DRAFT

MEETING MINUTES
CITY OF FORT LAUDERDALE
INFRASTRUCTURE TASK FORCE ADVISORY COMMITTEE
FORT LAUDERDALE EXECUTIVE AIRPORT
RED TAILS CONFERENCE ROOM
6000 NW 21 AVENUE, FORT LAUDERDALE, FLORIDA
MONDAY, APRIL 1, 2024 – 2:00 P.M. TO 4:30 P.M.

January-December 2024		**Attendance**	
Marilyn Mammano, Chair (arr. 2:11)	P	4	0
Peter Partington, Vice Chair	P	3	1
Gerald Angeli	P	4	0
Gregory Barnett	P	1	0
Shane Grabski (arr. 2:03)	P	3	1
James LaBrie	P	4	0
Michael Lambrechts	P	4	0
Marta Reczko	P	3	1
Roosevelt Walters	P	4	0
Ralph Zeltman	P	4	0

As of this date, there are 9 appointed members to the Committee, which means 5 would constitute a quorum.

Staff
Omar Castellon, Assistant Director of Public Works -- Engineering
Semele Williams, Senior Administrative Assistant
Jill Prizlee, Chief Engineer
Yvette Matthews, Assistant Director, Office of Management and Budget
J. Opperlee, Recording Secretary, Prototype, Inc.

Communication to the City Commission

None.

1. Call to Order

i. Roll Call

Vice Chair Partington called the meeting to order at 2:01 p.m. Roll was called and it was noted a quorum was present.

ii. Approval of Agenda

Motion made by Mr. Walters, seconded by Mr. Angeli, to approve the Agenda as written. In a voice vote, the **motion** passed unanimously.

iii. Approval of Previous Meeting Minutes – March 4, 2024

Motion made by Mr. Walters, seconded by Mr. LaBrie, to accept the minutes with or without changes. In a voice vote, the **motion** passed unanimously.

Mr. Grabski arrived at 2:03 p.m.

2. Old Business

i. Reimagine City Hall Upcoming Workshop

Sheryl Dickey, president of Dickey Consulting, provided a recap of the March 2024 Reimagine City Hall workshop, which had addressed not only procurement methodology, but financing options as well, including targeting federal grants as well as identifying revenue-generating opportunities.

Vice Chair Partington recalled that some members of the public at the March workshop had asked why the City was constrained to the options provided. He added that a progressive funding method had been previously mentioned, and asked if this was discussed at length. Yvette Matthews, Assistant Director of Management and Budget, stated that the City's Purchasing Director had indicated this funding method presented challenges under the City's Procurement Code and guidelines.

Ms. Reczko advised that at the March 4, 2024 Committee meeting, she had recommended including a progressive design build method as one of the proposed funding methods. This method would allow for costs to be seen immediately while the project is being designed. She asserted that this is a preferred method by other municipalities at present, but acknowledged that the City would have to pass an Ordinance allowing it to be used.

Vice Chair Partington explained that he would like the summary of the March workshop to capture the fact that members of the public had asked why their choices for methods of financing were restricted and did not discuss the progressive design build option.

Chair Mammano arrived at 2:11 p.m.

Mr. Walters requested clarification of what was intended by "revenue-generating," recalling that the Committee had had discussions of possible services that could be provided at City Hall at no charge. Ms. Dickey replied that there had been no discussion of a specific percentage of revenue to be generated.

Chair Mammano commented that during the breakout session, other attendees at her table had indicated they did not want to pay more taxes to fund a new City Hall. Mr. Walters confirmed that he had heard similar feedback from the community as well.

Ms. Dickey addressed the survey results from the March workshop, noting that there have only been 21 responses to that survey thus far. The respondents to the survey were asked to rank their preferred responses regarding the proposed facility. Of the 21, 13 respondents chose maintaining public ownership of the land and building as their highest priority. The second-ranked option indicated that respondents preferred intergenerational equity to pay for City Hall over a term equal to the building's useful life. The third-ranked option recommended financing the total cost of the project.

Mr. LaBrie asked if the top-ranked choice, maintaining ownership of the land and building, would eliminate the public-private partnership (P3) option. Chair Mammano explained that a P3 would mean the City would own the facility and building, although they would not have full control of either until the end of the term.

Chair Mammano expressed concern that it is difficult to draw conclusions based on feedback from only 21 survey respondents. Ms. Dickey stated that her team is seeking more information from the community by contacting homeowners' associations and encouraging responses from their members. Chair Mammano suggested that the Committee ensure the City Commission realizes there has not been a great deal of general public interest in the subject of a new City Hall.

Ms. Dickey advised that today's meeting would allow the Committee to draw on the information gathered from each of the workshops in preparing the final presentation. She reviewed the aspects of City Hall emphasized at previous workshops, as well as potential amenities. Feedback from the most recent workshop included financial and procurement information.

Ms. Dickey continued that the presentation will include boards with information from each of the individual workshops, including information from survey respondents indicating their City Commission Districts and demographic information.

Vice Chair Partington commented that he felt the demographic summary was misleading, as many responses may have come from the same individuals attending multiple workshops. Ms. Dickey acknowledged this concern, but noted that this was the typical method of capturing survey information. Vice Chair Partington suggested that the figures could be marked with an asterisk to indicate the possibility of overlapping responses.

The Committee members discussed how feedback would be provided in the final workshop, including whether or not responses should be weighted and what that information would indicate. It was determined that respondents would be able to show their priorities among the topics discussed throughout the workshops. It was also emphasized again that although the Committee, Staff, and the consultant team had done their best to engage the public, the overall response had been less than what was hoped for.

Mr. Walters asked if the Committee plans to meet again before taking its recommendations to the City Commission. Chair Mammano noted that Staff's preference was to have the recommendation reach the Commission before the beginning of summer.

Mr. Zeltman commented that although Ms. Dickey and City Staff had done everything possible to generate a greater public response, that response had not been what was expected. He did not feel it would be appropriate for the Committee to provide the City Commission with a recommendation based on the small survey samples, or to interpret those responses as representative of the City's overall population. Chair Mammano suggested that the Committee's final report could state that they were unable to ascertain a statistically valid sense of what the public wants.

Vice Chair Partington proposed that the Committee should feel empowered to make recommendations to the Commission, even based upon the limited feedback gathered during the process. Mr. Walters advised that feedback from the final workshop would be key in making a recommendation.

Ms. Dickey concluded that it had been her intent from the beginning to assign some type of ranking to the categories discussed at the individual workshops. The Committee members further discussed how the ranking process at the final workshop would be carried out.

Mr. Walters stated that the Committee would need to determine the top priorities from the workshop process at their next meeting. Chair Mammano asked if the Committee should take the results from a small sample size of survey respondents and make recommendations based on those results. Mr. Walters emphasized that while less than 2% of the City's population may have responded to the survey, the Committee members have discussed all the considerations at length and should address them in their final report to the Commission.

Vice Chair Partington reiterated that the Committee members should combine the available public input with their own personal preferences in the final report. There was consensus among the Committee members to proceed in this way, with Mr. Lambrechts noting that the members have sufficient collective knowledge and experience to make a recommendation.

3. New Business

i. Schedule for ITFAC Draft Recommendations

Chair Mammano asked how Staff plans to present the Commission with the information gathered throughout the workshops. Ms. Matthews stated that the Commission will see the gathered information from the public through the surveys and workshops. They will

also see the Committee's guiding principles. A third component of information from the Urban Land Institute (ULI) may also be provided.

Ms. Dickey continued that the Committee will receive a "wrap-up" report on the series of workshops at their May 2024 meeting. Their joint workshop with the City Commission is tentatively scheduled for June 4. This will give the Committee time to review and digest the information gathered at the workshops.

Vice Chair Partington characterized the proposed date of June 4 as ambitious, pointing out that this timeline may be driven by the City Commission's summer schedule. Ms. Matthews explained that the Commission would like to begin the process before their summer break.

Chair Mammano asked if the workshop report will be finished by the time of the Committee's May 6, 2024 meeting. It was noted, however, that the Committee will need to prepare their draft guidelines for the Commission after the May 6 regular meeting, and that the Committee members may not communicate with one another outside meetings due to the Sunshine Law. This would require a second meeting in May to review the draft guidelines prior to the joint workshop with the Commission.

Motion made by Ms. Reczko, seconded by Mr. Barnett, to call a special meeting on May 20, 2024 at 2 p.m. at Fort Lauderdale Executive Airport. In a voice vote, the **motion** passed unanimously.

Chair Mammano concluded that her intent for the final public workshop was not to gather additional information, but to ensure the members of the public who participated in the process have expressed their preferences, which will be provided to the City Commission.

ii. FDEP Warning Letter

Omar Castellon, Assistant Director of Public Works (Engineering), stated that over the last 30 months, the City experienced eight boil water notices and had difficulty passing water sampling tests that followed some of these incidents. As a result, the Florida Department of Environmental Protection (FDEP) has sent the City a warning letter

Mr. Castellon explained that many of the City's pipes are old, which makes it more difficult to get rid of bacteria. Staff is communicating with FDEP to let them know which projects will be prioritized in the areas where they experienced difficulties. Funds will be reshuffled from other projects in order to prioritize the City's water needs.

Mr. Castellon explained that in some types of pipe breaks, water will still flow but bacteria can grow in the pipes. The pipes are then flushed to get rid of bacteria, and water from those pipes is sampled to ensure that the process worked. If the City does not pass this sample testing, it is necessary to close the section of pipe and heavily chlorinate it, after

Mr. Walters noted that the FDEP letter specifically notes several distribution water mains have exceeded their useful lives. It also states that the City will be subject to fines if the issues are not addressed.

Mr. LaBrie asked what the Public Works Department is doing in terms of long-range planning and maintenance/replacement schedules. Mr. Castellon replied that every year, as part of the annual budget process, the Utilities Department identifies pipes that are experiencing issues. The two Departments meet to review the budget and determine the priority of pipes to be addressed. Once these priorities have been determined, the City will work on those prioritized projects over the next five years.

Mr. Walters observed that the City Commission is not typically willing to inform the public that more money will be needed to maintain its infrastructure.

Mr. Castellon explained that the City develops an annual budget to address pipes which would require a certain amount of funding, which the City Commission does not fully fund. This is not a process that is expected to change. Mr. Zeltman commented that another issue of concern is fire flow protection, which is also affected by the age and condition of the pipes. Ms. Reczko also noted that the condition of the pipes that will connect to the new water treatment plant will affect the quality of the water coming from that facility.

Mr. Castellon advised that he would look into additional information related to the water Consent Order and bring it back to a later meeting.

4. **Public Works Update**

    i. **CIP Financial Report**

    ii. **Water & Sewer Breaks Report w/Mapping**

5. **General Discussion and Comments**

    i. **Committee Members**

Mr. Walters recalled that recent Urban Land Institute (ULI) meetings had focused on flooding elevations and the effect of flooding on City roadways. He recalled that at one of these meetings, the ULI's discussion had focused primarily on flooding in the Las Olas area. He requested a copy of the ULI's report on these meetings when it becomes available, noting that some of the City's neighborhoods which are prone to flooding were never discussed at the meetings.

Chair Mammano pointed out that the ULI meetings focused only on tidal flooding in a small area and did not address other issues such as severe rain or storm surge. She felt this limited focus made the meetings less useful.

which it will be tested once more. This has happened on a number of pipes, which drew the attention of FDEP.

Mr. Lambrechts asked why the City has not already prioritized the affected older pipes in the City's Capital Improvement Program (CIP). Mr. Castellon advised that if an older pipe breaks, repairing that pipe becomes a priority and the CIP is re-prioritized so that break can be addressed.

Chair Mammano also noted that the City is in the process of conducting a comprehensive review of its water pipe system with the assistance of consultants, and requested an update on the status of this effort.

Mr. Barnett asked if FDEP is asking the City to replace older pipes or to ensure its water quality meets required standards. Mr. Castellon replied that they will need to replace the older pipes where breaks have occurred.

Ms. Reczko requested information about the City's plans to address this need, including how many miles of pipe can be replaced. Mr. Castellon stated that the CityWorks system is intended to map the City's entire pipe infrastructure for both sewer and water, and will indicate the age of the pipes as well as the probability of breaking. This will help identify which pipes are likely to break before others or what kind of maintenance will be necessary for them. He did not have an update on the progress of the CityWorks system at this time.

Vice Chair Partington remarked that he had been surprised by the number of "superchlorination" requests made by the City, which had resulted in the attention of FDEP. He suggested that in the future, the Committee see information on where additional chlorination has been necessary as well as where breaks have occurred, emphasizing that the Committee may be able to help secure funding for this need.

Mr. Castellon recalled that of the last eight breakages, two required superchlorination. Chair Mammano asserted that the Committee should see a list of these incidents from 2023 through 2024 thus far.

Vice Chair Partington asked how impact fees collected by the City are used, suggesting that some of these dollars could be shifted to address the prioritized breakages. Ms. Reczko advised that these fees can only be used to increase capacity, and cannot be used toward regular maintenance of infrastructure.

Mr. Barnett asked if there are ways other than chlorination to minimize bacteria after a break. Mr. Castellon replied that chlorination is the standard method, and can be affected by the length of time necessary to repair the pipe.

ii. Public Comments

None.

6. Adjournment – NEXT SCHEDULED MEETING DATE: Monday, May 6, 2024

There being no further business to come before the Committee at this time, the meeting was adjourned at 4:16 p.m.

Any written public comments made 48 hours prior to the meeting regarding items discussed during the proceedings have been attached hereto.

[Minutes prepared by K. McGuire, Prototype, Inc.]

Workshop 5 Summary: Highest Preferences from the Public Engagement Workshops

Highest Priorities Based on the Red Dots Only

- **Overall Design**
  - 3 - Architectural Significance
  - 3 - Affordable Housing
  - 1 - Weather Resilience & Energy Efficient

- **Space Allocation**
  - 3 - City Officials and Staff should have Dedicated space
  - 2 - For the People
  - 1 - Make it Convenient

- **Amenities**
  - 5 - A Community Resource
  - 4 - Make the Location Easily Accessible

- **Financing and Procurement**
  - 2 – A Financing Mix – Federal Grants, Bonds, and Revenue Generating
  - 2 – Keep it Local (contract, architect, etc.)
  - 1 – Consider a Public Private Partnership
  - 1 – Hire a Development Process Manager to Facilitate the Transition from Procurement to Execution

Workshop 5 Summary: Highest Preferences from the Public Engagement Workshops

Topics that Received More than 15 Dots

- **A Community Resource (23 Yellow; 5 Red)**
  - Exhibit Local Artists and Fort Lauderdale History
  - Provide Collaborative Opportunities for Local Businesses & Organizations
  - Serve as a Welcome Center for the Area
  - Neighbor Services Division/ Localized information hub
  - Expand services offered by the Housing Development Office (e.g. where to find rental apartments, etc.)
- **Make the Location Easily Accessible (13 Yellow; 4 Red)**
  - Make the Location Accessible
    - Repurpose the Federal Courthouse Building
  - Make Parking Free, Secure, and Accessible
  - The Meeting Place for all City Advisory Boards and Committees as well as Local Civic Associations
- **Architectural Significance (14 Yellow; 3 Red)**
  - Consider historical, timeless architecture
  - Consider the surrounding area's architecture
  - Create an architecturally attractive building that is an expression of the city.
- **City Officials and Staff should have Dedicated Space (14 Yellow, 3 Red)**
  - Space for city auditor, city manager, city clerk, elected officials, city attorney
  - Secure administrative space
  - Centralize administrative functions in one location
- **The Community Should have Flexible Space (17 Yellow)**
  - Expanding/Contracting rooms with adaptable technology
  - Single level spaces that promote collaboration and communication
  - Flex space for displaying the City's history, art exhibits, education, and a collaboration hub
  - Community Meeting Space (grassroots space for residents)
- **Outdoor Spaces (16 Yellow)**
  - Outdoor spaces must consider shade
  - Have dedicated green space
  - Include a public gathering space (e.g. outdoor amphitheater, farmer's market)

Workshop 5 Summary: Highest Preferences from the Public Engagement Workshops

Topics that Received More than 10 Dots

1. **Interface with the Public (14 Yellow Dots)**
   - User Friendly Technology to Welcome the Public
     - Self-service kiosks and printers
     - Technology based translation services
   - Use People to Welcome the Public
     - Educate visitors on accessing City services
   - Attract and Serve Youth
     - Host robust internship programs and civic education workshops
2. **Create a Campus (13 Yellow Dots)**
   - Make the Structure Inviting
     - Architecturally Attractive
     - Wayfinding signage
   - Offer Expansive Public Outdoor Facilities
     - A plaza for public speaking
   - Provide Staff What They Need
     - Innovative technology
3. **Consider Affordable Housing (8 Yellow; 3 Red)**
4. **Financing Mix – Federal Grants, Bonds, and Revenue Generation (9 Yellow; 2 Red)**
5. **For the People (9 Yellow; 2 Red)**
   - A place you want to go to
   - A place to come together
   - Consider a campus that becomes a gateway to Fort Lauderdale (combine blocks)
   - A customer service-oriented facility
6. **Consider a hybrid procurement process that is not linear, such as Progressive Design-Build, if allowed by the State (10 Yellow)**

REIMAGINING CITY HALL

INFRASTRUCTURE TASK FORCE PRESENTATION

WeAreFTL

EMPLOYEE FEEDBACK

ENGAGEMENT METHODS

Solicited employee feedback through a Citywide survey and townhall, which were open to all employees for participation

- Received **132 completed surveys**, another 58 surveys with at least one response were collected
- Received feedback from more than **50 employees** at an employee townhall

EMPLOYEE SURVEY KEY FINDINGS

- Employees enjoyed the downtown location of the prior City Hall with multiple departments centralized in one building as well as employee common areas
- Most employees felt very or adequately secure at the previous City Hall
- Design elements such as incorporated green spaces, natural lighting, and integrated retail (e.g., doctor's office, dry cleaners) are desired
- More conference rooms are needed
- Amenities such as a gym, cafeteria/coffee shop, outdoor space, and centralized wellness center are desired

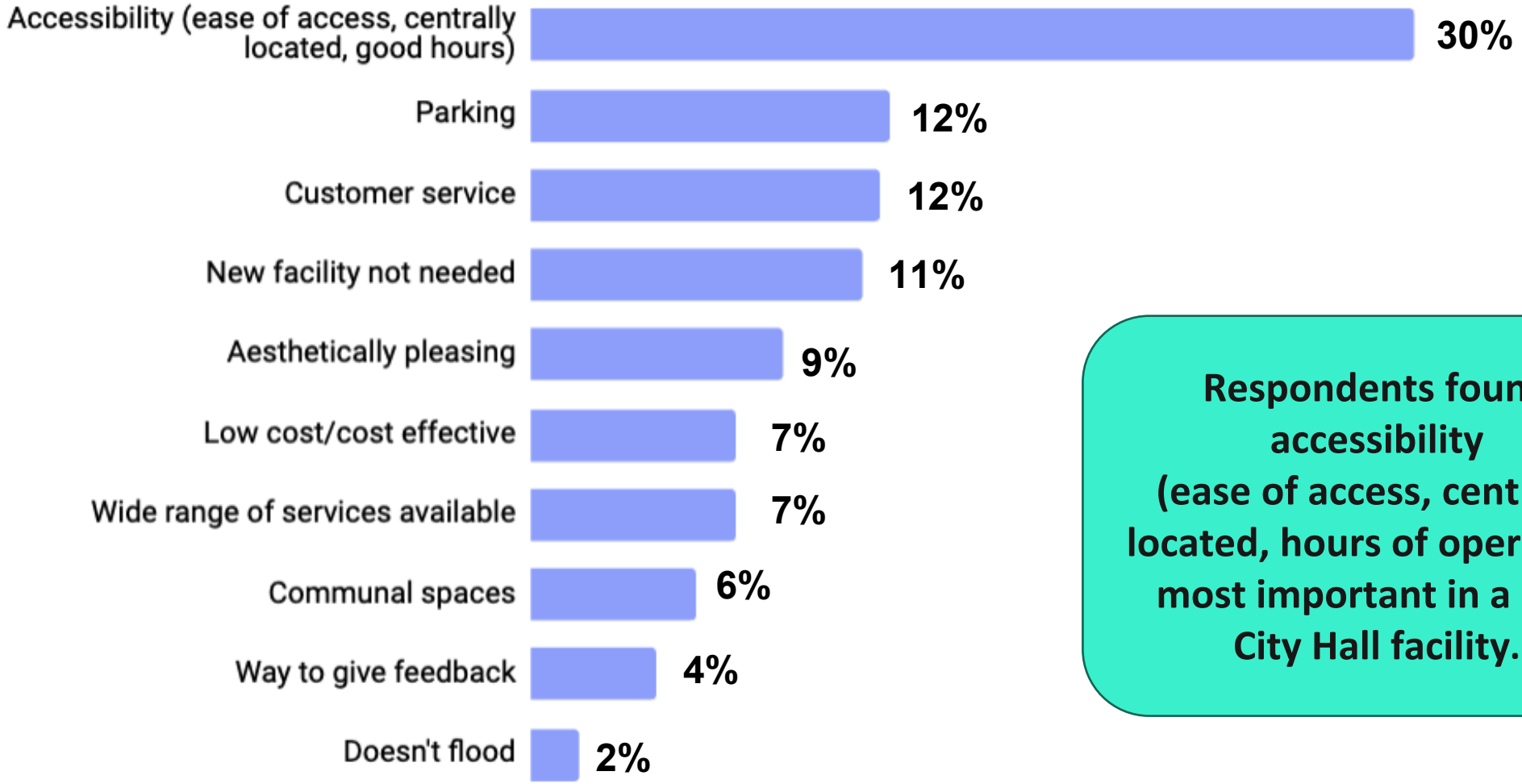
EMPLOYEE TOWNHALL INPUT HIGHEST RATED PRIORITIES

- Security (Features and Security Staff Presence)
- All public facing services on the ground floor
- Modern technology and facilities
- Flexible conference rooms and multipurpose space
- Flexible workspace that can accommodate hybrid work environments
- Outdoor space for events (i.e., Employee Appreciation Lunch, Neighbor Support Night)
- Mixed use to allow easy access to businesses
- Amenities for employees such as a gym, cafeteria/coffee shop, and childcare facility/daycare
- Employee Wellness Center on site
- Natural lighting

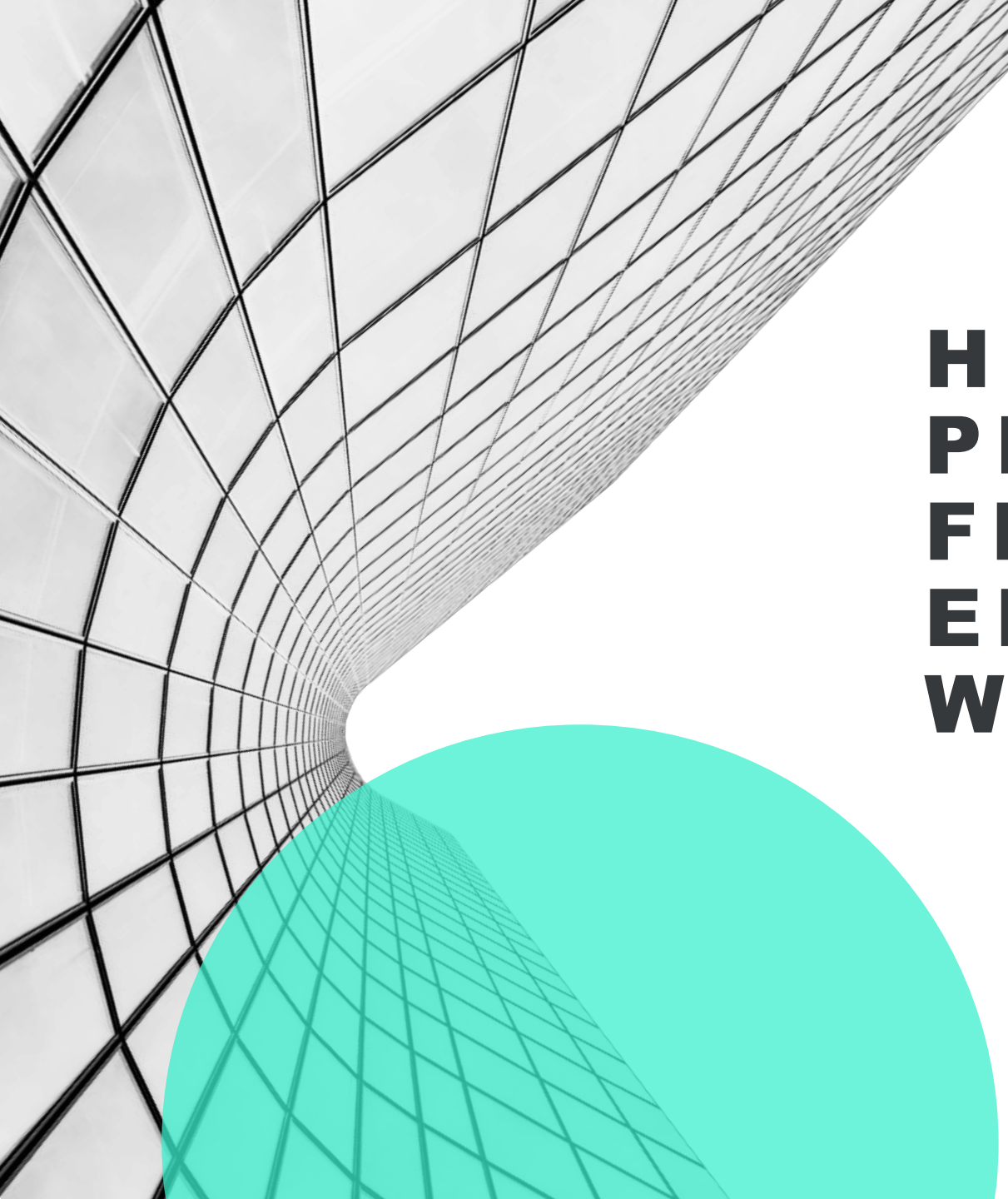
COMMUNITY SURVEY FEEDBACK

Administered by ZenCity
January – March 2024
A Statistically Valid Sampling of the City

WHAT WOULD YOU FIND MOST IMPORTANT IN A NEW CITY HALL FACILITY?



Respondents found accessibility (ease of access, centrally located, hours of operation) most important in a new City Hall facility.



HIGHEST PREFERENCES FROM THE PUBLIC ENGAGEMENT WORKSHOPS

WORKSHOP 5 FEEDBACK

HIGHEST PRIORITIES BASED ON RED DOTS ONLY

Overall Design

- 3 - Architectural Significance
- 3 - Affordable Housing
- 1 - Weather Resilience & Energy Efficient

Space Allocation

- 3 - City Officials and Staff should have Dedicated space
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Amenities

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- 4 - Make the Location Easily Accessible

Financing and Procurement

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WORKSHOP 5 FEEDBACK

MORE THAN 15 DOTS

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   - Exhibit Local Artists and Fort Lauderdale History
   - Provide Collaborative Opportunities for Local Businesses & Organizations
   - Serve as a Welcome Center for the Area
   - Neighbor Services Division/ Localized information hub
   - Expand services offered by the Housing Development Office (e.g. where to find rental apartments, etc.)

2. **Make the Location Easily Accessible (13 Yellow; 4 Red)**
   - Make the Location Accessible
     - Repurpose the Federal Courthouse Building
   - Make Parking Free, Secure, and Accessible
   - The Meeting Place for all City Advisory Boards and Committees as well as Local Civic Associations

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6. **Outdoor Spaces (16 Yellow)**
   - Outdoor spaces must consider shade
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WORKSHOP 5 FEEDBACK

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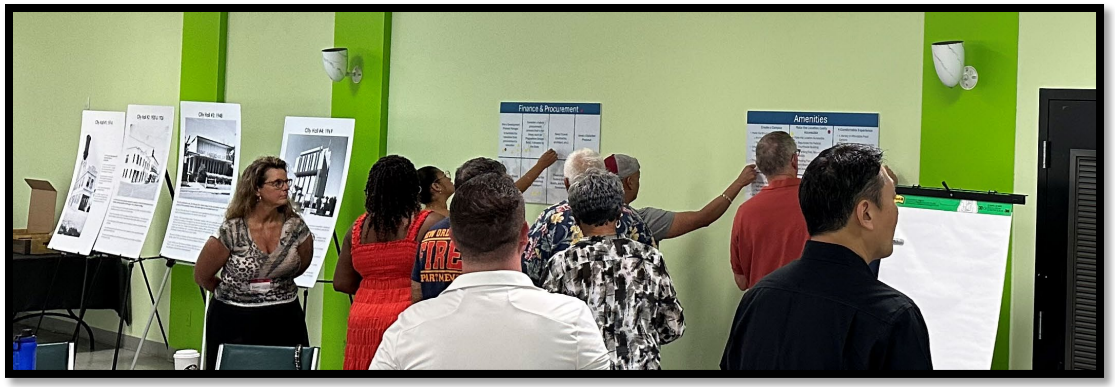
6. **Consider a hybrid procurement process that is not linear, such as Progressive Design-Build, if allowed by the State (10 Yellow)**



EXAMPLE FROM THE WATER TREATMENT PLANT GUIDING PRINCIPLES

ITF was in favor of broadly considering a Public private partnerships (P3) providing that no form of the P3 allows the City to give up ownership of:

- Water
- Water quality
- Rate structure

SUMMARY OF FEEDBACK BY WORKSHOP TOPIC

Overall Design

- Architectural significance
- Affordable Housing
- Outdoor Spaces
- Natural Lighting
- Modern Technology and Facilities
- Security (Features and Staff Presence)
- Access to Parking and Transportation

Space Allocation

- City Officials and Staff should have Dedicated Space
- The Community should have Flexible Space
- Flexible Conference Rooms and Multipurpose Space
- Central Location to Meet with Elected Officials

Amenities

- Make the Location Easily Accessible
- A Community Resource/ Nonprofit Community Meeting Space
- Create a Campus
- Interface with the Public
- Onsite Gym, Café, Childcare, and Employee Wellness Center

Financing and Procurement

- A Financing Mix – Federal Grants, Bonds, and Revenue Generating
- A Hybrid Procurement Process that is not Linear, such as Progressive Design-build, if Allowable by the State
- Maintain Ownership of the Building and Land
- Balance Cost and Features

**** Employee Feedback * Survey Results***

QUESTIONS

From: Miguel Arroyo <MArroyo@fortlauderdale.gov>
Sent: Tuesday, April 9, 2024 3:33 PM
To: Omar Castellon <OCastellon@fortlauderdale.gov>
Cc: Talal Abi-Karam <TAbi-Karam@fortlauderdale.gov>; Rafeela Persaud <RPersaud@fortlauderdale.gov>; Gabriela Gladstone <GGladstone@fortlauderdale.gov>; Jason Snifeld <JSnifeld@fortlauderdale.gov>; Alan Dodd <ADodd@fortlauderdale.gov>
Subject: FW: Main repair results (three areas) - Water Quality in Distribution System

Subject: FW: Main repair results (three areas) - Water Quality in Distribution System

Hi Omar, thanks for your call a few minutes regarding how the City's NELAP (national environmental laboratory accreditation program) and ISO 17025 accredited laboratory conducts the sampling. Below I have made a summary as it applies to the lab and for clarity below is also an earlier email that is a summary of what other PW-Utilities units did during the various events.

Environmental Laboratory has:

a. Rotation of samplers to address any concerns regarding common mode failure.
b. Lab conducted daily blank testing as well as performed field blanks.
c. Additional sampling of the consecutive systems master meters.
d. Certification renewal recommended via annual NELAP/ISO audit (Jan 24 through 26, 2024).
e. Secured a high range chlorine meter for field use.
f. Completed nitrite sampling in the 11 sampling sites (up from 8 sampling sites), all values under 0.4 mg/L. Allowable threshold for nitrites leaving the plant is 1 mg/L.
g. Especial samples grabbed to check for chloride, conductivity, etc.
h. QC Successful positive and negative QC on sampling bottles and powder pillows must be performed before using any new lot of bottles or pillows. This was also successfully performed again during the event.

Although not listed above please be aware that simple elements such as the use of proper PPE (gloves), storing during transient of the sample, chain of custody, use of proper new sample test bottles and use of a Standard Operating Procedure QA-021 (attached) I have also included BL-004 SM9223B-7 for the actual processing of the samples for the colilert test.

I hope this information helps and if you need anything else let me know. Thanks.

City of Fort Lauderdale, Florida
"Venice of America"

Environmental Laboratory
949 NW 38th Street
Fort Lauderdale, FL 33309
Phone: 954-828-7888

STANDARD OPERATING PROCEDURE

SOP QA-021

Distribution Sampling

Revision # 16

Effective Date: 2/14/23

Prepared by: _____ **Date:** 2/14/23

Reviewed by: _____ **Date:** 2-14-2023.
Quality Assurance Officer

Approved by: _____ **Date:** 2/14/23
Laboratory Supervisor

DEFINITION

Distribution sampling is performed monthly for the City of Fort Lauderdale, Consecutive systems of Oakland Park and Wilton Manors and for the large user of Port Everglades. This is to ensure that water delivered from the water treatment plants is free of total coliform bacteria throughout the distribution system piping. The Florida Department of Environmental Protection (FDEP) has established guidelines for analyzing bacteriological samples in the distribution system and corrective actions needed if applicable. These guidelines are in accordance with Title 40 CFR. Part 141, subpart Y 9 Sections 141.851 through 141.861) as incorporated into Chapter 550.830, Florida Administrative Codes (Revised Total Coliform Rule)

SCOPE AND APPLICATION

The Revised Total Coliform Rule (RTCR) established an MCL for E.coli of 0 and assigns **Level 1** and **Level 2 assessments** when an MCL violation occurs for E.coli or when total coliform positive samples exceed > 5% in the distribution system.

Populations exceeding 1000 will be required to have monthly distribution sampling performed. This entails driving to various addresses and sampling from the outside spigots. The City supplies treated groundwater from the Biscayne Aquifer via the Fiveash and Peele-Dixie Water Treatment Plants (WTP) to water customers in Fort Lauderdale and two consecutive systems. The consecutive systems are Oakland Park and Wilton Manors. A fourth user, Port Everglades, is considered a large user, Non-Transient Non-Community Water System (NT/NCWS), with approximately 3000 workers present at any time. Each of these four areas will have separate distribution runs. The populations of each of the three cities that receive water service from the City of Fort Lauderdale were estimated using most recent US Census Bureau's data. **Note for Oakland Park approximately 31,000 people receive water from the City of Fort Lauderdale with the rest of Oakland Park getting water from Broward County.* The table in 62-550.518 F.A.C shows the minimum number of samples required per month based on the population served. The following shows these results:

City	Population	Minimum Samples Per Month	PWS - ID
Fort Lauderdale	186,171	120	4060486
Oakland Park	* 31,000	30	4060989
Wilton Manors	11,316	10	4061574
Port Everglades	3,000	3	4061603

The City of Fort Lauderdale Laboratory Technicians will perform all the distribution sampling for the four systems. Fort Lauderdale will have 6 separate distribution runs performed per month. Each run may be split into two halves if staffing levels permit. All the City of Fort Lauderdale's distribution runs will be attempted to be performed within the first two weeks of the month if operation conditions allow. If the 1st of the month starts between Sunday – Wednesday that week will count as week one. If the 1st of the month starts between Thursday – Saturday it will not count as the first week and the next week will be week one.

The City of Fort Lauderdale distribution runs are given color names. Each run contains 22 sample points. Oakland Park will have two distribution runs consisting of an east and west. East will have 21 sampling points and west will have 26 sampling points. Wilton Manors will have 17 sample points and Port Everglades will have 6 sample points. The "minimum samples per month" requirement is met for all four systems. As per FDEP, customer complaint bacteriological samples will not be counted toward required sampling totals. Also duplicate sampling for quality control is not required and should not be sampled. *The addresses for each run can be found in the appendix at the end of this SOP along with maps of each location and indications if it is a sampling station and where located.*

EQUIPMENT / SUPPLIES

Hach DR 900 Spectrometer
Portable pH meter
Hach DPD Reagents - Free Chlorine powder pillows Cat # 1407028
Hach DPD Reagents -Total Chlorine powder pillows Cat # 1406428
24 Space Custom Built Sample Rack
Powder Free Nitrile Disposal Gloves (Small, Medium, Large)

Raw data form(s)
IDEXX Colilert bottles
DI Water Bottle
10 ml Graduated Cylinder
100 ppm Sodium Hypochlorite Solution – (*Prepare by putting approximately 2 mls of 6% house bleach into approximately 1000 mls of DI water.*)

SAMPLING SITE DETERMINATIONS

All sampling sites have been predetermined from the initial sampling plan performed in the 1990s. For the City of Fort Lauderdale 28 sampling stations have been installed to replace existing sampling sites that were on private properties. There are a total of 132 sampling sites. Oakland Park has installed 25 sampling stations on their existing sampling locations

Over the years it is common for customers to move or change their minds about volunteering their residence. Occasionally customers will approach the sampler to see what is going on. All samplers should wear their City ID badges on a lanyard so that it may be retrieved quickly if someone approaches to see what is happening. Also, the sampler can knock on the door to see if the residence is aware that sampling is to be taken at their address if they feel that there is an issue. If no one is home the sampler may proceed.

If the customer states or indicates that they do not want to have their residence sampled, the sampler should go to another site. Make a note on the raw data sheet and DO NOT confront the customer. If at any time the sampler feels that there are issues or feels that their safety is in question another site may be substituted. Attempt to sample as close to the original address as possible. The sampler must contact the laboratory immediately via the two-way radio installed in each vehicle or by personal cell phone if a problem presents itself

QUALITY CONTROL

Hach DR 900 Spectrometer used for chloramines will be checked daily prior to use and upon return in the same day using form BL-084. The instrument will also be calibrated by Hach technicians on an annual basis through a maintenance contract. Portable PH meters are calibrated daily with a second source check before and after the distribution run using form BL-021. Out of tolerance QC results on return QC check will require corrective action and / or data qualification.

pH Meter

Perform a 3 point calibration daily upon use. Unique ID and calibration results need to both be recorded on form BL-021. After calibration perform one QC check with a secondary standard. Upon return to the lab perform a return check using either one of the calibrants or a secondary standard. Initial and return checks can use the same standard if desired. All QC checks must be with + or - 0.2 pH unit to be acceptable. A qualifier should be used if return check is unacceptable.

DR 900 Quality Control Checks

The Hach DR 900 must be checked against a known set of standards before use. It will also be rechecked upon arrival back to the laboratory. Three gel standards will be used with a gel-blank. The results will be recorded on form BL-084. This form contains the acceptable ranges for each standard. A qualifier should be used if return check is unacceptable.

Directions: Turn on DR 900 by pressing bottom –center power button. Ensure that the display shows 87 Chlorine, F&T PP MR. If not click on the "**Options**" button then scroll down to "**All Programs**" and hit "**Select**". Scroll down to "87 Chlorine, F&T PP MR" and hit "**Start**"

Place the zero gel-blank into the slot lining up the mark on the cell with the center notch on the DR 900. Place the cover over the cell and push "**ZERO**". Remove the gel-blank and place one at a time each standard into the slot lining up the mark on the cell with the center notch on the DR 900. Place the cover over the cell and push "Read". Record results on form BL-084 and verify pass / fail.

Note: Any DR 900 failing initial checks will have to be investigated and should not be used until corrected. Any DR 900 failing return checks will have a qualifier placed on the raw data sheet used in the field.

All gel-standards will be kept by management and returned to management after use.

SAMPLING PROCEDURE

Field Blanks

For each sampling event prepare a "Field Blank" prior to going in the field. Put 100 mls of DI in one Colilert bottle and place on cap. Label it "Field Blank". At one of the stops take the field blank bottle over to the area where sampling will occur and open the cap. Store the cap as to not get it contaminated. Leave the field blank uncapped until the regular sample is isolated. Place the cap back on the Field Blank and place in cooler. Note on field sheet sample location that field blank was uncapped. This will be used to see if abnormal conditions arise from just having the sample bottle open

Sampling Spigots

The spigots to be sampled from should be free from vacuum breakers and / or other obstructions. Never take samples from leaking or corroded taps, from taps surrounded by dense vegetation, from public drinking fountains, restrooms, or from taps with aerators. Were nitrile gloves when sampling and change out as

needed. Eye protection is optional. Remove hoses if present and not in use (i.e hose is filling a pool or being used to water lawn). Another site may be substituted if these issues cannot be resolved. Initially purge the spigot for 2 minutes at full blast if possible. Shut off Spigot. Then apply (by squirting form squirt bottle) a 100 ppm solution of sodium hypochlorite on the spigot. Flush the spigot for an additional 3 minutes at a high velocity. Reduce the flow rate within the last minute to less than 500 mL/minute (1/8" stream) or approximately 0.1 gal/minute before collecting samples. (FS2005 and SM 9060A-3(a)).

Free and total chlorine can be checked within the 5 minutes of purging as long as one service line volume is flushed from the main to the sampling spigot. During normal operations, free chlorine should be negligible but should still be checked. The acceptable range for total chlorine is between 0.6 – 4.0 mg/l or free > 0.2 mg/l if free chlorination is in progress. A longer purge might be required if the chlorine is low but should not exceed 10 minutes for total purge. After 10 minutes test the free and total chlorine levels and isolate the sample no matter what the chlorine reading has reached.

Free Chlorine and Total Chlorine Determination

Do not use the same sample cells for free and total chlorine. If trace iodide from the total chlorine reagent is carried over into the free chlorine determination, monochloramine will interfere. It is best to use separate, dedicated sample cells for free and total chlorine measurements.

If the test result is over-range, or if the sample temporarily turns yellow after the reagent addition, dilute the sample with a known volume of DI water using the 10 ml graduated cylinder and repeat the test. Some loss of chlorine may occur due to the dilution. Multiply the result by the dilution factor. Additional methods are available to measure chlorine without dilution. Note Range is up to 4 ppm

Make sure to get a representative sample. If the sample is taken from a spigot or faucet, let the water flow to flush at least one volume of the service as described in the sampling procedure. If a sample cell is used, rinse the cell several times with the sample, and then carefully fill to the 10-mL mark.

Wipe the outside of the cell with kim-wipes to remove and droplets of water. This is a very important step as water in the spectrometer can lead to erroneous readings. It can also render the spectrometer useless until it is dried out

Reading Samples

Free Chlorine

Turn on DR 900 by pressing bottom –center power button. Ensure that the display shows 87 Chlorine, F&T PP MR. If not click on the "**Options**" button, then scroll down to "**All Programs**" and hit "**Select**". Scroll down to "87 Chlorine, F&T PP MR" and hit "**Start**"

Zero

Fill the sample cell with 10 mL of sample (without adding powder pillow). Wipe of the cell with kim-wipes. Insert the sample into the slot lining up the mark on the cell with the center notch on the DR 900.Then place the cover over the cell. This will completely hide the cell. Push ZERO. The display will show 0.00 mg/L Cl2.

Prepare the sample

Fill a second sample cell with 10 mL of sample. Add the contents of one 25 ml DPD Free Chlorine Powder to the prepared sample cell. (*Yes this is adding the 25 ml pillow to a 10 ml sample.)*

Close the prepared sample cell. Invert the sample cell several times to mix. A pink color shows if chlorine is present. Wipe of the cell with kim-wipes. Immediately insert the prepared sample into the slot lining up the mark on the cell with the center notch on the DR 900. Place the cover over the cell and push "READ". Results show in mg/L Cl2. Record on the proper field form

Total Chlorine

Note Total will be like free except for using the "Total 25 ml pillow" and waiting 3 minutes using the DR 900 timer.

Zero

Fill the sample cell with 10 mL of sample (without adding powder pillow). Wipe of the cell with kim-wipes. Insert the sample into the slot lining up the mark on the cell with the center notch on the DR 900. Then place the cover over the cell. This will completely hide the cell. Push ZERO. The display will show 0.00 mg/L Cl2.

Prepare the sample

Fill a second sample cell with 10 mL of sample. Add the contents of one 25 ml DPD Total Chlorine Powder to the prepared sample cell. *(Yes this is adding the 25 ml pillow to a 10 ml sample.)*

Close the prepared sample cell. Invert the sample cell several times to completely mix. A pink color shows if chlorine is present. Wipe off the cell with kim-wipes. Press the "**Options**" button and scroll to the "**Start Timer**" and "**Select**". You will need to hit "**Select**" again to start timer. After three minutes the spectrometer will beep. Place the cell into the slot lining up the mark on the cell with the center notch on the DR 900 if not already done during the timer sequence and place the cover over the cell. Push "**READ**" button. The sample must be read three minutes after pillow addition. Results show in mg/L Cl2. Record on the proper field form

pH Determination

pH should also be checked after the 5 minutes of purging as described in the sampling section. pH should fall between 8.5 and 10 pH units. Results for chlorine and pH falling outside of this range should be addressed (See "Out of Tolerance results" below). The sample should still be taken even if out of normal range for chloramines or pH. Note: Avoid taking samples in the rain. Attempt to wait it out. If the rain does not clear suspend the run for another future time.

Collection Bottles

The samples will be collected in bottles that will later be analyzed using the Colilert method SM-9223B (see SOP# BL-004). These special bottles contain sodium thiosulfate in powder form. Sodium thiosulfate is used to quench any residual chlorine in the sample. After the required purge, isolate the sample by filling to the 100 ml mark. Cap the bottle and place in the "Custom Bult Sample Rack" inside the cooler on ice. The rack should sit on top of the ice while avoiding Ice touching the upper part of the bottle.

The holding time after sample collection until analyzing is 8 hours when on ice. Care must be taken not to touch the tops of the container, the inside of the cap, or overfill the container. These can lead to erroneous positive coliform results. Do not touch any part of the cap that touches the bottle, set the cap down, or let anything touch the cap. If the cap is dropped, the sample must be recollected in a new bottle. One of the distribution runs, called the rainbow run, will incorporate sample sites from the other five runs. The raw data sheet will contain the following:

Sample Date
Collected By
Date & Time of Analysis
Date & Time read
Lab Departure Time
Lab Arrival Time
Weather Conditions

DR 900 Spectrometer ID
pH meter ID
Colilert ID
Vessel ID
Free Pillow ID
Total Pillow ID

The sample sites will be prerecorded on the raw data sheets. All samples will require the following:

Sample ID
Sample Location (prerecorded)
Chlorine (mg/l) free & total
pH results
In lab Chlorine check
Coliform results
Sample time

The raw data sheet will have its own ID# based on the date and run description. The following format (YYMMDD) below shows an example using all of the distribution runs for Fort Lauderdale, Oakland Park, Wilton Manors and Port Everglades (assume a date of September 13, 2022).

Examples

Distribution Run	*Raw Data Sheet ID #*
Fort Lauderdale	
Blue Run	*BR220913*
Black Run	*BL220913*
White Run	*WR220913*
Rainbow Run	*RR220913*
Green Run	*GR220913*
Red Run	*R220913*
Oakland Park	
East Run	*OPE220913*
West Run	*OPW220913*
Wilton Manors	*WM220913*
Port Everglades	*PE220913*

The individual samples within each run will have the sample ID along with a sequential number

Example

First Blue run location at 1221 SW 18 St. sampled on 5/3/21 = BR210503-1
Second Blue run location at 1252 NE 26 Ave sampled on 5/3/21 = BR210503-2

The distribution runs forms for each individual run are forms BL-035 to BL-051 are found under N:\PublicWorks\SharedCabinets\Departmental\Environmental Resources\Environmental Lab\Biology Lab Folder.

LAB RETURN

If possible, upon return the sampler should present the raw data sheet for review to the QAO or Environmental Supervisor if the QAO is absent. The field pH meter should be checked and must be within 0.2 pH units of the check standard. If it is greater than 0.2 all of the pH results taken must be qualified by indicating on the raw data sheet that the return pH check failed. The results will be recorded on form BL-021

The Hach DR 900 must be checked against a known set of standards upon arrival back to the laboratory. Three gel standards will be used with a gel-blank. Any DR 900 failing return checks will have a qualifier placed on the raw data sheet used in the field. The results will be recorded on form BL-084. This form contains the acceptable ranges for each standard.

At least a quarter of the samples are required to have chlorine checks performed when returned to the laboratory and prior to bacteriological analysis. *see Colilert method SM-9223B (see SOP# BL-004*).They should all be free of chlorine. Indicate this on the bacteriological sheet.

Note: wear a mask or face shield when opening Colilert bottles to add the powder pillow. Mask / face shield can be removed when all Colilert bottles have been recapped.

REFERENCE

Title 40 CFR. Part 141, subpart Y 9 Sections 141.851 through 141.861) as incorporated into Chapter 550.830, Florida Administrative Codes (FAC). (Revised Total Coliform Rule). FAC 62-550.518
Standard Methods for the Examination of Water & Wastewater, 9060, 23rd Edition.

Sampling Location for Distribution Runs

Blue Indicates Sampling Station

Red Run		Green Run		Blue Run	
Site	Sampling Station # / Residence Type	Site	Sampling Station # / Residence Type	Site	Sampling Station # / Residence Type
3781 Riverland Rd #21	Dr. Elizabeh Hays Civic Park	4600 Twin Lakes Blvd #27	Twin Lakes North Park	1331 SE 12 Way # 35	Cliff Lake Park
3950 Riverland Rd #22	Riverland Woods Park	6401 NW 21 Ave #2	Palm Aire Village Park	1784 SE 15 St. #36	15 Street Boat Basin
3775 SW 16 St #23	Sunset Park	6000 NW 21 Ave #3	Executive Airport	1500 Brickel Dr. #37	Colee Hammock Park
1230 SW 34 Ave #24	Shirley Small Park	1301 NW 55 St. #4	Fort Lauderdale Stadium	899 N. Rio Visa Blvd #38	Francis L. Abreu Place
1130 SW 33 Terr #25	Benneson Park	5899 Hawkins Rd #28	K9 Substation	SE 9 Ave & SE 4 St. #39	Secretary School Park
1760 SW 29 Ave #26	Ann Herman Park	2200 Executive Way #29	Fire Station 53	100 N. Victoria Park Road #34	Annie Beck Park
1720 SW 12 Ct.	House	2801 SW 2 St #30	Guthrie Blake Park	819 NE 17 Terr.	House
715 SW 14 Ct.	House	801 SW 28 Ave #31	Westwood Triangle Park	821 Victoria Park Rd.	House
606 SW 18 Ct.	House	555 SW 11 Ave #32	Riverland Park	820 NE 26 Ave.	House
611 SW 10 St.	House	1000 SW 27 Ave. #33	Fire Station 47	2401 NE 8 St. #12	Greenfield Park
50 SW 11 Ct #16	Tarpon River Park	2640 SW 19 St.	House	1500 Coral Ridge Dr.	House
25 SW 9 St #15	Florence Hardy Park and Southside Cultural Center	2100 SW 4 Ave. #18	Bryant Peney Park	1818 Coral Ridge Dr.	House
811 SW 7 Ave	House	230 SW 27 St.	House	2401 NE 27 Terr. #10	Coral Ridge Park
1328 NW 7 Ave.	House	250 SW 33 St.	House	2887 NE 26 Ct.	House
1409 NW 2 Ave.	House	401 SE 21 St.	House	2900 NE 40 St.	House
1503 NE 18 Ave.	House	245 W. Park Dr. #17	Croissant Park	2801 NE 51 St.	House
2125 NE 33 Ave #11	Dolphin Isle Park	403 SW 8 St.	House	2171 NE 51 St.	House
2132 Middle River Dr.	House	1130 NW 7 Ave	House	1969 E. Commercial Blvd	House
2414 NE 25 Pl.	House	1338 NW 9 Terr.	House	5421 NE 18 Ave.	House
2600 Middle River Dr.	House	1721 NW 8 Ave.	House	1701 NE 56 St.	House
2901 Middle River Dr.	House	2017 NW 11 Ave.	House	5340 NE 15 Ave.	House
949 NW 38 St.	House	2450 NW 22 St..	House	6061 NE 14 Ave. Suite B	House

Sampling Location for Distribution Runs

Blue Indicates Sampling Station

Black Run		White Run		Rainbow Run	
Site	Sampling Station # / Residence Type	Site	Sampling Station # / Residence Type	Site	Sampling Station # / Residence Type
2100 NW 49 St. #40	Warbler Wet Lands	401 SE 21 St. # 20	Poinciana Park	4810 NW 10 Ave.	House
3352 NW 63 St. #1	Palm Aire Park	1817 S. Miami Rd #45	Harbordale Park	6401 NW 21 Ave #2	Palm Aire Village Park
6200 NW 21 Ave.. #41	Cypress Creek Sand Pine Preserve	2000 S. Ocean Lane #46	Lago Mar Condominiums	1301 NW 55 St. #4	Fort Lauderdale Stadium
2801 SW 2 St. #42	Guthrie Blake Park	1015 Seabreeze Blvd #47	Fire Station 49	3050 NW 60 St.	House
1600 SW 21 Way #43	Flamingo Park	501 S. Fort Laudeale Beach Blvd #48	DC Alexander Park	2748 SW 8 St.	House
1720 SW 17 St. #44	Bill Keith Preserve	501 Seabreeze Blvd #49	Fort Lauderdale Aquatic Complex	2674 SW 13 St.	House
2800 SW 4 Ave.	House	311 Lido Dr. #14	Pump House	2507 Gulfstream Ln.	House
700 SW 26 St. #19	Rogers Middle school	3000 E. Las Olas Blvd #50	Oceanside Lot	2100 SW 4 Ave. #18	Bryant Peney Park
1014 W. Las Olas Blvd.	House	2619 E. Las Olas Blvd #51	Idlewyld Park	2421-A SW 6 Ave.	Bldg
210 Charley Ave.	House	240 E. Las Olas Circle #52	Las Olas Marina	401 SE 21 St. # 20	Poinciana Park
701 NE 12 Ave. Park	House	S. Birch Rd and Castilla St # 13	Cortez Passive Triangle Park	1850 S. Ocean Dr.	House
1301 NE 6 St.	House	2300 NE 33 Ave.	House	2866 Harbor Beach Pkwy	House
1513 NE 6 St.	House	3351 NE 33 Ave #9	Beach Community Center	320 SE 16 Ave.	House
906 NE 26 Ave.	House	4401 Bayview Dr. #8	Bayview Park	1304 NE 2 St.	House
2740 Yacht Club Blvd.	House	4205 Bougainvilla Dr.	House (LBTS)	820 NE 26 Ave.	House
1616 Middle River Dr.	House	1 Gatehouse Rd.	House (LBTS)	2401 NE 8 St. #12	Greenfield Park
2124 Middle River Dr.	House	241 Oceanic Ave.	House (LBTS)	2401 NE 27 Terr. #10	Coral Ridge Park
2929 NE 40 St.	House	6520 NE 22 Ave. #5	Dottie Mancini Park	3351 NE 33 Ave #9	Beach Community Center
5421 Bayview Dr.	House	5999 N. Fed Hwy #6	Imperial Point Entrance Way	4401 Bayview Dr. #8	Bayview Park
5550 NE 20 Terr.	House	2171 NE 51 St. (Bldg C)	House	4205 Bougainvilla Dr.	House
1831 NE 51 St.	House	5550 N. Federal Hwy. #7	Landings Entrance Way	1 Gatehouse Rd.	House
4530 NE 18 Ave.	House	4213 NE 21 Ave.	House	6520 NE 22 Ave. #5	Dottie Mancini Park

Sampling Location for Distribution Runs

Blue Indicates Sampling Station

Port Everglades Run		Wilton Manors Run		Oakland Park East Run		Oakland Park West Run	
Site	Sampling Station / Residence Type	Site	Sampling Station / Residence Type	Site	Sampling Station / Residence Type	Site	Sampling Station / Residence Type
3305 SE 14 Ave.	Buildings	2157 NE 27 Dr.	House	145 NE 32 Ct.	House	1760 NW 37 St.	Blue Sampling Box
2550 Eisenhower Blvd	Buildings	1956 Coral Gardens Dr.	House	404 NE 38 St.	Blue Sampling Box	1798 NW 39 Ct.	Blue Sampling Box
1530 SE 24 St.	Buildings	1606 NE 25 St.	House	586 NE 35 St.	Blue Sampling Box	1691 NW 45 St.	Gray Sampling Box
1850 Eller Drive	Buildings	1436 NE 26 St.	House	559 NE 32 St.	House	2100 NW 39 St.	House
2200 Eller Drive	Buildings	1400 NE 24 St.	House	860 NE 38 St.	Blue Sampling Box	1951 NW 36 St.	Blue Sampling Box
3046 Eller Drive - Terminal 25	Buildings	700 NE 20 St.	House	1099 NE 35 St.	Blue Sampling Box	2020 NW 35 St.	Blue Sampling Box
		600 NE 21 Ct.	House	1285 NE 30 St.	Blue Sampling Box	2031 NW 32 Ct.	Blue Sampling Box
		900 NE 28 St.	House	3341 NE 16 Ave.	Blue Sampling Box	1841 NW 31 Ct.	Blue Sampling Box
		417 NE 29 St.	House	1680 NE 34 Ln.	Blue Sampling Box	3041 NW 23 Way.	House
		501 NE 28 St.	House	3320 NE 17 Way	House	2200 W. Oak. Pk. Blvd.	House
		20 NE 27 Dr.	House	3710 NE 18 Ave.	House	2347 NW 28 St.	Blue Sampling Box
		201 NW 25 St.	House	1670 NE 38 St	Blue Sampling Box	3562 NW 10 Ave.	House
		2325 NW 7 Ave.	House	3781 NE 13 Ave.	House	937 NW 35 Ct.	Blue Sampling Box
		941 NW 26 Ct.	House	4300 NE 15 Terr.	House	760 NW 33 St.	Blue Sampling Box
		2816 NW 10 Ave.	House	4380 NE 11 Ave.	House	521 NW 40 St.	Blue Sampling Box
		2828 NW 11 Ave.	House	4774 NE 10 Ave.	House	575 NW 41 St.	Blue Sampling Box
		2935 NW 11 Terr.	House	4900 N. Dixie Hwy.	Blue Sampling Box	280 NW 43 Ct.	Blue Sampling Box
				710 NE 46 Ct.	House	3411 NW 5 Ave.	House
				4331 NE 1 Terr. (behind condo)	Buildings	131 NW 36 St.	House
				150 NE 40 St.	House	141 NW 37 St.	Blue Sampling Box
				4737 NE 17 Terr.	Blue Sampling Box	2647 NW 33 St.	House
						2705 S. Oakland Forest Dr.	House
						3090 S. Oakland Forest Dr.	Blue Sampling Box
						3046 S. Oakland Forest Dr. Bld. 25, Unit 2509	House
						3031 S. Oakland Forest Dr.	House
						2709 S. Oakland Forest Dr.	House

Environmental Laboratory
949 NW 38th Street
Fort Lauderdale, FL 33309
Phone: 954-828-7888

STANDARD OPERATING PROCEDURE

BL – 004

Enzyme Substrate Test (Colilert)

Revision # 7

Effective Date: 3/12/18

Prepared by: _____ **Date:**_____

Reviewed by: _____ **Date:**_____
Quality Assurance Officer

Approved by: _____ **Date:**_____
Laboratory Supervisor

1). TEST METHOD

SM 9223B Enzyme Substrate Test (Colilert)

2). MATRIX

[x]	**Aqueous**	[ ]	**Non- Aqueous Solid**
[ ]	**Wastewater (Effluent)**	[ ]	**Compost**
[ ]	**Wastewater (Influent)**	[ ]	**Sludge**
[ ]	**Surface Water**	[ ]	**Soil**
[ ]	**Ground Water**		
[x]	**Drinking Water**		

3). DETECTION LIMIT

Not applicable

4). SCOPE AND APPLICATION

Colilert © bottles from IDEXX © are used in this procedure. They will give a positive or negative result for total coliform and E.coli. Total coliforms will metabolize Colilerts © nutrient indicator; ortho-nitrophenyl-B-d-galactopyranoside (ONPG); and turn the sample yellow. E.coli will metabolize Colilerts © nutrient indicator, 4-methylumbelliferyl-B-d-glucuronide (MUG), and give a fluorescent product when viewed under a 366 nm wavelength UV light. This method is to be used on potable water and is not quantitative.

5). SUMMARY

One hundred mls of potable water bacteriological samples are collected in Colilert © bottles from IDEXX ©. These bottles are delivered sterilized. The sample is kept at < 10 C until returned to the lab. Upon arrival, a powder pillow; WP 200 ©, is added to the bottle. The bottle is shaken and placed in an incubator at 35 C (+ or – 0.5 C) for 24 hours. The sample bottle will be removed and checked for the presence of a yellow color. A yellow color indicates the presence of total coliform. The sample can be compared to a controlled positive sample to ensure validity. A positive sample will be placed under a 366 nm wavelength UV light and checked for a fluorescent color. This will indicate the presence of E.coli.

6). DEFINITIONS

See SOP QA-028

7). INTERFERENCES

The major interference involved in bacteriological testing is contamination of the sample bottles. All lots of Colilert © bottles or WP 200 © pillows must be verified to be free from bacteriological contamination.

8). SAFETY

Incubated samples may contain coliform colonies so care must be taken when handling. Wear gloves and labcoats when working with samples. This will prevent contamination of the samples and /or to the analyst. Read MSDS on the reagents for more information

9). EQUIPMENT AND SUPPLIES

9.1) Equipment

pH meter, Orion Star Model A211; s/n# X16903
Incubator, Fisher Scientific #1; s/n# 302N0026
Incubator, Thelco Precision #2; s/n#604091033
Autoclave, Market Forge Sterilmatic #2; s/n# 198013
Autoclave, Market Forge Sterilmatic #3; s/n# 220239
Refrigerator, Whirlpool; s/n# EH4123194
Dishwasher, Whirlpool s/n # FX513164
Mettler PE 1600, Analytical Balance; s/n# C24812
366 nm wavelength UV light - Spectroline Mini Max UV-5A

9.2) Supplies

Colilert © bottles from IDEXX
Colilert © Comparator WP 104 from IDEXX©

10). REAGENTS AND STANDARDS

10.1) Reagents

WP 200 © pillows from IDEXX©
Buffer Water
1N NaOH
$MgCl_2$-$6H_2O$ (solid)
Potassium Dihydrogen Phosphate (solid)
Escherichia Coli (purchased in loops)
Kiebsiella Pneumoniae (purchased in loops)
Pseudomonas aeruginosa (purchased as pellets)
DI Water –Filtered

Buffer Water (two methods)
Choose one of the two methods to prepare buffer water

Method #1 (*HACH*)

Add the contents (**HACH Dilution Water Concentrate, APHA Cat # 21431-66**) of two large pillow (Magnesium Chloride) and two small pillow (Dihydrogen Phosphate) to two liters of DI water. Check pH and ensure it is between 7.0 – 7.4 pH units. Out of range pH's will require the buffer to be remade. Sterilize in autoclave between 15 to 30 minutes at 15 PSI and 121 C. Perform the required QC as per section 12.

Method # 2 (*SM 9050 C (1)*)

Make the 1.0 N NaOH by the following

Normality desired	Grams of NaOH crystals	Volume prepared (mls)
1.0	40	1000

Buffer Water, *Dissolve 34 grams of Potassium Dihydrogen Phospate in 500 mls of water. Adjust pH between 6.7 – 7.7 with 1N NaOH and dilute to 1 liter with DI water (This is the* **Stock Phosphate Buffer Solution***). Add 81.1 grams of MgCl2-6H2O into 1 liter of DI water (This is the* **Magnesium Chloride Solution***). Add 2.5 ml of the* **Stock Phosphate Buffer Solution** *and 10.0 mls of the* **Magnesium Chloride Solution** *into 2 liter of DI water.* Check pH and ensure it is between 7.0 – 7.4 pH units. Out of range pH's will require the buffer to be remade. Sterilize in a*utoclave for 1 hour.* Perform the required QC as per section 12.

10.2) Standards

The Colilert © Comparator WP 104 from IDEXX© shows how a positive sample will look.

11) SAMPLE COLLECTION, PRESERVATION, SHIPMENT, AND STORAGE

The holding time for potable water is 30 hours. The laboratory will set a policy of having the samples analyzed within 6 hours of sample time unless on ice which 8 hours would be allowed.

The sample bottles contain their own sodium thiosufate thus none needs to be added to the bottles. Samples are kept refrigerated or on ice to < 10 C. Samples analyzed within 15 minutes after collections do not need to be kept at < 10 C. DEP FS - 1000 gives detailed information on collection, preservation, shipment and storage.

12) QUALITY CONTROL

12.1) Data Assessment and QC Acceptance Criteria

Per Lot

Each new lot will have three bottles filled with 100 mls buffer water. The three bottles will have a loop dipped into them containing Escherichia coli and Klebsiella pneumoniae, Pseudomonas aeruginosa will be added by dropping one pellet into the bottle. After the proper incubation the Escherichia coli bottle will turn yellow and fluorescent under the UV light. The Klebsiella pneumoniae bottle will turn yellow but will not show fluorescents under the UV light. The Pseudomonas aeruginosa bottle will not turn yellow or show fluorescents under the UV light. All three must pass in order to use the lot of Colilert bottles.

For each new lot perform the Colilert level check by first taring an empty vessel. Next add 15 ppm chlorine standard to the level line indicated on the vessel (bottom meniscus should be touching the line). This vessel will then be weighed and checked to see that the weight is between 98.00 - 102.00 grams. Next using chlorine strips check to see if the chorine has been dissipated. At this point the vessel can be used for the fluorescence check. Check the Colilert bottle with the fluorescence lamp and look for the presence of fluorescence light. Next add the powder pillow, shake and use the filled vessel to the check pH. The pH should be between 7.0 –7.6 units. Failure of the chlorine; weighing; DI fluorescence check and / or pH will require an investigation and subsequent retesting. Record the results on form BL-008.

Check sterility of Colilert bottles once per lot by aseptically adding 100 mls of Tryptic Soy Broth (TSB). Incubate at 35 C (+ or – 0.5) for 48 hours. No growth indicates sterility. Note: if the Colilert bottle becomes very turbid (indicating non-sterile conditions), this will be considered a failure. Failures will require an investigation and subsequent retesting. Record the results on form BL-008.

Daily

Buffer water is used as a blank. Analyzed at least one blank any day that Colilert samples are set up. Duplicates will be performed with distribution runs.

Monthly / Quarterly / Annually

DI water is analyzed monthly for TOC, conductivity, ammonia, chlorine and HPC. It is also analyzed yearly for metals and quarterly for a student T-test.

12.2) Corrective Actions for Out of Control Data

Trouble shoot as necessary to determine the problem. One of the main concerns is contamination. The following are performed to prevent contamination: The autoclave is serviced annually by a private company. The autoclave-timing device is checked against a stopwatch quarterly. The autoclave is checked weekly with biological indicators to ensure proper sterilization of glassware and media. The autoclave is wiped down monthly and cleaned with a mild soap and a soft cloth. The UV sterilizer bulbs are cleaned monthly with alcohol. Empty the Erlenmeyer collection flask when it reaches ¾ of total volume. Wipe counters with anti bacterial soap after use.

All sample bottles, filters, forceps and glassware are washed weekly in the Whirlpool dishwasher and autoclaved for 45 minutes. Each piece of equipment contains a maintenance section in their respective operations manuals for additional information. Any unsuspected positive result for coliform should be resampled. If the sample is from a distribution run then an up and a down sample should be taken Attempt to resample or reanalyze after troubleshooting. See SOP QA-021 for distribution sampling requirements.
Note: All funnels and filters are to be washed and autoclaved after each use

12.3) Contingencies for Handling Out of Control Data.

QC outside of theses tolerances that cannot be corrected must be reported with a qualifier (see QA – 015). If additional unusual events, or out of control data occur, see the supervisor for further instruction.

13) CALIBRATION

Calibrate pH meters in accordance with laboratory SOP’s

13.1) Linear Dynamic Range

There is no linear dynamic range associated with this method.

14) PROCEDURE

All potable water samples will be collected at 100 mls (no dilutions will be made). The Colilert bottles have 100 ml markings. This is accomplished by filling to the 100 ml line on the bottle. Note: If the sample is to have chlorine check performed fill slightly about the 100 ml line. Shake the sample vigorously and then pour off the amount to be used in the chlorine check into the designated test tube. Care should be taken to keep the Colliert bottle volume at or above the 100 ml line. Shake the sample vigorously and then pour off additional sample to adjust the level back to the 100 ml line when finished if needed. If the sample falls below the 100 ml line the sample is invalidated and will need to be recollected.

The sample will be kept at < 10 C until returned to the lab. The holding time is 8 hours when on ice. Clean the counter space to be used in the analysis. Next add a powder pillow, WP 200 ©, to the bottle. The bottle is shaken vigorously until all of the powder is mixed. The sample bottle is then placed in an incubator at 35 C (+ or – 0.5 C) for 24 hours (There is no tolerance for the 24 hours). Note the time in the incubator. The sample bottle will be removed after 24 hours and checked for the presence of a yellow color when compared to a Colilert © Comparator WP 104. A yellow color the same or greater than the comparator color indicates the presence of total coliform. If the incubated sample looks cloudy, put it back in the incubator for 4 more hours and then recheck for color against the comparator. A positive sample will be placed under a 366 nm wavelength UV light and checked for a fluorescent color when checked against the comparator. This will indicate the presence of E.coli. This is a positive / negative test for total coliform and E.coli. It is not quantitative and thus no calculations involved determining presence / absence for total coliform and E.coli.

Note; Shaking the bottle vigorously before any pour offs adequately homogenizes the sample. Sample integrity is compromised by pouring off some of the sample without adequate homogenization.

15) CALCULATIONS

This is a positive / negative test. It is not quantitative and thus no calculations are involved to determine presence / absence for total coliform and E.coli.

16) METHOD PERFORMANCE

The laboratory will perform all blanks daily and two duplicates for each distribution run. All analysts will have to have a “Demonstration of Capability” prior to performing this method. The laboratory will participate in “Proficiency Testing” for this analyte on a six month basis with passing grades on 2 of the last 3 studies required.

17) POLLUTION PREVENTION

Some samples may contain high levels of bacteria. Wipe up any spilled powder pillows. Care must be taken to prevent any spills from spreading over the counter. Proper protective clothing should be worn to prevent the spread of contamination. Wipe down all areas before and after completion.

18) WASTE MANAGEMENT

All negative Colilert samples may be flushed separately down the sink with water. Positive Colilert samples must be autoclaved for 35 minutes then disposed of down the sink .The empty bottles can be disposed of in the regular refuse. See QA –017 for more waste disposal.

19) REFERENCES

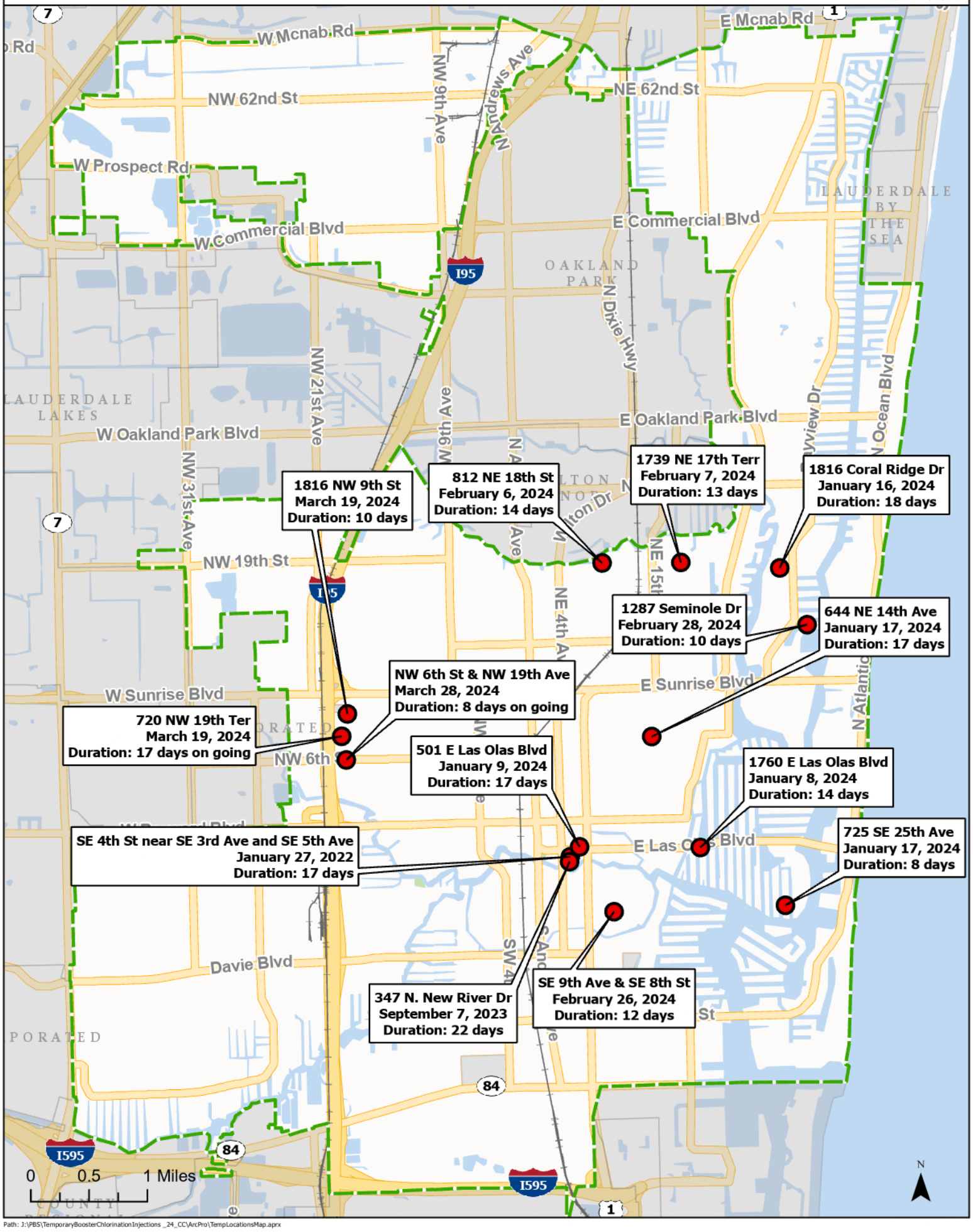
Standard Methods for the Examination of Water & Wastewater, 9223B, 21st Edition

IDEXX© instructions for Colilert ©

Temporary Booster Chlorination Injection Locations

GIS Fort Lauderdale

Exported: 4/10/2024



Path: J:\PBS\TemporaryBoosterChlorinationInjections _24_CC\ArcPro\TempLocationsMap.aprx

812 NE 18th St
February 6, 2024
Duration: 14 days

1739 NE 17th Terr
February 7, 2024
Duration: 13 days

1816 Coral Ridge Dr
January 16, 2024
Duration: 18 days

1287 Seminole Dr
February 28, 2024
Duration: 10 days

1816 NW 9th St
March 19, 2024
Duration: 10 days

720 NW 19th Ter
March 19, 2024
Duration: 17 days on going

644 NE 14th Ave
January 17, 2024
Duration: 17 days

NW 6th St & NW 19th Ave
March 28, 2024
Duration: 8 days on going

501 E Las Olas Blvd
January 9, 2024
Duration: 17 days

1760 E Las Olas Blvd
January 8, 2024
Duration: 14 days

347 N. New River Dr
September 7, 2023
Duration: 22 days

SE 4th St near SE 3rd Ave and SE 5th Ave
January 27, 2022
Duration: 17 days

SE 9th Ave & SE 8th St
February 26, 2024
Duration: 12 days

725 SE 25th Ave
January 17, 2024
Duration: 8 days

Temporary Booster Chlorination Injection Locations

CITY OF FORT LAUDERDALE

Date Exported: 4/10/2024

Injection Locations

Fire Hydrants
Owned By
- City
- Non-City

Pressurized Main
Owned By, Active Status, Casing
- Private, Active, No Casing
- City, Active, Casing
- City, Active, No Casing

N

0 0.25 0.5 1 Miles

Path: J:\PBS\TemporaryBoosterChlorinationInjections_24_CC\ArcPro\TempLocationsMap.aprx

Water & Sewer Bond Expenditures Summary
as of 04/25/2024

Bond Funded Projects by Category	Budget	Actuals	% Spent to Date	Commitments	Encumbrances	Remaining Balance
Finance	23,595,311	21,854,845	93%	-	933,486	806,980
Fiveash Upgrades	24,194,845	10,745,964	44%	548,288	4,430,500	8,470,092
GTL Upgrades	15,527,725	482,526	3%	1	4,424,733	10,620,465
I&I	17,303,547	15,132,831	87%	181,123	120,827	1,868,766
Master Plan/Report	2,109,625	1,492,579	71%	-	430,689	186,357
Peele Dixie Upgrades	163,133	97,125	60%	-	-	66,008
Sewer Basin	1,821,149	1,377,532	76%	103,775	29	339,814
Sewer Force main	187,920,548	86,835,309	46%	-	85,118,361	15,966,878
Watermain	20,732,832	20,172,552	97%	-	391,093	169,187
Grand Total	**293,368,715**	**158,191,263**	**54%**	**833,187**	**95,849,718**	**38,494,548**

Index Code / Project Title	Category	Project Status	Budget	Actuals	% Spent to Date	Commitments	Encumbrances	Remaining Balance
FD495.01 WATER & SEWER MASTER PLAN 2017	Finance	Implementation	21,611,457	19,992,301	93%	0	906,029	713,127
FD496.01 WATER & SEWER REGIONAL MASTER PLAN 2017	Finance	Implementation	1,983,854	1,862,544	94%	0	27,457	93,853
P10814.495 CENTRAL NEW RIVER W/MAIN RIVER CROSSING	Watermain	Construction	1,364,926	1,015,828	74%	0	204,780	144,317
P10850.495 VICTORIA PARK A NORTH-SMALL WATERMAINS	Watermain	Warranty	4,435,773	4,434,668	100%	0	0	1,105
P11080.495 PORT CONDO SMALL WATER MAIN IMPROVEMENTS	Watermain	Close-Out	932,320	915,442	98%	0	0	16,878
P11563.495 VICTORIA PARK SEWER BASIN A-19 REHAB	I&I	Design	5,832,153	5,783,483	99%	53,558	6	-4,895
P11566.495 RIO VISTA SEWER BASIN D-43 REHAB	I&I	Design	4,268,936	4,268,921	100%	0	14	1
P11589.495 FIVEASH WTP DISINFECTION IMPROVEMENTS	Fiveash Upgrades	Construction	15,915,533	2,729,291	17%	548,288	4,359,800	8,278,155
P11887.495 NW SECOND AVE TANK RESTORATION	Fiveash Upgrades	Construction	40,000	-	0%	0	40,000	0
P11901.495 VICTORIA PK STH SM WATERMAINS IMPROVEMNT	Watermain	Warranty	5,149,658	5,142,772	100%	0	0	6,886
P11991.495 DOWNTOWN SEWER BASIN PS A-7 REHABILITION	I&I	Design	2,000,000	296,204	15%	127,565	0	1,576,231
P12049.495 FLAGLER HEIGHTS SWR BASIN A-21 LATERALS	I&I	Construction	1,318,983	900,760	68%	0	120,794	297,429
P12055.495 BASIN A-18 SANITARY SWR COLL SYSTM REHAB	I&I	Design	3,883,475	3,883,462	100%	0	13	0
P12133.495 PUMP STN A-13 REDIRECTION E OF FEDERAL	Sewer Force main	Complete	478,014	478,014	100%	0	0	0
P12180.495 CROISSANT PARK SMALL WATER MAINS	Watermain	Complete	2,822,718	2,822,718	100%	0	0	0
P12184.495 DAVIE BLVD 18" WM ABAN I-95 TO SW 9 AVE	Watermain	Hold	297,692	297,692	100%	0	0	0
P12202.495 LIFT STATN D-11 FLOW ANALYSIS & REDESIGN	Sewer Basin	Complete	1,224,358	1,224,358	100%	0	0	0
P12214.495 INFILTRATION AND INFLOW PROGRAM	I&I	Master Plan & Report	-	-	0%	0	0	0
P12319.495 EMERG REPAIR 30" FM - REPUMP TO GTL WWTP	Sewer Force main	Complete	2,697,299	2,697,299	100%	0	0	0
P12352.495 S MIDDLE RIVER FORCE MAIN RIVER CROSSING	Sewer Force main	Finance	609,000	609,000	0	0	0	0
P12367.495 ASSET MANAGEMENT & CMOM PROGRAMS	Master Plan/Report	Project Initiation Planning	-	-	-	0	0	0
P12367.496 ASSET MANAGEMENT & CMOM PROGRAMS	Master Plan/Report	Project Initiation Planning	-	-	-	0	0	0
P12368.495 SEWER CAPACITY ANLY FOR GRAVITY & FM	Master Plan/Report	Project Initiation Planning	-	-	-	0	0	0
P12368.496 SEWER CAPACITY ANLY FOR GRAVITY & FM	Master Plan/Report	Project Initiation Planning	-	-	-	0	0	0
P12375.495 PROG MGMT OF CONSENT ORDER PROJECTS	Master Plan/Report	Project Initiation Planning	1,462,500	1,031,708	71%	0	428,497	2,295
P12375.496 PROG MGMT OF CONSENT ORDER PROJECTS	Master Plan/Report	Project Initiation Planning	115,000	112,578	98%	0	2,192	230
P12383.495 NE 25TH AVE FORCE MAIN REPLACEMENT	Sewer Force main	Design	12,889,764	368,398	3%	0	6,201,438	6,319,929
P12383.496 NE 25TH AVE FORCE MAIN REPLACEMENT	Sewer Force main	Design	5,642,266	1,344,351	24%	0	4,290,181	7,733
P12384.496 NE 38TH ST 42" FM & NE 19TH AV 24" FM	Sewer Force main	Project Initiation Planning	31,189,144	1,961,200	6%	0	28,539,549	688,395
P12385.496 SE 10TH AV 48" FM REPL & 36" BYPASS	Sewer Force main	Cancelled	18,326	18,326	100%	0	0	0

Index Code / Project Title	Category	Project Status	Budget	Actuals	% Spent to Date	Commitments	Encumbrances	Remaining Balance
P12386.496 54" FM RPL SE 9TH/10TH AV & NEW PARALLEL	Sewer Force main	Cancelled	6,072	6,072	100%	0	0	0
P12387.496 EFFLUENT MAIN REHABILITATION	Sewer Force main	Design	49,274,618	1,393,910	3%	0	45,533,546	2,347,162
P12388.495 NE 13TH ST 24" FORCE MAIN REPLACEMENT	Sewer Force main	Warranty	3,313,090	3,025,556	91%	0	0	287,534
P12389.495 18" FM RPL ACROSS NEW RVR FRM 9TH/ BIRCH	Sewer Force main	Complete	2,112,550	2,105,749	100%	0	0	6,801
P12390.495 16" FM ALONG LAS OLAS BLVD PHASE 2	Sewer Force main	Complete	2,410,943	2,410,943	100%	0	0	0
P12391.495 BERMUDA RIVIERA SML WTRMN IMPROVEMENTS	Watermain	Complete	4,424,433	4,424,433	100%	0	0	0
P12393.495 FIVEASH ELEC SYSTM REPLACEMENT (2015-20)	Fiveash Upgrades	Design	256,828	31,116	12%	0	0	225,712
P12395.495 PEELE DIXIE ELECTRICAL STUDIES	Peele Dixie Upgrades	Master Plan & Report	63,133	63,133	100%	0	0	0
P12396.495 PEELE DIXIE SURGE PROTECTION UPGRADES	Peele Dixie Upgrades	Construction	100,000	33,992	34%	0	0	66,008
P12399.495 FIVEASH WTP PCCP REPLACEMENT	Fiveash Upgrades	Complete	33,511	30,379	91%	0	0	3,132
P12400.495 PROSPECT WELLFIELD ELC STUDIES & TESTING	Master Plan/Report	Project Initiation Planning	185,000	1,168	1%	0	0	183,832
P12402.495 PEELE DIXIE WELLFIELD ELC STUD & TESTING	Master Plan/Report	Complete	47,670	47,670	100%	0	0	0
P12404.495 EXCAVATE & DISPOSE OF DRY LIME SLUDGE	Fiveash Upgrades	Warranty	4,228,973	4,228,973	100%	0	0	0
P12406.496 REDUNDANT FORCE MAIN FROM B-REPUMP	Sewer Force main	Cancelled	10,377	10,377	100%	0	0	0
P12407.495 SUBACQUEOUS FM CROSSING REINSTATEMENT	Sewer Force main	Cancelled	-	-	-	0	0	0
P12410.495 PUMP STATION C-1 REPLACEMENT	Sewer Force main	Project Initiation Planning	620,000	39,935	6%	0	0	580,065
P12412.495 PUMP STATIONS A-16 UPGRADE	Sewer Force main	Construction	3,000,000	3,012,857	100%	0	40,938	-53,795
P12413.495 FM FROM PUMP STN D-35 TO D-36 UPSIZE	Sewer Force main	Complete	517,445	517,445	100%	0	0	0
P12414.495 GRAVITY PIPE IMPV TO DWNTWN COL SYSTM	Sewer Force main	Hold	3,335,370	193,227	6%	0	0	3,142,143
P12415.495 PUMP STATION A-7 UPGRADE	Sewer Force main	Close-Out	2,396,575	2,396,575	100%	0	0	0
P12418.495 WTR & W/WTR D & C SYSTEM MAPPING	Master Plan/Report	Project Initiation Planning	-	-	-	0	0	0
P12419.495 FORCE MAIN ASSESSMENT	Master Plan/Report	Complete	-	-	-	0	0	0
P12419.496 FORCE MAIN ASSESSMENT	Master Plan/Report	Complete	-	-	-	0	0	0
P12456.495 SEWER BASIN D-40 REHAB	Sewer Basin	Design	169,237	65,031	38%	103,775	29	403
P12463.495 CORAL SHORES SML WATERMAIN IMPROVEMENTS	Watermain	Warranty	1,118,998	1,118,998	100%	0	0	0
P12485.495 FIVEASH WTP FILTERS REHABILIATION	Fiveash Upgrades	Construction	3,720,000	3,726,205	100%	0	30,701	-36,906
P12528.496 GTL CHLORINE FLASH MIX REMODEL	GTL Upgrades	Construction	1,527,725	125,929	8%	0	1,401,613	183
P12529.496 EFFLUENT PMP STNBY GENERATOR & ADMIN BLD	GTL Upgrades	Design	14,000,000	356,597	0%	1	3,023,120	10,620,282
P12566.496 REDUNDANT SEWER FM NORTH TO GTL WWTP	Sewer Force main	Complete	25,225,638	25,203,118	100%	0	0	22,520
P12567.496 REDUNDANT SEWER FM SOUTH TO GTL WWTP	Sewer Force main	Close-Out	33,722,015	33,722,015	100%	0	0	0
P12569.495 NE 5TH STREET FORCE MAIN IMPROVEMENT	Sewer Force main	Complete	1,928,910	1,928,910	100%	0	0	0
P12570.495 36TH STREET FORCE MAIN IMPROVEMENT	Watermain	Complete	-	-	-	0	0	0
P12605.495 NEW PUMPING STATION FLAGLER VILLAGE A-24	Sewer Force main	Construction	681,244	634,371	93%	0	44,494	2,379
P12608.495 TRIPLEX PUMPING STATION FLAGLER VILLAGE A-24	Sewer Force main	Design	502,013	149,984	30%	0	88,908	263,121
P12618.495 DOLPHIN ISLES B-14 SEWER BASIN REHAB	Sewer Basin	Project Initiation Planning	427,555	88,144	21%	0	0	339,411
P12619.495 BAYVIEW DR 16" FM TO PUMP STATION B-14	Sewer Force main	Design	2,530,000	95,579	4%	0	81,528	2,352,892
P12620.495 LAS OLAS MARINA PUMP STATION D-31	Sewer Force main	Construction	2,500,000	2,202,221	88%	0	297,779	0
P12628.495 INTERLOCAL AGREEMENT WITH POMPANO BEACH	Master Plan/Report	Project Initiation Planning	299,455	299,455	100%	0	0	0
P12731.495 GRAVITY SWR RPR BAYVIEW FRM 36 TO 40 ST	Sewer Force main	Warranty	309,875	309,875	100%	0	0	0
P12803.495 POINSETTIA DR SMALL WATERMAIN IMPROVEMENTS	Watermain	Project Initiation Planning	186,313	-	0%	0	186,313	0
Totals			**293,368,715**	**158,191,263**	**54%**	**833,187**	**95,849,718**	**38,494,548**

The commitment column is a new field in the City's Financial system and is used for the be bid purchase orders that are necessary for our consultants and construction contracts as well as Purchase Orders that are currently in process of being executed

FY 2024 Water & Sewer Expansion Impact Fees
April 25, 2024

FY 2023 (Revenue (Posted as of 03.20.2024)	Fiscal Month 1 (Oct. 2023)	Fiscal Month 2 (Nov. 2023)	Fiscal Month 3 (Dec. 2023)	Fiscal Month 4 (Jan. 2024)	Fiscal Month 5 (Feb. 2024)	Fiscal Month 6 (Mar. 2024)	Fiscal Month 7 (Apr. 2024)	Fiscal Month 8 (May 2024)	Fiscal Month 9 (June 2024)	Fiscal Month 10 (July 2024)	Fiscal Month 11 (August 2023)	Fiscal Month 12 (September 2024)	Year-to-Date Total
FD452.01 WATER EXPANSION/ IMPACT FEE CONSTRUCTION	**111,246**	**60,180**	**40,608**	**28,305**	**56,404**	**133,625**	**163,755**	**-**	**-**	**-**	**-**	**-**	**594,122**
324-210 (B251) W&S IMPACT FEES - RESIDENTIAL	13,839	9,885	9,885	20,759	33,609	91,931	15,816						195,723
324-220 (B252) W&S IMPACT FEES - COMMERCIAL	97,407	50,295	30,723	7,546	22,795	41,695	147,939						398,399
FD453.01 SEWER EXPANSION/ IMPACT FEE CONSTRUCTION	**115,547**	**57,471**	**38,780**	**27,031**	**381,211**	**129,498**	**156,387**	**-**	**-**	**-**	**-**	**-**	**905,923**
324-210 (B251) W&S IMPACT FEES - RESIDENTIAL	13,216	9,440	9,440	19,824	32,096	89,680	15,104						188,800
324-220 (B252) W&S IMPACT FEES - COMMERCIAL	102,331	48,031	29,340	7,207	349,115	39,818	141,283						717,123
324-220 (N963) IMPACT FEES - SEWER													-
TOTAL	**226,793**	**117,651**	**79,387.10**	**55,335**	**437,614**	**263,123**	**320,141**	**-**	**-**	**-**	**-**	**-**	**1,500,045**