BACKUP MATERIAL WP-019-14

<u>DATE</u>	FROM	<u>TO</u>	<u>SUBJECT</u>
5/13/14	FL/PBC HD	USD	Completion of all corrective actions
5/2/16	FL/PBC HD	USD	E-Mails, Action Plan and Preliminary Design Rept
3/5/14	USD-WTP	FL/PBCHD	Public Drinking Water System
2/13/14	FL/PBC HD	USD	Potential compliance issues

FL/PBC HD-Florida Department of Health PBC

Vision: To be the Healthiest State in the Nation

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May 13, 2014

Louis Aurigemma, Executive Director City of Riviera Beach Utility District P.O. Box 9757 Riviera Beach, FL 33404

Re: File Nos. WP-019-14 & WP-039-14

Dear Mr. Aurigemma:

As of May 9, 2014 the City of Riviera Beach has completed all of the corrective actions associated with the above file numbers. The Florida Department of Health Palm Beach County (Department) appreciates the efforts the City of Riviera Beach has expended to resolve these matters. The Department is, therefore, closing these cases without enforcement.

The issues which have been corrected include:

- Maximum Contaminant Level violation for total coliform.
- Failure to collect routine and repeat samples.
- · Failure to conduct triggered monitoring.
- · Failure to submit samples in a timely manner.
- Failure to sample for nitrate and nitrite.
- Failure to issue a Public Notice in November and December 2013.
- Failure to notify the Department.

Please note that the Department could be required to initiate formal enforcement actions against the City of Riviera Beach should the corrective actions fail to prevent future incidents.

JOSEPH CONTRACTOR CONT

If you have any questions, you may contact Pamela Lape at (561) 837-5947 or by email at pamela.lape@flhealth.gov.

For the Division Director.

Darrel J. Graziani, P.E., R.S.

Environmental Administrator, Water Programs

Division of Environmental Public Health

Florida Department of Health Palm Beach County

FDOHPBC File: WP-019-14 & WP-039-14

cc:

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PALM, BEACH COUNTY HEALTH DEPARTMENT Environmental Public Beath - Water Programs	N DISTRICT	BUD BINERA BEATH TO SHOP	-	# StatuteRulePernit Woldton Description	A CA-SSO, SIO (S)CA)C. SETEME VIOLITIAN FOR	2 67-550,590)(6) Fillies & Saaru T rathol Spring 25 70 2 20 20 20 20 20 20 20 20 20 20 20 20	5 62-55e Sista) France to course the decounses and an antitude states. France to said the said and ansaid	Third to town the many the said	No. Description	(Conversion Letters (2 pages)	D Recursing	(3 thus or needed) & (31 page)	(4 Emails (4 pages)	Sprage	T-11-15 St. Name-Signature Date 2-11-15	Crision Datago) 2-10-19

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PALM BEACH COUNTY HEALTH DEPARTMENT Environmental Public Health - Water Programs Exceptions (1997)			Process No.	# 6tatuteRulePermit Violation Description	TOTOLOGY OF THE CONTROL CARES CONTROL SUMPLES	2 162-550 STATE TO SHARE THE NITHEN THE	5	Min. Description			Tront inten Dante(a)

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Environmental Public Health - Water Programs

Conversation Record

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	Conversation Notes	

Called Mr. Salas & Mr. Danford inquired about the nitrate and nitrite samples for 2013.

Page 1 of 1

Palm Beach County Health Department Environmental Public Health - Water Programs

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Name/Representing/Phone No.

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Date/Time: 01-07-148:50 Program No.: 58	Riviera Beach Utili	HamelCall Purpose: ty District, City of	Site 10 No.; 459 1229 Case No.;
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Name/Representing/Phon	6 No. David Salas	Name/Representing/Phone No.	
561-845-41			

Conversation Notes

Name/Representing/Phone No.

- Called Mr. Salas, explained to him tack of Raw Sample
backeridogical results of October in our data system; he said
he will investigate B) Also lack of re-sampling of TC(+)
Samples (3 Samples) in Nov. 2013.

The results of Raw backenological samples of Cotober 2013 was e-mailed to the office. Only item

B) from above, has not been sent to the office.

Page ____ of ___



62-550.310 Primary Drinking Water Standards: Maximum Contaminant Levels and Maximum Residual Disinfectant Levels.

- (5) MICROBIOLOGICAL This subsection applies to all public water systems. Monitoring requirements to demonstrate compliance with this subsection are defined in Rule 62-550.518, F.A.C.
- (a) The maximum contaminant level is based on the presence or absence of total coliforms in a sample, rather than coliform density. For the purposes of the public notice requirements in Rule 62-560.410, F.A.C., a violation of the standards in this paragraph poses a non-acute risk to health.
- 1. For a system which collects at least 40 samples per month, if no more than 5.0 percent of the samples collected during a month are total colliform-positive, the system is in compliance with the maximum contaminant level for total colliforms.

62-550.518 Microbiological Monitoring Requirements.

- (7) Additional or Repeat Monitoring.
- (b) If a routine distribution system sample is total-coliform-positive, the public water system shall collect a set of repeat distribution system samples within 24 hours of being notified of the positive result. The system shall collect all repeat samples on the same day. A system that collects monthly routine samples shall collect no fewer than three repeat samples for each total-coliform-positive sample found. A transient non-community water system that collects quarterly routine samples shall collect no fewer than four repeat samples for each total-coliform-positive sample found. The Department shall extend the 24-hour limit on a case-by-case basis if the system has a logistical problem that is beyond its control in collecting the repeat samples within 24 hours. If an extension is granted, the Department shall specify how much time the system has to collect the repeat samples. If a routine distribution system sample is total-coliform-positive and the public water system is collecting fewer than five routine distribution system samples per month, the system also shall comply with the sampling requirements in subsection 62-550.518(8), F.A.C.

62-550.518 Microbiological Monitoring Requirements.

(2) Total coliform samples shall be taken at regular intervals and in numbers proportionate to the population served by the system. Community water systems, non-transient non-community water systems, transient non-community water systems that are subpart H systems and transient non-community water systems that serve more than 1,000 persons per day during any one month shall take monthly distribution system samples. In addition, systems that are using ground water not under the direct influence of surface water shall take a minimum of one monthly raw water sample that is representative of each ground water source (i.e., well) not under the direct influence of surface water. For purposes of this subsection, consecutive systems that receive any finished water originating from a subpart H system are considered subpart H systems. In no event shall the number of distribution system samples be less than as set forth below:

62-550.730 Reporting Requirements for Public Water Systems.

- (1) Suppliers of Water.
- (a) Except where a shorter reporting period is specified in this chapter, the suppliers of water shall report to the appropriate District office of the Department or Approved County Health Department the results of the test measurement or analysis required by this chapter within the first ten days following the end of the required monitoring period as designated by the Department, or the first ten days following the month in which the sample results were received, whichever time is shortest.

62-550.512 Nitrate and Nitrite Monitoring Requirements.

All public water systems shall monitor to determine compliance with the maximum contaminant levels for nitrate and nitrite specified in paragraph 62-550.310(1)(a), F.A.C.

(1) Community or non-transient non-community water systems that are ground water systems shall monitor annually. Community or non-transient non-community water systems that are subpart H systems shall monitor quarterly.

DRINKING WATER MICROBIAL SAMPLE COLLECTION & LABORATORY REPORTING FORMAT (81-550 TO Reporting Forms) Effective 01/1993, Perford 02/2010)

Jupiter Environmental Laboratories, Inc.

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DRINKING WATER MICROBIAL SAMPLE COLLECTION & LABORATORY REPORTING FORMAT 102-350 Feb Reporting Formal Effective 0 UT 1995, Revised 027:20 10)

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DRINKING WATER MICROBIAL SAMPLE COLLECTION & LABORATORY REPORTING FORMAT R2-350 703 Reporting From Effective 0.171985, Revised 927(3).103

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!		ter, FL 3345			Dis	infec	lent Che	ck: 🖾 No	In ice □Noi O Detected □ It the following N		mon.
Report	Number: Sub-Contrac	I Lab ID:	66646		''''			a tire ii loc	n akt tentessill (s)	zeves tedes	(Ellicino.
Anaty	sis Requested: (check all that apply) Conform/E. coll						Other				
Public	Water System (PWS) Name: Riv	iera Re	ach	TT+ 1.1 ·	rise	 191 e	ws i n	*	450	1220	-
PVV5 A	oress:600 Blue Heron Blud					ورخم	n.c	H last a c			
PWS or	PWS Owners Phone #:	· y			Fax 作_		· F ·		4 17 4 15 41		
Collec	PWS Owners Phone #: tor:	Em U			Collecto	ır s P	nose #:				
Comp	runity Water System	n-community Well [7]s	Water S	ystem [Tiensi	ent N	lon-com	munity W	ater System		
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Sample	Contraction Date: 12120	// 5			***********						
	To be completed by collect	or of semple		······				1	o be completed	by lab	
Sample #	Sample Point (Location or Specific Address)	Sample Collection	Sample Type	Disin- fectani Residua			Vna lysis	Method(s)*: SM9223B		
		Time		(mg/L)	<u></u>		Non- Coliforn	Total Collform	Fecal, E. col, Enteracecci.or Collephage ²	Dala Qualifier*	Leb Sample #
8	5778 BRUE AVE	1150	Ø	ව. 👸				P	A.	`	1031-8
9	5764 PSEUE DUE	118	0	08				7	Δ		103 4
10	5783 BERNULS CE	1150	D	0.8				4.	A		1031-10
11	5770 BERHUUS CR	1200	0	1.3				4	A		WZ - 1
12	5813 Brewood Ce	12/10	D	0.7		ľ		o	A		1021-12
13			n	0.9		ľ		7	À		1031-3
14	2550 MAULE	184	12	08		ľ		12	۵		1021.0
Average	of dielnfectant residuals for distribution ro Free chierine or Total chlorine (circle one)	utina & repo	at				······································	1			ا الكلانيا
					Unless N#	olhe LAC	on ssinta	ited all te	sis are performed e results releie o	d in accorde	ance with
	tent Realdual Analysis Method: Colorimetric				!					-	•
Darenn r	sarformine dialmiariani anakosia la (van inci	fructions on	*****):	Dete me	a miro 1 Una	DEPIDOH	actified by	f positive results: lab of positive results	E.	
DAA ce	rtified operator (#)	•	Çate Re	port i	swed:	12.2	2.15 minutes	7	77
□Supa	ervised by certified operator (#				Į.			$\lambda \gamma$	~	~	
	layed by a certified lab Employed by DEF	or DOH					nelor P				
	disentered the control of water				inge:			ш			
	viera Beach Utilities			□Satis □Incon	splete Co	olfeci	ion Infor	mation	DEP/D	OH USE O	NI.Y
60	0 Blue Heron Blvd			Rene	at Samp coment	189 F	ACH LIDE				
Ri	viera Beach, FL			L. rehi		JOH!	hera tene				

DRINKING WATER MICROBIAL SAMPLE COLLECTION & LABORATORY REPORTING FORMAT

(87-350 730 Reporting Format Elective D1/1905, Revised 02/2010)

Jupiter Environmental Leboratories, Inc.

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12-10-1	3 1100
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. 1		is Old Dixie Rer, FL 334		,	Dis	ofecian Ch	ack: F⊌nŪr	On ice Not on ice Not on ice Not on ice Not on ice in ice of ice		
Report	Number: Sub-Contrac	i i shiDe	E86546			- Sampa Bo	-0 1103 [][2	ar tre tollowing t	ecuali regi	irements:
Analy STota	sis Requested: (check all that apply) ! Coliform/E. coli	JEnlerocco	ci □C	Cliphace	— <u>Г</u>	ElOiteer:				
	LANGE OF THE PROPERTY OF THE P	i ava D	anak	FT4 3 1	3 4 3					
PWS A	ddress: 600 Blue Haron Blvd PWS Owner by Phone #:				4-4-5:5	Cile	Divio	40U	1229	
PWS or	PWS Owner op Phone #: tor: A2455 Lough				Fex#:_			e pear	····	
Time	former to a Court	duce			Collector	s Phone #:				
□Com □Limita	munity Water System Non-Translent No ed Use System Bottled Water Private	r-community Well ∐S	y Waler E	iyslem [Poo!	Trensie	nt Non-com	munity W	eter System		
Olstri Ociear	n for Sampling: (check all that apply) button Routine Bütshibutton Repeat [[France Replacement (also check type of san collection Date: 12/20	law (Irlggen Ipia beino n	ed or ass eplaced)	essment) []Boll	□Rew Water No	(triggered or lice (I Oth	assessm er:	ent) additional	[]Well Su	rvey
	To be completed by collect									
	10 by conjusted by consci	or or sample	<u> </u>	T		Analysis	Malhadia	o be completed SM9223B	bylab	
Sample	Sample Point	Sample	Sample	Distra- fectant		1,41,436	enan nondo	SM92238		
#	(Location or Specific Address)	Collection Time	Type	Residua (mg/L)		Non- Coliform	Total Collion	Fecal, E. coll, Enterocecci, pr Collphage	Dats Qualifier	Lab Sample#
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						<u>L</u>				
				****		L				
				-						
verage emples.	of disinfectant residuals for distribution rot Free chicaine or Total chlorine (circle one)	den & enit	est		l bolonn a	_i		L	1	
Disinfect	ant Residual Analysis Method:				NEL	AC alandard	a, and the	is are performed results relate or	l in accorda nly to the sa	ance with Motes.
OPO □	Colorimetric Dother:				Date and 9	ma PWS notifi	ed by tab of	Dostifeo rosulte:		
la A cer	erforming disinfectant analysis is (see instribled operator (# $_{-}$ /5223	neličija su	revense)	:	Dele and II	THE CEPYDOH	notited by b	in of positive results:	•	
☐Supe	rvised by certified operator (#						*	8·13		·
□Emple	byed by a certified lab	or DOH		1	Lab Sig	nature:	AK	M/		····
LAGUIDO	igidy latitudelilation of shattier of water				Title:	Sirector (Y)	<u> </u>			-
		<u> </u>	7					OFFICE	OH USE OF	
Riv	viera Beach Utilities			☐Satisfi ☐Incom	niete Coll	ecton Inforn	astion	OCF/DI	un vat Vi	VLT
	Blue Heron Blvd			II IRoma	d Ramnie	s Required Imples Requ				
Riv	riera Beach, FL			- AE PARK	ATTIONITY OF	arrihan≱ kedi	TH GC			l

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DRIM	IKING WATER BACTERIOLOGICAL SAMPLE 'G FORM		CTIO	N							-	
† !	Jupiter Environmental Laboratories 150 S. Old Dixle Hwy Jupiter, FL 33458 561-575-0030	da, inc.								t .		
•					Lab F	Rece	ipt Date	& Time: ,	<u> 12/1</u>	9/13	15,70	l
Report	Number: 133537/ Sub-Contract Lab (D:	540	W(o	.	. "		Date & T			9 2_	1642	
Analys	RR H Oquesto d: (olease check all that apply) Idard Coliform Test :				Sampl Distrile	e Pie	servator Chack	Ø Not I	ca 🗀 No Date Cted	of Onlice ELAC requir]mg/l.	
Systen	n Name: <u>City of Riviera Beach Utilities</u>				, F	VV\$	i,p. 4	50-1	229)		
					_ c	ity: [Alviera E	leach				
	or Owner's Phone #: 561-845-4187			Fax#: #								
	or: 12105 Lausdan			Collecto	rs Ph	оле	# 561-84	5-4187		,		
Type of Supply: (check only one) Community Water System												
Reason	for Sampling: (check only one) Secutine Compliant				<u>RCOme</u>	int		in Clearan]Well Surv	sy Doner	
Sample	Collection Date: 121(41(3											
	To be completed by collector of sem	ple	· · · · · · · · · · · · · · · · · · ·			¬ ·		To	be com	pleted by in	b 1. A	
Sample	Saringle Point	Collection	Same	Disinfe		13		ioliform Ana or E. coll Ana		od USM	177313 -	\dashv
Number	(Location or Specific Address)	Time	Туре				Non Coliforn	Total	Facel	Data Qualifier ²	Lab Semple Number	1
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5	Well #4	0/5	R			1		A	A-		571-2	1
3	Well #5	940	R	/				A	A		511-3	1
4	Well #6	95	R				*	A	A-		571.4	
5	VVeli #7	0/5	R					#	A-		571.5	1
8	Well #9A	11点	R			, [A	4		511.4	
7	Well #10A	1/20	R					A	A		571.7	
community.	of disinfectant residuals for routine and repeat semples. (C and non-translent non-community systems seming populations up t not include raw or plant samples in the average.)	Complete for e and includi	ng		All to					ode Rule 52-1 th NELAC et		•
Репвои ре Ма		r: N/A 1 by a partifie f by DEP or (Ж	Osie Sla	i o notif	ed bei	u to det v	ositve resul	,		-	
Name	and Mailing Address of Person to Receive Re	port	Title		~·							
ty of Rivid O Drawe viera Bea	18	Repeat	lete C Samp	ples	Requir	formation ad Required		P/DOH USI	ONILY			

Page 1 of 4

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



DRI	NKING WATER BACTERIOLOGICAL SAMPLE 3 FORM		CTIO	N							
E P R	Jupiter Environmental Laboratories FLORIE 150 S. Old Dixle Hwy Jupiter, FL 33458 561-575-0030	DA, INC.							ŀ→	19113	102
Analy			syu	_]	Analys Sample Sample Openies	is C a A Pro tant	Dale & T cceptar servator Check	non Crite 20 On 23 Not	ria: los CI No Detected	/////S IG 13 of On los (ELAC requer	164
System	n Name: City of Riviera Beach Utilities				. p	/VS	LD. 4	50-1	229)	
System	Address: 800 West Blue Heron Boulevard				CB	ur F	ilviero A	toach			
	or Owneys)Phone #: 581-845-4187			Fax#: 5				Description.			
Collect	or borns Lousdan							5-4187	***************************************		***********
Туре о	Supply: (check only one)		-								· · · · · · · · · · · · · · · · · · ·
☑ Community Water System ☐ Non-Transient Non-community Water System ☐ Transient Non-community Water System ☐ Limited Use System ☐ Brittled Water ☐ Private Well ☐ Swimming Pool ☐ Other											
	r for Sampling: (check only one) Afteutine Compliant	æ □Re	peat	Repk	ceme	at		in Cleara	nce []Well Surv	rey Other
Sample	Collection Date: 12 1c4 1c3										,
-	To be completed by collector of same	ple		-,		 }				pleted by	
Semale	Sample Point	Callectio		_Disinfe	4	*		zolikom Ani z E. soli An		hot MFSA	190213
Number	(Location or Specific Address)	Time	Type		PH	.,	Non	Total	Fede	Oats	Lab Sample
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8	Well #12A	11 044	R	/				A	P		571-8
9	Well #13	0/5	R			`	,	1	A		571-9
10	Well #14	1040	R			Į		A	A		571-10
11	Well #15	1035	R				<u> </u>	A	4		571.11
12	Well #16	1124	R					P	A		571 12
13	Well #18	1000	R					A	4		571-13
14	Well #21	1) W	R				; . {*	A	4		571-14
commundy	of disinfectant residuals for routine and repeat samples. (C and non-bankent non-community systems serving populations up t not moude ray or plant samples in the average)	omplete for o and includ	ing		Altes					ode Ruie (2-) In NELAC sta	
Barren m	ant Residual Analysis Method: []DPD Colorimetre (2)Other erforming analysis is (Please age Instructions on reverse): A certified operator (#		del bi					ositve resul			
				Signatur	e:						
Nam	e and Mailing Address of Person to Receive Re	port									
	era Beach er #10682	÷	B	Satisfac Incompl	tory	lle	etion In	formatio	DEI n	P/DOH US	ONLY
viers Be	ach, FL 33419-1682			Repeat	Samp	88	Requir	ed Required			
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Page 2 of 4

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DRINKING WATER BACTERIOLOGICAL SAMPLE COLLECTION AND LABORATORY REPORTING FORMAT ENVI RIDA, INC. Jupiter Environmental Laboratories P.O. 150 S. Old Dixle Hwy Jupiter, FL 33458 561-575-0030 RIVIE 12/19/13 Lab Receipt Date & Time. Analysis Date & Time. 133557/ Report Number Sub-Contract Lab ID Sample Acceptance Criteria: Analysis Requesta, prease check all that apply Sample Preservation - 🔯 On Ice 🔲 Not On Ice Standard Coliform Test HPC Other Dismisclant Check Not Delected This sample does not meet the following NELAC requirements. PWS LD. 450-1229 System Name: City of Riviera Beach Utilities System Address: 800 West Blue Heron Boulevard City: Riviera Beach System or Owner's Phone #: 561-845-4187 Fax # 561-840-7282 Collector: Collector's Phone # 581-845-4187 Type of Supply: (check only one) Community Water System □Limited Use System □Bottled Water ☐ Non-Transient Non-community Water System ☐ Private Well ☐ Swamming Pool Transient Non-community Water System Other Swamming Pool Main Clearance | Well Survey | Other Sample Collection Date: 12/19(13 To be completed by collector of sample To be completed by lets Total Collorm Analysis Mathod: MF Facai or E. coli Analysis Nathor: SYVICES Sample Point (Location or Specific Address) Sample Res'd Type ara! Number Data Qualifier (mg/L) Total Lab Sample or E Celiforn Coliforn Number 30 15 Well #802 R 511.15 DH 25 Well #851 R 16 17 Well #803 R 18 Well #861 R 19 Well #871 R Weil #921 ′ร 20 Weil #922 R 21 Average of disinfectant residuals for routine and repest samples. (Concommunity and non-transvent non-community systems serving populations up to and including 4 900. Do not include raw or plant samples in the average.) All tests are performed in accordance with NELAC standards. Disinfectant Residual Analysis Method: CDPD Colorinatric COther. N/A Person performing enalysis is (Pinner see Jacktructions on reverse): CA certified operator (# 5 2 5 CE) Cappervised by a certified isb Date PWS notified by tab of positive results: Date State natified by late = * -- willive rewith: Lab Signature: Name and Mailing Address of Person to Receive Report Title: City of Riviere Beach P.O. Drawer #10682 DEP/DOH USE ONLY Satisfactory incomplete Collection Information

. Page 3 of 4

Riviera Beach, FL 33419-1682

Repeat Samples Required
Replacement Samples Required

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

UDIYIN :	INC MATER PACTERIO OGICAL SA			ECT	ION					3
Report Nu Analysis Signal	ter Environmental Laboratories 150 S. Old Dixie Hwy 1upiter, FL 33458 561-575-0030			Ant San San	alysis Dai raple Acc rele Prese	Date & Time e plance e plance evation hack	:	Nkot 0	n ka 😿	15:20 445 4 °C 1871a
Other:					i sitriple d	Om HOLLIN				
System	Name: CITY OF RIVIERA BEACH		,		PW8	.D. 450	229	لــــا		
	System Address:			80	O WEST	BLUE H	ERON BL	, V D		
	City:									
System or Collecto	Owner & Priorie # (561)845-4187	······································								
	Supply: (check only one)				•	e				
Limited	unity Water System	Swit	nming F	00	ement	Othe				system ny Other
Sample	Collection Date: 121(41(3	er nem est in a	edi Aseddisini			Transport in	Trevience:	egyppinistja	√(0 t(0 72 ±	200 25 200
		99.7		PERM		LOG CO	HICKORY AND	LANGE CARRIED	ישי ביותו	41239
Semple Number	Sample Point (Location or Specific Address)	Collection Time	Sample Type ¹			Non		Fecult or	Data Qualifier	Lab Sample Number
26	Well #.## 2004	104	R	\angle			A	A		912-1
28	Vali# 022		R	_						
27	Well # 961	0/3	R				-			
28	WUI # 862	200	L.	_			A-	#		572.2
		<u> </u>								
		<u> </u>				<u> </u>				
- Address and the same	of disimfectant residuals for residing and repeat eamples. (C ity and mon-transient non-community systems serving populations up o not include raw or plant samples in the everage.)	Complete for to and Inch	ding						code Rulo 82 vitti HELAC :	
Districted Person	tant Residual Analysis Method: DPD Colorimetric SOftware performing analysis is (Pieses per Instructions on reverse) A partitari populator	er: NVA d by a certif od by DEP o	HOO	Date St	abe nobifier خ	i by lab of i				
Nor	ne and Mailing Address of Person to Re	ceive		Signati D		UV	* >			
1400	Report	Satisfa incom Repea	ictory plete Co it Sampl	llection i es Requ Samples	ired	ion	EP/DOH U	SE ONLY		
			•							
		-	سسا ا		/					

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

Analysis Methods: MF = SM62228 & D; MTF = 92218 & ECMUG; AMADIAUG = SM6223B; HPC = SM6215B

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	SICAL SA			ECTIO	ON					
Ju	mitor Environmental Laboratories									ļ
[1	150 S. Old Dixie Hwy Jupiter, FL 33458			1						
`(561-575-0030			- 1				1		. 1
•				Lab	Receip	i Date & Ti	me: <u> С</u>	ISI	3 160	
				Cont	onine l'h	ite & Time:	17	181	3 1005	0
	100000	<i>i</i> aesyl	ĝ			ceptance				
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Analysis	Requested: (please check all that apply)			- Admini		أ شمسما	O'Mari Del	acted	.	
M SEBUGE	# Colliniu tast			This	ample	goes upt use	at the follo	MINS SIEL	rc tediniess	11132
Other:	d Coliform Test			 						
	Tame: CITY OF RIVIERA BEACH				PW9	1.D. 4501	228			
	٦			e co) WES	T BLUE HE	RDN 91.	VD		
	System Address:					BEACH; FI				
	City:		_	KA 	(IEFV)	282				
System or	Owner's Phofie #: (561)845-4187		Fa	x 非: (561) 34 11-1	202			.,	
Collecto	Owner's Photo #: (581)845-4187		Co	llector's l	Phone	# (561)845	4187		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	Supply: (check only one)									
-	grade	community ¹	Abrier S	vetam		Tren	sient Nor	1-CO179111UI	nity Water S	System
Christian Contract	Line Combant	☐ Swir	nming i	2001		☐Oithe				
	or Sampling: (check only one) Routine Compliance	Tirtene	rat [Replac	ement	Mair	Clearan	⇔ □	Well Surve	y Other
Reason	or sampling: (check billy the) Editorial benefit			-						
Sample	Collection Date: 12/18/13	/		z	5,717		· · · · · · · · · · · · · · · · · · ·			
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Number	(Location or Specific Address)	Time	Type'	(mg/L)		Non Collings	Total Coliform		Qualifier	Bampia Number
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1	500 W. Blue Heron Blvd. (Riviera Sch. City Hall)	850	D	2.7			A	A		998
<u> </u>		100					#	-		000
2	1057 W, 6th St. (West Riviers Elementary School)	1900	D	16			11	P		558.2
		920	D	21			اما	A	1	558.3
3	1180 W. 10 th St. (Lincoln Elementary School)	1.2	<u> </u>	-	L.,		<u> </u>	1	 	72.00
 	1901 Ave.S (Kennedy Middle School)	940	D	19			A	4	j	556.4
4	1901 AVE.S (Kennedy Misses Solids)	17.45	 		-				 	
5	1228 W. 25th St.	450	D	3.3	- 7		A	A	<u></u>	558.5
<u> </u>		0 -	D	2 4			0	1		558·V
6	1709 W. 30th St. (Washington Elementary School)	DAM	<u> </u>	3.0	. /	٠		1		
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Average	of disinfectant residuals for routine and report enmpire. By and non-transless non-community systems serving populations to	ns to and incl (Complete to	r udire:	1	All to	sia pra perfo	erned in ac	cordance	with NELAC	standeros.
A 900 E	ily and include it w or plack semples in the systems.)		•	1.						
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1-erent		yed by a cont	dei beij	Dale S	ATE BOX	Red by lab o	i frantna s	radite, "		
1	Supervised by a cert operator (#) DEmplo	yed by DEP (L Stenat	4501	NB	T	7 -		
<u> </u>			1	b Signal	ure: _	ayy'C	/ / /			
Na	me and Mailing Address of Person to R	eceive	TH	le:						
1	Report		1] Satisf	ectory	F		_	DEP/DOH L	ISE ONLY
-	Section 1			Incom	plete	Collection	Informa	tion		
	meti 1		ř	Repe	it Sar	noies Req	uired			- 1
	i.		[nt Sample		red		
	•					L. DEOG				

Pego 1 of 1

DEP Sample Typs Codes: D = Distribution (Routine CompSamps): C = Repest or Check; R = Rev; N = Entry to Distribution; P = Plant Tsp; S = Special (clearance, etc.)

Analysis Methods: MF = SM9228 & D. MFF = 92218 & ECANUG; MMD/MUG = SM92238; HPC = SM92168

Analysis Methods: MF = SM9228 & D. MFF = 92218 & ECANUG; MMD/MUG = SM92238; HPC = SM92168

Analysis Methods: MF = SM9228 & D. MFF = 92218 & ECANUG; MMD/MUG = SM92238; HPC = SM92168

Analysis Methods: MF = SM9228 & D. MFF = 92218 & ECANUG; MMD/MUG = SM92238; HPC = SM92168

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Analysis Methods: MF = SM9228 & D. MFF = 92218 & ECANUG; MMD/MUG = SM92238; HPC = SM92168

Analysis Methods: MF = SM9228 & D. MFF = 92218 & ECANUG; MMD/MUG = SM92238; HPC = SM92168

Analysis Methods: MF = SM9228 & D. MFF = 92218 & ECANUG; MMD/MUG = SM92238; HPC = SM92168

Analysis Methods: MF = SM9228 & D. MFF = 92218 & ECANUG; MMD/MUG = SM92238; HPC = SM92168

Analysis Methods: MF = SM9228 & D. MFF = 92218 & ECANUG; MMD/MUG = SM92238; HPC = SM92168

Analysis Methods: MF = SM9228 & D. MFF = 92218 & ECANUG; MMD/MUG = SM92238; HPC = SM92188

Analysis Methods: MF = SM9228 & D. MFF = 92218 & ECANUG; MMD/MUG = SM92238; HPC = SM92188

Analysis Methods: MF = SM9228 & D. MFF = 92218 & ECANUG; MMD/MUG = SM92238; HPC = SM92188

Analysis Methods: MF = SM9228 & D. MFF = 92218 & ECANUG; MMD/MUG = SM92238; HPC = SM92288; MPC = SM922888; MPC = SM92288; MPC = SM92288; MPC = SM9

DEP/DOH Reviewing Official:__

.4	PORTING			LECT	ION'				(3
Jup	Iter Environmental Laboratories 150 S. Old Dixle Hwy Jupiter, FL 33458 561-575-0030					Date & Time		12-15	2·13 (0	100 105
Report Nu Analysis Standa HPC Other:	Requested: (please check all that apply) rd Coliform Test	Blosyl	<u></u>	San San Disk	npile Acc ple Prese	eptence rvation heck	Criteria: ☑ Gn ke ☑Kiol De	☐ Not €	onice. 1221′,	3.9 ·c
	Name: CITY OF RIVIERA BEACH				PWS	.D. 450	1229			
	System Address:			80	o WEST	BLUE H	ERON BI	.VD		····· /** *****/************************
	City:			RI	VIERA E	EACH; F	L. 33404			
System or	Owner's Phone #: (581)845-4)87									
Collecto	r. CARLOS LALLACTED		Co	llector's	Phone #	(561)845	i-4187		··	· · · · · · · · · · · · · · · · · · ·
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Limited	Use System	☐ Swi			onsent	_	r ı Clearan		Well Surve	y Other
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	a Copy Table and American St. St. St. a front in based in the first of the contract the first of the contract					Total Co	Ane moth	ysla Mod		17738
Sample Number	Sample Point (Location or Specific Address)	Collection Time	Sample Type	Diswifect Res'd (mg/L)	pH	Non		Fecal or	T	Lab Sample Number
7	7535 Enterprise Rd. (2 Fet Guys Subs)	100	۵	35			A	A		558.7
8	6598 N. Military Trell (Vacation Travel Park)	185	D	0.7	7 c		A	4		958.8
9	2548 Maniki Drive (Lone Pine Estates)	200	D	0.6			8	A-		5589
10	2300 Old Dide Hywy (Arnold Ore-Wheat Bakery)	900	٥	3.9			A	A		358·10
11	1357 Silver Beach Road	10-15	D	3.2	, v	ä.	P	4	<u></u>	558 1
12	Ave. A (U.S.Coxat Guard Station)	10 30	D	1.9	1		A	A		958-17
communi	of disinfactant residuats for routine and repeat samples. (C ty and non-transient non-community systems serving populations up a not include raw or plant samples in the svarage.)	Complete for to end incli	iding			are perio	med in sc	e donnatnos	Cose Pule 63 with MELAC	slandarda.
Disinfectant Residual Analysis Method: EIDPD Cotorinetric Other: Date PWS notified by lab of positive results: Date PWS notified by lab of positive results:								2.19.13	1009	
	3Supervised by a cert operator (*) □ Employs	ed by DEP o		j Signatu	i re :	<u></u>	Yw	$\Delta \mathcal{L}$		
Nan	ne and Mailing Address of Person to Re	Titl	-	PM	U					
	Report		Recea	piete Co t Sampi	illection es Requ Samples	ired	ion	NEP I DOK U	SE ONLY	
						DEP/DC ing Offici				
			בו נ		*/ĊNRM	ing chica	¥1			

Page 1 of 1

**DEP Sample Type Codes: D = Distribution (Routine Compliance): C = Repeat or Check; R = Raw; N = Entry to Distribution; P = Plant Tep: 5 = Special (clearance, etc.)

Analysis Methods: MF = SM92228 & D; MTF = 92218 & EC/MUG; MMC/MUG = SM9223B; MPC = SM9215B

Analysis Methods: MF = SM92228 & D; MTF = 92218 & EC/MUG; MMC/MUG = SM9223B; MPC = SM9215B

**Add **Total Compliance Date of the Compliance D

DRINK	ING WATED DACTER!	LOGICAL SAI			ECTI	ON				(3)	
Report Nu Anelvais	Requested: (please check all that ap rd Coliform Test	<u>40</u>	Lab Receipt Date & Time: 12 18 15 1000 Analysis Date & Time: 12 18 17 1050 Sample Acceptance Criteria: Sample Preservation 50 Date in Notion Ide of 30 cc Disinfectent Check Gridet Detected: II mg/L This sample does not meet the following NELAC requirements:									
System !	Name: CITY OF RIVIERA BEACH.							\	_	<u>i</u>		
	System Address:											
	City:				RI	VIERA E	EACH; F	L 33404				
System or	Owner's Phone # (561)845-4187	1 - 1 - 7	,	Fa	n.#: (56	1)840-72	92					
-01.01.0		CAM ACI ACE		_ 00	liector's	Phone #	(561)845	-4187				
[X]Comm	Supply: (check only one) unity Water System	Non-Transient Non-G	ommunity ! Swin	Woler S	iyatem Pool		☐Train ☐Othe		i-commu	nity Water	System	
Limited Research	Use System ☐ Bottled Water [for Sampling: (check only one)					ament	Mair	Clearen	ce [Well Surve	y Other	
	Collection Date: 12/18	113										
	THE SECTION ASSESSMENT AND A SECTION ASSESSMENT ASSESSM	Commence of the property of the Commence of th		g _{alter}			Total C	iliom Ans	heia Mett	90	10000	
Samole	Sample Poin	ا .	Callection		Disinfect Resid	pH 2	1	T		F	1223B	
Number	(Location or Specific.	Address)	Time	L)be,	(mg/L)	d state	Non Collom	Total Coliform	Fecal or E. col	Data Cualifier ²	Sample Number	
13	237 E. 28* St.		10	٥	31	6		A	Æ	<u> </u>	558-13	
14	249 E. 23 rd St.		10%	D	1-3		á	4_	Pr-		958.14	
15	1619 Broadway (Larry Smith Elect	ronics)	1105	D	0.8			4	A		558.15	
16	1301 Grandview Place (Newcomb	e Hall)	1132	D	0.8			P	A -		558·14	
17	1501 Ave. U (Mary McCleod Belliu School)	me Elementary	935	D	21			4	A		556.17	
18	4860 Caribbean Blvd.		2%	D	0.6			P	4		556 18	
1	e of disinfectant residuals for routine by and non-transient non-community system to not include raw or plant samples in the	HLLP RETAILS IN PERSONALISM AN	Complete for to and inclu	iding			are perio	wed in ac	codance	Code Rule 62 with NELAC	standards.	
Maluta	dant English Anglowin Mathod: 🔯	OPD Colorimatric ElOthe	\$F:		Date P	WS notific	d by lab of	positive re	auta:	(2.19.1	31409	
Person	performing analysis is (Please see) RA certified operator (#	Markichalia eli Lavarasi.	: Id by a certif Id by DEP o	Red lab r DOH			d by lab of					
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Nar	ne and Mailing Address	of Person to Re	ceive	Tit	le:	M.					ion Oth V	
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Page 1 of 1

DEP Sample Type Codes: D = Distribution (Routine Compliance); C = Repeat or Check; R = Raw; N = Entiry to Distribution; P = Plant Tap; S = Special (dearance, etc.)

Analysis Methods: MF = 8/M8222B & D; MTF = 8221B & ECAMING: MM0/MUG = SM9223B; HPC = 86/9215B

Analysis Methods: MF = 8/M8222B & D; MTF = 8221B & ECAMING: MM0/MUG = SM9223B; HPC = 86/9215B

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	City:	,		£ an								
System or Collector	Owner's Phone 3: (581)845-4187	syndriel		Col	ector's	Phone	# (56	1)845-4	187			
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L	ne and Mailing Address	of Person to Re	ceive		Signal e: 12			<u> </u>			KDEO!	CE ONLY
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<u></u>			Page 1									

DEP Sample Type Codes: D = Distribution (Routine Compliance); C = Repeat or Check; R = Raw; N = Entry to Distribution; P = Plant Tep; S = Special (dearance, etc.)

Analysis Methods: NRF = SM9222B & D; NTF = 9221B & EC/MUG; MMO/MUG = SM9223B; HPC = SM9213B

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2	1057 W. 6th St. (West Riviera Elementary School)	924	D	2.1		سسمسين	A	A		180-2	
3	1160 W. 10 th St. (Lincoln Elementary School)	42	D	24	k		A-	4		100-3	
4	1901 Ave.S (Kennedy Middle School)	950	D	2.7	'		A -	4		160 4	
5	1229 W. 25 th St.	12 pu	D	3.1		,	A	4		180 5	
6	1709 W. 30 th St. (Washington Elementary School)	10 24	D	2.9			A	A		180-4	
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Page 1 of 1

*DEP Sample Type Codes: D = Distribution (Routine Compliance): C = Repet or Check: R = Raw; N = Entry to Distribution; P = Plant Tap: S = Special (decrance, etc.)

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Dair	PINC WATER PACTERIAL OGICAL S ORTING	AMPLI	E CO	LLEC	TIO	N				1	13
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	or Owner's Physic #: (581)845-4187		F			7.7202					
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DEP Semple Type Codes: D = Distribution (Routine Compliance): C = Repost or Check; R = Raw; N = Entry to Distribution; P = Frant Tap: S = Special (dearance, etc.)

Analysis Methods: MF = SM9222B & D; MTF = 3221B & ECANIC; MINOMIUG = SM8223B; MPC = SM8223B; MPC = SM8223B

Resealts: A = critimons are stress? P = collisions are nessent: C = configurations of TATC = foo numerous in courts

MPC = SM8213B

DRINK	ING WATER BACTERIOI OGICAL SA	MPLE FORMA	COLL	ECT	ION							(3)
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14	249 E. 23 ^{rt} St.	10 57	D	1.7		į. 1		A	A		80 14	1
15	1619 Broadway (Lerry Smith Electronics)	10 55	D	1.1	_			A	A		180-15]
18	1301 Grandview Piece (Newcombe Hall)	115	0	1.4	Ŀ	S		4	A		10-16	4
17	1501 Ave. U (Mary McCleod Bethune Elementary School)	9品	٥	1.9	_			A-	4		18D-17	-
16	4880 Caribbean Blvd.	100	D	0.7	<u> </u>			A	P		[80-I &	•
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Page 1 of 1

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

Analysis Methods: MF = 8M92299 & D; MTF = 82219 & ECANUC; MNORAUG = BM92289; HPC = 8M92109

Analysis Methods: MF = 8M92299 & D; MTF = 82219 & ECANUC; MNORAUG = BM92289; HPC = 8M92109

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Report Nur Analysis I Standard HPC Other:	nber: <u>\23.5180</u> Sub- Requested: (please check at that app d Colliform Teet	Contract Lab 1D:	sasy	φ_	9	iniafactant (coptence ervetion Check	Criteria On to	e □ Not.4 adected	On los (5) On los (5) UAC require	3.5 °C menter:
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	System Address:					800 WES	r Blue H	IERON B	EVD		, , , , , , , , , , , , , , , , , , ,
	City: Owner's Blyone #; (551)845-4187	ميما يترا			 	561)840-7	292				
Type of Si Sicommun Limited L Resson fo	upply: (check only one)	Routine Complience	☐ Swi	ព្រះសំផ្ទ	Pool	acement		er n Clearar	ice [unity Water]Well Surv	System ey
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Name	e and Mailing Address of Report	Person to Rea	Ceive		Incon Repla Repla te Rev	\neg	es Requ Samples DEP/DO	ired (C Requir H:	ion per be	18	20-19 E

*DEP Sample Type Codes: D = Distribution (Routine Compliance); C = Repest or Check; R = Raw, N = Entry to Dis Analysis Memodic: MF = SM62228 & D; MTF = 82218 & EDALUG; MMCMUG = SM82238; MPC = SM82238;

DRINKING WATER BACTERIOLOGICAL SAMPLE COLLECTION 3 FORMAT

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) E F F	upiter Environmental Laboratories 150 S. Old Dixie Hwy Jupiter, FL 33458 561-575-0030	INC.		Lab	Rece	ipt i	V T & elec	Vater Se inte: 101	ction /24/13	th - PBC]
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Sustam Ar	idress 800 West Blue Heron Boulevard										
•			Fa	x #: <u>561</u>	-840-	7 <u>2</u> 9					
3y319111111	Charas Line due		Cr	llector's	Phon	#	6 <u>61-845</u>	4187 .			
 Micomma	Supply: (check only one) Inity Water System	ommunity Swi	Water S	System Pool			Othe			nity Water !	
Fillrited				Replac	emen	t	Mair	Clearanc	e 🗆	Well Surve	y Dother
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<u> </u>	To be completed by collector of samp	<u> c</u>	· ·				Total Co			× Kwa	
		1 .		Disinfect		Ĉ.	Enced or	E coli Aus	ivale Heli	10th 31th	1105
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	776077	1238	-			÷	`	71-	A		771.2
3	Well #5	188	R	/		, 1,		A	4		11.3
. 4 L	Well#6	12 pm	R	/		9.			1		111:
5	Well #7	1,20	R	/	-	2		#	A		711.4
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7	Well #10A .					إبا	afinari ki	Florida Adros	rijetralite i	Code Hule 62	160. Table 1
[was an are set at	of disinfectant residuals for routine and repeat samples. (by and non-liensient non-community systems serving populations up o not include raw or plant samples in the average.)	Complete to to end inclu	ir ding			esis.	ane perfo	med in acc	ordance w	AIN NELAC S	landards.
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i			ΠD	EP/DOH	Rev	ew)	ng Offic	ral:		1781	c an

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Other				L						<u> </u>	لحسيست
System	Name: City of Riviera Beach Utilities	/	····		PV	VS	LD. 4	50-1	229		
System A	ddress: 800 West Blue Heron Boulevard	<u> </u>			Cit	y: B	<u>iviera Be</u>	ach			
System o	or Owner's Prime #: 561-845-4187			ax 未 出				·····	, <u></u>		
Collecte	or. Chelos Dreadon		0	iollector'	s Pho	ig f	561-845	-4187			
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			L	Disinfer	*	ŀ	Fecalo	oliform Anal r E. čoli Ana	yas men Iveis Mei	SM)	<i>1233</i> 3
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9	Well #13	/	R			,					
10	Well #14	130	R				,,,	A	<u>A</u> -		771-6
11	Well #15	130	R	/				A	A	· · · · · · · · · · · · · · · · · · ·	711.7
12	Well #18	100	R					4	A		T11.8
13	Weit #18	1204	R	/				<u>A</u>	#		771.9
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P.O. Draw	viera Beach ver #10682 sach, FL 33419-1682			Repea	piele il San cemei	Col ipie it S	s Requ	Require	n	7-14	ie only
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		Page 2	of 4		- M:						

P Jupiter, FL 33458 R 561-575-0030 Report Number 1731-77 Sub-Contract Lab ID 586546 Analysis Requested. Time: 10.24-13 1646 Sample Acceptance Criteria: Sample Proservation So Note Onto 53 °C Sample Proservation Test Sample Acceptance Criteria: Sample Proservation So Note Onto 53 °C Disinfectant Citeria: Sample Acceptance Criteria: Sample Proservation So Note Onto 53 °C Disinfectant Citeria: Sample Acceptance Criteria: Sample Acceptance Criteri	₹										(3)
P 349 S. Old Dotte Hivey R Splater, R. 345 S. S61-575-0030 Report Number 133477 Sub-Contract Lab ID Sub-Contract Conform Test	DRINKI	IG WATER BACTERIOLOGICAL SAMPLE CO	LLECTI	ON							
System Name: Sitval Rollens Beach Litities System Address: 800 West Blue Histos Rouleward Collector: Conver's Phospes: 8581-845-1187 Collector: Collector: Collector's Phone # 551-842-1187 Type of Supply: (check only one) Bloommaky Water System Collector System Clothed Water Private Well Swimming Pool Limited Use System Clothed Water Private Well Swimming Pool Limited Use System Clothed Water Private Well Swimming Pool Limited Use System Clothed Water Private Well Swimming Pool Sample Collection Date: Collector of sharple To be completed by collector of sharple Sample Collection Date: Collector of sharple (Location or Specific Address) Sample Point (Location or Specific Address) Well \$802 15 Well \$802 Well \$851 Well \$851 Well \$852 Average of disinfectant residuals for routine and repest samples. (Complete for comming and co-datasest in the minimum yearing serving populations up to and including comming and co-datasest in the minimum yearing serving populations up to and including comming and co-datasest or of our samples in the merce) Disinfectant residuals for routine and repest samples. (Complete for portioning analysis is grows as age indigrections on reversely.) Parson performing enalysis is grows as age indigrections on reversely. Parson performing enalysis is grows as age indigrections on reversely. Disinfectant residual Analysis Inches. Description of the minimum years assiving populations up to and including comming and co-datasest or own or own removes the province of the merce of	P R Report Nor Analysis	150 S. Old Dixie Hwy Jupiter, FL 33458 561-575-0030 mber 1334 7 Sub-Contract Lab ID Requested to the set that apply to Coliform Test	-	<u> </u>	Anal Sam Sam Dism This	yels Da ple Ac ple Pres lectant i sample	ate & Turne ceptance ervalion check does not me	Criteria: Si On Ice Si Not Dele set the follow	O Not O	nice di	-c mg/L
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System or Owners Phones (Sel 1945-1187) System or Owners Phones (Sel 1945-1187) Type of Supply: (check only one) Collector's Pitane # 581-845-1187	•					City: E	tiviara Bei	ich			
Collector's Phone # 581-845-4187 Collec	System Ad	kiress: 860 West Blue Heron Boulavaro		Fax	* 561						
Collector: Type of Suppliy: (check only one) Community Water System		Owners Phone 35 1-04-3-1-191		Coll	ector's	י פרומלו	# <u>561-845</u>	4187			
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ļ		<u> </u>			<u> </u>					<u> </u>	halabath.	Corra Bulo fi	2-160, Table 1
			tant residuals for ro insient non-communit raw or plant samples i	utine and repeat samples. (systems serving populations u n the average.)	Complete for p to and incl	r udling		All test	etë betjo Josenes in	encesse va Semed in a	cordance	with NELAC	planderds.
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Mentionerical			,	1] Incon	npiete C	iles Rec	uired		à.	}
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								riewed b H Reviev				s.Par	tian
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DEP Bample Type Codes: D = Distribution (Routine Compliance); C = Repeat or Check; R = Raw; N = Entry to Distribution; P = Plant Tap; S = Speciel (clearance, six.)

Analysis Matheria: MF = SMS222B & D: MTF = 9221B & ECMUS; MMORMUG = SMS223B; HPC = SMS216B

		<u>, i </u>							10-9	-(3	SP_				
P.	18	WATER BACTERIOLOGIAND LABORATORY REPO	al Labs		150 JU	ENVIR S. OLI PITE 561	CHMENTAL DIXERWY FL 33458	LW & AL S			3				
La	UPTER FL 33458 561-575-0000						Lati Receipt Date & Time: 10 3 13 10 15 Analysis Date & Time: 10 3 13 10 15 Sample Acceptance Criteria: 2 Mechanic 18								
ÀI	port Num splysia f Standard HPC Other:	ber: 334473 St tequested: please check all that a I Colliform Test	to-Contract Lab ID: EX	05410		Semple Disking This se	Present County	rvation Ed heck di loss not meet	No tollor] NotOn ded ing NELA	£.F	mor.			
Ш	Qmur:	arne: City of Riviera Beach Utilit	y Clatrict				\$ I.D.	Viers Beac		404					
5)	PETRITE IS	tress: <u>800 W. Blue Heron Blvd.</u>			A	City:	- 840-2		S. Jan K						
5)	Astern ove Astern or (Owner's Phone #: _(561)845-4167	Loundrie	1	Fax #:			(581)845	4167						
CTELR	ollector ype of S Commu Limited lesson f	77 - M 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Vater S uning P et [ysiem ool Rapisca	ment	Translant Non-community Water System Other Theat Survey Other									
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	1	600 W. 28" St. (inlet Grove His	nh School)	100	D	40			A	A		413-1			
	2	2300 Ave. E (Marshale Bait)		1 10	D	10			A	P		40-4			
	<u>.</u>	118 W, 10 th St.		180	D	12		<u>.</u>	A	A		435-2			
		35 W. 11 th St		134	D	1.7			A	A		1754	ı		
	4	200 E 13 th St. (Riviera Basch M	(arina)	140	D	3.2			4	A		473-5	i		
-				975	۵	39			A	R		4731	2		
	8 2425 Lakeshore Dr. Average of distributions residuals for routine and repeat samples, (Complete for community and non-transient non-community systems serving populations up to and includin 4,000. Do not include raw or plant samples in the average.)							Thermad in Florida Advantables Code Rule 62 (60, Table 1 the same performed in accordance with NELAC standards.							
,	Disinfe Person	ctors Residuel Analysis Method: performing scalysis is (Please & EA cerified operator (# 1222 [] Supervised by a cart operator (# 1222	fed lab r DOH	Date St	ete nol	oblified by lab of positive neuritis:									
Name and Mailing Address of Person to Receive Report						Title: MY DEP/DOI Setisfactory DEP/DOI Incomplete Collection Information Repeat Samples Required Replacement Samples Required Date Reviewed by DEP/DOH: DEP/DOH Reviewing Official: 9.Page									
					_ [_	EMUUN	, rev	MIN CHIL	·····)		

Page t of 1

*OBP Sample Type Codes: D = Distribution (Routine Compliance); C = Repeat or Check; R = Rene; N = Entry to Distribution; P = Plant Tap; 9 = Special (obstrance, etc.)

Analysis Methodia: NF = SM9223B & D; MTF = 8221B & BCRAUC; SMACHAUG = SM8223B; HPC = SM8215B

Results: A = coliforms are phasers; C = confluent growth; TNTC = soo runnaryous to count

**Results: A = coliforms are phasers; C = confluent growth; TNTC = soo runnaryous to count (NA: 104.136) Reporting Fermals Blacking #194, Revised

(3) DRINKING WATER BACTERIOLOGICAL SAMPLE COLLECTION AND LABORATORY REPORTING FORMAT ireamontal Sendone of South Florida, Inc. JUPITER ENVIRONMENTALIABS 150 S. OLD DIXIE HWY JUPITER, FL. 33468 JUPITER ENVIRONMENTAL LABS P.O. BUX 10003 iona Scauli, FL. 00419 7605 100 S. OLD DIXIE HWY JUPITER, FL. 33458 Lab Sentification #E09740 10/3/13 56:-575-0030 o Receipt Date & Time: 10/3/3/104 report Number: 1374113 Sub-Co Analysis Requested: please track of their apply) Standard Coliform Test HPC Other: Analysis Dam & Time: Sub-Contract Lab ID: ESUSY10 Sample Adoptione Criteria: Sample Preservation Service Distriction to District Distriction to District Distriction to District Distriction to Distriction to District Di #4501229 PWS I.D. System Name: City of Riviers Seach Utility District City: Riviera Beach, FL 33404 System Address: 800 W. Blue Heron Blvd. Fex #: (561)940-7292 System or Owner's Phops #: (581)845-4167 Aundried Collector's Phone # (591)845-4197 154105 Type of Supply: (check only one) Translant Non-community Water System ☐ Community Water System ☐ Non-Translent Non-community Water System ☐ Hon-Translent Non-community Water System ☐ Swimming Pool Other. Reason for Sampling: (check only one) SRoutine Compliance Report Replacement Sample Collection Date: 1013/13 8737 Total Coliforn Analysis Method: 9001225 Fecal or E. coli Analysis Method: 9001225 Michigad Sample Point οH lab Res'd Type' Fecal or Sample Humber Total Time (Location or Specific Address) (mg/L) Collion E. col Cusilier Namber 750 D 35 4 300 Edwards Ln. A-D 3.5 95 2700 N. Ocean Dr. 6 950 A-D 3100 N. Ocean Dr. (Island Beach Resort) 9 050 ρ-UT710 Đ 40 101 Inlet Way 10 ¥ Ť 845 ょっろ D 3.6 5010 N. Ocean Dr. (Singer Island Fire Station) 11 D 1.9 5480 N. Ocean Dr. (Dunes Tower Condomhium) Average of distributant residuate for routine and repost samples, (Complete for community and non-remains) non-community systems saving populations up to and including 4,800. Do not include haw or plant samples in the average.) All trails are parformed in accordance with MELAC standards. Date PWS notified by leb of positive results: ... Date State notified by lab of positive results: DEMployed by a certified talk Employed by DEP or DOH (B) Lab Signature: Name and Mailing Address of Person to Receive Report pm DEPIDOH USE ONLY Satisfactory Incomplete Collection Information Repeat Samples Required Replacement Samples Required 10-9-13 Date Reviewed by DEP/DOH: 5 fachion DEP/DOH Reviewing Official:

Page 1 of 1

**DEP Sample Type Codes: D = Disylbution (Routine Compliance): C = Repeat or Chack; R = Resc. N = Entry to Dissibution; P = Plant Tep: 6 = Special (degrance, sto.)

Analysis Methods: MF = 6862228 & O; MTF = 69218 & ECARJO; Methoda; G = 6862238; HPC = 5862168

Results: A = colliones are absent; P = colliones are present; C = confinent growth; TNTC = too remainded to count

Eavison R.O. Bo	ING WATER BACTERIOLOGICAL SAMPLE CI AND LABORATORY REPORTING FORMAT WHATER SAME SAME SAME SAME SAME SAME SAME SAME	ION	3	MPR	HONME LD DIXE ER, FL 3 675-003	3468 1444	savi .		3			
Analysis De Stand	Deport Number: 133413 Sub-Contract Lab iD: 540510 Sample Acoustics Civilian Requested: (please check all that apply) Analysis Requested: (please check all that apply) Assimilar Conform Test HPC Other:											
System Name: City of Riviera Beach Utility District PWS LD. # 4501229 System Address: 800 W. Blue Heron Bird. City: Riviera Beach FL 33404 System or Owner's Phone # (551)845-4157 Fax #: (661)840-7292 Collector:												
Type of Supply: (check only one) DCCommunity Water System Limited Use System Bottled Water Resear for Sampling: (check only one) Repet Repet Replacement Sample Collection Date: 10/3//3												
1.000			(4)	秦.潘		Total Collorn Analysis Manthod: 0007/120						
Sample Number	Sample Point (Location or Specific Address)	Collection Time	Sample Type ^t	Cisinfe Resid (mgA.)	PN B	Non	Total	Fecti or E. coli	Data	Lab Sample Number		
13	1051 Pine Point (Singer laland)	کک ہ بے ہ	D	3.7			A	k		413-13		
14	1110 Grand Bahame Lane (Singer Island)	924	۵	26			A	1		<i>4</i> 73-14		
15	900 E. Blue Heron Bivd. (Phil Foater Park)	1024	D	1.2			A	*		473-15		
15	274 W. Bise Heron Sivo.	155	D	4.0			A	Jr_		473-14		
17	7101 N. Military Tr. (Fire Station)	11/25	D	2.1			*	*		4131		
18	4152 W. Blue Heron Blvd. (Centerpoint Plaza)	// 宏	D	1.9		L	4	¥		41318		
i commind	of distributions residuals for routine and repeat exceptes. (r y and non-trensient non-community systems serving populations up to not include raw or plant semples in the average.)	complete for to and includ	ing		All tents	Defined in Fiscilal Administrative Code (Cate (C-160, Table) a are performed in accordance with NELAC standards.						
Person (Diskripectant Roekdust Analysis Method: SUPD Colorinskic Colher: Person performing enalysis is (Please age Instructions on reverse): Employed by a catified by is of positive results: Employed by DEP or DOH Lab Signature:											
Na	ne and Malling Address of Person to Receive Ri	T##	Satisfincom Repsi Repla	M C	fection i sa Requisamples DEP/DQ	ired Requin	ion					

Page 1 of 1

*DEP Sample Type. Codes: D = Distribution (Routine Compliance): C = Repeat of Check; R = Rev. N = Entry to Distribution; P = Plant Tag: S = Special (descrince, etc.)

Amageia Methods: AF = SM82238 & D; MTP = \$2218 & ECM/UG; MROWING = SM82238; HPC = SM82138

Results: A = collingua are elevent; P = collingua are provent; C = confluent growth; TNTC = too remerous to count one. PER-SER 734 Reporting Famile - Strations Olivin Reviews

DRINKING WATER BACTERIOLOGICAL SAMPLE COLLECTION AND LABORATORY REPORTING FORMAT 3 JUPITER ENVIRONMENTAL LABS 150 B. OLD DIXIE HWY JUPITER, FL 33458 ENVIRONMENTAL LABS SM-575-0030 WOS OLD CIDE HWY , O. DUA IUUUS Riviera Beach, Tt. 88419-7895 Lab-Bernication #2807-10 Leb Receipt Date & Time: 10 3 13 1015 Analysis Date & Time: 10|3|13 1324413 Sub-Contract Lab ID: 680546 Sample Acceptance Criterio: Sample Preservation III On los II Mot On los II Disinfectant Check III Not Detected III This sample does not make the following NELAC requires Report Number: Analysis Requested: (de 20 Standard Coliform Test HPC Other: #4501229 PWS I.D. System Name: City of Riviera Seach Littley District City: Riviera Beach, Ft. 33404 System Address: 800 W. Blue Heron Blvd. Fax #: (561)840-7282 System or Owner's Phage #: (561)846-4187 Collector's Phone # 15811645-4187 LAMAGRIE (accos Collector: _ Type of Supply: (check only one) Translant Non-community Water System Non-Translant Non-community Water System DCcommunity Weter System Non-Translent Limited Use System Buttled Water Swimming Pool Reason for Sampling: (check only one) MRoutine Compliance Repeat Replacement 10/3/13 Sample Collection Date: Total Coliforni Analysis Method: SM 91080 Sample Point ρH Pies d Bampie Number Type Total Facad or Date (Location or Specific Address) Same E. col Colling Collings Number 4734 1125 3.1 D 2000 Bonisia Cir. (Woodbine) 18 r 55 OF D 7301 Havertill Rd. (Dyer Park) MA distriction Conta Stulia 63-160, Table 1 Average of disinfertant residuals for routine and repeat samples. (Complete for All tests are performed in accordance with HELAC standards. constrainty and non-terminal non-community systems sorving 6,900. Do not include new or plant samples in the average.) Date PVVS notified by lab of positive lessit: Distribution Residual Analysis Mothod: SIDPD Coormetric Corner Date State notified by lab of positive results: Employed by a certified lab ☐Employed by DEP or COH Lab Signature: Name and Mailing Address of Person to Receive Report Title: YM DEP/DOH USE ONLY Setisfactory Seastactory Incomplete Collection Information Repeat Samples Required Replecement Samples Required 10-9-13 Date Reviewed by DEP/DOH: Z DEP/DOH Reviewing Official:

Page 1 of 1

*DEP Bangle Type Codes: D = Distribution (Routine Compliance); C = Repeat or Check; R = Raw; N = Entry to Distribution; P = Plant Tay; S = Special (classrose, etc.)

Are byte Methods: MF = 55602228 & D; MTF = 92718 & ECARUS; MMCANUS = 58802238; HPC = 58802168

Are byte Methods: MF = 55602228 & D; MTF = 92718 & ECARUS; MMCANUS = 58802238; HPC = 58802168

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US-568.736 Augusting Factoris - Efficiency Outel, Personal

PWS Add	198	Sa Sa Die Thi	enty emp into	PIS Date & le Accept le Preserve ctant Che ample dos	Time: ence Crit etion: Sito ck: Sito s not man	90419	iSS/5 1050 Drifee ⊠ TELAC requ	mg/L drements:	6				
Collecto	WS Owner's Phone # 501-845-4187	***** *******************************			Collecto	21	-840-7292 Phone #: (to 6 045 .		·			
Common Clarified Reason Distribu	Bupply: (check only one) Inthy Water System Non-Translent Mon- Use System Bottled Water Private for Sampling: (check all that apply) tion Routine Destribution Repeat If ce Replacement (also check type of se		Water Sy lwimming	/shem [Pool]Transier ⊒Other:	nt A	lon-comm	unity Wat	er System	(Well St	TVBY		
	To be completed by collect		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·				,				
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- 4	4 WELL	245 RA		†			 -	p	A		362-1	سمن	
1	2 WELL	300pu	1					+	A		352 - 3		
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Heinfecter	disinfectant readdals for distribution rou Free chloring or Total chlorine (circle one) it Readdal Analysis Nethod: plorimetric: Other:	itine & repr			Unless NEL	_l oth _AC	erwise not	od, ell tes s, and the	its are performed	in seconds by to the sa	ence with		
Person per DA certif	forming distrifaction analysis is (see insti ad operator (# 4982):	Date and time PWS notified by lab of positive results: 7/25/13 (7:05) Date and time DEP/DOM notified by lab of positive results: Date Report issued: 7/30/13 Lab Signature: 08500000								
☐ Employ	sed by certified operator (#						eture:(ECTOR	スケー	m.				
				LiReper □Repis Date Res	plete Col it Semple cement S riewed by	na F Sauri V Di	tion inform Required sples Requ EP/DOH: 1 Official;		0EP/D	OHUSE OF	VLY		

PPINIVING WATER BACTERION OGICAL SAMPLE COLLECTION											_
Jupiter Environmental Labs Juc [i] 150 South Old Dixie Highway [Jupiter, Florida 33458									(3)		
•			Lab Recoipt Date & Time: 9 K 13 1430								
	other: 13349977 Sub-Contract Lab ID:		Sample Acceptance Criterie:								
図 Stendar 口 HPC	Requested: (please check all shall apply) d Costorm Test		Sample Preservation Si On toe Indionate Si Lui C Distinsciant Check Si Not Describe This sample does not maint the following NELAC requirements:								
Other:			-								
System Name: CITY OF RIVIERA BEACH PWS I.D. 4501228											
System Address: 800 WEST BLUE HERON BLVD.											•
	City:						33404				•
•	Owner's \$ 5000 \$ (561)845-4187 Lb UL RACE		Fax:	8: (561) actor's P	840-725 hone #						
											-
Charles to the state of the sta								-commu	ilty Water \$	System	
Limited	Use System Betfied Water Private Well for Sampling: (check only one) Routine Compliance	☐ Swin	nming Po al 🔲	ou Replace	ment ·	☐ Other	Cipareno	* 🗆	Well Surve	у Пон	Ħ
	Collection Date: 4/19/13			7 0 00 V	2.5.6.						÷
						Total Co	iligen Ara	rain Medi	ot CM/	1113B	
	Sample Point	Collection	Sample C	Xsinfect Resid	pH.	Fecal or	E. coll An	iyan Met		Lab	
Sample Number	(Location or Specific Address)	Time	Type ¹	(Algm)		Non Collforn	Total Colitons		Chata Cumiffer ²	Sample Number	
1	800 W. Blue Heron Skyl. (Riviere Sch. City Hall)	953		2.9			A	A		291-1	
2	1057 W. 6 th St. (West Riviera Elementary School)	1000	D	1.2		<u> </u>	A-	A		291-1	
3	1150 W. 10" St. (Lincoln Elementary School)	1000	0	[.]		1	*	<u>A</u>		297-	
4	1901 Ave.S (Kennedy Middle School)	100	O	1.9			P	A		297-	
5	1229 W. 25° St.	1020	0	2.3			A	A		297-	
6	1709 W. 30th St. (Washington Elementary School)	1000	D	1.8		: 	A	<u>*</u>		2977	4
	of disinfectant residuals for routine and repeat samples.	Complete for			All test	Defined in	Floride Ade cyled in st	ninisiasva cordanos	Codes finio 6 with MELAC	2-160, ramer Standarda	•
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Person	performing energies in (* 1223)	ed by a seri ed by DEP (Mad lab	Date St	ate notifi	ed by bab o	f positive n	Banger ""			
	Supervised by a cert operator (a		Lat	Signati	nus: 🍎	\mathbf{m}	<u> </u>		· · · · · · · · · · · · · · · · · · ·		
Name and Mailing Address of Person to Receive										$\overline{\neg}$	
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	Part of	علاا	1 Warra	u Sam	olas Rac	Luired	7	Ι	15		
	· ·	D	Date Reviewed by DEP/DOH:							-	
	*,		_ 0	DEPIDOH Reviewing Official: 5 Party en							u
Ļ		Page	1 of 1								

*DEP Sample Type Codes: D = Distribution (Routine Compliance): C = Repeat or Check: R = Raw; N = Entry to Exhibition; P = Plent Tap: S = Special (clearance, etc.)

Analysis Methods: MF = SM92228 & D: MTF = 92218 & ECANIC; UMADANUS = SM92238; HPC = SM82238; HPC

DRINK	ING WATER BACTERIOLOGICAL SA ORTING			ECT	ION						نم
150 S	er Environmental Labs Inc Jouth Old Dixie Highway er, Florida 33458									141444	1
	•	•		- 1		ript Date & T Date & Time		9 19	Target and the second		
Report Nu Analysia Standa HPC Other:	mber: VSU167 Sub-Contract Lab ID: E Requirement: (please check all that apply) rd Collings Test	4646		58	ngia Pi	Acceptance assivation of Chack se does not mi	(C) New Dis	· [] Nibt 0 tected	- 11	20 c mgs.	
System I	Name: CITY OF RIVIERA BEACH				PW	'S I.D. 4501	220				
	System Address:			8	DQ WE	IST BLUE H	ERON BI	.VD			
	City:					A BEACH; F					
System or	Ormer's/Fiftine #: (581)845-4187		Fa	x#: (50	1)840	-7292			· · · · · · · · · · · · · · · · · · ·		
Collecte		······································	Co	llector's	Phon	e # (561)845	-4187				
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Limited	time System	_	_	roci Reola	CERTIES		Clearan	œ 🗆	Well Surve	y Doner	,
	Collection Date: 9/19/13										
Amiliba.			31.00	77 a.,	1.07	3					
				Diebriec		Total Co	E, col At	dynis Marii Aksis Mist	SW	1223	
Sample Number	Sample Point (Location of Specific Address)	Collection Time	Sample Typa'	Resid (mgA)		Non	Total Collorn	Facent or	Date Qualifier	Leb Sample Number	
7	7535 Enterprise Rd. (2 Fat Guya Suba)	12 pu	٥	19			A	A		291-7	
8	6598 M. Military Trail (Vacation Travel Park)	12 2	D	0.7	_		A	A		291-8	
9	2548 Maniki Drive (Lone Pine Estates)	1224	D	0.6	1		A	A		297-7	
10	2300 Old Dixle Hywy (Arnold Oro-Wheat Rekery)	950	D	32			A	A-		297-1)
11	1357 Silver Beach Road	17	D	25	1		<u>A</u>	A		297-1	-
12	Ave. A (U.S.Conet Guard Station)	1/44	D	2.3	1_		A	ft-		297-1	<u>_</u>
	of disinfectant residuals for rustine and respect exceptes, (f y and non-transfer) non-community systems serving populations up and include raw or plant damples in the average.)	Complete for to and inch	ding			iests are perfor	med in ec	contenuce s		itandards.	
Метяол	tent Rentituel Analysis Medical: BIOPD Colorimetric COIn performing analysis to (Phases use Instructions on reverse) BA certified operator (#	er: ; ed by a certi ed by DEP o	r DOH	l	tale no	ided by lab of lifted by lab of			1/70/13	ilo ³ la	
l Na-	ne and Malling Address of Person to Re	ceive	_,	Ŷ		W'					
	Report			Satist Incon Repe Repla	actor piete al Sei cente	Collection mples Requ ent Samples	iired : Requir	tion ed	ЕР/00HU	REONLY	
			11			by DEP/DC		(8)	D. 1		
				P/DOI	Rev	ewing Offici	al;	<u> </u>	Lack	Plan_	
		Page 1	mě 1			•					

*DEP Semple Type Codes: D :: Distribution (Rousine Compliance); C = Repeat or Check; R = Rase; N = Enery to Distribution; P = Plant Tup: S = Special (dearance, etc.)

Analysis Methods: MF = SAR2228 & D; MTF = 92318 & ECRAUG; MACOMMG = SM8223B; HPC = SM8215B

Consider: A = additional no phones: S = additional nos protects

C = restricted exercise to country

ANALYSIS Not complete to the contract of the contract

363-696 730 Transcom Parezus - Pilipeter - GT-RR - Waynesd d 1864 E

Jupit [1 150 5 [Jupit	s Requested: (piese check all that apply) and Colliform Teet	FORM 86546	<u></u>	Lai An Sa Sa Dis	o Recumbrain	sipt Date & Time Acceptance reservation in Check is does not in 18 1.D. 450	Criteria Criteria Con los Con los Con los continos los 1229	e C Not C efected fowling NIET	IB (a) (ii) (iii) (iii	2 9 °c 2 9 °c mente:	(
,	City:			R	WER	A BEACH; F	7 334 0	4			
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Collecto	Lauros hundre	<u>/</u>	C	elector's	Phon	e # (561)84	3-4187				
••	Supply: (check only one) unity Water System Non-Transient Non-		Minto i			Птин	miant Mn	m-committe	nity Water i	System	
Limited	Use System Buttled Water Private Well	☐ Swi	arming	Pool		Oth	ar				
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Pensyment	Temperatural est enhancement account			(mg/L)				E.co#		Sample Number	
13	237 E. 26" St.	11 44	D	1,7			A	A		297-13	
14	249 E. 25" St.	1164	D	1.0			4	A		297-14	'
15	1618 Broadway (Larry Smith Electronics)	1120	В	0.6	<u> </u>		A	A		297-14	,
15	1301 Grandylew Place (Newcombe Half)	1134	0	0.6			A	A		297-16	ļ
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18	4860 Caribbean Sivd.	1235	0	0.4			A	A		297-18	٠
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Analysis Methods: MF = SM82225 & D; MTF = 92218 & ECANUG; Methods: MFC = SM82258; MFC = SM82258

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Archysis Methods: MF = SM02288 B; MTF = 92218 B ECHRUC; MMORAUS = SM02288; HPC = SM02158

Addison, Mikeal E

From: Harrison, Scott A

Sent:

Wednesday, January 08, 2014 9:25 AM

To:

Partian, Syrus J

Cc:

Addison, Mikeal E

Subject:

RE: RE: Riviera Beach

Importance: High

Yes because they did not submit them.

In addition the ER will need to contain the information for November's 5% MCL violation.

Get with Mikeai and amend the one you just submitted for December.

Thanks,

Scott

Scott A. Harrison, R.S., CPO Environmental Manager Water Operations Section Division of Environmental Public Health Florida Health in Palm Beach County 800 Clematis Street, West Palm Beach, FL 33401 Office 561-837-5933 Cell 561-267-6833 Fax 561-837-5293

"To protect and promote the health of all residents and visitors in Palm Beach County."

Please Note: Florida has a very broad public records law. Most written communications to or from state officials regarding state business are public records available to the public and media upon request. Your email communication may therefore be subject to public disclosure.

From: Partian, Syrus 3

Sent: Tuesday, January 07, 2014 9:08 AM

To: Harrison, Scott A

Subject: RE: RE: Riviera Beach

GOOD MORNING

I E-MAILED TO DAVIS SALLAS ON 01-06-14, AT 3;40 PM AND CALLED HIM ON 01-07-14, AT 8:50 AM, ASKING HIM ABOUT:

A) "R" SAMPLES FOR OCTOBER 2013 (ARE NOT SUBMITTED) AND,

B) TC(+) SAMPLE ON 11-07-13 AT 300 EDWARDS LN (IT WAS RESAMPLE ON 11-09-13, BUT NO UP/DOWNSTREAM SAMPLES) AND TC(+) ON 11-22-13 AT 5783 S BERMUDA LN AND 5766 PARK AVE. (THEY BOTH LACKING TOTAL RE-SAMPLING).

HE SAID HE WILL GET BACK TO ME SOON. DO YOU WANT ME WAIT OR GENERATE ER ANYWAY?

1/8/2014





REGARDS-SYRUS

From: Harrison, Scott A
Sent: Monday, January 06, 2014 11:12 AM
To: Partian, Syrus J
Cc: Addison, Mikeal E
Subject: RE: Riviera Beach
Importance: High

Syrus,

Did you do an ER for failure to complete repeat samples for the month of November for Riviera Beach?

I cannot find one.

Please advise.

Thanks,

Scott

Scott A. Harrison, R.S., CPO
Environmental Manager
Water Operations Section
Division of Environmental Public Health
Florida Health in Palm Beach County
800 Clematis Street, West Palm Beach, FL 33401
Office 561-837-5933
Cell 561-267-6833
Fax 561-837-5293

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Partian, Syrus J

Partian, Syrus J From:

Monday, January 06, 2014 2:47 PM Sent:

'Salas, David F' To: Addison, Mikeal E Cc:

Subject: October "R" Bact Samples

Happy New Year Mr. Salas

Would you please let me know, if you have sent the Raw Bacteriological results for the October 2013 (I only have 20 "D" samples for 10-2013). I can not locate the raw sample results.

Regards

Syrus Partian Environmental Specialist II Division of Environmental Public Health 800 Clematis St, WPB, FL 33402 Phone: 561-837-5964, Fx: 561-837-5293

e-mail: syrus partian@doh.state.fl.us



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Guarascio, Maryann C.

From:

Guarascio, Maryann C.

Sent: To: Monday, May 02, 2016 5:26 PM

Subject:

Monroe, Luecinda J. (Lmonroe@Rivierabch.com)

Attachments:

FW: CRBUD Action Plan for Palm Beach County Health Department (email 1 of 2) Action Plan to PBC Health Department docx.pdf; SecondaryDisinfection PDR-

PermitSubmittal.pdf

Giles found this and thought it should pertain to both WP's. I have to go into Lou's office to try to find any other info. Don't know how long it will take me.

Maryann Guarascio Executive Assistant Utility Special District 600 West Blue Heron Blvd Riviera Beach, FL 33404 561-845-3489 (office) 561-840-7292 (fax) mguarascio@rivierabch.com

From: Rhoads, Giles

Sent: Monday, May 02, 2016 4:55 PM

To: Guarascio, Maryann C.

Subject: FW: CRBUD Action Plan for Palm Beach County Health Department (email 1 of 2)

Here are half (email 1 of 2) the documents that helped resolve the issue.

Giles

From: Harrison, Scott A [mailto:Scott.Harrison@flhealth.gov]

Sent: Monday, May 5, 2014 12:00 PM

To: Rhoads, Giles; Danford, David; Aurigemma, Louis

Cc: Addison, Mikeal E; Lape, Pamela K

Subject: FW: CRBUD Action Plan for Palm Beach County Health Department (email 1 of 2)

Good Morning Giles,

I now have all of the documents requested. I will review them today and get back with you.

In addition, the e-mail chain below indicates that you did indeed attempt to send in the documents on time.

This e-mail confirms that fact.

Thank you very much.

Have a good day.

Scott

Scott A. Harrison, R.S., CPO

Environmental Manager
Water Operations Section
Division of Environmental Public Health
Florida Health in Palm Beach County
800 Clematis Street, West Palm Beach, FL 33401
Office 561-837-5933
Cell 561-267-6833
Fax 561-837-5293

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From: Rhoads, Giles [mailto:Grhoads@Rivierabch.com]

Sent: Monday, May 05, 2014 11:53 AM

To: Harrison, Scott A Cc: Danford, David

Subject: FW: CRBUD Action Plan for Palm Beach County Health Department (email 1 of 2)

Scott - As discussed, I am breaking this up into multiple emails.

Giles Rhoads, P.E.
Assistant Executive Director

City of Riviera Beach Utility District 600 West Blue Heron Boulevard Riviera Beach, Florida 33404

Office: (561) 845-4185 Fax: (561) 840-7292

email: grhoads@rivierabch.com

From: Rhoads, Giles

Sent: Monday, May 5, 2014 11:49 AM **To:** 'Scott.Harrison@flhealth.gov' **Cc:** Danford, David; Aurigemma, Louis

Subject: FW: CRBUD Action Plan for Palm Beach County Health Department

Scott - I am forwarding the action plan back to you again. The Utility District was not delaying this request, we finished the Action Plan on April 15th. I heard through David Danford you did not received my email submission below, however David informed me he had forwarded it to you after learning you never received the original transmission. This obviously was never received as well. Please let me know if you receive this transmission.

Giles Rhoads, P.E.
Assistant Executive Director

City of Riviera Beach Utility District 600 West Blue Heron Boulevard Riviera Beach, Florida 33404

Office: (561) 845-4185 Fax: (561) 840-7292

email: grhoads@rivierabch.com

From: Rhoads, Giles

Sent: Tuesday, April 15, 2014 11:17 AM

To: 'Scott.Harrison@flhealth.gov'

Cc: Danford, David; Aurigemma, Louis; Salas, David F

Subject: CRBUD Action Plan for Palm Beach County Health Department

Good Morning Scott,

Per the request of the Health Department, please find the attached Action Plan and supporting documents. Thank you!

Giles Rhoads, P.E.
Assistant Executive Director

City of Riviera Beach Utility District 600 West Blue Heron Boulevard Riviera Beach, Florida 33404

Office: (561) 845-4185 Fax: (561) 840-7292

email: grhoads@rivierabch.com

CITY OF RIVIERA BEACH WATER TREATMENT PLANT ACTION PLAN

ACTION PLAN OVERVIEW

The City of Riviera Beach Utility District (CRBUD) is preparing an action plan as a result of testing for Total Coliform above MCL in the distribution system. Furthermore, the CRBUD failed perform the requirement of Ground Water Rule for triggered monitoring. Per the request of the Palm Beach County Health Department (PBCHD), the CRBUD has drafted this action plan.

1.0 STEPS TO IMPROVE LOW CHLORINE RESIDUAL

1.1 Automated Fire Hydrant Flushing Devices

To improve the water age and chlorine residual in distant locations in the distribution system, a network of automated fire hydrant flushing devices were installed. There are currently ten automatic flushing devices installed on fire hydrants in the CRBUD's water distribution system. The approximate locations of the flushing devices are summarized in **Table 1.01**.

Table 1.01
Location of Automatic Flushing Devices

Flusher	Approximate
No.	Location
1	5662 Park Ave. Gramercy Park
2	5154 Caribbean Blvd Gramercy Park
3	4803 Lake Arjaro Dr. & 45th St Gramercy Park
4	6780 41st Ave N, Palm Lakes Co-Op.
5	7392 N. Haverhill Rd
6	45th St, last hydrant
7	Eadle Pl, Gramercy Park
8	2471 Port West Blvd.
9	309 Canterbury Dr W, Lone Pine
10	8125 Fiscal Ct.

The flushing devices were installed in 2010 & 2011.

Design criteria listing the flushing device manufacturer, capacity and controller set points are listed in **Table 1.02**.

Table 1.02
Automatic Flushing Devices Design Criteria

Manufacturer	Kupferle Foundry Company				
Model No.	9700				
Flush Cycle Adjustability	9 flushing cycles per day at up to 4 hours of flush time per cycle				
Maximum Flushing Rate	200 gallons per minute				
Current Flushing Controller Settings (typical for all devices)	On at 11:00pm Off at 12:00am (One hour flushing) On at 2:00am Off at 3:00am (One hour flushing) On at 5:00am Off at 6:00am (One hour flushing)				

A location map of the Automated Hydrant Flusher is included as Appendix A.

1.2 Secondary Disinfection System at Ave. U Repump Station

Based on the findings of the "Water System Regulatory Review Report", CRBUD has failed to maintain a minimum combined chlorine residual of 0.6 mg/L (per Rule 62-555.350(6), FAC) in the southwestern portion of its water distribution system. This region of the service area is known as Gramercy Park.

The CRBUD performed an evaluation of the existing secondary disinfection systems along with a desktop study of the secondary disinfection approaches in order to recommend capital improvements likely to achieve higher total combined chlorine residual in the distribution system. The findings of this study are summarized in a report titled "Secondary Disinfection System Evaluation", dated July 30, 2011 prepared by C Solutions, Inc.. This report recommended that a new gaseous chlorination system with controls be installed at the Avenue U Repump Station (western most existing repump station). These improvements would add chlorine to combine the free ammonia to increase disinfectant residual (chloramine) and remove free ammonia (which likely acts as a catalyst for nitrification and subsequent rapid reduction of the distribution system disinfectant residual).

The recommended secondary disinfection system is described in detail in the "Secondary Disinfection System Preliminary Design Report", dated May 10, 2012 prepared by C Solutions, Inc.. For convenience, the improvements recommended in that report are summarized in the following paragraph.

"Chlorine solution would be fed to one of two chemical injection points. Each injection point would consist of the chemical injection point (chlorine solution), an ammonia sample point (sample water feed to the ammonia analyzer), and a flow meter with a transmitter (sends a flow signal to PLC located in repump station building). Injection Point No. 1 would be the primary chemical injection point and would be located on the 12-inch fill line prior to the ground storage tank. Injection Point No. 2 would be used as the secondary chemical injection point and would be located on the 12-inch repump station pump discharge. The existing venturi meter located on the repump station discharge water main would be utilized to provide a flow signal to the PLC for utilization of Injection Point No. 2".

A water age assessment map is included as Appendix B.

1.3 New Core Disinfection Facility - Design/Build RFP is scheduled for advertisement May 2014

The Water Treatment Plant (WTP) currently uses chlorine gas for disinfection purposes. The existing chlorine gas system is at the end of its useful life. The CRBUD has made the policy decision to eliminate the use of chlorine gas and switch to sodium hypochlorite disinfectant. There is a Preliminary Design Report by Hazen and Sawyer dated January, 2013 that provides further detail of the preliminary sodium hypochlorite facility design. In addition, there is a proposed procurement plan for conversion of the chlorine system with a sodium hypochlorite facility, which will be discussed in this action plan.

The CRBUD has decided that the sodium hypochlorite facility will be implemented in a three step process, as follows:

- Step1 <u>Design and Construction of Core Sodium Hypochlorite Facility</u>: The Preliminary Design Report presented herein master plans a core facility that would receive 12% sodium hypochlorite via bulk delivery. The plan includes flexibility to allow the CRBUD to increase its capital investment to utilize 0.8% on-site sodium hypochlorite generation (OSG) technology, if desired. The chlorine system would remain functional and be the primary means of disinfection until Step 3 is completed. The CRBUD would follow the conventional design-bid-build procurement approach for the design and construction of the sodium hypochlorite facility. The CRBUD would issue this Preliminary Design Report with a Request for Proposal (RFP) to acquire the services of an engineering firm to prepare a detailed design of the proposed sodium hypochlorite facility. Following completion of the detailed design, the CRBUD would bid the procurement documents to general contractors for construction of the proposed sodium hypochlorite facility. Once the proposed sodium hypochlorite facility has been constructed and accepted by the CRBUD, Step 2 can be initiated.
- Step 2 <u>Full-Scale Testing</u>: CRBUD would obtain 12% sodium hypochlorite via a Palm Beach County co-op contract (or other procurement means) and use it for full scale testing of sodium hypochlorite at the WTP to make final adjustments to ensure that finished water quality to customers is not impacted. Additionally, the full-scale testing period would facilitate CRBUD operational staff to gain experience operating the new facility.
- Step 3 <u>Sodium Hypochlorite Procurement</u>: Once full-scale testing of the new sodium hypochlorite facility is successfully completed, CRBUD would retain a consultant to prepare contract documents for procurement of sodium hypochlorite via:
 - Option 1: 12% bulk delivery;
 - Option 2: on-site generation of 0.8% sodium hypochlorite; or
 - Option 3: hybrid (a permittable combination of Options 1 & 2).

The decision of which option is preferable to CRBUD would depend, in part, upon economic factors that fluctuate over time.

2.0 PROCESS TO HANDLE TOTAL COLIFORM SAMPLING, RESAMPLING, AND TRIGGERED MONITORING

2.1 Routine Sampling

The Public Water Supply system must routinely collect samples of the water in their distribution system and have them analyzed by a state approved laboratory to determine the presence of Coliforms. Based on the population size in the Riviera Beach Service Area, the Utility District must sample a minimum of 40 samples monthly. Currently, 20 samples are taken in a week and two weeks are sampled in a month.

The Riviera Beach Utility District WTP will develop a sampling schedule that will include a spreadsheet outlining all required total coliform sample dates & locations. This sampling plan will have instructions on what to do and who to contact in case of a failed sample. This schedule spreadsheet will be completed by May 31, 2014

2.1.1 Sampling Nitrite and Nitrate

The Public Water Supplier must collect water samples at least once a year and analyze them to find out if nitrates/nitrites are present above 50 percent of their MCLs. If it is present above this level, then the system must continue to monitor the contaminate every 3 months.

The Riviera Beach WTP missed reporting the last sample for these. The laboratory that performs sampling for the City did not realize they had to test for Nitrite & Nitrate from the distribution samples. This is ultimately the WTP's responsibility for any tests that are not collected. We will develop a sampling plan & schedule that will include all regulated and non-regulated state required samples. This plan will be given to whichever laboratory that is contracted to collect samples for the WTP. This sampling plan will be completed no later than May 31, 2014.

2.2 Repeat Sampling

Repeat sampling will be collected in accordance to the Total Coliform Rule (TCR) and the DEP Rule 62-550.828. Per the TCR, repeat samples will be taken within 24 hours of being notified of a positive test result. All repeat samples must be collected on the same day and samples must be taken at:

- The site that gave positive routine results.
- If possible, take one sample with 5 service connections upstream and one sample with 5 service connections downstream of the positive sample site.

Based on the results of the repeat sampling in accordance with TCR, the requirements for sampling based on Rule 62-550.828 will be determined. In addition, the sampling plan will have written instructions regarding collection of these samples.

2.3 Triggered Monitoring

To insure triggered monitoring sampling will be collected in accordance to the Ground Water Rule which was adopted into DEP Rule 62-550.828, a sampling plan will be developed outlining

what samples need to be collected and when. However, if the exceptions to the triggered source water monitoring requirements are met, then triggered monitoring will only be by voluntary basis by the WTP. This plan will be incorporated into the above routine sampling plan. This will be complete no later than May 31, 2014.

3.0 PUBLIC NOTICES & HEALTH DEPARTMENT DEALINGS

The RBUD will handle the public notice by daily newspaper. This will be done by the City's Public Information Officer. The CRBUD will draft a Tier 2 notification in accordance to the violation that is described in Rule 62-560.410.

The WTP Superintendent, David Danford, will be the person in charge of contacting the PBCHD. The Lead Operator, David Salas will be the alternate when communicating with the enforcement agency for matters of missing scheduled reporting dates and instances where a sample was over MCL.

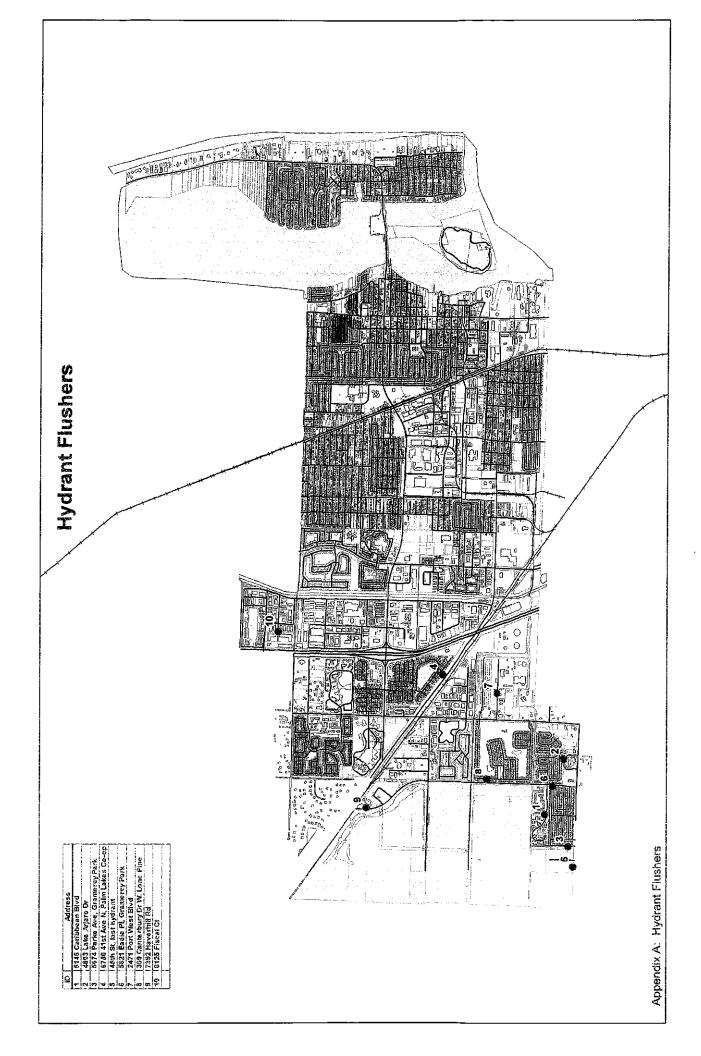
4.0 ADDITIONAL ACTIONS

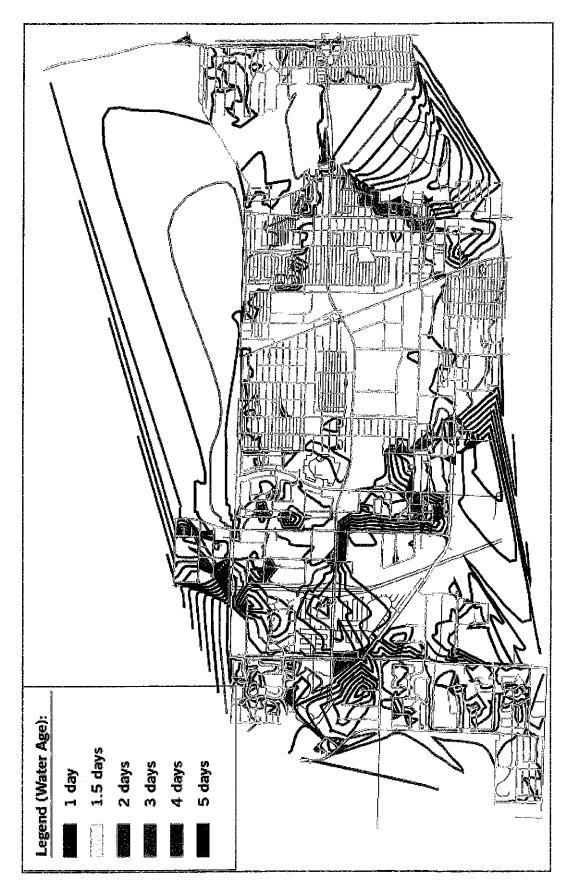
Prior to 2012, the WTP used Environmental Services to run all its bacteriological samples from the distribution system and wells. During that time, the WTP did not have issues with failed samples of total coliform. However, since the change of laboratories, the CRBUD distribution system has a lot of TC+ samples. Currently, we are working on adding other laboratories to our vendor list to have back-up coverage if necessary and to narrow down what may be one of the source causes of the failing results.

If the CRBUD water distribution system continues to receive MCL failing test results for total coliform and chlorine residual, a unidirectional flushing program may be implemented in affected locations of the service area. Unidirectional flushing (UDF) involves opening and closing valves within the pipe network to enhance flushing velocities by isolating certain segments of the pipe network. A successful UDF requires detailed planning to define the order in which pipes are to be flushed, hydrants opened, and isolation valves opened and closed.

If required, then it is recommended that the CRBUD implement a UDF program twice per year concurrent with super chlorination. The UDF would likely be effective in flushing sediments and biological slime that may be within the CRBUD's water mains, thus improving water quality and helping maintain chlorine residuals.

Development and execution of a UDF plan requires a detailed understanding of the pipe network, operational status of in-line valves, and the ability to isolate sections of the system. The development of the UDF planning document requires use of an EPS type hydraulic model of the water distribution system as a prerequisite. Preparing a UDF planning document will define the steps to follow to perform a complete unidirectional flushing of the potable water distribution system. CRBUD can use the UDF plan developer to provide field crews to perform the first field execution of the UDF program.





Appendix B: Water Age Assessment

Vision: To be the Healthiest State in the Nation

John H. Armstrong, MD, FACS State Surgeon General & Secretary

5/20

May 13, 2014

Louis Aurigemma, Executive Director City of Riviera Beach Utility District P.O. Box 9757 Riviera Beach, FL 33404

Re: File Nos. WP-019-14 & WP-039-14

CITY OF RIVIERA BEACH UTILITY DISTRICT

Dear Mr. Aurigemma:

As of May 9, 2014 the City of Riviera Beach has completed all of the corrective actions associated with the above file numbers. The Florida Department of Health Palm Beach County (Department) appreciates the efforts the City of Riviera Beach has expended to resolve these matters. The Department is, therefore, closing these cases without enforcement.

The issues which have been corrected include:

- Maximum Contaminant Level violation for total coliform.
- Failure to collect routine and repeat samples.
- Failure to conduct triggered monitoring.
- Failure to submit samples in a timely manner.
- Failure to sample for nitrate and nitrite.
- Failure to issue a Public Notice in November and December 2013.
- Failure to notify the Department.

Please note that the Department could be required to initiate formal enforcement actions against the City of Riviera Beach should the corrective actions fail to prevent future incidents.

If you have any questions, you may contact Pamela Lape at (561) 837-5947 or by email at pamela.lape@flhealth.gov.

For the Division Director.

Darrel J. Graziani, P.E., R.S.

Environmental Administrator, Water Programs

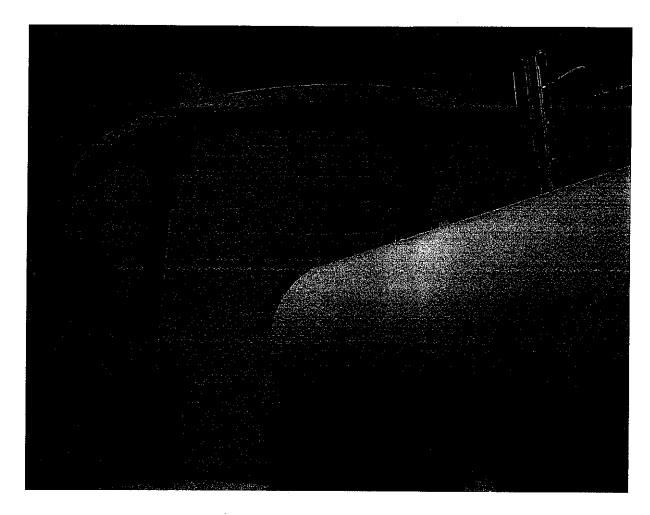
Division of Environmental Public Health

Florida Department of Health Palm Beach County

FDOHPBC File:WP-019-14 & WP-039-14 cc:



City of Riviera Beach



Preliminary Design Report Secondary Disinfection System Avenue U Repump Station

May 11, 2012





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Section 1 Introduction

1.1 Background

The City of Riviera Beach Utility District (UTILITY) owns and operates three potable water remote distribution system ground storage tanks (GST) and repump stations: North Singer Island Repump Station, Avenue U Repump Station, and Avenue C Repump Station and uses chloramine as the disinfectant residual in the water distribution system. In an attempt to maintain the required total chlorine residual in the service area and comply with drinking water regulations, the UTILITY is providing secondary disinfection at the Avenue U repump station. However, the UTILITY has been unable to maintain the required total chlorine residuals in the southwestern portion of the service area and on December 23, 2010 the Palm Beach County Health Department (Health Department) issued a consent order to the City of Riviera Beach for its failure to maintain the minimum combined chlorine residual of 0.6 mg/L as required by Rule 62-555.350(6) F.A.C. This consent order requires the UTILITY to pursue a solution to the problem of low total chlorine residuals.

The UTILITY evaluated the existing conditions and existing secondary disinfection system approaches to recommend a secondary disinfection approach and system that is likely to achieve a higher total combined chlorine residual in the disinfection system. The completed evaluation titled Secondary Disinfection System Evaluation and dated July 30, 2011, concluded that free chlorine could be added to the distribution system to bind existing free ammonia and reform a total chlorine (chloramine) residual. It was recommended that gaseous chlorine be utilized and a secondary disinfection system installed initially at the Avenue U repump station and possibly later at the Avenue C repump station. Although a gaseous chlorination does exist at the Avenue U repump station it needs to be redone to maintain proper chlorination control and to comply with regulations.

1.2 Purpose

The UTILITY has decided to install a secondary disinfection system utilizing gaseous chlorine at the Avenue U Repump Station. This report will serve as the preliminary design report and design criteria package for construction of a secondary disinfection system with the purpose of rebinding free ammonia into a total chlorine residual at the Avenue U Repump Station.





Section 2 Existing Facilities and Conditions

2.1 Locations

The City of Riviera Beach Utility District (UTILITY) owns and operates three potable water remote distribution system ground storage tanks (GST) and repump stations: North Singer Island Repump Station, Avenue C Repump Station, and Avenue U Repump Station. The water repump stations are located in the City of Riveria Beach as shown in Figure 2-1. North Singer Island Repump station is located in the northeastern most part of the service area, while Avenue C repump station is located in the southeastern part of the service area, and Avenue U repump station is the western-most repump station located in the southern part of the service area.

2.2 Existing Repump Stations Description

The UTILITY's service area includes the City of Riviera Beach, Palm Beach Shores, a small portion of unincorporated Palm Beach County north of Blue Heron Boulevard, Palm Beach County Cooperative located in the northwestern portion of the service area, and Gramarcy Park in the City of West Palm Beach and serves an estimated population of approximately 37,000.\frac{1}{2} The maximum day demand for the service area is approximately 10mgd.\frac{2}{2} The system is understood to be meeting the current demands and the estimated future demands of the service area. Typically repump stations serve to provide remote storage and pumping to maintain desired system pressures during localized peak demands; however, the original design intent for all of the UTILITY's repump stations do not appear to exist in relation to systematic operational strategies.\frac{3}{2} The lack of a systematic control strategy for the repump stations in normal operating conditions is a concern for nitrification and is likely a contributor to low total chlorine residuals in the service area. Although the purpose of this report is for the installation of a secondary disinfection system at the Avenue U Repump Station, all three of the UTILITY's repump stations are discussed in this Section.

2.2.1 North Singer Island Repump Station

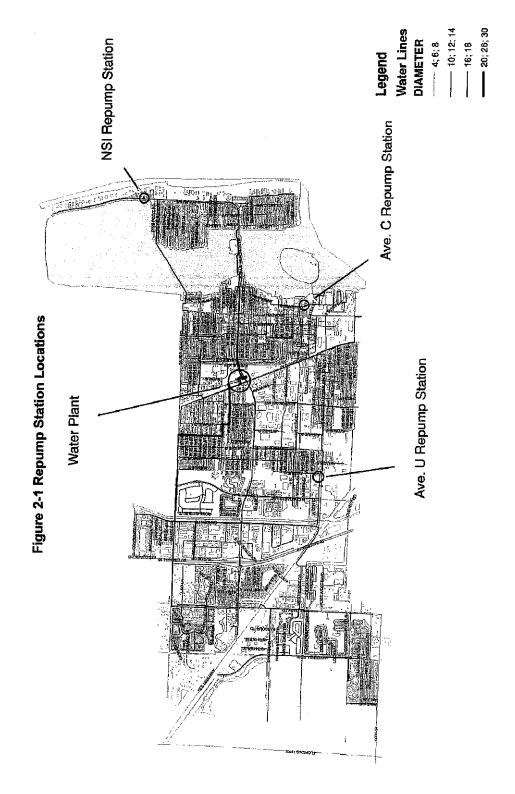
The North Singer Island repump station (Picture 2-1) is the UTILITY's oldest repump station. The UTILITY has just completed a full renovation of the repump station. The current repump station is composed of one 1 MG above ground concrete storage tank; two variable speed booster pumps with a rated design flow of 2,200gpm each; a 10,000gal hydro-pneumatic tank; a diesel generator; a pressure indicator on the pumps discharge; and a flow meter on the discharge pipeline. The modifications to the repump station included the replacement of pumps, the addition of variable frequency drives (VFDs), replacement of hydro-pneumatic tank, replacement of generator, modification of piping and valves, and removal of secondary disinfection system.

This perception was deduced from multiple interviews with UTILITY staff concerning both the designed purpose and control strategy for each repump station.



¹ The UTILITY of Riviera Beach's website list a population of "nearly 40,000" while the July 2007 US census population estimate for the UTILITY is reported as 36,566. This population does not account for the other service areas outside of the City limits of Riviera Beach which is not considered to be significant in relation to the City's population.

² Represents the highest maximum day flow recorded from monthly operating reports (MORs) from 2006 to 2010.





The stated purpose of the North Singer Island repump station is to maintain system pressures for the developments located north of the repump station on Singer Island during peak flow conditions that normally reflect peak irrigation demands in the early morning hours (typically between 3am and 6am). This repump station does not currently include a secondary disinfection system and low chlorine residuals are not problematic in the service area.



Picture 2-1 – North Singer Island Repump Station

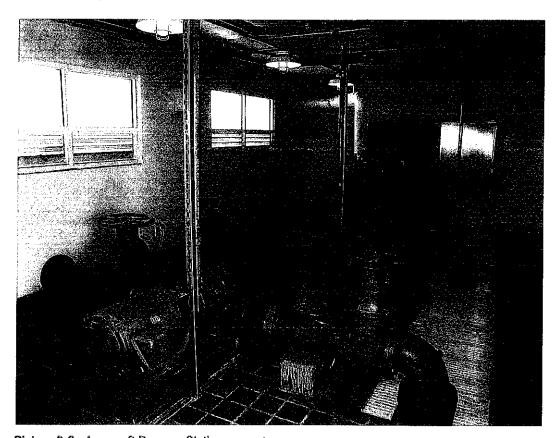
Operation at the repump station can be divided into the filling of the GST and booster pump operation for pressure maintenance. Filling of the GST is controlled by the opening and closing of an back pressure sustaining valve located on the fill line into the GST. The back pressure sustaining valve is opened manually by an operator at the Water Treatment Plant during off-peak demand hours to fill the GST. While the back pressure sustaining valve is open the high service booster pumps are "locked out" and prevented from operating and the back pressure sustaining valve throttles to maintain a system backpressure of approximately 50psi. The back pressure sustaining valve closes when the high water level (HWL) is reached in the GST or the valve closed remotely by an operator in control room at Water Treatment Plant. The pump operation is controlled by a pressure indicator located on the discharge manifold of the pumps. The lead pump is turned on when pressure drops to the low pressure setpoint and the speed controlled to maintain the control setpoint discharge pressure. A motorized butterfly valve located on the discharge pipeline closes when the pump station is operational to prevent flow going south of the station and directs all service to demands



located north of the repump station. The pump is stopped when the high pressure setpoint is reached.

2.2.2 Avenue C Repump Station

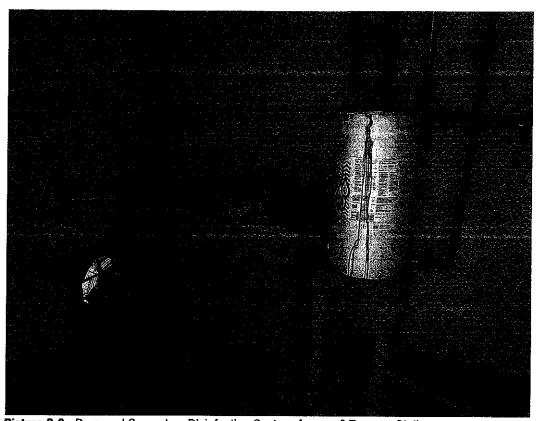
The Avenue C repump station (Picture 2-2) is composed of one 1 MG above ground concrete storage tank; two constant speed booster pumps with a rated design flow of 900gpm each; a 10,000gal hydropneutmatic tank; a propane generator; a pressure indicator on the pumps discharge; a flow meter on the discharge pipeline; and a continuous total chlorine residual analyzer on the pumps discharge manifold.



Picture 2-2- Avenue C Repump Station



The generator is not attached to the stations electrical system and provides backup operation for a single pump via the operation of a direct coupled engine drive. The repump station is typically not needed for pressure maintenance and serves as added protection for fire flow demands at the port.



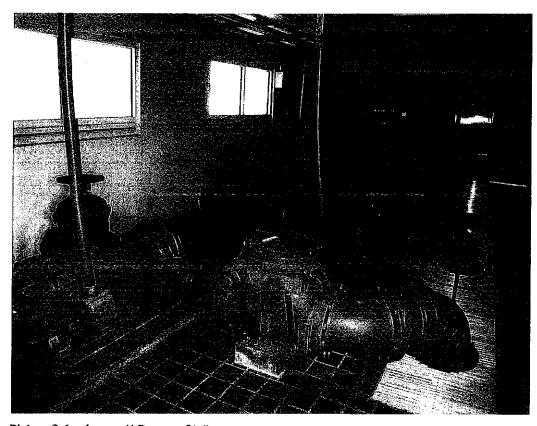
Picture 2-3— Removed Secondary Disinfection System Avenue C Repump Station

Operation at the repump station can be divided into the filling of the GST and booster pump operation for pressure maintenance. The operation of the calcium hypochlorite secondary disinfection system has been discontinued (Picture 2-3). Filling of the GST is controlled by the opening and closing of an back pressure sustaining valve located on fill line into the GST. The back pressure sustaining valve is opened manually by an operator at the Water Treatment Plant during off-peak demand hours to fill the GST. While the back pressure sustaining valve is open the high service booster pumps are "locked out" and prevented from operating and the back pressure sustaining valve throttles to maintain a system backpressure of approximately 50psi. The back pressure sustaining valve closes when the high water level (HWL) is reached in the GST or the valve is closed remotely by an operator in control room at Water Treatment Plant. The pump operation is manually controlled by an operator at the water treatment plant. The operator turns on the a pump to help cycle the water contained in the water storage tank at times of localized peak demand, typically between 7am to 9am. The pump is stopped manually when the demands are estimated to drop, typically around 9am.

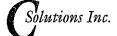


2.2.3 Avenue U Repump Station

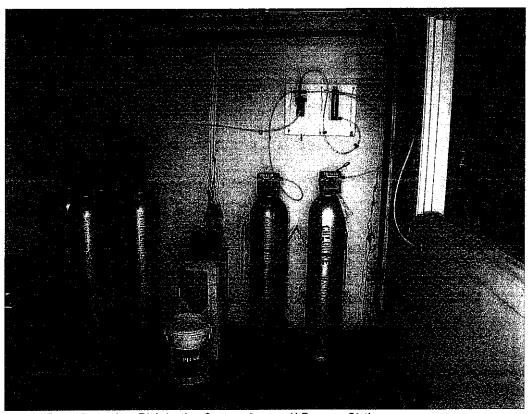
The Avenue U repump station (Picture 2-4) is composed of one 1 MG above ground concrete storage tank; two constant speed booster pumps with a rated design flow of 2000gpm each; a 10,000gal hydropneutmatic tank; a propane generator; a pressure indicator on the pumps discharge; a flow meter on the discharge pipeline; a chlorine gas secondary disinfection system (Picture 2-5); and a continuous total chlorine residual analyzer on the pumps discharge manifold.



Picture 2-4 - Avenue U Repump Station



The repump station maintains system water pressures for the western portion of the service area and provides fire flow for the large Sysco Industrial complex located nearby. Like the Avenue C Repump Station, secondary disinfection using calcium hypochlorite replaced the original gas system and was in use until recently when the UTILITY changed the secondary disinfection system back to gas. The perceived ineffectiveness of the calcium hypochlorite secondary disinfection system and low chlorine residuals in the western part of the service area prompted the UTILITY to revert to use of gaseous chlorine for disinfection.



Picture 2-4 - Secondary Disinfection System Avenue U Repump Station

Operation at the repump station can be divided into the filling of the GST, booster pump operation for pressure maintenance, and secondary disinfection system operation. Filling of the GST is controlled by the opening and closing of a control valve located on fill line into the GST. The back pressure sustaining valve is opened manually by an operator at the Water Treatment Plant during off-peak demand hours to fill the GST. While the back pressure sustaining valve is open the high service booster pumps are "locked out" and prevented from operating and the back pressure sustaining valve throtties to maintain a system backpressure of approximately 50psi. The back pressure sustaining valve closes when the high water level (HWL) is reached in the GST or the valve is closed remotely by an operator in control room at Water Treatment Plant. The pump operation is manually controlled by an operator at the water treatment plant. The operator turns on the a pump to help with low pressures experienced in the western part of the service area during peak demand hours, typically between 7am to 9am and 6pm to 8pm. The pump is stopped manually at the end of the peak demand periods. The pump controller is also interconnected to the fire protection system at

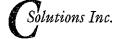


Sysco and will automatically turn on a pump if the fire suppression system is operational. The secondary disinfection system operates when the pump station is operating and turns off when the repump station pumps are stopped. Additionally, the secondary disinfection system operates when the control valve on the fill line opens and stops when the valve closes. Metering of the gaseous chlorine is not automatically adjusted based on flow or chlorine residual. The orifice that controls the gas dosage is manually set at a preset dosage and a motive water pump operates at a constant pumping rate when the stations pumps are energized. Currently the orifice is fully open and set at a rate of 70 lbs/day.⁴ The chlorine injection point was located on the discharge manifold of the pumps as shown by the yellow pipe in Picture 2-4. The UTILITY has recently moved the chlorine injection point to the fill line of the storage tank as shown in Picture 2-5.



Picture 2-5 - New Chlorine Injection Point Avenue U Repump Station

⁴ Reported from interviews with UTILITY staff.



2.3 Existing Water Quality

The water quality was found to significantly vary at different locations throughout the UTILITY's service area. Low combined residual readings were mainly found in the western portions of the service area. Gramacy Park, located in the southwestern-most part of the service area, has suffered from low total chlorine residuals and on December 23, 2010 the Palm Beach County Health Department (Health Department) issued a consent order to the City of Riviera Beach for its failure to maintain the minimum combined chlorine residual of 0.6 mg/L as required by Rule 62-555.350(6) F.A.C. The water quality samples at the influent and effluent lines of each of the repump stations were not provided by the UTILITY as requested; however, some water quality samples were taken and analyzed. The UTILITY routinely measures total chlorine residual at various points in the system and report findings monthly to the regulatory authority. Spot samples for Ammonia and Chlorine where taken at three separate sample points on November 11, 2010 and February 3, 2011 at the Avenue C repump station and are shown in Table 2-1 and Table 2-2. Spot samples for Ammonia and Chlorine where taken at various sample points on November 11, 2010 and February 3, 2011 at the Avenue U repump station and are shown in Table 2-3 and Table 2-4.

Table 2-1 Water Quality Samples Avenue C Repump Station - November 11, 2010

Sampling Point	Total Chlorine Residual	Free Chlorine Residual	Ammonia
Storage Tank (Between tank and pump)	0.6 mg/ L	0.6 mg/L	0.0 mg/L
Storage Tank Fill Line	2.4 mg/L	1.4 mg/L	2.16 mg/L
Pump Discharge (after Ca(OCI) ₂) injection and pump running for 20 minutes)	1.8 mg/L	2.0 mg/L	0.6 mg/L

Table 2-1 Water Quality Samples Avenue C Repump Station - February 3, 2011

Sampling Point	Total Chlorine Residual	Free Chlorine Residual	Ammonia
Storage Tank (Between tank and pump)	0.2 mg/ L	0.2 mg/L	0.12 mg/L
Water Main Avenue C #1	0.2 mg/L	0.2 mg/L	0.07 mg/L
Water Main Avenue C #2	0.2 mg/L	0.2 mg/L	0.05 mg/L



2-9

Table 2-3 Water Quality Samples Avenue U Repump Station - November 11, 2010

Sampling Point	Total Chlorine Residual	Free Chlorine Residual	Ammonia
Storage Tank (Between tank and pump)	0.0	0.0	0.0
Storage Tank Fill Line	2.0	1.2	2.16
Pump Discharge (after Cl ₂ injection / pump off)	2.1	0.8	2.16
Pump Discharge (after Cl ₂ injection and pump running for 20 minutes)	0.3	0.0	0.6
14-in WM on MLK Blvd. (Pump off)	3.8	2.8	3.0
14-in WM on MLK Blvd. (Pump on for 20min)	0.4	0.0	0.6

Table 2-4 Water Quality Samples Avenue U Regump Station - February 3, 2011

Sampling Point	Total Chlorine Residual	Free Chlorine Residual	Ammonia
Storage Tank (Between tank and pump)	1.5	1.3	0.08
Pump Discharge Manifold	2.8	2.5	0.49
Fire hydrant Avenue U	1.8	1.5	0.19
Haverhill North	1.0	0.5	0.24
Haverhill South	1.0	0.5	0.84

Both the sampling performed by the Health Department in the western portions of the service area and the water quality samples at the Avenue C repump station (Tables 2-1) show total combined chlorine residuals in the distribution system lower than 0.6 mg/L as required by regulations. Samples also revealed the presence of free ammonia with maximum concentrations of 3.00 mg/L. Samples taken with the pumps off and after the pumps where running for 20 minutes indicate high water age in the ground storage tank and the likelihood of nitrification episodes.

Unfortunately only limited sampling was performed and is not sufficient to define the representative conditions of the distribution system in the areas of the repump stations. Additional water quality sampling, as requested, should be performed. From the limited water quality samples provided, the minimum total chlorine residuals are not being met and free ammonia does exist in the water supply.



Section 3 Alternative Approaches

3.1 Description

Adding secondary disinfection at the UTILITY's Repump Stations must first consider the residual disinfectant being used. The UTILITY's Water Treatment Plant (WTP) provides potable water with a chloramine residual. Chloramines consist of monochloramine (NH₂CI) and dichloramine (NHCI₂) and are formed when chlorine is added to water containing ammonia as shown in equations (3-1) and (3-2).

$$HOCl + NH_3 \rightarrow NH_2Cl + H_2O$$
 (3-1)

$$HOCl + NH_2Cl \rightarrow NHCl_2 + H_2O$$
 (3-2)

Liquid chlorine is usually available in the form of hypochlorous acid (HOCI) as shown in equation 3-1. Monochloramine (NH₂Cl) is generally the predominate chloramine present as a residual disinfectant and is characterized as a weaker disinfectant and oxidant than chlorine but has the benefits of producing the least detectable chlorinous taste and odor while forming lower levels of disinfection by-products (DBPs). The recommended Cl₂ to NH₃ weight ratio for the formation of monochloramine is between 4:1 to 5:1 because this will minimize the concentration of unreacted ammonia in the water. However, as shown in equation 3-2, as more chlorine is added beyond the formation of monochloramine, dichloramine (NHCl₂) is formed. Although a disinfectant, dichloramine produces undesirable taste and odors. It predominately occurs at the point where free ammonia has been exhausted, typically when the Cl₂ to NH₃ weight ratio is between 5:1 and 8:1. Continued addition of chlorine will convert an increasing proportion of monochloramine to dichloramine, which subsequently decomposes resulting in a roughly 2 mg/L drop in total chlorine residual for each milligram per liter of chlorine added.⁵ This continuing decrease of total chlorine residual will taper off and reach a minimum point (breakpoint) after which the chlorine residual will increase with continued chlorine addition. The breakpoint represents a point in treatment where all ammonia compounds have been oxidized (including chloramines). Any additional chlorine added will increase the total chlorine residual as free chlorine. This phenomenon is shown in the breakpoint curve Figure 3-1. Hence, the addition of chlorine to water with a chloramine residual will reduce the total chlorine residual concentration without the presence of free ammonia to form additional monochloramine as shown in equation 3-1. This is one of the major concerns with the UTILITY's existing secondary disinfection system. With a constant supply of chloraminated water. the addition of free chlorine must be properly controlled and cannot be allowed to move towards the breakpoint. With the above considerations two options exist to increase the total residual in the distribution system:

- Add free chlorine to combine with free ammonia
- Add chlorine and ammonia (monochloramine)

Adding free chlorine to breakpoint is not considered a viable alternative.

⁵ AWWA, Water Chlorination/Chloramination Practices and Principals, Manual of Practice M20 Second Edition.



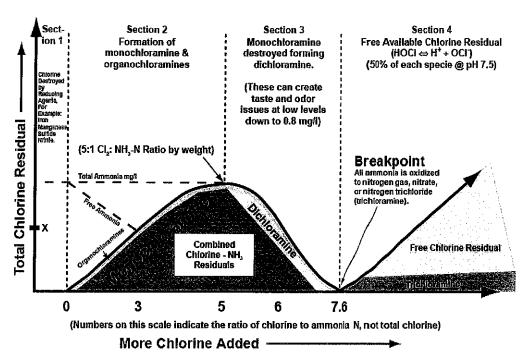


Figure 3-1 Breakpoint Curve

3.2 Addition of Free Chlorine to Reform Chloramine

The presence of free ammonia in quantities shown in the water quality sampling shown in Section 2.3 allow for the addition of free chlorine to combine with the free ammonia and restore an acceptable chloramine disinfectant residual. This process adds chlorine to combine the free ammonia into a disinfectant residual (chloramine) and removes it from causing nitrification. Residual free ammonia is normally present as a consequence of chloramine decay or oxidation of organic matter by chloramine. Chlorine is added in the ratio of 4.5:1 to 5:1 (chlorine to ammonianitrogen ratio) to reform a monochloramine residual. Stoichiometrically the weight ratio in a balanced equation of Cl₂ to NH₃ is approximately 5:1 but chlorine addition should not exceed this ratio to minimize the possibility of forming dichloramines.⁶

This alternative requires the addition of free chlorine storage on-site, chlorine metering pumps, controls, flow meter, free ammonia analyzer, and chlorine injector. It also requires the presence of free ammonia in the water supply at the injection point.

⁶ This assumes that additional chlorine demand does not exist (i,e, nitrates)



3.2.1 Advantages

The advantages of this alternative are as follows:

- Free Chlorine will bind free ammonia into the residual disinfectant (monochloramine), therefore, not making it available for nitrification.
- Free Ammonia is not required to be added to form chloramine and thus does not have to be purchased or stored.
- It is the least costly alternative, both in capital and operational cost.
- It has less safety considerations since it does not require storage of ammonia in close proximity to hypochlorite or chlorine gas.

3.2.2 Disadvantages

The disadvantages of this alternative are as follows:

- If free ammonia is not present in the water, the addition of free chlorine will likely reduce the total chlorine residual?
- If free ammonia is not present in the water, the total chlorine residual cannot be increased.

3.3 Addition of Chloramine

This alternative requires the addition of free chlorine and free ammonia storage on-site, chlorine and ammonia metering pumps, flow meter, and chlorine and ammonia injectors.

3.3.1 Advantages

The advantages of this alternative are as follows:

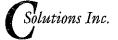
- Free ammonia is not required in the water supply to boost the disinfectant residual.
- A breakpoint reaction or reduction of the total chlorine residual through excess addition of onsite disinfectant is not a concern as long as both ammonia and chlorine injectors are functional and controlled properly.

3.3.2 Disadvantages

The disadvantages of this alternative are as follows:

- Free ammonia present in the water supply will not be reformed into a chloramine residual and can nitrify causing additional chlorine demand.
- Ammonia can be problematic to store in spaces where temperatures might rise above 80°F. Climate control systems might need to be considered in order to store ammonia without difficulties.

Without free ammonia the addition of chlorine would reduce the total chlorine residual unless the chlorine oxidizes nitrates that would also serve to lower the total chlorine residual,



- Additional safety considerations must also be observed when storing ammonia in relative proximity to chlorine or hypochlorite since the reactions with chlorine can produce dangerous and/or explosive compounds, such as nitrogen trichloride.
- Additional storage, feeding, and control equipment makes this the most costly option, both in capital and operational costs.

3.4 Recommendation

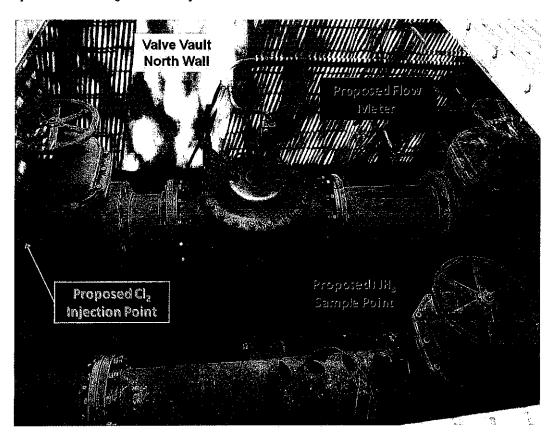
With the presence of free ammonia in the water supply (with sampled maximum concentrations of 3.0 mg/L), it is recommend that the UTILITY add free chlorine to the water supply. This would bind the free ammonia and make it unavailable for nitrification while increasing the total chlorine residual. This option is also the most cost effective of the alternatives and should be attempted before more expensive and complicated operations are implemented. With the proper operation of a system to add free chlorine, reasonable chloramine residuals can be reformed and free ammonia removed to assist in the prevention of nitrification and subsequent reduction of total chlorine residual to below compliance levels.



Section 4 Proposed Project

4.1 Description

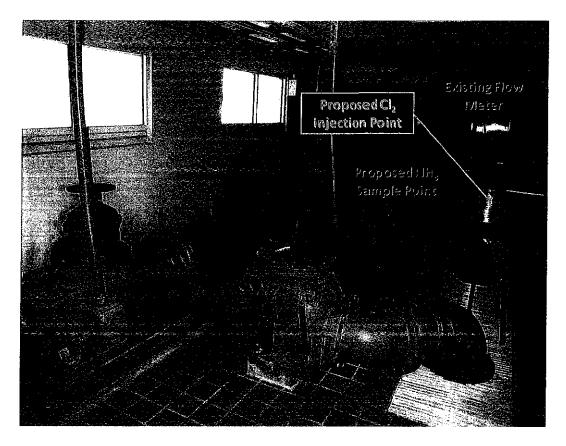
Free chlorine will be added to the water supply either prior to the ground storage tank (GST), as depicted in Picture 4-1, or downstream of the GST in the repump station's pump discharge manifold, as depicted in Picture 4-2, in order to raise the chloramine residual by combination with available free ammonia. The UTILITY has chosen to provide free chlorine using a gaseous chlorination system with 150lb gas chlorine cylinders.



Picture 4-1 Valve Vault prior to GST

The complete chlorine feeding system will include chlorine gas cylinder scales, cylinder mounted automatic switchover vacuum regulators, gas chlorinator, gas injector, water booster pump, and a chlorine chemical injection assembly into the point shown in the picture above. Feed control will be provided by ammonia analyzer (with sample points located as depicted in Picture 4-1 and 4-2), flow meter (located as depicted in Picture 4-1 and 4-2), and a programmable logic controller (PLC). This section discusses the design criteria, proposed design, and operation and control strategies for the gaseous secondary disinfection system.





Picture 4-2 Valve Vault prior to GST

4.2 Design Criteria

Design criteria are based on good design practice as stated by the Recommended Standards for Water Works (2007) and the requirements for modifications to public access water systems as outlined in Chapter 62-550 and 62-555, F.A.C. Chapter 62-555.320(13)(a), F.A. C. details requirements for gas chlorination facilities.

4.2.1 Flow Rates

For the basis of design the following flow rates have been identified by the UTILITY⁸ at the two injection points: Injection Point No. 1 (Fill Line to GST) and Injection Point No. 2 (Pump Discharge WM).

Minimum GST Fill Rate = 700 gpm
 Minimum Pumping Rate = 1000 gpm
 Maximum GST Fill Rate = 1300 gpm
 Maximum Pumping Rate = 2500 gpm

These flow rates were reported by UTILITY staff and derived from historical records. The maximum pumping rate was estimated as the runout point on the pump curve researched for the existing pumps (Crane Deming Type 5060 Horizontal Split Case Pump with 13.75in impeller at 1750rpm with 100hp motor).



Chapter 62-555.320(13)(a), F.A. C. requires that gaseous chlorine be feed into drinking water proportional to flow.

4.2.2 Disinfection

The following requirements set the minimum and maximum combined chloramine residual required.

- Chapter 62-555.320(12)(d) F.A.C requires the maintenance of a minimum combined chlorine residual of 0.6 mg/L throughout the water distribution system at all times
- Chapter 62-550.310 F.A.C requires a maximum residual disinfectant goal (MRDLG) for chlorine or chloramine of 4 mg/L.

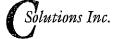
4.2.3 Chemical Feed Equipment

Chapter 62-555.320(13)(a), F.A. C. and the Recommended Standards for Water Works (2007) sets the following requirements for chemical feed equipment.

- Scales shall be provided to accurately weigh chlorine cylinders in use
- New chlorinators shall be vacuum-operated, solution-feed type
- Chlorinators must have the capacity to feed enough disinfectant to maintain the minimum combined chlorine residual when maximum chlorine demand coincides with the maximum flow rate at the point of chlorine application.
- Chlorine shall be fed into drinking water proportional to flow. Automatic flow proportioning control of chlorinators shall be provided where the flow rate fluctuates significantly. Furthermore, automatic residual control of chlorinators shall be provided where the chlorine demand fluctuates significantly, and automatic compound-loop control of chlorinators shall be provided where both the flow rate and the chlorine demand fluctuate significantly.
- Scales shall be provided to accurately weigh chlorine cylinders or containers in use.
- Where chemical feed...is necessary for the protection of the supply, such as chlorination, coagulation or other essential processes, a standby unit or a combination of units of sufficient size to meet capacity shall be provided to replace the largest unit when out of service

The requirements for feed rate control are discussed in further detail below.

Chapter 62.555-320(13)(a)5., F.A.C. requires that hypochlorite be fed into drinking water proportional to flow and also states that "Automatic flow proportioning control of chlorinators shall be provided where the flow rate fluctuates significantly". The flowrate data provided by the UTILITY shows that the flow fluctuates significantly, thus flow proportioning would be required. Furthermore, Chapter 62.555-320(13)(a)5., F.A.C. states that "automatic residual control of chlorinators shall be provided where the chlorine demand fluctuates significantly, and automatic compound-loop control of chlorinators shall be provided where both the flow and the chlorine demand fluctuate significantly." For this project chlorine demand is based on the ammonia concentrations prior to the GST. To date only the ammonia water quality samples shown in Section 2.3 have been taken and it is likely that the ammonia concentration does vary significantly enough to require automatic residual control. In order to accomplish automatic residual control a continuous ammonia analyzer would have to be provided at a point prior to the injection points. With



compound-loop control the metering pumps would be turned on when the back pressure sustaining valve was opened and controlled by both the ammonia analyzer and flow rate signal to apply the correct chlorine dosage at a ratio of approximately 5:1 (chlorine to ammonia-nitrogen ratio).

4.2.4 Gaseous Chlorine Storage and Housing

Chapter 62-555.320(13)(a), F.A. C. and the Recommended Standards for Water Works (2007) sets the following requirements that pertain to gaseous chlorination storage and housing as it relates to this project.

- Chlorine storage and feed facilities shall be located in a room or area separate from other operating areas.
- If chlorine storage or feed facilities are enclosed in a room, the room shall be located at ground level and shall be provided with floor-level ventilation as per Section 5.4.1.c of Recommended Standards for Water Works
- New or altered chlorine rooms shall be designed and constructed in accordance with Section 5.4.1 in Recommended Standards for Water Works
- Floor surfaces shall be smooth and impervious, slip proof and well drained
- Vents from feeders, storage facilities and equipment exhaust shall discharge to the outside atmosphere above grade and remote from air intakes.

4.2.5 Chlorine Injector

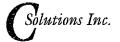
Chapter 62-555.320(13)(a), F.A. C. sets the following requirements that pertain to the injector mechanism.

- Chlorine shall be rapidly and thoroughly mixed with the drinking water being treated.
- Injectors shall be made removable for regular cleaning where hard water is to be treated

4.2.6 Operator Safety

Chapter 62-555.320(13)(a), F.A. C. sets the following requirements that pertain to operator safety.

- At each treatment plant that is using gas chlorination facilities the supplier of water shall provide an audio-visual alarm system that is activated by high- and low-vacuum switches, a continuous chlorine residual analyzer, or a continuous oxidation-reduction potential meter to indicate loss of chlorination capability or chlorine residual.
- At each treatment plant that is using gas chlorination facilities the supplier of water shall Provide in a convenient location, but not inside any room where chlorine is stored or handled, a self-contained breathing apparatus (SCBA) meeting the requirements of the National Institute for Occupational Safety and Health or, if withdrawing chlorine from only 150-pound or smaller cylinders, the supplier of water may provide an SCBA in each vehicle used by operators.
- Protective equipment should be provided at the site as required by the reviewing authority.



 A deluge shower and eye-washing device shall be provided where strong acids or alkalis are used or stored. Water used for eye-wash shall have a provision water tempering (room temperature).

4.3 Design Discussion

This section discusses the intended design for the proposed project in order to fulfill the project purpose while complying with the design criteria stated in section 4.2. A process flow diagram for the proposed system is included in Figure 4-1.

4.3.1 Chemical Disinfectant

The use of gaseous chlorine will produce a hypochlorous acid (HOCl) residual (equation 4-1) and will consume alkalinity which can create concerns for the creation of increased pipe corrosion and compliance with the Lead and Copper Rule.

$$Cl_2 + H_2O \rightarrow HOCl + HCl$$
 (Equation 4-1)

The gaseous chlorination system uses NSF Standard 60 listed chlorine gas to produce a liquid chlorine solution of approximately 100% available chlorine.

As noted above the decrease in alkalinity will increase concerns for pipe corrosion. However, the UTILITY's water supply is well buffered and the use of gaseous chlorine for secondary disinfection will not likely have a significant effect on water pH and thus corrosion concerns.

4.3.2 Chemical Dosing

The required dosage of chlorine solution is based both on the flow and the free ammonia concentration at the point of injection. The UTILITY has performed limited ammonia sampling and found the ammonia concentrations to vary between 0.08 mg/L and 3.0 mg/L at the Avenue U Repump Station. Estimated flow rates are as shown in Section 4.2.1. Chlorine addition for the reformation of a monochloramine residual by the combination of chlorine and ammonia has been shown successful at a ratio of 4.5:1 to 5:1 (chlorine to ammonia- nitrogen ratio). Chemical dosing shall be provided to handle free ammonia concentrations up to 3.00 mg/L⁹ at the maximum fill rate specified in section 4.2.1. The chemical dosage and chlorinator sizing calculations are shown in Appendix A.

⁹ Although the chlorinators can handle free ammonia concentrations slightly greater than specified here at the maximum flow rates specified in section 4.2.1 the UTILITY should consider SCADA notifications for consistent high free ammonia concentrations.



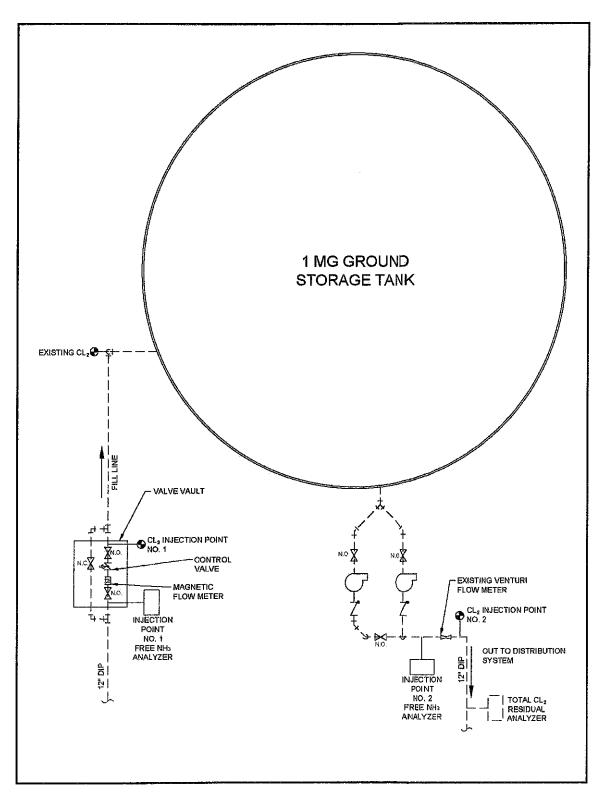


Figure 4-1 Process Flow Diagram



4.3.3 Civil / Site Work

This project includes equipment modifications on an existing site. No grading or drainage work is being done or any structural modifications. Disturbed paved areas will be patched to match the original grade. The placement of equipment will be in the pump building with an the existing assumed finished floor elevation of 20.00 ft NVGD¹⁰, which exceeds the 25-year flood elevation. Any control or electrical panels will be placed above the 100 year flood elevation.

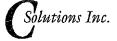
4.3.4 Yard Piping

The layout and yard piping of the Gaseous Chlorination system, metering pumps, and injector is shown in the drawings. The piping consists of supply water for chlorine solution, chemical feed lines for the injection of the chlorine solution, and sample lines for the ammonia analyzer.

A 2-inch site water main currently provides water to the pump building and is connected to smaller diameter water supply lines in the building. A 1-inch waterline, required for supply water to generate the chlorine solution, will be connected to the motive water booster pump and run to the injector in the chlorine room. The water main will be Schedule 80 PVC and color coded blue. A backflow preventer currently exists to isolate the disinfection system from the distribution water main. Chlorine solution piping will be Schedule 80 PVC and will run from the chlorinator to two chemical injection points shown in picture 4-1 and picture 4-2. The chlorine solution line will be color coded vellow as per the 10 State Standards. The ammonia sample lines will be 1/4-inch Schedule 80 PVC and will be color coded blue. Ammonia sample lines will run from a tap on the 12-inch GST fill fine prior to the control valve (Picture 4-1) and from a tap on the repump station's discharge pump line to the ammonia analyzer located in the pump building (Picture 4-4). Both taps can be installed in periods where the repump station's pumps are not running and the ground storage tank (GST) is not being filled. Isolation valves exist to isolate the two required tapping locations on the 12-inch GST fill line from both the distribution system and backflow from the storage tank. An isolation valve also exist on the discharge water main of the repump station between the proposed chemical injection point and the connection to the distribution system 14-inch WM.

A magnetic flow meter will be installed on the 12-inch GST fill line prior to the control valve as shown in picture 4-1. To achieve stated accuracies the flow meter requires the flow profile to be fully developed, which typically requires 10 times the pipe diameter of straight pipe upstream and five times the straight pipe diameter downstream. Due to the difficulties with installing the meter in a valve vault to achieve desired straight runs of pipe and the operational flexibility to have the flow meter provide slightly less accuracy (assumed to be approximately 5% as opposed to 1%) 11. Use of a venturi flow meter, that is more resilient to turbulence, was considered; however, a venturi meter did not fit in the existing valve vault.

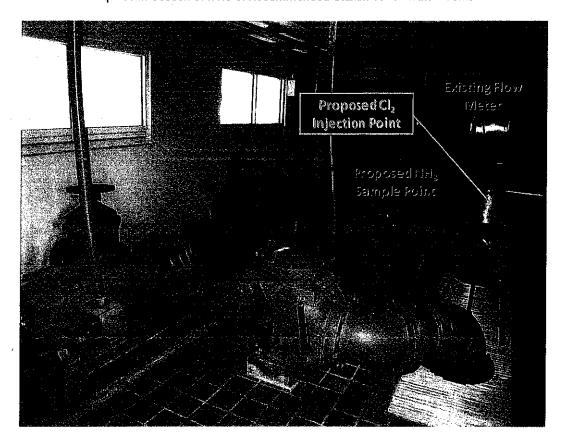
¹¹ 5% accuracy or better is the manufacturer's assumption for the given installation. The manufacturer will perform test at the site to determine if this assumption is valid within a reasonable level of certainty.



¹⁰This elevation is taken from the Avenue "U" Repump Station Modification As-built drawings (dated 10/1/97).

4.3.5 Chemical Feed Equipment

The Gaseous Chlorination system will be located in the chlorination room located in the southeast corner of the repump station building as shown in the drawings. The existing chlorination room floor is tiled with quarry tile as shown in Picture 4-3 which provides a slip resistant surface. It is recommended that the floor be pressure cleaned and the chlorine room walls cleaned and painted. The room is not climate controlled and is naturally ventilated via floor level louvers. The room requires mechanical ventilation with the installation of a wall fan to provide sufficient air changes and ventilation as required in Section 5.4.1.c of *Recommended Standards for Water Works*.



Picture 4-2 Supply Water Connection Point

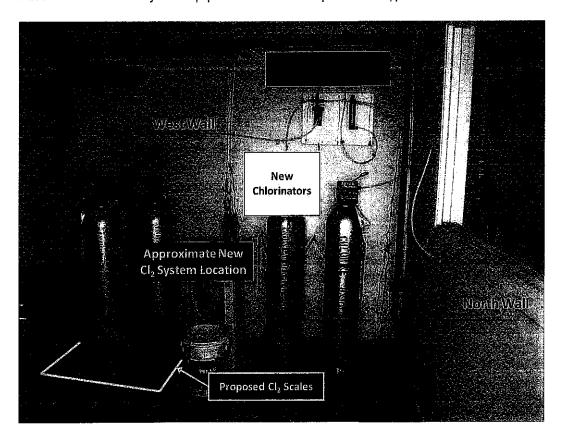
4.3.5.1 Gaseous Chlorine (Storage)

Gaseous chlorine will be provided by two 150 pound gas cylinders, placed on scales, and regulated with automatic switchover vacuum regulators. The dual chlorine cylinder scales will be Model GR-150-2 with digital indicator as provided by Force Flow (Appendix B).



4.3.5.2 Chemical Feed System

The chemical feed system will provide chlorine gas from the two 150-pound chlorine cylinders each with cylinder mounted 500ppd automatic switchover vacuum regulators (Wallace & Tiernan (W&T) Model 510S). The vacuum regulators will provide chlorine gas under vacuum to a single automatically controlled gas chlorinator (W&T Series V10K) that will pace the chlorine feed to a injector that will provide the required chlorine solution to the selected chemical injection point (either Injection Point No. 1 or Injection Point No. 2). All material used for the chemical feed system should be compatible with 100% gaseous chlorine (for gas feed) and chlorine solution (for solutions feed). A motive water booster pump will be provided to ensure sufficient water pressure for the water supply line to the chlorine injector for Injection Point No. 2 on the discharge side of the high service pumps but will not be required for Injection Point No. 1 for which bypass provisions should be made. Chemical feed system equipment cut sheets are provided in Appendix C.



Picture 4-3 Location for Chlorination System

¹² The supply water main will have a higher pressure than the 12-inch GST fill line on the downstream side of the backpressure sustaining valve (which essentially represents the pressure of the water level in the GST plus head losses) where Injection Point No. 1 will be located. Use of a booster pump in this scenario could cause cavitation with the likelihood of the pump "running off the curve".

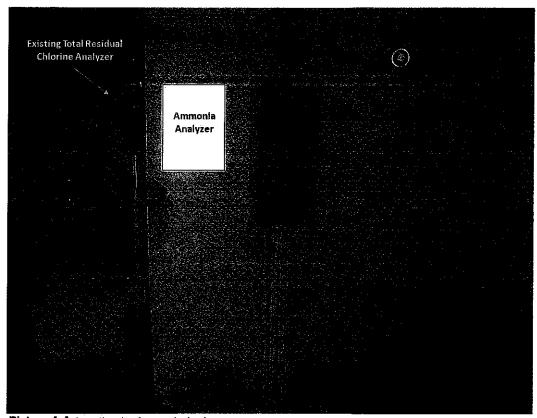


4.3.5.3 Chemical Injector

A removable chemical injector shall be provided at the injection point as shown in the drawings. The injector shall be inserted into the 12-inch GST fill line and the 12-inch repump station discharge water main in order to achieve rapid and through mixing with the drinking water being treated. The chlorine injector is specified to be removable, as required, to simplify cleaning and maintenance of the injection unit as shown in the drawings.

4.3.5.4 Ammonia Analyzer

An enhanced model Q45N ammonia analyzer (free ammonia version) as manufactured by ATI will be provided (Appendix D) and wall mounted in the pump building, as shown in the drawings and as illustrated in Picture 4-4, to continuously measure the free ammonia present in the 12-inch water main fill line to the GST or the 12-inch repump station discharge watermain.



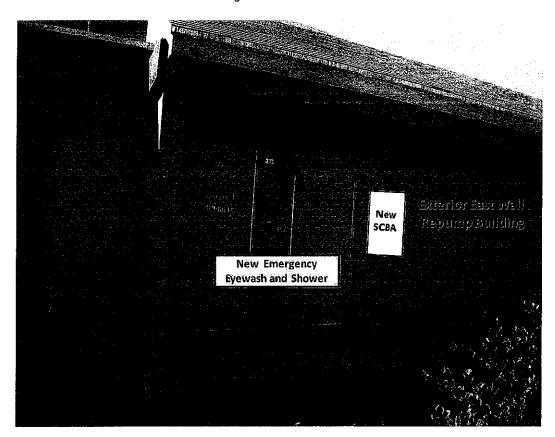
Picture 4-4 Location for Ammonia Analyzer



The ammonia analyzer will provide a "residual loop" 4-20mA signal to the programmable logic controller (PLC) for dosage control. Sample pumps are not needed since the assumed minimum system pressure (46psi) at the repump station site are adequate¹³, with the given distance to the pump building, to provide the desired response time for the measurement system.

4.3.6 Operator Safety

Chlorine gas is being used at this site and thus it is recommended that various safety measures be included for operators. Although the some of the requirements shown in section 4.2.6 relate to gaseous chemical systems at water treatment plants it is recommended that both a deluge shower eyewash device and self-contained breathing apparatus (SCBA) be provided. It is recommended that both a deluge shower eyewash device per ANSI Z358.1 and SCBA be installed outside of the chlorination room as shown in the drawings and Picture 4-5.



Picture 4-5 Deluge Shower / Eyewash and SCBA Location

¹³ The back pressure sustaining valve is programmed to maintain a system backpressure of 50psi while filling; thus, the minimum assumed system pressure of 46psi seems reasonable. The pressures in the discharge watermain should be higher than 50psi, thus the pressure in the GST fill line is assumed to control. The length of the sample line as well as system pressures will affect the response time of the Ammonia Analyzer; however, with the length of piping shown and assumed system pressures the response times should be adequate for good system performance.



The following additional safety equipment will be provided on site:

- Rubber gloves
- Protective Eye Glasses

4.3.7 Operation and Control Strategies

For this project operation and control strategies are divided into two general areas: 1) selection of the injection point and 2) Chlorinator control (control of the chlorine gas feed).

4.3.7.1 Selection of Chemical Injection Point

Chlorine solution will be feed to one of two chemical injection points. Each Injection Point will consist of the chemical injection point (chlorine solution), an ammonia sample point (sample water feed to the ammonia analyzer), and a flow meter with a transmitter (sends flow signal to PLC located in repump station building). Injection Point No. 1 will be the primary chemical injection point and will be located on the 12-inch fill line prior to the GST as shown in Figure 4-1. Injection Point No. 2 will be used as the secondary chemical injection point and will be located on the 12-inch repump station pump discharge water main as shown in Figure 4-1. The operator will manually select one injection point (either select Injection Point No. 1 or Injection Point No. 2) using a user interface at the PLC panel. Only one injection point will be allowed to be active at any one time. The selection of the active injection point does the following:

- 1) Selects the input ammonia sample from the selected injection point by control of a valve on the manifold of the ammonia sample lines into the Ammonia Analyzer
- Selects which flow indicating transmitter to provide input to the PLC (Magnetic Flow Meter on the Fill line to GST - Injection Point No. 1 or the Venturi Meter on the pump discharge -Injection Point No. 2)
- Opens the valve on the selected chemical injection line following the injector in the chlorination room and closes the valve on the chemical injection line not selected

4.3.7.2 Start Chemical Feed

Chlorine feed is controlled by the supply of water to the chlorine injector in the chlorination room. When water flows past the chlorine injector chlorine gas is pulled into the water supply at a rate determined by the chlorinator. Thus when no water flows past the injector, no chemical injection is provided. The flow of water is controlled by the opening of solenoid valves on the water supply line and the starting and stopping of the water supply booster pump (in case of Injection Point No. 2); all of which are controlled by a 4-20mA signal sent from the PLC. The following control logic shall be used for opening and closing the water supply line solenoid valves and starting and stopping the pump and varies depending on the active Injection Point Selected.



Injection Point No. 1 Selected

The solenoid valve on booster pump bypass is opened when the following conditions are met:

- 1) The control valve on the 12-inch fill line to the GST is open (the GST is being filled)
- A user adjustable amount of time has passed since the opening of the valve (default = 5 minutes)
- 3) The Ammonia Analyzer is reading a free ammonia concentration of greater than a user adjustable setpoint (default = 0.10 mg/L) within a set range¹⁴ (range = 0.05 to 3.0 mg/L).

The solenoid valve closes when any one of the following conditions are met:

- 1) The control valve on the 12-inch fill line to the GST closes (the GST is not being filled)
- 2) The Ammonia Analyzer is reading a free ammonia concentration of less than a user adjustable limit (default = 0.10 mg/L) within a set range¹³ (range = 0.05 to 3.0 mg/L).

Injection Point No. 2 Selected

The solenoid valve on the water supply line booster pump is opened and booster pump starts when the following conditions are met:

- 1) One of the pumps in the repump station is running (the GST is being emptied)
- 2) A user adjustable amount of time has passed since the starting of the pump (default = 5 minutes)
- The Ammonia Analyzer is reading a free ammonia concentration of greater than a user adjustable setpoint (default = 0.10 mg/L) within a set range (range = 0.05 to 2.0 mg/L).

The booster pump stops and the solenoid valve on the booster pump water supply line closes when any one of the following conditions are met:

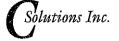
- 1) The pump in the repump station is stopped (the GST is not being emptied)
- 2) The Ammonia Analyzer is reading a free ammonia concentration of less than a user adjustable limit (default = 0.10 mg/L) within a set range¹³ (range = 0.05 to 2.0 mg/L).

It is important to note that existing control logic for operation (open/close) of the fill line control valve and the repump station pumps are interconnected. It is understood that when the pumps are started the control valve is automatically closed (if open). This control logic is not being changed in this project.

4.3.7.3 Chlorinator Feed Rate Control

When either of the water supply solenoid valves are open, compound loop feed rate control will be provided by a 4-20mA signal from a programmable logic controller (PLC) to the chlorinator. A flow measurement will be provided from the selection injection Point flow meter. A free ammonia residual measurement will be provided, as measured by a continuous ammonia analyzer, to provide control of the chlorine-ammonia ratio of 5:1 (user adjustable on control panel). The programmed logic in the PLC will determine the required feed rate which will be sent via a 4-20mA signal to the chlorinator as mentioned above.

¹⁴ The user selectable range is set by the range of the installed ammonia analyzer's sensor as specified by the manufacturer.



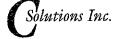
4.4 Estimated Construction Cost

The estimated construction cost for the recommended project is as shown below in Table 4-1.

Table 4-1 Estimated Construction Cost for Secondary Disinfection System

ttem	Quantity	Unit Cost	Equipment Cost
Chlorinator and accessories (500ppd)	1	\$5,109	\$5,109
Automatic Switchover Vacuum Regulators (500ppd)	2	\$3,764	\$7,528
Chlorine Injectors	2	\$600	\$1,200
Dual Chlorine Cylinder Scales with Digital Indication	1	\$2,500	\$2,500
Chlorine leak detector (single point)	1	\$1,342	\$1,342
Booster Water Pump	1	\$350	\$350
Residual Free Ammonia Analyzer (ATI Q45N)	1	\$6,700	\$6,700
Magnetic Flow Meter with transmitter	1	\$6,000	\$6,000
PLC with programming	1	\$14,000	\$14,000
Ernergency Eyewash / Shower	1	\$4,000	\$4,000
Emergency Self Contained Breathing Apparatus	1	\$5,000	\$5,000
Exhaust Fan	1	\$3,000	\$3,000
Piping, Valves, and appurtenances	_	- -	\$15,569
Miscellaneous Electrical	-	-	\$2,000
Estimated Equipment Sales Tax (6%)	-	•	<u>\$4,458</u>
Estimated Material and	d Equipment Cost:	;	\$78,756
Installation Cost			\$20,600
Construction Mobilization, Overhead, and Profit (30%)			\$29,807
Estimated (Construction Cost:		\$129,163

The total construction cost of the system is estimated to be \$129,163. This cost is limited to the process equipment specified above. Note that this cost is not inclusive of engineering nor permitting fees.



ENV. PUBLIC MEALTH 2014 MAR -7 AM 10: 12

March 5, 2014

Scott Harrison, R.S.
Environmental Manager-Water Programs
Div. of Environmental Public Health
P.B.C. Health Dept.

Subject: Public Drinking Water System

Facility ID No. 450-1229

Dear Mr. Harrison:

Pursuant to your February 13, 2014 letter to Mr. Aurigemma, This letter is in response to the Palm Beach County Health Dept. Pre-Compliance Report.

- 1. The Water Plant received notice of more than two (2) failed distribution sample result from 40 samples taken in November and received notice of more than two (2) failed samples from December but all subsequence samples were clear.
- 2. The Water Plant received notice of a failed distribution sample result around 5:00pm on 11-8-13, the following day samples were turned in to lab around 9:00am. City of Riviera Beach Water Plant received notice of the failed sample results sometime after 4:15pm on 12-12-13. There was not enough daylight available to pick up samples on that date so the following day samples were picked up along with some Boil Water samples then delivered to Jupiter Labs which may account for the late delivery time on the sample sheet.
- The Water Plant collected 20 distribution samples on 9/12/13 and 20 Distribution samples on 9/19/13.
- The Water Plant did not collect triggered monitoring in response to the total coliform positive samples in November & December.
- 5. The Water Plant failed to collect the raw water assessment samples for the month of October.
- 6. The Water Plant contacted the Lab to have these samples collected, the lab that does Nitrate & Nitrite samples failed to collect the required samples in 2013.

The City of Riviera Beach would like to arrange for assistance from the Health Department to return to compliance without enforcement.

I apologize for any inconvenience this may have caused.

If you have any questions please feel free to contact, Mr. David Danford, Water Plant Superintendent, at (561) 845-4185.

David Danford,

Water Treatment Plant Superintendent

PALM BEACH COUNTY HEALTH DEPARTMENT DIVISION OF ENVIRONMENTAL PUBLIC HEALTH - WATER PROGRAMS

9

	MEETING RE	CORD	
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PALM BEACH COUNTY HEALTH DEPARTMENT DIVISION OF ENVIRONMENTAL PUBLIC HEALTH - WATER PROGRAMS

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David Dank	ind RBUD	845-4187	
Lou Aurigemy	RBUS	845-4185	
Giles Rhond's		291-5888	
*11			

April 8, 2014

Scott Harrison, R.S. Environmental Manager-Water Programs Div. of Environmental Public Health P.B.C. Health Dept.

Subject: Public Drinking Water System

Facility ID No. 450-1229

Dear Mr. Harrison: Pursuant to our meeting on April 1, 2014. This letter is a request for an extension to the April 9th deadline for the Palm Beach. County Health Dept. Action Plan Report.

The City of Riviera Beach Water Plant would like to file for a time extension for the Action Plan Report that is due on 4/9/14.

The report will be delivered on April 11, 2014.

If you have any questions please feel free to contact, Mr. David Danford, Water Plant Superintendent, at (561) 845-4185.

Water Treatment Plant Superintendent

CITY OF RIVIERA BEACH WATER TREATMENT PLANT ACTION PLAN

ACTION PLAN OVERVIEW

The City of Riviera Beach Utility District (CRBUD) is preparing an action plan as a result of testing for Total Coliform above MCL in the distribution system. Furthermore, the CRBUD failed perform the requirement of Ground Water Rule for triggered monitoring. Per the request of the Palm Beach County Health Department (PBCHD), the CRBUD has drafted this action plan.

1.0 STEPS TO IMPROVE LOW CHLORINE RESIDUAL

1.1 <u>Automated Fire Hydrant Flushing Devices</u>

To improve the water age and chlorine residual in distant locations in the distribution system, a network of automated fire hydrant flushing devices were installed. There are currently ten automatic flushing devices installed on fire hydrants in the CRBUD's water distribution system. The approximate locations of the flushing devices are summarized in **Table 1.01**.

Table 1.01 ocation of Automatic Flushing Devices.

Flusher No.	Approximate Location
1	5662 Park Ave. Gramercy Park
2	5154 Caribbean Blvd Gramercy Park
3	4803 Lake Arjaro Dr. & 45th St Gramercy Park
4	6780 41st Ave N, Palm Lakes Co-Op.
5	7392 N. Haverhill Rd
6	45th St, last hydrant
7	Eadle Pl, Gramercy Park
8	2471 Port West Blvd.
9	309 Canterbury Dr W, Lone Pine
10	8125 Fiscal Ct.

The flushing devices were installed in 2010 & 2011.

Design criteria listing the flushing device manufacturer, capacity and controller set points are listed in Table 1.02.

Table 1.02
Automatic Flushing Devices Design Criteria

Manufacturer	Kupferle Foundry Company
Model No.	9700
Flush Cycle Adjustability	9 flushing cycles per day at up to 4 hours of flush time per cycle
Maximum Flushing Rate	200 gallons per minute
Current Flushing Controller Settings (typical for all devices)	On at 11:00pm Off at 12:00am (One hour flushing) On at 2:00am Off at 3:00am (One hour flushing) On at 5:00am Off at 6:00am (One hour flushing)

A location map of the Automated Hydrant Flusher is included as Appendix A.

1.2 Secondary Disinfection System at Ave. U Repump Station

Based on the findings of the "Water System Regulatory Review Report", CRBUD has failed to maintain a minimum combined chlorine residual of 0.6 mg/L (per Rule 62-555.350(6), FAC) in the southwestern portion of its water distribution system. This region of the service area is known as Gramercy Park.

The CRBUD performed an evaluation of the existing secondary disinfection systems along with a desktop study of the secondary disinfection approaches in order to recommend capital improvements likely to achieve higher total combined chlorine residual in the distribution system. The findings of this study are summarized in a report titled "Secondary Disinfection System Evaluation", dated July 30, 2011 prepared by C Solutions, inc.. This report recommended that a new gaseous chlorination system with controls be installed at the Avenue U Repump Station (western most existing repump station). These improvements would add chlorine to combine the free ammonia to increase disinfectant residual (chloramine) and remove free ammonia (which likely acts as a catalyst for nitrification and subsequent rapid reduction of the distribution system disinfectant residual).

The recommended secondary disinfection system is described in detail in the "Secondary Disinfection System Preliminary Design Report", dated May 10, 2012 prepared by C Solutions, Inc.. For convenience, the improvements recommended in that report are summarized in the following paragraph.

"Chlorine solution would be fed to one of two chemical injection points. Each injection point would consist of the chemical injection point (chlorine solution), an ammonia sample point (sample water feed to the ammonia analyzer), and a flow meter with a transmitter (sends a flow signal to PLC located in repump station building). Injection Point No. 1 would be the primary chemical injection point and would be located on the 12-inch fill line prior to the ground storage tank. Injection Point No. 2 would be used as the secondary chemical injection point and would be located on the 12-inch repump station pump discharge. The existing venturi meter located on the repump station discharge water main would be utilized to provide a flow signal to the PLC for utilization of Injection Point No. 2".



A water age assessment map is included as Appendix B.

1.3 New Core Disinfection Facility - Design/Build RFP is scheduled for advertisement May 2014

The Water Treatment Plant (WTP) currently uses chlorine gas for disinfection purposes. The existing chlorine gas system is at the end of its useful life. The CRBUD has made the policy decision to eliminate the use of chlorine gas and switch to sodium hypochlorite disinfectant. There is a Preliminary Design Report by Hazen and Sawyer dated January, 2013 that provides further detail of the preliminary sodium hypochlorite facility design. In addition, there is a proposed procurement plan for conversion of the chlorine system with a sodium hypochlorite facility, which will be discussed in this action plan.

The CRBUD has decided that the sodium hypochlorite facility will be implemented in a three step process, as follows:

- Step1 Design and Construction of Core Sodium Hypochlorite Facility: The Preliminary Design Report presented herein master plans a core facility that would receive 12% sodium hypochlorite via bulk delivery. The plan includes flexibility to allow the CRBUD to increase its capital investment to utilize 0.8% on-site sodium hypochlorite generation (OSG) technology, if desired. The chlorine system would remain functional and be the primary means of disinfection until Step 3 is completed. The CRBUD would follow the conventional design-bid-build procurement approach for the design and construction of the sodium hypochlorite facility. The CRBUD would issue this Preliminary Design Report with a Request for Proposal (RFP) to acquire the services of an engineering firm to prepare a detailed design of the proposed sodium hypochlorite facility. Following completion of the detailed design, the CRBUD would bid the procurement documents to general contractors for construction of the proposed sodium hypochlorite facility. Once the proposed sodium hypochlorite facility has been constructed and accepted by the CRBUD, Step 2 can be initiated.
- Step 2 <u>Full-Scale Testing</u>: CRBUD would obtain 12% sodium hypochlorite via a Palm Beach County co-op contract (or other procurement means) and use it for full scale testing of sodium hypochlorite at the WTP to make final adjustments to ensure that finished water quality to customers is not impacted. Additionally, the full-scale testing period would facilitate CRBUD operational staff to gain experience operating the new facility.
- Step 3 <u>Sodium Hypochlorite Procurement</u>: Once full-scale testing of the new sodium hypochlorite facility is successfully completed, CRBUD would retain a consultant to prepare contract documents for procurement of sodium hypochlorite via:
 - o Option 1: 12% bulk delivery;
 - Option 2: on-site generation of 0.8% sodium hypochlorite; or
 - Option 3: hybrid (a permittable combination of Options 1 & 2).

The decision of which option is preferable to CRBUD would depend, in part, upon economic factors that fluctuate over time.



2.0 PROCESS TO HANDLE TOTAL COLIFORM SAMPLING, RESAMPLING, AND TRIGGERED MONITORING

2.1 Routine Sampling

The Public Water Supply system must routinely collect samples of the water in their distribution system and have them analyzed by a state approved laboratory to determine the presence of Coliforms. Based on the population size in the Riviera Beach Service Area, the Utility District must sample a minimum of 40 samples monthly. Currently, 20 samples are taken in a week and two weeks are sampled in a month.

The Riviera Beach Utility District WTP will develop a sampling schedule that will include a spreadsheet outlining all required total coliform sample dates & locations. This sampling plan will have instructions on what to do and who to contact in case of a falled sample. This schedule spreadsheet will be completed by May 31, 2014

2.1.1 Sampling Nitrite and Nitrate

The Public Water Supplier must collect water samples at least once a year and analyze them to find out if nitrates/nitrites are present above 50 percent of their MCLs. If it is present above this level, then the system must continue to monitor the contaminate every 3 months.

The Riviera Beach WTP missed reporting the last sample for these. The laboratory that performs sampling for the City did not realize they had to test for Nitrite & Nitrate from the distribution samples. This is ultimately the WTP's responsibility for any tests that are not collected. We will develop a sampling plan & schedule that will include all regulated and non-regulated state required samples. This plan will be given to whichever laboratory that is contracted to collect samples for the WTP. This sampling plan will be completed no later than May 31, 2014.

2.2 Repeat Sampling

Repeat sampling will be collected in accordance to the Total Coliform Rule (TCR) and the DEP Rule 62-550.828. Per the TCR, repeat samples will be taken within 24 hours of being notified of a positive test result. All repeat samples must be collected on the same day and samples must be taken at:

- The site that gave positive routine results.
- If possible, take one sample with 5 service connections upstream and one sample with 5 service connections downstream of the positive sample site.

Based on the results of the repeat sampling in accordance with TCR, the requirements for sampling based on Rule 62-550.828 will be determined. In addition, the sampling plan will have written instructions regarding collection of these samples.

2.3 Triggered Monitoring

To insure triggered monitoring sampling will be collected in accordance to the Ground Water Rule which was adopted into DEP Rule 62-550.828, a sampling plan will be developed outlining



what samples need to be collected and when. However, if the exceptions to the triggered source water monitoring requirements are met, then triggered monitoring will only be by voluntary basis by the WTP. This plan will be incorporated into the above routine sampling plan. This will be complete no later than May 31, 2014.

3.0 PUBLIC NOTICES & HEALTH DEPARTMENT DEALINGS

The RBUD will handle the public notice by daily newspaper. This will be done by the City's Public Information Officer. The CRBUD will draft a Tier 2 notification in accordance to the violation that is described in Rule 62-560.410.

The WTP Superintendent, David Danford, will be the person in charge of contacting the PBCHD. The Lead Operator, David Salas will be the alternate when communicating with the enforcement agency for matters of missing scheduled reporting dates and instances where a sample was over MCL.

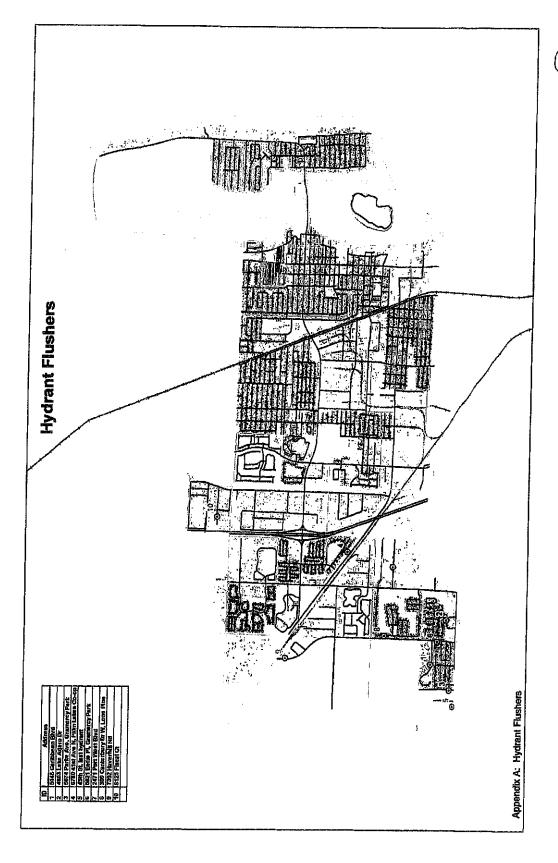
4.0 ADDITIONAL ACTIONS

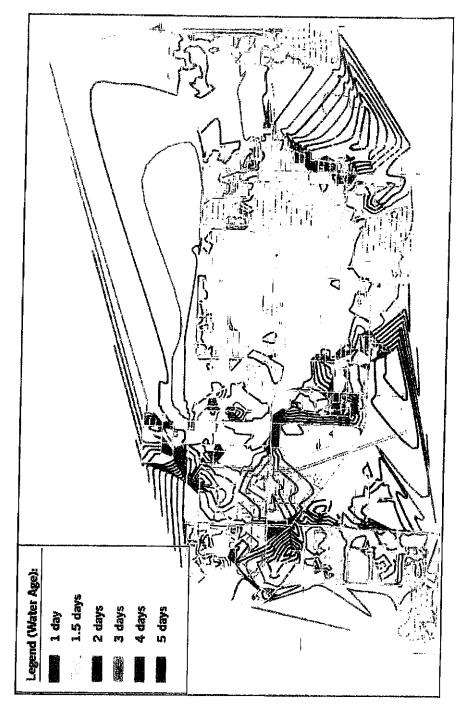
Prior to 2012, the WTP used Environmental Services to run all its bacteriological samples from the distribution system and wells. During that time, the WTP did not have issues with failed samples of total coliform. However, since the change of laboratories, the CRBUD distribution system has a lot of TC+ samples. Currently, we are working on adding other laboratories to our vendor list to have back-up coverage if necessary and to narrow down what may be one of the source causes of the failing results.

If the CRBUD water distribution system continues to receive MCI. failing test results for total coliform and chlorine residual, a unidirectional flushing program may be implemented in affected locations of the service area. Unidirectional flushing (UDF) involves opening and closing valves within the pipe network to enhance flushing velocities by isolating certain segments of the pipe network. A successful UDF requires detailed planning to define the order in which pipes are to be flushed, hydrants opened, and isolation valves opened and closed.

If required, then it is recommended that the CRBUD implement a UDF program twice per year concurrent with super chlorination. The UDF would likely be effective in flushing sediments and biological silme that may be within the CRBUD's water mains, thus improving water quality and helping maintain chlorine residuals.

Development and execution of a UDF plan requires a detailed understanding of the pipe network, operational status of in-line valves, and the ability to isolate sections of the system. The development of the UDF planning document requires use of an EPS type hydraulic model of the water distribution system as a prerequisite. Preparing a UDF planning document will define the steps to follow to perform a complete unidirectional flushing of the potable water distribution system. CRBUD can use the UDF plan developer to provide field crews to perform the first field execution of the UDF program.





Appendix B: Water Age Assessment

Palm Beach County I	Jealth Den	artmont.	
Division of Environme	ental Healt		neering
Drinking Water Penal		nent Sheet	
Violation Tracking #: Owner:	1		
Facility: Facility/Site ID:	Riviera Bos 45008		
Population Served: Assessor's Name:	S. Harrison		
Date:	5/7/20	114	
DEP Matrix Violation ID #: Significantly Detrimental:	\$120 V.C.	<u> 314.</u>	
Economic Benefit:	No		
Category: Regulation:	MCL/Sampl 82-550.300	ing	
Violation Description		omply with the i C.	MCLs, MRDLs, or treatment technique requirements in Cha
Drinking Water Guidelines			
Potential fo Harm:	Moderate		
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Additional Factors:	Ö		estatus Philipii
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Misslon:

To protect, promote & Improve the health of all people in Florida through integrated state, county & community efforts.



Governor

John H. Armstrong, MD, FACS State Surgeon General & Secretary



Rick Scott

Vision: To be the Healthlest State in the Nation

May 13, 2014

Louis Aurigemma, Executive Director City of Riviera Beach Utility District P.O. Box 9757 Riviera Beach, FL 33404

Re: File Nos. WP-019-14 & WP-039-14

Dear Mr. Aurigemma:

As of May 9, 2014 the City of Riviera Beach has completed all of the corrective actions associated with the above file numbers. The Florida Department of Health Palm Beach County (Department) appreciates the efforts the City of Riviera Beach has expended to resolve these matters. The Department is, therefore, closing these cases without enforcement.

The issues which have been corrected include:

- Maximum Contaminant Level violation for total coliform.
- Failure to collect routine and repeat samples.
- Failure to conduct triggered monitoring.
- Failure to submit samples in a timely manner.
- Failure to sample for nitrate and nitrite.
- Failure to issue a Public Notice in November and December 2013.
- Failure to notify the Department.

Please note that the Department could be required to initiate formal enforcement actions against the City of Riviera Beach should the corrective actions fail to prevent future incidents.

If you have any questions, you may contact Pamela Lape at (561) 837-5947 or by email at pamela.lape@fihealth.gov.

For the Division Director,

Darrel J. Graziani, P.E., R.S.

Environmental Administrator, Water Programs Division of Environmental Public Health

Florida Department of Health Palm Beach County

cc: FDOHPBC File:WP-019-14 & WP-039-14

Florida Department of Health

Palm Beach County, Division of Environmental Public Health P.O. Box 29, 800 Clematis Street, West Palm Beach, FL 33402 PHONE: 561-837-5900 • FAX: 561-837-5293 www.FloridamHealth.com TWITTER:HealthyFLA FACEBOOK:FLDepartmentofHealth YOUTUBE: flooh

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To protect, promote & improve the health of all people in Florida through integrated state, occurty & community efforts,

Vision: To be the Healthlest State in the Nation

in H. Armstrong, MD, FAC

Rick Scott

Governor

John H. Armstrong, MD, FACS State Surgeon General & Secretary

February 13, 2014

COMPLIANCE ASSISTANCE LETTER Certified Mail #7012 2920 0000 6177 9849 Return Receipt Requested

Louis Aurigemma, Executive Director City of Riviera Beach Utility District P.O. Box 9757 Riviera Beach, FL 33404

Re:

Public Drinking Water System Facility ID No. 450-1229 Agency File WP-019-14

Dear Mr. Aurigemma:

The purpose of this letter is to advise you of potential compliance issues associated with the operation of the above facility. Specifically, the Florida Department of Health Palm Beach County (Department) has examined the Pre-Compliance Reports for the months of June, September, October, November and December 2013 and noted the following:

- More than 5% of the samples collected in November and December 2013 were total coliform positive.
- The system failed to submit repeat samples within 24 hours of being notified of a total positive result in the distribution system during the months of November and December 2013.
- 3. The system failed to collect the required number of distribution compliance samples for total coliform in September and October 2013.
- 4. The system failed to conduct triggered monitoring in response to total coliform positive samples in November and December 2013.
- 5. In October 2013 the system failed to submit the raw assessment samples to the Department with in the first ten days following the month in which the sample results were received.
- 6. The system failed to submit Nitrate and Nitrite results for the year 2013.

Fiorida Department of Health

Palm Beach County, Division of Environmental Public Health P.O. Box 29, 800 Clematis Street, West Palm Beach, FL 33402 PHONE: 581-837-5900 • FAX: 561-837-5293 www.FloridapHealth.com TWITTER:HealthyFLA FACEBOCK:FLDepartmento/Health YOUTUBE: fideh 755



We request that you respond in writing within 15 days of receipt of this Compliance Assistance Letter. Your written response should either:

- 1. Describe what you have done to resolve the issue.
- 2. Provide information that either mitigates the concerns or demonstrates them to be invalid, or
- 3. Arrange for compliance assistance from the Department's engineering staff which can offer suggested actions to return to compliance without enforcement.

If you are unable to meet the requested deadline please contact Pamela Lape at (561) 837-5947 of our office. We look forward to your cooperation in the resolution of this matter.

For the Division Director,

Scott Harrison, R.S.

Environmental Manager-Water Programs Division of Environmental Public Health

cc: File:WP-019-14