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MEMORANDUM

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FROM: Steven M. Olea  
Director  
Utilities Division

AZ CORP COMMISSION  
DOCKET CONTROL

ORIGINAL

DATE: March 16, 2015

RE: STAFF REPORT FOR GREENHAVEN SEWER COMPANY, INC.'S  
APPLICATION FOR A RATE INCREASE (DOCKET NO. SW-02326A-14-  
0321)

Attached is the Staff Report for Grenehaven Sewer Company, Inc.'s application for a rate increase. Staff recommends approval of the rate increase application using Staff's recommended rates and charges.

Any party who wishes may file comments to the Staff Report with the Commission's Docket Control by 4:00 p.m. on or before March 26, 2015.

SMO:PNT:nr\RRM

Originator: Phan Tsan

Arizona Corporation Commission  
DOCKETED

MAR 16 2015

DOCKETED BY 

Service List for: GREENEHAVEN SEWER COMPANY, INC.  
Docket No. SW-02326A-14-0321

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**STAFF REPORT  
UTILITIES DIVISION  
ARIZONA CORPORATION COMMISSION**

**GREENEHAVEN SEWER COMPANY, INC.  
DOCKET NO. SW-02326A-14-0321**

**APPLICATION FOR  
A PERMANENT RATE INCREASE**

**MARCH 16, 2015**

## STAFF ACKNOWLEDGMENT

The Staff Report for Greentown Sewer Company, Inc., Docket No. SW-02326A-14-0321 is the responsibility of the Staff members listed below. Phan Tsan is responsible for the financial review and analysis of the Company's application, recommended revenue requirement, rate base and rate design. Jeff Francis is responsible for the engineering and technical analysis. Carmen Madrid is responsible for reviewing the Commission's records on customer complaints filed with the Commission.



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Phan Tsan  
Public Utilities Analyst I



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Jeff Francis  
Utilities Engineer



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Carmen Madrid  
Public Utilities Consumer Analyst I

**EXECUTIVE SUMMARY  
GREENEHAVEN SEWER COMPANY, INC.  
DOCKET NO. SW-02326A-14-0321**

Greenehaven Sewer Company, Inc. ("Greenehaven Sewer" or "Company") filed an application for a permanent rate increase with the Arizona Corporation Commission ("Commission") on September 3, 2014. The application was deemed sufficient on December 31, 2014. The Company's current rates were approved in Commission Decision No. 56056, dated July 13, 1988.

Greenehaven Sewer is a Class D sewer utility company that provides wastewater service to 315 connections in the Greenehaven Development, which is an isolated development, adjacent to the Lake Powell National Recreation Area located in Coconino County approximately six miles northeast of Page, Arizona.

The Company proposed a \$120,000 or 296.16 percent increase over the test year revenue of \$40,519 to \$160,519. The Company proposed revenue would result in an operating income of \$19,872 for a 47.27 percent rate of return and an operating margin of 12.38 percent. The Company has proposed an original cost rate base ("OCRB") of \$42,042. The Company's proposed rates would increase the typical residential bill from \$12.25 to \$41.30, for an increase of \$29.05, or 237.14 percent.

Staff recommends an \$84,009 or 207.33 percent increase over the test year revenue of \$40,519 to \$124,528. Staff's recommended revenues would result in an operating income of \$13,061 for a 25.15 percent rate of return and an operating margin of 10.49 percent. Staff recommends an OCRB of \$51,923. Staff's recommended first phase-in rates would increase the typical residential bill from \$12.25 to \$22.45, for an increase of \$10.20, or 83.27 percent. Staff's recommended second phase-in rates would increase the typical residential bill from \$22.45 to \$32.65, for an increase of \$10.20, or 166.53 percent over present rates.

### **STAFF RECOMMENDATIONS**

Staff recommends:

1. Approval of its recommended rates and charges as shown in Schedule PNT-WW5.
2. That the Company be ordered to file with Docket Control, as a compliance item in this Docket, a tariff schedule of its new rates and charges within 30 days after the effective date of the Decision in this proceeding.
3. That the Company be ordered to keep invoices for plant assets purchased in the future.
4. That the Company use the depreciation rates presented in Table B of the attached Engineering Report on a going forward basis.
5. The Company use a 4-factor allocation to charge indirect costs.

6. The Company use a Two Phase Rate Design. The second phase-in rates would occur six months after the first phase-in goes into effect. The first six months would phase in 50 percent of revenue requirement, and the remainder in the second six months.

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### ATTACHMENT

Engineering Report.....	A
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**FACT SHEET**

*Type of Ownership:* Arizona C Corporation.

**Location:** The Company provides potable water service to an area located in Coconino County approximately six miles northeast of Page, Arizona.

**Active Management Area:** The Company is not located in an Active Management Area.

**Rates:**

Permanent rate increase application filed: September 3, 2014

Current test year ended: December 31, 2013.

Prior test year ended: December 31, 1987.

Current Rates: Decision No. 56056 dated July 13, 1988.

	<u>Company Current Rates</u>	<u>Company Proposed Rates</u>	<u>Staff Recommended Rates</u>	
<b>Flat Rate</b>			<u>Phase 1</u>	<u>Phase 2</u>
Residential Units	12.25	41.30	22.45	32.65
Condo Units	6.10	41.30	19.38	32.65
Recreational Vehicles	6.10	N/A	11.05	16.00
Motels (Per Room)	6.10	N/A	11.05	16.00
Restaurants (Per Seat)	6.10	N/A	11.05	16.00
Other Structures (Per Restroom)	12.25	41.30	22.45	32.65

*Customers*

Number of customers in the current test year (12/31/2014): 315

*Notifications*

Company filed Customer Notification on October 31, 2014.

**Complaints**

Number of opinions filed against the rate increase application: 12.

Percentage of opinions to customer base: 3.18 percent (12/315).

Number of customer complaints filed against the company from January 1, 2012 to March 2015: 0.

## **SUMMARY OF FILING**

The test year results as adjusted by Utilities Division Staff ("Staff") for Greenehaven Sewer Company, Inc. ("Greenehaven Sewer" or "Company") show total operating revenue of \$40,519, an operating loss of \$51,970, for no rate of return, as shown on Schedule PNT-WW1. The original cost rate base ("OCRB") as adjusted by Staff is \$51,923.

The Company proposed a \$120,000 or 296.16 percent increase over the test year revenue of \$40,519 to \$160,519. The Company proposed revenue would result in an operating income of \$19,872, for a 47.27 percent rate of return and an operating margin of 12.38 percent. The Company has proposed an OCRB of \$42,042. The Company's proposed rates would increase the typical residential customer bill from \$12.25 to \$41.30, for an increase of \$29.05 or 237.14 percent.

Staff recommends an \$84,009 or 207.33 percent increase over the test year revenue of \$40,519 to \$124,528. Staff's recommended revenue would result in an operating income of \$13,061 for a 25.15 percent rate of return and an operating margin of 10.49 percent. Staff recommends an OCRB of \$51,923. Staff's recommended first phase-in rates would increase the typical residential bill from \$12.25 to \$22.45, for an increase of \$10.20, or 83.27 percent. Staff's recommended second phase-in rates would increase the typical residential bill from \$12.25 to \$32.65, for an increase of \$20.40, or 166.53 percent over present rates.

During the test year ended December 31, 2013, Greenehaven Sewer provided wastewater service to approximately 315 customers.

The Company is registered as an Arizona "C" corporation with the Corporations Division of the Arizona Corporation Commission ("Commission").

## **BACKGROUND**

Greenehaven Sewer is a Class D wastewater utility company that provides wastewater service to 315 connections in the Greenehaven Development, which is an isolated development, adjacent to the Lake Powell National Recreation Area located in Coconino County approximately six miles northeast of Page, Arizona.

The Company provides wastewater services mostly to residential customers.

On September 3, 2014, Greenehaven Sewer filed an application for a permanent rate increase. On December 31, 2014, Staff issued a Letter of Sufficiency.

## **CONSUMER SERVICES**

A review of the Consumer Services Section database revealed that there were 12 opinions filed opposing the rate increase request. No complaints were filed against the Company from January 1, 2012 to March 2015. A notarized affidavit of mailing for the rate application was filed on October 31, 2014.

## COMPLIANCE

A check of the Utilities Division Compliance Section database showed that there are no delinquent Commission compliance items for Greenehaven Sewer.

## ENGINEERING ANALYSIS AND RECOMMENDATIONS

Staff inspected Greenehaven Sewer's plant facilities on September 24, 2014. A complete discussion of Staff's technical findings and recommendations and a complete description of the wastewater system are provided in the attached Engineering Report.

### RATE BASE

#### *Plant in Service*

Staff did not make any adjustment to plant-in-service.

### OTHER RATE BASE ITEMS

#### *Accumulated Depreciation*

Adjustment A increases accumulated depreciation by \$189,345, from \$524,919 to \$714,264, as shown on Schedule PNT-WW2, pages 1 and 3. The significant portion of Staff's increase to accumulated depreciation was the result of Staff's adjustments to depreciation rates. Staff used a depreciation rate of 5.00 percent for all plant items. No specific depreciation rates were assigned in previous rate case in 1988; at that time, 5 percent was standard depreciation rate for all depreciable plants. The Company used a depreciation rate of 3.33 percent for most of the plant. Staff's adjusted balance reflects the \$10,176 balance established in Decision No. 56056.

#### *Amortization of CIAC*

Adjustment B increases amortization of CIAC by 187,843, from \$373,483 to \$561,326, as shown on Schedule PNT-WW2, pages 1 and 4. The significant portion of Staff's increase to amortization of CIAC was the result of Staff's adjustments to amortization rates. Staff used a composite rate of 5.00 percent. The Company used a composite rate of 3.33 percent.

#### *Working Capital*

Staff's adjustment to cash working capital resulted in a net increase of \$11,383, from \$0 to \$11,383, as shown on schedule PNT-WW2, pages 1 and 4.

Cash working capital was calculated by using the formula method which equals one-eighth of the operating expenses less depreciation, taxes, and purchased power expenses, plus one twenty-fourth of purchased power expenses.

## OPERATING INCOME STATEMENT

### *Operating Revenue*

Staff did not make any adjustments to Operating Revenue.

### *Operating Expenses*

Staff's adjustments to operating expenses resulted in a net decrease of \$25,521, from \$118,010 to \$92,489, as shown on Schedule PNT-WW3, page 1. Details of Staff's adjustments are presented below.

Wastewater Testing – Adjustment “1” increases wastewater testing expense by \$165, from \$495 to \$660 as shown on Schedule PNT-WW3, pages 1 and 2. This adjustment reflects the annual wastewater testing costs determined in the attached Engineering Report.

Insurance Expense – Adjustment “2” decreases insurance expense by \$14,381, from \$28,610 to \$14,229, as shown on schedule PNT-WW3, pages 1 and 2. This amount reflects Staff's calculation of insurance expense based on supporting documentation and reallocation of costs. Insurance expense was shared among Greenehaven Development Company, Greenehaven Water Company and Greenehaven Sewer Company. Greenehaven Development Company shared one-third of the expense; the rest of the amount was allocated to Greenehaven Water and Sewer based on a four-factor cost allocation methodology. The four factors are: Operating Revenue, Number of Connections, Net Plant, and Purchased Power. Allocation percentage to Greenehaven Sewer is 56.38 percent.

Rate Case Expense – Adjustment “3” decreases annual rate case expense by \$2,000, from \$6,000 to \$4,000, as shown on Schedule PNT-WW3, pages 1 and 2. This adjustment reflects a normalized amount of rate case expense based on a five year normalization period, for a rate case expense of \$20,000.

Depreciation Expense – Adjustment “4” decreases depreciation expense by \$9,305, from \$12,244 to \$2,939, as shown on Schedule PNT-WW3, pages 1 and 3. Staff's depreciation expense reflects application of Staff's recommended depreciation rates to Staff's recommended plant balances.

Income Taxes – Staff made no adjustment to test year income taxes since there is no significant difference between Staff's and the Company's calculation.

### *Operating Margin*

The Company's proposed rates and charges would provide an operating income of \$19,872 for an operating margin of 12.38 percent.

Staff's recommended rates and charges would provide an operating income of \$13,061 for an operating margin of 10.49 percent.

## **REVENUE REQUIREMENT**

Staff recommends total operating revenue of \$124,528, an increase of \$84,009, or 207.33 percent, over test year revenue of \$40,519. Staff determined that the Company's rate base was too small to produce enough income for normal operations. Further, Staff determined that cash flow should be used to set the revenue requirement. Staff's recommended rates and charges would provide an operating income of \$13,061 and would yield a cash flow of \$16,000.

Staff's total revenue requirement of \$124,528 provides the Company with sufficient cash flow to pay operating expenses and contingencies.

## **RATE DESIGN**

Schedule PNT-WW5 presents a complete list of the Company's present, proposed, and Staff's recommended rates and charges. Staff recommends a two phase rate design for Greenehaven Sewer. The second phase-in rates would occur six months after the first phase-in goes into effect. The first six months would phase in 50 percent of revenue requirement, and the remainder in the second six months.

The Company's proposed rates would increase the typical residential customer bill from \$12.25 to \$41.30, for an increase of \$29.05, or 237.14 percent.

Staff's recommended first phase-in rates would increase the typical residential bill from \$12.25 to \$22.45, for an increase of \$10.20, or 83.27 percent. Staff's recommended second phase-in rates would increase the typical residential bill from \$22.45 to \$32.65, for an increase of \$10.20, or 166.53 percent over present rates.

## **MISCELLANEOUS SERVICE CHARGES**

The Company proposed new charges for its current service charges. Staff concurs with the Company's proposed service charges except for the Reconnection (Delinquent) fee. The Company is requesting \$ 35.00, but Staff recommends \$30.00. The Company's proposed a \$25.00 Non-Sufficient Funds ("NSF") Check fee. Staff agrees with one NSF fee when customers are billed for water and sewer services on one bill.

## **SERVICE LATERAL INSTALLATION CHARGES**

The Company proposed Service Lateral Installation Charges to be "Per MXA", referring to a Main Extension Agreement ("MXA"). Since no such MXA currently exists, and since Staff does not review or approve MXAs for sewer, Staff recommends these charges be "At Cost".

## **STAFF RECOMMENDATIONS**

Staff recommends:

1. Approval of its recommended rates and charges as shown in Schedule PNT-WW5.
2. That the Company be ordered to file with Docket Control, as a compliance item in this Docket, a tariff schedule of its new rates and charges within 30 days after the effective date of the Decision in this proceeding.
3. That the Company be ordered to keep invoices for plant assets purchased in the future.
4. That the Company use the depreciation rates presented in Table B of the attached Engineering Report on a going forward basis.
5. The Company use a 4-factor allocation to charge indirect costs.
6. The Company use a Two Phase Rate Design. The second phase –in rates would occur six months after the first phase-in goes into effect. The first six months would phase in 50 percent of revenue requirement, and the remainder in the second six months.

Greenehaven Sewer Company, Inc.  
Docket No. SW-02326A-14-0321  
Test Year Ended: December 31, 2013

Schedule PNT-WW1

**SUMMARY OF FILING**

	-- Present Rates --		-- Proposed Rates --	
	Company as Filed	Staff as Adjusted	Company as Filed	Staff as Adjusted
Revenues:				
Metered Water Revenue	\$ 40,519	\$ 40,519	\$ 160,519	\$ 124,528
Unmetered Water Revenue	0	0	0	0
Other Water Revenues	0	0	0	0
Total Operating Revenue	\$ 40,519	\$ 40,519	\$ 160,519	\$ 124,528
Operating Expenses:				
Operation and Maintenance	\$ 119,097	\$ 102,881	\$ 119,097	\$ 102,881
Depreciation	12,244	2,939	12,244	2,939
Property & Other Taxes	1,396	1,396	5,530	2,361
Income Tax	(14,727)	(14,727)	3,776	3,286
Total Operating Expense	\$ 118,010	\$ 92,489	\$ 140,647	\$ 111,467
Operating Income/(Loss)	\$ (77,491)	\$ (51,970)	\$ 19,872	\$ 13,061
Rate Base O.C.L.D.	\$ 42,042	\$ 51,923	\$ 42,042	\$ 51,923
Rate of Return - O.C.L.D.	N/M	N/M	47.27%	25.15%
Operating Margin	N/M	N/M	12.38%	10.49%
Cash Flow			\$ 32,116	\$ 16,000

**RATE BASE**

	----- Original Cost -----		Staff
	Company	Adjustment	
Plant in Service	\$ 2,448,186	\$ -	\$ 2,448,186
Less:			
Accum. Depreciation	524,919	189,345 A	714,264
<b>Net Plant</b>	<b>\$ 1,923,267</b>	<b>\$ (189,345)</b>	<b>\$ 1,733,922</b>
Less:			
Plant Advances		\$ -	\$ -
Service Line and Meter Advances		-	-
<b>Total Advances</b>		<b>-</b>	<b>-</b>
Contributions Gross	2,254,708	-	2,254,708
Less:			
Amortization of CIAC	373,483	187,843 B	561,326
<b>Net CIAC</b>	<b>1,881,225</b>	<b>(187,843)</b>	<b>1,693,382</b>
<b>Total Deductions</b>	<b>\$ 1,881,225</b>	<b>\$ (187,843)</b>	<b>\$ 1,693,382</b>
Plus:			
1/24 Power	\$ -	\$ 739 C	\$ 739
1/8 Operation & Maint.	-	10,644 D	10,644
<b>Total Additions</b>	<b>\$ -</b>	<b>\$ 11,383</b>	<b>\$ 11,383</b>
<b>Rate Base</b>	<b>\$ 42,042</b>	<b>\$ 9,881</b>	<b>\$ 51,923</b>

*Explanation of Adjustment:*

- A - Refer to Schedule PNT-WW2, Page 3
- B - Refer to Schedule PNT-WW2, Page 4
- C - Refer to Schedule PNT-WW2, Page 4
- D - Refer to Schedule PNT-WW2, Page 4

**PLANT IN SERVICE**

LINE NO.	DESCRIPTION	Plant In Service		Plant In Service Per Staff
		Per Company	Adjustments	
1	351 Organization	\$ -	\$ -	\$ -
2	352 Franchise	-	-	-
3	353 Land and Land Rights	6,005	-	6,005
4	354 Structures and Improvements	11,262	-	11,262
5	355 Power Generation Equipment	58,609	-	58,609
6	360 Collection Sewers-Force	1,329,754	-	1,329,754
7	361 Collection Sewers-Gravity	703,537	-	703,537
8	362 Special Collecting Structures	-	-	-
9	363 Services To Customers	51,921	-	51,921
10	364 Flow Measuring Devices	2,250	-	2,250
11	365 Flow Measuring Installations	-	-	-
12	370 Receiving Wells	-	-	-
13	380 Treatment and Disposal Equipment	183,814	-	183,814
14	381 Plant Sewers	-	-	-
15	382 Outfall Sewer Lines	-	-	-
16	389 Other Plant & Misc. Equipment	-	-	-
17	390 Office Furniture & Equipment	1,130	-	1,130
18	391 Transportation Equipment	-	-	-
19	393 Tools, shop & Garage Equipment	1,480	-	1,480
20	394 Laboratory Equipment	-	-	-
21	395 Power Operated Equipment	2,771	-	2,771
22	396 Communications Equipment	95,653	-	95,653
23	Total Plant	<u>\$ 2,448,186</u>	<u>\$ -</u>	<u>\$ 2,448,186</u>

**ACCUMULATED DEPRECIATION ADJUSTMENT**

A- Accumulated Depreciation - Per Staff	\$ 524,919	
Per Staff	714,264	\$ 189,345

ACCT		ACCUMULATED DEPRECIATION		
No.	Description	Company Application	Staff Adjustment	Staff Calculated
351	Organization		\$ -	\$ -
352	Franchise		-	-
353	Land and Land Rights		-	-
354	Structures and Improvements	2,045	934	2,979
355	Power Generation Equipment	6,831	3,426	10,257
360	Collection Sewers-Force	154,677	77,570	232,247
361	Collection Sewers-Gravity	273,515	102,412	375,927
362	Special Collecting Structures	-	-	-
363	Services To Customers	13,129	6,584	19,713
364	Flow Measuring Devices	1,386	695	2,081
365	Flow Measuring Installations	-	-	-
370	Receiving Wells	-	-	-
380	Treatment and Disposal Equipment	37,623	13,630	51,253
381	Plant Sewers	-	-	-
382	Outfall Sewer Lines	-	-	-
389	Other Plant & Misc. Equipment	-	-	-
390	Office Furniture & Equipment	1,130	-	1,130
391	Transportation Equipment	-	-	-
393	Tools, shop & Garage Equipment	354	(177)	177
394	Laboratory Equipment	-	-	-
395	Power Operated Equipment	2,771	-	2,771
396	Communications Equipment	31,458	(15,729)	15,729
398	Other Tangible Plant	-	-	-
Total		\$ 524,919	\$ 189,345	\$ 714,264

<b>STAFF PLANT ADJUSTMENTS</b>
--------------------------------

B- AMORTIZATION OF CIAC- Per Company	\$	373,483
Per Staff		561,326 \$ 187,843

To reflect Staff's adjusted amortization of CIAC with an composite rate of 5.00%.

C- WORKING CAPITAL (1/24 Power . Portion of cash working capital formula method)- Per Company	\$	-
Per Staff		739 \$ 739

To reflect Staff's calculation of cash working capital based on Staff's recommendations for purchased power expense.

D- WORKING CAPITAL (1/8 operation & Maint exp. Portion of cash working capital formula method)- Per Company	\$	-
Per Staff		10,644 \$ 10,644

To reflect Staff's calculation of cash working capital based on Staff's recommendations for operation and maintenance expense (excluding purchased power expense).

**STATEMENT OF OPERATING INCOME**

	Company Exhibit	Staff Adjustments	Staff Adjusted
<b>Revenues:</b>			
Metered Water Revenue	\$ 40,519	\$ -	\$ 40,519
Unmetered Water Revenue	-	-	-
Other Water Revenue	-	-	-
<b>Total Operating Revenue</b>	<b>\$ 40,519</b>	<b>\$ -</b>	<b>\$ 40,519</b>
<b>Operating Expenses:</b>			
Salaries and Wages	\$ 14,579	\$ -	\$ 14,579
Purchased Wastewater Treatment	44,142	-	44,142
Sludge Removal Expense	-	-	-
Purchased Power	17,733	-	17,733
Fuel For Power Production	-	-	-
Chemicals	-	-	-
Materials and Supplies	541	-	541
Office Supplies	-	-	-
Contractual Services-Professional	-	-	-
Contractual Services-Testing	495	165	660
Rents	-	-	-
Transportation Expenses	2,334	-	2,334
Insurance Expense	28,610	(14,381)	14,229
Regulatory Commission Expense	6,000	(2,000)	4,000
Miscellaneous Expense	4,663	-	4,663
Depreciation Expense	12,244	(9,305)	2,939
Taxes Other Than Income	-	-	-
Property Taxes	1,396	-	1,396
Income Tax	(14,727)	-	(14,727)
<b>Total Operating Expenses</b>	<b>\$ 118,010</b>	<b>\$ (25,521)</b>	<b>\$ 92,489</b>
<b>OPERATING INCOME/(LOSS)</b>	<b>\$ (77,491)</b>	<b>\$ 25,521</b>	<b>\$ (51,970)</b>

**STAFF ADJUSTMENTS**

1 -	WASEWATER TESTING-Per Company	\$495	
	Per Staff	660	\$165

To reflect Staff Engineering adjusted wastewater testing expense.

2 -	INSURANCE-GENERAL LIABILITY- Per Company	\$ 28,610	
	Per Staff	14,229	\$ (14,381)

To reflect Staff's calculation of the allocated portion of the insurance expense using Staff's four-factor allocation methodology.

**Calculation of Insurance Expense**

Allocated Shared Expense	\$	14,229
Non-Allocable Direct Expense		0
Total Insurance Expense	\$	14,229

Total Insurance Expense (Application)	\$	38,375
Disallowance of Life insurance		(522)
Amount Before allocation		37,853
Allocation percentage for Greenehaven Development	33.33%	
Annual shared insurance for Greenehaven Development Company		12,618
Annual shared insurance for Greenehaven Water and Sewer		25,235
Allocation percentage for Greenehaven Sewer		56.38%
Total Insurance Expense for Greenehaven Sewer	\$	14,229

3 -	REGULATORY COMMISSION EXPENSE (Rate Case) - Per Company	\$6,000	
	Per Staff	4,000	(\$2,000)

To reflect a reasonable normalized amount of rate case expense based on five years between rate cases.

	\$	20,000 Rate Case Expense	
		5 Divided by 5 years	
	\$	4,000 Annual Rate Case Expense	

Calculation of Four-Factor Allocation						
	[A]	[B]	[C]	[D]	[E]	[A]
	Operating Revenue	Purchased Power	Number of Connections	Net Plant	Total (Col A+B+C+D)	Allocation % (Col E / 4)
Greenehaven Water	57.33%	44.05%	56.01%	17.08%	174%	43.62%
Greenehaven Sewer	42.67%	55.95%	43.99%	82.92%	226%	56.38%

**Operating Revenue**

Water	Sewer	Total
54,440	40,519	94,959
57.33%	42.67%	100.00%

**Number of Connections**

Water	Sewer	Total
401	315	716
56.01%	43.99%	100.00%

**Net Plant**

Water	Sewer	Total
357,087	1,733,922	2,091,009
17.08%	82.92%	100.00%

**Purchased Power**

Water	Sewer	Total
13,963	17,733	31,696
44.05%	55.95%	100.00%

**STAFF ADJUSTMENTS (Cont.)**

4 - DEPRECIATION - Per Company \$12,244  
Per Staff 2,939 (\$9,305)

To reflect application of Staff's recommended depreciation rates to Staff's recommended plant, by account.

**Pro Forma Annual Depreciation Expense:**

LINE NO.	DESCRIPTION	[A] Plant In Service Per Staff	[B] Non-Depreciable or Fully Depreciated Plant	[C] Depreciable Plant (Col A - Col B)	[D] Depreciation Rate	[E] Depreciation Expense (Col C x Col D)	[F] CIAC Plant	[G] CIAC Amort. (Col F x Col D)
1	351 Organization	\$ -	\$ -	\$ -	0.00%	\$ -	\$ -	\$ -
2	352 Franchise	-	-	-	0.00%	-	-	-
3	353 Land and Land Rights	6,005	6,005	-	0.00%	-	-	-
4	354 Structures and Improvements	11,262	1,222	10,040	3.33%	334	10,040	334
5	355 Power Generation Equipment	58,609	-	58,609	5.00%	2,930	58,609	2,930
6	360 Collection Sewers-Force	1,329,754	-	1,329,754	2.00%	26,595	1,326,690	26,534
7	361 Collection Sewers-Gravity	703,537	96,276	607,261	2.00%	12,145	567,261	11,345
8	362 Special Collecting Structures	-	-	-	2.00%	-	-	-
9	363 Services To Customers	51,921	-	51,921	2.00%	1,038	51,921	1,038
10	364 Flow Measuring Devices	2,250	-	2,250	10.00%	225	-	-
11	365 Flow Measuring Installations	-	-	-	10.00%	-	-	-
12	370 Receiving Wells	-	-	-	3.33%	-	-	-
13	380 Treatment and Disposal Equipment	183,814	10,445	173,369	5.00%	8,668	150,607	7,530
14	381 Plant Sewers	-	-	-	5.00%	-	-	-
15	382 Outfall Sewer Lines	-	-	-	3.33%	-	-	-
16	389 Other Plant & Misc. Equipment	-	-	-	6.67%	-	-	-
17	390 Office Furniture & Equipment	1,130	1,130	-	6.67%	-	-	-
18	391 Transportation Equipment	-	-	-	20.00%	-	-	-
19	393 Tools, shop & Garage Equipment	1,480	-	1,480	5.00%	74	660	33
20	394 Laboratory Equipment	-	-	-	10.00%	-	-	-
21	395 Power Operated Equipment	2,771.00	2,771	-	5.00%	-	-	-
22	396 Communications Equipment	95,653.00	-	95,653	10.00%	9,565	88,920	8,892
23	Total Plant	\$ 2,448,186	\$ 117,849	\$ 2,330,337		\$ 61,576	\$ 2,254,708	\$ 58,638
24								
25	<b>Pro Forma Annual Depreciation Expense</b>							
26								
27	Plant in Service					\$ 2,448,186		
28	Less: Non Depreciable Plant					6,005		
29	Fully Depreciable Plant					111,844		
30	Depreciable Plant					\$2,330,337		
31	Depreciation Expense Before Amortization of CIAC:					\$ 61,576		
32	Less Amortization of CIAC:					58,638		
33	<b>Test Year Depreciation Expense - Staff:</b>					\$ 2,939		
34	Depreciation Expense - Company:					12,244		
35	<b>Staff's Total Adjustment:</b>					\$ (9,305)		

<b>STAFF ADJUSTMENTS</b>
--------------------------

INCOME TAXES-Per Company	(\$14,727)	
Per Staff	(14,676)	<u>\$51.39</u>

Staff makes no adjustment to test year income taxes since there is no significant difference between Staff's and Company's calculation.

PROPERTY TAXES

LINE NO.	Property Tax Calculation	[A]	[B]
		STAFF AS ADJUSTED	STAFF RECOMMENDED
1	Staff Adjusted Test Year Revenues	\$ 40,519	\$ 40,519
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	\$ 81,038	\$ 81,038
4	Staff Recommended Revenue, Per Schedule PNT-WW1	40,519	124,528
5	Subtotal (Line 4 + Line 5)	\$ 121,557	\$ 205,566
6	Number of Years	3	3
7	Three Year Average (Line 5 / Line 6)	\$ 40,519	\$ 68,522
8	Department of Revenue Multiplier	2	2
9	Revenue Base Value (Line 7 * Line 8)	\$ 81,038	\$ 137,044
10	Plus: 10% of CWIP -	-	-
11	Less: Net Book Value of Licensed Vehicles	-	-
12	Full Cash Value (Line 9 + Line 10 - Line 11)	\$ 81,038	\$ 137,044
13	Assessment Ratio	18.5%	18.5%
14	Assessment Value (Line 12 * Line 13)	14,992	\$ 25,353
15	Composite Property Tax Rate	9.312%	9.312%
16	Staff Proposed Property Tax Expense (Line 14 * Line 15)	\$ 1,396	
17	Company Proposed Property Tax	1,396	
18	Staff Test Year Adjustment (Line 16-Line 17)	\$ 0	
19	Property Tax - Staff Recommended Revenue (Line 14 * Line 15)		\$ 2,361
20	Staff Test Year Adjusted Property Tax Expense (Line 16)		1,396
21	Increase/(Decrease) to Property Tax Expense		965
22	Decrease to Property Tax Expense		\$ 965
23	Increase in Revenue Requirement		84,009
24	Decrease to Property Tax per Dollar Increase in Revenue (Line19/Line 20)		1.15%

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	(A)	(B)	(C)	(D)
<i>Calculation of Gross Revenue Conversion Factor:</i>					
1	Billings	1.000000			
2	Uncollectible Factor	0.000000			
3	Revenues	1.000000			
4	Less: Combined Federal, State & Property Tax Rate (Line 12)	0.225288			
5	Subtotal (L3 - L4)	0.774712			
6	Revenue Conversion Factor (L1 / L5)	<b>1.290802</b>			
<i>Calculation of Effective Tax Rate:</i>					
7	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
8	Arizona State Income Tax Rate	6.0000%			
9	Federal Taxable Income (L7 - L8)	94.0000%			
10	Applicable Federal Income Tax Rate (Line 36)	16.6263%			
11	Effective Federal Income Tax Rate (L9 x L10)	15.6287%			
12	Combined Federal and State Income Tax Rate (L8 + L11)		21.6287%		
<i>Calculation of Effective Property Tax Rate:</i>					
13	Unity	100.0000%			
14	Combined Federal & State Income Tax Rate	21.6287%			
15	One Minus Combined Income Tax Rate	78.37127%			
16	Property Tax Factor	1.14844%			
17	Effective Property Tax Rate		0.009000494		
	Combined Federal, State Income & Property Tax Rate		22.5288%		
18	Required Operating Income (Schedule PNT-WW1)	\$ 13,061			
19	Adjusted Test Year Operating Income (Loss) (Schedule PNT-WW3, Page 1 of 6)	(51,970)			
20	Required Increase in Operating Income (L18 - L19)		\$ 65,031		
21	Income Taxes on Recommended Revenue (Col. (D), L40)	\$ 3,286			
22	Income Taxes on Test Year Revenue (Col. (B), L40)	(14,676)			
23	Required Increase in Revenue to Provide for Income Taxes (L21 - L22)		\$ 17,961		
24	Property Tax with Recommended Revenue (Schedule PNT-WW3, page 5 of 6, Col B, L19)	\$ 2,361			
25	Property Tax on Test Year Revenue (Schedule PNT-WW3, page 5 of 6, Col A, L16)	1,396			
26	Increase in Property Tax Due to Increase in Revenue (L25-L26)		\$ 965		
	Total Required increased in Revenue(L20+L23+L26)		\$ 83,957		
<i>Calculation of Income Tax:</i>					
		Test Year		Staff Proposed	
27	Revenue (Schedule PNT-WW3, Page 1 of 6)	\$ 40,519		\$ 124,528	
28	Less: Operating Expenses Excluding Income Taxes	107,216		108,181	
29	Less: Synchronized Interest	-		-	
30	Arizona Taxable Income (L27 - L28 - L29)	\$ (66,697)		16,347	
31	Arizona State Income Tax Rate	6.000%		6.000%	
32	Arizona Income Tax (L30 x L31)		\$ (4,002)		\$ 981
33	Federal Taxable Income (L30 - L32)				\$ 15,366
34	Federal Tax on First Income Bracket (\$1 - \$50,000) @ 15%				\$ 2,305
35	Federal Tax on Second Income Bracket (\$51,001 - \$75,000) @ 25%				-
36	Federal Tax on Third Income Bracket (\$75,001 - \$100,000) @ 34%				-
37	Federal Tax on Fourth Income Bracket (\$100,001 - \$335,000) @ 39%				-
38	Federal Tax on Fifth Income Bracket (\$335,001 - \$10,000,000) @ 34%				-
39	Total Federal Income Tax		(10,674)		2,305
40	Combined Federal and State Income Tax (L32 + L39, Col. B)		\$ (14,676)		\$ 3,286
41	Applicable Federal Income Tax Rate [Col. (D), L39 - Col. (B), L39] / [Col. (C), L33 - Col. (A), L33]				16.6263%

**Cash Flow Analysis**

Line No.		<i>Company's proposed</i>	<i>Staff's recommendation</i>
1	Operating Revenue:	\$160,519	\$ 124,528
2	Operating Expenses:		
3	Operation and Maintenance	119,097	102,881
4	Depreciation	12,244	2,939
5	Property & Other Taxes	5,530	2,361
6	Income Tax	3,776	3,286
7	Total Operating Expense	<u>\$ 140,647</u>	<u>\$ 111,467</u>
8			
9	Operating Income	\$ 19,872	\$ 13,061
10			
11	Interest Expense	\$ -	\$ -
12			
13	Principal Repayment	\$ -	\$ -
14			
15	Refunds of Advances in Aid	\$ -	\$ -
16			
17	Cash Flow : (L9+L4-L11-L13-L15)	\$ 32,116	\$ 16,000

<sup>1</sup> Staff is not including cash related to the refund of AIAC in its cash flow analysis as the Company receives full depreciation expense on the AIAC plant

**RATE DESIGN**

<u>Flat Rates</u>	<u>Present</u>	<u>Company Proposed Rates</u>	<u>Staff Recommended Rates</u>	
			<u>PHASE 1</u>	<u>PHASE 2</u>
Residential Units	\$ 12.25	\$ 41.30	\$ 22.45	32.65
Condo Units	6.10	41.30	19.38	32.65
Recreational Vehicles and Trailers	6.10	N/A	11.05	16.00
Motels (Per Room)	6.10	N/A	11.05	16.00
Restaurants (Per seat)	6.10	N/A	11.05	16.00
Other Structures (Per restroom)	12.25	41.30	22.45	32.65

**Service Lateral Installation Charges**

Service Lateral Installation Charges	Current Rates	Proposed Rates	Staff Recommended
4-inch lateral	N/A	Per MXA	At Cost
6-inch lateral	N/A	Per MXA	At Cost
8-inch lateral	N/A	Per MXA	At Cost
12-inch lateral	N/A	Per MXA	At Cost

**Other Service Charges**

	<u>Current</u>	<u>Company Proposed</u>	<u>Staff Recommended</u>
Establishment	N/A	\$25.00	\$25.00
Establishment (After hours)	N/A	\$35.00	N/A
Reestablishment (within 12 months)	N/A	(a)	(a)
Reconnection (Delinquent)	N/A	\$35.00	\$30.00
Deposit	N/A	(b)	(b)
Deposit Interest	N/A	(b)	(b)
NSF Check	N/A	\$25.00	\$25.00 (c)
Deferred Payment (per month)	N/A	1.5% per month	1.5% per month
Late Payment Fee (per month)	N/A	1.5% per month	1.5% per month
After Hour Service Charge (at customers request)	N/A	N/A	\$35.00

(a) Number of months off the system times the monthly minimum per A.A.C. R14-2-603(D).

(b) Per Rule R14-2-603(B).

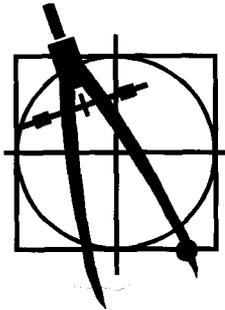
(c) The Company may only charge one NSF fee when customers are billed for water and sewer on one bill.

Greenehaven Sewer Company, Inc.  
Docket No. SW-02326A-14-0321  
Test Year Ended: December 31, 2013

Schedule PNT-WW6

Typical Bill Analysis  
Residential

Company Proposed	Present Rates	Proposed Rates	Dollar Increase	Percent Increase Over Present Rates
	\$ 12.25	\$ 41.30	\$ 29.05	237.14%
<hr/>				
Staff Recommended				
Phase 1	\$ 12.25	\$ 22.45	\$ 10.20	83.27%
Phase 2	\$ 12.25	\$ 32.65	\$ 20.40	166.53%



**ENGINEERING REPORT FOR  
Greenehaven Sewer Company, Inc.**

**Docket No.  
SW-02326A-14-0321 (Rates)**

**By Jeff Francis**

**February 2, 2015**

**CONCLUSIONS**

1. Based on the wastewater flow data for the test year, Arizona Corporation Commission (“ACC” or “Commission”) Utilities Division Staff (“Utilities Staff” or “Staff”) concludes that the Greenehaven Sewer Company, Inc. (“Greenehaven” or “Company”) wastewater system is adequate to serve the present customer base and reasonable growth.
2. Arizona Department of Environmental Quality (“ADEQ”) regulates the Greenehaven wastewater facility under Permit No. 101365. In the September 9, 2014 Wastewater Compliance Status Report issued by ADEQ the conclusion was that based upon the data submitted by the facility, ADEQ has determined that as of the report date the facility was in compliance for the review period of April 1, 2013 – March 31, 2014.
3. A check of the Utilities Division Compliance Section database showed that there are no outstanding compliance issues for Greenehaven.

**RECOMMENDATIONS**

1. Staff recommends that the Company use the depreciation rates presented in Table B.
2. Greenehaven proposes Service Lateral Installation Charges to be “Per MXA”, referring to a Main Extension Agreement (“MXA”). Since no such MXA currently exists, and since Staff does not review or approve MXAs for sewer, Staff recommends these charges be “At Cost”.
3. Staff recommends an annual wastewater testing expense of \$660 be used for purposes of this application.

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## **A. INTRODUCTION AND LOCATION OF COMPANY**

On September 3, 2014, Greenehaven Sewer Company, Inc. (“Greenehaven” or “Company”) filed an application with the Arizona Corporation Commission (“ACC” or “Commission”) to increase its rates (Docket No. SW-02326A-14-0321). The Company’s current rates were approved in Commission Decision No. 56056, dated July 13, 1988. The ACC Utilities Division Staff (“Utilities Staff” or “Staff”) engineering review and analysis of the rate application filed on September 3, 2014, is presented in this report.

Greenehaven is a Class D sewer utility company that provides wastewater service to 315 connections in the Greenehaven Development, which is an isolated development, adjacent to the Lake Powell National Recreation Area located in Coconino County approximately six miles northeast of Page, Arizona. Figure 1 shows the location of the Company and Figure 2 shows the Certificate of Convenience and Necessity (“CC&N”) which covers just over 420 acres. The CC&N was granted in Commission Decision No. 49080 dated June 16, 1978.





**B. DESCRIPTION OF THE WASTEWATER SYSTEM**

The Greenehaven wastewater system was visited on September 24, 2014, by Staff member Jeff Francis. Mr. Francis was accompanied by Mr. Terry Theken. Mr. Theken is the owner of the Company. According to Arizona Department of Environmental Quality (“ADEQ”) records Ted Clouse is the Company’s Certified Operator.<sup>1</sup> Mr. Clouse was not present during Staff’s site visit.

The Greenehaven wastewater system consists of an aerated lined lagoon rated for an influent capacity of 250,000 gallons per day for storage, equalization, and pretreatment of domestic sewage prior to pumping to the City of Page for treatment. The lagoon has a storage volume of 5.2 million gallons and is divided into two cells. Sewage flows by gravity from the Greenehaven Development to Cell #1 where solids settle and the liquid flows through a pipe to Cell #2. The liquid is collected in a sump in Cell #2 and pumped to Lift Station #1. From there sewage is pumped through a 6-inch force main to Lift Station #2, and on to Lift Station #3, then on approximately 2 miles where it connects to a force main operated by the National Park Service for Wahweap Marina. An 8-inch line then conveys the sewage, from both Greenehaven and Wahweap Marina, across the Colorado River at Glen Canyon Dam, to the City of Page for treatment.

A process schematic for the wastewater system is shown in Figure 3 and Table A includes a detailed plant facility listing.

**Table A. Plant Facilities Summary**

Treatment Facility		
Plant	Capacity (Gallons)	Design Flow (Gallons per Day)
Anaerobic Lagoon	5,167,707	250,000

Lift Stations				
Location	Quantity of Pumps	Horsepower Per Pump	Capacity Per Pump (GPM)	Wet Well Capacity (Gals)
Lift Station #1	2	50	300	900
Lift Station #2	2	40	300	900
Lift Station #3	2	20	300	900

<sup>1</sup> Mr. Clouse is a Certified Grade 2 Wastewater Collection System Operator and a Grade 2 Wastewater Treatment Plant Operator, ADEQ Operator Identification No. OP000378.

**Table A. Plant Facilities Summary (cont.)**

**Manholes**

Type	Quantity
Standard	147
Drop	42

**Force Mains**

Size	Material	Length (Feet)
4-inch		
6-inch	HDPE with required air releases and drains	36,470

**Cleanouts**

Quantity
8" - 24
6" - 3

**Collection Mains**

Size (inches)	Material	Length (Feet)
4	ABS and PVC	899
6	PVC	3,892
8	PVC	48,041

**Services**

Size (inches)	Material	Quantity
4	ABS and PVC	551

**Other Plant**

Category	Description
Structures	area fencing
Other	Meters, Backup Generators, System monitoring & communication equipment, Safety error shutdown system

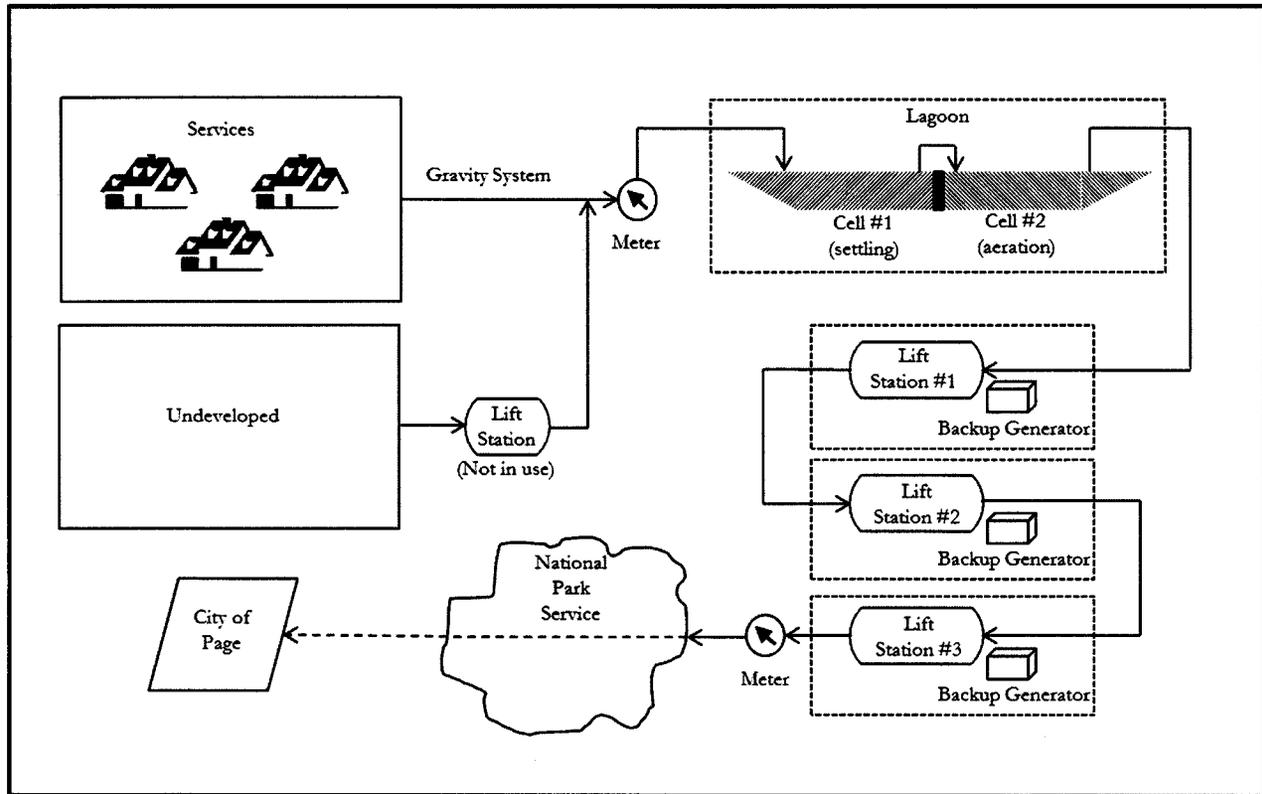


Figure 3. Wastewater System Schematic

### C. WASTEWATER FLOW

Figure 5 presents the wastewater flow data provided by the Company for the test year ending December 31, 2013. The Company experienced a high monthly wastewater flow of 106 gallons per day (“GPD”) per customer connection in August, and a low wastewater flow of 71 GPD per connection in November. The average flow for the twelve-month period was 84 GPD per connection.

The sewage flow on the peak day each month was highest in July at 158,397 gallons. This peak flow is significantly higher than in the other months, and when asked about the cause, Greenehaven responded that this peak flow did not correspond to outflows at the National Park Service meter and that there were no anomalies noted during that period. The Company believes the August 2013 peak reading is most likely in error, and Staff concurs.

Staff concludes that the Greenehaven wastewater system has adequate capacity to serve the existing customer base and reasonable growth.

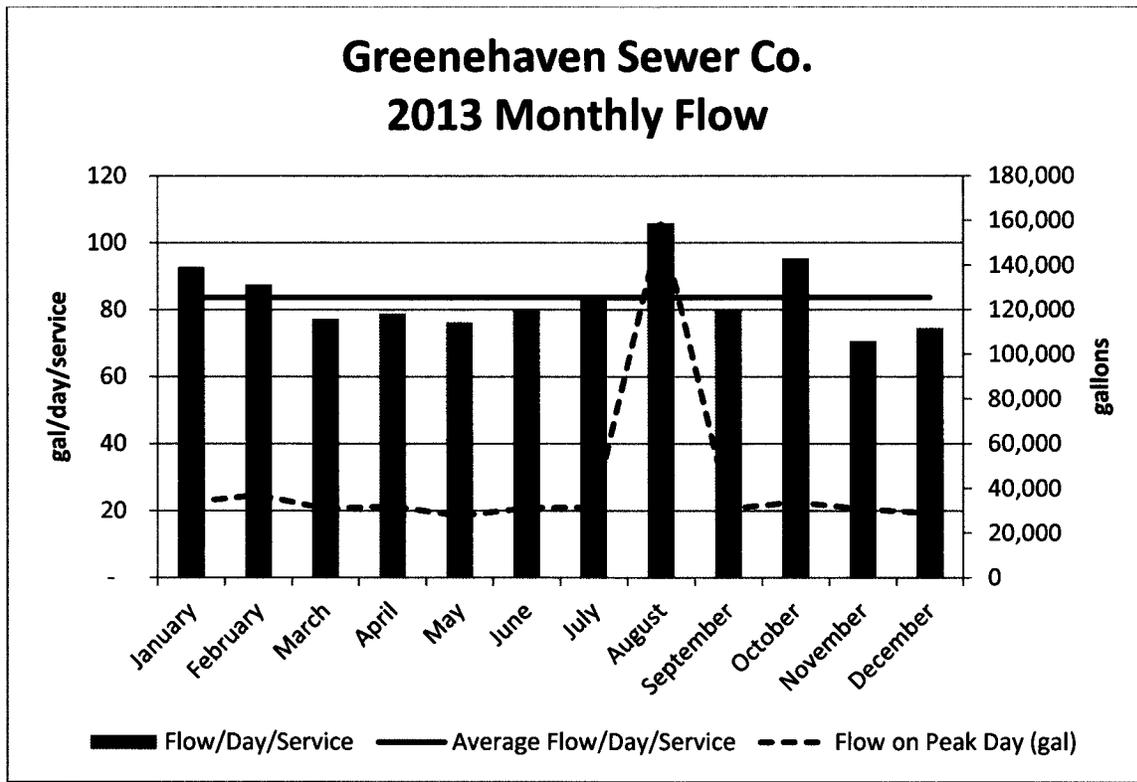


Figure 5. Wastewater Flow

**D. GROWTH**

In its annual reports submitted to the Commission, the Company reported 226 service connections at year end 2011, and 221 at year end 2012. In the current rate application the Company reported 315 connections at year end 2013, a jump of 94. When asked about this abrupt increase, Greenehaven commented that the 2011 and 2012 annual reports were representing four condo buildings as two service connections. In the rate application the number of services was corrected to reflect the total number of individual units in the four condo buildings. Based on discussion during the site visit, the Company expects growth to be minimal.

**E. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (“ADEQ”) COMPLIANCE**

ADEQ regulates the Greenehaven wastewater facility under Permit No. 101365. In the September 9, 2014 Wastewater Compliance Status Report issued by ADEQ the conclusion was that based upon the data submitted by the facility, ADEQ has determined that as of the report date the facility was in compliance for the review period of April 1, 2013 – March 31, 2014.

#### **F. ARIZONA CORPORATION COMMISSION (“ACC”) COMPLIANCE**

A check of the Utilities Division Compliance Section database showed that there are no delinquent Commission compliance items for Greenehaven.<sup>2</sup>

#### **G. DEPRECIATION RATES**

The following table lists the annual depreciation rates by NARUC plant category currently recommended by Staff. These rates represent typical and customary values within a range of anticipated equipment life. Staff recommends that the Company use the depreciation rates presented in Table B.

---

<sup>2</sup> Per Compliance Section email dated September 10, 2014.

**Table B. Depreciation Rate Table for Wastewater Companies**

NARUC Acct. No.	Depreciable Plant	Average Service Life (Years)	Annual Accrual Rate (%)
354	Structures & Improvements	30	3.33
355	Power Generation Equipment	20	5
360	Collection – Sewers	50	2
361	Collection – Gravity	50	2
362	Special Collecting Structures	50	2
363	Services to Customers	50	2
364	Flow Measuring Devices	10	10
365	Flow Measuring Installations	10	10
366	Reuse Services	50	2
367	Reuse Meters & Meter Installations	12	8.33
370	Receiving Wells	30	3.33
371	Pumping Equipment	8	12.5
374	Reuse Distribution Reservoir	40	2.5
375	Reuse Transmission & Distribution System	40	2.5
380	Treatment & Disposal Equipment	20	5
381	Plant Sewers	20	5
382	Outfall Sewer Lines	30	3.33
389	Other Plant & Miscellaneous Equipment	15	6.67
390	Office Furniture & Equipment	15	6.67
390.1	Computers & Software	5	20
391	Transportation Equipment	5	20
392	Stores Equipment	25	4
393	Tools, Shop & Garage Equipment	20	5
394.1	Laboratory Equipment	10	10
395	Power Operated Equipment	20	5
396	Communication Equipment	10	10
397	Miscellaneous Equipment	10	10
398	Other Tangible Plant	----	----

**H. SERVICE LATERAL INSTALLATION CHARGES**

Greenehaven proposes to add service lateral installation charges. The charges proposed by the Company, shown in Table C under “Company Proposed Rates”, refer to a Main Extension Agreement (“MXA”) as “Per MXA”. At this time the Company does not have a MXA in place. In addition, Staff does not review or approve MXAs for sewer companies. Therefore Staff recommends that new service lateral installation charges be “At Cost” as listed in Table C.

**Table C. Service Lateral Installation Charges**

Service Lateral Installation Charges (per service line)	Current Rates	Company Proposed Rates	Staff Recommended Rates
4-inch lateral	No tariff rate	Per MXA	At Cost
6-inch lateral	No tariff rate	Per MXA	At Cost
8-inch lateral	No tariff rate	Per MXA	At Cost
12-inch lateral	No tariff rate	Per MXA	At Cost

**I. TESTING EXPENSES**

Greenehaven has a Service Agreement with the City of Page for sewage treatment. As part of this agreement the City of Page requires the Company to deliver sewage with a Biochemical Oxygen Demand (“BOD”)<sup>3</sup> of not more than three hundred and fifty milligrams per liter (350 mg/l). The Company performs monthly testing to ensure it meets acceptable BOD levels per the Service Agreement. Table D shows the costs incurred for these tests. Staff recommends an annual wastewater testing expense of \$660 be used for purposes of this application.

**Table D. Wastewater Testing Cost**

Test	Cost per Test	No. of Tests per Year	Annual Cost
Biological Oxygen Demand	\$55	12	\$660

<sup>3</sup> BOD is one of the most important and useful parameters indicating the organic strength of wastewater. BOD measurement permits an estimate of the waste strength in terms of the amount of dissolved oxygen required to break down the wastewater. The higher the BOD the harder it is to treat the sewage.