

BREVARD COUNTY

**Oakwood WTF
Kingswood WTF**

Docket No. 100330-WS

Application to Increase Rates and Charges
For a "Class A" Utility
In

Florida

**Volume 5
Book 2
Set 2 of 17**

Containing:
Permits
Monthly Operating Reports
Sample Results
Correspondence

Aqua Utilities Florida, Inc.

DOCUMENT NUMBER-DATE

07279 SEP-19

FPSC-COMMISSION CLERK



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

May, 2008

Consecutive System Name: Oakwood

PWS Identification Number: 3054100

Consecutive System Type:

☒ Community

☐ Non-Transient Non-Community

☐ Transient Non-Community

Number of Service Connections at End of Month:

203

Total Population Served at End of Month:

477

Consecutive System Owner:

Aqua Utilities, FL

Contact Person:

William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address:

140 Hope Street

Longwood

State: FL

Zip Code: 32750

Contact Person's Telephone Number:

(407) 339-5424

Contact Person's Fax Number:

(407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

May, 2008

Type of Disinfectant Residual Maintained in Distribution System:

☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1	2.6	
2		
3		
4		
5		
6		
7		
8	2.1	
9		
10		
11		
12		
13	3.1	
14		
15	4.5	
16		

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
17		
18		
19		
20	3.2	
21		
22	2.4	
23		
24		
25		
26		
27	1.6	
28		
29	2.2	
30		
31		

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 6/8/08
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

June, 2008

Consecutive System Name: Oakwood

PWS Identification Number: 3054100

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community

☐ Transient Non-Community

Number of Service Connections at End of Month: 203

Total Population Served at End of Month: 477

Consecutive System Owner: Aqua Utilities, FL

Contact Person: William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope Street

Longwood

State: FL

Zip Code: 32750

Contact Person's Telephone Number: (407) 339-5424

Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

June, 2008

Type of Disinfectant Residual Maintained in Distribution System:

☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17	2.6	
2			18		
3			19	2.0	
4	2.4		20		
5			21		
6			22		
7			23		
8			24		
9			25	2.1	
10	3.3		26		
11			27	4.1	
12	2.5		28		
13			29		
14			30		
15			31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 7/6/08
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of July, 2008

Consecutive System Name: Oakwood PWS Identification Number: 3054100

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 203 Total Population Served at End of Month: 477

Consecutive System Owner: Aqua Utilities, FL

Contact Person: William Trendel Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope Street Longwood State: FL Zip Code: 32750

Contact Person's Telephone Number: (407) 339-5424 Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address: _____

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of July, 2008

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17	4.1	
2	2.1		18		
3			19		
4			20		
5			21		
6			22	3.8	
7			23		
8	1.6		24	3.3	
9			25		
10			26		
11	1.7		27		
12			28		
13			29	3.2	
14			30		
15			31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 8/4/08
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

August, 2008

Consecutive System Name: Oakwood

PWS Identification Number: 3054100

Consecutive System Type:

☒ Community

☐ Non-Transient Non-Community

☐ Transient Non-Community

Number of Service Connections at End of Month:

203

Total Population Served at End of Month:

477

Consecutive System Owner:

Aqua Utilities, FL

Contact Person:

William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address:

140 Hope Street

Longwood

State: FL

Zip Code: 32750

Contact Person's Telephone Number:

(407) 339-5424

Contact Person's Fax Number:

(407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

August, 2008

Type of Disinfectant Residual Maintained in Distribution System:

☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1	3.2		17		
2			18		
3			19	4.1	
4			20		
5	3.0		21		
6			22		
7			23		
8	1.6		24		
9			25		
10			26		
11			27	3.6	
12			28		
13	4.4		29	3.9	
14			30		
15	3.3		31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date

William Trendel 8/19/08

William Trendel

Printed or Typed Name

C-6411

License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

September, 2008

Consecutive System Name: Oakwood

PWS Identification Number: 3054100

Consecutive System Type:

☒ Community

☐ Non-Transient Non-Community

☐ Transient Non-Community

Number of Service Connections at End of Month:

203

Total Population Served at End of Month:

477

Consecutive System Owner:

Aqua Utilities, FL

Contact Person:

William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address:

140 Hope Street

Longwood

State: FL

Zip Code: 32750

Contact Person's Telephone Number:

(407) 339-5424

Contact Person's Fax Number:

(407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

September, 2008

Type of Disinfectant Residual Maintained in Distribution System:

☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1		
2	3.0	
3		
4		
5	2.6	
6		
7		
8		
9	3.0	
10		
11	4.7	
12		
13		
14		
15		
16	3.9	

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
17		
18	3.0	
19		
20		
21		
22		
23	3.8	
24		
25	4.6	
26		
27		
28		
29		
30	4.1	
31		

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 10/6/08
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

October, 2008

Consecutive System Name: Oakwood

PWS Identification Number: 3054100

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community

☐ Transient Non-Community

Number of Service Connections at End of Month: 203

Total Population Served at End of Month: 477

Consecutive System Owner: Aqua Utilities, FL

Contact Person: William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope Street

Longwood

State: FL

Zip Code: 32750

Contact Person's Telephone Number: (407) 339-5424

Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

October, 2008

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1		
2	4.7	
3		
4		
5		
6		
7	3.3	
8		
9	3.7	
10		
11		
12		
13		
14	4.1	
15		
16	3.0	

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
17		
18		
19		
20		
21	2.8	
22		
23		
24	2.9	
25		
26		
27		
28	2.2	
29		
30	3.0	
31		

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 11/4/08
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

November, 2008

Consecutive System Name: Oakwood

PWS Identification Number: 3054100

Consecutive System Type:

☒ Community

☐ Non-Transient Non-Community

☐ Transient Non-Community

Number of Service Connections at End of Month:

203

Total Population Served at End of Month:

477

Consecutive System Owner:

Aqua Utilities, FL

Contact Person:

William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address:

140 Hope Street

Longwood

State: FL

Zip Code: 32750

Contact Person's Telephone Number:

(407) 339-5424

Contact Person's Fax Number:

(407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

November, 2008

Type of Disinfectant Residual Maintained in Distribution System:

☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Emergency or Abnormal Operating Conditions;		Emergency or Abnormal Operating Conditions;	
Repair or Maintenance Work that Involves		Repair or Maintenance Work that Involves	
Taking Water System Components Out of		Taking Water System Components Out of	
Operation		Operation	
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L
1		17	
2		18	2.1
3		19	
4		20	2.4
5	2.8	21	
6		22	
7	3.0	23	
8		24	
9		25	2.0
10		26	
11	2.7	27	
12		28	2.4
13	3.5	29	
14	repaired 4" water main	30	
15		31	
16			

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 12/1/08
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

General Water System Information for the Month/Year of:

Dec. 2008

Consecutive System Name: Oakwood

PWS Identification Number: 3054100

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 203

Total Population Served at End of Month: 477

Consecutive System Owner: Aqua Utilities, FL

Contact Person: William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope Street

Longwood

State: FL

Zip Code: 32750

Contact Person's Telephone Number: (407) 339-5424

Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address:

Daily Distribution System Disinfectant Residual Data for the Month/Year of:

Dec. 2008

Type of Disinfectant Residual Maintained in Distribution System:

☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month		Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions: Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month		Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions: Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1				17			
2		1.0		18		2.1	
3				19			
4		1.0		20			
5				21			
6				22			
7				23		1.4	
8				24			
9		1.3		25			
10				26			
11		1.2		27		1.8	
12				28			
13				29			
14				30			
15				31			
16		1.5					

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of: January, 2009 PWS Identification Number: 3054100

Consecutive System Name: Oakwood

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 203 Total Population Served at End of Month: 477

Consecutive System Owner: Aqua Utilities, FL Contact Person's Title: Senior Facilities Operator

Contact Person: William Trendel State: FL Zip Code: 32750

Contact Person's Mailing Address: 140 Hope Street Contact Person's Fax Number: (407) 339-7490

Contact Person's Telephone Number: (407) 339-5424

Contact Person's E-Mail Address: _____

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of: January, 2009 ☐ Chlorine Dioxide

Type of Disinfectant Residual Maintained in Distribution System: ☒ Free Chlorine ☒ Combined Chlorine (Chloramines)

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2	1.2		18		
3			19		
4			20	1.3	
5			21		
6	1.5		22	1.2	
7			23		
8	1.7		24		
9			25		
10			26		
11			27		
12			28	1.6	
13	1.4		29		
14			30	2.4	
15	1.8		31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 2/8/09
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of: Feb. 2009

Consecutive System Name: Oakwood PWS Identification Number: 3054100

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 203 Total Population Served at End of Month: 477

Consecutive System Owner: Aqua Utilities, FL

Contact Person: William Trendel Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope Street Longwood State: FL Zip Code: 32750

Contact Person's Telephone Number: (407) 339-5424 Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of: Feb. 2009

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17	3.4	
2			18		
3			19	3.4	
4	2.6		20		
5			21		
6	2.0		22		
7			23		
8			24	3.5	
9	2.5		25		
10			26	3.7	
11			27		
12	1.4		28		
13			29		
14			30		
15			31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 3/6/09
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of: **March, 2009**

Consecutive System Name: **Oakwood** PWS Identification Number: **3054100**

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: **203** Total Population Served at End of Month: **477**

Consecutive System Owner: **Aqua Utilities, FL**

Contact Person: **William Trendel** Contact Person's Title: **Senior Facilities Operator**

Contact Person's Mailing Address: **140 Hope Street** **Longwood** State: **FL** Zip Code: **32750**

Contact Person's Telephone Number: **(407) 339-5424** Contact Person's Fax Number: **(407) 339-7490**

Contact Person's E-Mail Address: _____

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of: **March, 2009**

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2			18		
3	2.7		19	2.3	
4			20		
5	2.6		21		
6			22		
7			23		
8			24	3.4	
9			25		
10	3.4		26		
11			27		
12	3.7		28		
13			29		
14			30		
15			31	3.3	
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date: *William Trendel* **4/18/09**

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of: April, 2009

Consecutive System Name: Oakwood PWS Identification Number: 3054100

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 203 Total Population Served at End of Month: 477

Consecutive System Owner: Aqua Utilities, FL.

Contact Person: William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope Street Longwood State: FL Zip Code: 32750

Contact Person's Telephone Number: (407) 339-5424

Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of: April, 2009

Type of Disinfectant Residual Maintained in Distribution System: ☒ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2			18		
3	3.0		19		
4			20		
5			21	3.2	
6			22		
7	2.0		23	3.7	
8			24		
9	1.7		25		
10			26		
11			27		
12			28	3.0	
13			29		
14	2.5		30	3.4	
15			31		
16	2.8				

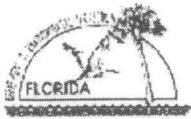
III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 5/5/09
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

May, 2009

PWS Identification Number: 3054100

Consecutive System Name: Oakwood

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community

☐ Transient Non-Community

Number of Service Connections at End of Month:

203

Total Population Served at End of Month:

477

Consecutive System Owner: Aqua Utilities, FL

Contact Person: William Trendel

Longwood

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope Street

State: FL

Zip Code: 32750

Contact Person's Telephone Number: (407) 339-5424

Contact Person's Fax Number:

(407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

May, 2009

Type of Disinfectant Residual Maintained in Distribution System:

☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1		
2		
3		
4		
5	3.3	
6		
7	3.5	
8		
9		
10		
11		
12		
13	3.2	
14		
15	3.4	
16		

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
17		
18		
19		
20		
21		
22	3.7	
23		
24		
25		
26	3.7	
27		
28	3.7	
29		
30		
31		

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 6/7/09
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

June, 2009

Consecutive System Name: Oakwood PWS Identification Number: 3054100
Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community
Number of Service Connections at End of Month: 203 Total Population Served at End of Month: 477
Consecutive System Owner: Aqua Utilities, FL.
Contact Person: William Trendel
Contact Person's Mailing Address: 140 Hope Street Longwood
Contact Person's Telephone Number: (407) 339-5424 State: FL Zip Code: 32750
Contact Person's E-Mail Address: Contact Person's Fax Number: (407) 339-7490

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

June, 2009

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2	3.6		18		
3			19		
4	3.3		20	3.0	
5			21		
6			22		
7			23		
8			24		
9	2.8		25	3.2	
10			26		
11	4.5		27		
12			28		
13			29		
14			30	3.5	
15			31		
16	2.6				

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 7/7/09
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of: July, 2009

Consecutive System Name: Oakwood PWS Identification Number: 3054100

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 203 Total Population Served at End of Month: 477

Consecutive System Owner: Aqua Utilities, FL

Contact Person: William Trendel Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope Street Longwood State: FL Zip Code: 32750

Contact Person's Telephone Number: (407) 339-5424 Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of: July, 2009

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1	3.7		17	2.8	
2			18		
3			19		
4			20		
5			21	4.1	
6			22		
7	3.4		23	3.7	
8			24		
9	5.1		25		
10			26		
11			27		
12			28	2.8	
13			29		
14	4.1		30	4.7	
15			31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date: William Trendel 8/6/09

Printed or Typed Name: William Trendel

License Number or Title: C-6411



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of: August, 2009

Consecutive System Name: Oakwood PWS Identification Number: 3054100

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 203 Total Population Served at End of Month: 477

Consecutive System Owner: Aqua Utilities, FL. Contact Person's Title: Senior Facilities Operator

Contact Person: William Trendel

Contact Person's Mailing Address: 140 Hope Street Longwood State: FL Zip Code: 32750

Contact Person's Telephone Number: (407) 339-5424 Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of: August, 2009

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2			18	3.4	
3			19		
4	3.0		20	3.8	
5			21		
6			22		
7	3.4		23		
8			24		
9			25	4.0	
10			26		
11			27		
12			28	5.2	
13	2.7		29		
14			30		
15			31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 9/6/09
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of: Sept. 2009

Consecutive System Name: Oakwood PWS Identification Number: 3054100

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 203 Total Population Served at End of Month: 477

Consecutive System Owner: Aqua Utilities, FL.

Contact Person: William Trendel Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope Street Longwood State: FL Zip Code: 32750

Contact Person's Telephone Number: (407) 339-5424 Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of: Sept. 2009

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2	3.3		18	3.8	
3			19		
4	3.1		20		
5			21		
6			22	0.5	
7			23		
8			24	0.4	
9	3.8		25		
10			26		
11	3.0		27		
12			28		
13			29	0.9	
14			30		
15	3.5		31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William L. D. 10/14/09
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of: Oct.2009

Consecutive System Name: Oakwood PWS Identification Number: 3054100

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 203 Total Population Served at End of Month: 477

Consecutive System Owner: Aqua Utilities, FL.

Contact Person: William Trendel Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope Street Longwood State: FL Zip Code: 32750

Contact Person's Telephone Number: (407) 339-5424 Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of: Oct.2009

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2	1.6		18		
3			19		
4			20	3.5	
5			21		
6	0.5		22	4.1	
7			23		
8			24		
9			25		
10			26		
11			27	3.3	
12			28		
13	0.7		29	3.9	
14			30		
15	0.6		31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date: William Trendel 11/4/09

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

Nov. 09

Consecutive System Name: Oakwood

PWS Identification Number: 3054100

Consecutive System Type:

☒ Community

☐ Non-Transient Non-Community

☐ Transient Non-Community

Number of Service Connections at End of Month:

203

Total Population Served at End of Month:

477

Consecutive System Owner:

Aqua Utilities, FL

Contact Person:

William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address:

140 Hope Street

Longwood

State: FL

Zip Code: 32750

Contact Person's Telephone Number:

(407) 339-5424

Contact Person's Fax Number:

(407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

Nov. 09

Type of Disinfectant Residual Maintained in Distribution System:

☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17	3.1	
2			18		
3	3.3		19	3.3	
4			20		
5	3.5		21		
6			22		
7			23	4.6	
8			24		
9			25	4.8	
10	2.8		26		
11			27		
12	3.4		28		
13			29		
14			30		
15			31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 12/4/09
Signature and Date

William Trendel

Printed or Typed Name

C-6411

License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of: December, 2009

Consecutive System Name: Oakwood PWS Identification Number: 3054100

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 203 Total Population Served at End of Month: 477

Consecutive System Owner: Aqua Utilities, FL

Contact Person: William Trendel Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope Street Longwood State: FL Zip Code: 32750

Contact Person's Telephone Number: (407) 339-5424 Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of: December, 2009

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1	3.4		17	3.5	
2			18		
3	3.2		19		
4			20		
5			21		
6			22	3.4	
7			23		
8	3.2		24	3.3	
9			25		
10	3.8		26		
11			27		
12			28		
13			29	3.4	
14			30		
15	2.9		31	3.3	
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 11/7/10
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title

**MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER
ORIGINATING FROM A SUBPART H SYSTEM**



See Page 2 for Instructions.

I General Water System Information for the Month/Year of January, 2010

Consecutive System Name: Oakwood PWS Identification Number: 3054100

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 203 Total Population Served at End of Month: 477

Consecutive System Owner: Aqua Utilities, FL

Contact Person: William Trendel Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope Street Longwood State: FL Zip Code: 32750

Contact Person's Telephone Number: (407) 339-5424 Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address: _____

II Daily Distribution System Disinfectant Residual Data for the Month/Year of January, 2010

Type of Disinfectant Residual Maintained in Distribution System: ☒ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2			18		
3			19	0.9	
4			20		
5	3.1		21	0.6	
6			22		
7	4.1		23		
8			24		
9			25		
10			26	0.6	
11			27		
12	4.9		28	2.0	
13			29		
14	5.0		30		
15			31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 2/7/10
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of February, 2010 **PWS Identification Number:** 3054100

Consecutive System Name: Oakwood

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 203 **Total Population Served at End of Month:** 477

Consecutive System Owner: Aqua Utilities, FL **Contact Person's Title:** Senior Facilities Operator

Contact Person: William Trendel **Longwood** **State:** FL **Zip Code:** 32750

Contact Person's Mailing Address: 140 Hope Street **Contact Person's Fax Number:** (407) 339-7490

Contact Person's Telephone Number: (407) 339-5424

Contact Person's E-Mail Address: _____

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of February, 2010

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2	1.2		18	1.2	
3			19		
4	0.7		20		
5			21		
6			22		
7			23	2.1	
8			24		
9	1.3		25	0.6	
10			26		
11	0.4		27		
12			28		
13			29		
14			30		
15			31		
16	0.8				

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date

William Trendel 3/7/10

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 1 for Instructions.

March, 2010

Consecutive System Name: Oakwood
Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community
Number of Service Connections at End of Month: 203
Consecutive System Owner: Aqua Utilities, Inc.
Contact Person: William Trudel
Contact Person's Mailing Address: 140 Hope Street
Contact Person's Telephone Number: (407) 339-5424
Contact Person's E-Mail Address: [REDACTED]
PWS Identification Number: 3054100
Total Population Served at End of Month: 477
Contact Person's Title: Senior Facilities Operator
State: FL
Zip Code: 32750
Contact Person's Fax Number: (407) 339-7490

March, 2010

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2	0.8		18	1.2	
3			19		
4			20		
5			21		
6			22		
7			23	0.4	
8			24		
9	0.9		25	0.5	
10			26		
11	0.4		27		
12			28		
13			29		
14			30	3.6	
15			31		
16	1.4				

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date: *William Trudel* 4/14/10

William Trudel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

April, 2010

PWS Identification Number 3054100

Consecutive System Name Oakwood

Consecutive System Type

☒ Community

☐ Non-Transient Non-Community

☐ Transient Non-Community

Number of Service Connections at End of Month

203

Total Population Served at End of Month

477

Consecutive System Owner

Aqua Utilities, Inc.

Contact Person

William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address

140 Hope Street

Oakwood

State FL

Zip Code 32759

Contact Person's Telephone Number

(407) 339-5424

Contact Person's Fax Number

(407) 339-7490

Contact Person's E-Mail Address

April, 2010

Type of Disinfectant Residual Maintained in Distribution System

☒ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions: Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions: Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1	5.9		17		
2			18		
3			19		
4			20	0.5	
5			21		
6	1.8		22	0.3	
7			23		
8	1.3		24		
9			25		
10			26		
11			27	0.5	
12			28	0.7	
13	2.7		29		
14			30		
15	1.0		31		
16					

I am duly authorized to sign this report on behalf of the consecutive system described in Part I of this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 5/7/10
Signature and Date

William Trendel
Printed or Typed Name

1-6411
License Number or Title

DRINKING WATER BACTERIOLOGICAL SAMPLE COLLECTION AND LABORATORY REPORTING FORMAT

5600 US 1 North
Fort Pierce, FL 34946
FDOH # E96080

4155 St. Johns Parkway
Suite 1300
Sanford, FL 32771
FDOH # E83509



HBEL, Inc.
Environmental Testing Services
Phone (772) 465-8584 Fax (772) 467-1584

HBEL Report Number: 2136922 Sub-Contract Lab ID: _____

Analysis Method Requested:

☒ ColiIert ☐ Membrane Filtration PWS I.D. 3054100

System Name: OAKWOOD # 1702

System Address: US #1 & BROCKETT

City: Mims System or Owner's Phone #: 407-339-5424 Fax #: _____

Collector: T. McCarthy Collector's Phone #: SAME

Relinquished By: Luz McCarthy Received By: _____ Relinquished By: _____

Date/Time: 4/6/10 1403 Date/Time: _____ Date/Time: _____

Type of Supply: ☒ Community Water System ☐ Noncommunity Water System ☐ Nontransient-Noncommunity Water System ☐ Limited Use System
(check only one) ☐ Private Well ☐ Swimming Pool ☐ Bottled Water ☐ Other

Reason for Sampling: (check only one) ☒ Routine Compliance ☐ Repeat ☐ Replacement ☐ Main Clearance ☐ Well Survey ☐ Other

Sample Collection Date(s): 4/6/10

TO BE COMPLETED BY COLLECTOR OF SAMPLE					
Sample Number	SAMPLE POINT (Location or Specific Address)	Collection Time	Sample Type ¹	Disinfect Res'd mg/L	pH
1	3133 BAILEY	1330	D	1.8	8.3
2	3235 CEDAR	1340	D	1.7	8.3

Average of disinfectant residuals for routine and repeat samples. (Complete for community and nontransient noncommunity systems serving populations up to and including 4,900. Do not include raw or plant samples in the average.)

1.8

Disinfectant Residual Analysis Method: ☒ DPD Colorimetric ☐ Other
Person performing analysis is:
☒ A certified operator (# C-4617) ☐ Employed by a certified lab
☐ Supervised by a certified operator (# _____) ☐ Employed by DEP or DOH

Name and Mailing Address of Person/Firm to Receive Report

AQUA UTIL. FL.
140 HOPE ST.
LONGWOOD, FL. 32750



Page 1 of 1

LABORATORY CERTIFICATE OF ANALYSIS

Total Coliform Analysis Method: (MF) SM9222B (ColiIert) SM9223B

E. coli Analysis Method (MF) EC-MUG (ColiIert) SM9223B

Non Coliform	Total Coliform	E. Coli	Data Qual. ²	Lab Sample Number
	A			2136922 001
	A			2136922 002

Key: P - Present A - Absent C - Confluent Growth
TNTC-Too Numerous to Count TA-Turbid
L.C.A. Absence of gas or acid

Analyst: JL

Report authorized by: [Signature]
Technical Director or Designee

Date: 4/9/10 Unless otherwise noted, all test results contained within this report meet all applicable Method, Laboratory and NELAC guidelines. Questions regarding this report should be directed to the report Signatory at the phone number above.

☐ Satisfactory ☐ Repeat Samples Required
☐ Incomplete Collection information ☐ Replacement Samples Required

Date Reviewed by DEP/DOH: _____

DEP/DOH Reviewing Official: _____

¹ DEP Sample Types: D=Distribution (Routine Compliance); C=Repeat or Check; R=Raw; N=Entry to Distribution; P=Plant Tap; S=Special (clearance, etc.)

² Defined in Florida Administrative Code Rule 62-160



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

VIA EMAIL

JMLIHVARCIK@AQUAAMERICA.COM

May 18, 2010

Mr. Jack Lihvarcik
Aqua Utilities Florida, Inc.
1100 Thomas Avenue
Leesburg, FL 34748

OCD-PW-SS-10-0347

Brevard County – PW
Oakwood Manor (Consecutive to Mims)
PWS ID Number 3054100

Dear Mr. Lihvarcik:

This confirms a visit to the subject consecutive community public water system on May 12, 2010, by Chris Rossing to conduct a sanitary survey inspection. A copy of the sanitary survey inspection report is enclosed for your reference and records.

Deficiencies found during the sanitary survey and in Department records are listed in the enclosed report. These deficiencies shall be corrected in order to return to compliance with *Florida Administrative Code* (F.A.C.) Rules 62-550, 62-555, 62-560 and 62-602.

Please correct the indicated deficiencies, and notify the Department in writing that the deficiencies have been corrected, **no later than July 2, 2010**. (You may use the attached response form to indicate the corrective actions taken.)

If you have any questions, please contact Chris Rossing by e-mail at Chris.Rossing@dep.state.fl.us or by phone at (407)893-3318, extension 2294.

Sincerely,

Reggie Phillips, Environmental Supervisor II
Drinking Water Compliance and Enforcement

RFP/cr
Enclosures

cc: Harry Householder, Operations Manager (HHOUSEHOLDER@AQUAAMERICA.COM)
Patrick Farris, Environmental Compliance Specialist (PAFARRIS@AQUAAMERICA.COM)
Chris Rossing, DEP Drinking Water Compliance and Enforcement

State of Florida
Department of Environmental Protection
Central District

SANITARY SURVEY REPORT
Consecutive Water Systems – No Retreatment

System Name OAKWOOD MANOR (CONSECUTIVE TO MIMS) County Brevard PWS ID # 3054100
System Location 3200 Brockett Road, Mims, FL 32754 Phone 407/880-0100
Owner Name Aqua Utilities Florida, Inc. Phone 352/435-4028
Owner Address 1100 Thomas Avenue, Leesburg, FL 34748
Contact Person Patrick Farris Title Env. Compliance Spec. Phone 352/435-4029
This Survey Date 5/12/10 Last Survey Date 5/17/07 Last C.I. Date 12/23/98

PWS TYPE & CATEGORY/CLASS

- ☒ Consecutive/Community (6)
☐ Consecutive/Non-transient non-community
☐ Consecutive/Non-community

PWS STATUS

- ☐ Approved system with approval number & date
☒ Accepted
☐ Unapproved system

SERVICE AREA CHARACTERISTICS

Subdivision _____
Food Service: ☐ Yes ☐ No ☒ N/A

DISTRIBUTION SYSTEM

Number of Service Connections 203
Population Served 477 Basis Operator
Flow Measuring Device Master Meter (purchased)
Chlorine Residual Free = 0.2 Total = 1.1
Backflow Prevention Devices: ☒ Yes ☐ No
Bacteriological Monitoring Monthly
Coliform Sampling Plan: ☒ Yes ☐ No ☐ N/A
Lead and Copper Sampling Currently triennial

Comments _____

CROSS CONNECTION CONTROL

BFPAs 1 # Tested 1
WWTP RPZ N/A Date Tested N/A
Written Plan No Date N/A
Cross-connections None observed
Comments _____

PURCHASED WATER SOURCE

PWS Name Mims Water Treatment/North Brevard
PWS ID # 3050834
Source Design Capacity 2,400,000 gpd
Treatment: Disinfection, ammoniation, sand filtration,
Aqua-Mag, lime softening, fluoridation

AUXILIARY POWER SOURCE

☐ Yes ☐ None ☒ Not Required
Source _____ Purchased _____

OPERATION & MAINTENANCE

Certified Operator: ☒ Yes ☐ No ☐ Not required
Operator(s) & Certification Class-Number:
Bill Trendel C-6411
Operation & Maintenance Logbook ☒ Yes ☐ No
MORs submitted regularly? ☒ Yes ☐ No ☐ N/A
Data missing from MORs? ☒ No ☐ Yes ☐ N/A

Comments _____

SYSTEM RECORDS

3 Years/CCR's ☐ Yes ☒ No
5 Years/Bacteriologicals ☒ Yes ☐ No
12 Years/Lead & Copper ☒ Yes ☐ No
10 Years/MOR's ☒ Yes ☐ No
Asbestos Waiver/Results ☐ Yes ☒ No
Distribution Maps ☒ Yes ☐ No

WRITTEN PROGRAMS

Operation & Maintenance Manual ☒ Yes ☐ No
Preventive Maintenance Program ☒ Yes ☐ No
Flushing Program ☐ Yes ☐ No ☒ N/A
Records ☐ Yes ☐ No
Isolation Valve Exercise ☐ Yes ☐ No ☒ N/A
Records ☐ Yes ☐ No
Emergency Response Plan ☒ Yes ☐ No

DEFICIENCIES:

1. Failure to keep Consumer Confidence Reports (CCRs) on file for 3 years.

Any system subject to this subpart must retain copies of its CCR for no less than 3 years. [Rule §141.155(2)(h), 40 CFR 141 Subpart O]

2. Failure to provide asbestos waiver/results.

A system without asbestos-containing components shall certify to the Department in writing, using Form 62-555.900(10), that it is asbestos free. Certification shall satisfy the requirements of subsections (1), (2), and (3) above, and shall be submitted each nine-year compliance cycle during the specified year the system is required to monitor. [Rule 62-550.511(4), F.A.C.]

3. Failure to establish and implement a cross-connection control program. The written cross-connection program shall include:

- i. Written legal authority.
- ii. Written policy establishing where backflow prevention at water service connections is mandatory because of actual or potential cross-connections.
- iii. Written policy regarding ownership, installation, testing, and maintenance of backflow preventers at service connections.
- iv. Written procedures for assessing new or existing service connections to determine the need for backflow preventers at service connections.
- v. Written procedures for keeping cross-connection control program records.
- vi. Written procedures for educating customers about cross-connection control and backflow prevention.
- vii. Written procedures for investigating and responding to, backflow incidents.

Community water systems, and all public water systems that have service areas also served by reclaimed water systems regulated under Part III of Chapter 62-610, F.A.C., shall establish and implement a routine cross-connection control program to detect and control cross-connections and prevent backflow of contaminants into the water system. This program shall include a written plan that is developed using recommended practices of the American Water Works Association set forth in *Recommended Practice for Backflow Prevention and Cross-Connection Control*, AWWA Manual M14, as incorporated into Rule 62-555.330, F.A.C. [Rule 62-555.360(2), F.A.C.]

Upon discovery of a prohibited cross-connection, public water systems shall either eliminate the cross-connection by installation of an appropriate backflow prevention device acceptable to the Department or shall discontinue service until the contaminant source is eliminated. [Rule 62-555.360(3), F.A.C.]

COMMENTS/REMINDERS:

- The consumer confidence report (CCR) must be delivered to consumers and the Department no later than July 1, annually, and certification of delivery of the CCR must be submitted to the Department no later than August 10, annually.
- For monitoring schedules and information about the Drinking Water Program, please visit the Central District's Drinking Water website at <http://www.dep.state.fl.us/central/Home/DrinkingWater/default.htm>.

Inspector  Title Env. Specialist II Date 5/18/10

Approved by  Title Env. Supervisor II Date 5/18/10

RESPONSE

Please provide any changes to the following:

PWS ID Number: 3054100

Business Name: _____

PWS Name: **Oakwood Manor (Consecutive to Mims)**

Owner(s) Name: _____

Mailing Address: _____

Mailing Address: _____

Date: _____

Phone Number(s): _____

Fax #: _____

E-Mail Address: _____

**Florida Department of Environmental Protection
Drinking Water Compliance/Enforcement Program
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803**

Attention: Chris Rossing, Environmental Specialist II

In response to the Department's **Sanitary Survey Report** for the subject public water system dated May 12, 2010, the following actions were done to correct the listed deficiencies:

Deficiency**Item No.****Corrective Action Done****Date Done**

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

(Attach additional sheet if necessary)

I hereby certify to the correctness of the above information:

PWS Owner/Representative Signature: _____

Name of PWS Owner/Representative: _____

(Please Type or Print)



Aqua Utilities Florida, Inc.
1100 Thomas Avenue
Leesburg, FL 34748

T: 352.787.0980
F: 352.787.6333
www.aquautilitiesflorida.com

June 18, 2010

Chris Rossing
FDEP CD
3319 Maguire Boulevard, Suite 232
Orlando, FL 32803-3767

**RE: Reply to Sanitary Survey
Oakwood Manor
PWS ID No. 3054100
Brevard County**

Dear Mr. Rossing:

This letter is in response to your inspection of the facility referenced above on May 12, 2010.

1. Three years of Consumer Confidence Reports are maintained electronically and hardcopies at the Longwood field office. Copies of the past three years CCRs are attached for your review.
2. The asbestos results are attached for your review and will also be added to the records maintained electronically and in hardcopy at the Longwood field office.
3. Attached is a copy of Aqua Utilities Florida Cross Connection Control Policy.

If you have any questions, please contact me at (352) 435-4029 or by e-mail at PAFarris@aquaamerica.com. Thank you.

Sincerely,

Patrick A. Farris
Environmental Compliance Specialist
Aqua Utilities Florida, Inc.

Enclosures: CCRs
Asbestos Sampling Plan & 2003 Results
CCCP

cc: Will Fontaine, via e-mail
Harry Householder, via e-mail
Michael Pickel, via e-mail

2007 Annual Drinking Water Quality Report Oakwood Manor PWS ID # FL3054100

Este informe contiene información importante sobre la calidad de su agua de beber. Hable con alguien que lo entienda o llame al 877.WTR.AQUA (877.987.2782).

We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. If you have any questions about this report or concerns about your water utility, please contact us at 877.WTR.AQUA (877.987.2782) or visit us at www.aquautilitiesflorida.com.

Oakwood Manor purchases its water through an interconnection with Brevard County Utilities, MIMS plant. The source of water is groundwater, which comes from the Floridan Aquifer. The water is softened by lime, chloraminated for disinfection, and a corrosion inhibitor is added. The Florida Department of Environmental Protection (DEP) performed a Source Water Assessment on Brevard County Utilities in 2004. Information provided by this assessment indicated that Brevard County Utilities is of moderate susceptibility to contamination due to two potential sources. The assessment results are available on the DEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- A) **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B) **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- C) **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- D) **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- E) **Radioactive contaminants**, which can be naturally occurring or result from oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1.800.426.4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the **SAFE DRINKING WATER HOTLINE (1.800.426.4791)**.

Terms and Abbreviations

Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum residual disinfectant level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum residual disinfectant level goal or MRDLG: The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable. **ND:** means not detected and indicates that the substance was not found by laboratory analysis.

Parts per million (ppm) or Milligrams per liter (mg/l): one part by weight of analyte to 1 million parts by weight of the water sample.

Parts per billion (ppb) or Micrograms per liter (µg/l): one part by weight of analyte to 1 billion parts by weight of the water sample.

PicoCurie per liter (pCi/L): measure of the radioactivity in water.

Our water systems are designed and operated to deliver water to our customers' plumbing systems that complies with state and federal drinking water standards. This water is disinfected using chlorine, but it is not necessarily sterile. Customers' plumbing, including treatment devices, might remove, introduce or increase contaminants in tap water. All customers, and in particular operators of facilities like hotels and institutions serving susceptible populations (like hospitals and nursing homes), should properly operate and maintain the plumbing systems in these facilities. You can obtain additional information from the EPA's Safe Drinking Water Hotline at 800.426.4791.

2007 ANNUAL DRINKING WATER QUALITY TEST RESULTS

Aqua Utilities Florida routinely monitors for contaminants in your drinking water according to Federal and State laws, rules, and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2007 for **Oakwood Manor PWS ID #FL3054100**. The Environmental Protection Agency (EPA) requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the table below are the only contaminants detected in your drinking water. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

* Except as noted, results in the Level Detected column are the highest average at any sampling point or the highest single detected level at a sampling point, depending on sampling frequency.

Radiological Contaminants- Brevard County System							
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected*	Range of Results	MCLG	MCL	Likely Source of Contamination
Alpha emitters (pCi/L)	10/02	N	1.4	NA	0	15	Erosion of natural deposits
Radium 226 + 228 or combined radium (pCi/L)	10/02	N	0.2	NA	0	5	
Inorganic Contaminants- Brevard County System							
Asbestos (MFL)	10/02	N	0.8	NA	7	7	Decay of asbestos cement water mains; erosion of natural deposits
Arsenic (ppb)	06/05	N	1.2	NA	N/A	10	Erosion of natural deposits
Barium (ppm)	06/05	N	0.0026	NA	2	2	Erosion of natural deposits
Cyanide (ppb)	06/05	N	8.0	NA	200	200	Discharge from steel metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	06/05	N	0.56	NA	4	4	Erosion of natural deposits
Lead (point of entry) (ppb)	06/05	N	0.9	NA	N/A	15	Erosion of natural deposits; corrosion of plumbing
Mercury (inorganic) (ppb)	06/05	N	0.013	NA	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen) (ppm)	08/07	N	0.28	NA	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	08/07	N	0.04	NA	1	1	
Selenium (ppb)	06/05	N	0.2	NA	50	50	Erosion of natural deposits
Sodium (ppm)	06/05	N	32.0	NA	NA	160	Salt water intrusion, leaching from soil

TTHMs and Stage I Disinfectant/ Disinfection Byproduct (D/DBP) Parameters- Brevard County System
For Chloramines, Haloacetic Acids and TTHM the level detected is the highest annual average of the quarterly averages. Range of Results is the range of results (lowest to highest) at individual sampling sites.

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG/ MRDLG	MCL/ MRDL	Likely Source of Contamination
Chloramines (ppm)	2007	N	3.5	1.6- 3.6	MRDLG =4	MRDL =4	Water additive used to control microbes
Total Haloacetic Acids (ppb)	08/06	N	22.2	NA	NA	60	Byproduct of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	08/06	N	23.3	NA	NA	80	

Disinfectants- Oakwood Manor System							
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MRDLG	MRDL	Likely Source of Contamination
Chlorine (ppm)	2007	N	2.2	0.5- 3.7	4	4	Water additive used to control microbes

Lead and Copper (Tap Water)- Oakwood Manor System							
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	AL Violation Y/N	90 th Percentile Result	No. of sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (ppm)	08/07	N	1	0	1.3	1.3	Corrosion of household plumbing
Lead (ppb)	08/07	N	0.0645	0	0	15	

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Aqua is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for 70 years to have a one-in-a-million chance of having the described health effect.

2008 Annual Drinking Water Quality Report Oakwood Manor PWS ID # FL3054100

Este informe contiene información importante sobre la calidad de su agua de beber. Hable con alguien que lo entienda o llame al 877.WTR.AQUA (877.987.2782).

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Radiological Contaminants- Brevard County System

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected*	Range of Results	MCLG	MCL	Likely Source of Contamination
Combined radium (pCi/L)	07/08	N	0.6	NA	0	5	Erosion of natural deposits

Inorganic Contaminants- Brevard County System

Arsenic (ppb)	07/08	N	1.7	NA	N/A	10	Erosion of natural deposits
Cyanide (ppb)	07/08	N	9.0	NA	200	200	Discharge from steel metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	07/08, 10/08	N	2.1	0.53 – 2.1	4	4	Erosion of natural deposits
Lead (point of entry) (ppb)	07/08	N	0.9	NA	N/A	15	Erosion of natural deposits; corrosion of plumbing
Mercury (inorganic) (ppb)	07/08	N	0.02	NA	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen) (ppm)	07/08	N	0.10	NA	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	07/08	N	0.04	NA	1	1	
Sodium (ppm)	07/08	N	42.0	NA	NA	160	Salt water intrusion, leaching from soil

TTHMs and Stage I Disinfectant/ Disinfection Byproduct (D/DBP) Parameters- Brevard County System

For Chloramines, Haloacetic Acids and TTHM the level detected is the highest annual average of the quarterly averages. Range of Results is the range of results (lowest to highest) at individual sampling sites.

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG/ MRDLG	MCL/ MRDL	Likely Source of Contamination
Chloramines (ppm)	2008	N	2.94	2.3 – 3.7	MRDLG =4	MRDL =4	Water additive used to control microbes
Total Haloacetic Acids (ppb)	07/08	N	28.4	NA	NA	60	Byproduct of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	07/08	N	59	NA	NA	80	

Lead and Copper (Tap Water)- Oakwood Manor System

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	AL Violation Y/N	90 th Percentile Result	No. of sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (ppm)	08/07	N	0.0645	0	1.3	1.3	Corrosion of household plumbing
Lead (ppb)	08/07	N	1.2	0	0	15	

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Aqua is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for 70 years to have a one-in-a-million chance of having the described health effect.

Our water systems are designed and operated to deliver water to our customers' plumbing systems that complies with state and federal drinking water standards. This water is disinfected using chlorine, but it is not necessarily sterile. Customers' plumbing, including treatment devices, might remove, introduce or increase contaminants in tap water. All customers, and in particular operators of facilities like hotels and institutions serving susceptible populations (like hospitals and nursing homes), should properly operate and maintain the plumbing systems in these facilities. You can obtain additional information from the EPA's Safe Drinking Water Hotline at 800.426.4791.

2009 Annual Drinking Water Quality Report Oakwood Manor PWS ID # FL3054100

Este informe contiene información importante sobre la calidad de su agua de beber.
Hable con alguien que lo entienda o llame al 877.WTR.AQUA (877.987.2782).

We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. If you have any questions about this report or concerns about your water utility, please contact us at 877.WTR.AQUA (877.987.2782) or visit us at www.aquautilitiesflorida.com.

Oakwood Manor purchases its water through an interconnection with Brevard County Utilities, MIMS plant. The source of water is groundwater, which comes from the Floridan Aquifer. The water is softened by lime, chloraminated for disinfection, and a corrosion inhibitor is added. The Florida Department of Environmental Protection (DEP) performed a Source Water Assessment on Brevard County Utilities in 2009. Information provided by this assessment indicated that Brevard County Utilities is of moderate susceptibility to contamination due to three potential sources. The assessment results are available on the DEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- A) **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B) **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- C) **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- D) **Organic chemical contaminants**, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- E) **Radioactive contaminants**, which can be naturally occurring or result from oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1.800.426.4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the SAFE DRINKING WATER HOTLINE (1.800.426.4791).

Terms and Abbreviations

Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum residual disinfectant level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum residual disinfectant level goal or MRDLG: The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable.

ND: means not detected and indicates that the substance was not found by laboratory analysis.

Parts per million (ppm) or Milligrams per liter (mg/l): one part by weight of analyte to 1 million parts by weight of the water sample.

Parts per billion (ppb) or Micrograms per liter (µg/l): one part by weight of analyte to 1 billion parts by weight of the water sample.

PicoCurie per liter (pCi/L): measure of the radioactivity in water.

2009 ANNUAL DRINKING WATER QUALITY TEST RESULTS

Aqua Utilities Florida routinely monitors for contaminants in your drinking water according to Federal and State laws, rules, and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2009 for **Oakwood Manor PWS ID #FL3054100**. The Environmental Protection Agency (EPA) requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the table below are the only contaminants detected in your drinking water. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

* Except as noted, results in the Level Detected column are the highest average at any sampling point or the highest single detected level at a sampling point, depending on sampling frequency.

Radiological Contaminants- Brevard County System

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected*	Range of Results	MCLG	MCL	Likely Source of Contamination
Radium 226 + 228 or Combined radium (pCi/L)	07/08	N	0.6	NA	0	5	Erosion of natural deposits

Inorganic Contaminants- Brevard County System

Arsenic (ppb)	07/08	N	1.7	NA	NA	10	Erosion of natural deposits
Cyanide (ppb)	07/08	N	9.0	NA	200	200	Discharge from steel metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	6/09, 10/09	N	0.98	0.40 - 0.98	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Lead (point of entry) (ppb)	07/08	N	0.9	NA	NA	15	Erosion of natural deposits; corrosion of plumbing
Mercury (inorganic) (ppb)	07/08	N	0.02	NA	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen) (ppm)	7/2009	N	0.24	NA	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	7/2009	N	0.012	NA	1	1	
Sodium (ppm)	07/08	N	42.0	NA	NA	160	Salt water intrusion, leaching from soil

Stage I Disinfectants and Disinfection By-Products - For Chlorine, the level detected is the highest annual average of the quarterly averages. Range of Results is the range of individual sample results. For Haloacetic Acids and TTHM, the level detected is the highest level found.

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG/ MRDLG	MCL/ MRDL	Likely Source of Contamination
Oakwood Manor							
Chloramines (ppm)	2009	N	2.86	1.7 - 3.3	MRDLG =4	MRDL =4	Water additive used to control microbes
Brevard County							
Total Haloacetic Acids (ppb)	8/2009	No	13.2	NA	NA	60	Byproduct of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	8/2009	No	62	NA	NA	80	

Lead and Copper (Tap Water)- Oakwood Manor System

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	AL Violation Y/N	90 th Percentile Result	No. of sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (ppm)	08/07	N	0.0645	0	1.3	1.3	Corrosion of household plumbing
Lead (ppb)	08/07	N	1.2	0	0	15	

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Aqua is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

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ASBESTOS-FREE CERTIFICATION OR ASBESTOS SAMPLING PLAN FOR PWSs

See page 2 for instructions.

I. General Information

Public Water System (PWS) Name: Oakwood
PWS Identification Number: 3054100 PWS Type: ☒ Community ☐ Non-Transient Non-Community
PWS Owner: Aqua Utilities Florida, Inc.
Contact Person: Will Fontaine Contact Person's Title: Field Coordinator
Contact Person's Mailing Address: P.O. Box 2480
City: Lady Lake State: FL Zip Code: 32158-2480
Contact Person's Telephone Number: 352-266-2953 Contact Person's Fax Number: 352-787-6333.
Contact Person's E-Mail Address: wmfontaine@aquaamerica.com

II. Asbestos-Free Certification

I am duly authorized to sign this form on behalf of the PWS identified in Part I of this form. I certify that, to the best of my knowledge and belief, there are no asbestos-cement pipes or other asbestos containing components in said PWS. This certification is for the

scheduled monitoring year of _____.

Signature and Date

Printed or Typed Name

III. Asbestos Sampling Plan

- A. Scheduled Monitoring Year: 2011
B. Asbestos Sampling Location*: 3083 Dover Road

* The asbestos sampling location shall be a tap served by asbestos-cement pipe. (This does not mean that the asbestos sampling location must be a consumer's tap. The asbestos sampling location may be any convenient place in a portion of the distribution system served by asbestos-cement pipe.)

- C. Reason Why Above Asbestos Sampling Location Was Chosen: Sampling location has the most exposure to the asbestos piping due to being the furthest location from the point of entry.

- D. Conditions Under Which Asbestos Sample Will Be Taken*: During the summer months when the water is most aggressive (June, July, August, or September of 2011).

* Asbestos samples shall be taken under conditions where asbestos contamination is most likely to occur. (Waters with low pH [less than approximately 7.5 or 8, unless the waters contain high calcium, alkalinity, and silicate levels], very high sulfate concentrations, and polyphosphates are particularly destructive to asbestos-cement pipe.)

**HARBOR BRANCH
ENVIRONMENTAL
LABORATORIES, INC.**

5600 U.S. 1 North, Fort Pierce FL 34946
Phone: (772) 465-2400, Ext. 285 Fax: (772) 467-1584

August 27, 2003

To: Jim Smith
Florida Water Services
401 Fisher Dr
Deltona, FL 32725

Client: Florida Water Services

Workorder ID: 1702DW Oakwood Asbestos

[2114973]

Received: 8/18/03 10:15

Dear Jim Smith;

Analytical results presented in this report have been reviewed for compliance with the HARBOR BRANCH Environmental Laboratories Inc.'s (HBEL) Quality Systems Manual and have been determined to meet the standards referenced in the July 1999 National Environmental Laboratory Accreditation Program (NELAP) Quality Manual. The associated Quality Control parameters have been evaluated and meet all Method, Compliance and Standards criteria unless otherwise noted on a Quality Control Summary Page.

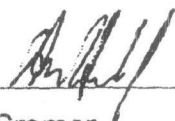
FDOH Safe Drinking Water Act, Clean Water Act and RCRA Certification #'s:

E96080, E83509, E82417, E85370, E84418

Analytical results herein reflect the values obtained from tests performed on samples as received by the laboratory unless otherwise indicated.

Should you have any questions, please contact HBEL at (772) 465-2400, Ext. 285 and reference the HBEL Workorder ID [Number].

Respectfully submitted,



Cindy Cromer
HBEL, Inc. Director

Note: This report is not to be copied, except in full, without the expressed written consent of the HARBOR BRANCH Environmental Laboratories, Inc.

Southeast Florida
FDOH # E96080

Central Florida
FDOH # E83509

Northeast Florida FDOH # E82417

Southwest Florida
FDOH # E85370

West Central Florida
FDOH # E84418



Page 1 of 4

HARBOR BRANCH ENVIRONMENTAL LABORATORIES, INC.

500 U.S. 1 North, Fort Pierce, FL 34946
Phone: (772) 465-2400, Ext. 285 Fax: (772) 467-1584

Method Narratives/FDEP Data Qualifiers

Client: Florida Water Services
Workorder ID: 1702DW Oakwood Asbestos
Received: 8/18/03 10:15

[2114973]

MB=Method Blank LCS=Laboratory Control Sample LCSD=Laboratory Control Sample Duplicate MS=Matrix Spike MSD=Matrix Spike Duplicate DUP=Sample Duplicate

HBEL Sample

Method Narratives (If Applicable)

Number	Sample ID	Analytical Method	Description
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HBEL Sample

Data Qualifiers (If Applicable)

Number	Sample ID	Parameter	Method	Qualifier Code	Qualifier Definition
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Quality Control Summary

Method	HBEL Batch	Analyte	Analytical Issue
--------	------------	---------	------------------

Southeast Florida
FDOH # E96080

Central Florida
FDOH # E83509

Northeast Florida FDOH # E82417

Southwest Florida
FDOH # E85370

West Central Florida
FDOH # E84418



HARBOR BRANCH ENVIRONMENTAL LABORATORIES, INC.

5600 U.S. 1 North, Fort Pierce FL 34946
Phone: (772) 465-2400, Ext. 285 Fax: (772) 467-1584

CERTIFICATE OF ANALYSIS

[2114973]

Client: Florida Water Services

Workorder ID: 1702DW Oakwood Asbestos

Parameter	Result ¹	Units	Reporting Limit	Method	Laboratory Batch	Prep Date/Time	Analyzed Date/Time	Analyst	Lab ID
Laboratory ID: 2114973001				Sampled: 08/18/03 9:20		Received: 08/18/03 10:15			
Sample ID: 3083 Dover Grab				Matrix: Water		Results reported on As Received Basis			
Asbestos	0.10 U	mf/L	0.10	EPA 100.2			08/19/03 10:10	EMS	E87804

¹Result Qualifiers: U = Not Detected ND = Not Detected

Southeast Florida
FDOH # E96080

Central Florida
FDOH # E83509

Northeast Florida FDOH # E82417

Southwest Florida
FDOH # E85370

West Central Florida
FDOH # E84418

Printed: 8/27/03



Page 3 of 4

**HARBOR BRANCH
ENVIRONMENTAL
LABORATORIES, INC.**

5600 U.S. 1 North, Fort Pierce, FL 34946
Phone: (772) 465-2400, Ext. 285 Fax: (772) 467-584

INORGANIC ANALYSIS

62 - 550.310 (1)

(PWS030)

Client: Florida Water Services Workorder: 1702DW Oakwood Asbestos
Sample Location: 3083 Dover Grab
Sample Number: 2114973001
Sampling Date: 8/18/03 9:20
Preservative: Nitric Acid, Sodium Hydroxide, or None
Date Received: 8/18/03 10:15

ID	Parameter	MCL	Result	Method	MDL	Date	Lab ID	
1094	Asbestos	[7]	0.10 U	mf/L	EPA 100.2	0.10	8/19/03	E87804

Southeast Florida
FDOH # E96080

Central Florida
FDOH # E83509

Northeast Florida FDOH # E82417

Southwest Florida
FDOH # E85370

West Central Florida
FDOH # E84418



PUBLIC DRINKING WATER ANALYSIS REPORTING FORMAT
PUBLIC WATER SYSTEM INFORMATION (to be completed by system or lab)

System Name: Oak Creek I.D. #: 3054100

Address: US 1 & Brockton Phone #: _____

Type check one: ☒ Community ☐ Nontransient Noncommunity ☐ Noncommunity

SAMPLE INFORMATION (to be completed by sampler)

Sample Date (MMDDYY) 08/18/03 Sample Time: 9:20

Sample Location (be specific): 3083 Dover Grab

Sampler Name and Phone: R Henderson

Sampler's Signature: _____ Title: operator

Check Type(s): ☒ Distribution ☐ Recheck of MC ☐ Resample of Lab Invalidated Sample
☐ Clearance ☐ 1hr Max Res Time ☐ Plant Tap
☐ Distrib entry point ☐ Raw ☐ Composite of Multiple Sites -- Attach a format for each site

LABORATORY CERTIFICATION INFORMATION (to be completed by lab) - ATTACH HRS ANALYTE SHEET

Lab Name Harbor Branch Environmental Laboratory HRS #: E96080 Expiration Date 06/30/04

Address: 5600 U. S. 1 North, Fort Pierce, FL 34946 Phone #: (772) 465-2400 Ext 285

Subcontracted Lab HRS#: E87804 Group Analyzed: ASBESTOS

ANALYSIS INFORMATION (to be completed by lab) -- **SAMPLE NUMBER:** 2114973001

Date Sample(s) Received 08/18/03 Group(s) Analyzed Results Attached for compliance with 62-550, F.A.C.

<input type="checkbox"/> Nitrate Only	<input type="checkbox"/> Nitrite Only	<input checked="" type="checkbox"/> Asbestos Onl	<input type="checkbox"/> Trihalomethane
Inorganics--	Volatile Organics--	Secondaries--	Pesticides PCBs--
<input type="checkbox"/> All 17 <input type="checkbox"/> Partial	<input type="checkbox"/> All 21 <input type="checkbox"/> Partial	<input type="checkbox"/> All 14 <input type="checkbox"/> Partial	<input type="checkbox"/> All 30 <input type="checkbox"/> Partial
Group I Unregulateds--	Group II Unregulateds--	Group III Unregulateds--	Radiochemical--
<input type="checkbox"/> All 13 <input type="checkbox"/> Partial	<input type="checkbox"/> All 23 <input type="checkbox"/> Partial	<input type="checkbox"/> All 11 <input type="checkbox"/> Partial	<input type="checkbox"/> Single Sample
			<input type="checkbox"/> Qtrly Composite

* Provide radiochemical sample dates locations for each quarter

I Cindy Cromer do HEREBY CERTIFY that all attached analytical data are correct.

Signature: _____

Title: Laboratory Director Date: 27-Aug-03

COMPLIANCE INFORMATION (to be completed by State)

Sample Collection Satisfactory: _____ Sample Analysis Satisfactory: _____

Resample Requested for: _____ Reason: _____

Person Notified to Resample: _____ Date Notified: _____

DÉR/HRS Reviewing Official: _____ Effective September 1994



EMSL Analytical, Inc.

5125 Adanson Street Suite 900 Orlando, FL 32804
Phone 407-599-5887 Fax 407-599-9063

Client Harbor Branch Environmental Laboratories

Address 5600 US 1 north

Address Fort Pierce, FL 34948

Florida Department of Health Asbestos in Drinking Water

Date August 27, 2003

Ref Number: 340301239

State Certification # E 87804

Effective July 1, 2003 through June 30, 2004

Project

Date and Time collected 8-18-03 9am
and 9:20am

Date and Time Received by Laboratory
8-19-03 9:48am

Effective Filter Area
(EFA): 1256

Filter Pore Size: 0.20
microns

Asbestos Analysis in Water by Transmission Electron Microscopy (TEM) Performed by Method EPA 600/R-94/134-(100.2)

Sample ID	Location	# of Asbestos Structures > 10µm	Types of Asbestos	# of Non Asbestos Structures	Analytical Sensitivity (MFL)	95% Confidence Limit (Lower-Upper)	Concentration of Asbestos (MFL)
2114973001	Oakwood	None Detected	None Detected	None Detected	<0.1	<0.00 - <0.2	<0.1
14974001	Kingswood	None Detected	None Detected	None Detected	<0.1	<0.00 - <0.2	<0.1

- If you have any questions, please don't hesitate to call Mark Antonelli at 407-599-5887.
- Analyzed on 8-19-03 at 1:30pm to 2:05pm and 2:10pm to 2:45pm by Mark Antonelli.
- The results meet all requirements of the NELAC Standards
- EPA number is FL-01176
- Filtered by Mark Antonelli on 8-19-03 at 10:10am.
- Sonicated on 8-19-03 at 9:50am to 10:05am.

A. Antonelli
Analyst

A. Antonelli
Laboratory Director

Comments:

Page 1 of 6

Sample collection and containers provided by client, acceptable bottle blank level is defined as $\leq 0.01 \text{ MFL} > 10 \mu\text{m}$. When less than four fibers are detected the concentration is reported as less than the lower confidence limit (1.65 times the analytical sensitivity) as dictated by the methodology. ND=None Detected



EMSL Analytical, Inc.
Revised 07/27/99

CHAIN OF CUSTODY

Asbestos

340301239

EMSL Rep:

Same as "BILL TO"

Third Party Billing requires written authorization from third party

Your Company Name:

EMSL-Bill to:

HBEL

Street:

Street:

5600 US 1 North

Box #:

Box #:

City/State:

Zip:

City/State:

FT. PIERCE FL Zip: 34982

Phone Results to:

Fax Results to:

Name:

Name:

Telephone #:

Fax #:

Project

Purchase Order #:

Name/Number:

MATRIX

TURNAROUND

<input type="checkbox"/> Air	<input type="checkbox"/> Floor Tile	<input type="checkbox"/> Soil	<input type="checkbox"/> 3 hrs	<input type="checkbox"/> 6 Hours	<input type="checkbox"/> Same Day or 12 Hours*	<input type="checkbox"/> 24 Hours 1 day
<input type="checkbox"/> Bulk	<input checked="" type="checkbox"/> Drinking Water	<input type="checkbox"/> Dust	<input type="checkbox"/> 48 Hours 2 days	<input type="checkbox"/> 72 Hours 3 days	<input type="checkbox"/> 96 Hours 4 days	<input type="checkbox"/> 120 Hours 5 days
<input type="checkbox"/> Wipe	<input type="checkbox"/> Wastewater	<input type="checkbox"/> Micro-Vac	<input checked="" type="checkbox"/> 44+ hours 6-10 Days			

TEM AIR, 3 hours, 6 hours. Please call ahead to schedule. There is a premium charge for 3 hour lab, please call 1-800-228-3675 for price prior to sending samples. You will be asked to sign and authorization form for this service. 12 hours (must arrive by 11:00 a.m. Mon - Fri.). Please Refer to Price Quote

PCM - Air

- ☐ NIOSH 7400
☐ OSHA
☐ Other:

TEM AIR

- ☐ AHERA
☐ NIOSH 7402
☐ EPA Level II

TEM WATER

- ☐ Wastewater
☒ Drinking Water EPA 100.1
☐ Water - NY Wastewater
☐ Water-NY Drinking Water

PLM - Bulk

- ☐ EPA 600/R-93/116
☐ EPA Point Count
☐ NY Stratified Point Count
☐ PLM NOB (Gravimetric) NY 198.1
☐ Other:

TEM BULK/misc

- ☐ Drop Mount (Qualitative)
☐ Chatfield
☐ TEM NOB (Gravimetric) NY 198.4

TEM MICROVAC / WIPE

- ☐ ASTM D 5755-95
quantitative method

XRD

- ☐ Asbestos
☐ Silica

OTHER

☐

FL DRINKING WATER RESAT
FORMAT

SAMPLE NUMBER	LOCATION	VOLUME (If Applicable)
2114973001	OAKWOOD	1L
2114974001	Kingswood	1L

Client Sample # (s)

Total Samples #:

Relinquished:

Date:

Time:

Received:

Date:

Time:

Collection Date / Time 8/18/03 0900 / 0920



Utilities Florida

CROSS CONNECTION CONTROL POLICY

August 2007

TABLE OF CONTENTS

FORWARD

SECTION 1	INTRODUCTION
SECTION 2	OBJECTIVES
SECTION 3	RESPONSIBILITIES
SECTION 4	POLICIES
SECTION 5	INSPECTIONS
SECTION 6	DEFINITIONS
SECTION 7	APPLICABLE STANDARDS AND DESCRIPTIONS
SECTION 8	TESTING OF BACKFLOW DEVICES
SECTION 9	RESULTS OF NON-COMPLIANCE
SECTION 10	FIRE SYSTEMS

References:

AWWA – Manual of Cross Connection (M14)
ASSE – American Society of Sanitary Engineers
SBCC – Southern Building Code (Standard Plumbing Code)
FCCCHR of USC – University of Southern California
Foundation for Cross Connection Control and
Hydraulic Research (Manual for Cross Connection Control)

FOREWORD

This Manual of Cross-Connection Control has been prepared by *Aqua Utilities Florida, Inc.* to establish an effective cross connection control program in *Aqua Utilities Florida, Inc.* water service areas in accordance with directives issued by the Florida Department of Environmental Protection and directives issued on the Federal level. Responsibilities for the control of cross connections are shared by the consumer, *Aqua Utilities Florida, Inc.* and the Florida Department of Environmental Protection, *Aqua Utilities Florida, Inc.* intends to supply the safest and best drinking water possible to its service areas through an ongoing quality program of potable water delivery. The basic procedure for insuring the proper functioning of the public water supply through a coordinated program to prevent pollution or contamination of potable water supplies by cross-connections is contained herein.

This manual supplements and extends present guidelines for *Aqua Utilities Florida, Inc.* potable water supply, treatment and distribution system by providing a means of detecting and eliminating unprotected cross-connections in the interest of public safety. *Aqua Utilities Florida Inc.* enjoys a positive relationship with its consumers. Community support is required for this program to be successful. *Aqua Utilities Florida, Inc.* encourages and promotes the education and commitment of its consumers in the area of cross-connection control. It is the intent of *Aqua Utilities Florida, Inc.* to implement the regulations and procedures as outlined herein.

Section 1 *Introduction*

A cross connection is defined as:

“any connection or structural arrangement between public or a consumer’s potable water system and any non-potable source or system through which backflow can occur. Bypass arrangements, jumper connections, removeable sections, swivel or changeover devices, and other temporary or permanent devices through which, or because of which, backflow can occur are considered cross connections.”

1.01 Purpose

The purpose of a cross-connection control program is to prevent waterborne diseases and contaminants from entering the potable water distribution system and thus the water we drink. More exactly, the program is intended to prevent delivered water (water that has passed beyond the public water system and into the private distribution system of consumers) from re-entering the public distribution system and being subsequently delivered to other consumers. The program aims to protect *Aqua Utilities Florida, Inc.* and its consumers from those water-using establishments which could possibly reduce the quality and safety of *Aqua Utilities Florida Inc’s* water supply through backflow and / or cross connection.

1.02 Legal Authority

In Florida, the primary responsibility for safeguarding potable water quality on private property historically has been left to local health agencies and building inspection departments. The Safe Drinking Water Act created new authority through a requirement for all public water systems to have a cross-connection control program. Contained within the Rules of the Department of Environmental Protection, Chapter 62-555, Rule 62-55.360, Florida Administrative code, the State of Florida adopted the following policy:

“Community water systems shall establish a routine cross-connection control program to detect and prevent cross-connections that create or may create an imminent and substantial danger to public health. Such program shall be developed using accepted practices of the AWWA manual. M14, “ Backflow Prevention and Cross-Connection Control.” Upon discovery of a prohibited cross-connection, public water systems shall either eliminate the cross-connection by installation of an appropriate backflow prevention device acceptable to the Department or shall discontinue service until the contaminant source is eliminated.”

1.03 Causes of Backflow

Where cross-connections exist, protection against backflow is needed to reduce the possibility of contamination. The causes of backflow cannot usually be eliminated completely since backflow is often initiated by accidents or unexpected circumstances. However, some causes of backflow can be partially controlled by good design and informed maintenance. Listed below are the major causes of backflow as outlined under the two types of backflow - Backsiphonage and Backpressure.

A. Backsiphonage

Backsiphonage is caused by reduced or negative pressure being created in the supply piping. A major cause of Backsiphonage is the interruption of the supply pressure. This will allow negative pressures to be created by water trying to flow to a lower point in the system. Another cause is undersized piping. If water is withdrawn from a pipe at a very high velocity, the pressure in the pipe is reduced and the pressure differential created can cause water to flow into the pipe from a contaminated source. The potable water supply can thus become contaminated due to backsiphonage into the potable water supply creating the potential for serious health problems.

The principal causes of backsiphonage are:

1. A line repair or break which occurs at a lower elevation than the service point;
2. Undersized piping;
3. Lowered pressure in a water main due to a high withdrawal rate such as fire-fighting, water main flushing, or water main breaks; and
4. Reduced supply main pressure on the suction side of a booster pump.

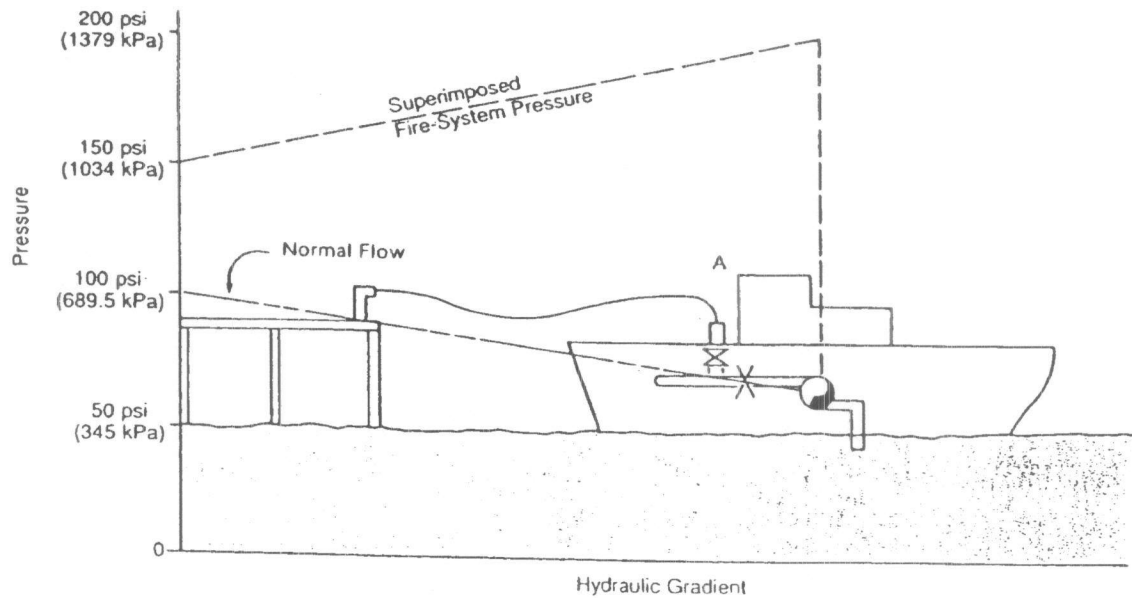
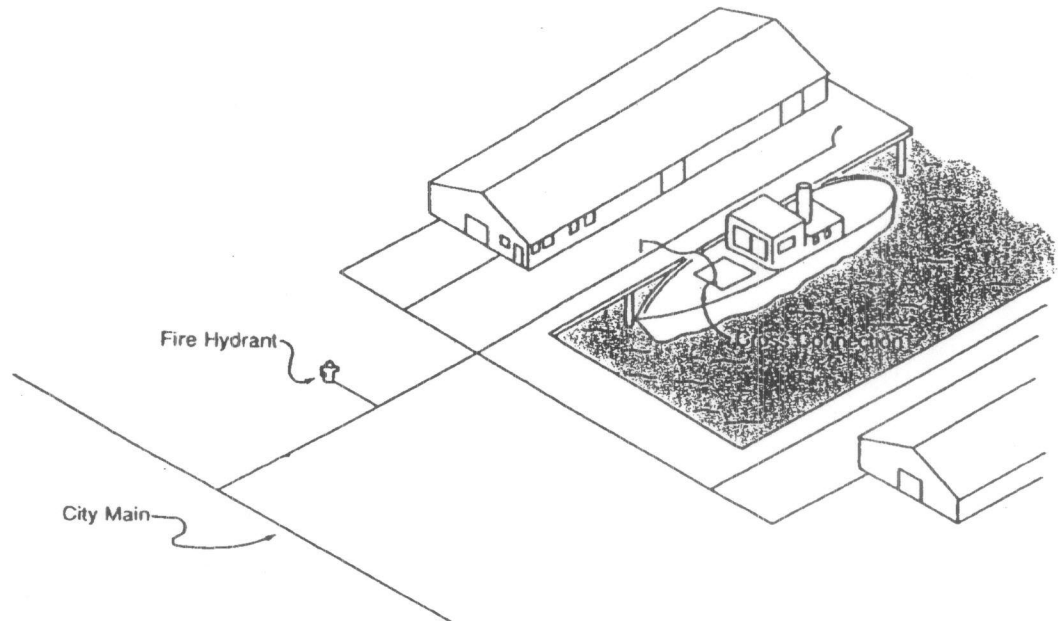
B. Backpressure

Backpressure may cause backflow to occur where a potable water system is connected to a non-potable supply operating under a higher pressure by means of pump, boiler, elevation difference, air or steam pressure and so forth.

The principal causes of backpressure are:

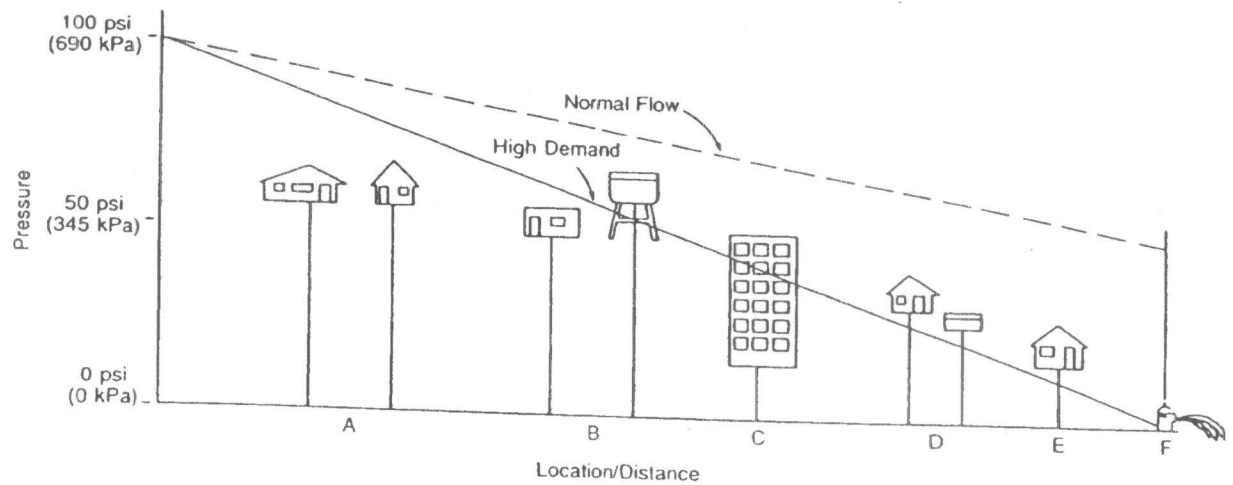
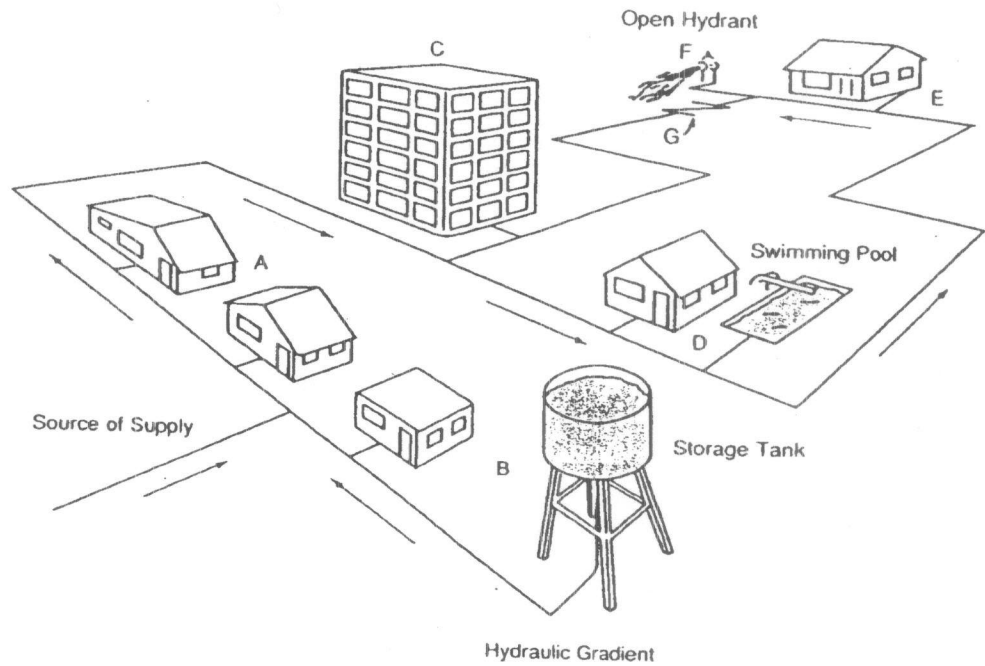
1. Booster pump systems designed without backflow prevention devices;
2. Potable water connections to boilers and other pressure systems without backflow prevention devices;
3. Connections with a non-potable system which may, at times, have a higher pressure; and
4. Non-potable water stored in tanks or plumbing systems which, by virtue of their elevation, would create head sufficient to cause backflow if pressure were lowered in the public system.

BACKFLOW DUE TO BACKPRESSURE



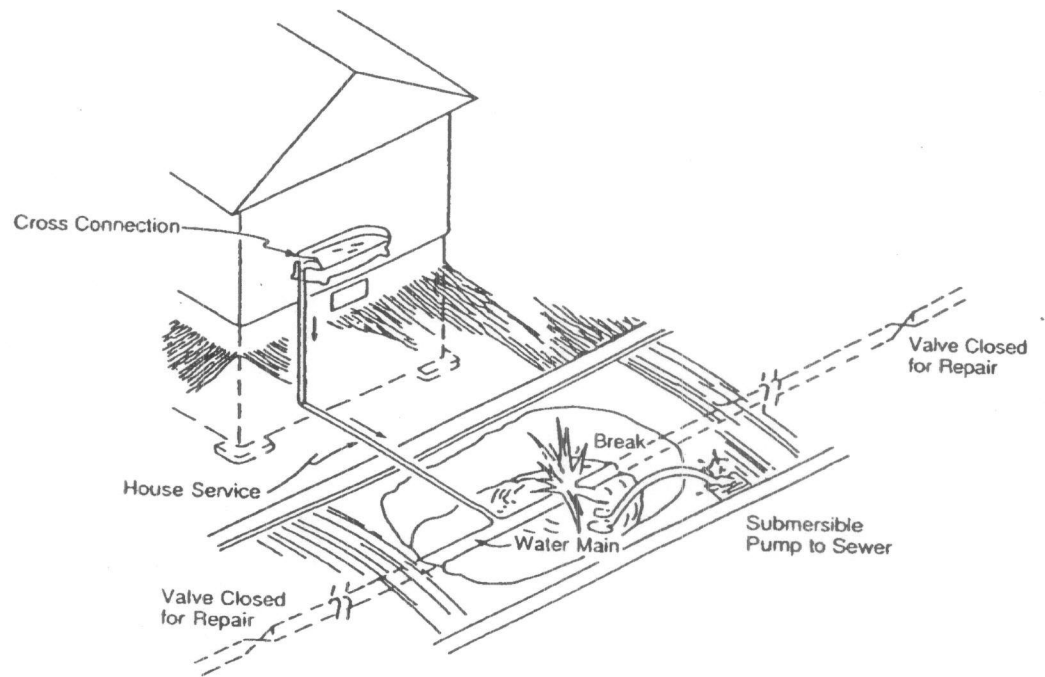
Backflow due to backpressure.

BACKSIPHONAGE DUE TO HIGH WITHDRAWAL RATE OF WATER



Backsiphonage due to high withdrawal rate of water.

BACKFLOW DUE TO MAIN BREAK



Backflow due to main break.

Section 2 Objectives

The objectives of *Aqua Utilities Florida, Inc.* are as follows:

1. To protect *Aqua Utilities Florida, Inc.* potable water supply from the possibility of contamination or by containing, within its consumers' private water systems, backflow through uncontrolled cross-connections into the public water system.
2. To eliminate or control existing cross-connections, actual or potential, between the consumer's on premise potable water system(s) and non-potable water system(s) plumbing fixtures and industrial piping systems.
3. To provide a continuing inspection program of cross-connection control, which will systematically and effectively control all actual or potential cross-connections which exist presently or may exist in the future.
4. To maintain an on-going public information program to educate the community on cross-connection control and to encourage consumer cooperation and coordination toward a successful cross-connection control program.

Section 3 Responsibility

3.01 Water Purveyor

Under the Safe Drinking Water Act and the Rules of the Florida Department of Environmental Protection, Rule 62-555.360, FAC, relating to cross-connection, the water purveyor has the primary responsibility of maintaining a cross-connection control program to prevent water from unapproved sources, or any other substances, from entering the public potable water system. Failure to implement such a program may result in enforcement by the Florida Department Environmental Protection against *Aqua Utilities Florida, Inc.*

3.02 Consumer

The consumer's responsibility starts at the point of delivery from the public potable water system (i.e. just after the meter) and includes all of the consumer's water systems. The consumer, at his own expense, is required to install, operate, test and maintain approved backflow prevention devices, as directed by *Aqua Utilities Florida, Inc.* The consumer must maintain accurate records of tests and repairs made to backflow prevention devices and provide *Aqua Utilities Florida, Inc.* with copies of such records. In the event of accidental pollution or contamination of the public or consumer's potable water system due to backflow on or from the consumer's premises, the consumer shall promptly take steps to confine further spread of pollution or contamination within the consumer's premises and is required to immediately notify *Aqua Utilities Florida, Inc.* of the hazardous condition.

The consumer's system shall be open for inspection at all reasonable times to authorized representatives of *Aqua Utilities Florida, Inc.* to determine whether cross connections or other

structural or sanitary hazards, including violations of these regulations, exist. When such a condition becomes known, *Aqua Utilities Florida, Inc.* shall deny or immediately discontinue service to the premises by providing for a physical break in the service line until the consumer has corrected the condition(s) in conformance with state/provincial and city statutes relating to plumbing and water supplies and the regulations adopted pursuant thereto.

3.03 Backflow Prevention Device Installation

The installer's responsibility is to ensure proper installation of backflow prevention devices in accordance with the manufacturer's installation instructions and those furnished by *Aqua Utilities of Florida, Inc.* The installer is also responsible to conduct a test of the device when it is installed, and is required to furnish the following vital data to *Aqua Utilities Florida, Inc.* immediately after a reduced pressure principal backflow preventer (RP), double check valve assembly (DCVA) or pressure vacuum breaker (PVB) is installed:

- 1) service address where device is located
- 2) owner
- 3) description of device's location
- 4) date of installation
- 5) type of device
- 6) manufacturer
- 7) model number
- 8) serial number

Testing at the time of installation for all RP'S, DCVA'S, and PVB'S shall be performed by a certified backflow prevention device technician. Test results are to be provided immediately to *Aqua Utilities Florida, Inc.*

Section 4 Policy

Aqua Utilities Florida, Inc. has the continuing authority to inspect all industrial, commercial and residential users of potable water, where pollution, health or system hazards may exist or be created; where materials dangerous to health are handled in tanks, piping systems, or other vessels on the premises, or where the water system is unstable and cross-connections may occur. The following policies to cross-connections will apply:

1. Should the connection be between two (2) approved public water supplies, common gate or check valves may be used, provided this has the approval of both water suppliers and the Florida Department of Environmental Protection.

2. Should the connection be between an approved public potable water supply and a service or other water supply which has, or may have, any material in the water dangerous to health that is, or may be, handled under pressure, subject to negative pressures, protection shall be an approved air-gap separation (AG). The air-gap shall be located as close as practicable to the service cock or other connection to the approved supply. All piping between such connection and air-gap shall be entirely visible. If these conditions cannot be reasonably met, the public potable water supply shall be protected alternatively with an approved Reduced Pressure principle backflow prevention device (RP), provided the alternative is acceptable to *Aqua Utilities Florida, Inc.* and the Florida Department of Environmental Protection

Section 5 *Inspections*

5.01 Frequency

Due to changes in models or components of equipment, methods of manufacturing and additions of plants, buildings, etc., water use requirements undergo continual change. As a result, new cross-connections may be installed and existing protections may be by-passed, removed or made otherwise ineffective; therefore, an annual, biennial, or more frequent detailed inspection by *Aqua Utilities Florida, Inc.* of all water usage is required. In addition, all new building construction shall also be plan-checked and inspected during installation by *Aqua Utilities Florida, Inc.* to insure conformance with cross-connection control policy.

5.02 New Construction

All new construction plans and specifications for industrial or commercial facilities shall be submitted to *Aqua Utilities Florida, Inc.* for evaluation to determine the degree of possible cross-connection hazards. Backflow prevention and cross-connection control shall be accomplished by a combination of plans review and field inspections.

Aqua Utilities Florida, Inc. will inspect and require testing and approve or disapprove the completed backflow preventer installation. Field inspections during construction or immediately after will also serve to identify hazards that were not apparent during plans review or were introduced during construction.

After final approval of the installation and satisfactory test results, in accordance with cross-connections rules and regulations, a report will be filed by the installer to *Aqua Utilities Florida, Inc.*. This report will include size, model, location, and all other pertinent details of the installation including satisfactory test results attested to by a certified tester.

All non-residential construction of any building to be served by Aqua Utilities Florida, Inc. water system shall be plan-checked and inspected by *Aqua Utilities Florida, Inc.* for compliance with cross-connection control rules and regulations prior to connection to Aqua Utilities Florida, Inc. potable water main.

For containment purposes, the following types of buildings shall have an approved backflow prevention device at the water service connection:

- 1) Medical or Research Buildings
- 2) Morgues, mortuaries and autopsy facilities
- 3) Chemical related industries
- 4) Wastewater Plants
- 5) Metal plating facilities

5.03 Emergency procedures

If a consumer discovers a hazardous situation where contaminants are actually in the process or suspected of entering the distribution system of *Aqua Utilities Florida, Inc.* potable water supply, the consumer is authorized to take such immediate steps as necessary to correct the questionable existing hazardous condition. He is further responsible for immediately notifying *Aqua Utilities Florida, Inc.* of the need for flushing the contaminants out of the system.

Aqua Utilities Florida, Inc. is authorized to take immediate steps deemed necessary to correct a hazardous condition; which shall include the right to immediately discontinue potable water service to premises where a hazardous condition may be occurring. Such emergency steps, including discontinuance of potable water service, may be taken without advance notice to the consumer. The consumer shall be notified as soon as possible thereafter if potable water service has been discontinued; and the matter simultaneously brought to the attention of *Aqua Utilities Florida, Inc.*'s attorney and President..

Section 6 Definitions

Air-gap separation - The term air-gap separation shall mean a physical separation between the free-flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel. An approved air-gap separation shall be a distance of at least two (2) times the diameter of the supply pipe measured vertically above the top rim of the vessel - with a minimum distance of one (1) inch.

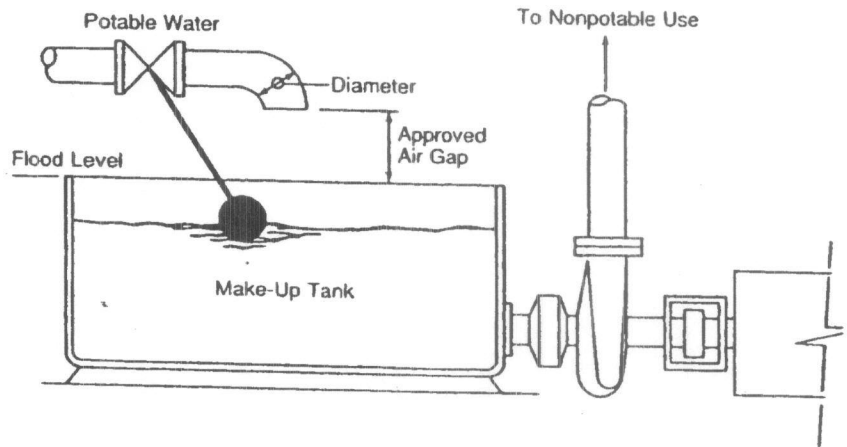
Approved - a) The term approved, as herein used in reference to a water supply, shall mean a potable water supply that has been approved by the Florida Department of Environmental Protection. b) The term approved, as herein used in reference to air-gap separation, a double check valve assembly or a reduced pressure principle backflow prevention device or method, shall mean as approved by *Aqua Utilities Florida, Inc.*

Auxiliary Intake - The term auxiliary intake shall mean any piping connection or other device whereby water may be secured from a source other than that normally used.

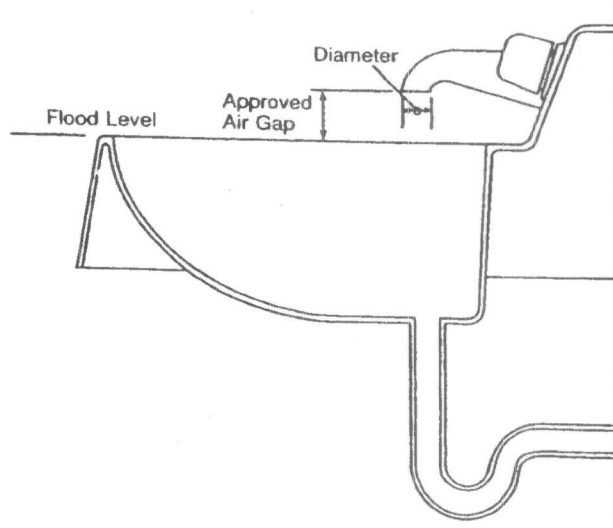
Backflow - The term backflow, shall mean the undesirable reversal of the flow of water or other liquids, mixtures, gases, or other substances into or towards the distribution piping of a potable supply of water from any source or sources.

Backflow prevention device - A backflow prevention device shall mean any effective device, method or construction used to prevent backflow into a potable water system. The type of device used should be based on the degree of hazard, either existing or potential, and identified by the condition which it is designed to prevent.

DIAGRAM -- AIR GAP



Air gap on tank.



Air gap on lavatory.

Backflow prevention device tester - (Certified) - The term certified backflow prevention device tester shall mean a person who has proven his / her competency to the satisfaction of *Aqua Utilities Florida, Inc.*. Each person who is certified to make competent tests or to repair, overhaul and make reports on backflow prevention devices shall be conversant with applicable laws, rules and regulations, and shall have attended and successfully completed the TREEO (Training, Research, and Education for Environmental Occupations) Certification program for backflow prevention device testers, or other USCFHR or DEP approved program.

Backpressure - Backpressure shall mean any elevation of pressure in the downstream piping system (by pump, elevation of piping, or steam and/or air pressure) above the supply pressure at the point of consideration which would cause or tend to cause, a reversal of the normal flow through a backflow prevention device.

Backsiphonage - Backsiphonage shall mean a reversal of the normal direction of flow in the pipeline due to a negative pressure (vacuum) being created in the supply line with the backflow source subject to atmospheric pressure.

Consumer - Any member, person, firm or corporation using or receiving water from *Aqua Utilities Florida Inc.*'s potable water system.

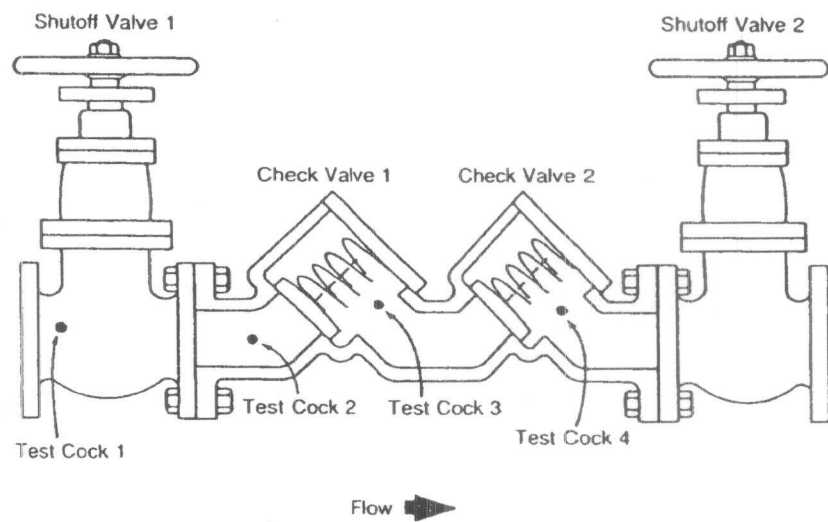
Contamination - The term contamination shall mean an impairment of the quality of the potable water supply by sewage, industrial fluids or any other foreign substance to a degree which creates an actual hazard to the public health through the potential spread of disease or toxic materials.

Critical level - The term critical level shall mean the marking on a vacuum breaker which determines a minimum elevation above the flood level rim of the fixture or receptacle served at which the device may be installed.

Cross-Connection - The term Cross-Connection shall mean any unprotected connection between any part of a water system used or intended to supply water for drinking purposes and any source or system containing water or substances that is potable for human consumption. By-pass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent devices through which or because of which "backflow" can or may occur, are considered to be cross-connections.

Double Check Valve Assembly - The term double check valve assembly means an assembly of at least two (2) independently acting, approved, spring and weight loaded check valves with resilient discs for the intended purpose of preventing back pressure backflow in a water supply line. Assembly is usually furnished with test cocks for the field testing the tightness of the check valves. Some assemblies include a "vacuum breaker" to admit atmospheric air downstream of the assembly. The unit shall include tightly-closing ball-type or resilient seated valves located at each end of the device.

DIAGRAM – DCVA



Double check valve assembly.

Fire Sprinkler System - A sprinkler system, for fire protection purposes, is an integrated system of underground and overhead piping designed in accordance with fire protection and engineering standards. The installation includes one or more water supplies.

Flood Level Rim - The edge of the receptacle from which water overflows is the flood level rim.

Hazard - (Degree of) - The term, degree of hazard is a qualification of what potential and actual harm may result from cross-connections within a water -using facility. Establishing the degree of hazard is directly related to the type and toxicity of contaminants that could possibly cause a "pollution" (non-health) or a "contamination" (health) hazard.

Hazard - (Health) - The term health hazard shall mean an actual or potential threat of contamination or pollution of a physical or toxic nature to the public potable water system or the consumer's potable water system to such a degree or intensity that there would be a danger to health.

Hazard - (Plumbing) - The term plumbing hazard shall mean a plumbing type cross-connection in a consumer's potable water system that has not been properly protected by a vacuum breaker, air-gap separation or other device. Unprotected plumbing type cross-connections are considered to be a health hazard. They include, but are not limited to, cross-connection to toilets, sinks, lavatories, wash trays, domestic washing machines and lawn sprinkler systems. Plumbing type cross-connections can be located in many types of structures, including homes, apartment houses, hotels and commercial and industrial establishments. Such a connection, if permitted to exist, must be properly protected by an appropriate type of cross connection control assembly

Hazard - (Pollution) - The term pollution hazard shall mean an actual or potential threat to the physical properties of the water system or the potability of the public or the consumer's potable water system, but which would not constitute a health or system hazard, as defined. The maximum degree of intensity of pollution to which the potable water system could be degraded under this definition would cause a nuisance, or be aesthetically objectionable, or could cause minor damage to the system or its appurtenances.

Hazard - (System)- The term system hazard shall mean an actual or potential threat of severe danger to the physical properties of the public or the consumer's potable water system, or of a pollution or contamination which would have a protracted effect on the quality of the potable water in the system.

Industrial Fluid - The term industrial fluid shall mean any fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration, such would constitute a health, system, pollution or plumbing hazard if introduced into an approved potable water supply. This may include, but not be limited to: polluted or contaminated used waters; all types of process waters and "used waters" originating from the public potable water system which may deteriorate in sanitary quality; chemicals in fluid form; plating acids and alkalies; circulated cooling waters connected to an opening cooling tower and/or cooling waters that are chemically or biologically treated or stabilized with toxic substances; contaminated

natural waters such as from wells, springs, streams, rivers, bays, harbors, seas, irrigation canals or systems, etc.; oils, gases, glycerine, paraffins, caustic and acid solutions or other processes for fire fighting purposes.

Industrial Piping System - Consumer's - The term consumer's industrial piping system shall mean any system used by the consumer for transmission of or to store any fluid, solid or gaseous substance other than an approved water supply. Such a system would include all pipes, conduits, tanks, receptacles, fixtures, equipment and appurtenances to produce, convey or store substances which are or may be polluted or contaminated.

Inlet - The open end of the water supply pipe through which the water is discharged into the plumbing fixture shall be the inlet.

Laboratory - Approved Testing - Reference to an approved testing laboratory shall mean the Foundation for Cross-Connection Control Research of the University of Southern California, or any other laboratory having the equivalent facilities for both the laboratory and field evaluation of the devices approved by the American Water Works Association or American Society of Sanitation Engineers.

Plumbing System - The term plumbing system includes the potable water supply and distribution pipes; plumbing fixtures and traps; oil waste and vent pipes; building drains and building sewers, including their respective connections, devices and appurtenances within the property line of the premises; and water-treating or water-using equipment.

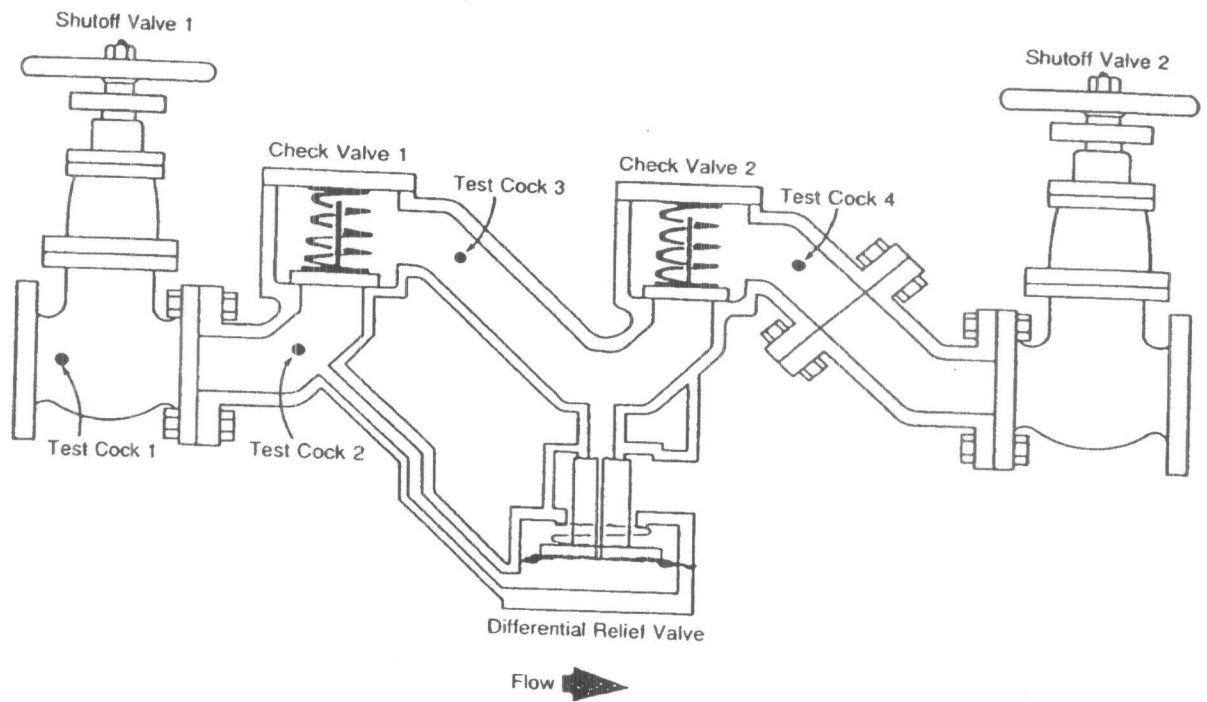
Point of delivery - see service connection

Pollution - Pollution shall mean an impairment of the quality of the water to a degree which does not create an actual hazard to the public health, but which does adversely and unreasonably affect the quality of the water for domestic use.

Reduced Pressure Principle Backflow Prevention Device - RP - The term approved reduced pressure principle backflow prevention device (RP) shall mean a device containing within its structure a minimum of two (2) independently acting, approved check valves, together with an automatically operating pressure differential relief valve located between the two check valves. The first check valve reduces the supply pressure a predetermined amount, so that during normal flow and at cessation of normal flow, the pressure between the checks shall be less than the supply pressures. In case of leakage of either check valve, the differential relief valve by discharging to the atmosphere, shall operate to maintain the pressure between the checks less than the supply pressure. The unit shall include tightly-closing ball type or resilient seated shutoff valves located at each end of the device and each device shall be fitted with properly located test cocks.

Service Connection - The term service connection shall mean the terminal end of the public potable water system, i.e., where the water purveyor loses jurisdiction and sanitary control over the water at its point of delivery to the consumer's water system. If a meter is installed at the end

DIAGRAM -- RP



Reduced-pressure principle backflow-prevention assembly.

of the service connection, then the service connection shall mean the downstream end of the meter. There shall be no unprotected takeoffs from the service line ahead of any backflow prevention device located at the point of delivery to the consumer's water system.

Vacuum Breaker - Nonpressure- Atmospheric Type - A vacuum breaker - nonpressure type is a vacuum breaker which is designed for use where it will not be subject to static line pressure.

Vacuum Breaker - Pressure Type - a vacuum breaker - pressure type is a vacuum breaker designed to operate under conditions of static line pressure. The unit shall include tightly-closing ball-type or resilient seated shutoff valves located at each end of the device.

Water - Potable The term potable water shall mean water from any source which has been investigated by the Florida Department of Environmental Protection and which has been approved for human consumption by the health authority having jurisdiction. Potable water is water of excellent quality intended for drinking, cooking and cleansing uses. This grade of water would conform to the water quality requirements of state and federal regulatory agencies.

Water Purveyor - The term water purveyor shall mean the utility owner or operator of the public potable water system supplying an approved water supply to the public.

Water Supply -(Approved) - The term approved water supply shall mean Aqua Utilities Florida, Inc. potable water system or any public potable water supply which has been investigated and approved by the Florida Department of Environmental Protection. In determining what constitutes an approved water supply, the Department of Environmental Protection has reserved final judgement as to its safety and potability.

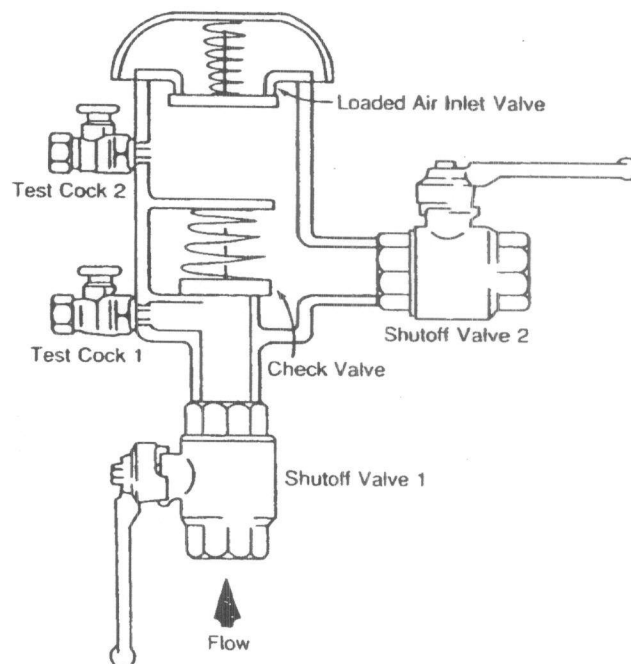
Water Supply -(Auxiliary) - The term auxiliary water supply shall mean any water supply on or available to the premises other than the purveyor's approved public potable water supply. These auxiliary waters may include water from another purveyor's public potable water supply or any natural source such as a well, spring, river, stream, etc., or "used water" or "industrial fluids." They may be polluted or contaminated or objectionable and constitute an unacceptable water source over which the purveyor does not have control.

Water Supply - (Unapproved) - The term unapproved water supply shall mean a water supply which has not been approved for human consumption by the health agency having jurisdiction.

Water System - (Consumer's) - The term water system shall include any water system located on the consumer's premises, whether supplied by the public potable water system or an auxiliary water supply. The system or systems may be either a potable water system or an industrial piping system.

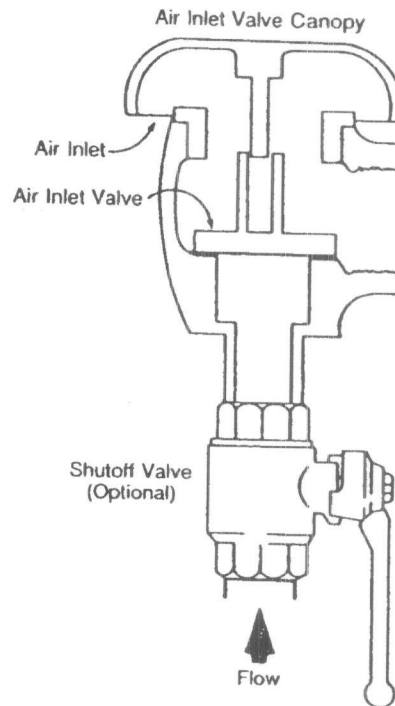
Water System - (Public Potable) - The term public potable water system shall mean any publicly or privately owned water system operated as a public utility to supply water for domestic purposes. This system will include all sources, facilities and appurtenances between the source and the point of delivery such as valves, pumps, pipes, conduits, tanks, receptacles, fixtures,

DIAGRAM -- PVB

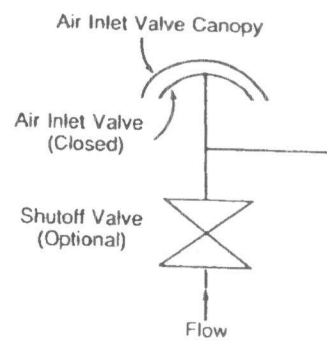


Pressure vacuum breaker assembly.

DIAGRAM—AVB



Atmospheric vacuum breaker assembly.



Under normal flow conditions the AVB seals against the air inlet seat.

equipment, and appurtenances used to produce, convey, treat or store a potable water for public consumption or use.

Water -(reclaimed) - The term reclaimed water means water which, as a result of treatment of domestic wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur. Reclaimed water is also known as reuse water. (permitted under Part III of Chapter 62-610, F.A.C.)

Water - (Used) - The term used water shall mean any water supplied by a water purveyor from a public potable water system to a consumer's water system after it has passed through the point of delivery and is not longer under the control of the water purveyor.

Section 7

Applicable Standards and Descriptions for Backflow Prevention Devices

7.01 Applicable Standards

The following specifications or requirements of approving agencies are recognized by Aqua Utilities Florida, Inc.. All backflow prevention devices and conditions of cross-connection control shall be in compliance with the standards set forth by one or more of the following agencies. Aqua Utilities of Florida reserves the right to state which standards apply if and when conflicts between standards arise.

AWWA - American Water Works Association (Manual M14)

ASSE - American Society of Sanitary Engineers

FCCCHR of USC - University of Southern California, Foundation for Cross-Connection Control and Hydraulic Research (Manual for Cross-Connection Control)

SBCC - Southern Building Code Congress (Standard Plumbing Code)

7.02 Abbreviations for Protective Devices

AG - Approved Air-Gap

AVB - Approved Atmospheric Vacuum Breaker

BPW/IAV - Approved Backflow Preventer with Intermediate Atmospheric Vent

DCVA - Approved Double Check Valve Assembly

HBVB - Approved Hose Bibb Vacuum Breaker

PVB - Approved Pressure Vacuum Breaker

RP - Approved Reduced Pressure Principle Backflow Preventer

DCV - Approved Dual Check Valves

DCV / LF - Approved Double Check Valve Assembly with Laboratory Faucet

DCV/CBD - Approved Dual Check Valves for Carbonated Beverage

DDCV - Approved Double Detector Check Valve

TABLE 7.1

<u>TYPE & APPLICATION</u>	<u>TYPICAL DESCRIPTION</u>	<u>APPLICABLE INSTALLATION</u>	<u>STANDARDS</u>
DOUBLE CHECK VALVE ASSEMBLY for <u>low hazard</u> connections	Two independent check valves. Supplied with ball-type or resilient seated shut-off valves and ball type test cocks	All cross connections subject to backpressure where there is a low potential health hazard or nuisance. Continuous pressure	A.S.S.E. 1015 A.W.W.A. C506 FCCCHR of USC
DOUBLE DETECTOR CHECK VALVE ASSEMBLY for low hazard applications	Double check valve assembly with a water meter and double check in by-pass line.	Fire protection system supply main. Detects leaks and unauthorized use of water.	A.S.S.E. 1015 A.W.W.A. C506 FCCHR of USC
DUAL CHECK VALVE BACKFLOW PREVENTER for low hazard applications	Two independent check valves. Checks are removable for testing.	Cross Connection where there is a low potential health hazard and moderate flow requirements.	A.S.S.E 1024
BACKFLOW PREVENTER WITH INTERMEDIATE ATMOSPHERIC VENT	Two independent check valves with intermediate relief valve	Cross connections subject to backpressure or back- siphonage where there is moderate health hazard. Continuous pressure	A.S.S.E. 1012
LABORATORY FAUCET & DOUBLE CHECK VALVE W/ INTERMEDIATE VACUUM BREAKER in small pipe sizes for <u>moderate to low hazard</u>	Two independent check valves with intermediate vacuum breaker and relief vent .	Cross connections subject to backpressure or back- siphonage where there is a moderate to low health hazard	A.S.S.E. 1035

TABLE 7.2

<u>TYPE & APPLICATION</u>	<u>DESCRIPTION</u>	<u>TYPICAL INSTALLATION</u>	<u>APPLICABLE STANDARDS</u>
REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER For <u>high hazard</u> cross connections	Two independent check valves w/ intermediate relief valve. Supplied with ball-type shut-off valves and ball type test cocks	All cross connections subject to backpressure where there is a high potential health hazard from contamination. Continuous pressure	A.S.S.E. 1013 A.W.W.A. C506 FCCCHR of USC
ATMOSPHERIC VACUUM BREAKERS for <u>moderate to high hazard</u> cross connections	Single float and disc w/ large atmospheric port	Cross connections not subject to backpressure or continuous pressure. Install at least 6" above rim. Backsiphonage protection only.	A.S.S.E. 1001 FCCCHR of USC
PRESSURE TYPE VACUUM BREAKERS for <u>moderate to high hazard</u> cross connections	Spring loaded singls float and disc with independent 1st check. Supplied with ball-type shut-off valves and ball	This valve is designed for installation in a continous pressure potable water supply system 12" above the overflow level of the system being supplied. Backsiphonage protection only.	A.S.S.E. 1020 FCCCHR of USC
HOSE CONNECTION VACUUM BREAKERS For residential & industrial hose supply outlets.	Single check w/ atmospheric atmospheric vacuum breaker vent.	Install directly on hose bibbs, service sinks and wall hydrants. Not for continous pressure.	A.S.S.E.. 1011
AIR GAP For <u>moderate to high hazard</u> cross connection	Vertical separation of 2D of the supply pipe above vessel overflow rim.	All cross connections subject to backpressure or back-siphonage where there is a high potential health hazard rom contamination. Vertical separation must be one (1) inch	ANSI A112.1.2

Guide to the Assessment of Hazard and Selection of Assemblies for Internal Protection

Description of Cross Connection	Assessment of Hazard	Recommended Assembly at Fixture*
Aspirator (medical)	Health	AVB or PVB
Bedpan washers	Health	AVB or PVB
Autoclaves	Health	RPBA
Specimen tanks	Health	AVB or PVB
Sterilizers	Health	RPBA
Cuspidors	Health	AVB or PVB
Lab bench equipment	Health	AVB or PVB
Autopsy and mortuary equipment	Health	AVB or PVB
Sewage pump	Health	AG
Sewage ejectors	Health	AG
Fire-fighting system (toxic liquid foam concentrates)	Health	RPBA
Connection to sewer pipe	Health	AG
Connection to plating tanks	Health	RPBA
Irrigation systems with chemical additives or agents	Health	RPBA
Connection to salt-water cooling system	Health	RPBA
Tank vats or other vessels containing toxic substances	Health	RPBA
Connection to industrial fluid systems	Health	RPBA
Dye vats or machines	Health	RPBA
Cooling towers with chemical additives	Health	RPBA
Trap primer	Health	AG
Steam generators	Nonhealth†	RPBA
Heating equipment		
Commercial	Nonhealth†	RPBA
Domestic	Nonhealth†	DCVA
Irrigation systems	Nonhealth†	DCVA, AVB, or PVB
Swimming pools		
Public	Nonhealth†	RPBA or AG
Private	Nonhealth†	PVB or AG
Vending machines	Nonhealth†	RPBA or PVB
Ornamental fountains	Nonhealth†	DCVA or AVB or PVB
Degreasing equipment	Nonhealth†	DCVA
Lab bench equipment	Nonhealth†	AVB or PVB
Hose bibbs	Nonhealth†	AVB
Trap primers	Nonhealth†	AG
Flexible shower heads	Nonhealth†	AVB or PVB
Steam tables	Nonhealth†	AVB
Washing equipment	Nonhealth†	AVB
Shampoo basins	Nonhealth†	AVB
Kitchen equipment	Nonhealth†	AVB
Aspirators	Nonhealth†	AVB
Domestic space-heating boiler	Nonhealth†	RPBA

NOTE: AG = air gap; AVB = atmospheric vacuum breaker; DCVA = double check valve backflow-prevention assembly; PVB = pressure vacuum breaker; RPBA = reduced-pressure principle backflow-prevention assembly.

*AVBs and PVBs may be used to isolate health hazards under certain conditions, that is, backsiphonage situations. Additional area or premises isolation may be required.

†Where a greater hazard exists (due to toxicity or other potential health impact) additional area protection with RPBA is required.

Guide to the Assessment of Hazard and Selection of Assemblies for Premises Isolation

Description of Premises	Assessment of Hazard	Recommended Assembly on Water Service Pipe
Hospitals, mortuaries, clinics, laboratories	Health	RPBA
Plants using radioactive material	Health	RPBA
Petroleum processing or storage facilities	Health	RPBA
Premises where inspection is restricted	Health	RPBA
Sewage treatment plant	Health	RPBA
Sewage lift stations	Health	RPBA
Commercial laundry	Health	RPBA
Plating or chemical plants	Health	RPBA
Docks and dockside facilities	Health	RPBA
Food and beverage processing plants	Health	RPBA
Pleasure-boat marina	Health	RPBA
Tall buildings (protection against excessive head of water)	Nonhealth	DCVA
Steam plants	Nonhealth	RPBA
Reclaimed water systems	Health	RPBA

NOTE: AG = air gap; AVB = atmospheric vacuum breaker; DCVA = double check valve backflow-prevention assembly; PVB = pressure vacuum breaker; RPBA = reduced-pressure principle backflow-prevention assembly.

7.03 Types and Descriptions of Hazard Definition Backflow Prevention Devices

The following definitions apply to hazard conditions existing at a site where backflow prevention devices may be required.

Degree of Hazard Definition

Low - A condition where polluting substances(s) may come in contact with potable water aesthetically affecting the taste, odor or appearance, but not hazardous to health (non-toxic), (e.g., pollution hazard)

Moderate to High - A condition where a polluting substance may come in contact with potable water creating a health hazard, causing sickness or death (toxic), (e.g., system hazard, plumbing hazard, health hazard).

Backflow Prevention Devices - Types, Descriptions, and Applicable Standards for Multiple Check Valve Assemblies. Table 7.1 and Table 7.2 lists the types and applications of backflow prevention devices, a brief description of each device, typical installation conditions, and applicable standards.

7.04 Typical Facilities Requiring Backflow Prevention Devices

1. Medical buildings, sanitariums, veterinarian facilities, morgues, mortuaries, autopsy facilities, nursing and convalescent homes and clinics shall have an RP or DCVA, depending upon degree of hazard, installed at the service connection. The hazards normally to be found in a facility of this type include cross connections between the consumer's water system and contaminated or sewer connected equipment such as bedpan washer, flush valve toilets and urinals, autoclaves, specimen tanks, sterilizers, pipe tube washer, cuspidors, aspirators, autopsy and mortuary equipment. Note: It has been found that in this type of facility little or no attention is given to the maintenance of air-gap separations or vacuum breakers. It is customary to bridge an air-gap separation by means of a hose section. It should also be noted that in multi-story buildings, the supply line to the toilets, urinals, lavatories, laboratory sinks, etc., on the lower floors may be taken off of the suction side of the house pump. As a result, sewage or other contaminated substances may be drawn into the house supply line.

2. All buildings, plants, or other structures having a source of unapproved water piped into such buildings, plants, or other structures with the potential of being interconnected to the public supply, shall have an RP installed at the main supply line serving their premises.

3. All buildings, plants, apartment houses, public and private buildings, or any other structures having unprotected cross-connections shall have an RP or DCVA, depending on

degree of hazard, installed at the service connection to any premises where multi-storied public building such as hotel, apartment house, office or loft building are operated or maintained if the buildings have unprotected cross connections, sewage pumping facilities, auxiliary water supplies, or other like sources of contamination which would create a potential hazard to the public water system.

4. All waterfront facilities and industries shall have an RP or DCVA, depending upon the degree of hazard, installed at their service connection to any premises where there are piers, docks, industries, or other waterfront facilities where water from a river, stream, irrigation, ditch or canal, lake, etc., is available to be used on the premises.

5. All manufacturers of chemicals which are toxic shall be required, at the discretion of the water purveyor to install an RP.

6. All sewage treatment plants shall have an RP installed on main potable water service lines serving such plants.

7. Dairies and cold storage plants shall have an RP or DCVA, depending upon the degree of hazard, installed on the service connection. This applies to any premises where a dairy, creamery, ice cream plant, cold storage or ice manufacturing plant is operated or maintained, provided such a plant has, on the premises, an auxiliary water supply, industrial fluid system, sewage handling facilities or other similar source of contamination which, if cross-connected to, would create a hazard to the public system. The hazards normally found in a plant of this type include cross-connections between the consumer's waste system and reservoirs, cooling towers and circulating systems which may be heavily contaminated with bird droppings, vermin, algae, bacterial slimes, or toxic water treatment compounds.

8. Schools and colleges shall have an RP or DCVA installed at the service connection where water is used to supply chemical, bacteriological and biological laboratories; or where the water is used to supply separate irrigation systems; or where there are unprotected sewer cross connections. Note: This hazard is critical because little or no attention is given to the maintenance of vacuum breakers and frequently they are removed from the line; steam generating facilities and lines are frequently contaminated with boiler compounds such as pentachlorophenol, cyclohexylamine, etc. A very particular hazard is the possibility of steam getting back into the domestic system, causing either a system or health hazard.

9. In commercial car washing installations, potable make-up water lines to reclaim water pits shall have an AG separation. All potable water connections to fluids such as bug cleaner, tire cleaner, and wax and soap solution make-up tanks shall have an AG separation. If this is not possible due to the design of equipment, an RP shall be installed on the main water service connection.

10. All buildings or premises where security requirements or other prohibiting restrictions make it impossible or impractical to make a complete inside cross connection survey, the public water system shall be protected against backflow from the premises or building by an RP

installed or the main service connection (s) serving the building or premises.

11. All industrial, commercial, or residential properties (including all multi-or single family residences) having an irrigation system which utilizes chemical siphoning or injection apparatus shall have an RP device installed at the service connection. Note: Any device, equipment or situation not covered by this cross-connection policy where water is connected or used which may constitute a potential health hazard will be handled at the discretion of *Aqua Utilities Florida, Inc.*

7.05 Typical Plumbing Arrangements Requiring Backflow Prevention Devices - note references to SBCC, Standard Plumbing Code (SPC)

1. Fixture inlets or valved outlets with hose attachments, which may constitute a cross-connection, shall be protected by the proper approved vacuum breaker (PVB, HBVB, etc.) installed at least six (6) inches above the highest point of usage and located on the discharge side of the last valve. Fixtures with integral vacuum breakers manufactured as a unit may be installed in accordance with their approved requirements. (SPC Sec. 1204.3.4)
2. Industrial fluid or processed water - potable water pipelines connected to industrial piping systems or to equipment containing industrial fluid, sewage, used or processed water, or any other potentially contaminated liquid shall be protected by installing an RP in the interconnecting lines or by an AG separation.
3. Air conditioning cooling tower - potable water inlet shall have an AG separation of twice the inside diameter of the inlet line or a minimum of two (2) inches above the flood level rim.
4. Aspirators and ejectors - shall have a PVB, depending upon the degree of hazard, on the faucet from which these devices are attached or operated (SPC. sec. G104.6)
5. Automatic film processors - potable water lines connected directly to an automatic film processor shall be protected by an AG or a DCVA.
6. Bath tub with hose attachments - shall have a PVB at faucet.
7. Bedpan washer - shall have a PVB installed in accordance with the Standard Plumbing Code (SPC Sec. G104.6)
8. Boiler connection - potable water connection to boiler feed water system which contains conditioning chemicals shall either be made through an AG at make-up tank, or have an RP or DCVA, or BPW/IAV.
9. Booster pumps - shall be provided with a low pressure cut-off unless other acceptable provisions are made to prevent the creation of low or negative pressures in the piping system.
10. Colonic irrigators or douche attachments - shall have a PVB installed.

11. Dark rooms (photographic) - all threaded faucets shall be protected with a PVB or HBVB.
12. Dishwashing machine - shall be connected with a PVB on both hot and cold water supply lines in accordance with the SPC.
13. Dip tanks and vats - potable water inlet shall have an AG separation twice the inside diameter of the inlet or a minimum of two (2) inches above the flood level rim.
14. Garbage disposer - potable water supply lines connected directly to garbage disposer shall be equipped with a PVB or BPW/IAV.
15. Drinking fountains - shall have an AG separation.
16. Fire sprinkler systems - shall have an AG separation to the sewer.
17. Flushing floor drains - shall have a PVB installed.
18. Flush valve water closets, urinals, and bidets - shall have a vacuum breaker installed in accordance with the SPC.
19. Foot and sitz bath - shall have an AG separation or a PVB installed.
20. Hydro-therapy baths - shall have a PVB installed at water connection.
21. Janitors, mop or slop sink with threaded hose faucet shall be equipped with an AVB before faucet.
22. Lawn sprinkler systems - shall have a PBV or RP or DCVA installed depending on degree of hazard.
23. Pipette washer - shall have a PVB or AG separation installed on faucet..
24. Private wells shall not be interconnected or physically linked in any way, with or without a protective device, to the public potable water supply.
25. Potable water make-up line - to chill water loops, heating loops, purge units, condensers, converters, and condensate tanks should be equipped with BPW/IAV, DCVA, or RP depending on degree of hazard.
26. Serrated faucets - shall be equipped with a PVB at the faucet. If goose neck faucet is used "laboratory faucet type vacuum breaker" is acceptable
27. Shampoo basin hose rinse - shall have an AVB installed.
28. Sinks and bathtop faucets - shall have an AG separation above flood level rim.

29. Sterilizers - shall have an AG separation or PVB installed.
30. Stills - shall have an AG separation.
31. Swimming pool fill line - shall have an AG separation above the flood level rim or a DCVA.
32. Wash-up sinks with threaded faucets - shall have a PVB or HBVB installed.
33. Wash down hose faucet - shall have a PVB or HBVB installed on faucet
34. Washing machine drain lines - shall have an AG separation to sewer.
35. Water supply inlets - in pits, tanks, trenches, tubs, vats, or any other place that could become flooded with contaminated liquids shall have an AG separation above the flood level rim.
36. Water operated presses, elevators, or other similar pressure producing equipment - shall have an RP installed.
37. X-Ray developing tank - shall have an AG separation or a PVB installed. Note: Any device, equipment, or situation not covered by this cross-connection policy, which may constitute a potential health hazard, will be examined for treatment by *Aqua Utilities Florida, Inc.*

Section 8 Testing of Backflow Preventers

8.01 General Requirements

As part of a complete cross-connection control program, it shall be the duty of the non-single-family customer - user at any premises where reduced pressure backflow prevention devices (RP), double check valve assemblies (DCVA), and pressure vacuum breakers (PVB) are installed to have a thorough inspection and operation test at the time of installation and at least once a year, or more often in those instances where inspections indicate a need. Proper field test procedures with calibrated gauge equipment must be used by certified personnel (reference Section 6 for definition and explanation of a Backflow Prevention Device Tester- Certified). The cost of inspection, testing, maintenance and repair of backflow prevention devices at non-single-family residences shall be borne by the non-single-family customer-user.

The single-family-residence customer -user shall be responsible for the cost of the initial installation, inspection, and testing of the backflow prevention device. The costs and scheduling of inspections and tests thereafter performed at single-family residences shall be the responsibility of the *customer*. Any maintenance or repair required as a result of the test shall be at the expense of the customer - user and shall be performed by the device manufacturer's representative or by a certified device tester (Reference Section 6)

Irrigation systems are required to have PVB to prevent backflow to the public water supply. All existing AVB installations shall be retrofitted with PVBs at the consumer's expense. Single-family water customers installing new irrigation systems will be required to purchase, install and test new PVBs at their own expense. Annual testing and inspection of PVBs for all single-family customers will be performed by Certified Tester.

All devices failing to meet the latest performance standards set forth by the AWWA, ASSE, or the FCCCHR at USC, shall be repaired and retested promptly. Devices which are found to have a history of not meeting these performance standards should be replaced with new devices at the customer's expense.

If such testing indicates wear or other malfunction, the devices shall be overhauled. Such an overhaul should consist of the replacement of all seats, diaphragms, gaskets, etc., which are subject to wear, and any other parts found to be worn or otherwise in questionable condition.

8.02 Parallel Installations

All backflow prevention devices with test cocks are required to be tested with a minimum frequency of once per year. Testing requires a water shutdown usually lasting five (5) to twenty (20) minutes. For facilities that require an uninterrupted supply of water, and when it is not possible to provide water service from two (2) separate meters, provisions shall be made for a "parallel installation" of backflow prevention devices.

During testing, one device is left on while the other is being tested. Usually the two devices are sized one device smaller than the service line, e.g., one 2 inch device or two 1-1/2 inch devices, one 8 inch device or two (2) six (6) inch devices.

Aqua Utilities Florida, Inc. will not accept an unprotected bypass around a backflow preventer when the device is in need of testing, repair or replacement.

8.03 Preparation

As a prelude to each of the field test procedures. It is essential that the certified tester follow some basic steps:

1. Notify - Appointment and introduction procedures shall be followed similar to that used for inspections. The owner of the assembly shall be notified that water service will be shut off during test procedure. Special arrangements may have to be made so that interruption of service will not create a hardship on the user.
2. Identify - Make sure that proper assembly is being tested by checking identification tag for make, model, and serial number. All information and test data shall be recorded on paper forms before leaving the location.

3. Inspect - Inspect the assembly for the required components for the field test procedure -i.e., upstream and downstream shut-off valves, properly placed testcocks, etc.
4. Observe - Carefully observe area around the assembly for tell-tale signs of leakage - i.e., moss or algae growth, plant life, or soil erosion. This should supply the tester with additional information regarding the condition of the assembly before the test is performed. Example: Wet spot under relief valve port of RP assembly is an indication of relief valve activity, possibly from pressure fluctuations or fouling of the assembly. Proper testing will define the problem.

8.04 Records

Aqua Utilities Florida, Inc. will notify the customer - user when tests are required. The passing test results shall be returned to *Aqua Utilities Florida, Inc.* by the date indicated. A full report on the test of each device giving pertinent test data and indicating what, if any, repairs were made are to be delivered promptly to *Aqua Utilities Florida, Inc.*

Records are to include, but not be limited to:

1. Reports of inspections, recommendations, re-inspections, and corrective action taken.
2. Correspondence between *Aqua Utilities Florida, Inc.*, DEP, consumer, etc., concerning corrective action.
3. A master list of all backflow protection devices in use or proposed for use in the service area.
4. Vital data on each protective device.
5. Test and maintenance reports of each protective device.

Aqua Utilities Florida, Inc. shall maintain and keep all records of tests and results, locations of hazards and any other cross connection related information for each public water system for a minimum of ten (10) years. Records of tests of customers backflow devices will be maintained in an electronic database to be kept and accessible at the corporate office at 1100 Thomas Avenue, Leesburg, FL.

Section 9 Results of non-compliance

9.01 Discontinued Service

1. A consumer's health hazard surveillance report listing all cross-connections found during inspection will be sent to the owner or authorized agent of the owner of the building or premises, stating corrections should be made and setting a time for compliance. Unless otherwise noted in the report, the consumer shall have thirty (30) days to comply and perform any required corrections. Upon failure of the owner or authorized agent of the owner of the building or premises to have the defect (s) corrected by the specified time. *Aqua Utilities Florida, Inc.* shall cause the water service to the building or premises to be terminated and shall take such other precautionary measures deemed necessary to eliminate any danger of contamination of the public potable water supply and system.

2. ***Aqua Utilities Florida, Inc.*** shall cause discontinuance of water service if a reduced pressure backflow prevention device has been by-passed or failed to be tested or properly maintained as required by ***Aqua Utilities Florida, Inc.*** policy statements contained in this manual.
3. ***Aqua Utilities Florida, Inc.*** shall cause discontinuance of water service if an air-gap separation system is compromised or if, in the opinion of ***Aqua Utilities Florida, Inc.***, a hazardous condition cannot be immediately corrected.
4. Upon discontinuance of water service for non-compliance with the provisions of this manual, water service to such property shall not be restored until the system has been brought into full compliance, and a written order to reconnect has been issued by ***Aqua Utilities Florida, Inc.***.

9.02 Violation Liability

1. Any person or customer found violating any of the provisions of this manual or any written order of ***Aqua Utilities Florida, Inc.*** pursuant thereto, shall pay all costs and expenses involved in the case, including attorney's fees.
2. Notice of such violation shall be given by delivery of same to the premises and a copy thereof mailed to the billing address as it appears on ***Aqua Utilities Florida, Inc.*** billing records.
3. Each day upon which a violation shall occur shall be deemed a separate and additional violation.
4. Any person or custome in violation of any provisions of this manual shall also be liable to ***Aqua Utilities Florida, Inc.*** for any expense, loss, or damage incurred by reason of such violation to include attorney's fees.
5. ***Aqua Utilities Florida, Inc.*** may bring suit in the appropriate court to enjoin, restrain or otherwise prevent the violations of any of the provisions of this manual.

Section 10 Fire Systems

10.01 General (refer to Section 7 for abbreviations.)

1. ***Aqua Utilities Florida, Inc.*** will install and maintain DCV and DDCVG for all unmetered fire systems which have a low or moderate degree of hazard.
2. A DCVA or RP, depending upon the degree of hazard, shall be installed by the consumer on all metered fire systems.

3. Devices will be installed above ground, when possible, to provide easier maintenance and meter accessibility
4. All devices installed by *Aqua Utilities Florida, Inc.* will be tested annually by *Aqua Utilities Florida, Inc.* and maintained at a frequency proportionate to their age.
5. The cost of testing and maintenance will be paid by consumer.

10.02 Classes of Systems and Recommended Protection

Fire systems shall be divided into the following six (6) classes for the purpose of review. These classes are as adopted in the AWWA, M14 Backflow Prevention and Cross-Connection Control Manual and as endorsed by the National Automatic Sprinkler and Fire Control Association.

Class 1 - Direct connections from public water mains only: no pumps, tanks, or reservoirs; no physical connection from other water supplies; no anti-freeze or other additives of any kind; all sprinkler drains discharging to atmosphere, dry wells, or other safe outlets.

Recommended Protection for Class 1: Single check valve and alarm check valve.

Class 2 - Same as Class 1, except that booster pumps may be installed in the connections from the street mains (booster pumps do not affect the potability of the system; it is necessary, however, to avoid drafting so much water that pressure in the water main is reduced below 20 psi).

Recommended for Class 2 - Same as Class 1

Class 3 - Direct connection from public water supply main plus one or more of the following; elevated storage tanks: fire pumps taking suction from above ground covered reservoirs or tanks (all Storage facilities are filled or connected to public water only; the water in the tanks to be maintained in a potable condition. Otherwise, Class 3 systems are the same as Class 1.)

Recommended Protection for Class 3: Systems will generally require minimum protection (approved DCVA) to prevent stagnant waters from backflowing into the public potable water system.

Class 4 - Directly supplied from public mains similar to Classes 1 and 2, with an auxiliary water supply on or available to the premises, or an auxiliary supply may be located with 1,700 feet of the pumper connection (Note: The auxiliary supply would mean a pond, river, etc., dedicated to Fire Department use).

Recommended Protection for Class 4: Systems will normally require maximum protection at the service connection. The type (AG or RP) will generally depend on the quality of the auxiliary supply.

Class 5 - Directly supplied from public mains and interconnected with auxiliary supplies, such

as: pumps taking suction from reservoirs exposed to contamination or rivers and ponds; driven wells, mill or other industrial water systems, or where antifreeze or other additives are used.

Recommended Protection for Class 5: Same as Class 4

Class 6 - Combined industrial and fire protection systems supplied from the public water mains only, with or without gravity storage or pump suction tanks.

Recommended Protection for Class 6: System protection would depend on the requirements of both industry and fire protection, and could only be determined by a survey of the premises.

A meter (compound, detector check) should not normally be permitted as part of a backflow prevention device. An exception may be made, however, if the meter and backflow prevention device are specifically designed for that purpose.

10.03 Low Pressure Cut-Offs

All fire pumps drawing suction from *Aqua Utilities Florida, Inc.* water mains shall be equipped with low pressure cut-off devices or other means to prevent the reduction of water main pressure below 20 psi.

10.04 Standard Operating Procedures

1. Current AWWA backflow prevention practices for fire lines do not regard stagnant water as a health problem for low head, closed pipe fire systems. Alarm checks on sprinkler system risers in conjunction with other check valves such as single detector check valves at the service connection are considered protection for these types of potential contaminants.
2. Fire suppression systems supplied by six (6) inch or larger pipe and /or systems supplemented with on-site tanks or reservoirs or other water supplies shall be provided with either DCVA or other device types installed in accordance with the following criteria;

Installation: Mechanical backflow prevention devices need pressure loss to function properly. Before installing a device on a fire system, new or existing, this pressure loss should be factored into the system design to ascertain what effect it will have on system performance. Current device standards for sizes 4" through 10" permit pressure loss up to 14 psi for RPs and 10 psi for DCVAs (and DDCVs). Specific pressure loss information is readily available from all device manufacturers.

Manufacturer's installation instructions must be followed to ensure proper operation and to protect the equipment's warrant. General installation guidelines are as follows:

- a. The device should be installed in a horizontal position and have at least 12" between the bottom of the device and final grade or floor.
- b. Lateral clearance around the device must be provided to facilitate testing,

maintenance and replacement

c. Two (2) devices should be installed in parallel for any facility that must have uninterrupted flow during device testing or repair (e.g., medical buildings)

d. Though not recommended, devices may be installed in pits that are well drained: **NO PART OF A DEVICE SHOULD EVER BE UNDER WATER.**

e. If a device is installed inside a building, a floor drain is helpful to eliminate spillage caused by testing or flushing.

f. Since the relief valve on an RP will periodically drip or spit and may dump, the relief vent may be fitted with a drainline if spillage is objectionable or hazardous (e.g., electrical hazards). The end of the drain line must terminate 12" above ground or floor level and be clearly visible and accessible.

g. The device should be protected against freezing.

h. Shut-off valves should be of the OS type. And Y type strainers should not be used.

i. The assembled piping should be thoroughly flushed before installing the device.

j. The device should be adequately supported.

k. Fire suppression systems supplied by pipe less than 6" shall be adequately protected by the alarm check valve and a single check valve placed between the Fire Department connection and the main tap.

i. Water meters shall not be placed on fire protection lines.

MANUAL OF CROSS CONNECTION CONTROL
AQUA UTILITIES FLORIDA, INC.



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

May, 2008

Consecutive System Name: Kingswood

PWS Identification Number: 3054101

Consecutive System Type:

☒ Community

☐ Non-Transient Non-Community

☐ Transient Non-Community

Number of Service Connections at End of Month:

58

Total Population Served at End of Month:

136

Consecutive System Owner:

Aqua Utilities, FL

Contact Person:

William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address:

140 Hope St.

City: Longwood

State: FL

32750

Contact Person's Telephone Number:

407-339-5424

Contact Person's Fax Number:

(407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

May, 2008

Type of Disinfectant Residual Maintained in Distribution System:

☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1	3.6	
2		
3		
4		
5		
6		
7		
8	3.0	
9		
10		
11		
12		
13	2.8	
14		
15	3.4	
16		

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
17		
18		
19		
20	4.0	
21		
22	2.4	
23		
24		
25		
26		
27	3.2	
28		
29	2.0	
30		
31		

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date

William Trendel 6/8/08

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

June, 2008

Consecutive System Name: Kingswood

PWS Identification Number: 3054101

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 58

Total Population Served at End of Month: 136

Consecutive System Owner: Aqua Utilities, FL

Contact Person: William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope St.

City: Longwood

State: FL 32750

Contact Person's Telephone Number: 407-339-5424

Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

June, 2008

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine

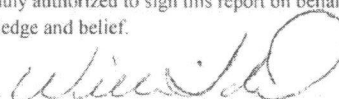
☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17	4.7	
2			18		
3			19	2.4	
4	3.3		20		
5			21		
6			22		
7			23		
8			24		
9			25	5.4	
10	3.4		26		
11			27	5.7	
12	2.6		28		
13			29		
14			30		
15			31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

 7/6/08
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of: July, 2008

Consecutive System Name: Kingswood PWS Identification Number: 3054101

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 58 Total Population Served at End of Month: 136

Consecutive System Owner: Aqua Utilities, Fl.

Contact Person: William Trendel Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope St. City: Longwood State: FL Zip: 32750

Contact Person's Telephone Number: 407-339-5424 Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address: _____

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of: July, 2008

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17	6.2	
2	0.2		18		
3			19		
4			20		
5			21		
6			22	3.5	
7			23		
8	6.8		24	3.3	
9			25		
10			26		
11	5.0		27		
12			28		
13			29	0.2	
14			30		
15			31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 8/4/08
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

August, 2008

Consecutive System Name: Kingswood

PWS Identification Number: 3054101

Consecutive System Type:

☒ Community

☐ Non-Transient Non-Community

☐ Transient Non-Community

Number of Service Connections at End of Month:

58

Total Population Served at End of Month:

136

Consecutive System Owner:

Aqua Utilities, FL

Contact Person:

William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address:

140 Hope St.

City: Longwood

State: FL

32750

Contact Person's Telephone Number:

407-339-5424

Contact Person's Fax Number:

(407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

August, 2008

Type of Disinfectant Residual Maintained in Distribution System:

☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation			Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation		
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L		Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	
1	4.7		17		
2			18		
3			19	2.1	
4			20		
5	4.5		21		
6			22		
7			23		
8	2.3		24		
9			25		
10			26		
11			27	4.9	
12			28		
13	3.6		29	0.4	
14			30		
15	5.0		31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 9/9/08
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

September, 2008

Consecutive System Name: Kingswood

PWS Identification Number: 3054101

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 58

Total Population Served at End of Month: 136

Consecutive System Owner: Aqua Utilities, Fl.

Contact Person: William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope St.

City: Longwood

State: FL 32750

Contact Person's Telephone Number: 407-339-5424

Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

September, 2008

Type of Disinfectant Residual Maintained in Distribution System:

☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1		
2	4.7	
3		
4		
5	3.7	
6		
7		
8		
9	4.6	
10		
11	4.1	
12		
13		
14		
15		
16	4.1	

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
17		
18	3.4	
19		
20		
21		
22		
23	5.0	
24		
25	3.8	
26		
27		
28		
29		
30	4.5	
31		

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Bill Trendel 10/6/08
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

October, 2008

Consecutive System Name: Kingswood

PWS Identification Number: 3054101

Consecutive System Type:

☒ Community

☐ Non-Transient Non-Community

☐ Transient Non-Community

Number of Service Connections at End of Month:

58

Total Population Served at End of Month:

136

Consecutive System Owner:

Aqua Utilities, FL

Contact Person:

William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address:

140 Hope St.

City: Longwood

State: FL

32750

Contact Person's Telephone Number:

407-339-5424

Contact Person's Fax Number:

(407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

October, 2008

Type of Disinfectant Residual Maintained in Distribution System:

☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1		
2	5.1	
3		
4		
5		
6		
7	4.6	
8		
9	4.2	
10		
11		
12		
13		
14	4.2	
15		
16	3.9	

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
17		
18		
19		
20		
21	3.9	
22		
23		
24	3.9	
25		
26		
27		
28	5.4	
29		
30	3.8	
31		

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date

William Trendel 11/6/08

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

November, 2008

Consecutive System Name: Kingswood

PWS Identification Number: 3054101

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community

☐ Transient Non-Community

Number of Service Connections at End of Month: 58

Total Population Served at End of Month: 136

Consecutive System Owner: Aqua Utilities, FL

Contact Person: William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope St.

City: Longwood

State: FL 32750

Contact Person's Telephone Number: 407-339-5424

Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

November, 2008

Type of Disinfectant Residual Maintained in Distribution System:

☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1		
2		
3		
4		
5	3.7	
6		
7	4.0	
8		
9		
10		
11	4.6	
12		
13	3.3	
14		
15		
16		

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
17		
18	4.3	
19		
20	4.4	
21		
22		
23		
24		
25	4.2	
26		
27		
28	4.3	
29		
30		
31		

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date

12/7/08

William Trendel
Printed or Typed Name

C-6411
License Number or Title

Effective August 26, 2003



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

Dec. 2008

Consecutive System Name: Kingswood
Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community
Number of Service Connections at End of Month: 58
Consecutive System Owner: Aqua Utilities, FL
Contact Person: William Trendel
Contact Person's Mailing Address: 140 Hope St.
Contact Person's Telephone Number: 407-339-5424
Contact Person's E-Mail Address:

PWS Identification Number: 3054101

☐ Transient Non-Community

Total Population Served at End of Month: 136

Contact Person's Title: Senior Facilities Operator

City: Longwood

State: FL 32750

Contact Person's Fax Number: (407) 339-7490

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

Dec. 2008

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Emergency or Abnormal Operating Conditions;
Repair or Maintenance Work that Involves
Taking Water System Components Out of
Operation

Lowest Residual Disinfectant
Concentration at Remote Point
in Distribution System, mg/L

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L
1	
2	4.1
3	
4	3.7
5	
6	
7	
8	
9	1.8
10	
11	3.4
12	
13	
14	
15	
16	3.6

Emergency or Abnormal Operating Conditions;
Repair or Maintenance Work that Involves
Taking Water System Components Out of
Operation

Lowest Residual Disinfectant
Concentration at Remote Point
in Distribution System, mg/L

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L
17	3.6
18	
19	3.1
20	
21	
22	
23	2.5
24	
25	
26	
27	
28	2.6
29	
30	
31	

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

January, 2009

Consecutive System Name: Kingswood

PWS Identification Number: 3054101

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 58

Total Population Served at End of Month: 136

Consecutive System Owner: Aqua Utilities, FL

Contact Person: William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope St.

City: Longwood

State: FL

32750

Contact Person's Telephone Number: 407-339-5424

Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

January, 2009

Type of Disinfectant Residual Maintained in Distribution System:

☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2	4.0		18		
3			19		
4			20	2.4	
5			21		
6	4.4		22	0.4	
7			23		
8	3.0		24		
9			25		
10			26		
11			27		
12			28	0.0	
13	5.8		29		
14			30	5.5	
15	2.6		31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 2/8/09
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

Feb. 2009

Consecutive System Name: Kingswood PWS Identification Number: 3054101
Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community
Number of Service Connections at End of Month: 58 Total Population Served at End of Month: 136
Consecutive System Owner: Aqua Utilities, FL.
Contact Person: William Trendel Contact Person's Title: Senior Facilities Operator
Contact Person's Mailing Address: 140 Hope St. City: Longwood State: FL 32750
Contact Person's Telephone Number: 407-339-5424 Contact Person's Fax Number: (407) 339-7490
Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

Feb. 2009

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17	3.7	
2			18		
3			19	3.8	
4	0.5		20		
5			21		
6	3.8		22		
7			23		
8			24	1.8	
9			25		
10			26	4.1	
11	2.1		27		
12			28		
13	2.0		29		
14			30		
15			31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date: *William Trendel* 3/6/09

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:		March, 2009	
Consecutive System Name:	Kingswood	PWS Identification Number: 3054101	
Consecutive System Type:	<input checked="" type="checkbox"/> Community <input type="checkbox"/> Non-Transient Non-Community <input type="checkbox"/> Transient Non-Community		
Number of Service Connections at End of Month:	58	Total Population Served at End of Month:	136
Consecutive System Owner:	Aqua Utilities, FL		
Contact Person:	William Trendel	Contact Person's Title:	Senior Facilities Operator
Contact Person's Mailing Address:	140 Hope St.	City: Longwood	State: FL 32750
Contact Person's Telephone Number:	407-339-5424	Contact Person's Fax Number:	(407) 339-7490
Contact Person's E-Mail Address:			

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:		March, 2009	
Type of Disinfectant Residual Maintained in Distribution System:	<input type="checkbox"/> Free Chlorine <input checked="" type="checkbox"/> Combined Chlorine (Chloramines) <input type="checkbox"/> Chlorine Dioxide		

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2			18		
3	3.1		19	3.5	
4			20		
5	3.5		21		
6			22		
7			23		
8			24	3.9	
9			25		
10	0.8		26		
11			27		
12	3.7		28		
13			29		
14			30		
15			31	4.3	
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date: *William Trendel* 4/8/09

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

April, 2009

Consecutive System Name: Kingswood PWS Identification Number: 3054101
Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community
Number of Service Connections at End of Month: 58 Total Population Served at End of Month: 136
Consecutive System Owner: Aqua Utilities, FL.
Contact Person: William Trendel Contact Person's Title: Senior Facilities Operator
Contact Person's Mailing Address: 140 Hope St. City: Longwood State: FL 32750
Contact Person's Telephone Number: 407-339-5424 Contact Person's Fax Number: (407) 339-7490
Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

April, 2009

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2			18		
3	4.3		19		
4			20		
5			21	3.4	
6			22		
7	3.0		23	0.3	
8			24		
9	2.5		25		
10			26		
11			27		
12			28	0.7	
13			29		
14	3.9		30	3.4	
15			31		
16	2.9				

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 5/5/09
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

May, 2009

Consecutive System Name: Kingswood

Consecutive System Type:

☒ Community

☐ Non-Transient Non-Community

☐ Transient Non-Community

PWS Identification Number: 3054101

Number of Service Connections at End of Month:

58

Consecutive System Owner:

Aqua Utilities, FL

Total Population Served at End of Month:

136

Contact Person:

William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address:

140 Hope St.

City: Longwood

State: FL

32750

Contact Person's Telephone Number:

407-339-5424

Contact Person's Fax Number:

(407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

May, 2009

Type of Disinfectant Residual Maintained in Distribution System:

☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2			18		
3			19		
4			20		
5	3.6		21		
6			22	5.0	
7			23		
8	4.1		24		
9			25		
10			26	2.1	
11			27		
12			28	3.3	
13	4.3		29		
14			30		
15	5.1		31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date: *William Trendel 6/7/09*

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

June, 2009

Consecutive System Name: Kingswood PWS Identification Number: 3054101
Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community
Number of Service Connections at End of Month: 58 Total Population Served at End of Month: 136
Consecutive System Owner: Aqua Utilities, FL.
Contact Person: William Trendel
Contact Person's Mailing Address: 140 Hope St. City: Longwood State: FL 32750
Contact Person's Telephone Number: 407-339-5424 Contact Person's Fax Number: (407) 339-7490
Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

June, 2009

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1	0.8		17		
2			18		
3			19	4.1	
4	5.1		20		
5			21		
6			22		
7			23		
8			24		
9	5.7		25	6.6	
10			26		
11	4.1		27		
12			28		
13			29		
14			30	11.0	
15			31		
16	4.3				

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 7/7/09
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of: July, 2009

Consecutive System Name: Kingswood PWS Identification Number: 3054101

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 58 Total Population Served at End of Month: 136

Consecutive System Owner: Aqua Utilities, FL.

Contact Person: William Trendel Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope St. City: Longwood State: FL 32750

Contact Person's Telephone Number: 407-339-5424 Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of: July, 2009

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17	4.7	
2	2.3		18		
3			19		
4			20		
5			21	5.3	
6			22		
7	3.7		23	5.3	
8			24		
9	7.0		25		
10			26		
11			27		
12			28	0.7	
13			29		
14	5.0		30	3.3	
15			31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date: *William Trendel* 8/6/09

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of: August, 2009

Consecutive System Name: Kingswood PWS Identification Number: 3054101

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 58 Total Population Served at End of Month: 136

Consecutive System Owner: Aqua Utilities, FL

Contact Person: William Trendel Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope St. City: Longwood State: FL Zip: 32750

Contact Person's Telephone Number: 407-339-5424 Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address: _____

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of: August, 2009

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2			18	0.2	
3			19		
4	4.1		20	4.1	
5			21		
6			22		
7	4.4		23		
8			24		
9			25	0.2	
10			26		
11			27		
12			28	2.8	
13	3.9		29		
14			30		
15			31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 9/6/09
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

Sept. 2009

Consecutive System Name:	Kingswood	PWS Identification Number:	3054101
Consecutive System Type:	<input checked="" type="checkbox"/> Community <input type="checkbox"/> Non-Transient Non-Community <input type="checkbox"/> Transient Non-Community		
Number of Service Connections at End of Month:	58	Total Population Served at End of Month:	136
Consecutive System Owner:	Aqua Utilities, FL		
Contact Person:	William Trendel	Contact Person's Title:	Senior Facilities Operator
Contact Person's Mailing Address:	140 Hope St.	City:	Longwood
Contact Person's Telephone Number:	407-339-5424	State:	FL
Contact Person's E-Mail Address:		Contact Person's Fax Number:	(407) 339-7490

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

Sept. 2009

Type of Disinfectant Residual Maintained in Distribution System:			<input type="checkbox"/> Free Chlorine <input checked="" type="checkbox"/> Combined Chlorine (Chloramines) <input type="checkbox"/> Chlorine Dioxide		
Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2	5.7		18	4.6	
3			19		
4	5.5		20		
5			21		
6			22	2.7	
7			23		
8			24	1.3	
9	4.7		25		
10			26		
11	6.4		27		
12			28		
13			29	2.1	
14	4.1		30		
15			31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date: *William Trendel* 10/4/09

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

Oct. 2009

Consecutive System Name: Kingswood		PWS Identification Number: 3054101	
Consecutive System Type: <input checked="" type="checkbox"/> Community <input type="checkbox"/> Non-Transient Non-Community <input type="checkbox"/> Transient Non-Community			
Number of Service Connections at End of Month: 58		Total Population Served at End of Month: 136	
Consecutive System Owner: Aqua Utilities, FL.			
Contact Person: William Trendel		Contact Person's Title: Senior Facilities Operator	
Contact Person's Mailing Address: 140 Hope St.		City: Longwood	State: FL 32750
Contact Person's Telephone Number: 407-339-5424		Contact Person's Fax Number: (407) 339-7490	
Contact Person's E-Mail Address:			

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

Oct. 2009

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2	3.8		18		
3			19		
4			20	1.4	
5			21		
6	3.5		22	2.2	
7			23		
8	1.5		24		
9			25		
10			26		
11			27	3.6	
12			28		
13	3.1		29	4.1	
14			30		
15	1.5		31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 11/4/09
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of:

Nov. 09

Consecutive System Name: Kingswood PWS Identification Number: 3054101
Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community
Number of Service Connections at End of Month: 58 Total Population Served at End of Month: 136
Consecutive System Owner: Aqua Utilities, FL
Contact Person: William Trendel Contact Person's Title: Senior Facilities Operator
Contact Person's Mailing Address: 140 Hope St. City: Longwood State: FL 32750
Contact Person's Telephone Number: 407-339-5424 Contact Person's Fax Number: (407) 339-7490
Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of:

Nov. 09

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17	3.8	
2			18		
3	0.6		19	4.0	
4			20		
5	4.4		21		
6			22		
7			23	5.0	
8			24		
9			25	3.9	
10	0.4		26		
11			27		
12	2.0		28		
13			29		
14			30		
15			31		
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 12/4/09
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month/Year of: December, 2009

Consecutive System Name: Kingswood PWS Identification Number: 3054101

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month: 58 Total Population Served at End of Month: 136

Consecutive System Owner: Aqua Utilities, FL

Contact Person: William Trendel Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope St. City: Longwood State: FL 32750

Contact Person's Telephone Number: 407-339-5424 Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address:

II. Daily Distribution System Disinfectant Residual Data for the Month/Year of: December, 2009

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1	2.9		17	3.2	
2			18		
3	3.3		19		
4			20		
5			21		
6			22	3.9	
7			23		
8	0.2		24	4.3	
9			25		
10	2.3		26		
11			27		
12			28		
13			29	3.7	
14			30		
15	0.2		31	3.2	
16					

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 11/7/10
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

Consecutive System Name: Kingswood		PWS Identification Number: 3054101	
Consecutive System Type: <input checked="" type="checkbox"/> Community <input type="checkbox"/> Non-Transient Non-Community <input type="checkbox"/> Transient Non-Community			
Number of Service Connections at End of Month: 58		Total Population Served at End of Month: 136	
Consecutive System Owner: Aqua Utilities, FL			
Contact Person: William Trendel		Contact Person's Title: Senior Facilities Operator	
Contact Person's Mailing Address: 140 Hope St.		City: Longwood	State: FL 32750
Contact Person's Telephone Number: 407-339-5424		Contact Person's Fax Number: (407) 339-7490	
Contact Person's E-Mail Address:			

January, 2010			
Type of Disinfectant Residual Maintained in Distribution System: <input type="checkbox"/> Free Chlorine <input checked="" type="checkbox"/> Combined Chlorine (Chloramines) <input type="checkbox"/> Chlorine Dioxide			
Sample Date	Sample Location	Disinfectant Residual Concentration at Sample Point in Distribution System, mg/L	Emergency or Unusual Operating Conditions Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			
2			
3			
4		0.3	
5		3.3	
6			
7			
8			
9		0.8	
10		3.4	
11		5.1	
12			

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 2/7/10
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER
ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

Consecutive System Name Kingswood

February, 2010

PWS Identification Number 3054101

Consecutive System Type ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month 53

Total Population Served at End of Month 136

Consecutive System Owner Aqua Utilities, FL

Contact Person William Trendel

Contact Person's Title Senior Facilities Operator

Contact Person's Mailing Address 140 Hope St.

City Longwood

State FL

32750

Contact Person's Telephone Number 407-339-5424

Contact Person's Fax Number (407) 339-7490

Contact Person's E-Mail Address

Type of Disinfectant Residual Maintained in Distribution System

February, 2010

☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2	2.4		18	2.0	
3			19		
4	1.9		20		
5			21		
6			22		
7			23	0.9	
8			24		
9	0.7		25	2.2	
10			26		
11	3.0		27		
12			28		
13			29		
14			30		
15			31		
16	2.7				

Signature of Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date

William Trendel 3/7/10

William Trendel

Printed or Typed Name

C-6411

License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I. General Water System Information for the Month Year of

March, 2010

Consecutive System Name: Kingswood
Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community
Number of Service Connections at End of Month: 58
Consecutive System Owner: Aqua Utilities, FL
Contact Person: William Trendel
Contact Person's Mailing Address: 140 Hope St.
Contact Person's Telephone Number: 407-339-5424
Contact Person's E-Mail Address:
PWS Identification Number: 3054101
Total Population Served at End of Month: 136
Contact Person's Title: Senior Facilities Operator
City: Longwood
State: FL 32750
Contact Person's Fax Number: (407) 339-7490

II. Daily Distribution System Disinfectant Residual Data for the Month Year of

March, 2010

Type of Disinfectant Residual Maintained in Distribution System: ☐ Free Chlorine ☒ Combined Chlorine (Chloramines) ☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation	Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1			17		
2	3.0		18	0.5	
3			19		
4			20		
5			21		
6			22		
7			23	0.6	
8			24		
9	0.9		25	2.6	
10			26		
11	0.7		27		
12			28		
13			29		
14			30	0.8	
15			31		
16	0.4				

III. Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

Signature and Date: *William Trendel* 4/4/10

William Trendel
Printed or Typed Name

C-6411
License Number or Title



MONTHLY OPERATION REPORT FOR CONSECUTIVE SYSTEMS THAT RECEIVE PURCHASED FINISHED WATER ORIGINATING FROM A SUBPART H SYSTEM

See Page 2 for Instructions.

I General Water System Information for the Month Year of

April, 2010

Consecutive System Name: Kingswood

PWS Identification Number 3054101

Consecutive System Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community

Number of Service Connections at End of Month 58

Total Population Served at End of Month 136

Consecutive System Owner: Aqua Utilities, FL

Contact Person: William Trendel

Contact Person's Title: Senior Facilities Operator

Contact Person's Mailing Address: 140 Hope St.

City: Longwood

State: FL 32750

Contact Person's Telephone Number: 407-339-5424

Contact Person's Fax Number: (407) 339-7490

Contact Person's E-Mail Address:

II Daily Distribution System Disinfectant Residual Data for the Month Year of

April, 2010

Type of Disinfectant Residual Maintained in Distribution System

☐ Free Chlorine

☒ Combined Chlorine (Chloramines)

☐ Chlorine Dioxide

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
1	7.5	
2		
3		
4		
5		
6	1.7	
7		
8	2.0	
9		
10		
11		
12		
13	1.9	
14		
15	0.7	
16		

Day of the Month	Lowest Residual Disinfectant Concentration at Remote Point in Distribution System, mg/L	Emergency or Abnormal Operating Conditions; Repair or Maintenance Work that Involves Taking Water System Components Out of Operation
17		
18		
19		
20	0.9	
21		
22	1.1	
23		
24		
25		
26		
27	0.5	
28		
29		
30		
31		

III Certification by Authorized Representative

I am duly authorized to sign this report on behalf of the consecutive system identified in Part I on this report. I certify that the information provided in this report is true and accurate to the best of my knowledge and belief.

William Trendel 5/7/10
Signature and Date

William Trendel
Printed or Typed Name

C-6411
License Number or Title

DRINKING WATER BACTERIOLOGICAL SAMPLE COLLECTION AND LABORATORY REPORTING FORMAT

5600 US 1 North
Fort Pierce, FL 34946
FDOH # E96080

4155 St. Johns Parkway
Suite 1300
Sanford, FL 32771
FDOH # E83509



HBEL, Inc.
Environmental Testing Services
Phone (772) 465-8584 Fax (772) 467-1584

HBEL Report Number: 2136923 Sub-Contract Lab ID: _____

Analysis Method Requested:

☒ Colilert ☐ Membrane Filtration PWS I.D. 3054101

System Name: KINGSWOOD # 1701

System Address: SR 46 + TURPENTINE

City: Mims System or Owner's Phone #: 407-339-5424 Fax #: _____

Collector: T. MCCARTHY Collector's Phone #: SAME

Relinquished By: Lucy McCarthy Received By: _____ Relinquished By: _____

Date/Time: 4/6/10 1403 Date/Time: _____ Date/Time: _____

Type of Supply: ☒ Community Water System ☐ Noncommunity Water System ☐ Nontransient-Noncommunity Water System ☐ Limited Use System
(check only one) ☐ Private Well ☐ Swimming Pool ☐ Bottled Water ☐ Other

Reason for Sampling: (check only one) ☒ Routine Compliance ☐ Repeat ☐ Replacement ☐ Main Clearance ☐ Well Survey ☐ Other

Sample Collection Date(s): 4/6/10

TO BE COMPLETED BY COLLECTOR OF SAMPLE					
Sample Number	SAMPLE POINT (Location or Specific Address)	Collection Time	Sample Type ¹	Disinfect Res'd mg/L	pH
1	2430 WILDWOOD	1300	D	1.7	8.0
2	2454 WILDWOOD	1315	D	1.7	8.0

Average of disinfectant residuals for routine and repeat samples. (Complete for community and nontransient noncommunity systems serving populations up to and including 4,900. Do not include raw or plant samples in the average.)

1.7

Disinfectant Residual Analysis Method: ☒ DPD Colorimetric ☐ Other
Person performing analysis is: ☒ A certified operator (# C-4617) ☐ Employed by a certified lab
☐ Supervised by a certified operator (# _____) ☐ Employed by DEP or DOH

Name and Mailing Address of Person/Firm to Receive Report

AQUA UTIL. FL.
140 HOPE ST.
LONGWOOD, FL. 32750



Page 1 of 1

LABORATORY CERTIFICATE OF ANALYSIS

Total Coliform Analysis Method: (MF) SM9222B (Colilert) SM9223B

E. coli Analysis Method (MF) EC+MUG (Colilert) SM9223B

Non Coliform	Total Coliform	E. Coli	Data Qual. ²	Lab Sample Number
	A			2136923 001
	A			2136923 002

Key: P - Present A - Absent C - Confluent Growth
TNTC-Too Numerous to Count TA-Turbid
L.C.A. Absence of gas or acid

Analyst: JZ

Report authorized by: Jessie Technical Director or Designee

Date: 4/6/10 Unless otherwise noted, all test results contained within this report meet all applicable Method, Laboratory and NELAC guidelines. Questions regarding this report should be directed to the report Signatory at the phone number above.

☐ Satisfactory ☐ Repeat Samples Required
☐ Incomplete Collection Information ☐ Replacement Samples Required

Date Reviewed by DEP/DOH: _____
DEP/DOH Reviewing Official: _____

¹ DEP Sample Types: D=Distribution (Routine Compliance); C=Repeat or Check; R=Raw; N=Entry to Distribution; P=Plant Tap; S=Special (clearance, etc.)

² Defined in Florida Administrative Code Rule 62-160



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

VIA EMAIL

JMLIHVARCIK@AQUAAMERICA.COM

May 18, 2010

Mr. Jack Lihvarcik
Aqua Utilities Florida, Inc.
1100 Thomas Avenue
Leesburg, FL 34748

OCD-PW-SS-10-0348

Brevard County – PW
Kingswood Manor (Consecutive to Mims)
PWS ID Number 3054101

Dear Mr. Lihvarcik:

This confirms a visit to the subject consecutive community public water system on May 12, 2010, by Chris Rossing to conduct a sanitary survey inspection. A copy of the sanitary survey inspection report is enclosed for your reference and records.

Deficiencies found during the sanitary survey and in Department records are listed in the enclosed report. These deficiencies shall be corrected in order to return to compliance with *Florida Administrative Code* (F.A.C.) Rules 62-550, 62-555, 62-560 and 62-602.

Please correct the indicated deficiencies, and notify the Department in writing that the deficiencies have been corrected, **no later than July 2, 2010**. (You may use the attached response form to indicate the corrective actions taken.)

If you have any questions, please contact Chris Rossing by e-mail at Chris.Rossing@dep.state.fl.us or by phone at (407)893-3318, extension 2294.

Sincerely,

Reggie Phillips, Environmental Supervisor II
Drinking Water Compliance and Enforcement

RFP/cr
Enclosures

cc: Harry Householder, Operations Manager (HHOUSEHOLDER@AQUAAMERICA.COM)
Patrick Farris, Environmental Compliance Specialist (PAFARRIS@AQUAAMERICA.COM)
Chris Ross, DEP Drinking Water Compliance and Enforcement

State of Florida
Department of Environmental Protection
Central District

SANITARY SURVEY REPORT

Consecutive Water Systems – No Retreatment

System Name **KINGSWOOD MANOR (CONSECUTIVE TO MIMS)** County Brevard PWS ID # 3054101
System Location Turpentine Drive and Kingswood Drive, Mims, FL 32754 Phone 407/880-0100
Owner Name Aqua Utilities Florida, Inc. Phone 352/435-4028
Owner Address 1100 Thomas Avenue, Leesburg, FL 34748
Contact Person Patrick Farris Title Env. Compliance Spec. Phone 352/435-4029
This Survey Date 5/12/10 Last Survey Date 5/17/07 Last C.I. Date 9/23/98

PWS TYPE & CATEGORY/CLASS

- ☒ Consecutive/Community (6)
☐ Consecutive/Non-transient non-community
☐ Consecutive/Non-community

PWS STATUS

- ☐ Approved system with approval number & date

☒ Accepted
☐ Unapproved system

SERVICE AREA CHARACTERISTICS

Subdivision _____

Food Service: ☐ Yes ☐ No ☒ N/A

DISTRIBUTION SYSTEM

Number of Service Connections 60
Population Served 140 Basis Operator
Flow Measuring Device Master Meter (purchased)
Chlorine Residual Free = 0.01 Total = 1.0
Backflow Prevention Devices: ☒ Yes ☐ No
Bacteriological Monitoring Monthly
Coliform Sampling Plan: ☒ Yes ☐ No ☐ N/A
Lead and Copper Sampling Tri-annually

Comments _____

CROSS CONNECTION CONTROL

BFPAs 1 # Tested 5/11/10
WWTP RPZ N/A Date Tested N/A
Written Plan No Date N/A
Cross-connections None observed
Comments _____

PURCHASED WATER SOURCE

PWS Name Mims Water Treatment/North Brevard
PWS ID # 3050834
Source Design Capacity 2,400,000 gpd
Treatment: Disinfection/ammoniation/sand filtration
Aqua-Mag/lime softening/fluoridation

AUXILIARY POWER SOURCE

☐ Yes ☐ None ☒ Not Required
Source Purchased

OPERATION & MAINTENANCE

Certified Operator: ☒ Yes ☐ No ☐ Not required
Operator(s) & Certification Class-Number:
Bill Trendel C-6411

Operation & Maintenance Logbook ☒ Yes ☐ No
MORs submitted regularly? ☒ Yes ☐ No ☐ N/A
Data missing from MORs? ☒ No ☐ Yes ☐ N/A

Comments _____

SYSTEM RECORDS

3 Years/CCR's ☐ Yes ☒ No
5 Years/Bacteriologicals ☒ Yes ☐ No
12 Years/Lead & Copper ☒ Yes ☐ No
10 Years/MOR's ☒ Yes ☐ No
Asbestos Waiver/Results ☐ Yes ☒ No
Distribution Maps ☒ Yes ☐ No

WRITTEN PROGRAMS

Operation & Maintenance Manual ☒ Yes ☐ No
Preventive Maintenance Program ☒ Yes ☐ No
Flushing Program ☐ Yes ☐ No ☒ N/A
Records ☐ Yes ☐ No
Isolation Valve Exercise ☐ Yes ☐ No ☒ N/A
Records ☐ Yes ☐ No
Emergency Response Plan ☒ Yes ☐ No

DEFICIENCIES:

1. Failure to keep Consumer Confidence Reports (CCRs) on file for 3 years.

Any system subject to this subpart must retain copies of its CCR for no less than 3 years. [Rule §141.155(2)(h), 40 CFR 141 Subpart O]

2. Failure to provide asbestos waiver/results.

A system without asbestos-containing components shall certify to the Department in writing, using Form 62-555.900(10), that it is asbestos free. Certification shall satisfy the requirements of subsections (1), (2), and (3) above, and shall be submitted each nine-year compliance cycle during the specified year the system is required to monitor. [Rule 62-550.511(4), F.A.C.]

3. Failure to establish and implement a cross-connection control program. The written cross-connection program shall include:

- i. Written legal authority.
- ii. Written policy establishing where backflow prevention at water service connections is mandatory because of actual or potential cross-connections.
- iii. Written policy regarding ownership, installation, testing, and maintenance of backflow preventers at service connections.
- iv. Written procedures for assessing new or existing service connections to determine the need for backflow preventers at service connections.
- v. Written procedures for keeping cross-connection control program records.
- vi. Written procedures for educating customers about cross-connection control and backflow prevention.
- vii. Written procedures for investigating and responding to, backflow incidents.

Community water systems, and all public water systems that have service areas also served by reclaimed water systems regulated under Part III of Chapter 62-610, F.A.C., shall establish and implement a routine cross-connection control program to detect and control cross-connections and prevent backflow of contaminants into the water system. This program shall include a written plan that is developed using recommended practices of the American Water Works Association set forth in *Recommended Practice for Backflow Prevention and Cross-Connection Control*, AWWA Manual M14, as incorporated into Rule 62-555.330, F.A.C. [Rule 62-555.360(2), F.A.C.]

Upon discovery of a prohibited cross-connection, public water systems shall either eliminate the cross-connection by installation of an appropriate backflow prevention device acceptable to the Department or shall discontinue service until the contaminant source is eliminated. [Rule 62-555.360(3), F.A.C.]

PWS ID # 3054101
Date 5/12/10

COMMENTS/REMINDERS:

- The consumer confidence report (CCR) must be delivered to consumers and the Department no later than July 1, annually, and certification of delivery of the CCR must be submitted to the Department no later than August 10, annually.
- For monitoring schedules and information about the Drinking Water Program, please visit the Central District's Drinking Water website at <http://www.dep.state.fl.us/central/Home/DrinkingWater/default.htm>.

Inspector 

Title Env. Specialist II Date 5/18/10

Approved by 

Title Env. Supervisor II Date 5/18/10

RESPONSE

Please provide any changes to the following:

PWS ID Number: 3054101

Business Name: _____

PWS Name: Kingswood Manor (Consec. to Mims)

Mailing Address: _____

Owner(s) Name: _____

Mailing Address: _____

Date: _____

Phone Number(s): _____

Fax #: _____

E-Mail Address: _____

Florida Department of Environmental Protection
Drinking Water Compliance/Enforcement Program
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803

Attention: Chris Rossing, Environmental Specialist II

In response to the Department's **Sanitary Survey Report** for the subject public water system dated May 12, 2010, the following actions were done to correct the listed deficiencies:

Deficiency
Item No.

Corrective Action Done**Date Done**

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

(Attach additional sheet if necessary)

I hereby certify to the correctness of the above information:

PWS Owner/Representative Signature: _____

Name of PWS Owner/Representative: _____

(Please Type or Print)



Aqua Utilities Florida, Inc.
1100 Thomas Avenue
Leesburg, FL 34748

T: 352.787.0980
F: 352.787.6333
www.aquautilitiesflorida.com

June 18, 2010

Chris Rossing
FDEP CD
3319 Maguire Boulevard, Suite 232
Orlando, FL 32803-3767

**RE: Reply to Sanitary Survey
Kingswood Manor
PWS ID No. 3054101
Brevard County**

Dear Mr. Rossing:

This letter is in response to your inspection of the facility referenced above on May 12, 2010.

1. Three years of Consumer Confidence Reports are maintained electronically and hardcopies at the Longwood field office. Copies of the past three years CCRs are attached for your review.
2. The asbestos waiver is attached for your review and will also be added to the records maintained electronically and in hardcopy at the Longwood field office.
3. Attached is a copy of Aqua Utilities Florida Cross Connection Control Policy.

If you have any questions, please contact me at (352) 435-4029 or by e-mail at PAFarris@aquaamerica.com. Thank you.

Sincerely,

Patrick A. Farris
Environmental Compliance Specialist
Aqua Utilities Florida, Inc.

Enclosures: Asbestos Waiver
CCCP

cc: Will Fontaine, via e-mail
Harry Householder, via e-mail
Michael Pickel, via e-mail

2007 Annual Drinking Water Quality Report Kingswood Manor PWS ID # FL3054101

Este informe contiene información importante sobre la calidad de su agua de beber. Hable con alguien que lo entienda o llame al 877.WTR.AQUA (877.987.2782).

We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. If you have any questions about this report or concerns about your water utility, please contact us at 877.WTR.AQUA (877.987.2782) or visit us at www.aquautilitiesflorida.com.

Kingswood Manor purchases its water through an interconnection with Brevard County Utilities. The source of water is groundwater, which comes from the Floridan Aquifer. The water is softened by lime, chloraminated for disinfection, and a corrosion inhibitor is added. The Florida Department of Environmental Protection (DEP) performed a Source Water Assessment on Brevard County Utilities in 2004. Information provided by this assessment indicated that Brevard County Utilities is of moderate susceptibility to contamination from two potential sources. The assessment results are available on the DEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- A) **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B) **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- C) **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- D) **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- E) **Radioactive contaminants**, which can be naturally occurring or result from oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1.800.426.4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the SAFE DRINKING WATER HOTLINE (1.800.426.4791).

Terms and Abbreviations

Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for 70 years to have a one-in-a-million chance of having the described health effect.

Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum residual disinfectant level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum residual disinfectant level goal or MRDLG: The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Million fibers per liter (MFL): measure of the presence of asbestos fibers that are longer than 10 micrometers.

NA: Not applicable

ND: means not detected and indicates that the substance was not found by laboratory analysis.

Parts per million (ppm) or Milligrams per liter (mg/l): one part by weight of analyte to 1 million parts by weight of the water sample.

Parts per billion (ppb) or Micrograms per liter (µg/l): one part by weight of analyte to 1 billion parts by weight of the water sample.

Picocurie per liter (pCi/L): measure of the radioactivity in water.

2007 ANNUAL DRINKING WATER QUALITY TEST RESULTS

Aqua Utilities Florida routinely monitors for contaminants in your drinking water according to Federal and State laws, rules, and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2007 for **Kingswood Manor PWS ID # FL3054101**. The Environmental Protection Agency (EPA) requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the table below are the only contaminants detected in your drinking water. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

* Except as noted, results in the Level Detected column are the highest average at any sampling point or the highest single detected level at a sampling point, depending on sampling frequency.

Radiological Contaminants- Brevard County System -- Results in pCi/L

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected*	Range of Results	MCLG	MCL	Likely Source of Contamination
Alpha emitters	10/02	N	1.4	NA	0	15	Erosion of natural deposits
Radium 226 + 228 or combined radium	10/02	N	0.2	NA	0	5	

Inorganic Contaminants- Brevard County System

Asbestos (MFL)	10/02	N	0.8	NA	7	7	Decay of asbestos cement water mains; erosion of natural deposits
Arsenic (ppb)	06/05	N	1.2	NA	N/A	10	Erosion of natural deposits
Barium (ppm)	06/05	N	0.0026	NA	2	2	Erosion of natural deposits
Cyanide (ppb)	06/05	N	8.0	NA	200	200	Discharge from steel plastic and fertilizer factories
Fluoride (ppm)	06/05	N	0.56	NA	4	4	Erosion of natural deposits
Lead (point of entry) (ppb)	06/05	N	0.9	NA	N/A	15	Erosion of natural deposits; corrosion of plumbing
Mercury (inorganic) (ppb)	06/05	N	0.013	NA	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen) (ppm)	08/07	N	0.28	NA	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	08/07	N	0.04	NA	1	1	
Selenium (ppb)	06/05	N	0.2	NA	50	50	Erosion of natural deposits
Sodium (ppm)	06/05	N	32.0	NA	NA	160	Salt water intrusion, leaching from soil

TTHMs and Stage I Disinfectant/ Disinfection Byproduct (D/DBP) Parameters- Brevard County System -- For Chloramines, Haloacetic Acids and TTHM the level detected is the highest annual average of the quarterly averages. Range of Results is the range of results (lowest to highest) at individual sampling sites.

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG/ MRDLG	MCL/ MRDL	Likely Source of Contamination
Chloramines (ppm)	2007	N	3.5	1.6- 3.6	MRDLG =4	MRDL =4	Water additive used to control microbes Byproduct of drinking water disinfection
Total Haloacetic Acids (ppb)	08/06	N	22.2	NA	NA	60	
TTHMs [Total Trihalomethanes] (ppb)	08/06	N	23.3	NA	NA	80	

Disinfectants- Kingwood Manor System

Contaminant and Unit of Measurement	Year of Sampling	Violation Y/N	Level Detected	Range of Results	MRDLG	MRDL	Likely Source of Contamination
Chlorine (ppm)	2007	N	3.1	0.9- 4.5	4	4	Water additive used to control microbes

Lead and Copper (Tap Water)- Kingswood Manor System

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	AL Violation Y/N	90 th Percentile Result	No. of sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (ppm)	08/07	N	0.0146	0	1.3	1.3	Corrosion of household plumbing
Lead (ppb)	08/07	N	1	0	0	15	

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Aqua is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Our water systems are designed and operated to deliver water to our customers' plumbing systems that complies with state and federal drinking water standards. This water is disinfected using chlorine, but it is not necessarily sterile. Customers' plumbing, including treatment devices, might remove, introduce or increase contaminants in tap water. All customers, and in particular operators of facilities like hotels and institutions serving susceptible populations (like hospitals and nursing homes), should properly operate and maintain the plumbing systems in these facilities. You can obtain additional information from the EPA's Safe Drinking Water Hotline at 800.426.4791.

2008 Annual Drinking Water Quality Report Kingswood Manor PWS ID # FL3054101

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* Except as noted, results in the Level Detected column are the highest average at any sampling point or the highest single detected level at a sampling point, depending on sampling frequency.

Radiological Contaminants- Brevard County System

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected*	Range of Results	MCLG	MCL	Likely Source of Contamination
Combined radium (pCi/L)	07/08	N	0.6	NA	0	5	Erosion of natural deposits

Inorganic Contaminants- Brevard County System

Arsenic (ppb)	07/08	N	1.7	NA	N/A	10	Erosion of natural deposits
Cyanide (ppb)	07/08	N	9.0	NA	200	200	Discharge from steel metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	07/08, 10/08	N	2.1	0.53 – 2.1	4	4	Erosion of natural deposits
Lead (point of entry) (ppb)	07/08	N	0.9	NA	N/A	15	Erosion of natural deposits; corrosion of plumbing
Mercury (inorganic) (ppb)	07/08	N	0.02	NA	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen) (ppm)	07/08	N	0.10	NA	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	07/08	N	0.04	NA	1	1	
Sodium (ppm)	07/08	N	42.0	NA	NA	160	Salt water intrusion, leaching from soil

TTHMs and Stage I Disinfectant/ Disinfection Byproduct (D/DBP) Parameters- Brevard County System

For Chloramines, Haloacetic Acids and TTHM the level detected is the highest annual average of the quarterly averages. Range of Results is the range of results (lowest to highest) at individual sampling sites.

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG/ MRDLG	MCL/ MRDL	Likely Source of Contamination
Chloramines (ppm)	2008	N	2.94	2.3 – 3.7	MRDLG =4	MRDL =4	Water additive used to control microbes
Total Haloacetic Acids (ppb)	07/08	N	28.4	NA	NA	60	Byproduct of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	07/08	N	59	NA	NA	80	

Lead and Copper (Tap Water)- Kingswood Manor System

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	AL Violation Y/N	90 th Percentile Result	No. of sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (ppm)	08/07	N	0.0146	0	1.3	1.3	Corrosion of household plumbing
Lead (ppb)	08/07	N	ND	0	0	15	

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Aqua is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

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Our water systems are designed and operated to deliver water to our customers' plumbing systems that complies with state and federal drinking water standards. This water is disinfected using chlorine, but it is not necessarily sterile. Customers' plumbing, including treatment devices, might remove, introduce or increase contaminants in tap water. All customers, and in particular operators of facilities like hotels and institutions serving susceptible populations (like hospitals and nursing homes), should properly operate and maintain the plumbing systems in these facilities. You can obtain additional information from the EPA's Safe Drinking Water Hotline at 800.426.4791.

2009 Annual Drinking Water Quality Report Kingswood Manor PWS ID # FL3054101

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Hable con alguien que lo entienda o llame al 877.WTR.AQUA (877.987.2782).*

We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. If you have any questions about this report or concerns about your water utility, please contact us at 877.WTR.AQUA (877.987.2782) or visit us at www.aquautilitiesflorida.com.

Kingswood Manor purchases its water through an interconnection with Brevard County Utilities. The source of water is groundwater, which comes from the Floridan Aquifer. The water is softened by lime, chloraminated for disinfection, and a corrosion inhibitor is added. The Florida Department of Environmental Protection (DEP) performed a Source Water Assessment on Brevard County Utilities in 2009. Information provided by this assessment indicated that Brevard County Utilities is of moderate susceptibility to contamination due to three potential sources. The assessment results are available on the DEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- A) **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B) **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- C) **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- D) **Organic chemical contaminants**, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- E) **Radioactive contaminants**, which can be naturally occurring or result from oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1.800.426.4791.

Terms and Abbreviations

Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for 70 years to have a one-in-a-million chance of having the described health effect.

Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum residual disinfectant level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum residual disinfectant level goal or MRDLG: The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Million fibers per liter (MFL): measure of the presence of asbestos fibers that are longer than 10 micrometers.

NA: Not applicable

ND: means not detected and indicates that the substance was not found by laboratory analysis.

Parts per million (ppm) or Milligrams per liter (mg/l): one part by weight of analyte to 1 million parts by weight of the water sample.

Parts per billion (ppb) or Micrograms per liter (µg/l): one part by weight of analyte to 1 billion parts by weight of the water sample.

Picocurie per liter (pCi/L): measure of the radioactivity in water.

2009 ANNUAL DRINKING WATER QUALITY TEST RESULTS

Aqua Utilities Florida routinely monitors for contaminants in your drinking water according to Federal and State laws, rules, and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2009 for **Kingswood Manor PWS ID # FL3054101**. The Environmental Protection Agency (EPA) requires monitoring of over 80 drinking water contaminants. Those contaminants listed in the table below are the only contaminants detected in your drinking water. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

* Except as noted, results in the Level Detected column are the highest average at any sampling point or the highest single detected level at a sampling point, depending on sampling frequency.							
Radiological Contaminants- Brevard County System							
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected*	Range of Results	MCLG	MCL	Likely Source of Contamination
Radium 226 + 228 or combined radium (pCi/L)	07/08	N	0.6	NA	0	5	Erosion of natural deposits
Inorganic Contaminants- Brevard County System							
Arsenic (ppb)	07/08	N	1.7	NA	NA	10	Erosion of natural deposits
Cyanide (ppb)	07/08	N	9.0	NA	200	200	Discharge from steel metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	6/09, 10/09	N	0.98	0.40 - 0.98	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Lead (point of entry) (ppb)	07/08	N	0.9	NA	NA	15	Erosion of natural deposits; corrosion of plumbing
Mercury (inorganic) (ppb)	07/08	N	0.02	NA	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen) (ppm)	7/2009	N	0.24	NA	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	7/2009	N	0.012	NA	1	1	
Sodium (ppm)	07/08	N	42.0	NA	NA	160	Salt water intrusion, leaching from soil

Stage I Disinfectants and Disinfection By-Products - *For Chlorine, the level detected is the highest annual average of the quarterly averages. For Haloacetic Acids and TTHM, the level detected is the highest level found. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG/ MRDLG	MCL/ MRDL	Likely Source of Contamination
Kingswood Manor							
Chloramines (ppm)	2009	N	3.6	2.6 - 5.0	MRDLG =4	MRDL =4	Water additive used to control microbes
Brevard County							
Total Haloacetic Acids (ppb)	8/2009	No	13.2	NA	NA	60	Byproduct of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	8/2009	No	62	NA	NA	80	

Lead and Copper (Tap Water)- Kingswood Manor System

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	AL Violation Y/N	90 th Percentile Result	No. of sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (ppm)	08/07	N	0.0146	0	1.3	1.3	Corrosion of household plumbing
Lead (ppb)	08/07	N	ND	0	0	15	

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Aqua is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the SAFE DRINKING WATER HOTLINE (1.800.426.4791).

Our water systems are designed and operated to deliver water to our customers' plumbing systems that complies with state and federal drinking water standards. This water is disinfected using chlorine, but it is not necessarily sterile. Customers' plumbing, including treatment devices, might remove, introduce or increase contaminants in tap water. All customers, and in particular operators of facilities like hotels and institutions serving susceptible populations (like hospitals and nursing homes), should properly operate and maintain the plumbing systems in these facilities. You can obtain additional information from the EPA's Safe Drinking Water Hotline at 800.426.4791.



ASBESTOS-FREE CERTIFICATION OR ASBESTOS SAMPLING PLAN FOR PWSs

See page 2 for instructions.


I. General Information

Public Water System (PWS) Name: Kingswood Manor		
PWS Identification Number: 3054101	PWS Type: <input checked="" type="checkbox"/> Community <input type="checkbox"/> Non-Transient Non-Community	
PWS Owner: Aqua Utilities Florida, Inc.		
Contact Person: Will Fontaine	Contact Person's Title: Field Coordinator	
Contact Person's Mailing Address: P.O. Box 2480		
City: Lady Lake	State: FL	Zip Code: 32158-2480
Contact Person's Telephone Number: 352-266-2953	Contact Person's Fax Number: 352-787-6333.	
Contact Person's E-Mail Address: wmfontaine@aquaamerica.com		

II. Asbestos-Free Certification

I am duly authorized to sign this form on behalf of the PWS identified in Part I of this form. I certify that, to the best of my knowledge and belief, there are no asbestos-cement pipes or other asbestos containing components in said PWS. This certification is for the

scheduled monitoring year of 2011 .

 5-20-10
Signature and Date

Will Fontaine
Printed or Typed Name

Field Coordinator

III. Asbestos Sampling Plan

A. Scheduled Monitoring Year: _____

B. Asbestos Sampling Location*: _____

* The asbestos sampling location shall be a tap served by asbestos-cement pipe. (This does not mean that the asbestos sampling location must be a consumer's tap. The asbestos sampling location may be any convenient place in a portion of the distribution system served by asbestos-cement pipe.)

C. Reason Why Above Asbestos Sampling Location Was Chosen: _____

D. Conditions Under Which Asbestos Sample Will Be Taken*: _____

* Asbestos samples shall be taken under conditions where asbestos contamination is most likely to occur. (Waters with low pH [less than approximately 7.5 or 8, unless the waters contain high calcium, alkalinity, and silicate levels], very high sulfate concentrations, and polyphosphates are particularly destructive to asbestos-cement pipe.)



Utilities Florida

CROSS CONNECTION CONTROL POLICY

August 2007

TABLE OF CONTENTS

FORWARD

SECTION 1	INTRODUCTION
SECTION 2	OBJECTIVES
SECTION 3	RESPONSIBILITIES
SECTION 4	POLICIES
SECTION 5	INSPECTIONS
SECTION 6	DEFINITIONS
SECTION 7	APPLICABLE STANDARDS AND DESCRIPTIONS
SECTION 8	TESTING OF BACKFLOW DEVICES
SECTION 9	RESULTS OF NON-COMPLIANCE
SECTION 10	FIRE SYSTEMS

References:

AWWA – Manual of Cross Connection (M14)
ASSE – American Society of Sanitary Engineers
SBCC – Southern Building Code (Standard Plumbing Code)
FCCCHR of USC – University of Southern California
Foundation for Cross Connection Control and
Hydraulic Research (Manual for Cross Connection Control)

FOREWORD

This Manual of Cross-Connection Control has been prepared by *Aqua Utilities Florida, Inc.* to establish an effective cross connection control program in *Aqua Utilities Florida, Inc.* water service areas in accordance with directives issued by the Florida Department of Environmental Protection and directives issued on the Federal level. Responsibilities for the control of cross connections are shared by the consumer, *Aqua Utilities Florida, Inc.* and the Florida Department of Environmental Protection, *Aqua Utilities Florida, Inc.* intends to supply the safest and best drinking water possible to its service areas through an ongoing quality program of potable water delivery. The basic procedure for insuring the proper functioning of the public water supply through a coordinated program to prevent pollution or contamination of potable water supplies by cross-connections is contained herein.

This manual supplements and extends present guidelines for *Aqua Utilities Florida, Inc.* potable water supply, treatment and distribution system by providing a means of detecting and eliminating unprotected cross-connections in the interest of public safety. *Aqua Utilities Florida Inc.* enjoys a positive relationship with its consumers. Community support is required for this program to be successful. *Aqua Utilities Florida, Inc.* encourages and promotes the education and commitment of its consumers in the area of cross-connection control. It is the intent of *Aqua Utilities Florida, Inc.* to implement the regulations and procedures as outlined herein.

Section 1 *Introduction*

A cross connection is defined as:

“any connection or structural arrangement between public or a consumer’s potable water system and any non-potable source or system through which backflow can occur. Bypass arrangements, jumper connections, removeable sections, swivel or changeover devices, and other temporary or permanent devices through which, or because of which, backflow can occur are considered cross connections.”

1.01 Purpose

The purpose of a cross-connection control program is to prevent waterborne diseases and contaminants from entering the potable water distribution system and thus the water we drink. More exactly, the program is intended to prevent delivered water (water that has passed beyond the public water system and into the private distribution system of consumers) from re-entering the public distribution system and being subsequently delivered to other consumers. The program aims to protect *Aqua Utilities Florida, Inc.* and its consumers from those water-using establishments which could possibly reduce the quality and safety of *Aqua Utilities Florida Inc’s* water supply through backflow and / or cross connection.

1.02 Legal Authority

In Florida, the primary responsibility for safeguarding potable water quality on private property historically has been left to local health agencies and building inspection departments. The Safe Drinking Water Act created new authority through a requirement for all public water systems to have a cross-connection control program. Contained within the Rules of the Department of Environmental Protection, Chapter 62-555, Rule 62-55.360, Florida Administrative code, the State of Florida adopted the following policy:

“Community water systems shall establish a routine cross-connection control program to detect and prevent cross-connections that create or may create an imminent and substantial danger to public health. Such program shall be developed using accepted practices of the AWWA manual. M14, “Backflow Prevention and Cross-Connection Control.” Upon discovery of a prohibited cross-connection, public water systems shall either eliminate the cross-connection by installation of an appropriate backflow prevention device acceptable to the Department or shall discontinue service until the contaminant source is eliminated.”

1.03 Causes of Backflow

Where cross-connections exist, protection against backflow is needed to reduce the possibility of contamination. The causes of backflow cannot usually be eliminated completely since backflow is often initiated by accidents or unexpected circumstances. However, some causes of backflow can be partially controlled by good design and informed maintenance. Listed below are the major causes of backflow as outlined under the two types of backflow - Backsiphonage and Backpressure.

A. Backsiphonage

Backsiphonage is caused by reduced or negative pressure being created in the supply piping. A major cause of Backsiphonage is the interruption of the supply pressure. This will allow negative pressures to be created by water trying to flow to a lower point in the system. Another cause is undersized piping. If water is withdrawn from a pipe at a very high velocity, the pressure in the pipe is reduced and the pressure differential created can cause water to flow into the pipe from a contaminated source. The potable water supply can thus become contaminated due to backsiphonage into the potable water supply creating the potential for serious health problems.

The principal causes of backsiphonage are:

1. A line repair or break which occurs at a lower elevation than the service point;
2. Undersized piping;
3. Lowered pressure in a water main due to a high withdrawal rate such as fire-fighting, water main flushing, or water main breaks; and
4. Reduced supply main pressure on the suction side of a booster pump.

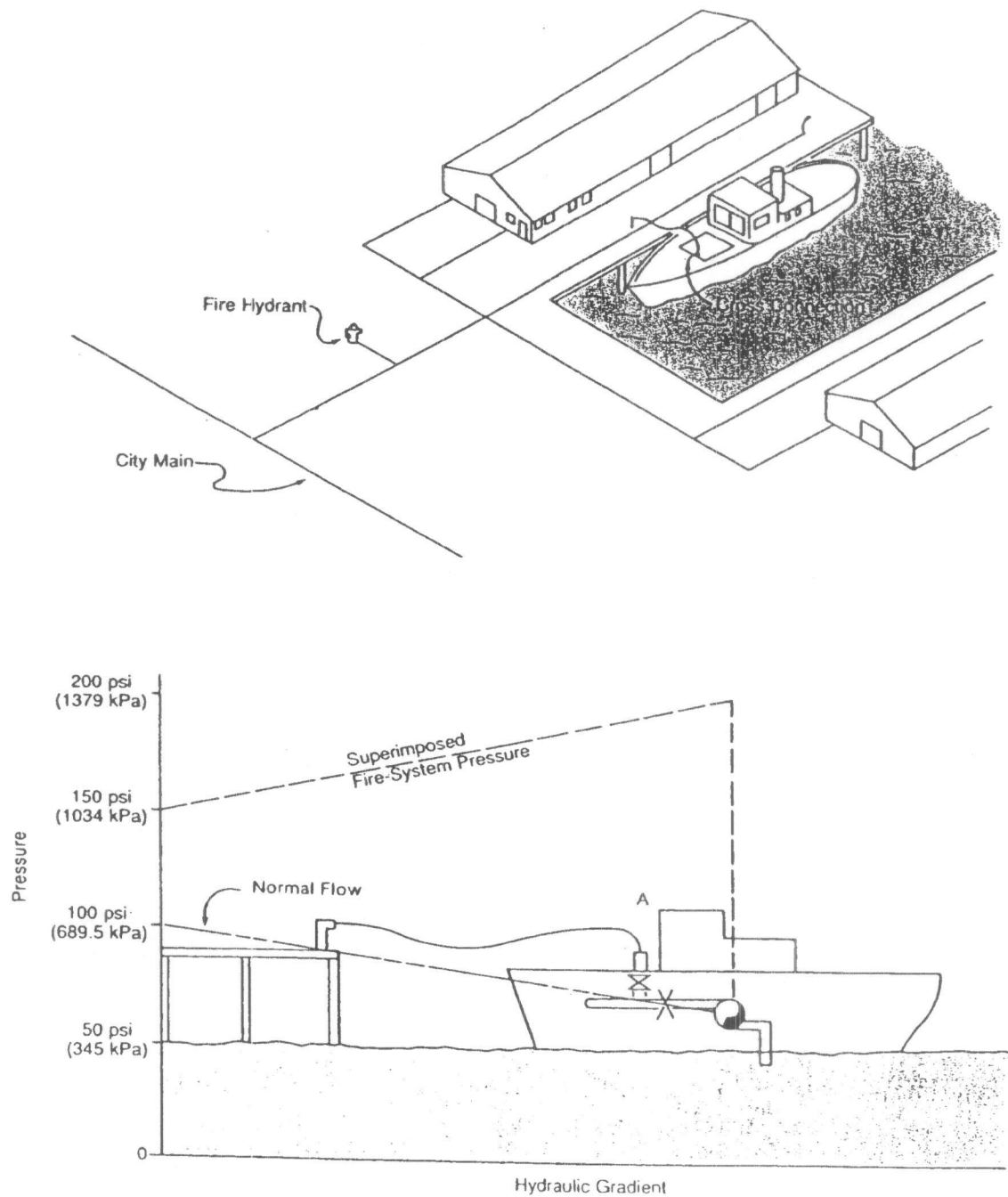
B. Backpressure

Backpressure may cause backflow to occur where a potable water system is connected to a non-potable supply operating under a higher pressure by means of pump, boiler, elevation difference, air or steam pressure and so forth.

The principal causes of backpressure are:

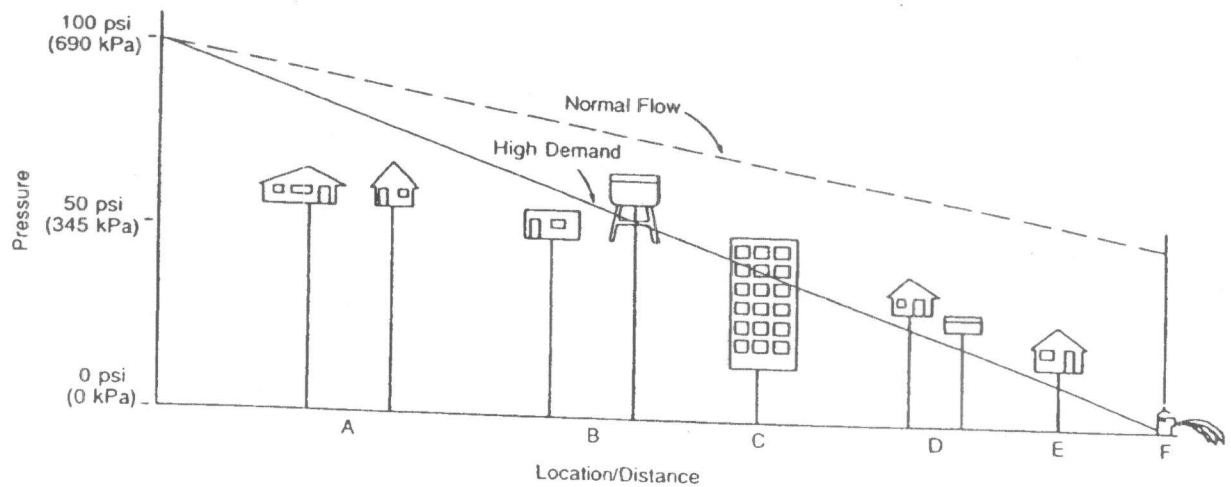
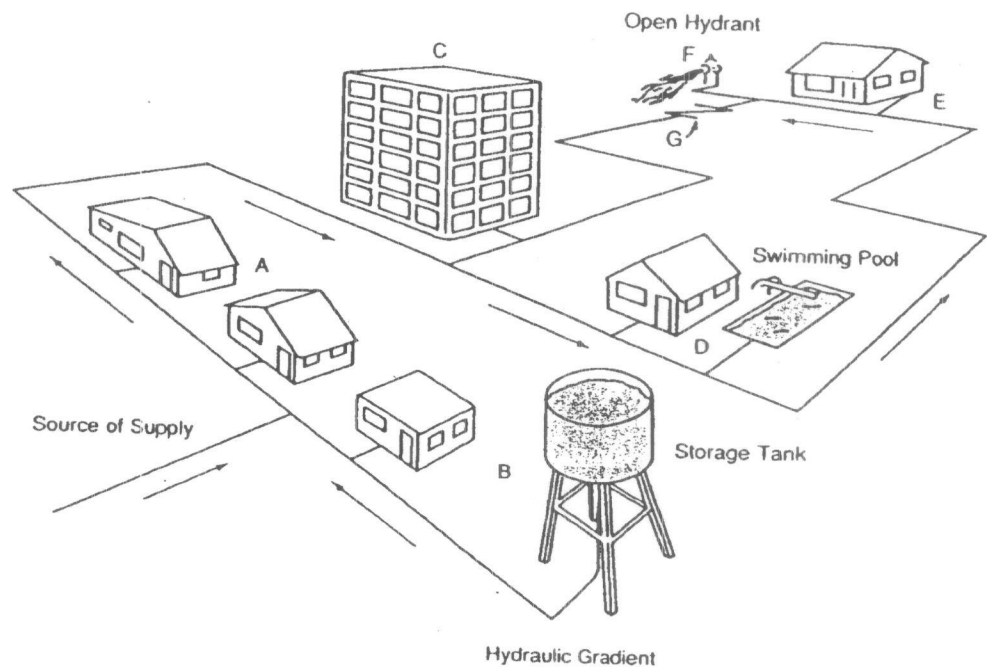
1. Booster pump systems designed without backflow prevention devices;
2. Potable water connections to boilers and other pressure systems without backflow prevention devices;
3. Connections with a non-potable system which may, at times, have a higher pressure; and
4. Non-potable water stored in tanks or plumbing systems which, by virtue of their elevation, would create head sufficient to cause backflow if pressure were lowered in the public system.

BACKFLOW DUE TO BACKPRESSURE



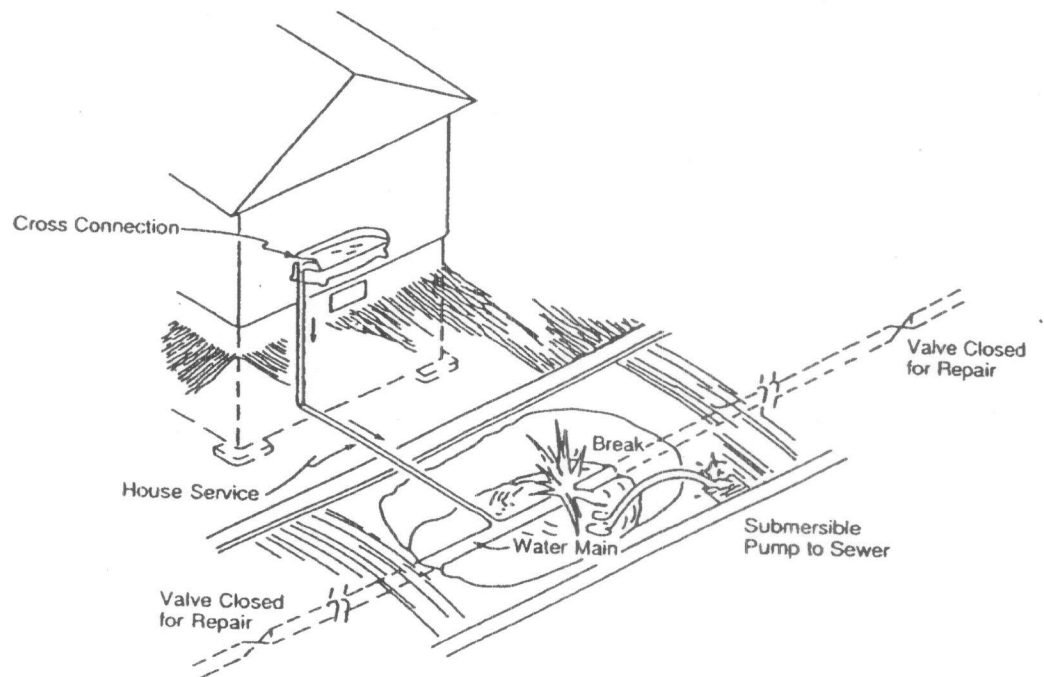
Backflow due to backpressure.

BACKSIPHONAGE DUE TO HIGH WITHDRAWAL RATE OF WATER



-- Backsiphonage due to high withdrawal rate of water.

BACKFLOW DUE TO MAIN BREAK



Backflow due to main break.

Section 2 Objectives

The objectives of *Aqua Utilities Florida, Inc.* are as follows:

1. To protect *Aqua Utilities Florida, Inc.* potable water supply from the possibility of contamination or by containing, within its consumers' private water systems, backflow through uncontrolled cross-connections into the public water system.
2. To eliminate or control existing cross-connections, actual or potential, between the consumer's on premise potable water system(s) and non-potable water system(s) plumbing fixtures and industrial piping systems.
3. To provide a continuing inspection program of cross-connection control, which will systematically and effectively control all actual or potential cross-connections which exist presently or may exist in the future.
4. To maintain an on-going public information program to educate the community on cross-connection control and to encourage consumer cooperation and coordination toward a successful cross-connection control program.

Section 3 Responsibility

3.01 Water Purveyor

Under the Safe Drinking Water Act and the Rules of the Florida Department of Environmental Protection, Rule 62-555.360, FAC, relating to cross-connection, the water purveyor has the primary responsibility of maintaining a cross-connection control program to prevent water from unapproved sources, or any other substances, from entering the public potable water system. Failure to implement such a program may result in enforcement by the Florida Department Environmental Protection against *Aqua Utilities Florida, Inc.*

3.02 Consumer

The consumer's responsibility starts at the point of delivery from the public potable water system (i.e. just after the meter) and includes all of the consumer's water systems. The consumer, at his own expense, is required to install, operate, test and maintain approved backflow prevention devices, as directed by *Aqua Utilities Florida, Inc.* The consumer must maintain accurate records of tests and repairs made to backflow prevention devices and provide *Aqua Utilities Florida, Inc.* with copies of such records. In the event of accidental pollution or contamination of the public or consumer's potable water system due to backflow on or from the consumer's premises, the consumer shall promptly take steps to confine further spread of pollution or contamination within the consumer's premises and is required to immediately notify *Aqua Utilities Florida, Inc.* of the hazardous condition.

The consumer's system shall be open for inspection at all reasonable times to authorized representatives of *Aqua Utilities Florida, Inc.* to determine whether cross connections or other

structural or sanitary hazards, including violations of these regulations, exist. When such a condition becomes known, ***Aqua Utilities Florida, Inc.*** shall deny or immediately discontinue service to the premises by providing for a physical break in the service line until the consumer has corrected the condition(s) in conformance with state/provincial and city statutes relating to plumbing and water supplies and the regulations adopted pursuant thereto.

3.03 Backflow Prevention Device Installation

The installer's responsibility is to ensure proper installation of backflow prevention devices in accordance with the manufacturer's installation instructions and those furnished by ***Aqua Utilities of Florida, Inc.*** The installer is also responsible to conduct a test of the device when it is installed, and is required to furnish the following vital data to ***Aqua Utilities Florida, Inc.*** immediately after a reduced pressure principal backflow preventer (RP), double check valve assembly (DCVA) or pressure vacuum breaker (PVB) is installed:

- 1) service address where device is located
- 2) owner
- 3) description of device's location
- 4) date of installation
- 5) type of device
- 6) manufacturer
- 7) model number
- 8) serial number

Testing at the time of installation for all RP'S, DCVA'S, and PVB'S shall be performed by a certified backflow prevention device technician. Test results are to be provided immediately to ***Aqua Utilities Florida, Inc.***

Section 4 Policy

Aqua Utilities Florida, Inc. has the continuing authority to inspect all industrial, commercial and residential users of potable water, where pollution, health or system hazards may exist or be created; where materials dangerous to health are handled in tanks, piping systems, or other vessels on the premises, or where the water system is unstable and cross-connections may occur. The following policies to cross-connections will apply:

1. Should the connection be between two (2) approved public water supplies, common gate or check valves may be used, provided this has the approval of both water suppliers and the Florida Department of Environmental Protection.
2. Should the connection be between an approved public potable water supply and a service or other water supply which has, or may have, any material in the water dangerous to health that is, or may be, handled under pressure, subject to negative pressures, protection shall be an approved air-gap separation (AG). The air-gap shall be located as close as practicable to the service cock or other connection to the approved supply. All piping between such connection and air-gap shall be entirely visible. If these conditions cannot be reasonably met, the public potable water supply shall be protected alternatively with an approved Reduced Pressure principle backflow prevention device (RP), provided the alternative is acceptable to ***Aqua Utilities Florida, Inc.*** and the Florida Department of Environmental Protection

Section 5 *Inspections*

5.01 Frequency

Due to changes in models or components of equipment, methods of manufacturing and additions of plants, buildings, etc., water use requirements undergo continual change. As a result, new cross-connections may be installed and existing protections may be by-passed, removed or made otherwise ineffective; therefore, an annual, biennial, or more frequent detailed inspection by *Aqua Utilities Florida, Inc.* of all water usage is required. In addition, all new building construction shall also be plan-checked and inspected during installation by *Aqua Utilities Florida, Inc.* to insure conformance with cross-connection control policy.

5.02 New Construction

All new construction plans and specifications for industrial or commercial facilities shall be submitted to *Aqua Utilities Florida, Inc.* for evaluation to determine the degree of possible cross-connection hazards. Backflow prevention and cross-connection control shall be accomplished by a combination of plans review and field inspections.

Aqua Utilities Florida, Inc. will inspect and require testing and approve or disapprove the completed backflow preventer installation. Field inspections during construction or immediately after will also serve to identify hazards that were not apparent during plans review or were introduced during construction.

After final approval of the installation and satisfactory test results, in accordance with cross-connections rules and regulations, a report will be filed by the installer to *Aqua Utilities Florida, Inc.*. This report will include size, model, location, and all other pertinent details of the installation including satisfactory test results attested to by a certified tester.

All non-residential construction of any building to be served by Aqua Utilities Florida, Inc. water system shall be plan-checked and inspected by *Aqua Utilities Florida, Inc.* for compliance with cross-connection control rules and regulations prior to connection to Aqua Utilities Florida, Inc. potable water main.

For containment purposes, the following types of buildings shall have an approved backflow prevention device at the water service connection:

- 1) Medical or Research Buildings
- 2) Morgues, mortuaries and autopsy facilities
- 3) Chemical related industries
- 4) Wastewater Plants
- 5) Metal plating facilities

5.03 Emergency procedures

If a consumer discovers a hazardous situation where contaminants are actually in the process or suspected of entering the distribution system of *Aqua Utilities Florida, Inc.* potable water supply, the consumer is authorized to take such immediate steps as necessary to correct the questionable existing hazardous condition. He is further responsible for immediately notifying *Aqua Utilities Florida, Inc.* of the need for flushing the contaminants out of the system.

Aqua Utilities Florida, Inc. is authorized to take immediate steps deemed necessary to correct a hazardous condition; which shall include the right to immediately discontinue potable water service to premises where a hazardous condition may be occurring. Such emergency steps, including discontinuance of potable water service, may be taken without advance notice to the consumer. The consumer shall be notified as soon as possible thereafter if potable water service has been discontinued; and the matter simultaneously brought to the attention of *Aqua Utilities Florida, Inc.*'s attorney and President..

Section 6 Definitions

Air-gap separation - The term air-gap separation shall mean a physical separation between the free-flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel. An approved air-gap separation shall be a distance of at least two (2) times the diameter of the supply pipe measured vertically above the top rim of the vessel - with a minimum distance of one (1) inch.

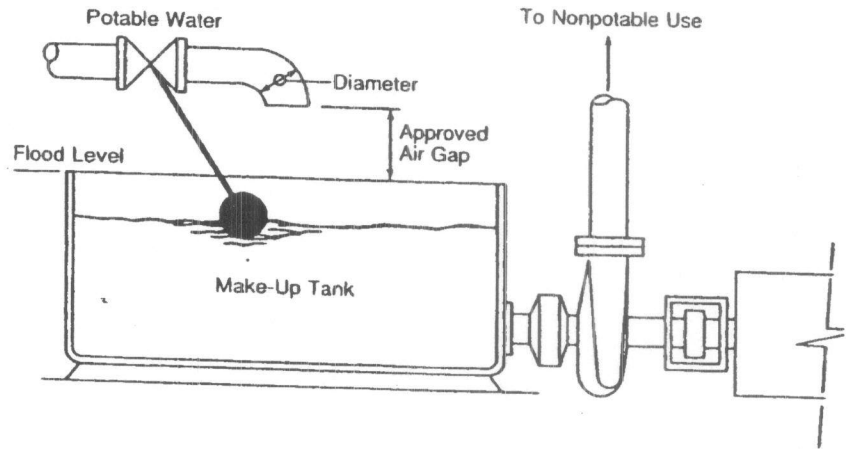
Approved - a) The term approved, as herein used in reference to a water supply, shall mean a potable water supply that has been approved by the Florida Department of Environmental Protection. b) The term approved, as herein used in reference to air-gap separation, a double check valve assembly or a reduced pressure principle backflow prevention device or method, shall mean as approved by *Aqua Utilities Florida, Inc.*

Auxiliary Intake - The term auxiliary intake shall mean any piping connection or other device whereby water may be secured from a source other than that normally used.

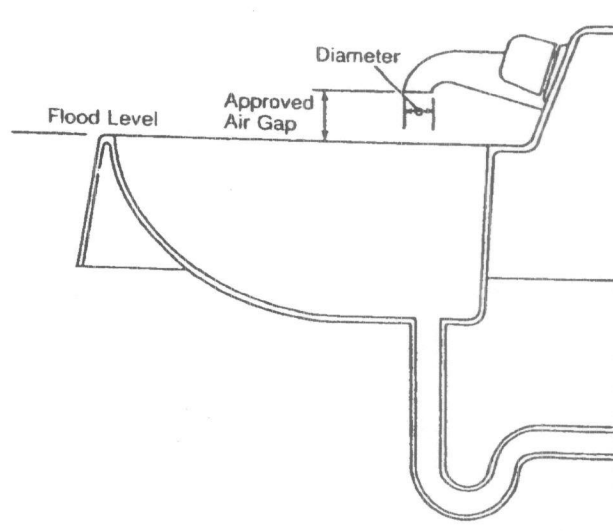
Backflow - The term backflow, shall mean the undesirable reversal of the flow of water or other liquids, mixtures, gases, or other substances into or towards the distribution piping of a potable supply of water from any source or sources.

Backflow prevention device - A backflow prevention device shall mean any effective device, method or construction used to prevent backflow into a potable water system. The type of device used should be based on the degree of hazard, either existing or potential, and identified by the condition which it is designed to prevent.

DIAGRAM -- AIR GAP



Air gap on tank.



Air gap on lavatory.

Backflow prevention device tester - (Certified) - The term certified backflow prevention device tester shall mean a person who has proven his / her competency to the satisfaction of *Aqua Utilities Florida, Inc.*. Each person who is certified to make competent tests or to repair, overhaul and make reports on backflow prevention devices shall be conversant with applicable laws, rules and regulations, and shall have attended and successfully completed the TREEO (Training, Research, and Education for Environmental Occupations) Certification program for backflow prevention device testers, or other USCFHR or DEP approved program.

Backpressure - Backpressure shall mean any elevation of pressure in the downstream piping system (by pump, elevation of piping, or steam and/or air pressure) above the supply pressure at the point of consideration which would cause or tend to cause, a reversal of the normal flow through a backflow prevention device.

Backsiphonage - Backsiphonage shall mean a reversal of the normal direction of flow in the pipeline due to a negative pressure (vacuum) being created in the supply line with the backflow source subject to atmospheric pressure.

Consumer - Any member, person, firm or corporation using or receiving water from *Aqua Utilities Florida Inc.*'s potable water system.

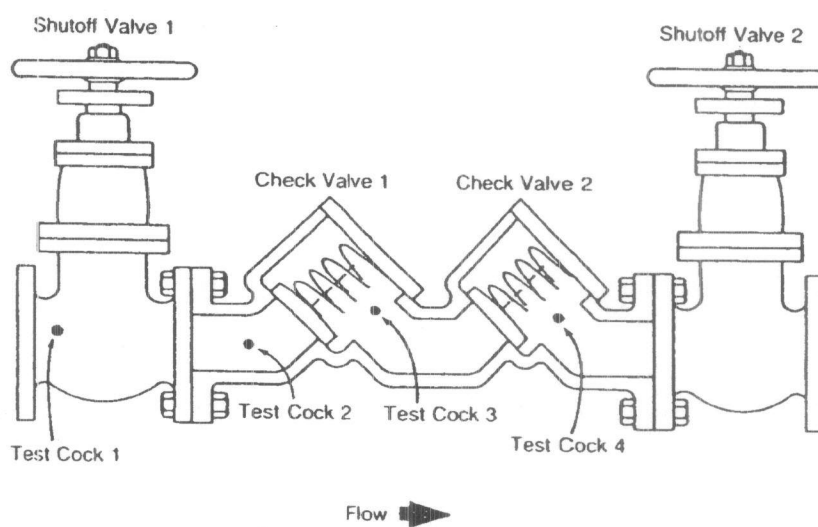
Contamination - The term contamination shall mean an impairment of the quality of the potable water supply by sewage, industrial fluids or any other foreign substance to a degree which creates an actual hazard to the public health through the potential spread of disease or toxic materials.

Critical level - The term critical level shall mean the marking on a vacuum breaker which determines a minimum elevation above the flood level rim of the fixture or receptacle served at which the device may be installed.

Cross-Connection - The term Cross-Connection shall mean any unprotected connection between any part of a water system used or intended to supply water for drinking purposes and any source or system containing water or substances that is potable for human consumption. By-pass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent devices through which or because of which "backflow" can or may occur, are considered to be cross-connections.

Double Check Valve Assembly - The term double check valve assembly means an assembly of at least two (2) independently acting, approved, spring and weight loaded check valves with resilient discs for the intended purpose of preventing back pressure backflow in a water supply line. Assembly is usually furnished with test cocks for the field testing the tightness of the check valves. Some assemblies include a "vacuum breaker" to admit atmospheric air downstream of the assembly. The unit shall include tightly-closing ball-type or resilient seated valves located at each end of the device.

DIAGRAM – DCVA



Double check valve assembly.

Fire Sprinkler System - A sprinkler system, for fire protection purposes, is an integrated system of underground and overhead piping designed in accordance with fire protection and engineering standards. The installation includes one or more water supplies.

Flood Level Rim - The edge of the receptacle from which water overflows is the flood level rim.

Hazard - (Degree of) - The term, degree of hazard is a qualification of what potential and actual harm may result from cross-connections within a water -using facility. Establishing the degree of hazard is directly related to the type and toxicity of contaminants that could possibly cause a "pollution" (non-health) or a "contamination" (health) hazard.

Hazard - (Health) - The term health hazard shall mean an actual or potential threat of contamination or pollution of a physical or toxic nature to the public potable water system or the consumer's potable water system to such a degree or intensity that there would be a danger to health.

Hazard - (Plumbing) - The term plumbing hazard shall mean a plumbing type cross-connection in a consumer's potable water system that has not been properly protected by a vacuum breaker, air-gap separation or other device. Unprotected plumbing type cross-connections are considered to be a health hazard. They include, but are not limited to, cross-connection to toilets, sinks, lavatories, wash trays, domestic washing machines and lawn sprinkler systems. Plumbing type cross-connections can be located in many types of structures, including homes, apartment houses, hotels and commercial and industrial establishments. Such a connection, if permitted to exist, must be properly protected by an appropriate type of cross connection control assembly

Hazard - (Pollution) - The term pollution hazard shall mean an actual or potential threat to the physical properties of the water system or the potability of the public or the consumer's potable water system, but which would not constitute a health or system hazard, as defined. The maximum degree of intensity of pollution to which the potable water system could be degraded under this definition would cause a nuisance, or be aesthetically objectionable, or could cause minor damage to the system or its appurtenances.

Hazard - (System)- The term system hazard shall mean an actual or potential threat of severe danger to the physical properties of the public or the consumer's potable water system, or of a pollution or contamination which would have a protracted effect on the quality of the potable water in the system.

Industrial Fluid - The term industrial fluid shall mean any fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration, such would constitute a health, system, pollution or plumbing hazard if introduced into an approved potable water supply. This may include, but not be limited to: polluted or contaminated used waters; all types of process waters and "used waters" originating from the public potable water system which may deteriorate in sanitary quality; chemicals in fluid form; plating acids and alkalis; circulated cooling waters connected to an opening cooling tower and/or cooling waters that are chemically or biologically treated or stabilized with toxic substances; contaminated

natural waters such as from wells, springs, streams, rivers, bays, harbors, seas, irrigation canals or systems, etc.; oils, gases, glycerine, paraffins, caustic and acid solutions or other processes for fire fighting purposes.

Industrial Piping System - Consumer's - The term consumer's industrial piping system shall mean any system used by the consumer for transmission of or to store any fluid, solid or gaseous substance other than an approved water supply. Such a system would include all pipes, conduits, tanks, receptacles, fixtures, equipment and appurtenances to produce, convey or store substances which are or may be polluted or contaminated.

Inlet - The open end of the water supply pipe through which the water is discharged into the plumbing fixture shall be the inlet.

Laboratory - Approved Testing - Reference to an approved testing laboratory shall mean the Foundation for Cross-Connection Control Research of the University of Southern California, or any other laboratory having the equivalent facilities for both the laboratory and field evaluation of the devices approved by the American Water Works Association or American Society of Sanitation Engineers.

Plumbing System - The term plumbing system includes the potable water supply and distribution pipes; plumbing fixtures and traps; oil waste and vent pipes; building drains and building sewers, including their respective connections, devices and appurtenances within the property line of the premises; and water-treating or water-using equipment.

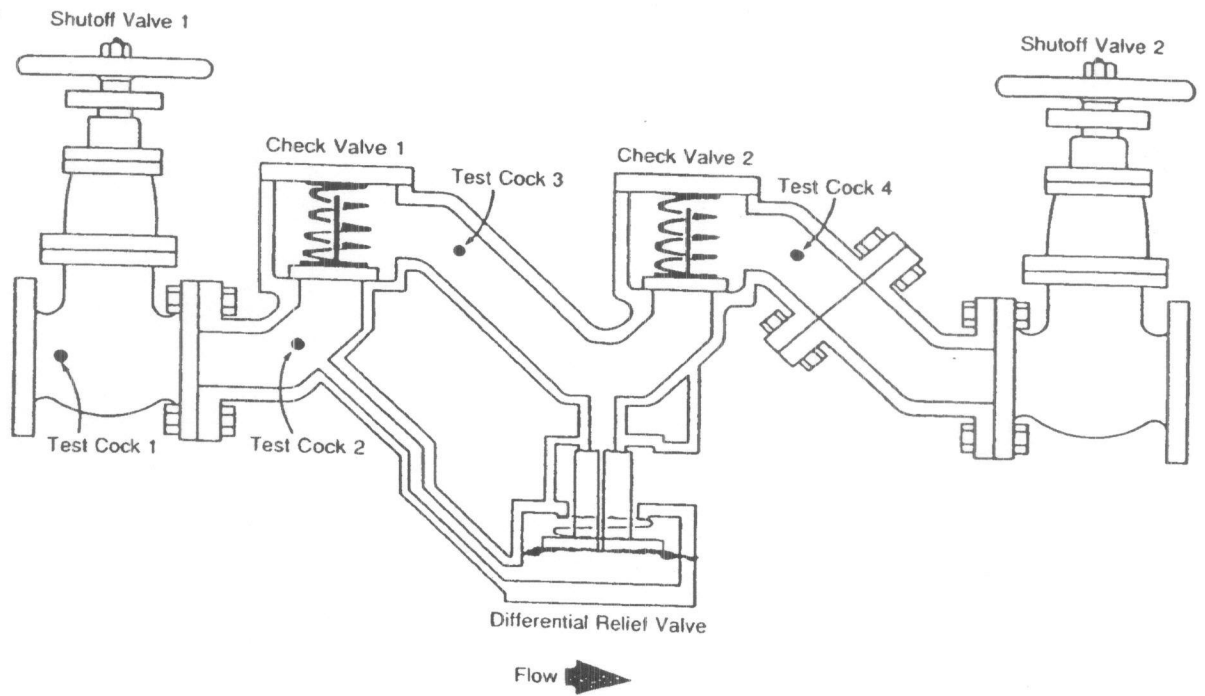
Point of delivery - see service connection

Pollution - Pollution shall mean an impairment of the quality of the water to a degree which does not create an actual hazard to the public health, but which does adversely and unreasonably affect the quality of the water for domestic use.

Reduced Pressure Principle Backflow Prevention Device - RP - The term approved reduced pressure principle backflow prevention device (RP) shall mean a device containing within its structure a minimum of two (2) independently acting, approved check valves, together with an automatically operating pressure differential relief valve located between the two check valves. The first check valve reduces the supply pressure a predetermined amount, so that during normal flow and at cessation of normal flow, the pressure between the checks shall be less than the supply pressures. In case of leakage of either check valve, the differential relief valve by discharging to the atmosphere, shall operate to maintain the pressure between the checks less than the supply pressure. The unit shall include tightly-closing ball type or resilient seated shutoff valves located at each end of the device and each device shall be fitted with properly located test cocks.

Service Connection - The term service connection shall mean the terminal end of the public potable water system, i.e., where the water purveyor loses jurisdiction and sanitary control over the water at its point of delivery to the consumer's water system. If a meter is installed at the end

DIAGRAM -- RP



Reduced-pressure principle backflow-prevention assembly.

of the service connection, then the service connection shall mean the downstream end of the meter. There shall be no unprotected takeoffs from the service line ahead of any backflow prevention device located at the point of delivery to the consumer's water system.

Vacuum Breaker - Nonpressure- Atmospheric Type - A vacuum breaker - nonpressure type is a vacuum breaker which is designed for use where it will not be subject to static line pressure.

Vacuum Breaker - Pressure Type - a vacuum breaker - pressure type is a vacuum breaker designed to operate under conditions of static line pressure. The unit shall include tightly-closing ball-type or resilient seated shutoff valves located at each end of the device.

Water - Potable The term potable water shall mean water from any source which has been investigated by the Florida Department of Environmental Protection and which has been approved for human consumption by the health authority having jurisdiction. Potable water is water of excellent quality intended for drinking, cooking and cleansing uses. This grade of water would conform to the water quality requirements of state and federal regulatory agencies.

Water Purveyor - The term water purveyor shall mean the utility owner or operator of the public potable water system supplying an approved water supply to the public.

Water Supply -(Approved) - The term approved water supply shall mean Aqua Utilities Florida, Inc. potable water system or any public potable water supply which has been investigated and approved by the Florida Department of Environmental Protection. In determining what constitutes an approved water supply, the Department of Environmental Protection has reserved final judgement as to its safety and potability.

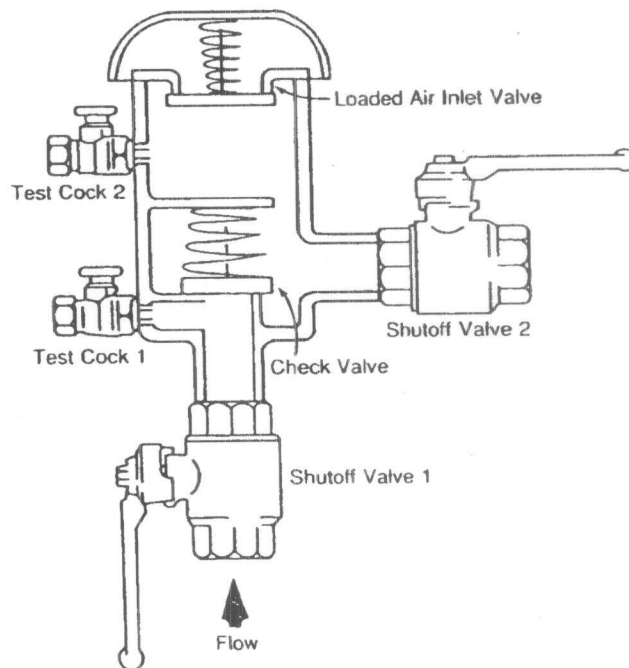
Water Supply -(Auxiliary) - The term auxiliary water supply shall mean any water supply on or available to the premises other than the purveyor's approved public potable water supply. These auxiliary waters may include water from another purveyor's public potable water supply or any natural source such as a well, spring, river, stream, etc., or "used water" or "industrial fluids." They may be polluted or contaminated or objectionable and constitute an unacceptable water source over which the purveyor does not have control.

Water Supply - (Unapproved) - The term unapproved water supply shall mean a water supply which has not been approved for human consumption by the health agency having jurisdiction.

Water System - (Consumer's) - The term water system shall include any water system located on the consumer's premises, whether supplied by the public potable water system or an auxiliary water supply. The system or systems may be either a potable water system or an industrial piping system.

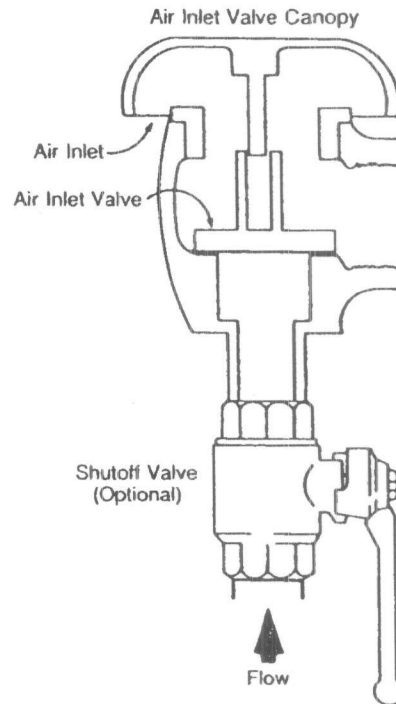
Water System - (Public Potable) - The term public potable water system shall mean any publicly or privately owned water system operated as a public utility to supply water for domestic purposes. This system will include all sources, facilities and appurtenances between the source and the point of delivery such as valves, pumps, pipes, conduits, tanks, receptacles, fixtures,

DIAGRAM -- PVB

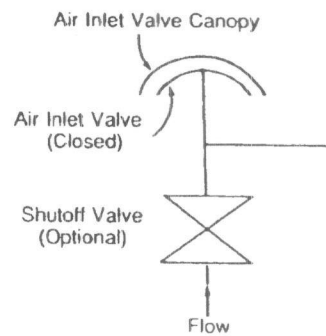


Pressure vacuum breaker assembly.

DIAGRAM—AVB



Atmospheric vacuum breaker assembly.



Under normal flow conditions the AVB seals against the air inlet seat.

equipment, and appurtenances used to produce, convey, treat or store a potable water for public consumption or use.

Water -(reclaimed) - The term reclaimed water means water which, as a result of treatment of domestic wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur. Reclaimed water is also known as reuse water. (permitted under Part III of Chapter 62-610, F.A.C.)

Water - (Used) - The term used water shall mean any water supplied by a water purveyor from a public potable water system to a consumer's water system after it has passed through the point of delivery and is not longer under the control of the water purveyor.

Section 7

Applicable Standards and Descriptions for Backflow Prevention Devices

7.01 Applicable Standards

The following specifications or requirements of approving agencies are recognized by Aqua Utilities Florida, Inc.. All backflow prevention devices and conditions of cross-connection control shall be in compliance with the standards set forth by one or more of the following agencies. Aqua Utilities of Florida reserves the right to state which standards apply if and when conflicts between standards arise.

AWWA - American Water Works Association (Manual M14)

ASSE - American Society of Sanitary Engineers

FCCCHR of USC - University of Southern California, Foundation for Cross-Connection Control and Hydraulic Research (Manual for Cross-Connection Control)

SBCC - Southern Building Code Congress (Standard Plumbing Code)

7.02 Abbreviations for Protective Devices

AG - Approved Air-Gap

AVB - Approved Atmospheric Vacuum Breaker

BPW/IAV - Approved Backflow Preventer with Intermediate Atmospheric Vent

DCVA - Approved Double Check Valve Assembly

HBVB - Approved Hose Bibb Vacuum Breaker

PVB - Approved Pressure Vacuum Breaker

RP - Approved Reduced Pressure Principle Backflow Preventer

DCV - Approved Dual Check Valves

DCV / LF - Approved Double Check Valve Assembly with Laboratory Faucet

DCV/CBD - Approved Dual Check Valves for Carbonated Beverage

DDCV - Approved Double Detector Check Valve

TABLE 7.1

<u>TYPE & APPLICATION</u>	<u>TYPICAL DESCRIPTION</u>	<u>APPLICABLE INSTALLATION</u>	<u>STANDARDS</u>
DOUBLE CHECK VALVE ASSEMBLY for <u>low hazard</u> connections	Two independent check valves. Supplied with ball-type or resilient seated shut-off valves and ball type test cocks	All cross connections subject to backpressure where there is a low potential health hazard or nuisance. Continuous pressure	A.S.S.E. 1015 A.W.W.A. C506 FCCCHR of USC
DOUBLE DETECTOR CHECK VALVE ASSEMBLY for low hazard applications	Double check valve assembly with a water meter and double check in by-pass line.	Fire protection system supply main. Detects leaks and unauthorized use of water.	A.S.S.E. 1015 A.W.W.A. C506 FCCHR of USC
DUAL CHECK VALVE BACKFLOW PREVENTER for low hazard applications	Two independent check valves. Checks are removable for testing.	Cross Connection where there is a low potential health hazard and moderate flow requirements.	A.S.S.E 1024
BACKFLOW PREVENTER WITH INTERMEDIATE ATMOSPHERIC VENT	Two independent check valves with intermediate relief valve	Cross connections subject to backpressure or back- siphonage where there is moderate health hazard. Continuous pressure	A.S.S.E. 1012
LABORATORY FAUCET & DOUBLE CHECK VALVE W/ INTERMEDIATE VACUUM BREAKER in small pipe sizes for <u>moderate to low hazard</u>	Two independent check valves with intermediate vacuum breaker and relief vent .	Cross connections subject to backpressure or back- siphonage where there is a moderate to low health hazard	A.S.S.E. 1035

TABLE 7.2

<u>TYPE & APPLICATION</u>	<u>DESCRIPTION</u>	<u>TYPICAL INSTALLATION</u>	<u>APPLICABLE STANDARDS</u>
REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER For <u>high hazard</u> cross connections	Two independent check valves w/ intermediate relief valve. Supplied with ball-type shut-off valves and ball type test cocks	All cross connections subject to backpressure where there is a high potential health hazard from contamination. Continuous pressure	A.S.S.E. 1013 A.W.W.A. C506 FCCCHR of USC
ATMOSPHERIC VACUUM BREAKERS for <u>moderate to high hazard</u> cross connections	Single float and disc w/ large atmospheric port	Cross connections not subject to backpressure or continuous pressure. Install at least 6" above rim. Backsiphonage protection only.	A.S.S.E. 1001 FCCCHR of USC
PRESSURE TYPE VACUUM BREAKERS for <u>moderate to high hazard</u> cross connections	Spring loaded single float and disc with independent 1st check. Supplied with ball-type shut-off valves and ball	This valve is designed for installation in a continuous pressure potable water supply system 12" above the overflow level of the system being supplied. Backsiphonage protection only.	A.S.S.E. 1020 FCCCHR of USC
HOSE CONNECTION VACUUM BREAKERS For residential & industrial hose supply outlets.	Single check w/ atmospheric atmospheric vacuum breaker vent.	Install directly on hose bibbs, service sinks and wall hydrants. Not for continuous pressure.	A.S.S.E. 1011
AIR GAP For <u>moderate to high hazard</u> cross connection	Vertical separation of 2D of the supply pipe above vessel overflow rim.	All cross connections subject to backpressure or back-siphonage where there is a high potential health hazard from contamination. Vertical separation must be one (1) inch	ANSI A112.1.2

Guide to the Assessment of Hazard and Selection of Assemblies for Internal Protection

Description of Cross Connection	Assessment of Hazard	Recommended Assembly at Fixture*
Aspirator (medical)	Health	AVB or PVB
Bedpan washers	Health	AVB or PVB
Autoclaves	Health	RPBA
Specimen tanks	Health	AVB or PVB
Sterilizers	Health	RPBA
Cuspidors	Health	AVB or PVB
Lab bench equipment	Health	AVB or PVB
Autopsy and mortuary equipment	Health	AVB or PVB
Sewage pump	Health	AG
Sewage ejectors	Health	AG
Fire-fighting system (toxic liquid foam concentrates)	Health	RPBA
Connection to sewer pipe	Health	AG
Connection to plating tanks	Health	RPBA
Irrigation systems with chemical additives or agents	Health	RPBA
Connection to salt-water cooling system	Health	RPBA
Tank vats or other vessels containing toxic substances	Health	RPBA
Connection to industrial fluid systems	Health	RPBA
Dye vats or machines	Health	RPBA
Cooling towers with chemical additives	Health	RPBA
Trap primer	Health	AG
Steam generators	Nonhealth†	RPBA
Heating equipment		
Commercial	Nonhealth†	RPBA
Domestic	Nonhealth†	DCVA
Irrigation systems	Nonhealth†	DCVA, AVB, or PVB
Swimming pools		
Public	Nonhealth†	RPBA or AG
Private	Nonhealth†	PVB or AG
Vending machines	Nonhealth†	RPBA or PVB
Ornamental fountains	Nonhealth†	DCVA or AVB or PVB
Degreasing equipment	Nonhealth†	DCVA
Lab bench equipment	Nonhealth†	AVB or PVB
Hose bibbs	Nonhealth†	AVB
Trap primers	Nonhealth†	AG
Flexible shower heads	Nonhealth†	AVB or PVB
Steam tables	Nonhealth†	AVB
Washing equipment	Nonhealth†	AVB
Shampoo basins	Nonhealth†	AVB
Kitchen equipment	Nonhealth†	AVB
Aspirators	Nonhealth†	AVB
Domestic space-heating boiler	Nonhealth†	RPBA

NOTE: AG = air gap; AVB = atmospheric vacuum breaker; DCVA = double check valve backflow-prevention assembly; PVB = pressure vacuum breaker; RPBA = reduced-pressure principle backflow-prevention assembly.

*AVBs and PVBs may be used to isolate health hazards under certain conditions, that is, backsiphonage situations. Additional area or premises isolation may be required.

†Where a greater hazard exists (due to toxicity or other potential health impact) additional area protection with RPBA is required.

Guide to the Assessment of Hazard and Selection of Assemblies for Premises Isolation

Description of Premises	Assessment of Hazard	Recommended Assembly on Water Service Pipe
Hospitals, mortuaries, clinics, laboratories	Health	RPBA
Plants using radioactive material	Health	RPBA
Petroleum processing or storage facilities	Health	RPBA
Premises where inspection is restricted	Health	RPBA
Sewage treatment plant	Health	RPBA
Sewage lift stations	Health	RPBA
Commercial laundry	Health	RPBA
Plating or chemical plants	Health	RPBA
Docks and dockside facilities	Health	RPBA
Food and beverage processing plants	Health	RPBA
Pleasure-boat marina	Health	RPBA
Tall buildings (protection against excessive head of water)	Nonhealth	DCVA
Steam plants	Nonhealth	RPBA
Reclaimed water systems	Health	RPBA

NOTE: AG = air gap; AVB = atmospheric vacuum breaker; DCVA = double check valve backflow-prevention assembly; PVB = pressure vacuum breaker; RPBA = reduced-pressure principle backflow-prevention assembly.

7.03 Types and Descriptions of Hazard Definition Backflow Prevention Devices

The following definitions apply to hazard conditions existing at a site where backflow prevention devices may be required.

Degree of Hazard Definition

Low - A condition where polluting substances(s) may come in contact with potable water aesthetically affecting the taste, odor or appearance, but not hazardous to health (non-toxic), (e.g., pollution hazard)

Moderate to High - A condition where a polluting substance may come in contact with potable water creating a health hazard, causing sickness or death (toxic), (e.g., system hazard, plumbing hazard, health hazard).

Backflow Prevention Devices - Types, Descriptions, and Applicable Standards for Multiple Check Valve Assemblies. Table 7.1 and Table 7.2 lists the types and applications of backflow prevention devices, a brief description of each device, typical installation conditions, and applicable standards.

7.04 Typical Facilities Requiring Backflow Prevention Devices

1. Medical buildings, sanitariums, veterinarian facilities, morgues, mortuaries, autopsy facilities, nursing and convalescent homes and clinics shall have an RP or DCVA, depending upon degree of hazard, installed at the service connection. The hazards normally to be found in a facility of this type include cross connections between the consumer's water system and contaminated or sewer connected equipment such as bedpan washer, flush valve toilets and urinals, autoclaves, specimen tanks, sterilizers, pipe tube washer, cuspidors, aspirators, autopsy and mortuary equipment. Note: It has been found that in this type of facility little or no attention is given to the maintenance of air-gap separations or vacuum breakers. It is customary to bridge an air-gap separation by means of a hose section. It should also be noted that in multi-story buildings, the supply line to the toilets, urinals, lavatories, laboratory sinks, etc., on the lower floors may be taken off of the suction side of the house pump. As a result, sewage or other contaminated substances may be drawn into the house supply line.

2. All buildings, plants, or other structures having a source of unapproved water piped into such buildings, plants, or other structures with the potential of being interconnected to the public supply, shall have an RP installed at the main supply line serving their premises.

3. All buildings, plants, apartment houses, public and private buildings, or any other structures having unprotected cross-connections shall have an RP or DCVA, depending on

degree of hazard, installed at the service connection to any premises where multi-storied public building such as hotel, apartment house, office or loft building are operated or maintained if the buildings have unprotected cross connections, sewage pumping facilities, auxiliary water supplies, or other like sources of contamination which would create a potential hazard to the public water system.

4. All waterfront facilities and industries shall have an RP or DCVA, depending upon the degree of hazard, installed at their service connection to any premises where there are piers, docks, industries, or other waterfront facilities where water from a river, stream, irrigation, ditch or canal, lake, etc., is available to be used on the premises.

5. All manufacturers of chemicals which are toxic shall be required, at the discretion of the water purveyor to install an RP.

6. All sewage treatment plants shall have an RP installed on main potable water service lines serving such plants.

7. Dairies and cold storage plants shall have an RP or DCVA, depending upon the degree of hazard, installed on the service connection. This applies to any premises where a dairy, creamery, ice cream plant, cold storage or ice manufacturing plant is operated or maintained, provided such a plant has, on the premises, an auxiliary water supply, industrial fluid system, sewage handling facilities or other similar source of contamination which, if cross-connected to, would create a hazard to the public system. The hazards normally found in a plant of this type include cross-connections between the consumer's waste system and reservoirs, cooling towers and circulating systems which may be heavily contaminated with bird droppings, vermin, algae, bacterial slimes, or toxic water treatment compounds.

8. Schools and colleges shall have an RP or DCVA installed at the service connection where water is used to supply chemical, bacteriological and biological laboratories; or where the water is used to supply separate irrigation systems; or where there are unprotected sewer cross connections. Note: This hazard is critical because little or no attention is given to the maintenance of vacuum breakers and frequently they are removed from the line; steam generating facilities and lines are frequently contaminated with boiler compounds such as pentachlorophenol, cyclohexamine, etc. A very particular hazard is the possibility of steam getting back into the domestic system, causing either a system or health hazard.

9. In commercial car washing installations, potable make-up water lines to reclaim water pits shall have an AG separation. All potable water connections to fluids such as bug cleaner, tire cleaner, and wax and soap solution make-up tanks shall have an AG separation. If this is not possible due to the design of equipment, an RP shall be installed on the main water service connection.

10. All buildings or premises where security requirements or other prohibiting restrictions make it impossible or impractical to make a complete inside cross connection survey, the public water system shall be protected against backflow from the premises or building by an RP

installed or the main service connection (s) serving the building or premises.

11. All industrial, commercial, or residential properties (including all multi-or single family residences) having an irrigation system which utilizes chemical siphoning or injection apparatus shall have an RP device installed at the service connection. Note: Any device, equipment or situation not covered by this cross-connection policy where water is connected or used which may constitute a potential health hazard will be handled at the discretion of *Aqua Utilities Florida, Inc.*

7.05 Typical Plumbing Arrangements Requiring Backflow Prevention Devices - note references to SBCC, Standard Plumbing Code (SPC)

1. Fixture inlets or valved outlets with hose attachments, which may constitute a cross-connection, shall be protected by the proper approved vacuum breaker (PVB, HBVB, etc.) installed at least six (6) inches above the highest point of usage and located on the discharge side of the last valve. Fixtures with integral vacuum breakers manufactured as a unit may be installed in accordance with their approved requirements. (SPC Sec. 1204.3.4)
2. Industrial fluid or processed water - potable water pipelines connected to industrial piping systems or to equipment containing industrial fluid, sewage, used or processed water, or any other potentially contaminated liquid shall be protected by installing an RP in the interconnecting lines or by an AG separation.
3. Air conditioning cooling tower - potable water inlet shall have an AG separation of twice the inside diameter of the inlet line or a minimum of two (2) inches above the flood level rim.
4. Aspirators and ejectors - shall have a PVB, depending upon the degree of hazard, on the faucet from which these devices are attached or operated (SPC. sec. G104.6)
5. Automatic film processors - potable water lines connected directly to an automatic film processor shall be protected by an AG or a DCVA.
6. Bath tub with hose attachments - shall have a PVB at faucet.
7. Bedpan washer - shall have a PVB installed in accordance with the Standard Plumbing Code (SPC Sec. G104.6)
8. Boiler connection - potable water connection to boiler feed water system which contains conditioning chemicals shall either be made through an AG at make-up tank, or have an RP or DCVA, or BPW/IAV.
9. Booster pumps - shall be provided with a low pressure cut-off unless other acceptable provisions are made to prevent the creation of low or negative pressures in the piping system.
10. Colonic irrigators or douche attachments - shall have a PVB installed.

11. Dark rooms (photographic) - all threaded faucets shall be protected with a PVB or HBVB.
12. Dishwashing machine - shall be connected with a PVB on both hot and cold water supply lines in accordance with the SPC.
13. Dip tanks and vats - potable water inlet shall have an AG separation twice the inside diameter of the inlet or a minimum of two (2) inches above the flood level rim.
14. Garbage disposer - potable water supply lines connected directly to garbage disposer shall be equipped with a PVB or BPW/IAV.
15. Drinking fountains - shall have an AG separation.
16. Fire sprinkler systems - shall have an AG separation to the sewer.
17. Flushing floor drains - shall have a PVB installed.
18. Flush valve water closets, urinals, and bidets - shall have a vacuum breaker installed in accordance with the SPC.
19. Foot and sitz bath - shall have an AG separation or a PVB installed.
20. Hydro-therapy baths - shall have a PVB installed at water connection.
21. Janitors, mop or slop sink with threaded hose faucet shall be equipped with an AVB before faucet.
22. Lawn sprinkler systems - shall have a PBV or RP or DCVA installed depending on degree of hazard.
23. Pipette washer - shall have a PVB or AG separation installed on faucet..
24. Private wells shall not be interconnected or physically linked in any way, with or without a protective device, to the public potable water supply.
25. Potable water make-up line - to chill water loops, heating loops, purge units, condensers, converters, and condensate tanks should be equipped with BPW/IAV, DCVA, or RP depending on degree of hazard.
26. Serrated faucets - shall be equipped with a PVB at the faucet. If goose neck faucet is used "laboratory faucet type vacuum breaker" is acceptable
27. Shampoo basin hose rinse - shall have an AVB installed.
28. Sinks and bathtop faucets - shall have an AG separation above flood level rim.

29. Sterilizers - shall have an AG separation or PVB installed.
30. Stills - shall have an AG separation.
31. Swimming pool fill line - shall have an AG separation above the flood level rim or a DCVA.
32. Wash-up sinks with threaded faucets - shall have a PVB or HBVB installed.
33. Wash down hose faucet - shall have a PVB or HBVB installed on faucet
34. Washing machine drain lines - shall have an AG separation to sewer.
35. Water supply inlets - in pits, tanks, trenches, tubs, vats, or any other place that could become flooded with contaminated liquids shall have an AG separation above the flood level rim.
36. Water operated presses, elevators, or other similar pressure producing equipment - shall have an RP installed.
37. X-Ray developing tank - shall have an AG separation or a PVB installed. Note: Any device, equipment, or situation not covered by this cross-connection policy, which may constitute a potential health hazard, will be examined for treatment by *Aqua Utilities Florida, Inc.*

Section 8 Testing of Backflow Preventers

8.01 General Requirements

As part of a complete cross-connection control program, it shall be the duty of the non-single-family customer - user at any premises where reduced pressure backflow prevention devices (RP), double check valve assemblies (DCVA), and pressure vacuum breakers (PVB) are installed to have a thorough inspection and operation test at the time of installation and at least once a year, or more often in those instances where inspections indicate a need. Proper field test procedures with calibrated gauge equipment must be used by certified personnel (reference Section 6 for definition and explanation of a Backflow Prevention Device Tester- Certified). The cost of inspection, testing, maintenance and repair of backflow prevention devices at non-single-family residences shall be borne by the non-single-family customer-user.

The single-family-residence customer -user shall be responsible for the cost of the initial installation, inspection, and testing of the backflow prevention device. The costs and scheduling of inspections and tests thereafter performed at single-family residences shall be the responsibility of the *customer*. Any maintenance or repair required as a result of the test shall be at the expense of the customer - user and shall be performed by the device manufacturer's representative or by a certified device tester (Reference Section 6)

Irrigation systems are required to have PVB to prevent backflow to the public water supply. All existing AVB installations shall be retrofitted with PVBs at the consumer's expense. Single-family water customers installing new irrigation systems will be required to purchase, install and test new PVBs at their own expense. Annual testing and inspection of PVBs for all single-family customers will be performed by Certified Tester.

All devices failing to meet the latest performance standards set forth by the AWWA, ASSE, or the FCCCHR at USC, shall be repaired and retested promptly. Devices which are found to have a history of not meeting these performance standards should be replaced with new devices at the customer's expense.

If such testing indicates wear or other malfunction, the devices shall be overhauled. Such an overhaul should consist of the replacement of all seats, diaphragms, gaskets, etc., which are subject to wear, and any other parts found to be worn or otherwise in questionable condition.

8.02 Parallel Installations

All backflow prevention devices with test cocks are required to be tested with a minimum frequency of once per year. Testing requires a water shutdown usually lasting five (5) to twenty (20) minutes. For facilities that require an uninterrupted supply of water, and when it is not possible to provide water service from two (2) separate meters, provisions shall be made for a "parallel installation" of backflow prevention devices.

During testing, one device is left on while the other is being tested. Usually the two devices are sized one device smaller than the service line, e.g., one 2 inch device or two 1-1/2 inch devices, one 8 inch device or two (2) six (6) inch devices.

Aqua Utilities Florida, Inc. will not accept an unprotected bypass around a backflow preventer when the device is in need of testing, repair or replacement.

8.03 Preparation

As a prelude to each of the field test procedures. It is essential that the certified tester follow some basic steps:

1. Notify - Appointment and introduction procedures shall be followed similar to that used for inspections. The owner of the assembly shall be notified that water service will be shut off during test procedure. Special arrangements may have to be made so that interruption of service will not create a hardship on the user.
2. Identify - Make sure that proper assembly is being tested by checking identification tag for make, model, and serial number. All information and test data shall be recorded on proper forms before leaving the location.

3. Inspect - Inspect the assembly for the required components for the field test procedure -i.e., upstream and downstream shut-off valves, properly placed testcocks, etc.
4. Observe - Carefully observe area around the assembly for tell-tale signs of leakage - i.e., moss or algae growth, plant life, or soil erosion. This should supply the tester with additional information regarding the condition of the assembly before the test is performed. Example: Wet spot under relief valve port of RP assembly is an indication of relief valve activity, possibly from pressure fluctuations or fouling of the assembly. Proper testing will define the problem.

8.04 Records

Aqua Utilities Florida, Inc. will notify the customer - user when tests are required. The passing test results shall be returned to *Aqua Utilities Florida, Inc.* by the date indicated. A full report on the test of each device giving pertinent test data and indicating what, if any, repairs were made are to be delivered promptly to *Aqua Utilities Florida, Inc.*

Records are to include, but not be limited to:

1. Reports of inspections, recommendations, re-inspections, and corrective action taken.
2. Correspondence between *Aqua Utilities Florida, Inc.*, DEP, consumer, etc., concerning corrective action.
3. A master list of all backflow protection devices in use or proposed for use in the service area.
4. Vital data on each protective device.
5. Test and maintenance reports of each protective device.

Aqua Utilities Florida, Inc. shall maintain and keep all records of tests and results, locations of hazards and any other cross connection related information for each public water system for a minimum of ten (10) years. Records of tests of customers backflow devices will be maintained in an electronic database to be kept and accessible at the corporate office at 1100 Thomas Avenue, Leesburg, FL.

Section 9 Results of non-compliance

9.01 Discontinued Service

1. A consumer's health hazard surveillance report listing all cross-connections found during inspection will be sent to the owner or authorized agent of the owner of the building or premises, stating corrections should be made and setting a time for compliance. Unless otherwise noted in the report, the consumer shall have thirty (30) days to comply and perform any required corrections. Upon failure of the owner or authorized agent of the owner of the building or premises to have the defect (s) corrected by the specified time. *Aqua Utilities Florida, Inc.* shall cause the water service to the building or premises to be terminated and shall take such other precautionary measures deemed necessary to eliminate any danger of contamination of the public potable water supply and system.

2. ***Aqua Utilities Florida, Inc.*** shall cause discontinuance of water service if a reduced pressure backflow prevention device has been by-passed or failed to be tested or properly maintained as required by ***Aqua Utilities Florida, Inc.*** policy statements contained in this manual.
3. ***Aqua Utilities Florida, Inc.*** shall cause discontinuance of water service if an air-gap separation system is compromised or if, in the opinion of ***Aqua Utilities Florida, Inc.***, a hazardous condition cannot be immediately corrected.
4. Upon discontinuance of water service for non-compliance with the provisions of this manual, water service to such property shall not be restored until the system has been brought into full compliance, and a written order to reconnect has been issued by ***Aqua Utilities Florida, Inc.***.

9.02 Violation Liability

1. Any person or customer found violating any of the provisions of this manual or any written order of ***Aqua Utilities Florida, Inc.*** pursuant thereto, shall pay all costs and expenses involved in the case, including attorney's fees.
2. Notice of such violation shall be given by delivery of same to the premises and a copy thereof mailed to the billing address as it appears on ***Aqua Utilities Florida, Inc.*** billing records.
3. Each day upon which a violation shall occur shall be deemed a separate and additional violation.
4. Any person or customer in violation of any provisions of this manual shall also be liable to ***Aqua Utilities Florida, Inc.*** for any expense, loss, or damage incurred by reason of such violation to include attorney's fees.
5. ***Aqua Utilities Florida, Inc.*** may bring suit in the appropriate court to enjoin, restrain or otherwise prevent the violations of any of the provisions of this manual.

Section 10 Fire Systems

10.01 General (refer to Section 7 for abbreviations.)

1. ***Aqua Utilities Florida, Inc.*** will install and maintain DCV and DDCVG for all unmetered fire systems which have a low or moderate degree of hazard.
2. A DCVA or RP, depending upon the degree of hazard, shall be installed by the consumer on all metered fire systems.

3. Devices will be installed above ground, when possible, to provide easier maintenance and meter accessibility
4. All devices installed by *Aqua Utilities Florida, Inc.* will be tested annually by *Aqua Utilities Florida, Inc.* and maintained at a frequency proportionate to their age.
5. The cost of testing and maintenance will be paid by consumer.

10.02 Classes of Systems and Recommended Protection

Fire systems shall be divided into the following six (6) classes for the purpose of review. These classes are as adopted in the AWWA, M14 Backflow Prevention and Cross-Connection Control Manual and as endorsed by the National Automatic Sprinkler and Fire Control Association.

Class 1 - Direct connections from public water mains only: no pumps, tanks, or reservoirs; no physical connection from other water supplies; no anti-freeze or other additives of any kind; all sprinkler drains discharging to atmosphere, dry wells, or other safe outlets.

Recommended Protection for Class 1: Single check valve and alarm check valve.

Class 2 - Same as Class 1, except that booster pumps may be installed in the connections from the street mains (booster pumps do not affect the potability of the system; it is necessary, however, to avoid drafting so much water that pressure in the water main is reduced below 20 psi).

Recommended for Class 2 - Same as Class 1

Class 3 - Direct connection from public water supply main plus one or more of the following; elevated storage tanks: fire pumps taking suction from above ground covered reservoirs or tanks (all Storage facilities are filled or connected to public water only; the water in the tanks to be maintained in a potable condition. Otherwise, Class 3 systems are the same as Class 1.)

Recommended Protection for Class 3: Systems will generally require minimum protection (approved DCVA) to prevent stagnant waters from backflowing into the public potable water system.

Class 4 - Directly supplied from public mains similar to Classes 1 and 2, with an auxiliary water supply on or available to the premises, or an auxiliary supply may be located with 1,700 feet of the pumper connection (Note: The auxiliary supply would mean a pond, river, etc., dedicated to Fire Department use).

Recommended Protection for Class 4: Systems will normally require maximum protection at the service connection. The type (AG or RP) will generally depend on the quality of the auxiliary supply.

Class 5 - Directly supplied from public mains and interconnected with auxiliary supplies, such

as: pumps taking suction from reservoirs exposed to contamination or rivers and ponds; driven wells, mill or other industrial water systems, or where antifreeze or other additives are used.

Recommended Protection for Class 5: Same as Class 4

Class 6 - Combined industrial and fire protection systems supplied from the public water mains only, with or without gravity storage or pump suction tanks.

Recommended Protection for Class 6: System protection would depend on the requirements of both industry and fire protection, and could only be determined by a survey of the premises.

A meter (compound, detector check) should not normally be permitted as part of a backflow prevention device. An exception may be made, however, if the meter and backflow prevention device are specifically designed for that purpose.

10.03 Low Pressure Cut-Offs

All fire pumps drawing suction from *Aqua Utilities Florida, Inc.* water mains shall be equipped with low pressure cut-off devices or other means to prevent the reduction of water main pressure below 20 psi.

10.04 Standard Operating Procedures

1. Current AWWA backflow prevention practices for fire lines do not regard stagnant water as a health problem for low head, closed pipe fire systems. Alarm checks on sprinkler system risers in conjunction with other check valves such as single detector check valves at the service connection are considered protection for these types of potential contaminatns.
2. Fire suppression systems supplied by six (6) inch or larger pipe and /or systems supplemented with on-site tanks or reservoirs or other water supplies shall be provided with either DCVA or other device types installed in accordance with the following criteria;

Installation: Mechanical backfow prevention devices need pressure loss to function properly. Before installing a device on a fire system, new or existing, this pressure loss should be factored into the system design to ascertain what effect it will have on system performance. Current device standards for sizes 4" through 10" permit pressure loss up to 14 psi for RPs and 10 psi for DCVAs (and DDCVs). Specific pressure loss informaion is readily available from all device manufacturers.

Manufacturer's installation instructions must be followed to ensure proper operation and to protect the equipment's warrant. General installation guidelines are as follows:

- a. The device should be installed in a horizontal position and have at least 12" between the bottom of the device and final grade or floor.
- b. Lateral clearance around the device must be provided to facilitate testing,

maintenance and replacement

c. Two (2) devices should be installed in parallel for any facility that must have uninterrupted flow during device testing or repair (e.g., medical buildings)

d. Though not recommended, devices maybe installed in pits that are well drained: NO PART OF A DEVICE SHOULD EVER BE UNDER WATER.

e. If a device is installed inside a building, a floor drain is helpful to eliminate spillage caused by testing or flushing.

f. Since the relief valve on an RP will periodically drip or spit and may dump, the relief vent may be fitted with a drainline if spillage is objectionable or hazardous (e.g., electrical hazards). The end of the drain line must terminate 12" above ground or floor level and be clearly visible and accessible.

g. The device should be protected against freezing.

h. Shut-off valves should be of the OS type. And Y type strainers should not be used.

i. The assembled piping should be thoroughly flushed before installing the device.

j. The device should be adequately supported.

k. Fire suppression systems supplied by pipe less than 6" shall be adequately protected by the alarm check valve and a single check valve placed between the Fire Department connection and the main tap.

i. Water meters shall not be placed on fire protection lines.

MANUAL OF CROSS CONNECTION CONTROL
AQUA UTILITIES FLORIDA, INC.