereby release and forever discharge the
premises hereinafter described from the lien of that certain mortgage given to it by
_____, dated _____, and recorded in the Office
of the RMC for Horry County in Mortgage Book _____ at Page _____; said
mortgage, however, in all other respects to remain in full force and effect:

ALL AND SINGULAR, that/those certain water and/or sewage system(s), including but
not limited to all pipes, mains, manholes, valves, service lines, hydrants, metes, pumps,
and any other improvements and appurtenances in any way connected therewith,
excluding service lines extending from the lot lines to the improvements located thereon
on developed lots or extending within the lot lines of developed lots, situate, lying, and
being in _____ Township, Horry County, South Carolina, serving that certain
development known as _____ and shown on
that/those certain Asbuilt Plan(s) described herein below, to wit:

Said water and/or sewer system(s) is/are more fully shown and described on that/those
certain Asbuilt Plan(s) prepared by _____, entitled
_____ dated the ____ day of _____,
20__, and recorded in the Office of the R.O.D. for Horry County in Plat Book _____,
Page _____.

ALSO, those permanent, perpetual easements/right-of-ways centered upon the water
and/or sewer pipes, mains, manholes, valves, service lines, hydrants, meters, pumps and
any other improvements and appurtenances as shown and described on that/those Asbuilt
Plan(s) hereinabove described.

Reference being had to the aforesaid Asbuilt Plan(s) to which are craved as forming a
part and parcel of this description.

Witness # 1 By: _____

Witness # 2

STATE OF SOUTH CAROLINA)
)
COUNTY OF HORRY)

PERSONALLY appeared before me the undersigned Deponent, who on oath says that Deponent saw the above named, _____, deliver the within written Easement that Deponent, with the other witness subscribed above, witnessed the execution thereof.

Sworn to before me this _____ day of _____, 20__

Notary Public for _____
My Commission expires: _____

Witness #1

DEVELOPER AGREEMENT

This form is to be completed and payment received prior to rendering service.

Name _____ Phone _____

Address _____

Location of Property _____

Project Name and Number _____

The applicant hereby agrees to adhere to the following terms as well as all policies and standards of the Authority. Such agreement is attested to by the signator hereinafter affixed.

TERMS

- A. Specifications: I understand that the Grand Strand Water & Sewer Authority reserves the right to specify the size, type and design of all transmission, distribution and fire protection lines as well as taps, meters, and any other incidental components appurtenances being added to the water or sewer systems of the Authority.
- B. Payment Limitations: I understand that all monies paid to the Authority for service to a particular location must be in accordance with the rates established by the Board of Directors of the Grand Strand Water & Sewer Authority and I agree to pay all fees in accordance to the rate schedule in effect at the time fees are paid.
- C. Right-of-Ways: I shall grant or cause to be granted to the Grand Strand Water & Sewer Authority without cost all rights, easements, permits, right-of-ways, and privileges, which in the opinion of the Authority are necessary for the rendering and maintaining of utility service.
- D. Equipment Requirements: I agree that all pipes and related equipment shall be selected, installed, used and maintained in accordance with all policies and specifications of the Grand Strand Water & Sewer Authority as well as all laws and governmental regulations applicable thereto. I expressly agree to abstain from utilizing any appliance or device which may adversely affect utility service. I further

understand that the Authority reserves the right to withhold or to discontinue service whenever any such adverse action is used or any deviation of Authority policy is discovered.

- E. Requirements: I agree that I will meet all requirements as defined in the Grand Strand Water & Sewer Authority Policy Manuals and that I will deed free and clear legal title for all facilities and real property required utility service to the Grand Strand Water & Sewer Authority. I understand the Authority shall assume responsibility for the operation and maintenance of those facilities only upon final acceptance by the Authority.
- F. Contractor of Record: I will provide Grand Strand Water and Sewer Authority the contractor of record prior to the pre-construction meeting. I will notify Grand Strand Water and Sewer Authority of any changes made in the contractor of record during construction.
- G. Installation Changes: I agree not to make any alterations or modifications which will materially affect the proper operation of the pipes, mains, or stations of the Authority unless given prior written consent by the Authority.
- H. Parking/Paved Areas: I agree that, should I choose to locate parking or paved areas over utility lines and/or easements granted to Grand Strand Water & Sewer Authority, and in the event repairs maintenance necessitates the excavation of such utility lines, I or my assigns shall be responsible for pavement restoration and further hold Grand Strand Water & Sewer Authority harmless for such restoration. This does not apply to public roads or streets.
- I. Final Inspection: I agree that Grand Strand Water and Sewer Authority has the right to withhold a final inspection of the water and sewer lines until all other utility lines have been installed.
- J. Accessibility: I understand and agree that permanent and adequate access must be made available to the water and/or sewer systems at all times so that GSWSA personnel can perform necessary functions for the operation, maintenance, repair, and replacement of the water and sewer utilities to ensure the successful operation of these systems.

EXCEPTIONS/MODIFICATIONS

Applicant or Authorized
Representative
Title _____

Official
Grand Strand Water & Sewer
Authority

Date _____

Date _____

CERTIFICATE OF NON-LITIGATION

Date _____

Chief Executive Officer
Grand Strand Water & Sewer Authority
P. O. Box 2368
Conway, SC 29528

Re: Certificate of Non-Litigation
Project Name: _____

Dear Sir:

This is to certify that there are no pending or threatened actions at law that will affect the fee simple dedication of the above referenced project. I further certify that all contractors, sub-contractors, material suppliers, engineers, attorneys, or other persons, firms or corporations retained for the purpose of designing, planning, and constructing the referenced project have been paid in full.

_____	_____
Witness	Developer

Witness	
_____	_____
Witness	Contractor

Witness	
_____	_____
Witness	Engineer

Witness	

CONTRACTOR GUARANTY

WHEREAS, Grand Strand Water & Sewer Authority, as ultimate owner and operator of the _____(project name) water and/or sewer utility systems, located at _____ (street address, lot and block or tract), requires tangible assurance as to the quality of materials and workmanship used on the aforementioned project; and

WHEREAS, _____(contractor), as the duly licensed and responsible contractor having constructed and/or supervised the construction of the aforementioned project, desires to assure the Grand Strand Water & Sewer Authority that the quality of materials and workmanship meet published standards governing the construction of such utilities work.

THEREFORE, it is hereby agreed that neither final payment by the developer, nor any provision in the contract with the developer, no partial or entire use of the constructed utility improvements by the Grand Strand Water & Sewer Authority or the public shall constitute an acceptance of work not performed in accordance with approved plans or relieve the contractor of liability or responsibility for faulty materials or workmanship. It is further agreed that the contractor shall promptly remedy any defects in the work, with the exception of damages construed as acts of God, at his own expense, and pay for any damage to other work resulting therefrom which shall appear within a period of twelve (12) months from the date of the Service Authorization.

THEREFORE, it is hereby certified by the contractor all work described or shown on the construction documents was performed. If it can be demonstrated that work was not performed, then the contractor shall remedy the oversight at his own expense or reimburse the Authority for the cost plus twenty (20%) per cent for administrative costs. This clause shall be in effect indefinitely.

This agreement shall bind the parties, their respective heirs, executors, successors and assigns.

IN WITNESS WHEREOF, this instrument of GENERAL GUARANTY is hereby executed.

Attest: _____(Authorized Signature of Contractor For:
_____(Company Name)
_____(Address)

NOTARY:

Submitted and sworn to before me this ____ day of _____,20____,
by _____(Authorized Company Official),
for _____(Company Name).

(Notary Public for S. C.)
My Commission Expires _____.

DEED FORM FOR DEDICATION OF SYSTEMS

KNOW ALL MEN BY THESE PRESENTS, that (Name of Record of Grantors(s) with address), (Grantor) for and in consideration of the sum of Five and No/100 (\$5.00) Dollars paid by Grand Strand Water and Sewer Authority, (Grantee), P. O. Box 2368, Conway, S. C. 29528-2368, in the State aforesaid, (Receipt whereof is hereby acknowledged) have granted, bargained, sold and released; and by these presents do grant, bargain, sell and release unto the said Grand Strand Water and Sewer Authority, its successors and assigns forever, the property set forth hereinbelow. The Grand Strand Water and Sewer Authority, a body politic under and pursuant to the laws of the State of South Carolina, is exempt from affidavit under Section 12-24-40(2) and payment for documentary stamps to be affixed hereon by reason of Section 12-21-380, Code of Laws of South Carolina, as amended.

- **(ALL BLANK SPACES IN DESCRIPTION CLAUSE TO BE FILLED IN BY GSWSA) This line to be removed for final draft, for information purposes only.**
- ALL AND SINGULAR, that those certain water and/or sewage system(s), including but not limited to all pipes, mains, manholes, valves, service lines, hydrants, meters, pumps, and any other improvements and appurtenances in any way connected therewith, excluding service lines extending from the lot lines to the improvements located thereon on developed lots or extending within the lot lines of developed lots, situate, lying, and being in _____ Township, Horry County, South Carolina, serving that certain development known as _____, and shown on that/those certain Asbuilt Plans described herein below, to wit:
- Said water and/or sewer system(s) is/are more fully shown and described on that/those certain Asbuilt Plans prepared by _____, entitled _____ dated _____ and recorded in the Office of the R.O.D. for Horry County in Plat Book _____, Pages _____ through _____.
- Also, all and singular that certain parcel of land, containing _____ acres, situate, lying and being in _____ Township, Horry County, South Carolina and being shown and described on that certain Plat prepared by _____ SCPLS No. _____ dated the _____ day of _____, 20____, and recorded in the Office of the ROD for Horry County in Plat Book ____ at Page ____.

Reference being had to the aforesaid Asbuilt plan(s) and Plat to which are craved as forming a part and parcel of this description.

The within conveyance is subject, however, to the prior understanding and agreement of the parties hereto that the Grantee herein assumes no responsibility for extending any portion of the water and/or sewer systems beyond that which is shown on the aforesaid Asbuilt Plans; nor is the Grantee required at its cost to extend any service line to any undeveloped lots in said development. Further, that the Grantor herein covenants and warrants to make no representation, verbal or written, that the Grantee at its cost will extend any service lines, and/or main lines, beyond which are presently existing, at the time of the within written conveyance.

The parties agree that the Grantor may landscape, grow crops, maintain private driveways or private parking areas, and utilize the lands above described for any other lawful purposes; provided, the top of said lines is not less than eighteen (18) inches under the surface of the ground and that the use of said land by the Grantor shall not, in the opinion of the Grantee, injure, endanger or render inaccessible the water and/or sewer utilities. No building or structure shall be erected by the Grantor on the easement herein granted; nor so close thereto as to impose any load or stress thereon. The Grantor covenants and agrees that in the event any landscaping, vegetation, crops, driveways, parking areas or any other improvements, should be placed within the easements herein conveyed, that no claim for damages or compensation shall be made by the Grantor, his, her, their or its heirs and assigns, on account of or by reason of the construction, operation, maintenance, repair or negligence of the construction, operation, maintenance, repair or improvement of said water and/or sewer utility facilities or any accident or mishap that might occur therein or thereto.

The Grantor understands and agrees that in the event the Grantor elects to make any improvements within or on the easement(s) herein granted, including but not limited to landscaping, construction of entrance or exit driveways, parking areas, planting of crops, or otherwise and subsequent repairs, maintenance, relocations, substitutions, additions, or improvements are performed by the Authority to its utilities located in the within granted easement(s) then and in that event, the Grantor shall be responsible and pay for the cost of any and all restoration and replacement of landscaping, vegetation, crops, driveways, parking areas, or otherwise which may be disturbed by the Authority and, further, to hold harmless, excuse, and release the Authority from any and all responsibility to restore, replace, or pay for damages for any such landscaping, vegetation, crops, driveways, paved areas, or any other form of improvements which may be disturbed by the Authority in the exercise of its rights thereunder.

Also, conveyed is a permanent easement of ingress and egress through, over and across all roads, drives, streets and avenues in said development, as may be necessary for the operation, maintenance, repair, and/or improvement of said water and/or sewer systems.

Also, a permanent easement centered over the water and/or sewer main lines and appurtenances based on a 1:1 slope as measured from the bottom of the water and/or sewer main lines and appurtenances to finished grade elevation but not less than fifteen (15) feet in width. Increases in easement width greater than fifteen (15) feet, shall be in five (5) foot increments.

The Grantor herein by these premises warrants and covenants that there are no liens, mortgages, or other encumbrances affecting or pertaining to the right-of-way herein granted, except as follows: **(Name of lien holder and/or mortgagee here if applicable. If not applicable state "N/A")** and that the Grantor is empowered and vested with authority to enter into and execute the within grant of easement.

*** (Derivation clause below to be completed by developer.)**

The premises and/or easement(s) herein conveyed is a portion of the property conveyed to the Grantor by _____*_____ dated the ___*___ day of _____*, 20___, and recorded in Deed Book ___*___ at Page ___*___, in the office of the R.O.D. for Horry County.

TOGETHER with all and singular the Rights, Members, Hereditaments and Appurtenances to the said premises belonging, or in anywise incident or appertaining.

TO HAVE AND TO HOLD all and singular the premises before mentioned unto the said Grand Strand Water and Sewer Authority, its successors and assigns forever.

And the Grantor herein hereby binds itself, its successors, Heirs, Executors or Administrators, (as the case may be), to warrant and forever defend all and singular the said premises unto the said Grand Strand Water and Sewer Authority and its successors and assigns, against itself, themselves, and its or their successors, or his, her, and their heirs, (as the case may be) and all persons whomsoever lawfully claiming, or to claim the same, or any part thereof.

WITNESS the execution hereof by Grantor this ___day of _____,
20___.

COMPLETE ONE OF THE FOLLOWING PROBATES

***CORPORATE GRANTOR(S) NAME
HERE**

Signed, Sealed and Delivered
in the Presence of

BY: _____
(Corporate responsible person)

(Title of corporate responsible person)

ITS: _____

Witness #1

Witness #2

STATE OF SOUTH CAROLINA)
)
COUNTY OF _____) **PROBATE
(CORPORATION)**

Personally appeared before me **Witness # 1** and made oath that he saw the within named by **(Name of corporation)** by **(Name of responsible person)** its **(Title of corporate responsible person)**, Sign, Seal and as the Corporate Act and Deed deliver the within written Deed; and that (s)he with **(Witness # 2)** witnessed the execution thereof and saw the corporate seal thereto affixed.

SWORN to before me this ____
day of _____ A. D. 20__.
_____(L. S.)

Witness #1

Notary Public for **(State)**
My commission expires: _____

STATE OF SOUTH CAROLINA)
)
COUNTY OF _____) **PROBATE
(INDIVIDUAL)**

PERSONALLY appeared before me the undersigned Deponent, who on oath says that Deponent saw the above named Grantor deliver the within written Easement/Right-of-Way and that Deponent, with the other witness subscribed above, witnessed the execution thereof.

Sworn to before me this ____ day of _____, 20__

Notary Public for **(STATE)**
My Commission expires: _____

Witness #1

- Campgrounds:
 - Travel Trailer Site 120
- Car Washes:
 - Per Bay 730
- Churches:
 - Per Seat 3
 - Per Student in School 10
- Commercial Areas, Shopping Centers, Grocery Stores (not including restaurants or snack bars):
 - Per 1,000 Square Feet 100
- Doctors' Offices, Clinics:
 - Per Employee 15
 - Per Patient 5
- Dentist Offices:
 - Per Employee 15
 - Per Chair 450
- Factories, Industries:
 - Per Employee 25
 - Per Employee with showers 35
 - Per Employee with kitchen 40
 - Per Employee with shower, kitchen 45
- Fitness Centers, Spas:
 - Per Member 50
- Food Service Operations:
 - Per Seat 40
- Hospitals:
 - Per Resident Staff 100
 - Per Bed 200
- Hotels/Motels:
 - Per Bedroom, No Restaurant 100
- Laundromats (Self Service):
 - Per Machine 130
- Marinas:

- Per Slip	30
• Nursing Homes:	
- Per Bed	100
- Per Bed with laundry	150
• Offices per person:	25
• Schools:	
- Per Person (Day Care, Kindergarten, Elementary, Middle)	7
- Per Person (High School)	10
• Stadiums, Coliseums:	
- Per Seat, No Restaurant	5
• Theatres:	
- Per Seat	5

The above minimum design loadings are approved by the South Carolina Department of Health and Environmental Control and are based upon the Authority's unit contributory loading study 1987.

The above guidelines may change as determined by future REU studies performed by the Authority and approved by SCDHEC. The Authority will conduct ongoing monitoring of its customers. Should usage increase above the REU assessment originally made, the Authority may increase the REU assessment and charge additional fees.

Categories not covered by the above guidelines will be assessed by SCDHEC guidelines for unit contributory loadings to wastewater treatment facilities.

In the event a category is NOT established by GSWSA or SCDHEC, GSWSA staff will assign a loading factor based upon available information.

Any commercial structure that has water and/or sewer service shall be considered at least one REU.

**Grand Strand Water and Sewer Authority
“Cross Connection Service Agreement”**

Customer Name: _____ Date: _____

Address: _____

Account #: _____ Phone #: _____

Contact Person: _____ Phone #: _____

- Customer agrees that as long as service is provided to this property, which requires a testable cross-connection device, GSWSA is authorized to conduct the annual inspection and maintenance of the said device.
- Customer agrees that a monthly fee will be added to my account for this service contract.
- Customer agrees that this monthly fee covers annual inspection fees, maintenance, repairs and any other cost associated with maintaining the cross-connection device in proper working order during GSWSA normal business hours.
- Customer agrees that after-hours inspection or maintenance be required at the request of the customer or contact person, actual overtime costs will be added to the account.
- Customer agrees to give GSWSA or its contracted tester access to the cross-connection device during GSWSA normal business hours in order to perform inspection or maintenance.
- Customer agrees that GSWSA has the right to contract out with an approved cross-connection tester to perform the inspection or maintenance at no additional cost to the account.
- The within contract shall bind the undersigned his, her, or their heirs, successors or assigns as long as a testable cross-connection device is required.

Date: _____

I ACCEPT / DECLINE

Authorized Signature

**GRAND STRAND WATER AND SEWER AUTHORITY
“BACKFLOW PREVENTION SERVICE AGREEMENT”**

Customer Name: _____ Date: _____

Address: _____

Account Number: _____ Phone No.: _____

Tax Map Number: _____

Service Address: _____

Contact Person at Service Address: _____ Phone No.: _____

- Customer agrees that as long as service is provided to this property, which requires a testable backflow prevention device, GSWSA is authorized to conduct the annual inspection and maintenance of said device.
- Customer agrees that a monthly fee will be added to my account for this service agreement.
- Customer agrees that this monthly fee covers annual inspection fees, maintenance, repairs and any other cost associated with maintaining the backflow prevention device in proper working order during GSWSA normal business hours.
- Customer agrees that should after-hours inspection or maintenance be required at the request of the customer or contact person, actual overtime costs will be added to the account.
- Customer agrees to give GSWSA or its contracted tester access to the backflow prevention device to perform inspection or maintenance.
- Customer agrees that GSWSA has the right to contract out with an approved backflow preventer tester to perform the inspection or maintenance at no additional cost to my account.
- Customer agrees to sign the GSWSA Backflow Prevention Compliance Right-of-Way and Easement for the within service agreement to be valid.
- The within service agreement shall bind the undersigned this, her, or their heirs, successors or assigns as long as a testable backflow prevention device is required.

Date: _____

Authorized Signature

and effect upon the Grantee's operational approval of the Backflow Prevention Device within the permanent Right-of-Way and Easement or two (2) years from the signing of the within Right-of-Way and Easement by the Grantor, whichever occurs first.

The Right-of-Way and Easement herein granted includes, but is not necessarily limited to, the right and privilege of the Grantee, its successors and assigns, to install, construct, test, maintain, operate and repair any and all useful, property and necessary facilities and appurtenances for purpose of complying with present and/or future State and Federal Regulations pertaining to Cross-Connection Prevention, and to make such changes, renewals, substitutions, replacements and/or additions of or to the same from time to time as the said Grantee may deem desirable; the right at all times to cut and keep clear of said Right-of-Way and Easement of any and all vegetation, trees, obstructions that might, in the opinion of the Grantee endanger or injure the said Backflow Prevention device or its appurtenances, or interfere with their proper operation or maintenance; the right of reasonable ingress and egress in, to, over and across the land(s) of the Grantor(s) referred to above for the purpose of exercising the rights and privileges herein granted; provided, nevertheless, that the failure of the Grantee to exercise any of the rights or privileges herein granted shall not be construed as a waiver or abandonment of any of the rights and privileges herein granted.

The parties agree that the Grantor(s) shall not landscape, grow crops, maintain private driveways or private parking areas or utilize the lands above described for any other purposes; and further, that the use of the land immediately adjacent to the Right-of-Way and Easement area by the Grantor(s) shall not, in the opinion of the Grantee, interfere or conflict in any manner with the use of the Right-of-Way and Easement area by the Grantee for the purposes hereinabove mentioned, and that no use of said adjacent land shall be made by the Grantor(s) as would, in the opinion of the Grantee injure, endanger or render inaccessible the Backflow Prevention Device or its appurtenances. No building or structure shall be erected by the Grantor(s) on the Right-of-Way and Easement herein granted.

The Grantor(s) herein by these presents, warrants and covenants that there are no liens, mortgages, or other encumbrances affecting or pertaining to the Right-of-Way and Easement herein granted, except as follows: _____

_____ and that Grantor(s) is/are empowered and vested with authority to enter into and execute the within Right-of-Way and Easement.

The Grantee agrees and covenants that it shall indemnify And hold harmless, the Grantor(s) from and against all liability, claims, causes of action and expenses including, but not limited to, reasonable costs and attorney's fees, resulting from bodily harm or death or any person or persons or damage to any property at any time that arises from or is incident to the construction, operation, maintenance, testing of the Backflow Prevention Device or Grantor(s) use of the permanent Right-of-Way and Easement herein conveyed .

The Grantee agrees that it shall restore the property of Grantor(s) affected within the temporary construction easement to the extent that it will flatten the surrounding ground, or repave or re-concrete, as the case may be, in the temporary construction easement area only. Grantee shall not be responsible for restoring landscaping or repaving or re-concreting outside of the area containing the temporary construction easement, even if a line of demarcation is evident.

TOGETHER, with all and singular, the rights, members, hereditaments and appurtenances to the said premises belonging, or in any wise incident or appertaining.

TO HAVE AND TO HOLD, all and singular the premises before mentioned for the purposes granted into the said Grantee, GRAND STRAND WATER AND SEWER AUTHORITY, its successors and assigns forever.

And the said Grantor herein binds itself, himself, herself or themselves, as the case may be, its, his, her or their heirs, successors and assigns to warrant and forever defend all and singular the aid premises for the purposes granted unto the said Grantee, GRAND STRAND WATER AND SEWER AUTHORITY, its successors and assigns, against itself, himself, herself or themselves, as the case may be and its, his, her or their heirs, successors and assigns and all persons whosoever lawfully claiming.

IN WITNESS WHEREOF, the hand and seal of the Grantor(s) herein has hereunto been set this ____ day of _____, 20__.

SIGNED, SEALED and delivered in the presence of:

Witness #1

Witness #2

STATE OF SOUTH CAROLINA)
)SS:
COUNTY OF HORRY)

**PROBATE
(INDIVIDUAL)**

PERSONALLY appeared before me the undersigned Deponent, who on oath says that Deponent saw the above named Grantor(s) deliver the within written Easement/Right-of-Way and that Deponent, with the other witness subscribed above, witnessed the execution thereof.

Sworn to before me this _____ day of _____, 20__

Notary Public for South Carolina
My Commission expires:_____

Witness #1

SIGNED, SEALED and delivered in the presence of:

Witness #1

BY: _____

Witness #2

ITS: _____

STATE OF SOUTH CAROLINA)
)
COUNTY OF HORRY)

**PROBATE
(CORPORATION)**

Personally appeared before me _____ and made oath that he saw the within named _____ by _____ its _____ and _____ its _____

Sign, Seal and as the Corporate Act and Deed deliver the within written Deed; and that (s)he with _____ witnessed the execution thereof and saw the corporate seal thereto affixed.

SWORN to before me this _____ day of _____ A. D. 20__.

Witness #1

(L. S.)
Notary Public for South Carolina
My commission expires:_____

BACKFLOW PREVENTION REQUIREMENTS

Policy:

1. Public Water Systems

All approved public water systems interconnected to GSWSA shall have a common gate valve and/or check valve between the systems.

2. Commercial Customers

All new commercial irrigation customers shall have an approved reduced pressure backflow preventer assembly. Maintenance and annual certification of the reduced pressure backflow preventer shall be the responsibility of the customer. Customers may for a monthly fee as outlined in the approved rate resolution contract GSWSA to maintain and annually inspect cross-connection device.

Water service to a commercial customer less than 2ö will have a dual check or a cross-connection device installed (double check or reduced pressure backflow preventer) based on the Letter of Intent and the degree of hazard.

Water service to a commercial customer greater than 2ö will have a cross-connection device installed (double check or reduced pressure backflow preventer) based on the Letter of Intent and degree of hazard.

Customers may for a monthly fee as outlined in the approved rate resolution contract GSWSA to maintain and annually inspect cross-connection device.

NOTE: The customer shall own and maintain the cross connection device.

3. Fire line systems shall have a detector double check valve assembly regardless of size unless the degree of hazard requires a reduced pressure backflow preventer. Cross-connection control devices for fire suppression systems will be installed by GSWSA.

4. The cost of providing and installing any cross-connection control devices shall be paid by the customer. The Authority shall maintain an up-to-date service charge schedule for installing cross-connection control devices in conjunction with the approved rate schedule.

5. The GSWSA will maintain a current listing of all double check valve assemblies and RBPB device locations.

6. The customer shall provide an annual inspection of each DCVA and RPBP device by a certified tester and submit the results of said test to GSWSA or contract with GSWSA to perform inspection. For service connections that are considered by the Authority to pose an extremely high hazard, semi-annual or quarterly inspections and test may be required.
7. In the event the customer chooses to use GSWSA testing and maintenance service, the customer shall provide GSWSA access to any cross-connection device located on the premises.
8. GSWSA reserves the right to random inspection of any cross-connection control device.
9. Should an owner fail to provide a certified test within thirty (30) days after notice, GSWSA will terminate water service until a satisfactory certified test is submitted to the Authority. A reconnection fee may also apply.
10. GSWSA reserves the right to hire a certified third party to perform contract annual inspections and contract maintenance of faulty or malfunctioning devices.
11. Should maintenance repairs be identified, the customer shall perform said maintenance within thirty (30) days of notice or GSWSA will terminate water service until the device is repaired or replaced and a satisfactory certified test is submitted to the Authority. A reconnection fee may also apply.
12. All service connections shall have devices meeting the requirements of the highest hazard level of intended use.
13. All testable cross-connection devices will be installed in a vault adjacent to the meter service or service tap. All reduced principle cross-connection devices placed in a vault must have a positive drain capable of removing all the discharge from the device, otherwise, device will be above ground. Should a cross-connection device be allowed inside a structure, access to that device will be from the outside. No other type equipment or supplies that are subject to water damage will be allowed within said area. A floor drain with a 30 GPM capacity will be installed within said area for operation, maintenance and inspection of cross-connection device. Devices installed inside of a building shall be between 3 to 5' above floor. The Authority is not responsible for any water damage that might occur while testing or repairing a device.
14. All rules, regulations and suggestions by the South Carolina Department of Health and Environmental Control will be followed unless otherwise addressed by GSWSA.
15. Fees and charges for cross-connection inspections and installations will be as contained in the latest Authority rate resolution.

- the main transmission pumps at its wastewater treatment plant, the lines and electrical controls necessary to control the flow of the treated effluent through the lines to the Owner's effluent pond, hereinabove mentioned. The Owner shall retain title to its holding ponds, pumps, distribution lines, nozzles, and all other facilities which it installs. The Owner shall be responsible for the operation, maintenance, and replacement of all secondary lines (from the agreed upon discharge point to the irrigation heads), the irrigation heads, the irrigation head controls, any pressure reducing valves, booster pumps, back flow preventers, and other related equipment.
3. The Owner may maintain, at its expense, an irrigation water source to provide for back-up water in the event that either the Authority cannot supply sufficient treated effluent or in the event of a malfunction of the system.
 4. At such time that the Authority determines that it is economically feasible to transfer treated effluent to the golf courses, the Authority will conduct a study to determine the amount of effluent that can be hydraulically accepted by the golf course during the different months of the year. The Authority will obtain, at its expense, the necessary regulatory approvals for the amount of effluent to be applied on the course. At the time the amount of effluent to be applied is approved by state regulating officials, the specific figures will automatically become a part of this contract. The Owner further agrees to design or adapt its course and irrigation system to secure S.C. Regulatory approval for disposal of treated effluent on its course(s) and additionally will need to provide a two day effluent holding capacity in accordance with SCDHEC Holding Pond guidelines. The Authority will formally notify the Owner via issuing an Addendum to be attached to the contract. The Addendum shall be sent via return receipt mail and shall automatically upon receipt become a part of the contract.
 5. The Authority agrees to monitor purity levels of the water being sprayed onto the golf course, to insure it meets all federal, state and local requirements applicable to golf course spray irrigation. The date of commencement of transmission of treated effluent by the Authority to the Owner shall be the date of actual interconnection of the respective systems of both parties and the final approval thereof by all permitting governmental agencies of the initiation of sewer effluent transmission. The Owner shall provide its full cooperation during these efforts and activities. The Authority shall not be liable for any loss or damage due to the lack of treated effluent. The Authority agrees to collect samples from monitoring wells on the golf courses, to perform analysis thereof and to submit results of those tests to Owner upon request and the South Carolina Department of Health and Environmental Control in accordance with standards established by that Agency.
 6. The Owner agrees to execute and deliver an easement in favor of the Authority so as to permit the installation of the necessary pipes and other apparatus in accordance with the locations to be developed in the Plans and Specifications

necessary to obtain DHEC's approval for construction. The Authority and the Owner agree to execute whatever easements and such other documents as will be necessary or proper to effectuate this Agreement and to institute whatever procedures, rules or regulations as are reasonably necessary to carry out the operation of the proposed spray irrigation. Further, the parties agree to execute such other documentation as may be required in order that the Authority may obtain Environmental Protection Agency or other State or Federal Certification of Compliance with the Agreement.

7. The Owner agrees to permit the Authority reasonable access to its holding ponds, lines and other equipment.
8. The Authority agrees to supply the Owner treated effluent for golf course irrigation at a base monthly rate and a volumetric rate per/1000 gallons based on the current economics associated with the program. These fees will vary and be documented by rate studies as needed. Payments shall commence upon delivery of treated effluent and shall be due within fifteen (15) days of billing. Finance charges will be assessed at one (1%) percent per month on all unpaid balances on accounts overdue. The above noted rate includes costs of pumping, line maintenance, meter maintenance, testing and monitoring, pro rata share of amortization of capital costs, and the expenses incurred by the Authority in actually delivering treated sewer effluent to the Owner for spray irrigation purposes. Legal costs associated with any overdue collection costs shall also be reimbursed.
9. The Authority and the Owner agree that the rate hereinabove set forth in Paragraph 8 shall be adjusted biannually. Rates shall be determined by a certified rate study conducted by a qualified firm who shall be selected by the Authority. This certified rate study upon completion shall be made available to the Owner for review sixty (60) calendar days prior to any rate adjustment. The Owner reserves the right to contest the computations contained in said certified rate study within said sixty (60) day time period and submit documentation to the Authority contesting the computations contained in the certified rate study. The computations contained in any certified rate study not contested within the sixty (60) day calendar time period shall be deemed binding upon the parties. The Authority upon receipt of any contest supported by documentation as aforesaid shall consider same and respond to Owner within 60 calendar days thereafter of its acceptance or rejection thereof. During any contest period the then existing costs unadjusted shall apply. Should the Owner disagree with the findings of rejection by the Authority the Owner may apply to any court of competent jurisdiction of this State for appropriate relief. The final outcome shall be retroactive. For purposes of rate adjustment hereinabove mentioned, if the Authority for any reason fails to conduct a certified rate study within a timely fashion, the then existing rate schedule shall continue in effect until the Authority causes a certified rate study to be conducted and said certified rate study and the

above stated provisions applicable to contest thereof shall be applicable as to the remaining portion of that particular two (2) year period.

10. This Agreement shall be effective and binding upon the parties for a period of ninety-nine (99) years from the date of execution hereof or if the law of South Carolina places a lesser maximum year contracting period, then the maximum year contract length so permitted, and the terms and covenants and promises hereinabove stated shall inure to and bind the respective parties, their successors and assigns.
11. If either party fails or refuses to abide by the terms hereinabove in breach of this agreement, the other party may, at its option, institute legal action to compel specific performance, and irreparable harm to the other party shall be presumed in any such action. Upon written notice, the party breaching the agreement shall be provided 90 days to correct causes for the breach. Should violations still persist then and in that case the other party may alternatively at its option terminate this agreement and declare it null and void without any further liability whatsoever.
12. The Owner and Authority recognize that this Agreement will be provided to SCDHEC to satisfy its requirements governing wastewater disposal and agree that SCDHEC may institute or intervene in legal action to compel specific performance by the Owner or Authority if necessary to insure proper effluent disposal. This Agreement may not be modified without SCDHEC's approval, except in regards to costs set forth in Paragraph 8.
13. The Authority may provide the owner with bulk irrigation water until such time as treated effluent is made available as outlined in this contract subject to terms and conditions determined by a separate contract.
14. If any portion of this Agreement shall be declared invalid or unenforceable, the remaining portions of this Agreement shall continue in full force and effect. This Agreement inures to and binds the respective parties, their successors and assigns.

IN WITNESS WHEREOF, the officers of the respective parties have executed this Agreement on behalf of their organization the date first above written.

WITNESSES:

_____	_____ CORPORATION
_____	By: _____
_____	Title: _____
WITNESSES:	GRAND STRAND WATER & SEWER
_____	AUTHORITY
_____	By: _____
_____	Title: _____

REQUIREMENTS FOR DRP SUBMITTALS

1. Provided by Developer

A. Water

1. Three (3) sets of water system plans and details, include same number of specifications unless standard specifications on file with SC DHEC.
2. Three (3) copies of design calculations.
3. \$75.00 DRP application fee.
4. Two (2) copies of 8 1/2" x 11" USGS quad site locations map.
5. One (1) copy of overall water layout with lines highlighted
6. The original and two (2) copies of SC DHEC application for permit to construct, latest edition.
7. One (1) copy of flow test results within past 12 months.
8. Copy of easement agreements if any part of system is on private property not owned by developer.

B. Sewer:

1. Three (3) sets of sewer system plans and details including pump station. Three (3) sets of general specifications unless standard specifications are on file with SC DHEC.
2. Three (3) sets of design calculations including contributory loadings.
3. \$75.00 DRP application fee.
4. Two (2) copies of 8 1/2" x 11" USGS quad site location map.
5. One (1) copy of overall sewer layout with lines highlighted.
6. Original and two copies of application to construct, latest edition.

7. Copy of easement agreements if any part of system is on private property not owned by the developer.
 8. Pump specifications, if applicable, including suction and discharge size, pump curves, TDH, RPM, motor HP, model number, and impeller size.
 9. County Health Department permit if campground or mobile home park
2. Provided by the Authority
- A. Water
1. Office of Coastal Resource Management (OCRM) certification.
 2. Letter of intent to accept system and provide service.
 3. Letter of transmittal.
- B. Sewer
1. Office of Coastal Resource Management (OCRM) certification.
 2. Waccamaw Regional Planning Commission certification.
 3. Letter of Intent to accept system and provide service.
 4. Letter of transmittal.

Address for formal delivery of any notice will be as follows:

Name

Mailing Address

City, State, Zip Code

Grand Strand Water and Sewer Authority
P.O. Box 2368
Conway, SC 29528-2368

Developer or his assignee will notify the Authority in writing of any address change.

If occasioned by Developer negligence and to the extent permitted by South Carolina State Law, Developer agrees to indemnify, defend, hold harmless and reimburse the Authority, its authorized agents or employees, from and against any and all losses, liabilities, expenses and claims for damages, direct or indirect of any third party for or arising out of the installation, maintenance, presence, removal or destruction of the decorative fence, under the terms of this Agreement.

The Authority grants Developer reasonable and timely access to install, maintain or remove the decorative fence.

Should the Developer fail to install the fence within ninety (90) days of the execution of this Agreement, the Agreement will be null and void.

Unless voided by conditions contained herein, the terms of this Agreement are valid for a period of ten (10) years from this date and may be renewed thereafter by agreement of both parties. In the event this Agreement is not renewed upon its termination in ten (10) years, all rights, duties and obligations under this Agreement terminate.

This Agreement may not be transferred or assigned to any other party without prior written consent of both parties. The Authority agrees, however, that Developer may transfer rights, duties and obligations in this Agreement to _____

WITNESSES:

Witness #1

Witness #2

DEVELOPER:

BY: _____

ITS: _____

WITNESSES:

Witness #1

Witness #2

GRAND STRAND WATER & SEWER
AUTHORITY:

BY: _____

ITS: _____