APPENDIX I
INFRASTRUCTURE

This appendix describes in greater detail infrastructure issues referenced in the text and tables presented in Sections 3.9 and 4.9.

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Table I-1
Water Supply Capacities in
Hancock, Harrison, and Jackson Counties

Water System	County	Population Served	Active Connections	Total Storage Capacity in mgd	Total Well Field Capacity in mgd
City of Gulfport	Harrison	49,000	21,000	2.81	13.65
City of Long Beach	Harrison	13,760	4,099	0.50	11.86
City of Pass Christian	Harrison	8,386	2,991	0.36	3.36
D'Iberville	Harrison	6,752	2,657	0.42	3.60
Keesler AFB	Harrison	8,000	2,351	2.40	11.02
Orange Grove Utilities	Harrison	14,100	5,555	0.26	7.98
City of Bay St. Louis	Hancock	10,000	3,342	0.50	4.11
City of Waveland	Hancock	6,000	3,178	0.30	2.82
City of Moss Point	Jackson	17,837	5,273	2.70	5.79
City of Ocean Springs	Jackson	16,076	5,909	1.35	6.72
City of Pascagoula	Jackson	25,678	8,500	3.20	8.35
Gautier Utility District	Jackson	18,722	7,333	1.00	5.33
Total		194,311	72,188	15.80	84.59

Source: Personal communication, W. Vuyovich, Mississippi State Department of Health, Division of Water Supply, to E. Drake, EDAW, September 1, 1999.

I.1 POTABLE WATER CALCULATIONS FOR ALTERNATIVES

Potable water demand is calculated from the following assumptions:

- Average daily flow of 230 gpd/hotel room
- Average daily flow of 200 gpd/1,000 square feet of casino, retail, and food and beverage space
- Average daily flow of 45 gpd/marina slip; and average daily flow of 5 gpd/seat in the theater component.

Table I.1-1
Potable Water Demand for Alternatives

No-action Alternative	**Quantity**	**Unit**	**gpd/unit**	**Water in mgd**
Hotels	500	rooms	230	0.115
Retail + F/B	17,313	1000 sq ft	200	0.003
Casino	38,277	1000 sq ft	200	0.008
Entertainment	260	seats	5	0.001
Marina	118	slips	45	0.005
Total Average Daily Potable Water Demand				**0.133**
Alternative 2	**Quantity**	**Unit**	**gpd/unit**	**Water in mgd**
Hotels	7,050	rooms	230	1.622
Retail + F/B	475,000	1000 sq ft	200	0.095
Casino	420,000	1000 sq ft	200	0.084
Entertainment	5,000	seats	5	0.025
Marina	400	slips	45	0.018
Total Average Daily Potable Water Demand				**1.844**
Alternative 3				
Site A	**Quantity**	**Unit**	**gpd/unit**	**Water in mgd**
Hotels	800	rooms	230	0.184
Retail + F/B	40,000	1000 sq ft	200	0.008
Casino	70,000	1000 sq ft	200	0.014
Entertainment	0	seats	5	0.000
Marina	90	slips	45	0.004
Total Average Daily Potable Water Demand				**0.210**
Site B	**Quantity**	**Unit**	**gpd/unit**	**Water in mgd**
Hotels	1,000	rooms	230	0.230
Retail + F/B	45,000	1000 sq ft	200	0.009
Casino	70,000	1000 sq ft	200	0.014

Entertainment	0	seats	5	0.000
Marina	60	slips	45	0.003
Total Average Daily Potable Water Demand				**0.256**
Site C	**Quantity**	**Unit**	**gpd/unit**	**Water in mgd**
Hotels	2,800	rooms	230	0.644
Retail + F/B	290,000	1000 sq ft	200	0.058
Casino	70,000	1000 sq ft	200	0.014
Entertainment	5,000	seats	5	0.025
Marina	100	slips	45	0.005
Total Average Daily Potable Water Demand				**0.746**
Site D	**Quantity**	**Unit**	**gpd/unit**	**Water in mgd**
Hotels	800	rooms	230	0.184
Retail + F/B	30,000	1000 sq ft	200	0.006
Casino	70,000	1000 sq ft	200	0.014
Entertainment	0	seats	5	0.000
Marina	30	slips	45	0.001
Total Average Daily Potable Water Demand				**0.205**
Site E	**Quantity**	**Unit**	**gpd/unit**	**Water in mgd**
Hotels	1,150	rooms	230	0.265
Retail + F/B	40,000	1000 sq ft	200	0.008
Casino	70,000	1000 sq ft	200	0.014
Entertainment	0	seats	5	0.000
Marina	100	slips	45	0.005
Total Average Daily Potable Water Demand				**0.291**
Site F	**Quantity**	**Unit**	**gpd/unit**	**Water in mgd**
Hotels	500	rooms	230	0.115
Retail + F/B	30,000	1000 sq ft	200	0.006
Casino	70,000	1000 sq ft	200	0.014
Entertainment	0	seats	5	0.000
Marina	0	slips	45	0.000
Total Average Daily Potable Water Demand				**0.135**
Alternative 3 - Total				
Total Average Daily Potable Water Demand				**1.843**

Alternative 4	Quantity	Unit	gpd/unit	Water in mgd
Hotels	7,050	rooms	230	1.622
Retail + F/B	475,000	1000 sq ft	200	0.095
Casino	420,000	1000 sq ft	200	0.084
Entertainment	5,000	seats	5	0.025
Marina	400	slips	45	0.018
Total Average Daily Potable Water Demand				**1.844**
Alternative 5	**Quantity**	**Unit**	**gpd/unit**	**Water in mgd**
Hotels	7,050	rooms	230	1.622
Retail + F/B	420,000	1000 sq ft	200	0.084
Casino	475,000	1000 sq ft	200	0.095
Entertainment	5,000	seats	5	0.025
Marina	400	slips	45	0.018
Total Average Daily Potable Water Demand				**1.844**

Source: Ivey, Harris & Walls, 1998 and staff analysis.

SECTION I.2 REQUIRED FIRE FLOW CALCULATIONS

Base flow is determined using the Insurance Services Office (ISO) method for fire flow calculations and based on the following assumptions:

- All hotels are assumed to have the maximum fire flow requirements of 6,000 gpm
- Casino, retail, food and beverage, and entertainment space are assumed to have ordinary construction
- All parking areas are assumed to have a required fire flow of 1,250 gpm.

ISO method formula for base flow calculation:

$$F = 18 * C * (A)^{0.5}$$

where F = the required fire flow in gallons per minute (gpm)
C = coefficient related to type of construction = 1 for ordinary construction
A = total floor area of building

Table I.2-1
Fire Flow Demand for Alternatives

	Sq ft[1]	Base Flow gpm	Loading Factor	Adjust Loading gpm	Auto Sprinkler Credit[2]	Adjust Loading gpm	Fire Flow gpm[3]
Alternative 2							
Use - Parcel							
Hotel – A	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel – B	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel – C	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel – D	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel – E	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel – F	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - H	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - I	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - M	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - N	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - O	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - P	na	6,000	0.25	4,500	0.25	3,375	3,500
Retail/F&B - L	20,000	2,546	0.25	1,909	0.25	1,432	1,500
Retail/F&B - Q	225,000	8,538	0.25	6,404	0.25	4,803	4,750
Casino - A	70,000	4762	0.25	3,572	0.25	2,679	2750
Casino - B	70,000	4762	0.25	3,572	0.25	2,679	2750

Casino - C	70,000	4762	0.25	3,572	0.25	2,679	2750
Casino - D	70,000	4762	0.25	3,572	0.25	2,679	2750
Casino - E	70,000	4762	0.25	3,572	0.25	2,679	2750
Casino - F	70,000	4762	0.25	3,572	0.25	2,679	2750
Entertainment - K	90,000	5400	0.25	4,050	0.25	3,038	3,000
Parking - A	na	na	na	na	na	na	1,250
Parking - B	na	na	na	na	na	na	1,250
Parking - C	na	na	na	na	na	na	1,250
Parking - D	na	na	na	na	na	na	1,250
Parking - E	na	na	na	na	na	na	1,250
Parking - F	na	na	na	na	na	na	1,250
Parking - G	na	na	na	na	na	na	1,250
Alternative 3	**Sq ft[1]**	**Base Flow gpm**	**Loading Factor**	**Adjust Loading gpm**	**Auto Sprinkler Credit[2]**	**Adjust Loading gpm**	**Fire Flow gpm[3]**
Site A							
Use - Parcel							
Hotel	na	6,000	0.25	4,500	0.25	3,375	3,500
Retail/F&B	40,000	3,600	0.25	2,700	0.25	2,025	2,000
Casino	70,000	4,762	0.25	3,572	0.25	2,679	2,750
Parking	na	na	na	na	na	na	1,250
Alternative 3	**Sq ft[1]**	**Base Flow gpm**	**Loading Factor**	**Adjust Loading gpm**	**Auto Sprinkler Credit[2]**	**Adjust Loading gpm**	**Fire Flow gpm[3]**
Site B							
Use - Parcel							
Hotel	na	6,000	0.25	4,500	0.25	3,375	3,500
Retail/F&B	45,000	3,818	0.25	2,864	0.25	2,148	2,250
Casino	70,000	4,762	0.25	3,572	0.25	2,679	2,750
Parking	na	na	na	na	na	na	1,250
Alternative 3	**Sq ft[1]**	**Base Flow gpm**	**Loading Factor**	**Adjust Loading gpm**	**Auto Sprinkler Credit[2]**	**Adjust Loading gpm**	**Fire Flow gpm[3]**
Site C							
Use - Parcel							
Hotel	na	6,000	0.25	4,500	0.25	3,375	3,500
Retail/F&B	290,000	9,693	0.25	7,270	0.25	5,452	5,500

Casino	70,000	4,762	0.25	3,572	0.25	2,679	2,750
Theater	75,000	4,930	0.25	3,697	0.25	2,773	2,750
Parking	na	na	na	na	na	na	1,250
Alternative 3	**Sq ft[1]**	**Base Flow gpm**	**Loading Factor**	**Adjust Loading gpm**	**Auto Sprinkler Credit[2]**	**Adjust Loading gpm**	**Fire Flow gpm[3]**
Site D							
Use - Parcel							
Hotel	na	6,000	0.25	4,500	0.25	3,375	3,500
Retail/F&B	30,000	3,118	0.25	2,338	0.25	1,754	1,750
Casino	70,000	4,762	0.25	3,572	0.25	2,679	2,750
Parking	na	na	na	na	na	na	1,250
Alternative 3	**Sq ft[1]**	**Base Flow gpm**	**Loading Factor**	**Adjust Loading gpm**	**Auto Sprinkler Credit[2]**	**Adjust Loading gpm**	**Fire Flow gpm[3]**
Site E							
Use - Parcel							
Hotel	na	6,000	0.25	4,500	0.25	3,375	3,500
Retail/F&B	40,000	3,600	0.25	2,700	0.25	2,025	2,000
Casino	70,000	4,762	0.25	3,572	0.25	2,679	2,750
Parking	na	na	na	na	na	na	1,250
Alternative 3	**Sq ft[1]**	**Base Flow gpm**	**Loading Factor**	**Adjust Loading gpm**	**Auto Sprinkler Credit[2]**	**Adjust Loading gpm**	**Fire Flow gpm[3]**
Site F							
Use - Parcel							
Hotel	na	6,000	0.25	4,500	0.25	3,375	3,500
Retail/F&B	30,000	3,118	0.25	2,338	0.25	1,754	1,750
Casino	70,000	4,762	0.25	3,572	0.25	2,679	2,750
Parking	na	na	na	na	na	na	1,250
Alternative 4	**Sq ft[1]**	**Base Flow gpm**	**Loading Factor**	**Adjust Loading gpm**	**Auto Sprinkler Credit[2]**	**Adjust Loading gpm**	**Fire Flow gpm[3]**
Use - Parcel							
Hotel - A	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - B	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - C	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - D	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - E	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - F	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - K	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - M	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - N	na	6,000	0.25	4,500	0.25	3,375	3,500

Hotel - O	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - Q	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - R	na	6,000	0.25	4,500	0.25	3,375	3,500
Retail/F&B - P	20,000	2,546	0.25	1,909	0.25	1,432	1,500
Retail/F&B - S	225,000	8,538	0.25	6,404	0.25	4,803	4,750
Casino - A	70,000	4762	0.25	3,572	0.25	2,679	2,750
Casino - B	70,000	4762	0.25	3,572	0.25	2,679	2,750
Casino - C	70,000	4762	0.25	3,572	0.25	2,679	2,750
Casino - D	70,000	4762	0.25	3,572	0.25	2,679	2,750
Casino - E	70,000	4762	0.25	3,572	0.25	2,679	2,750
Casino - F	70,000	4762	0.25	3,572	0.25	2,679	2,750
Entertainment - I	90,000	5400	0.25	4,050	0.25	3,038	3,000
Parking - G	na	na	na	na	na	na	1,250
Parking - G	na	na	na	na	na	na	1,250
Parking - L	na	na	na	na	na	na	1,250
Alternative 5	**Sq ft[1]**	**Base Flow gpm**	**Loading Factor**	**Adjust Loading gpm**	**Auto Sprinkler Credit[2]**	**Adjust Loading gpm**	**Fire Flow gpm[3]**
Use - Parcel							
Hotel - J	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - K	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - L	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - M	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - N	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - O	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - P	na	6,000	0.25	4,500	0.25	3,375	3,500
Hotel - Q	na	6,000	0.25	4,500	0.25	3,375	3,500
Retail/F&B - I	367,000	10,904	0.25	8,178	0.25	6,134	6,250
Casino - A	70,000	4762	0.25	3,572	0.25	2,679	2,750
Casino - B	70,000	4762	0.25	3,572	0.25	2,679	2,750
Casino - C	70,000	4762	0.25	3,572	0.25	2,679	2,750
Casino - D	70,000	4762	0.25	3,572	0.25	2,679	2,750
Casino - E	70,000	4762	0.25	3,572	0.25	2,679	2,750
Casino - F	70,000	4762	0.25	3,572	0.25	2,679	2,750

Entertainment - R	90,000	5400	0.25	4,050	0.25	3,038	3,000
Parking - I	na	na	na	na	na	na	1,250
Parking - R	na	na	na	na	na	na	1,250

Source: Ivey, Harris & Walls, 1998, and staff analysis

Notes:

1. See Chapter 2.0
2. 0.25 reduction in flows for automatic sprinkler system
3. Flows rounded to nearest 250 gpm

SECTION I.3 WASTEWATER DEMAND CALCULATIONS FOR ALTERNATIVES

Assumptions used to calculate estimated wastewater generation from project alternatives are:

- Average daily flow of 200 gpd/hotel room
- Average daily flow of 200 gpd/1,000 square feet of casino, retail, and food and beverage space
- Average daily flow of 45 gpd/marina slip
- Average daily flow of 5 gpd/seat in the theater component.

Table I.3-1
Wastewater Demand for Alternatives

Alternative 1	**Quantity**	**Unit**	**gpd/unit**	**ADF[1]**	**Peaking Factor**	**PDF[2]**
Hotels	500	rooms	200	0.100	3.0	0.300
Retail + F/B	17313	1000 sq ft	200	0.003	3.0	0.010
Casino	38277	1000 sq ft	200	0.008	3.0	0.023
Entertainment	260	seats	5	0.001	3.0	0.004
Marina	118	slips	45	0.005	3.0	0.016
Total Wastewater Generation				**0.118**	3.0	**0.353**
Alternative 2	**Quantity**	**Unit**	**gpd/unit**	**ADF**	**Peaking Factor**	**PDF**
Hotels	7,050	rooms	200	1.410	3.0	4.230
Retail + F/B	475,000	1000 sq ft	200	0.095	3.0	0.285
Casino	420,000	1000 sq ft	200	0.084	3.0	0.252
Entertainment	5,000	seats	5	0.025	3.0	0.075
Marina	400	slips	45	0.018	3.0	0.054
Total Wastewater Generation				**1.632**	3.0	**4.896**
Alternative 3						
Site A	**Quantity**	**Unit**	**gpd/unit**	**ADF**	**Peaking Factor**	**PDF**
Hotels	800	rooms	200	0.160	3.0	0.480
Retail + F/B	40,000	1000 sq ft	200	0.008	3.0	0.024
Casino	70,000	1000 sq ft	200	0.014	3.0	0.042
Entertainment	0	seats	5	0.000	3.0	0.000
Marina	90	slips	45	0.004	3.0	0.012
Total Wastewater Generation				**0.186**	3.0	**0.558**
Site B	**Quantity**	**Unit**	**gpd/unit**	**ADF**	**Peaking Factor**	**PDF**
Hotels	1,000	rooms	200	0.200	3.0	0.600
Retail + F/B	45,000	1000 sq ft	200	0.009	3.0	0.027
Casino	70,000	1000 sq ft	200	0.014	3.0	0.042

Entertainment	0	seats	5	0.000	3.0	0.000
Marina	60	slips	45	0.003	3.0	0.008
Total Wastewater Generation				**0.226**	3.0	**0.677**
Site C	**Quantity**	**Unit**	**gpd/unit**	**ADF**	**Peaking Factor**	**PDF**
Hotels	2,800	rooms	200	0.560	3.0	1.680
Retail + F/B	290,000	1000 sq ft	200	0.058	3.0	0.174
Casino	70,000	1000 sq ft	200	0.014	3.0	0.042
Entertainment	5,000	seats	5	0.025	3.0	0.075
Marina	100	slips	45	0.005	3.0	0.014
Total Wastewater Generation				**0.662**	3.0	**1.985**
Site D	**Quantity**	**Unit**	**gpd/unit**	**ADF**	**Peaking Factor**	**PDF**
Hotels	800	rooms	200	0.160	3.0	0.480
Retail + F/B	30,000	1000 sq ft	200	0.006	3.0	0.018
Casino	70,000	1000 sq ft	200	0.014	3.0	0.042
Entertainment	0	seats	5	0.000	3.0	0.000
Marina	30	slips	45	0.001	3.0	0.004
Total Wastewater Generation				**0.181**	3.0	**0.544**
Site E	**Quantity**	**Unit**	**gpd/unit**	**ADF**	**Peaking Factor**	**PDF**
Hotels	1,150	rooms	200	0.230	3.0	0.690
Retail + F/B	40,000	1000 sq ft	200	0.008	3.0	0.024
Casino	70,000	1000 sq ft	200	0.014	3.0	0.042
Entertainment	0	seats	5	0.000	3.0	0.000
Marina	100	slips	45	0.005	3.0	0.014
Total Wastewater Generation				**0.257**	3.0	**0.770**
Site F	**Quantity**	**Unit**	**gpd/unit**	**ADF**	**Peaking Factor**	**PDF**
Hotels	500	rooms	200	0.100	3.0	0.300
Retail + F/B	30,000	1000 sq ft	200	0.006	3.0	0.018
Casino	70,000	1000 sq ft	200	0.014	3.0	0.042
Entertainment	0	seats	5	0.000	3.0	0.000
Marina	0	slips	45	0.000	3.0	0.000
Total Wastewater Generation				**0.120**	3.0	**0.360**
Alternative 3 - Total				**ADF**		**PDF**
Total Wastewater Generation				**1.631**	3.0	**4.8933**

Alternative 4	**Quantity**	**Unit**	**gpd/unit**	**ADF**	**Peaking Factor**	**PDF**
Hotels	7,050	rooms	200	1.410	3.0	4.230
Retail + F/B	475,000	1000 sq ft	200	0.095	3.0	0.285
Casino	420,000	1000 sq ft	200	0.084	3.0	0.252
Entertainment	5,000	seats	5	0.025	3.0	0.075
Marina	400	slips	45	0.018	3.0	0.054
Total Wastewater Generation				**1.632**	3.0	**4.896**
Alternative 5	**Quantity**	**Unit**	**gpd/unit**	**ADF**	**Peaking Factor**	**PDF**
Hotels	7,050	rooms	200	1.410	3.0	4.230
Retail + F/B	420,000	1000 sq ft	200	0.084	3.0	0.252
Casino	475,000	1000 sq ft	200	0.095	3.0	0.285
Entertainment	5,000	seats	5	0.025	3.0	0.075
Marina	400	slips	45	0.018	3.0	0.054
Total Wastewater Generation				**1.632**	3.0	**4.896**

Source: Ivey, Harris & Walls, 1998 and staff analysis

Notes:

1. ADF = average daily flow
2. PDF = peak daily flow (ADF * 3)

SECTION I.4 CALCULATIONS FOR INCREASED WATER WITHDRAWAL IN THREE-COUNTY REGION

The following assumptions are used to estimate increased water withdrawals in the three-county region:

- Per capita water withdrawals of 114.89 gal/day in Hancock County
- Per capita water withdrawals of 181.35 gal/day in Harrison County
- Per capita water withdrawals of 90.88 gal/day in Jackson County.

The increase for each alternative = 2010 withdrawal – 2000 baseline water withdrawal

Table I.4-1
Potable Water Demand Increase in Three-County Region, 2000-2010

2000 Baseline - Water Withdrawals				
	1995 Per Capita Withdrawal in gpd	**2000 Population[1]**	**2000 Withdrawal in gpd**	**2000 Withdrawal in mgd**
Hancock	114.89	48,952	5,624,064	5.62
Harrison	181.35	181,362	32,889,914	32.89
Jackson	90.88	139,134	12,644,474	12.64
Total		369,447	51,158,452	51.16
No-Action - 2010 Water Withdrawals				
	1995 Per Capita Withdrawal in gpd	**2010 Population[1]**	**2010 Withdrawal in gpd**	**2010 Withdrawal in mgd**
Hancock	114.89	55,108	6,331,352	6.33
Harrison	181.35	204,170	37,026,180	37.03
Jackson	90.88	156,631	14,234,655	14.23
Total		415,909	57,592,187	57.59

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Alternative 2 - 2010 Water Withdrawals				
	1995 Per Capita Withdrawal in gpd	**2010 Population[1]**	**2010 Withdrawal in gpd**	**2010 Withdrawal in mgd**
Hancock	114.89	58,838	6,759,846	6.76
Harrison	181.35	217,988	39,532,048	39.53
Jackson	90.88	167,232	15,198,032	15.20
Total		444,057	61,489,926	61.49

Alternative 3 – 2010 Water Withdrawals				
	1995 Per Capita Withdrawal in gpd	**2010 Population[1]**	**2010 Withdrawal in gpd**	**2010 Withdrawal in mgd**
Hancock	114.89	58,860	6,762,450	6.76
Harrison	181.35	218,072	39,547,271	39.55
Jackson	90.88	167,296	15,203,885	15.20
Total		444,228	61,513,605	61.51

Alternative 4 – 2010 Water Withdrawals				
	1995 Per Capita Withdrawal in gpd	**2010 Population[1]**	**2010 Withdrawal in gpd**	**2010 Withdrawal in mgd**
Hancock	114.89	58,838	6,759,846	6.76
Harrison	181.35	217,988	39,532,048	39.53
Jackson	90.88	167,232	15,198,032	15.20
Total		444,057	61,489,926	61.49

Alternative 5 – 2010 Water Withdrawals				
	1995 Per Capita Withdrawal in gpd	**2010 Population[1]**	**2010 Withdrawal in gpd**	**2010 Withdrawal in mgd**
Hancock	114.89	58,838	6,759,846	6.76
Harrison	181.35	217,988	39,532,048	39.53
Jackson	90.88	167,232	15,198,032	15.20
Total		444,057	61,489,926	61.49

Source: Staff analysis.

Notes:

1. See Appendix K for population projections.

SECTION I.5 CALCULATIONS FOR INCREASED WASTEWATER FLOWS TO WWTPS IN THREE-COUNTY REGION

Assumptions used to calculate estimates of increased wastewater flows to WWTPs in three-county region are:

- Per capita WWTP flows of 99.44 gal/d in Hancock County
- Per capita WWTP flows of 181.54 gal/d in Harrison County
- Per capita WWTP flows of 33.38 gal/d in Jackson County.

Per capita flows are based on the 1998 total of average monthly wastewater flows received by treatment plants in each county divided by the 1998 county population.

Increased flows received at WWTPs for each alternative = 2010 wastewater flows to WWTPs – 2000 baseline wastewater flows to WWTPs

Table I.5-1
Increase in WWTPs Flows in Three-County Region, 2000-2010

2000 Baseline Wastewater Flows to WWTPs				
	1998 Per Capita Wastewater in gpd	**2000 Population[1]**	**2000 Wastewater in gpd**	**2000 Wastewater in mgd**
Hancock	99.44	48,952	4,867,760	4.87
Harrison	181.54	181,362	32,924,373	32.92
Jackson	33.38	139,134	4,644,284	4.64
Total		369,447	42,436,417	42.44

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No-Action Alternative – 2010 Wastewater Flows to WWTPs				
	1998 Per Capita Wastewater in gpd	2010 Population[1]	2010 Wastewater in gpd	2010 Wastewater in mgd
Hancock	99.44	55,108	5,479,934	5.48
Harrison	181.54	204,170	37,064,972	37.06
Jackson	33.38	156,631	5,228,354	5.23
Total		415,909	47,773,260	47.77

Alternative 2 – 2010 Wastewater Flows to WWTPs				
	1998 Per Capita Wastewater in gpd	2010 Population[1]	2010 Wastewater in gpd	2010 Wastewater in mgd
Hancock	99.44	58,838	5,850,806	5.85
Harrison	181.54	217,988	39,573,466	39.57
Jackson	33.38	167,232	5,582,200	5.58
Total		444,057	51,006,471	51.01

Alternative 3 - 2010 Wastewater Flows to WWTPs				
	1998 Per Capita Wastewater in gpd	2010 Population[1]	2010 Wastewater in gpd	2010 Wastewater in mgd
Hancock	99.44	58,860	5,853,059	5.85
Harrison	181.54	218,072	39,588,705	39.59
Jackson	33.38	167,296	5,584,349	5.58
Total		444,228	51,026,113	51.03

Alternative 4 - 2010 Wastewater Flows to WWTPs				
	1998 Per Capita Wastewater in gpd	**2010 Population[1]**	**2010 Wastewater in gpd**	**2010 Wastewater in mgd**
Hancock	99.44	58,838	5,850,806	5.85
Harrison	181.54	217,988	39,573,466	39.57
Jackson	33.38	167,232	5,582,200	5.58
Total		444,057	51,006,471	51.01

Alternative 5 - 2010 Wastewater Flows to WWTPs				
	1998 Per Capita Wastewater in gpd	**2010 Population[1]**	**2010 Wastewater in gpd**	**2010 Wastewater in mgd**
Hancock	99.44	58,838	5,850,806	5.85
Harrison	181.54	217,988	39,573,466	39.57
Jackson	33.38	167,232	5,582,200	5.58
Total		444,057	51,006,471	51.01

Source: Staff analysis.

Notes:

1. See Appendix K for population projections.