A.	Introduction				6
	1.	Purpose			
	2.	Authority Contact Plan Submittal Process			6
	3.				7
	4.				7
B.	Design Stands	9			
51	1.	Gene	General		
		a. Future Extensions			9
		b.	Design	Calculations	9
		c.	Easem	ents and Property	10
		d.	Separa	tion of Utilities	12
		e.	Existin	g Services and Disruption of Service	12
		f.	Plan Sl	heet Preparation & Drafting Standards	13
			1.	General	13
			2.	Engineering and Plan Requirements for Safety	13
			3.	Specific Plan Sheet Requirements	14
		g.	Record	l Plans	17
		h.	Casing	Pipe	17
	2. Water				18
		a.	Design	Calculations	18
			1.	Design Flow and Model Development	18
			2.	Fire Flow	19
			3.	Level of Service Standards	20
			4.	Domestic Demand	20
			5.	Future Demand	20
		b.	System	Pressure	20
		c.	Effectiv	ve Storage	21
		d.	Pipe		21
			1.	Depth	21
			2.	Minimum Size	21
			3.	Surface Water Crossings	22
		e.	Appur	tenances	22
			1.	Dead Ends	22
			2.	V alves	22
			3. 1	Hydrants Semilae Leterale	23
			4. 6	Service Laterals	24
		6. Backflow Preventers (Cross Connection Control) f. Booster Stations & Hydro-pneumatic Tanks		23	
			1.	General Requirements	26
			2.	Capacity	26
			3.	Hydraulic Analysis	26
			4.	Pump Selection & Equipment	27
			5.	Power Requirements	27
			6.	Gauges and Meters	28
			7.	Controls & SCADA	28
			8.	Electrical	29
			9.	Lighting	29
			10.	Ventilation	29
			11.	Heating	29
			12.	Moisture Control	29

		13.	Building Design	29			
		14.	Site Grading	30			
		15.	Fencing	30			
		16.	Access	30			
		17.	Vandalism	30			
3.	Sewer			31			
	a.	Grav	ity Sewers	31			
		1.	General	31			
		2.	Capacity	31			
		3.	Alignment & Slope	32			
		4.	Depth	34			
		5.	Size	34			
		6.	Sewer Connections	34			
		7.	River or Stream Crossings (Including Elevated Crossings) and Pipe				
		Instal	Installation in Marshy Areas				
	b.	Manl	Manholes				
		1.	General	36			
		2.	Layout	36			
		3.	Size	37			
		4.	Height	37			
		5.	Frame and Cover	37			
		6.	Inverts and Slope	37			
		7.	Force Main Receiving Manholes	37			
		8.	Drop Manholes	38			
		9.	Doghouse Manhole	39			
	c.	Force	e Mains & Pump Stations	39			
		1.	General Requirements	39			
		2.	System Design	39			
		3.	Pump Stations	41			
		4.	Force Mains	46			
	d.	Rules	s and Regulations for Wastewater Discharge	48			

C. Construction Specifications

Section 01110 - General Requirements Section 01450 - Testing and Inspection Requirements Section 01610 - Delivery, Storage and Handling Section 02080 - Utility Pipe and Materials Section 02085 - Valves and Cocks Section 02200 - Site Construction for Pump Stations Section 02317 - Grading, Excavation, Trenching, & Backfilling for Utilities Section 02510 - Water Distribution Section 02515 - Hydrants Section 02530 - Sanitary Sewerage Systems Section 02821 - Chain Link Fences and Gates Section 03310 - Insulated Concrete Forms Section 03400 - Precast Concrete Structures Section 04100 - Generic Block Building Construction (CMU) Section 06110 - Wood Framing and Construction Section 07210 - Building Insulation Section 07310 - Roofing Shingles Section 07410 - Metal Roofing and Wall Panels Section 07415 - Metal Siding and Trim Section 07461 - Fiber Cement Siding and Trim Section 07600 - Gutter, Flashing, and Sheet Metal Section 08100 - Steel Doors and Frames Section 08700 - Finish Hardware Section 09910 - Exterior Painting Section 09920 - Interior Painting Section 11315 - Wastewater Pump Station

Section 13200 - Ground Storage Tank Potable Water

Section 16010 - Electrical Requirements for Pump Stations

Section 16210 - Electric Generator

Section 16400 - Low Voltage Distribution

Section 16500 - Lighting

D. Standard Details

1. General

G-1 - Typical Sleeve Under Roadway

G-2 - Typical Sleeve Under Railway

G-3A - Typical Thrust Block Detail for Horizontal and Sag Vertical Anchors

G-3B - Typical Thrust Block Detail for Horizontal and Sag Vertical Details (T Values)

G-4A - Typical Thrust Block Detail Vertical Crest Anchors

G-4B - Typical Thrust Block Detail Vertical Crest Anchors (b values)

G-5 - Typical Restraint Detail for Slopes Over 20%

G-6 - Typical Concrete Encasement

G-7 - Typical Pavement Patch for Private Paved Roads

G-8 - Typical Pipe Bollard

2. Water

W-1 - Typical Ductile Iron Pipe Installation and Bedding Requirements W-2 - Typical Fire Hydrant Installation W-3A - Typical Blow-Off Assembly at End of gate Valve or Pipe W-3B - Typical Blow-Off Assembly W-4A - Typical Air Release Valve Installation W-4B - Air Release Valve for Deep or Street Installation W-5 - Typical gate Valve Installation W-6 - Typical Water Service Lateral Installation (5/8" - 1" Meters) W-7A - Typical Water Service Connection (5/8", 3/4" & 1" Meters) W-7B - Double Residential Meter Detail (5/8" Only) W-8 - Typical Water Service Connection (1-1/2" & 2" Meters) W-9 - Typical Vault for Domestic Meter Connection (3" & Larger) W-10A - Typical Vault for Fire Line Meters W-10B - Typical Vault for Fire Line Meters (5' Diameter Manhole) W-10C - 1-1/2" & 2" Fire Line Meter (36"x30" Meter Box) W-11 - Typical Restraining Device W-12 - Typical Water Service Lateral Abandonment

3. Sewer

- S-1 Typical Sewer Pipe Installation In Trench
- S-2A Typical Residential Service Connection Less Than 8' Deep
- S-2B Typical Residential Service Connection Deeper Than 8'
- S-3 Typical Sanitary Sewer Manhole
- S-4 Typical Manhole Step
- S-5 Typical Precast Manhole With Drop Connection
- S-6 Typical Manhole Plan View Showing Branch Tie-In & Invert Channeling
- S-7 Typical Manhole Frame & Cover
- S-7A Typical Water-Tight Manhole Frame & Cover
- S-8 Manhole Ventilation
- S-9 Sanitary Sewer Manhole Abandonment
- S-10 Sanitary Sewer Pipe Abandonment at Manhole
- S-11 Typical Manhole Invert Abandonment
- S-12 Sewer Service Abandonment

APPENDICES

1. Standard Forms

See: www.acsawater.com/standards

- a. Augusta County Submittal Checklist
- b. ACSA Application for Plan Review
- c. ACSA Fire Hydrant Flow Test Form
- d. ACSA Water Meter Sizing Form
- e. ACSA Preconstruction Meeting

2. Augusta County Fire Protection Design Policy

3. Rules and Regulations for Wastewater Discharge