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Management & Regulatory Consultants, Inc.

COMMISSION
CLERK

January 23, 2006

Hand Delivered

Mr. Troy Rendell
Public Utilities Supervisor
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Application for a Staff Assisted Rate Case by MSM Utilities, LLC, Docket No. 050587-WS
Staff's First Data Request

Dear Mr. Rendell:

This response to Items 11 and 12 of Staff's First Data request dated January 3, 2006 regarding the Meter Installation Fee and Service Availability Charges is provided on behalf of MSM Utilities, LLC. Responses to Items 1 through 10 will be filed by the due date of February 15, 2006.

Item 11. **The following items relate to a meter installation fee. See the attached example, Order No. PSC-05-0776-TRF-WS.**

a. **Please state the specific dollar amount requested for the meter installation fee.**

CMP _____

RESPONSE: \$183.00 for a 5/8" x 3/4" meter. All others at actual cost.

COM _____

b. **Provide the utility's cost justification for the requested meter installation fee. Cost justification may include, but is not limited to, the following: 1) meter, 2) meter box, 3) meter couplings, etc., 4) sales tax, 5) labor and supervision, and 6) transportation, tools and supplies.**

CTR _____

ECR _____

GCL _____

OPC _____

RESPONSE:

RCA _____

5/8" x 3/4" meter \$ 28.64

SCR _____

Meter box 13.62

SGA _____

Couplings 6.76

SEC 1 _____

OTH _____

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FPSC-BUREAU OF RECORDS

DOCUMENT NUMBER-DATE

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FPSC-COMMISSION CLERK

Curbstop	26.90
Dual check valve	<u>29.54</u>
	\$ 108.46
Sales tax	<u>7.59</u>
Total parts	\$ 116.05
Labor & Supervision	50.00
Misc. - 10%	<u>16.61</u>
Total, installed	182.66

Item 12. **The following items relate to service availability charges.**

- c. **What is the utility's estimated buildout date?**
RESPONSE: With regard to buildout of the service area, no buildout date has been set as it is customer driven. With regard to the first phase of water and wastewater treatment facility expansion, it is estimated that they will be built out by 2011 or 5 years from completion of construction.

- d. **MSM has stated that it intends to abandon its existing water and wastewater treatment plants and build new plants by 2007. 1) If applicable, provide a copy of the utility's capacity reports for its existing water and wastewater treatment plants. RESPONSE: See attached wastewater Updated Capacity Analysis, February 6, 2004. A water capacity analysis is not yet required. Also, please note that MSM intends only to abandon its existing wastewater treatment plant and relocate the new plant to a larger site. It is currently planned that the existing water treatment plant will continue to be used and will be expanded at its present location. 2) What are the utility's estimated dates that MSM will reach its current design capacity of the utility's new water and wastewater treatment plants? RESPONSE: Based on projected flows and customer growth, the expanded water treatment plant should reach capacity by 2011 and the new wastewater treatment plant should reach capacity by 2010. This assumes completion and availability of the plants in 2007.**

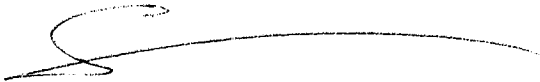
- e. **Does the utility plan to completely abandon its existing treatment plants or does it plan to use parts of its existing plants in the new plants? Please discuss any parts from the existing facilities the utility may use. RESPONSE: As stated in response to 12.d. above, the utility plans to utilize all of the existing water treatment plant and expand it. The existing wastewater treatment plant will be completely removed from service. It cannot be expanded at its present location. The plant is completely depreciated. It appears that the only salvageable equipment will be the blowers which represent only a few hundred dollars. The remaining tankage and equipment do not appear to be worth saving.**

- f. **Provide cost estimates of any plant improvements necessary to provide**

service to future customers, e.g., treatment plant, new wells, distribution lines, collection lines, etc.

RESPONSE: MSM has had its engineer prepare a cost expansion estimate and has had its regulatory consultant develop Service Availability Charges (SACs) based on that cost information and estimated growth and flow projections. The information is provided in the attachment SERVICE AVAILABILITY CHARGES and PLANT EXPANSION COSTS. As you may be aware, MSM does not currently have any approved SACs nor does it have an approved Meter Installation Fee. It is MSM's intent that such charges be proposed and approved as a part of this SARC. MSM had not specifically requested that SACs be set as a part of the SARC. But, based on prior experience, MSM anticipated that Staff would analyze the SAC situation as a part of its SARC analysis. Without knowledge of the outcome of the SARC, MSM did not have a base from which to determine said charges. MSM now has that information from the Staff's Audit Report. Since MSM intends to expand its facilities in 2007 and has requested an expansion of its service territory in Docket No. 050820-WS, it is essential that SAC charges be approved prior to new customers coming on line. As indicated in the attached document, MSM believes that the appropriate SAC charges are a System Capacity Charge per ERC of \$638.10 for water and \$1,762.40 for wastewater. In addition MSM believes that \$183.00 is the appropriate Meter Installation Fee for a 5/8" x 3/4" meter. MSM also intends that its main extension policy shall be that, for new developments, the water distribution and sewage collection systems be contributed. All of these factors were assumed in developing the SAC charges.

Very truly yours,



Frank Seidman

cc: Division of the Commission Clerk and Administrative Services - Hand Delivered
Ms. Patti Daniel, Public Utilities Supervisor - Hand Delivered
Mr. Ben Maltese, MSM Utilities, LLC
Gerald Buhr, Esq.



Prepared By:
McDonald Group International, Inc.
9030 S. Brittany Path
Inverness, Florida 34452
C.A. 75880

February 6, 2004

Prepared For:
The Oaks at River's Edge Inc.
1601 Hunter Creek Dr
Punta Gorda, Florida, 33982

Permit No.: FLA014062 Expires: April 22, 2004

Facility ID: FLA014062

Charlotte County, Florida

Wastewater Treatment Plant

Rivers Edge

FOR

REPORT

UPDATED CAPACITY ANALYSIS

CAPACITY ANALYSIS
REPORT
FOR
Rivers Edge
Wastewater Treatment Plant
Charlotte County, Florida

The information contained in this report was prepared in accordance with sound engineering principals, and the recommendations contained within have been discussed with the permittee

Date:

George J. McDonald, P.E.,
FL PROFESSIONAL ENGINEER NO. 44740
McDonald Group International, Inc. CA-0007580
9030 S. Brittany Path, Inverness, Florida 34452
(352)-637-1652

I am fully aware and intend to comply with the recommendations
and schedules included in this report

Date:

Zola M. MacLachlan
The Oaks at River's Edge Inc.
1601 Hunter Creek Dr
Punta Gorda, Florida, 33982
941-639-2810

**CAPACITY ANALYSIS REPORT
FOR Rivers Edge
WASTEWATER TREATMENT PLANT**

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CAPACITY ANALYSIS REPORT

1.0 INTRODUCTION

Florida Department of Environmental Protection (FDEP) rule 62-600.405(4) F.A.C. requires that a capacity analysis report be submitted to the Department with a permit application to renew a Wastewater facility permit.

This capacity analysis is submitted to the FDEP by McDonald Group International, George J. McDonald, P.E., consultant engineer for The Oaks at River's Edge Inc., the owner and operator of the Rivers Edge Wastewater Treatment Plant located in Charlotte County, Florida in order to comply with rule 62-600.405, F.A.C. The last capacity analysis report is believed to have been performed during the last permit renewal.

The facility is located at 1601 Hunter Creek Drive, Punta Gorda, Florida. A location map and USGS quad map are provided in Figures 1.1 and 1.2 respectively.

1.1 Authorization

The Oaks at River's Edge Inc. has retained George J. McDonald, P.E. to study their plant's historical flows, service area characteristics, and issues which effect changes in future capacity requirements of their wastewater treatment plant in order to provide a capacity analysis report (CAR) in support of the wastewater plant permit application.

1.2 Related Reports and Documents

Accompanying this report is an Operations and Maintenance Performance Report, as well as FDEP Forms 1 and 2A for a domestic wastewater treatment plant. Additional information is contained in the accompanying reports and documents.

1.3 General Service Area Description

The treatment facility serves River's Edge. This area consists of approximately 45 modular homes at present.

1.4 Facility Information

This Wastewater Treatment Plant is presently permitted for the flow capacity and discharge limitation standards in the following table:

**Rivers Edge
Wastewater Treatment Plant**

1. Maximum flow capacity - 0.015 MGD
2. BOD and TSS maximum concentrations -
20 mg/L annual average
30 mg/L monthly average
45 mg/L weekly average
60 mg/L any one sample
3. pH range - 6.00 to 8.50
4. Fecal Coliform -
200 #/100 annual average
800 #/100 maximum
5. Minimum Cl₂ conc. - 0.5 mg/L
6. Nitrate 12 mg/L max

The Rivers Edge Wastewater Treatment Plant has been active since 1984.

Process

It is an activated sludge waste treatment facility operating in the extended aeration mode. The treatment process comprises the following: aeration, final settling; sludge digestion, disinfection. A process plan follows the USGS map in the following pages.

Modifications

The facility has not been reported to have been modified in the last 5 years. A permit to expand the plant was applied for but the construction was not begun.

Notices of violation

According to the Owner and the Operator, one NOV was reported, apparently seeking the annual residuals summary..

1.5 Scope of Report

Although containing many elements of a regular capacity analysis report, the depth and scope of this report is meant to equal or exceed the requirements for an "abbreviated" capacity analysis report.

1.6 Information Sources

This report is prepared based on information supplied by the permittee, information that may be found in FDEP public databases, the current permit, and information supplied by the operator. The report relies on the accuracy of this information for all analysis and opinions.

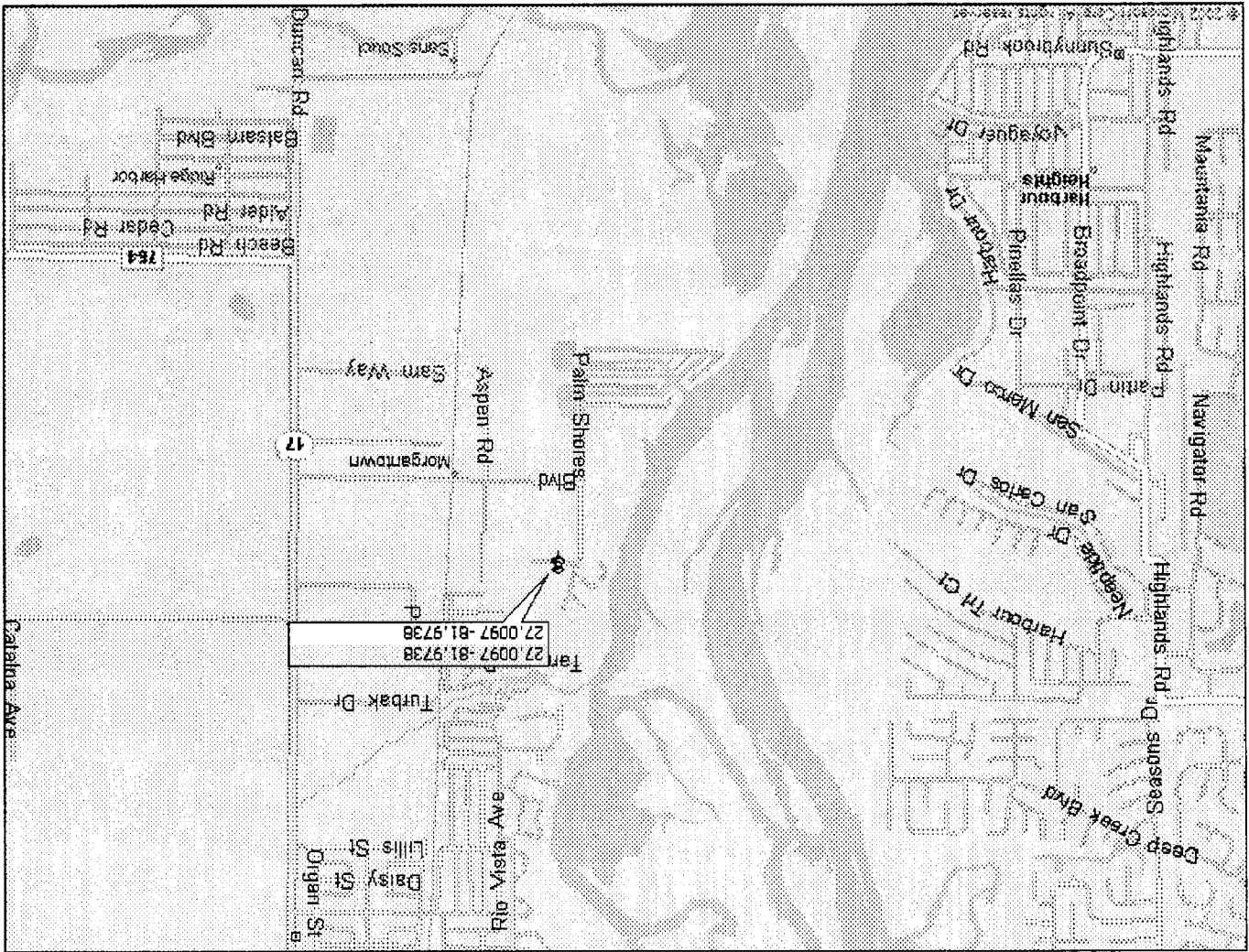


Figure 1.1 Street Location Map

Figure 1.2 USGS Map

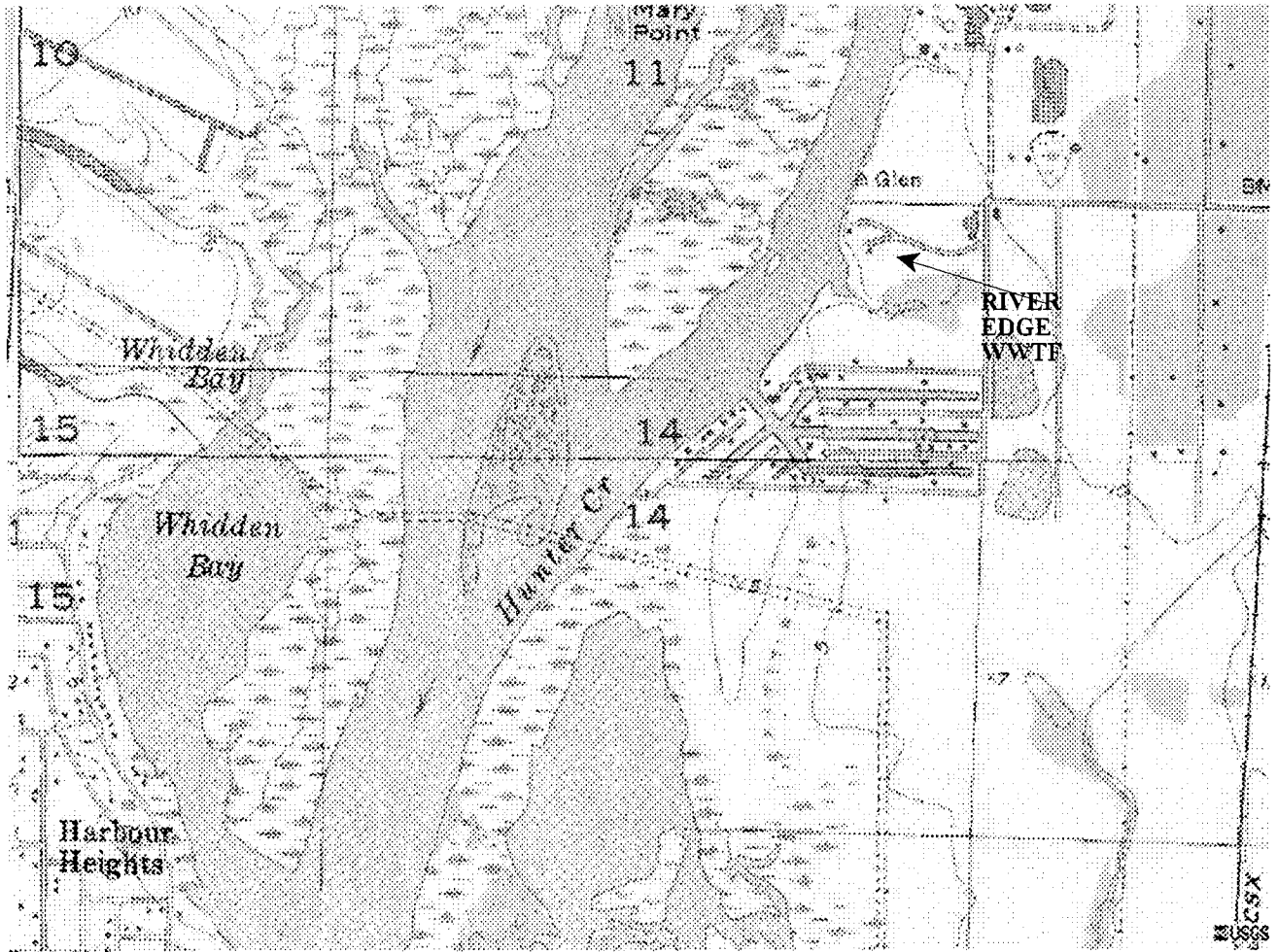
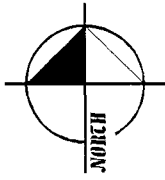
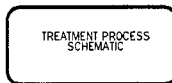
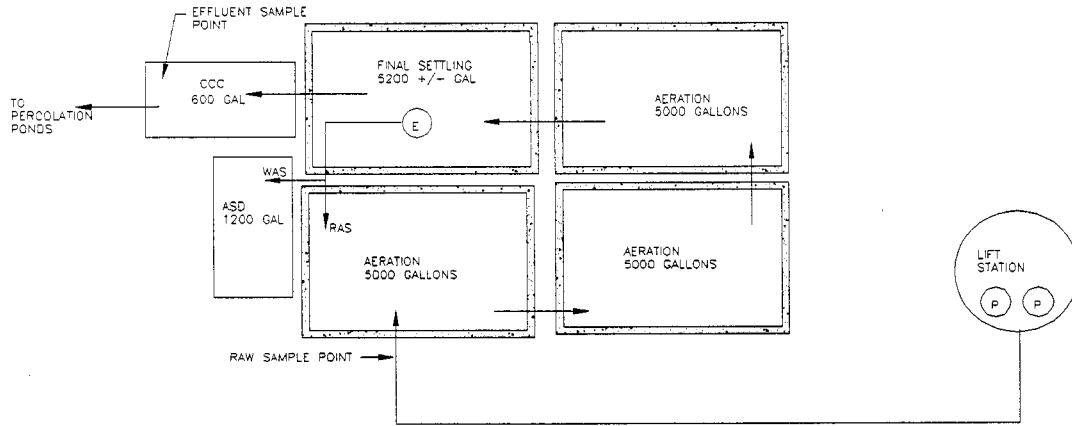


Figure 1.3 Process Plan

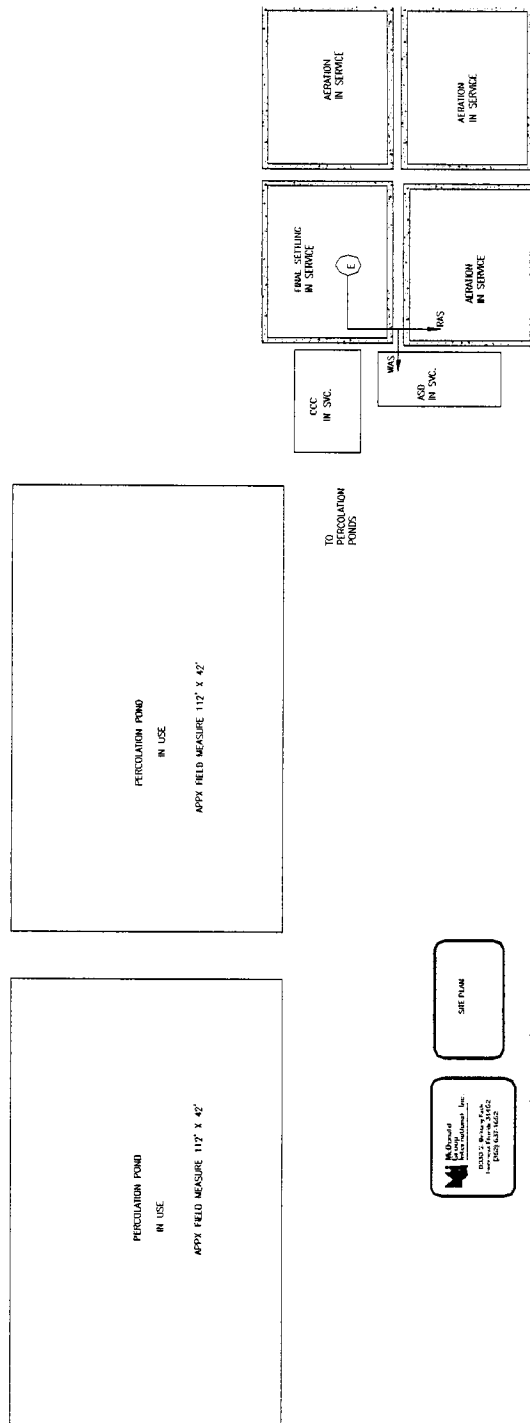


PROCESS TANK DATA BASED ON
INFORMATION REFERENCED IN CURRENT PERMIT
WITH REFERENCE TO OTHER SIMILAR
FACILITIES OF THE SAME MFR AND
APPX FIELD MEASURE OF TANK AREAS

Figure 1.4 Site Plan (Aerial)



Figure 1.4 Site Plan (Line Drawing)



2.0 EXISTING CONDITIONS AND PERMITTED CAPACITIES

The Rivers Edge Wastewater Treatment Plant has been active since 1984. It is an activated sludge waste treatment facility operating in the extended aeration mode. The current operating permit, FLA014062 is due to expire April 22, 2004.

The Wastewater Treatment Plant is presently permitted to discharge effluent meeting the Secondary Treatment Technology Based Effluent Standards listed in the table in section 1.4.

2.1 Influent Strength

The major parameters used to evaluate influent strength are influent BOD, TSS, TKN.

Based on available test data, the influent strength is estimated to be as follows:

<u>Parameter</u>	<u>Characterization</u>
CBOD ₅	159 mg/L
TSS	331 mg/L

2.2 Updated Flow Information -

2.2.1 Flow Calibration

Flows to this wastewater plant are determined by elapsed time meters, influent lift station.

The accuracy of this method was last checked by the Florida Rural Water Association . 12/16/2002

2.2.2 Plant Flow Characteristics

Data from Discharge Monitoring Reports (DMRs) were studied to determine the present plant flow characteristics. Table 2.2 summarizes the data taken from the DMRs for the period reviewed.

Figure 2.2 graphically illustrates the annual average and rolling three month average flow for the period reviewed:

Figure 2.2 Flow Chart

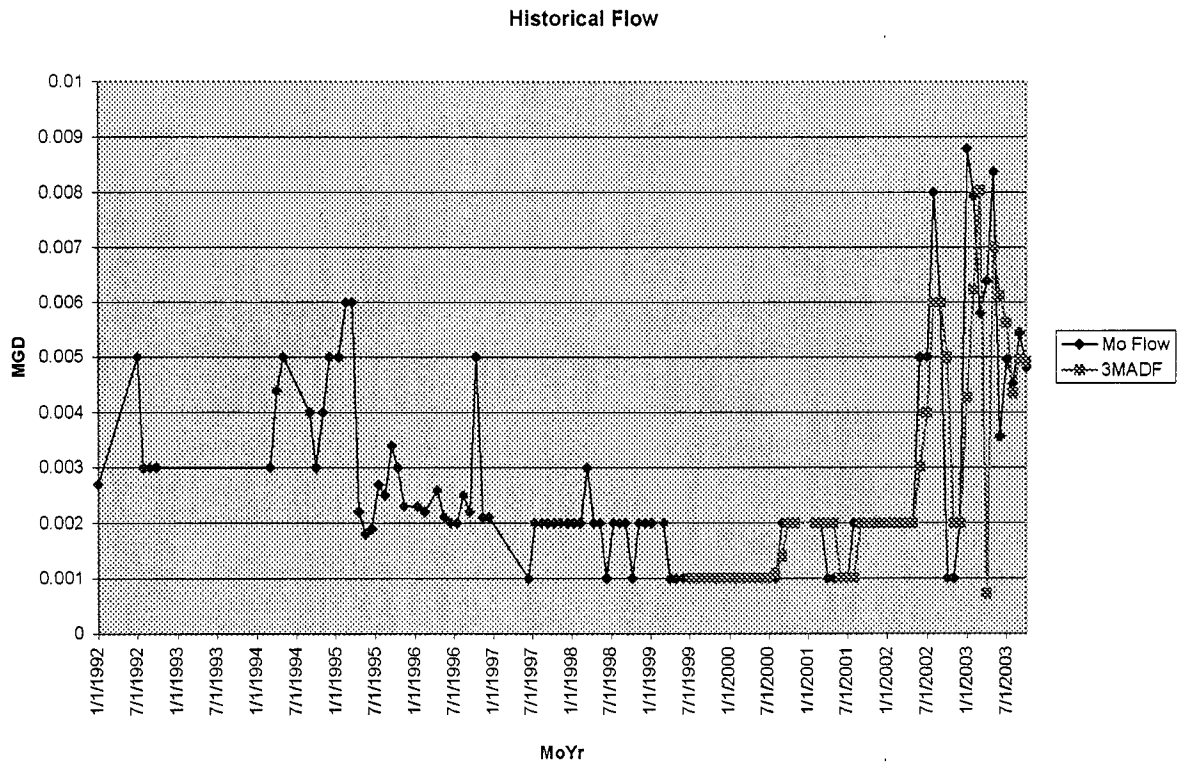


Table 2.2 Flow and Performance History

	pH MN	pH MO	TSS MB	TSS MK	TSS MN	Nitrate MB	Fecal MK	Fecal MN	Fecal WA	TRC MO	BOD AB	BOD MK	BOD MN	TSS Infl	BOD Infl	Flow MK
2/28/1999	7.4	6.8		12.6			1					2		278	537	0.002
3/31/1999	7.8	6.7		12			1					34.9		194	380	0.001
4/30/1999	7.4	6.8		4.4			1			0.8		2		104	132	0.001
5/31/1999	7.8	6.4		3			1			0.7		2		54.9	117	0.001
6/30/1999	7.2	6.2		2.1	2.1		1	1	.1	1		2	2	400	219	0.001
7/31/1999	7.3	6.8		5	5		1	1	1	0.8		2	2	32	10	0.001
8/31/1999	7.4	6.8		4	4		1	1	1	0.8		2.03	2.03	25.5	480	0.001
9/30/1999	7.1	6.7		7	7		1	1		1		7.38	7.38	146	287	0.001
10/31/1999	7	6.5		3.2	3.2		22	22	22	0.6		3.54	3.54	70	88	0.001
11/30/1999	7.8	6.7		6.4	6.4		60	60	nod	0.7		2	2	212	44	0.001
12/31/1999	7.9	7		2.6	2.6		1	1	1	0.5		2	2	200	157	0.001
1/31/2000	7.4	7		3	3		3	3	nod	0.5		2	2	156	30	0.001
2/29/2000	7.7	7.2		60	60		136	200		2		2	2	2560	191	0.001
3/31/2000	7.9	7		6.6	6.6		1	1	nr	1		2	2	142	110	0.001
4/30/2000	7.6	7		2.3	2.3		136	200	NR	0.5		6.3	6.3	116	224	0.001
5/31/2000	7.8	6.9		2.1	2.1		1	1	1	0.9		2.39	2.39	36.4	131	0.001
6/30/2000	7.8	6.5		1	1		1	1	1	0.5		2	2	20.3	86	0.001
7/31/2000	7.4	6.5		1.7	1.7		1	1	NA	1		2	2	60	70	0.001
8/31/2000	8.1	7		0.6	0.6	1.47	1	1	na	1		2	2	38	58	0.002
8/31/2000	8.1	7		0.6	0.6		1	1	NA	1		2	2	NA	21.9	0.002
9/30/2000	7.9	6.8		NA	NA	3.92	1	1	1	1		2	2	48	52.2	0.002
9/30/2000	7.9	6.8		NA	NA		1	1	1	1		2	2			0.002
10/31/2000	8.1	7		1.3	1.3	5.74	1	1	1	2		2	2			0.002
1/31/2001	7.6	6.9		7.4	7.4	0.199	40	40	40	0.6		2	2	66.7	227	0.002
2/28/2001	7.6	6.8		5	5		1	1	1	2		2	2	88.9	266	0.002
3/31/2001	7.5	6.9		2	2	0.323	1	1	1	0.8		2	2	105	200	0.001
4/30/2001	7.5	6.9		1.4	1.4	0.292	1	1	1	2		2	2	67.6	120	0.001
5/31/2001	8	7.1		0.8	0.8	0.295	1	1	1	0.5		2	2	68	186	0.001
6/30/2001	7.8	7		2.3	2.3		1	1	1	1		2	2	86	104	0.001
7/31/2001	7.6	7		11.2	11.2	1.54	1	1	1	0.5		2	2	46	58.5	0.002
8/31/2001	7.6	7		1.4	1.4	3.62	1	1	1	0.6		2	2	148	68.4	0.002
9/30/2001	7.8	7		4.4	4.4	1.03	1	1	1	0.9		2	2	117	107	0.002
10/31/2001	7.6	7		4.5	4.5	1.68	1	1	1	0.7		2	2	279	173	0.002
11/30/2001	7.5	7.1		3	3	0.904	1	1	1	0.6		2.1	2.1	276	129	0.002
12/31/2001	7.4	7		2.6	2.6	0.011	1	1	1	0.6		2.3	2.3	95	112	0.002
1/31/2002	7.6	7		2.9	2.9	2.15	1	1	1	0.7		2	2	332	212	0.002
2/28/2002	7.5	7		3.8	3.8		6	6	6	1.2		2.1	2.1	993	392	0.002
3/31/2002	7.4	7		3	3		1	1	1	0.7		3.1	3.1	446	233	0.002
4/30/2002	7.5	7		1	1	0.36	7	7	7	0.6		1.4	1.4	248	283	0.002
5/31/2002	7.8	7.1	3.5	2	2	1.94	1	1	1	1	2.2	3.3	3.3	130	233	0.005
6/30/2002	7.7	7.1	3.7	4.3	4.3	5.94	1	1	1	4	2.1	1.3	1.3	126	130	0.005
7/31/2002	7.7	6.9	3.3	6.75	6.75	0.1	1	1	1	1.3	2.1	1.74	1.74	110	43.5	0.008
8/31/2002	8	7.2	3.4	2.25	2.25	0.17	1	1	1	0.8	2.1	1.99	1.99	54	86.8	0.006
9/30/2002	7.5	6.9	3.3	2.11	2.11	0.28	5	5	5	1	2.1	2	2	3650	84	0.001
10/31/2002	7.7	7	3.1	4.8	4.8	0.191	1	1	1	1	2	2	2	25	66.7	0.001
11/30/2002	7.7	7.1	8.1	23.8	23.8	0.05	23	23	23	1	3.1	7.78	7.78	220	146	0.002
12/31/2002	7.3	7.1	1.44	1.44	1.44	0.55	2	2	2	1.1	2	2	2	170	84.7	0.0088
1/31/2003	7.6	7.2	6	6	6	0.01	400/4	400/4	400/4	3	2.66	2.66	2.66	84	82.7	0.0079
2/28/2003	7.6	7	8.29	11.6	11.6	0.104	4	4	4	1.1	3.07	2	2	340	113	0.0058
3/31/2003	7.3	7.1		9.2	9.2	0.112	4	4	4	3.5		2	2	2490	649	0.0064
4/30/2003	7.2	7	7.8	4.2	4.2	0.07	4	4	4	2.5	3.02	2.8	2.8	70	134	0.0084
5/31/2003	7.4	7	7.7	6.22	6.22	0.136	4	4	4	4	2.76	3.68	3.68	620	66.7	0.0036
6/30/2003	7.3	7	7.64	2	2	0.155	4	4	4	3.2	2.7	2.44	2.44	172	66.7	0.0049
7/31/2003	7.6	7.1	7.61	12.4	12.4	0.0357	4	4	4	2.5	3	3.65	3.65	630	66.7	0.0045
8/31/2003	7.6	6.8	7.1			0.584	4	4	4	2.5	2.91	2	2	160	78	0.0054
9/30/2003	7.4	7.1	7.4	1.44	1.44	0.768	4	4	4	3.2	2.9	2	2	116	147	0.0048

2.2.3 Peak Hour Flows

Peak hour flows were determined consideration of the operating characteristics of the plant and service area. Based on this, the peak hour factor is estimated to be 3 times the average daily flow.

2.3 Effluent Quality

The treated wastewater leaving the plant must meet specific limitations established by the FDEP in the current permit. Table 2.3 shows the current plant performance for the period studied versus the permitted requirements for effluent quality.

Table 2.3
Rivers Edge
Wastewater Treatment Plant
Effluent Quality Analysis

<u>Criteria</u>	<u>Plant Performance</u>	<u>Permitted Limit</u>
Annual ADF	0.005 MGD	0.015MGD
Highest 3 months rolling ADF	0.008 MGD	
Maximum monthly flow	0.0088 MGD	
Average Annual BOD conc.	3.1 mg/L	20 mg/L
Maximum monthly BOD conc.	7.8 mg/L	30 mg/L
Average annual TSS conc.	7.1 mg/L	20 mg/L
Maximum monthly TSS conc.	60mg/L	30 mg/L
pH range	6.2-8.1	6.00-8.50
Min. Cl ₂ residual conc.	0.5mg/L	0.5 mg/L
Nitrate, maximum	5.94	12 mg/L
Coliforms, maximum	200	800 #/100 ml

2.4 Design and Current Loadings

The Rivers Edge Wastewater Treatment Plant is an activated sludge wastewater treatment plant operating in the extended aeration mode.

Figure 1.3 at the beginning of this report provides a graphical illustration of the unit process flow scheme.

Table 2.4 lists each unit process along with the associated loading rate with pertinent dimensional or volumetric data. (Volumetric, areas and dimensional data is estimated from information in the previous permit, manufacturer catalog data, and comparison with other facilities using the same manufactured tankage). Process design data is also incorporated into table 2.4.

Table 2.4 - Process Data

		<i>Current Flow</i>	<i>Design Flow</i>
Influent Characteristics:			
BOD	mg/L	159	200
TSS	mg/L	331	350
TKN	mg/L	40	40
M3MADF	MGD	0.0050	0.0150
Effluent Targets			
BOD	mg/L	<20	<20
TSS	mg/L	<20	<20
Nitrate	mg/L	12	12
Disinfection		basic	basic
Process Design:			
Process Mode		Ext Aer	Ext Aer
Temp		20	20
MLSS mg/L		3296	3357
SRT days		120	25
Yield Coefficient		0.52	0.68
anoxic		0	0
aeration		0.015	0.015
Total Volume MGAL		0.015	0.015
V/Q, hrs.		72.0	24.0
BOD Loading, #/1000 cf		3.3	12.5
Solids, Oxic, Lbs		412	420
Solids, Anoxic, Lbs		0	0
MLSS Recirculation, %		300	300
RAS Recycle, %		100	100
RAS mg/L		6593	6715
WAS, lb/day		3	17
WAS, gpd		63	300
Tank Configuration		series	series
Aeration System:			
Process O2, lb/day		24	73
Diffuser Efficiency, %		7	7
Air Rqd., SCFM		14	42
lb O2/#BOD		3.6	2.9
Air supply, CF/# BOD		2991	2425
Type Aeration		Diffused	Diffused
Number of Eductors		1	1

	<i>Current Flow</i>	<i>Design Flow</i>
Return Rate/Eductor, GPM	3.5	10.4
Air Eductors	11.0	11.0
Skimmer Air	3.7	3.7
Air Rqd. RAS:	15	15
Estimated RAS compressor Hp	1	1
Air Rqd. Process:	14	42
Air Rqd. Digester	5	5
Volume Surge	15000	3600
Air Rqd. Surge	60	14
Total Air Rqd.:	93	76
HP Required	3.7	3.0
Provided, single blower Hp	5	5

Final Settling:

No. of Clarifiers	1	1
Surface Area, EA., sf	78	78
Est Side Depth	4.5	4.5
Est Total Depth to Hopper Bottom	13	13
Volume	5232	5232
V/Q, hrs.	25.1	8.4
Design Peak Factor	3	3
Hydraulic Overflow:		
Avg., gpd/sf	64	64
Peak, gpd/sf	192	192
Solids Loading Rate:		
Avg., lb/d-sf	4	11
Peak, lb/d-sf	7	22

Disinfection:

Method	Hypochlorination	Hypochlorination n
No. of CCCs	1	1
Volume EA, gallons	600	600
Total CCC volume est	600	600
Cl2 Residual, mg/L	0.5	0.5
Cl2 Dose, mg/L	8	8
Consumption, lb/day	0.33	1.00
<i>If Hypochlorination System Used</i>		
Est. Sodium Hypochlorite strength, %	15	15
Dose required, mg/L	8	8
Available Chlorine, lb/gal	1.25	1.25
dose, #/gal	6.68E-05	6.68E-05
Avg dose, #/day	0.33	1.00
Avg dose, gal/day	0.3	0.8
Peak Hour Capacity, gal/day	1	2
<i>CCC Retention Time</i>		

	<i>Current Flow</i>	<i>Design Flow</i>
@ ADF, minutes	173	58
@ PHF, minutes	58	19
Residual * Detention	29	10
Disinfection Level	Basic	Basic

Aerobic Sludge Digestion:

WAS Flow, gpd	63	300
Total Solids, #/day	3.44	16.80
WAS, mg/L	6593	6715
% Volatile	75	75
WASv, mg/L	4945	5036
Total VSS, #/d	3	13
VSS, #/Digester cf/day	0.02	0.08
Thick Solids, %	1	1
Digester Vol, gal	1200	1200
Initial Est. SRT, days	25	5
Temp, Degrees C	20	20
VSS Destroyed, %	31.19	14.60
Avg. Solids, mg/L	7000	7000
Supernatant Solids, mg/L	300	300
WAS Fraction Not Destroyed	0.77	0.89
WAS Fraction in Digester	0.51	0.60
Supernatant, gpd	31	121
TSS in Digester, #	70	70
Total SS Removed, #/d	3	15
Supernatant TSS, #/d	0.1	0.3
Sludge Discharge, #/d	3	15
Sludge Rem/year, DTR	0.5	2.7
Sludge Discharge, gpd	32	179
Digester SRT, days	25.9	4.6
Sludge Stabiliz. Class	<B	<B
Digester HRT, days	19.2	4.0
O2 Rqd, VSS, #/d	2	4
Air, SCFM	1	3
Diffuser Effic. %	5	5
Air Rqd. Mixing, SCFM	5	5
Design SCFM	5	5

Land Application System

Land Application Area, sf	94752.00	94752
Land Application Area, ac	2.1752	2.1752
Type System	Percolation Pond	Percolation Pond
# SubCells	2	2
Load Rate, gpd/sf	0.05	0.16
Load Rate, in/wk	0.59	1.78

2.5 Effluent Disposal / Reuse

Effluent from the treatment plant is disposed or reused by dual percolation-evaporation ponds.

The relationship of the effluent disposal system to the treatment facility is shown in the site plan in figure 1.4

The associated loading rates of this system at current and design flows is as follows:

TABLE 2.5
Effluent Disposal/Reuse System

System Type	Application Area (acres)	Flow (MGD)	Loading Rate (in/wk)
dual percolation-evaporation ponds	0.216	0.015	17.9
		0.005	5.97

Note: 1.9 gpd/sf equals 21.3 in/wk; 5.6 gpd/sf equals 62.9 in/wk.

Based on site observation, the system appears to be functioning properly. It is recommended that the operator and Owner continue to monitor the performance of the system regularly, particularly if flows should increase.

Note, the surface area of the existing dual ponds is based on approximate field measure.

The current permit allows for the construction of an additional two ponds and increased capacity, but these have not been constructed.

2.6 Waste Sludge Disposal or Reuse System

2.6.1 General Information About Rule 62-640, EPA Rule 503

The disposal of waste sludge from domestic wastewater plants in Florida is regulated by the FDEP under their rule 62-640, by the Federal Government under EPA rule 503, and often by local regulation which varies.

The relationship of the rules to each other is complex, but generally, WWTP owners have two ways to comply with rule 62-640 and rule 503. First, if the Owner elects to use a sludge hauler solely to haul his waste sludge to a land application site, the Owner will usually have to have on file with FDEP an Agricultural Use Plan (AUP). In many cases, the Owner will also need to obtain approval from the USEPA for the same site. In the second case, the Owner can enter into a contract with a sludge hauler who holds a permit from the FDEP to haul, treat and dispose of sludge himself. The hauler will have a type of permit known as a Regional Residuals Treatment Facility or Regional residuals Management Facility permit.

The primary difference between the first and second case is that in the first case, the sludge hauler is not permitted by FDEP to treat sludge, and so the Owner will hold the State FDEP AUP and the Federal permit, whereas in the second case, the hauler will usually hold those responsibilities.

In March of 1998, FDEP rule 62-640 was updated to conform better with EPA rule 503 requirements.

2.6.2 General Information about Meeting EPA Rule 503 Requirements and 62-640 for Owners who Hold their Own Agricultural Use Plans

The rules are fairly complex, and no attempt is made here to give a complete synopsis.

Stabilization Requirements

Usually, most WWTPs with their own AUP will need to stabilize their sludge to what is called class B standards when the sludge is hauled to a site such as a hayfield (non human edible crops) and with restricted site access.

To meet class B stabilization standards using aerobic digestion, rule 62-640 F.A.C. requires that the aerobic digester provide a minimum of 40 days solids retention time in accordance with the standards of a Process to Significantly Reduce Pathogens (PSRP), presently contained in CFR 503. Alternatives are discussed below.

Vector Attractor Reduction

Several methods to meet CFR 503 standards for Vector Attractor Reduction (VAR), defined as 38% Volatile Suspended Solids reduction, are available. Referring to the USEPA technical manual, Sludge Treatment and Disposal, a design graph is available for predicting VSS destruction in aerobic digesters based on the multiplier of temperature times solids retention time. Generally, 38%

VSS destruction is expected at a temperature of 20 degrees C when the digester solids retention time is in excess of 40 days. It is suggested that facility operators relying on aerobic digesters to meet CFR 503 standards for VAR, confirm 38% VSS destruction by having the digested sludge periodically given a Specific Oxygen Uptake Rate (SOUR) test. (Standards for this test are contained in CFR 503).

Alternatives

There are several alternatives to meeting Class B stabilization and VAR. The most commonly used method is lime stabilization. This consists of bringing the pH of the sludge to be disposed up to 12 for a period of two hours, followed by maintaining the sludge at pH 11.5 for an additional 22 hours.

Record Keeping

Both rule 62-640 and Rule 503 have extensive record keeping requirements. Basically records include keeping a running total of when sludge is hauled, where, and keeping a running tally on the accumulation of the amount of heavy metals disposed of at the land application site.

2.6.3 Disposal and Reuse of Waste Sludge From Rivers Edge WWTP.

Please refer to the process calculations in table 2.4 for information on the SRT and predicted VSS destruction from this facility from the aerobic process alone. Waste sludge from this facility is classified as Class B.

The facility uses lime stabilization to achieve or demonstrate compliance with the required minimum Class B standard.

Estimated sludge removal quantities (dry annual tonnage) is shown below.

The disposition of the sludge is as follows:

**Table 2.6
Sludge (Residuals) Disposal**

	Direct Land Application	Regional Residual Treatment Facility
Quantity	0.5 dry-tons/yr	0 dry-tons/yr
Site/Facility Name	American Water, Hauler Sites noted: Prairie Grove Boran Ranch, VC Hollingsworth	

3.0 FUTURE CONDITIONS - WASTEWATER FLOW PROJECTION

3.1 Unit Waste Generation Rates

The current ADF unit waste generation rate(s) applicable to this facility is gpd per modular home. From section 3.1, the maximum three month average daily flow is 0.008 MGD. There are 45 modular homes served by this facility at the present. From this, it is concluded that the unit waste generation rate is 110 gpd per modular home.

3.2 Future Possible Average Flow

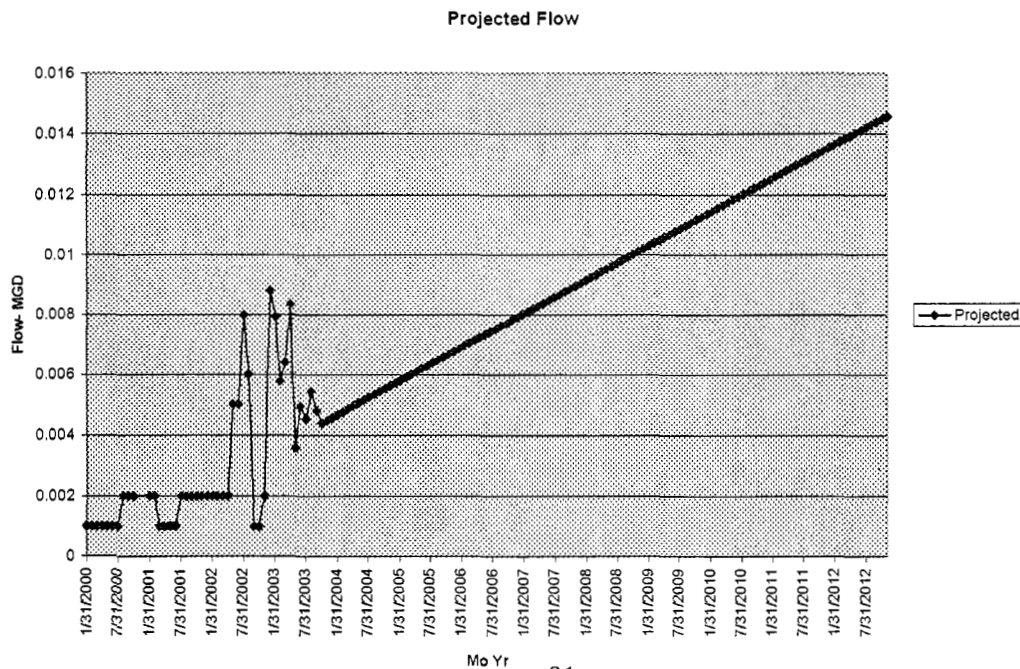
The future possible average flow to this facility is calculated in table 3.2 under the premise that the maximum future or build out flow is equal to the maximum number of units that contribute wastewater times their unit waste generation rate.

**Table 3.2
Future Possible Average Flow**

Type of Unit	#of Units	Unit Waste Generation Rate	Future Flow
modular homes	295	110 gpd per modular home	0.033MGD

3.3 Growth Rate

Future growth rates can be predicted from several methods. In general, the major methods are: linear regression of historical flow, local municipal comprehensive plan projections, and site specific knowledge. In this case, a linear projection based on a review of the last few years of flow was performed. The result is as shown below (see next section, discussion):



4.0 SUMMARY AND RECOMMENDATIONS

Based on the analysis of the wastewater treatment plant, effluent disposal or reuse system and sludge handling stream, the maximum ratable capacity of the system as a whole is 0.015 MGD, as noted in the foregoing sections.

Future maximum capacity anticipated is 0.033 MGD.

This facility has been around since it appears 1984. The historical record of flows (see appendix) indicates low flow and little increase in flow until the last few years.

With new owners, it is difficult to make a reliable forecast of the future, however, it seems likely that facility capacity could be reached within 10 years.

Within 5 years, annual average flow, based on a linear projection, should increase from the present 0.005 MGD to 0.011 MGD.

It is recommended that the owner begin planning for a plant expansion as required by the FDEP. Since the facility has been previously permitted for an expansion, these plans should be reviewed for appropriateness .

This capacity analysis report should be updated within 2 years.

APPENDIX

Note: all data shown obtained electronically from FDEP Tallahassee information services

Mo/Yr	Flow Mo Avg	3MADF
1/1/1992	0.0027	
6/29/1992	0.005	
7/29/1992	0.003	
8/28/1992	0.003	
9/27/1992	0.003	
3/1/1994	0.003	
3/31/1994	0.0044	
4/30/1994	0.005	
9/1/1994	0.004	
10/1/1994	0.003	
11/1/1994	0.004	
12/1/1994	0.005	
1/15/1995	0.005	
2/14/1995	0.006	
3/16/1995	0.006	
4/15/1995	0.0022	
5/15/1995	0.0018	
6/14/1995	0.0019	
7/14/1995	0.0027	
8/13/1995	0.0025	
9/12/1995	0.0034	
10/12/1995	0.003	
11/11/1995	0.0023	
1/15/1996	0.0023	
2/14/1996	0.0022	
4/15/1996	0.0026	
5/15/1996	0.0021	
6/14/1996	0.002	
7/14/1996	0.002	
8/13/1996	0.0025	
9/12/1996	0.0022	
10/12/1996	0.005	
11/11/1996	0.0021	
12/11/1996	0.0021	
6/15/1997	0.001	
7/15/1997	0.002	
8/14/1997	0.002	
9/13/1997	0.002	
10/13/1997	0.002	
11/12/1997	0.002	
12/12/1997	0.002	

1/11/1998	0.002	
2/10/1998	0.002	
3/12/1998	0.003	
4/11/1998	0.002	
5/11/1998	0.002	
6/10/1998	0.001	
7/10/1998	0.002	
8/9/1998	0.002	
9/8/1998	0.002	
10/8/1998	0.001	
11/7/1998	0.002	
12/7/1998	0.002	
1/6/1999	0.002	
2/28/1999	0.002	
3/31/1999	0.001	
4/30/1999	0.001	
5/31/1999	0.001	
6/30/1999	0.001	0.001
7/31/1999	0.001	0.001
8/31/1999	0.001	0.001
9/30/1999	0.001	0.001
10/31/1999	0.001	0.001
11/30/1999	0.001	0.001
12/31/1999	0.001	0.001
1/31/2000	0.001	0.001
2/29/2000	0.001	0.001
3/31/2000	0.001	0.001
4/30/2000	0.001	0.001
5/31/2000	0.001	0.001
6/30/2000	0.001	0.001
7/31/2000	0.001	0.0011
8/31/2000	0.002	0.0014
8/31/2000	0.002	0.0014
9/30/2000	0.002	0.002
9/30/2000	0.002	0.002
10/31/2000	0.002	0.002

1/31/2001	0.002	0.002
2/28/2001	0.002	0.002
3/31/2001	0.001	0.002
4/30/2001	0.001	0.002
5/31/2001	0.001	0.001
6/30/2001	0.001	0.001
7/31/2001	0.002	0.001
8/31/2001	0.002	0.002
9/30/2001	0.002	0.002
10/31/2001	0.002	0.002
11/30/2001	0.002	0.002
12/31/2001	0.002	0.002
1/31/2002	0.002	0.002
2/28/2002	0.002	0.002
3/31/2002	0.002	0.002
4/30/2002	0.002	0.002
5/31/2002	0.005	0.003
6/30/2002	0.005	0.004
7/31/2002	0.008	0.006
8/31/2002	0.006	0.006
9/30/2002	0.001	0.005
10/31/2002	0.001	0.002
11/30/2002	0.002	0.002
12/31/2002	0.0088	0.004
1/31/2003	0.0079	0.006
2/28/2003	0.0058	0.008
3/31/2003	0.0064	0.001
4/30/2003	0.0084	0.007
5/31/2003	0.0036	0.006

6/30/2003	0.0049	0.006
7/31/2003	0.0045	0.004
8/31/2003	0.0054	0.005
9/30/2003	0.0048	0.005

MSM UTILITIES, LLC
DOCKET NO. 050587-WS

ATTACHMENT TO RESPONSE NO. 12
to
STAFF'S FIRST DATA REQUEST

SERVICE AVAILABILITY CHARGES
and
PLANT EXPANSION COSTS

MSM does not currently have any approved Service Availability Charges (SACs) nor does it have an approved Meter Installation Fee. It is MSM's intent that such charges be proposed and approved as a part of this SARC. MSM had not specifically requested that SACs be set as a part of the SARC. But, based on prior experience, MSM anticipated that Staff would analyze the SAC situation as a part of its SARC analysis. Without knowledge of the outcome of the SARC, MSM did not have a base from which to determine said charges. MSM has reviewed the Staff Audit and now has a sufficient base from which SACs can be developed.

MSM intends to expand its water supply and treatment and wastewater treatment facilities in 2007. The current capacity of the water supply and reverse osmosis (R/O) treatment facilities is 90,000 GPD. The utility plans to expand the facility to 150,000 GPD capacity in 2007. Based on design flows of 250 GPD/ERC the plant should be able to serve 600 ERCs. At the anticipated rate of development, the expanded facilities should reach buildout in 2011 or five years from the year the facilities are placed in service. The estimated cost of expanding the water supply and treatment facilities is \$800,000 (See Table 8). The current capacity of the wastewater treatment plant is 15,000 GPD. This facility cannot be expanded at the present location. The existing facility will be removed from service and replaced in 2007 with a 90,000 GPD facility. Based on design flows of 200 GPD/ERC the plant should be able to serve 450 ERCs. At the anticipated rate of development, the expanded facilities should reach buildout in 2010 or four years from the year the facilities are placed in service. The estimated cost of the new wastewater treatment facility is \$1,320,000 (See Table 9).

In the tables that follow, MSM has projected plant in service, accumulated depreciation, CIAC and accumulated amortization through the year 2011. Based on those projections, MSM has calculated a System Capacity Charge that will result in a ratio of net CIAC to net Plant of 75% at buildout for the water and wastewater systems. As indicated in Tables 1 and 2, MSM believes that the appropriate SAC charges are a System Capacity Charge per ERC of \$638.10 for water and \$1,762.40 for wastewater. MSM requests the approval of those charges.

In reaching its conclusions, MSM took into consideration the following:

1. The existing plant and CIAC balances and the related depreciation and amortization.
2. The existing number of ERCs served.
3. The estimated rate of development.
4. The policy that all future distribution and collection infrastructure will be contributed by the developer. An estimate of the per lot cost for this infrastructure and the offsetting contributions are accounted for in the calculations. The per lot estimates are based on recent bids for a similar size system (See Tables 6 and 7).
5. A Meter Installation Fee of \$183.00 is being requested in this SARC, the support for which is contained in response to Staff First Data Request No. 11. The meter costs and offsetting fees are accounted for in the calculations (See Tables 6 and 7).
6. The existing wastewater treatment facility will be removed from service. The removal of the associated original cost and accumulated depreciation are reflected in the calculations (See Table 4).

It will be necessary for MSM to revise its tariffs to reflect any approved fees and policy changes. The tariff sheets that will need revising are Water Tariff Sheet Nos. 17.0, 21.0 and 24.0 and Wastewater Tariff Sheet Nos. 16.0 and 22.0.

MSM UTILITIES, LLC
DOCKET NO. 050587-WS
CALCULATION AND SUPPORT FOR SYSTEM CAPACITY CHARGES

INDEX OF TABLES

<u>Table</u>	<u>Description</u>
1	Water System - Projected Account Balances by Year and Calculation of System Capacity Charge Buildout Year - 2011
2	Wastewater System - Projected Account Balances by Year and Calculation of System Capacity Charge Buildout Year - 2010
3	System Design Flows
4	Depreciable Asset as of 12/31/05
5	CIAC as of 12/31/05
6	Assets Associated with Planned Expansion in 2007
7	Distribution & Collection CIAC Associated with Planned Expansion Beginning in 2007
8	Engineer's Preliminary Opinion of Costs - Water Plant Expansion
9	Engineer's Preliminary Opinion of Costs - Wastewater Treatment Plant Expansion

MSM UTILITIES, LLC
DOCKET NO. 050587-WS
WATER SYSTEM
PROJECTED ACCOUNT BALANCES BY YEAR
AND CALCULATION OF SYSTEM CAPACITY CHARGE
WATER PLANT BUILDOUT YEAR - 2011

TABLE 1

	12/31/04	12/31/05	12/31/06	12/31/07	12/31/08	12/31/09	12/31/10	12/31/11
Plant in Service Balances								
Existing Plant	377,986.88	377,986.88	377,986.88	377,986.88	377,986.88	377,986.88	377,986.88	377,986.88
Planned Additions				926,840.00	1,053,680.00	1,180,520.00	1,307,360.00	1,376,065.00
Total	377,986.88	377,986.88	377,986.88	1,304,826.88	1,431,666.88	1,558,506.88	1,685,346.88	1,754,051.88
Accumulated Depreciation								
Existing Plant	251,503.00	266,916.42	280,189.84	293,463.27	306,736.69	319,280.81	328,184.52	335,903.61
Planned Additions				21,031.41	65,136.71	113,326.97	165,602.21	221,026.27
Total	251,503.00	266,916.42	280,189.84	314,494.67	371,873.39	432,607.79	493,786.73	556,929.89
CIAC								
Existing CIAC	89,840.00	89,840.00	89,840.00	89,840.00	89,840.00	89,840.00	89,840.00	89,840.00
Planned Additions - Distribution System Charge				126,840.00	253,680.00	380,520.00	507,360.00	576,065.00
Total	89,840.00	89,840.00	89,840.00	293,252.00	496,664.00	700,076.00	903,488.00	1,013,669.50
Accumulated Amortization								
Existing CIAC	36,566.00	40,269.12	43,972.24	47,675.36	51,378.48	55,081.60	58,784.72	62,487.84
Planned Additions - Distribution System Charge				2,042.48	8,169.94	18,382.35	32,679.74	50,125.96
Total	36,566.00	40,269.12	43,972.24	49,755.34	59,773.40	74,176.41	93,114.36	115,783.90
Net Plant	126,483.88	111,070.46	97,797.04	990,332.21	1,059,793.49	1,125,899.09	1,191,560.15	1,197,121.99
Net CIAC	53,274.00	49,570.88	45,867.76	243,496.66	436,890.60	625,899.59	810,373.64	897,885.60
Ratio- Net CIAC/Net Plant	42.12%	44.63%	46.90%	24.59%	41.22%	55.59%	68.01%	75.00%
Added ERCs				120	120	120	120	65
Proposed System Charge per ERC	\$ 638.10							
Average Amort. Rate in Buildout Year	3.67%							

MSM UTILITIES, LLC
DOCKET NO. 050587-WS
WATER SYSTEM
PROJECTED ACCOUNT BALANCES BY YEAR
AND CALCULATION OF SYSTEM CAPACITY CHARGE
WASTEWATER PLANT BUILDOUT YEAR - 2010

TABLE 2

	12/31/04	12/31/05	12/31/06	12/31/07	12/31/08	12/31/09	12/31/10	12/31/11
Plant in Service Balances								
Existing Plant	158,366.00	158,366.00	158,366.00	158,366.00	158,366.00	158,366.00	158,366.00	158,366.00
Planned Additions				1,427,520.00	1,535,040.00	1,642,560.00	1,673,920.00	1,673,920.00
Total	158,366.00	158,366.00	158,366.00	1,585,886.00	1,693,406.00	1,800,926.00	1,832,286.00	1,832,286.00
Accumulated Depreciation								
Existing Plant	98,230.00	101,898.51	105,567.01	109,235.52	112,904.03	116,270.13	119,312.15	122,354.18
Planned Additions				45,160.82	138,065.52	236,136.30	337,543.52	439,704.13
Total	98,230.00	101,898.51	105,567.01	154,396.34	250,969.54	352,406.43	456,855.67	562,058.31
CIAC Balances								
Existing CIAC	96,166.00	96,166.00	96,166.00	96,166.00	96,166.00	96,166.00	96,166.00	96,166.00
Planned Additions - Distribution System Charge				107,520.00	215,040.00	322,560.00	353,920.00	353,920.00
Total	96,166.00	96,166.00	96,166.00	415,174.00	734,182.00	1,053,190.00	1,146,234.00	1,146,234.00
Accumulated Amortization								
Existing CIAC	60,030.00	62,698.51	65,367.01	68,035.52	70,704.03	73,070.13	75,112.15	77,154.18
Planned Additions - Distribution System Charge				2,583.05	10,332.18	23,247.41	39,499.08	56,504.13
Total	60,030.00	62,698.51	65,367.01	70,618.57	81,036.21	96,317.54	114,611.23	133,658.31
Net Plant	60,136.00	56,467.49	52,798.99	1,431,489.66	1,442,436.46	1,448,519.57	1,375,430.33	1,270,227.69
Net CIAC	36,136.00	33,467.49	30,798.99	344,555.43	653,145.79	956,872.46	1,031,622.77	1,012,575.69
Ratio- Net CIAC/Net Plant	60.09%	59.27%	58.33%	24.07%	45.28%	66.06%	75.00%	79.72%
Added ERCs				120	120	120	35	0
Proposed System Charge per ERC	\$ 1,762.40							
Average Amort. Rate in Buildout Year	5.75%							

MSM UTILITIES, LLC
SYSTEM DESIGN FLOWS
SOURCE: AM ENGINEERING, INC.

TABLE 3

Water System

Capacity	150,000	gpd
gpd/ERC	250	peak flow
Capacity	600	ERCs
Existing ERCs	55	
New ERCs	545	

Wastewater System

Capacity	90,000	gpd
gpd/ERC	200	3 mo avg
Capacity	450	ERCs
	55	
New ERCs	395	

Projected Growth per MSM	120	per year
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MSM UTILITIES, LLC
DEPRECIABLE ASSETS AS OF 12/31/05
SOURCE: PSC STAFF AUDIT REPORT, DOCKET NO. 050587-WS

TABLE 4

Water System		Plant	Accum. Depr.	Accum. Depr.	Accum. Depr.	Accum. Depr.	Accum. Depr.	Accum. Depr.	Accum. Depr.	Accum. Depr.	Annual Depr./Amort. Rate
Naruc Acct.		10/31/05	12/31/04	12/31/05	12/31/06	12/31/07	12/31/08	12/31/09	12/31/10	12/31/11	
304.0	Structures, Bldg	108,920.00	87,593.00	91,627.07	95,661.15	99,695.22	103,729.30	107,763.37	108,920.00	108,920.00	3.70%
304.0	Structures, Electrical	26,600.00	22,163.00	23,148.19	24,133.37	25,118.56	26,103.74	26,600.00	26,600.00	26,600.00	3.70%
307.0	Wells	13,070.00	10,890.00	11,374.07	11,858.15	12,342.22	12,826.30	13,070.00	13,070.00	13,070.00	3.70%
309.0	Supply Mains	10,025.00	7,043.00	7,356.28	7,669.56	7,982.84	8,296.13	8,609.41	8,922.69	9,235.97	3.13%
334.0	Flow Meters	1,550.00	1,550.00	1,550.00	1,550.00	1,550.00	1,550.00	1,550.00	1,550.00	1,550.00	5.88%
311.0	Pumping Equipment	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	5.88%
320.0	WTP, Original	48,658.00	46,518.00	48,658.00	48,658.00	48,658.00	48,658.00	48,658.00	48,658.00	48,658.00	5.88%
320.0	WTP Replace	85,683.00	22,680.00	27,720.18	32,760.35	37,800.53	42,840.71	47,880.88	52,921.06	57,961.24	5.88%
330.0	Dist. Reservoirs	23,500.00	16,020.00	16,732.12	17,444.24	18,156.36	18,868.48	19,580.61	20,292.73	21,004.85	3.03%
331.0	Dist. Lines	35,107.00	20,790.00	21,713.87	22,637.74	23,561.61	24,485.47	25,409.34	26,333.21	27,257.08	2.63%
333.0	Services	11,425.00	7,335.00	7,661.43	7,987.86	8,314.29	8,640.71	8,967.14	9,293.57	9,620.00	2.86%
334.0	Meters, Installed	5,360.91	2,609.00	2,924.35	3,239.70	3,555.04	3,870.39	4,185.74	4,501.09	4,816.43	5.88%
335.0	Hydrants	2,800.00	1,575.00	1,645.00	1,715.00	1,785.00	1,855.00	1,925.00	1,995.00	2,065.00	2.50%
339.0	Misc. Equip.	1,019.99	737.00	788.00	839.00	890.00	941.00	992.00	1,019.99	1,019.99	5.00%
343.0	Equipment	267.98	-	17.87	35.73	53.60	71.46	89.33	107.19	125.06	6.67%
	Total	377,986.88	251,503.00	266,916.42	280,189.84	293,463.27	306,736.69	319,280.81	328,184.52	335,903.61	
Wastewater System		Plant	Accum. Depr.	Accum. Depr.	Accum. Depr.	Accum. Depr.	Accum. Depr.	Accum. Depr.	Accum. Depr.	Accum. Depr.	Annual Depr./Amort. Rate
Naruc Acct.		10/31/05	12/31/04	12/31/05	12/31/06	12/31/07	12/31/08	12/31/09	12/31/10	12/31/11	
361.0	Wastewater	62,241.00	35,010.00	36,566.03	38,122.05	39,678.08	41,234.10	42,790.13	44,346.15	45,902.18	2.50%
361.0	Collection - Manholes	16,915.00	14,085.00	14,711.48	15,337.96	15,964.44	16,590.93	16,915.00	16,915.00	16,915.00	3.70%
363.0	Service Laterals	17,010.00	10,935.00	11,421.00	11,907.00	12,393.00	12,879.00	13,365.00	13,851.00	14,337.00	2.86%
370.0	Receiving Wells	25,000.00	1,000.00	2,000.00	3,000.00	4,000.00	5,000.00	6,000.00	7,000.00	8,000.00	4.00%
380.0	WWTP	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00	6.67%
380.0	Remove WWTP	(30,000.00)	(30,000.00)	(30,000.00)	(30,000.00)	(30,000.00)	(30,000.00)	(30,000.00)	(30,000.00)	(30,000.00)	
380.0	Ponds	37,200.00	37,200.00	37,200.00	37,200.00	37,200.00	37,200.00	37,200.00	37,200.00	37,200.00	6.67%
	Total	158,366.00	98,230.00	101,898.51	105,567.01	109,235.52	112,904.03	116,270.13	119,312.15	122,354.18	

MSM UTILITIES, LLC
 CIAC AS OF 12/31/05
 SOURCE: PSC STAFF AUDIT REPORT, DOCKET NO. 050587-WS

TABLE 5

Naruc Acct.	Water System	Water System									Annual Depr./Amort. Rate
		CIAC 10/31/05	Accum. Amort. 12/31/04	Accum. Amort. 12/31/05	Accum. Amort. 12/31/06	Accum. Amort. 12/31/07	Accum. Amort. 12/31/08	Accum. Amort. 12/31/09	Accum. Amort. 12/31/10	Accum. Amort. 12/31/11	
304.0	Structures, Bldg										3.70%
304.0	Structures, Electrical										3.70%
307.0	Wells										3.70%
309.0	Supply Mains										3.13%
334.0	Flow Meters										5.88%
311.0	Pumping Equipment										5.88%
320.0	WTP, Original	35,895.00	4,257.00	6,368.47	8,479.94	10,591.41	12,702.88	14,814.35	16,925.82	19,037.29	5.88%
320.0	WTP Replace										5.88%
330.0	Dist. Reservoirs										3.03%
331.0	Dist. Lines	35,107.00	20,790.00	21,713.87	22,637.74	23,561.61	24,485.47	25,409.34	26,333.21	27,257.08	2.63%
333.0	Services	11,425.00	7,335.00	7,661.43	7,987.86	8,314.29	8,640.71	8,967.14	9,293.57	9,620.00	2.86%
334.0	Meters, Installed	4,613.00	2,609.00	2,880.35	3,151.71	3,423.06	3,694.41	3,965.76	4,237.12	4,508.47	5.88%
335.0	Hydrants	2,800.00	1,575.00	1,645.00	1,715.00	1,785.00	1,855.00	1,925.00	1,995.00	2,065.00	2.50%
339.0	Misc. Equip.										5.00%
343.0	Equipment										6.67%
	Total	89,840.00	36,566.00	40,269.12	43,972.24	47,675.36	51,378.48	55,081.60	58,784.72	62,487.84	
Wastewater System											
Naruc Acct.	Wastewater	CIAC 10/31/05	Accum. Amort. 12/31/04								Annual Depr./Amort. Rate
361.0	Collection - Gravity	62,241.00	35,010.00	36,566.03	38,122.05	39,678.08	41,234.10	42,790.13	44,346.15	45,902.18	2.50%
361.0	Collection - Manholes	16,915.00	14,085.00	14,711.48	15,337.96	15,964.44	16,590.93	16,915.00	16,915.00	16,915.00	3.70%
363.0	Service Laterals	17,010.00	10,935.00	11,421.00	11,907.00	12,393.00	12,879.00	13,365.00	13,851.00	14,337.00	2.86%
370.0	Receiving Wells										4.00%
380.0	WWTP										6.67%
380.0	Ponds										6.67%
	Total	96,166.00	60,030.00	62,698.51	65,367.01	68,035.52	70,704.03	73,070.13	75,112.15	77,154.18	

MSM UTILITIES, LLC
 ASSETS ASSOCIATED WITH PLANNED EXPANSION IN 2007
 SOURCE FOR PLANT EXPANSION: AM ENGINEERING, INC.
 SOURCE FOR DISTRIBUTION & COLLECTION: AM ENGINEERING RECENT B/D

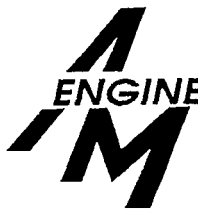
TABLE 6

Water System		Year	Plant	E & OH	Total	Accum. Depr. 12/31/07	Accum. Depr. 12/31/08	Accum. Depr. 12/31/09	Accum. Depr. 12/31/10	Accum. Depr. 12/31/11
Naruc Acct.		Installed								
304.0	Structures, Bldg	2007	100,000.00	23,076.92	123,076.92	2,279.20	6,837.61	11,396.01	15,954.42	20,512.82
307.0	Wells	2007	18,000.00	4,153.85	22,153.85	410.26	1,230.77	2,051.28	2,871.79	3,692.31
311.0	Pumping Equipment	2007	22,000.00	5,076.92	27,076.92	796.38	2,389.14	3,981.90	5,574.66	7,167.42
320.0	WTP, Original	2007	300,000.00	69,230.77	369,230.77	10,859.73	32,579.19	54,298.64	76,018.10	97,737.56
330.0	Dist. Reservoirs	2007	150,000.00	34,615.38	184,615.38	2,797.20	8,391.61	13,986.01	19,580.42	25,174.83
331.0	Dist. Lines - 120 lots @ \$517/lot	2007			62,040.00	816.32	2,448.95	4,081.58	5,714.21	7,346.84
	Dist. Lines - 120 lots @ \$517/lot	2008			62,040.00		816.32	2,448.95	4,081.58	5,714.21
	Dist. Lines - 120 lots @ \$517/lot	2009			62,040.00			816.32	2,448.95	4,081.58
	Dist. Lines - 120 lots @ \$517/lot	2010			62,040.00				816.32	2,448.95
	Dist. Lines - 65 lots @ \$517/lot	2011			33,605.00					442.17
333.0	Services - 120 lots @ \$209/lot	2007			25,080.00	358.29	1,074.86	1,791.43	2,508.00	3,224.57
	Services - 120 lots @ \$209/lot	2008			25,080.00		358.29	1,074.86	1,791.43	2,508.00
	Services - 120 lots @ \$209/lot	2009			25,080.00			358.29	1,074.86	1,791.43
	Services - 120 lots @ \$209/lot	2010			25,080.00				358.29	1,074.86
	Services - 65 lots @ \$209/lot	2011			13,585.00					194.07
334.0	Meters, Installed - 120 lots @ \$183/lot	2007			21,960.00	645.88	1,937.65	3,229.41	4,521.18	5,812.94
	Meters, Installed - 120 lots @ \$183/lot	2008			21,960.00		645.88	1,937.65	3,229.41	4,521.18
	Meters, Installed - 120 lots @ \$183/lot	2009			21,960.00			645.88	1,937.65	3,229.41
	Meters, Installed - 120 lots @ \$183/lot	2010			21,960.00				645.88	1,937.65
	Meters, Installed - 65 lots @ \$183/lot	2011			11,895.00					349.85
335.0	Hydrants - 120 lots @ \$148/lot	2007			17,760.00	222.00	666.00	1,110.00	1,554.00	1,998.00
	Hydrants - 120 lots @ \$148/lot	2008			17,760.00		222.00	666.00	1,110.00	1,554.00
	Hydrants - 120 lots @ \$148/lot	2009			17,760.00			222.00	666.00	1,110.00
	Hydrants - 120 lots @ \$148/lot	2010			17,760.00				222.00	666.00
	Hydrants - 65 lots @ \$148/lot	2011			9,620.00					120.25
339.0	Misc. Equip.	2007	60,000.00	13,846.15	73,846.15	1,846.15	5,538.46	9,230.77	12,923.08	16,615.38
	Total Water		650,000.00	150,000.00	1,376,065.00	21,031.41	65,136.71	113,326.97	165,602.21	221,026.27
Wastewater System			Plant	E & OH	Total	Accum. Depr. 12/31/07	Accum. Depr. 12/31/08	Accum. Depr. 12/31/09	Accum. Depr. 12/31/10	Accum. Depr. 12/31/11
Naruc Acct.			10/31/05							
360.0	Piping between plant & drainfields	2007	80,000.00	16,000.00	96,000.00	1,777.78	5,333.33	8,888.89	12,444.44	16,000.00
360.0	Collection, F.M. - 120 lots @ \$148	2007			17,760.00	328.89	986.67	1,644.44	2,302.22	2,980.00
	Collection, F.M. - 120 lots @ \$148	2008			17,760.00		328.89	986.67	1,644.44	2,302.22
	Collection, F.M. - 120 lots @ \$148	2009			17,760.00			328.89	986.67	1,644.44
	Collection, F.M. - 35 lots @ \$148	2010			5,180.00				95.93	287.78
		2011								
361.0	Collection - Gravity - 120 lots @ \$583	2007			69,960.00	874.50	2,623.50	4,372.50	6,121.50	7,870.50
	Collection - Gravity - 120 lots @ \$583	2008			69,960.00		874.50	2,623.50	4,372.50	6,121.50
	Collection - Gravity - 120 lots @ \$583	2009			69,960.00			874.50	2,623.50	4,372.50
	Collection - Gravity - 35 lots @ \$583	2010			20,405.00				255.06	765.19
		2011								
363.0	Service Laterals - 120 lots @ \$165	2007			19,800.00	282.86	848.57	1,414.29	1,980.00	2,545.71
	Service Laterals - 120 lots @ \$165	2008			19,800.00		282.86	848.57	1,414.29	1,980.00
	Service Laterals - 120 lots @ \$165	2009			19,800.00			282.86	848.57	1,414.29
	Service Laterals - 35 lots @ \$165	2010			5,775.00				82.50	247.50
		2011								
370.0	Receiving Wells									
	Lift Stations - 120 lots @ \$237	2007			28,440.00	568.80	1,706.40	2,844.00	3,981.60	5,119.20
	Lift Stations - 120 lots @ \$237	2008			28,440.00		568.80	1,706.40	2,844.00	3,981.60
	Lift Stations - 120 lots @ \$237	2009			28,440.00			568.80	1,706.40	2,844.00
	Lift Stations - 35 lots @ \$237	2010			8,295.00				165.90	497.70
		2011								
370.0	Pumping Equipment									
	Lift Stations - 120 lots @ \$132	2007			15,840.00	528.00	1,584.00	2,640.00	3,696.00	4,752.00
	Lift Stations - 120 lots @ \$132	2008			15,840.00		528.00	1,584.00	2,640.00	3,696.00
	Lift Stations - 120 lots @ \$132	2009			15,840.00			528.00	1,584.00	2,640.00
	Lift Stations - 35 lots @ \$132	2010			4,620.00				154.00	462.00
		2011								
380.0	WWTP	2007	300,000.00	60,000.00	360,000.00	12,000.00	36,000.00	60,000.00	84,000.00	108,000.00
380.0	Drainfields	2007	720,000.00	144,000.00	864,000.00	28,800.00	86,400.00	144,000.00	201,600.00	259,200.00
	Total Wastewater		1,100,000.00	220,000.00	1,819,675.00	45,160.82	138,065.52	236,136.30	337,543.52	439,704.13
		2007	2008	2009	2010	2011				
	Plant Additions By Year									
	Water System	926,840.00	126,840.00	126,840.00	126,840.00	68,705.00				
	Wastewater System	1,427,520.00	107,520.00	107,520.00	31,360.00					
	Plant Additions - Cumulative									
	Water System	926,840.00	1,053,680.00	1,180,520.00	1,307,360.00	1,376,065.00				
	Wastewater System	1,427,520.00	1,535,040.00	1,642,560.00	1,673,920.00	1,673,920.00				

MSM UTILITIES, LLC
 DISTRIBUTION & COLLECTION CIAC ASSOCIATED WITH PLANNED EXPANSION BEGINNING IN 2007
 SOURCE FOR DISTRIBUTION & COLLECTION: AM ENGINEERING RECENT BID

TABLE 7

Water System			Accum.	Accum.	Accum.	Accum.	Accum.	Annual	
Naruc Acct.	Year Installed	Dist. CIAC	Amort. 12/31/07	Amort. 12/31/08	Amort. 12/31/09	Amort. 12/31/10	Amort. 12/31/11	Depr./Amort. Rate	
304.0	Structures, Bldg	2007						3.70%	
307.0	Wells	2007						3.70%	
311.0	Pumping Equipment	2007						5.88%	
320.0	WTP, Original	2007						5.88%	
330.0	Dist. Reservoirs	2007						3.03%	
331.0	Dist. Lines - 120 lots @ \$517/lot	2007	62,040.00	816.32	2,448.95	4,081.58	5,714.21	7,346.84	2.63%
	Dist. Lines - 120 lots @ \$517/lot	2008	62,040.00		816.32	2,448.95	4,081.58	5,714.21	2.63%
	Dist. Lines - 120 lots @ \$517/lot	2009	62,040.00			816.32	2,448.95	4,081.58	2.63%
	Dist. Lines - 120 lots @ \$517/lot	2010	62,040.00				816.32	2,448.95	2.63%
	Dist. Lines - 65 lots @ \$517/lot	2011	33,605.00					442.17	2.63%
333.0	Services - 120 lots @ \$209/lot	2007	25,080.00	358.29	1,074.86	1,791.43	2,508.00	3,224.57	2.86%
	Services - 120 lots @ \$209/lot	2008	25,080.00		358.29	1,074.86	1,791.43	2,508.00	2.86%
	Services - 120 lots @ \$209/lot	2009	25,080.00			358.29	1,074.86	1,791.43	2.86%
	Services - 120 lots @ \$209/lot	2010	25,080.00				358.29	1,074.86	2.86%
	Services - 65 lots @ \$209/lot	2011	13,585.00					194.07	2.86%
334.0	Meters, Installed - 120 lots @ \$181/lot	2007	21,960.00	645.88	1,937.65	3,229.41	4,521.18	5,812.94	5.88%
	Meters, Installed - 120 lots @ \$181/lot	2008	21,960.00		645.88	1,937.65	3,229.41	4,521.18	5.88%
	Meters, Installed - 120 lots @ \$181/lot	2009	21,960.00			645.88	1,937.65	3,229.41	5.88%
	Meters, Installed - 120 lots @ \$181/lot	2010	21,960.00				645.88	1,937.65	5.88%
	Meters, Installed - 65 lots @ \$181/lot	2011	11,895.00					349.85	5.88%
335.0	Hydrants - 120 lots @ \$148/lot	2007	17,760.00	222.00	666.00	1,110.00	1,554.00	1,998.00	2.50%
	Hydrants - 120 lots @ \$148/lot	2008	17,760.00		222.00	666.00	1,110.00	1,554.00	2.50%
	Hydrants - 120 lots @ \$148/lot	2009	17,760.00			222.00	666.00	1,110.00	2.50%
	Hydrants - 120 lots @ \$148/lot	2010	17,760.00				222.00	666.00	2.50%
	Hydrants - 65 lots @ \$148/lot	2011	9,620.00					120.25	2.50%
339.0	Misc. Equip.	2007							5.00%
	Total Water		576,065.00	2,042.48	8,169.94	18,382.35	32,679.74	50,125.96	
Wastewater System			Accum.	Accum.	Accum.	Accum.	Accum.	Annual	
Naruc Acct.	Year Installed	Collection CIAC	Amort. 12/31/07	Amort. 12/31/08	Amort. 12/31/09	Amort. 12/31/10	Amort. 12/31/11	Depr./Amort. Rate	
360.0	Piping between plant & drainfields	2007						3.70%	
360.0	Collection, F.M. - 120 lots @ \$148	2007	17,760.00	328.89	986.67	1,644.44	2,302.22	2,960.00	3.70%
	Collection, F.M. - 120 lots @ \$148	2008	17,760.00		328.89	986.67	1,644.44	2,302.22	3.70%
	Collection, F.M. - 120 lots @ \$148	2009	17,760.00			328.89	986.67	1,644.44	3.70%
	Collection, F.M. - 35 lots @ \$148	2010	5,180.00				95.93	287.78	3.70%
		2011	-				-	-	3.70%
361.0	Collection - Gravity - 120 lots @ \$583	2007	69,960.00	874.50	2,623.50	4,372.50	6,121.50	7,870.50	2.50%
	Collection - Gravity - 120 lots @ \$583	2008	69,960.00		874.50	2,623.50	4,372.50	6,121.50	2.50%
	Collection - Gravity - 120 lots @ \$583	2009	69,960.00			874.50	2,623.50	4,372.50	2.50%
	Collection - Gravity - 35 lots @ \$583	2010	20,405.00				255.06	765.19	2.50%
		2011	-				-	-	2.50%
363.0	Service Laterals - 120 lots @ \$165	2007	19,800.00	282.86	848.57	1,414.29	1,980.00	2,545.71	2.86%
	Service Laterals - 120 lots @ \$165	2008	19,800.00		282.86	848.57	1,414.29	1,980.00	2.86%
	Service Laterals - 120 lots @ \$165	2009	19,800.00			282.86	848.57	1,414.29	2.86%
	Service Laterals - 35 lots @ \$165	2010	5,775.00				82.50	247.50	2.86%
		2011	-				-	-	2.86%
370.0	Receiving Wells								
	Lift Stations - 120 lots @ \$237	2007	28,440.00	568.80	1,706.40	2,844.00	3,981.60	5,119.20	4.00%
	Lift Stations - 120 lots @ \$237	2008	28,440.00		568.80	1,706.40	2,844.00	3,981.60	4.00%
	Lift Stations - 120 lots @ \$237	2009	28,440.00			568.80	1,706.40	2,844.00	4.00%
	Lift Stations - 35 lots @ \$237	2010	8,295.00				165.90	497.70	4.00%
		2011	-				-	-	4.00%
	Pumping Equipment								
	Lift Stations - 120 lots @ \$132	2007	15,840.00	528.00	1,584.00	2,640.00	3,696.00	4,752.00	6.67%
	Lift Stations - 120 lots @ \$132	2008	15,840.00		528.00	1,584.00	2,640.00	3,696.00	6.67%
	Lift Stations - 120 lots @ \$132	2009	15,840.00			528.00	1,584.00	2,640.00	6.67%
	Lift Stations - 35 lots @ \$132	2010	4,620.00				154.00	462.00	6.67%
		2011	-				-	-	6.67%
380.0	WWTP	2007							6.67%
380.0	Drainfields	2007							6.67%
	Total Wastewater		499,675.00	2,583.05	10,332.18	23,247.41	39,499.08	56,504.13	
				2007	2008	2009	2010	2011	
	CIAC Additions By Year								
	Water System		126,840.00	126,840.00	126,840.00	126,840.00	68,705.00		
	Wastewater System		107,520.00	107,520.00	107,520.00	31,360.00			
	CIAC Additions - Cumulative								
	Water System		126,840.00	253,680.00	380,520.00	507,360.00	576,065.00		
	Wastewater System		107,520.00	215,040.00	322,560.00	353,920.00	353,920.00		


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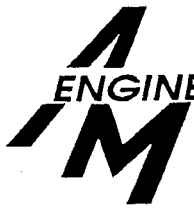
**ENGINEER'S PRELIMINARY OPINION OF COSTS
FOR
RIVERS EDGE UTILITY
150,000 WATER PLANT EXPANSION***

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>ESTIMATED COST</u>
1.	Construct two 150 GPM wells with pump and controls	\$18,000
2.	Construct 150,000 GPD water plant with controls and generator	300,000
3.	Construct 150,000 gallon storage tank	150,000
4.	Construct building for water plant and pumps	100,000
5.	High service pumps and controls	22,000
6.	Sitework and piping	<u>60,000</u>
	Total Estimated Construction Costs	\$650,000
	Engineering, Contingencies, Administration & Permits	<u>150,000</u>
	Total Estimated Project Cost	<u>\$800,000</u>

*Not Including Concentrate Disposal

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**ENGINEER'S PRELIMINARY OPINION OF COSTS
 FOR
 RIVERS EDGE UTILITY
 90,000 WASTEWATER TREATMENT PLANT EXPANSION**

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>ESTIMATED COST</u>
1.	90,000 GPD Wastewater treatment plant with filters and generator	\$300,000
2.	Four acre drainfields including sitework, piping and miscellaneous	720,000
3.	Piping to site and from plant to drainfields	<u>80,000</u>
	Total Estimated Construction Costs	\$1,100,000
	Engineering, Contingencies, Administration & Permits	<u>220,000</u>
	Total Estimated Project Cost	<u>\$1,320,000</u>

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