DAPHNE UTILITIES
SANITARY SEWER
OVERFLOW RESPONSE PLAN

DAPHNE UTILITIES
WATER • NATURAL GAS • SEWER

RECORD OF PLAN REVISIONS

REVISION DATE	SECTIONS REVISED	INITIALS	REMARKS
12/15/18	All		Draft Plan Created
03/15/19	All		Original Plan Published

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DAPHNE UTILITIES
SANITARY SEWER OVERFLOW RESPONSE PLAN (SORP)

I. PURPOSE

This Sanitary Sewer Overflow Response Plan (SORP) has been prepared in accordance with Alabama Department of Environmental Management (ADEM or "Department") guidelines. The purpose of this SORP is to provide response and reporting guidelines to minimize the adverse effects to the public and the environment that may be caused by a Sanitary Sewer Overflow (SSO). This SORP applies only to the sanitary sewer collection system and Water Reclamation Facility (WRF) owned and operated by Daphne Utilities.

II. GENERAL

The SORP is designed to define appropriate actions by Daphne Utilities upon notification of a possible sanitary sewage overflow within the sanitary sewer system or at the WRF. Daphne Utilities shall dispatch the appropriate crews to investigate the possible overflow, identify the responsible party or parties, and provide appropriate response to minimize the effects of the overflow on public health and quality of local waterways. The SORP further includes provisions related to regulatory compliance pursuant to the directions provided by the Alabama Department of Environmental Management (ADEM) and that notification and reporting is made to the appropriate local and state agencies, and to the affected public. For purposes of this SORP, a "confirmed sewage spill" is also sometimes referred to as "sewer overflow," "overflow," or "SSO."

This SORP is effective beginning April 1, 2019. This SORP supersedes Daphne Utilities' Sanitary Sewer Overflow Response Procedure (latest revision October 2017)

This plan will be reviewed and/or updated annually to incorporate any changes in contact information; system components; personnel; and /or applicable regulations.

III. OBJECTIVES

The objectives of this SORP are:

- To protect the public health and the environment
- To meet ADEM regulations and NPDES permit requirements
- To develop and implement procedures to mitigate the effects of an SSO
- To protect collection system and WRF personnel
- To ensure the longevity of the collection system and WRF equipment

IV. SYSTEM INFORMATION:

Daphne Utilities owns, operates, and maintains a Water Reclamation Facility (WRF) and a sanitary sewer collection system serving portions of the cities of Daphne and Spanish Fort as well as unincorporated areas in the surround communities of Baldwin County (See Appendix A for map of service area). The population served is 25,000 people through approximately 12,000 individual connections.

The collection system is subdivided into twenty (20) sub-basins generally referred to as:

64 & 98	Bayview
Canterbury	Captain O'Neal
Dauphine Acres	Dog Pound
Jubilee Square	D'Olive Bridge
Lake Forest East	Lake Forest West
Lea Ave	Park City
Sehoy and Creekwood	Southeast Daphne
Jubilee Pointe	Spanish Fort
Timbercreek	US90 and Malbis
Walmart	Windscape

The collection system is comprised of approximately 210 miles of sewer pipe. Gravity lines ranging in size from 6" to 24" diameter comprise 160 total miles, lift station force mains comprise 35 miles, and the remaining 17 miles are low-pressure mains.

The system currently has 81 total sewage pumping stations (See Appendix B for a list of stations and locations).

V. SSO AND SURFACE WATER ASSESSMENT

The Daphne Utilities' collection system service area includes a number of surface water bodies including Mobile Bay and several named and unnamed tributaries. According to the ADEM's use and classification map of Alabama waterways, none of these surface waters are classified as "swimming." (http://gis.adem.alabama.gov/ADEM_Dash/use_class/index.html. Last accessed November 1, 2018). However, Mobile Bay at Village Point Park and at Mayday Park are areas where wading / swimming is known to occur. Furthermore, D'Olive Creek at Gator Alley Boardwalk and Mobile Bay at Lake Forest Yacht Club and Bayfront Park are known areas of recreation to include fishing and canoeing / kayaking. Appendix C is a map of surface water bodies within the service area.

Daphne Utilities is the primary public water agency within its service area. All drinking water is produced from groundwater wells greater than 150' in depth. Contamination of public drinking water supplies by SSOs is unlikely.

Daphne Utilities has identified locations within the collection system where previous SSOs have occurred, along with identifying areas where sanitary sewer mains are located adjacent to tributaries. A map of these locations is provided in Appendix C.

VI. SANITARY SEWER OVERFLOW RESPONSE PROCEDURES

The Sanitary Sewer Overflow Response Procedure presents a strategy for Daphne Utilities to mobilize labor, materials, tools and equipment to correct and/or repair any condition, which may cause or contribute to an unpermitted discharge from Daphne Utilities' sanitary system. A wide range of potential system failures are considered by the plan. Being prepared to respond to system failures could lessen the effect of overflows to surface waters, land, or buildings.

A. <u>Notification of Possible SSO</u>

1. Members of the public may detect and report a possible overflow. Daphne Utilities' Customer Service Department or after-hours on-call answering service is primarily responsible for receiving phone calls from the public with notification of possible overflows from the sanitary sewer collection system. The primary phone number for Daphne Utilities (251-626-2628) is available and answered 24 hours per day. The Customer Service Department or the after-hours answering service is then responsible for forwarding the possible overflow information to the Daphne Utilities SSO Coordinator (Section VII.B.). Contact information for customers to report possible SSOs is posted on the Daphne Utilities' website and on Social Media contact pages. **Emergency Response to overflows shall be available 24 hours per day, 365 days of the year.**
2. The person at Daphne Utilities receiving the call from the public will obtain all relevant information (Appendix D: Sewer Leak Report) available regarding the possible overflow including:
    a. Time and date call was received;
    b. Specific location and/or address of possible overflow;
    c. Description of problem; and
    d. Caller's name and call back phone number.
3. Pump stations are monitored by SCADA and provide alarms to Daphne Utilities' operator on duty indicating a potential SSO. The operator on duty shall convey all information regarding alarms to the SSO Coordinator to initiate the investigation.
4. Sanitary sewer overflows detected by any Daphne Utilities' personnel in the course of their normal duties shall be reported to the SSO Coordinator or designee. Dispatched personnel should record all relevant overflow information on Sanitary Sewer Incident Report and shall dispatch additional response crews, equipment or contracted services as necessary.
5. It is the responsibility of the SSO Coordinator or designee to gather and document all spill response data as soon as possible.
6. A **Sewer Overflow Incident Report** (Appendix E) should be completed by the SSO Coordinator or designee immediately following the responding crew's confirmation of an overflow. The SSO Coordinator or designee is responsible for reviewing, updating, signing, and submitting the final sewer inspection or overflow report form to the appropriate agencies, including but not limited to ADEM and the Baldwin County Health Department per current NPDES Permit requirements.

B. Dispatch of Appropriate Crews to Site of Sewer Overflow

Failure of any element within the Daphne Utilities wastewater system that causes a sanitary sewage overflow will trigger a response to isolate the SSO, stop the SSO from occurring, and formulate a plan to correct the problem. Crews and equipment shall be available to respond to any SSO locations 24 hours per day, 7 days per week. Crews will be dispatched to any site of a reported SSO immediately upon notification.

1. **Preliminary Assessment of Damage to Private and Public Property**
   The response crews should use discretion in assisting property owners/occupants who are affected by a SSO on private property. Appropriate photographs and video footage, if possible, should be taken of the area of the SSO and impacted area, allowing for thorough documentation of the nature and extent of the impact. Photographs or video recordings are to be filed with the Sewer Overflow Incident Report Form report.
2. **Coordination with Hazardous Material Response**
   Upon arrival at the scene of a SSO, should a suspicious substance (e.g., oil sheen, foamy residue) be found on the ground surface, or should a suspicious odor (e.g., gasoline) not common to the sewer system be detected, response crew leader should contact the Wastewater Manager or Supervisor for guidance before taking further action.

   The Wastewater Manager or Wastewater Supervisor will alert the local fire department if necessary. The response crew leader shall await the arrival of the local fire department. After arrival of the local fire department, response crew members will take direction from the commanding officer of the local fire department. Only when the commanding officer

determines it is safe and appropriate for the response crew members to proceed can containment, clean-up, and corrective activities be performed in accordance with the SORP.

Remember that vehicle engines, portable pumps, or open flames (e.g., cigarette lighters) can provide the ignition for an explosion or fire should flammable vapors or fluids be present at the site. Maintain a safe distance and observe caution until and after assistance arrives.

C. Overflow Correction, Containment, and Clean Up

This section describes specific actions to be performed by response crews during an SSO. The primary objectives of these actions are to:

- Protect public health, the environment, and property by minimizing SSO impacts as soon as possible
- Contain the SSO to the maximum extent possible including attempts to prevent the discharge of sanitary sewage into waters of the state
- Communicate preliminary overflow information as soon as practical to the public and regulatory agency and within established regulatory timeframes
- Establish perimeters with appropriate barricades and controlled access zones with vehicles or natural topography (e.g., hills, berms)
- Determine the apparent cause of the overflow

1. **Responsibilities of Response Crew upon Arrival**
   It is the responsibility of the first personnel who arrive at the site of a sanitary sewer overflow to protect the health and safety of the public by mitigating the impact of the overflow to the extent possible. Should the overflow not be the responsibility of Daphne Utilities, but there is imminent danger to public health, public or private property, or to the waters of the State then prudent action should be taken until the responsible party assumes control and provides remedial actions. **Upon arrival at a SSO the response crew should do the following:**
   a. Determine the cause of the sanitary sewer overflow.
   b. Request appropriate personnel, materials, supplies, and/or equipment which can be dispatched to minimize the impact of the overflow
   c. Should it be determined the cause of the SSO is not the responsibility of Daphne Utilities, dispatched personnel will take appropriate action to protect public health, property (public and private), and waters of the state from imminent danger.

2. **Initial Measures for Containment**
   Upon arrival, the responding crew shall initiate measures to contain the SSO, thereby minimizing the impact to public health or the environment. These measures may include, but are not limited to:
   a. Stopping flow by closing valves or turning off pumps at nearby or upstream lift stations
   b. Jetting or otherwise clearing line blockages
   c. Diverting flow to containment areas (i.e., detention ponds, ditches, etc.)
   d. Installing spill containment socks or booms

3. **Additional Measures Under Potentially Prolonged Overflow Conditions**
   In the event of a prolonged sewer line blockage, sewer line collapse, disabled lift station or other event, a determination shall be made to set up portable bypass pumping until repairs can be made.
   a. Appropriate measures shall be taken to effectively handle the sewage flow
   b. Monitoring shall be implemented as necessary
   c. Regulatory agency notifications and/or permits shall be addressed in conjunction with emergency repairs
   d. Public notification provided as outlined in the following sections

4. **Cleanup**
   Sewer overflow sites are to be promptly cleaned to the highest degree possible following an overflow. No readily identifiable residue is to remain in the area of the SSO.
   a. The SSO site is to be secured to deter access to the site by the public until the site has been thoroughly cleaned.
   b. Where practical, the area is to be flushed and cleaned of any sewage or wash-down water.
   c. Solids and debris are to be removed and transported to WRF for proper disposal.
   d. Where appropriate, the overflow site is to be disinfected with the application of a dilute bleach solution, chlorinated water and/or lime**.** Daphne Utilities' SSO Cleanup SOP is incorporated by reference (Copy Located in Appendix H)
   e. Any ponds formed by the SSO will be pumped dry to the extent possible and the residue returned to the wastewater collection system or properly disposed of at the WRF.
   f. Where possible, photos will be taken before and after cleanup. Photos will be filed with the Sewer Overflow Incident Report.

5. **Post Cleanup**
   The Operations Manager or his designee shall conduct a follow-up visit at the site of the overflow to ensure the provisions of this SORP and other directives were followed. The Wastewater Manager is responsible for confirming the Sewer Overflow Incident Report was satisfactorily completed and copies provided to the General Manager, Operations Manager, and Operations Coordinator.

6. **Water Quality Monitoring**
   Should ADEM or Daphne Utilities determine monitoring of waters is appropriate following an SSO, Daphne Utilities' Water Quality Monitoring Policy is incorporated by reference (Copy located in Appendix H). Determination of monitoring may be based upon amount of overflow, location of overflow, and potential impact to the public.

D. Overflow Report

The Sewer Overflow Incident Report shall be completed by the response personnel, who shall promptly notify the Operations Manager when the overflow is eliminated. The proper completion of the Sewer Overflow Incident Report must include the following information:

1. **Determination if the SSO is "Notifiable"** by evaluating whether the overflow reached a surface water of the state OR poses an imminent health hazard (volume of overflow is not a determining factor). In making the determination whether an SSO is notifiable, the following f actors should be evaluated:
   a. Sewage overflow into storm water conveyance system (ditch, storm drain, etc.) which drains to surface water of the state
   b. Whether public contact with the affected area is likely to occur
   c. Overflows where observation or on-site evidence indicates all sanitary sewage was retained on land and did not reach surface water AND where cleanup of debris is possible
   d. Any other pertinent information relating to each individual SSO

2. **Determine the Estimated Start Date / Time of the SSO**
   a. Information reported to Daphne Utilities and later substantiated by sewer investigator or response crew, or when DU personnel became aware of the SSO
   b. Visual observation

3. **Determine the End Date / Time of the SSO**
   a. When flow is controlled and contained
   b. The arrival time of the sewer investigator or response crew, if the overflow stopped between the time it was reported and the time of arrival

4. **Determine the Volume of the Overflow:**
   The volume of the overflow may be estimated or calculated. As appropriate, one of the following methods may be used.
   a. Estimate the flow rate (gallons per minute) and multiply by the duration (in minutes) of the overflow
      1. All Daphne Utilities personnel responding to overflow situations will have been trained on the manhole overflow simulator and the Overflow Rate Calculation Guide (attached to SSO Incident Report Form) to identify and estimate flow rates.
   b. Calculate the estimated amount of the overflow by:
      1. SCADA-indicated pump runtimes
      2. Measuring the volume if overflow is contained
      3. Counting upstream connections and multiplying by 8-10 gallons per hour per connection (for overflow occurring during the hours of 6:00am to 8:00pm)
      4. Mathematical determination (e.g., theoretical pipe flow capacity) based on site-specific conditions

5. **Document the overflow calculation method (show your work)**
   The method used for calculating the overflow (estimated or calculated) shall be documented, signed, and attached to the Sewer Overflow Incident Report Form.

6. **Identify and Document Corrective Measures to Stop and Contain the Overflow**
   Document corrective measures on the Sewer Overflow Incident Report Form

7. **Identify and Document Long-Term Corrective Measures to Mitigate Future Occurrences if warranted**
   Document long-term corrective measures (if warranted) on Sewer Overflow Incident Report Form

8. **Photograph and Describe any Damage to Public / Private Property**
   Attach photographs, video, and any narrative description of the overflow to the SSO Incident Report Form.

VII. REGULATORY AGENCY NOTIFICATION

The Notification Plan establishes procedures that the Daphne Utilities shall follow to provide formal notice to ADEM and other regulatory agencies as necessary in the event of SSOs. The following reporting criteria explain to whom various forms of notification should be sent to, and lists agencies/individuals to be contacted.

A. **Notification Procedure**
   The Alabama Department of Environmental Management (ADEM) and the Baldwin County Health Department (BCHD) shall be notified as soon as possible after confirmation of an SSO, but no later than twenty-four (24) hours.
   1. Notification to ADEM shall be made via the eSSO Electronic Reporting System. For SSOs lasting longer than 24 hours, the initial eSSO notification must be updated with the date/time the SSO ended. In the event the eSSO system is unavailable, the Department is to be contacted within 24 hours via the SSO Hotline at 334-274-4200. In the event the Hotline is utilized, a written follow-up report, ADEM Form 415 (Copy located in Appendix G) shall be submitted to the Department within 5 calendar days.
   2. Notification to the Baldwin County Health Department shall be made via email to the contacts listed in Appendix F (Emergency Contacts). Notification to the BCHD shall include:
      a. Indication an SSO occurred
      b. Source and cause of the SSO
      c. Date of SSO
      d. Estimated volume if known

e. Location of SSO
f. Ultimate destination (water body) of overflow
g. Attempts to notify the public already performed by Daphne Utilities

B. Responsible Officials

1. SSO Coordinator – This person is responsible for coordinating the SSO response. This individual shall assess the SSO and initiate a series of responses based on the type, severity, and destination of the SSO. The SSO Coordinator is responsible for organizing crews for response, containment, and cleanup. The primary SSO Coordinator shall be the Wastewater Manager and the backup shall be the Wastewater Supervisor.
2. SSO Responders – These individuals will conduct response, containment, and cleanup of an overflow under the direction of the SSO Coordinator. Primary SSO Responders are the wastewater collections system personnel and any Daphne Utilities' personnel on emergency standby duty.
3. SSO Reporter – This person is responsible for providing notification to ADEM, the BCHD, the public, and other affected entities. The primary SSO Reporter shall be the Operations Manager and the backup SSO Responder shall be the Wastewater Manager or the General Manager.
4. Public Inquiries and media relations shall be the responsibility of the Communications Manager and/or the General Manager.
5. Contact information for the above is listed in Appendix F (Emergency Contacts) and shall be updated annually or at any time positions / titles change if known.

VIII. PUBLIC NOTIFICATION OF SSOs

In the event a notifiable SSO reaches a surface water of the state and/or may imminently and substantially endanger human health based on potential for public exposure, including human contact, appropriate public notification measures shall be undertaken to warn the public of the SSO and to minimize the potential for public exposure.

A. Public Notification Methods and Timing

Various public notification measures are available to inform the public of SSOs and may be implemented in combinations depending on the potential for public exposure and possible health risks. Among these measures are:

1. Immediate Press Release to local print and broadcast media outlets
2. Notification to BCHD who provide a media press release within 24 hours
3. Social Media Posts (e.g., Facebook, Twitter, etc.) and DU Website notifications
4. "Opt-In" text messaging and automated phone messaging system
5. Signage on local waterways where overflow occurred or drained into
6. Flyers, doorhangers, or other directed notifications

Notification to the Public shall be made as soon as feasibly possible, but in no event more than than 24 hours after confirmation of an SSO.

B. Procedures for Determining Appropriate Public Notification Method

Notifiable SSOs shall be categorized as Class 1, 2, or 3 depending on potential for public exposure.

1. A **Class 1 SSO** is characterized as an overflow directly into a primary local waterway and easily accessible to the general public (i.e., Mobile Bay, D'Olive Creek, Lake Forest Lake, Yancey Branch, Tiawasee Creek) AND directly impacting those water bodies identified in Section V. (SSO and Surface Water Assessment) as receiving heavy recreational use. Public Notification for a Class 1 SSO may include, but is not limited to:
    a. Immediate press releases to local media outlets
    b. Notice to Baldwin County Health Department who will also issue a press release
    c. Posting on Daphne Utilities' website and social media pages
    d. Activation of "opt-in" notification system
    e. Signage where appropriate and in accordance with Section VIII. D. outlined below

2. A **Class 2 SSO** is characterized as an overflow into a surface water of the state OR that has the potential to impact the public at large. Public Notification for a Class 2 SSO may include, but is not limited to:
    a. Notice to Baldwin County Health Department who will issue a press release
    b. Posting on Daphne Utilities' website and social media pages
    c. Signage if appropriate and in accordance with Section VIII. D. outlined below

3. A **Class 3 SSO** is characterized as an overflow that does not reach a surface water of the state but has the potential for limited public impact. Public notification for a Class 3 SSO may include, but is not limited to :
    a. Directed notifications to the affected public such as flyers or doorhangers
    b. Notice to Baldwin County Health Department and providing statement that the affected public has already been notified by Daphne Utilities. (The BCHD may still choose to issue its own press release)
    c. Posting on Daphne Utilities' website and social media pages
    d. Signage if appropriate and in accordance with Section VIII. D. outlined below

In the event of an extreme weather event which floods the entire system and causes multiple overflows, Daphne Utilities will provide public notification as soon as feasibly possible following the event; and according to the methods outlined above based on the aggregate volume of all overflows.

C. Required Information

In the event of a notifiable SSO, public notification shall include the following information:

1. Indication an SSO occurred
2. Source and cause of the SSO if known
3. Date of SSO
4. Estimated volume if known
5. Location of SSO
6. Ultimate destination (water body) overflow
7. Where appropriate, public education statements to inform the public on methods to prevent future SSOs (i.e., grease recycling, check cleanout caps, protect storm drains, etc.)
8. Means to contact Daphne Utilities both during normal and after business hours to report an SSO or for additional information.

D. Specific Procedures for Installation of Signage

In the event signage is used to provide public notification, the following shall be utilized where practical:

1. Signs shall be 11"X17"
2. Signs will be reproduced and customized for each incident to include at a minimum:
    a. Indication an SSO has occurred
    b. Date of SSO
    c. Location of SSO
    d. Caution Statement
    e. Contact information for obtaining additional information
3. Signs shall be installed in locations downstream of the overflow and where the public is likely to access the waterway. As appropriate, examples include, but are not limited to:
    a. Gator Alley Boardwalk on east and west sides of North Main Street, and on the west side of US 98 at the Hampton Inn
    b. Yacht Club public boat launch and Yacht Club boat slips
    c. Bayfront Park at pier
    d. Mayday Park at pier and Kayak launch
    e. Lake Forest Lake Dam behind Jubilee Square and behind Bayview Townhomes

4. Signs shall remain in place for a minimum of 24 hours but not longer than 72 hours from time of overflow unless specific conditions warrant a longer amount of time.

IX. SSO RESPONSE PLAN ADMINISTRATIVE PROCEDURES

A. Copies of the SORP

A copy of this SORP shall be maintained at the WRF, the Central Services Facility, and the main administrative offices of Daphne Utilities. A copy shall be made available for inspection by ADEM at any time.

A copy of this SORP shall be publicly available on the Daphne Utilities' website.

B. Training on the SORP

Any personnel required to implement portions of this SORP shall be trained in the procedures contained herein at least once per year. Personnel requiring training are:

1. All WRF personnel
2. All wastewater collection and lift station personnel
3. Wastewater Manager
4. Field Services Manager and Field Services Supervisors
5. Operations Manager
6. Operations Coordinator
7. Operations Assistant
8. GIS Technician
9. Environmental Compliance Supervisor
10. Communications Manager
11. General Manager
12. Any other employee deemed necessary

Any new employee in any of these positions shall receive training on this SORP during orientation. Should significant revisions be made to this SORP, training regarding the revisions shall be conducted as soon as possible for all above personnel. Documentation of such training shall be maintained and provided to ADEM upon request.

C. Review of the SORP

Daphne Utilities shall complete a review and evaluation of the SORP annually. The emergency contact list shall be updated at a minimum annually, or as needed if positions changed if known. Evaluation and review of the SORP shall be signed and dated by the responsible official or the appropriate designee.

Signature of Responsible Official / Duly Authorized Representative: Date:

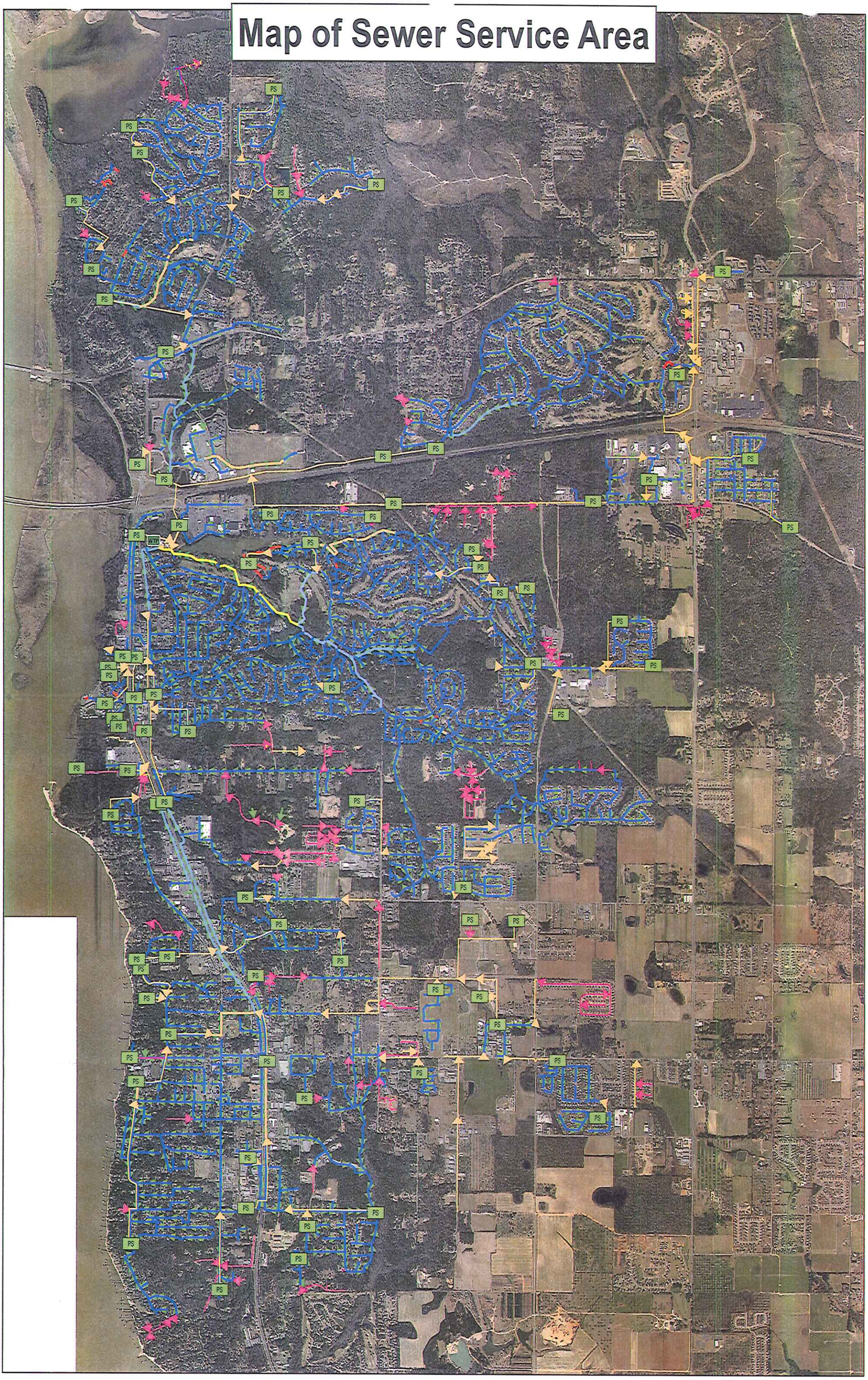
Name and Title of Responsible Official / Duly Authorized Representative:

Evaluation / Review Date:

Appendix A

MAP OF SERVICE AREA

Map of Sewer Service Area



Appendix B

LIST OF PUMPING STATIONS AND LOCATIONS

Pumping Stations and Locations

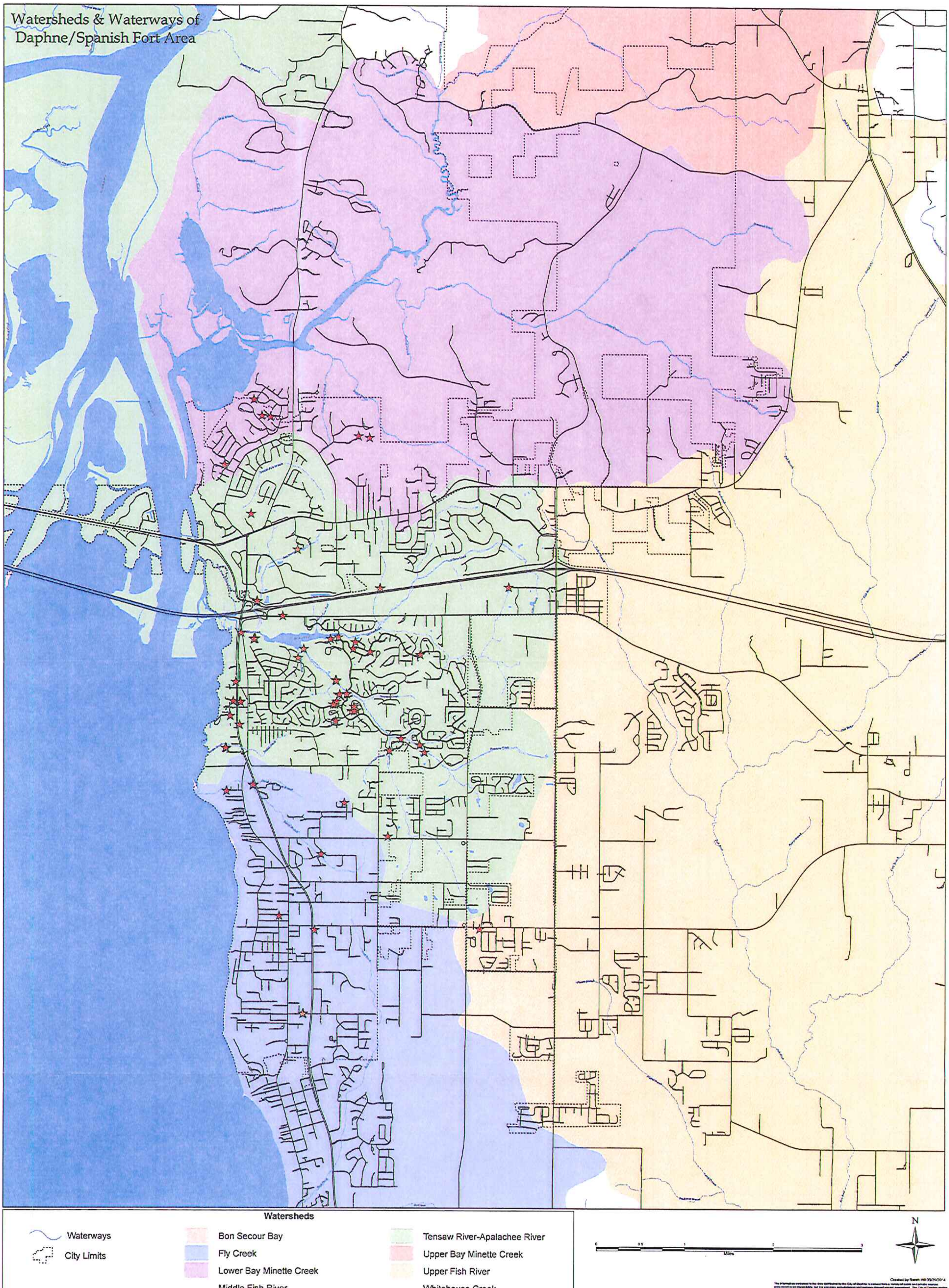
Station Number	Lift Station Name	Location / Address
1	HWY 64 & 98	SE corner of 98 and 64. In front of Whitney Bank
2	JOHNSON ROAD EAST	End of gravel road
3	VALERIE LANE	off Daphmont Dr
4	WARREN DRIVE	Next to park
5	DOG POUND	911 Shop Ln
6	PINEWOOD	Holy Cross Dr near old Judge Roy Bean's
7	CAP'T O'NEAL (Hires Ln)	Cap't O'Neal
8	ASHLEY GATES	912 Van Ave / between bldgs 5 & 6
9	BAYSIDE ACADEMY	Cap't O'Neal @ Dryer
10	BELROSE AVE	End of road
11	LEA AVENUE	Corner of Lea and Old County Rd
12	CAMERON COURT	End of cul de sac - 100' down brick path
13	WHITING CT	End of cul de sac behind iron gate
14	VILLA DRIVE	Behind M.M. parking lot on the right
15	MERCY MEDICAL	Behind facility
16	HARBOR PLACE	In landscape island in cul de sac
17	DELCHAMPS / PUBLIX	Bay Front Park
18	BAY FRONT PARK	Above ground vault next to Building
19	FIRESTATION #2	28280 N. Main St
20	JUBILEE POINTE (Southtrust)	Jubilee Pointe shopping center
21	DAPHNE 98, OFFICE PARK	28080 Hwy 98
22	OLD YMCA, HWY 98	East side of 98 (Planet Fitness)
23	D'OLIVE LANDING	D'Olive Landing S/D off Yacht Club Drive
24	MONROE STREET	at Hwy 98 / Prudential Nichols parking lot
25	BAY BLUFF	End of Madison St off Yacht Club Dr
26	BAY VILLAGE APARTMENTS	Yacht Club Dr
27	EAST BAY APARTMENTS	Behind Bldg 18
28	WORLD GYM	End of Merritt Blvd
29	WEST YANCY BRANCH	Hwy 98
30	WINDSCAPE	5th Ave & Hwy 98
31	PARK CITY	End of 5th Ave south
32	EAGLE CREEK	Soaring Eagle Ct
33	DAUPHINE ACRES	Corner of Caroline and Camellia
34	WILSON AVE	Wilson Ave
35	LOCKE RD	Locke Rd
36	BROOKHAVEN PUMP STATION	Bainbridge Dr (West)

37	SPORTS COMPLEX	Off Whispering Pines
38	DAPHNE MIDDLE SCHOOL	Hwy 13
39	KRYSTAL RIDGE	End of cul-de-sac
40	CANTERBURY PLACE	Lawson Rd at Canterbury entrance
41	CANTERBURY TRACE	Next to 28950 Canterbury Way
42	LAWSON ROAD	Ridgewood Dr @ Lawson in median
43	MELANIE LOOP	Near Edgar Cir
44	ARAGON CIRCLE / LAKE FOREST 9TH HOLE	Down cart path from Well 6
45	RIDGEWOOD & DONNETTE LOOP	Ridgewood Dr
46	DONNETTE LOOP	137 Donnette Loop
47	GRANDE POINTE	133 Lake Front Dr
48	BAYVIEW BRIDGE	Bayview Dr next to lake
49	GORDON CIRCLE	Lakeview Loop at Gordon Circle
50	NICHOLE PLACE	Across from Vista Circle
51	D'OLIVE BRIDGE / D'Olive Creek	Across from WWTP on N. Main St
52	JUBLIEE SQUARE (Gayfers)	Hwy 90
53	I-10 OVERLOOK	Right rear of Overlook Bldg
54	INTERSTATE 10	Spanish Fort Town Center Site
55	SPANISH MAIN	Off Spanish Main
56	CONFEDERATE POINT	#6 Confederate Pointe, down driveway on left
57	CORA SLOCUMB	Cora Slocumb
58	GENERAL CAMBY	Gen Canby Loop
59	BLAKELY WAY UNIT 7	Maureen Cir
60	RHETT DR / MAUREEN CIRCLE	Rhett Dr
61	TWELVE OAKS DRIVE	Twelve Oaks Dr
62	TIMBERCREEK EAST	Elderberry Dr (east side)
63	TIMBERCREEK WEST	Elderberry Dr (west side)
64	ROCKWELL SCHOOL	Hwy 31
65	SAWWOOD STREET (Timbercreek Comm.)	End of cul-de-sac North
66	Lowe's / FREDERICK BLVD	Between Lowe's and Sam's
67	HISTORIC MALBIS, HWY 90	Hwy 90 East of Hwy 181
68	HISTORIC MALBIS #2	St. Simon & Gregor
69	CHAMBERLAIN	Co. RD 64 west of entrance to Chamberlain
70	AUSTIN PLACE	Rand Ave
71	MAINTENANCE BLDG / PUBLIC WORKS	Off Public Works Rd
72	CHELCEY PLACE	Sable Court
73	JUBILEE RIDGE	Jubilee Ridge Townhomes off Hwy 64
74	HWY 90 EAST (Cancer Center)	9301 Hwy 90
75	HWY 90 WEST (Harley Shop)	8083 Hwy 90
76	South 64	Corner of Armstead and Lett Ave
77	RIDGEWOOD	235 Ridgewood Dr

78	WHISPERING PINES	987 Whispering Pines Rd
79	Hwy 31 / Spanish Fort	Hwy 31 Just west of 225
80	Winged Foot	Zoeller Lane
81	Bull Run	506 Southern Way

Appendix C

SURFACE WATERS AND LOCATIONS OF PREVIOUS SSOs


Watersheds & Waterways of
Daphne/Spanish Fort Area
Watersheds
Waterways
City Limits
Bon Secour Bay
Fly Creek
Lower Bay Minette Creek
Middle Fish River
Tensaw River-Apalachee River
Upper Bay Minette Creek
Upper Fish River
Whitehouse Creek
N

Appendix D

SEWER LEAK REPORT

SEWER LEAK CALL REPORT

PERSON TAKING CALL: _____

DATE: _____ **TIME**: _____

CALLER NAME _____

COMPANY (If Applicable) _____

ADDRESS _____

PHONE # _____

ADDRESS OF LEAK LOCATION (IF DIFFERENT) _____

DESCRIPTION OF PROBLEM / EMERGENCY _____

_____

_____

L**EAK LOCATION: INSIDE HOUSE** _____ **OUTSIDE HOUSE** _____ **OTHER** _____

HOW LONG HAS BEEN LEAK NOTICED? _____

IS THERE ANY CONSTRUCTION OUTSIDE HOME OR BUSINESS? YES _____ NO _____

CALL RECEIVED BY:

PHONE _____ WALK IN _____ OTHER _____

CALL REPORTED TO: _____

DATE: _____ TIME:_____

Appendix E

SEWER OVERFLOW INCIDENT REPORT

SANITARY SEWER INCIDENT REPORT

NPDES PERMIT NUMBER: AL0027561

Daphne Utilities

☐ **COLLECTION SYSTEM** ☐ **WATER RECLAMATION FACILITY**

1. Location: (list street address, nearest intersection, line segment or other information necessary to accurately describe the location) _____
   GIS Coordinates _____
2. Date of Discovery: _____ Time of Discovery: _____
3. Reported By: _____ Date: _____ Time: _____
4. Indicate source of discharge event: ☐ manhole ☐ lift station ☐ broken line
   ☐ Customer's home / building ☐ cleanout ☐ other (describe): _____
5. Indicate cause of Discharge event: ☐ Grease ☐ Roots ☐ Other blockage _____
   ☐ Wet Weather ☐ Power Loss ☐ Pump Failure ☐ Other _____
6. Description: _____
   _____
   _____
   _____
   _____
   _____
7. Ultimate Destination of Flow: ☐ Surface Water _____
   ☐ Dry Land ☐ Storm Drain ☐ Building ☐ Other _____
8. Duration: _____
9. Time Corrected: _____
10. Repaired By: _____
11. Volume of Discharge: _____
12. Intended Destination of Flow: ☐ WWTP ☐ Lift station name _____
13. Area Treated: Chlorinated ☐ Yes ☐ No Limed ☐ Yes ☐ No
14. Action(s) Taken: _____
15. Long Term Corrective Action: _____
    _____

Signature: _____

Distribution List: Wastewater Supervisor, Water Reclamation Manager, Operations Manager, Operations Assistant

TABLES FOR ESTIMATED SSO FLOW OUT OF MANHOLES

TABLE 'A'

ESTIMATED SSO FLOW OUT OF M/H WITH COVER IN PLACE

24" COVER

Height of spout above M/H rim H in inches	S S O FLOW Q in gpm	in MGD	Min. Sewer size in which these flows are possible
1/4	1	0.001	
1/2	3	0.004	
3/4	6	0.008	
1	9	0.013	
1 1/4	12	0.018	
1 1/2	16	0.024	
1 3/4	21	0.030	
2	25	0.037	
2 1/4	31	0.045	
2 1/2	38	0.054	
2 3/4	45	0.065	
3	54	0.077	
3 1/4	64	0.092	
3 1/2	75	0.107	
3 3/4	87	0.125	
4	100	0.145	
4 1/4	115	0.166	
4 1/2	131	0.189	
4 3/4	148	0.214	
5	166	0.240	
5 1/4	185	0.266	
5 1/2	204	0.294	
5 3/4	224	0.322	6"
6	244	0.352	
6 1/4	265	0.382	
6 1/2	286	0.412	
6 3/4	308	0.444	
7	331	0.476	
7 1/4	354	0.509	
7 1/2	377	0.543	
7 3/4	401	0.578	8"
8	426	0.613	
8 1/4	451	0.649	
8 1/2	476	0.686	
8 3/4	502	0.723	
9	529	0.761	

36" COVER

Height of spout above M/H rim H in inches	S S O FLOW Q in gpm	in MGD	Min. Sewer size in which these flows are possible
1/4	1	0.002	
1/2	4	0.006	
3/4	8	0.012	
1	13	0.019	
1 1/4	18	0.026	
1 1/2	24	0.035	
1 3/4	31	0.044	
2	37	0.054	
2 1/4	45	0.065	
2 1/2	55	0.079	
2 3/4	66	0.095	
3	78	0.113	
3 1/4	93	0.134	
3 1/2	109	0.157	
3 3/4	127	0.183	
4	147	0.211	
4 1/4	169	0.243	
4 1/2	192	0.276	
4 3/4	217	0.312	6"
5	243	0.350	
5 1/4	270	0.389	
5 1/2	299	0.430	
5 3/4	327	0.471	
6	357	0.514	
6 1/4	387	0.558	8"
6 1/2	419	0.603	
6 3/4	451	0.649	
7	483	0.696	
7 1/4	517	0.744	
7 1/2	551	0.794	
7 3/4	587	0.845	10"
8	622	0.896	
8 1/4	659	0.949	
8 1/2	697	1.003	
8 3/4	734	1.057	
9	773	1.113	

Disclaimer:
This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.

TABLE 'B'

ESTIMATED SSO FLOW OUT OF M/H WITH COVER REMOVED

24" FRAME

Water Height above M/H frame H in inches	S S O FLOW Q in gpm	in MGD	Min. Sewer size in which these flows are possible
1/8	28	0.04	
1/4	62	0.09	
3/8	111	0.16	
1/2	160	0.23	
5/8	215	0.31	6"
3/4	354	0.51	8"
7/8	569	0.82	10"
1	799	1.15	12"
1 1/8	1,035	1.49	
1 1/4	1,340	1.93	15"
1 3/8	1,660	2.39	
1 1/2	1,986	2.86	
1 5/8	2,396	3.45	18"
1 3/4	2,799	4.03	
1 7/8	3,132	4.51	
2	3,444	4.96	21"
2 1/8	3,750	5.4	
2 1/4	3,986	5.74	
2 3/8	4,215	6.07	
2 1/2	4,437	6.39	
2 5/8	4,569	6.58	24"
2 3/4	4,687	6.75	
2 7/8	4,799	6.91	
3	4,910	7.07	

36" FRAME

Water Height above M/H frame H in inches	S S O FLOW Q in gpm	in MGD	Min. Sewer size in which these flows are possible
1/8	49	0.07	
1/4	111	0.16	
3/8	187	0.27	6"
1/2	271	0.39	
5/8	361	0.52	8"
3/4	458	0.66	
7/8	556	0.8	10"
1	660	0.95	12"
1 1/8	1,035	1.49	
1 1/4	1,486	2.14	15"
1 3/8	1,951	2.81	
1 1/2	2,424	3.49	18"
1 5/8	2,903	4.18	
1 3/4	3,382	4.87	
1 7/8	3,917	5.64	21"
2	4,458	6.42	
2 1/8	5,000	7.2	24"
2 1/4	5,556	8	
2 3/8	6,118	8.81	
2 1/2	6,764	9.74	
2 5/8	7,403	10.66	
2 3/4	7,972	11.48	30"
2 7/8	8,521	12.27	
3	9,062	13.05	
3 1/8	9,604	13.83	
3 1/4	10,139	14.6	
3 3/8	10,625	15.3	36"
3 1/2	11,097	15.98	
3 5/8	11,569	16.66	
3 3/4	12,035	17.33	
3 7/8	12,486	17.98	
4	12,861	18.52	
4 1/8	13,076	18.83	
4 1/4	13,285	19.13	
4 3/8	13,486	19.42	

Disclaimer:

This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.

TABLE 'C'

ESTIMATED SSO FLOW OUT OF M/H PICK HOLE

Helght of spout above M/H cover H in inches	SSO FLOW Q in gpm
1/8	1.0
1/4	1.4
3/8	1.7
1/2	1.9
5/8	2.2
3/4	2.4
7/8	2.6
1	2.7
1 1/8	2.9
1 1/4	3.1
1 3/8	3.2
1 1/2	3.4
1 5/8	3.5
1 3/4	3.6
1 7/8	3.7
2	3.9
2 1/8	4.0
2 1/4	4.1
2 3/8	4.2
2 1/2	4.3
2 5/8	4.4
2 3/4	4.5
2 7/8	4.6
3	4.7
3 1/8	4.8
3 1/4	4.9
3 3/8	5.0
3 1/2	5.1
3 5/8	5.2
3 3/4	5.3
3 7/8	5.4
4	5.5
4 1/8	5.6
4 1/4	5.6
4 3/8	5.7
4 1/2	5.8
4 5/8	5.9
4 3/4	6.0
4 7/8	6.0
5	6.1

Helght of spout above M/H cover H in inches	SSO FLOW Q in gpm	
5 1/8	6.2	
5 1/4	6.3	
5 3/8	6.3	
5 1/2	6.4	
5 5/8	6.5	
5 3/4	6.6	
5 7/8	6.6	
6	6.7	
6 1/8	6.8	
6 1/4	6.8	
6 3/8	6.9	Unrestrained
6 1/2	7.0	M/H cover will
6 5/8	7.0	start to lift
6 3/4	7.1	
6 7/8	7.2	
7	7.2	
7 1/8	7.3	
7 1/4	7.4	
7 3/8	7.4	
7 1/2	7.5	
7 5/8	7.6	
7 3/4	7.6	
7 7/8	7.7	
8	7.7	
8 1/8	7.8	
8 1/4	7.9	
8 3/8	7.9	
8 1/2	8.0	
8 5/8	8.0	
8 3/4	8.1	
8 7/8	8.1	
9	8.2	
9 1/8	8.3	
9 1/4	8.3	
9 3/8	8.4	
9 1/2	8.4	
9 5/8	8.5	
9 3/4	8.5	
9 7/8	8.6	
10	8.7	

Note: This chart is based on a 7/8 inch diameter pick hole

Disclaimer: This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.

Appendix F

EMERGENCY CONTACTS

Emergency Contacts

Daphne Utilities Staff:	Name	Phone Number(s)	Email
General Manager	Danny Lyndall	251-455-7272 (cell) 251-380-8557 (office)	Danny@daphneutilities.com
Operations Manager	Bobby Purvis	251-654-7803 (cell) 251-210-1659 (office)	bobby@daphneutilities.com
Operations Assistant	Arlene Ethier	251-210-1643	Arlene@daphneutilities.com
Operations Coordinator	Art Anderson	251-583-4433 (cell) 251-210-1661 (office)	Art@daphneutilities.com
Communications Manager	Samantha Coppels	251-533-5880 (cell) 251-210-1644 (office)	Samantha@daphneutilities.com
Field Services Manager	Martin Dale	251-377-0378 (cell) 251-210-1649 (office)	Martin@daphneutilities.com
Wastewater Manager	Goeff Wilkins	251-533-5342 (cell)	goeff@daphneutilities.com
Wastewater Supervisor	James McPherson	251-583-5696 (cell) 251-210-1647 (office)	james@daphneutilities.com
Wastewater Supervisor	Tony James	251-583-5647 (cell) 251-210-1648 (office)	tony@daphneutilities.com
WRF Supervisor	Sharon Surra	251-753-6728 (cell)	Sharon@daphneutilities.com
Environmental Compliance Supv.	Johnnie Grimes	251-422-7282 (cell) 251-210-1652 (office)	johnnie@daphneutilities.com
GIS Specialist	Alex Godfrey	251-753-7208 (cell)	alex@daphneutilities.com
Health Department:			
Loren Powers		251-947-3618	Loren.powers@adph.state.al.us
Camilla English		251-947-3618	Camilla.english@adph.state.al.us
ADEM			
24-hour Hotline for SSO Reporting		334-274-4200	
Chief, Water Division	Glenda Dean	334-271-7823	
Chief, Municipal	Emily Anderson	334-271-7801	
Chief, Industrial / Municipal	Daphne Lutz	334-270-5602	
Regional Inspector	Stephanie Ammons	334-274-4151	sammons@adem.alabama.gov
Media Outlets:			
AL.Com (print)		251-219-5343	
WPMI (broadcast)		251-602-1500	
WKRG (broadcast)		251-540-5555	
WALA (broadcast)		251-434-1010	

Other Officials:			
Daphne Police Department		251-620-0911	
Daphne Fire Department		251-620-0720	
Spanish Fort Police Department		251-626-4914	
Spanish Fort Fire Department		251-626-8876	
Sheriff's Office		251-972-6802	
Baldwin County EMA		251-990-4605	
Daphne City Hall		251-620-1000	
Spanish Fort City Hall		251-626-4884	

Appendix G

ADEM Form 415

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (ADEM)
SANITARY SEWER OVERFLOW (SSO) EVENT REPORTING FORM

Purpose of Form: All publicly or privately owned wastewater treatment plants holding an NPDES permit are required to provide immediate notification to the Alabama Department of Environmental Management (ADEM), county public health officials, the public, and any other affected entity such as public water systems as soon as possible upon becoming aware of any notifiable sanitary sewer overflow (SSO) events.

A "notifiable SSO", as defined in ADEM Admin. Code r. 335-6-6-.02(hh), is an overflow, spill, release or diversion of wastewater from a sanitary sewer system that either (1) reaches a surface water of the State or (2) may imminently and substantially endanger human health based on potential for public exposure including but not limited to close proximity to public or private water supply wells or in areas where human contact would be likely to occur. Immediate notification shall be provided within 24 hours of becoming aware of the event. This immediate notification may be made either verbally to the Department's SSO Hotline at (334) 274-4200 or electronically to the Department's eSSO Electronic Reporting System. The follow-up report shall be submitted within five days of becoming aware of the SSO event using either this form or the Department's eSSO Electronic Reporting System.

Facilities are strongly urged to utilize the electronic system. Registration information for the Department's eSSO system can be found at the following link: (https://e2.adem.alabama.gov/NPDES).

Permittee Name:_____ Permit Number:_____

Facility Name:_____ Facility County:_____

Date/Time[1] SSO Began:_____ Is the SSO on-going? ☐ Yes ☐ No If no, Date/Time[1] SSO Stopped:_____

Did the SSO occur during wet weather? ☐ Yes ☐ No

Was the SSO caused by an extreme weather event (e.g. hurricane) that flooded the entire sewer system? ☐ Yes ☐ No

If yes, describe the nature of the extreme weather event:_____

Note: For notifiable SSOs caused by an extreme weather event (e.g., hurricane) that floods the entire sewer system and are too numerous to count, the permittee is not required to provide information that cannot be practicably captured (e.g. latitude/longitude, source/structure, duration of the SSO, the estimated discharge volume, the receiving waterbody, the corrective actions taken, or the potential impacts).

REPORT ESTIMATED VOLUME DISCHARGED– REQUIRED

If estimated volume discharged is known, the VALUE section should be completed. If you only select a RANGE, you should be aware that the estimated volume discharged will be considered to be the largest value of the range selected.

VALUE	Estimated Volume Discharged:_____ gallons			
RANGE	☐ ≤ 1,000 gallons	☐ 1,000 < gallons ≤ 10,000	☐ 10,000 < gallons ≤ 25,000	☐ 25,000 < gallons ≤ 50,000
	☐ 50,000 < gallons ≤ 75,000	☐ 75,000 < gallons ≤ 100,000	☐ 100,000 < gallons ≤ 250,000	☐ 250,000 < gallons ≤ 500,000
	☐ 500,000 < gallons ≤ 750,000	☐ 750,000 < gallons ≤ 1,000,000	Any estimated volume above 1,000,000 gallons should be entered in the VALUE section	

Was the Department notified within 24 hours? ☐ Yes ☐ No Date/Time[1] of Notification:_____

Method of notification: ☐ Verbal/Telephone ☐ Electronic via eSSO ☐ Other _____

If notification was not submitted via eSSO, person that notified the Department:_____ Phone Number: (___) ___-____

Indicate source of discharge event: ☐ Manhole ☐ Lift Station ☐ Broken Line
☐ Cleanout ☐ Treatment Plant
☐ Other (describe):_____

County in which SSO occurred:_____

Latitude/Longitude of discharge **(REQUIRED)** [Report coordinates in decimal degrees to the precision indicated (e.g. 32.463022°, -86.397067°)]:

Latitude ☐☐.☐☐☐☐☐☐° **Longitude** –☐☐.☐☐☐☐☐☐°

Location of discharge (street address, etc.):

[1]Time reported is assumed to be Central Time Zone, unless otherwise indicated.

Known or suspected cause of the discharge:

Destination of discharge: ☐ Ground Absorbed ☐ Storm Drain* ☐ Backup into Building/Residence ☐ Drainage Ditch* ☐ Creek or River (name of the first named surface water the discharge reached):_____ ☐ Other (describe):_____

*If the SSO discharge first entered a storm drain or drainage ditch, you must also provide the first named creek or river that receives the flow from that storm drain/drainage ditch.

Did the discharge reach a designated swimming water? ☐ Yes ☐ No ☐ Unknown

Monitoring of the receiving water (i.e. visual survey or water quality sampling) is: ☐ Complete (Monitoring results are attached or have been submitted to ADEM) ☐ Ongoing (Monitoring results will be submitted to ADEM upon completion) ☐ Not Performed

Was the affected area: Cleaned? ☐ Yes ☐ No Disinfected? ☐ Yes ☐ No

Are you aware of any other potential health or environmental impacts? ☐ No ☐ Yes If Yes, please describe:

Describe corrective actions taken, plans to eliminate future discharges, and actions or plans to mitigate impacts to the environment and/or public health (attach additional sheets if necessary):

Indicate efforts to notify public (check all that apply): ☐ Press Release Date:_____ ☐ Placement of Signs Date:_____ ☐ Other (describe):_____ Date:_____ ☐ Notice not required, because:_____

Indicate other officials notified (check all that apply): ☐ County Health Department Date:_____ ☐ State Health Department Date:_____ ☐ Other (describe):_____ Date:_____ ☐ Notice not required, because:_____

Other states notified: ☐ Florida ☐ Georgia ☐ Mississippi ☐ Tennessee

Were any public water supply intake locations affected? ☐ No ☐ Yes

If yes, who was notified:_____ Date:_____

I certify that I have personally examined and am familiar with the information submitted herein. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information to be true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

Signature of Responsible Official/Duly Authorized Representative:_____ Date:_____

Name of Responsible Official/Duly Authorized Representative (type or print):_____

Title of Responsible Official/Duly Authorized Representative:_____

Appendix H

SOPs Incorporated by Reference

SSO Disinfection

SCOPE AND PURPOSE

Outdoor sewage spills pose a serious threat to the environment and people, due to the harmful pathogens they contain, you should take immediate action in the event of an outdoor sewage leak to minimize the damage. Protect yourself and others, contain the spill from spreading, clean the spill and disinfect the area as soon as possible.

RESPONSIBILITY

The individual is responsible to ensure that proper documentation is performed as described in this procedure.

PPE REQUIRED

- Rubber Gloves
- Rubber Boots
- Waterproof Bodysuit
- Safety Glasses, Goggles, Shield, and Mask

APPROVED CHEMICALS

- Bleach
- Granular HTH
- Lime

CONCENTRATIONS

Bleach: 2% solution or ½ cup per 5 gal. water
HTH: Broadcast 1 lb. per 500 sq. ft. area (a light dusting)
Lime: Broadcast 2 lb. per 500 sq. ft. area

Once the area dries out, the health risk are significantly lowered, as sunlight and drying eliminates most of the possible infectious germs contained in the sewage.

Appendix I

Water Quality Monitoring Program

WATER QUALITY MONITORING PLAN

TABLE OF CONTENTS

Revisions

Date	Summary of Changes	Sections

1 OBJECTIVE

Daphne Utilities is committed to providing quality service while being faithful stewards of natural resources. A stream monitoring plan has been adapted from the Alabama Water Watch "Quality Assurance Plan for Bacteriological Monitoring" to assist in these efforts. The adaption was performed in order to have a plan that was similar to a locally developed and adopted procedure while meeting the specific objectives of Daphne Utilities.

Stream monitoring of waterways within drainage basins of Daphne Utilities sanitary sewer collection system will develop baseline stream bacteria data within Daphne Utilities collection system. The database created will also provide additional information that can be utilized during operations and to properly inform the public in the event of an SSO, septic tank overflows, or heavy rain events causing non-point source discharges. Twelve (12) sampling locations have been identified for this process and include the following (map of locations in Appendix A):

Yancey Branch

- SP#1 - North of Yancey Branch Lift Station – west of US98
- SP#2 - Dauphine Acres

Tiawasee Creek

- SP#3 - Ridgeway Ln – Golf Course Maintenance Driveway
- SP#4 - South Fork
    - Greenwood Drive
- SP#5 North Fork
    - Payne's Grey Ln – Tiawassee S/D

D'Olive Creek

- SP#6 - North Fork
    - North of US90 ***OR Alternate Location***
    - Timbercreek West Lift Station
- SP#7 - South Fork
    - Windgate Cir in Lake Forest
- SP#8 - Gator Alley Boardwalk

Lake Forest Lake

- SP#9 - At Dam upstream of spillway

Joe's Branch

- SP#10 - South of I-10 Lift Station

Mobile Bay

- SP#11 - Daphne Utilities Pier at Plant #2
- SP#12 - Mayday Park

2 SAMPLING PROCESS & METHODS

To protect the integrity of the results, certain parameters have been established and are discussed herein.

Number of Samples: At each sample location, the sampler should collect three (3) replicate samples so that geometric mean and variability may be determined.

Location of Samples: Whenever possible, samples collected should be in water currents that are approximately one foot per second so that measurements are representative of the stream channel. Sampling should be avoided in quiet backwaters or heavily vegetated areas of streams.

Sample Retrieval: Extreme care should be utilized when retrieving the sample to avoid contaminating the sample. All materials used shall be clean and free of bacteria. Hands shall be properly protected with gloves to prevent bacteria transfer. If retrieval necessitates entering the waterway, the sample should be taken facing upstream without disturbing the sediment. The minimum sample size is 100 ml.

Sampling Frequency: Samples should be collected 2 times per month for routine monitoring or for screening new sites. Samples should be collected more frequently (1or more times per week) for suspected or known contamination problems and after any qualifying precipitation event which is currently defined as precipitation of 1.0" or greater received within 24 hours when it is safe to perform such monitoring. Monitoring should be avoided in dangerous conditions and weather, such as lightning, flood stage events, and named storm events. Samples should ideally be taken in the morning between the hours of 8:00am to 11:00am.

Sample frequency and quantity will be periodically reviewed to determine if changes are necessary as the database matures.

Sampling Procedures:

Materials necessary for field sampling:

- 120 mL sterile, unused plastic sample bottle for sample collection
- Bottle labels, permanent marker or pen, tape to secure bottle lid,
- Data recording forms,
- Gloves
- Cooler with ice

Prior to collecting samples in the field, the following steps should occur.

- All needed materials should be gathered,
- Expiration dates should be checked,
- Collection bottles shall be properly labeled for each location and sample number to include the date of the sample taken,
- A Field Monitoring Form (Appendix C) shall be prepared for each sample noting the date and sample location.

Samples for microbiological analysis must be collected using aseptic sampling procedures, and must be collected as follows:

- For creeks and streams and where applicable, carefully wade into the water until reaching the fastest stream current. For coastal locations, carefully wade into the water until knee deep.
- Avoid kicking up bottom material at the sampling station. Sampler must be positioned downstream and facing any water current to take the sample from incoming flow.

- Remove the cap from the bottle just before sampling. Avoid touching the inside of the bottle or the cap. If contact is made with any area inside of the bottle or cap, contamination may have occurred and a new sample bottle must be used.
- Grasp the bottle at the base and plunge the bottle mouth downward in the water to avoid introducing surface scum. The sampling depth must be at least 6 to 12 inches below the water surface, or mid-way between the surface and the bottom.
- Turn the bottle underwater into the current and away from sampling point.
- Remove the bottle from the waterbody.
- Leave a 1-2 inch air space above each sample for proper mixing of the sample before analysis.
- Recap the bottle carefully, and avoid touching the inside.
- Label the bottle with the sample location, and place in cooler with an icepack.
- Complete a Field Monitoring Form (Appendix C) for each sample denoting the time the sample was taken, field conditions, and other data.
- Sign the Field Monitoring Form

The sampling supplies are used only once and then discarded after use. Materials shall be discarded in accordance with manufacturer recommendations and in accordance with good laboratory practices.

Transportation of Samples: The sample bottles or containers are transported to the collection site in a container suitable for protecting the bottles during transport and collection. Extreme care should be taken when collecting the sample to prevent contamination of the sample. Once samples are collected, they are transported to the lab in a cooler with an icepack to maintain a temperature of 1^0 to 4^0 C for processing.

Samples should be analyzed within 6 hours after sampling and within 2 hours from receipt of sample in lab (Standard Methods, 20^{th} ed., Section 9060B).

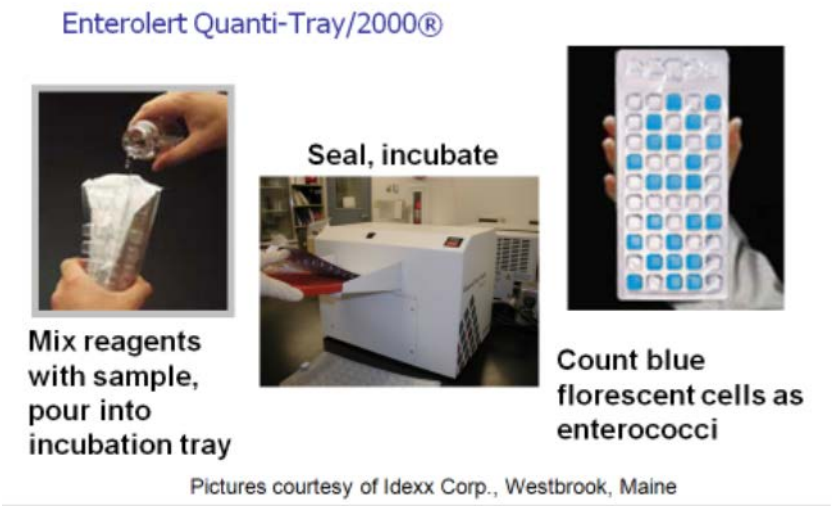
3 SAMPLE HANDLING

The bacteriological sample remains in the custody of the sampler from the time the sample is taken until it is accepted by the processor. The processor shall sign and denote the date and time the sample is received on the Field Monitoring Form.

4 ANALYTICAL METHODS

The Quanti-Tray/2000 is manufactured by IDEXX and is based on the same statistical model as the traditional 15-tube serial dilution. The sample is automatically divided into the proper portions and sealed with the Quanti-Tray Sealer. The Quanti-Tray/2000 yield a counting range of 1-2,419 and detects down to one organism per 100mL.

The reagent/sample mixture are poured directly into the Quanti-tray/2000 and placed in the Quanti-Tray Sealer. Once sealed, the tray is incubated according to the reagent instructions below. After incubation, the positive wells on both the small and large sizes are counted and referenced to the table to find the most probable number (MPN).



Testing Procedures:

1. Wash hands before handling samples and don powder-free disposable gloves throughout testing to ensure aseptic technique.
2. Turn on incubator and set to 41^0 C.
3. Turn on the Quanti-Tray Sealer (IDEXX).
4. Thoroughly clean the lab bench area being used with isopropanol.
5. Using a sterile graduated cylinder, measure out 90 ml of sterile reagent grade fresh water and pour into a sterile 120 ml bottle with graduation at 100 ml. Use sterile water, not buffered water for making dilutions. Enterolert® is already buffered.
6. Mark the sterile dilution bottle with the Sample Location/ID.
7. Carefully separate one Enterolert® Snap Pack from the strip taking care not to accidentally open adjacent pack.
8. Tap the Snap Pack to ensure all of the Enterolert® powder is in the bottom part of the pack.
9. Open one pack being careful not to touch the opening of the pack.
10. Add the entire contents of the Enterolert ® Snap Pack to the dilution bottle.
11. Aseptically cap and seal the bottle. Shake the dilution bottle until the reagent is completely dissolved.
12. Shake the sample vigorously about 25 times to distribute the bacteria uniformly.
13. Uncap the sterile dilution bottle and transfer 10 ml of the sample to the dilution bottle by measuring out 10 ml using a sterile pipet. If a sterile pipet is unavailable, pour 10 ml of the sample into the dilution bottle until the 100 ml graduation mark is reached.
14. Aseptically cap and seal the bottle. Shake the diluted sample vigorously at least 25 times.
15. Label the back of a Quanti-Tray 2000 (IDEXX) with Sample Location or ID using permanent marker to avoid puncturing the foil backing.
16. After foaming in the sample bottles subsides, pour the diluted sample with the reagent into the Quanti-Tray:
    a. Use one hand to hold the Quanti-Tray upright with the well side facing the palm. Squeeze the upper portion of the tray so that the plastic bends towards the palm.
    b. Gently pull the foil by the upper tab to separate the foil from the plastic tray. Do not touch the inside of the foil or tray during this process, if the inside is touched or foil is ripped, start over with a new tray.
    c. Pour the sample solution into the Quanti-Tray avoiding any contact with the foil tab or tray and angle the pour from the foil side (to avoid introduction of bubbles or foam).

d. Slowly release the squeeze on the upper portion of the tray so as to close the tray, and tap lightly to disperse any air bubbles.

17. Ensure the Quanti-Tray Sealer is ready by the "Ready" symbol on the screen.
18. Fit the Quanti-Tray into the corresponding rubber insert ensuring all wells are aligned with the corresponding holes in the insert. Lay the vessel in the Sealer loading tray, rubber side down, and gently push until the Sealer grabs the vessel.
19. Remove the newly sealed Quanti-Tray from the Sealer ejection slot.
20. Repeat at step 5 (above) for all samples.
21. When all the samples are sealed, mark the beginning of incubation time on the back of the tray then place tray into a 41 +/- 0.5ºC dry incubator.
22. After 24 hours, remove the sample trays from the incubator.
23. Before analyzing samples, put on UV-protection glasses. Using a 6 watt, 365 nm wavelength UV lamp, shine light within 5 inches of the vessel in a dark environment. Face light away from your eyes and towards the sample.
24. Count the number of wells that fluoresce or glow. Blue fluorescence indicates the presence of enterococci. For comparison, a water blank sample can be used when interpreting results.
25. With permanent marker, place a check mark on each large and small cell which fluoresce under the UV light. The large tray at the top of the tray is counted as a large well. Off-color fluorescence is not counted as a positive result. Marked cells are deemed positive for enterococcus.
26. Record the number of positive small and large wells on the Bench Data Sheet (Appendix E) in the appropriate location.
27. Referring to the MPN table, determine the most probable number (MPN) of enterococci grown in each tray.
28. Multiply each MPN table value by 10 to take into account the dilution performed above. The multiplied value is the actual MPN result.
29. Record this actual value on the Bench Data Sheet in the appropriate location.

Procedural Note: If sample is inadvertently incubated over 28 hours without observation, the following guidelines apply: Lack of fluorescence after 28 hours is a valid negative test; fluorescence after 28 hours is an invalid result.

All other Daphne Utilities Standard Operating Procedures for lab are incorporated by reference.

5 QUALITY ASSURANCE / QUALITY CONTROL

The WRF manager or assigned representative will periodically review equipment and procedures for common causes of monitoring deficiencies such as broken or faulty equipment; expired trays; and inaccurate measuring technique. Quality control procedures as outlined by the manufacture will also followed. Ongoing training on these procedures will emphasize proper handling and maintenance of the equipment and proper testing techniques.

Accuracy of bacteriological measurements will also be periodically reviewed by:

- **Conducting Field Blanks** – Sterile water in sterilized containers should be sent out with the sampler. At a predetermined sample site, the sampler fills the usual sample container with this sterile water. This sample will be notated with a "B" along with the Sample Location ID to indicate it is a field blank. It is then analyzed with the regular samples. Lab analysis should result in 0 bacteria counts for all blanks. Blanks are used to identify errors or contamination in sample collection and analysis.
- **Conducting Field Duplicate Samples** – A field duplicate is a duplicate field sample collected at the same time and at the same place either by the same sampler or another sampler. This sample will

be notated with a “D” along with the Sample Location ID to indicate it is a duplicate sample. It is then analyzed with the regular samples. Lab analysis should result in comparable bacteria counts per 100mL for both the regular and duplicate sample. Duplicates are used to estimate sampling and laboratory analysis precision.

- **Conducting External Field Duplicates** – An external field duplicate is a duplicate stream sample collected by an independent sampler and tested by an outside ADEM-certified laboratory. External duplicates are used to estimate sampling and laboratory analysis precision.

6 EQUIPMENT INSPECTION & MAINTENANCE

All bacteria sampling supplies and equipment used shall be applicable for the IDEXX Quanti-Tray/2000. The shelf-life of trays is up to three years from date of manufacture. Enterolert reagents expire after one year. Expiration dates should be noted in an obvious location on the container holding the trays to emphasize the importance of using the materials within the recommended time period.

All equipment should be inspected by the sampler prior to use.

7 INSTRUMENT CALIBRATIONS

No calibrations are performed on the equipment and supplies used for bacteriological monitoring. Trays and bottles are used only once and then discarded.

8 INSPECTIONS FOR SUPPLIES

Supplies are inspected when they are received from IDEXX. Broken or defective supplies are returned for replacement. All necessary lab equipment including the incubator is inspected per laboratory SOP.

9 DATA ACQUISITION

The number of positive wells is counted and compared to “Standard Methods for the Examination of Water and Wastewater” MPN tables to determine results.

10 DATA MANAGEMENT

Field data will be recorded in an electronic spreadsheet by the sampler. Notices will be issued to DU staff when updates have been posted for information.

The data will be checked as follows:

1. The data reporting forms and electronic file will first be screened by the WRF Manager for errors or problems such as missing data, dates, times, incorrect units, illegible field handwriting, improper decimal placement, transfer errors, or obvious outliers. See item 2 below for information on field data sheets. Most of these errors will be able to be resolved by contacting the sampler. If extreme readings are found that cannot be obviously explained, the sampler will be requested to test again or another trained personnel will test in order to rule out inaccurate testing technique or faulty media.

2. The WRF Manager will mark that the data sheets have been checked prior to data entry. All data will be entered into a spreadsheet-type application program designated for stream monitoring.

3. Each data reporting form will be referenced by the collection date expressed as month-date-year.

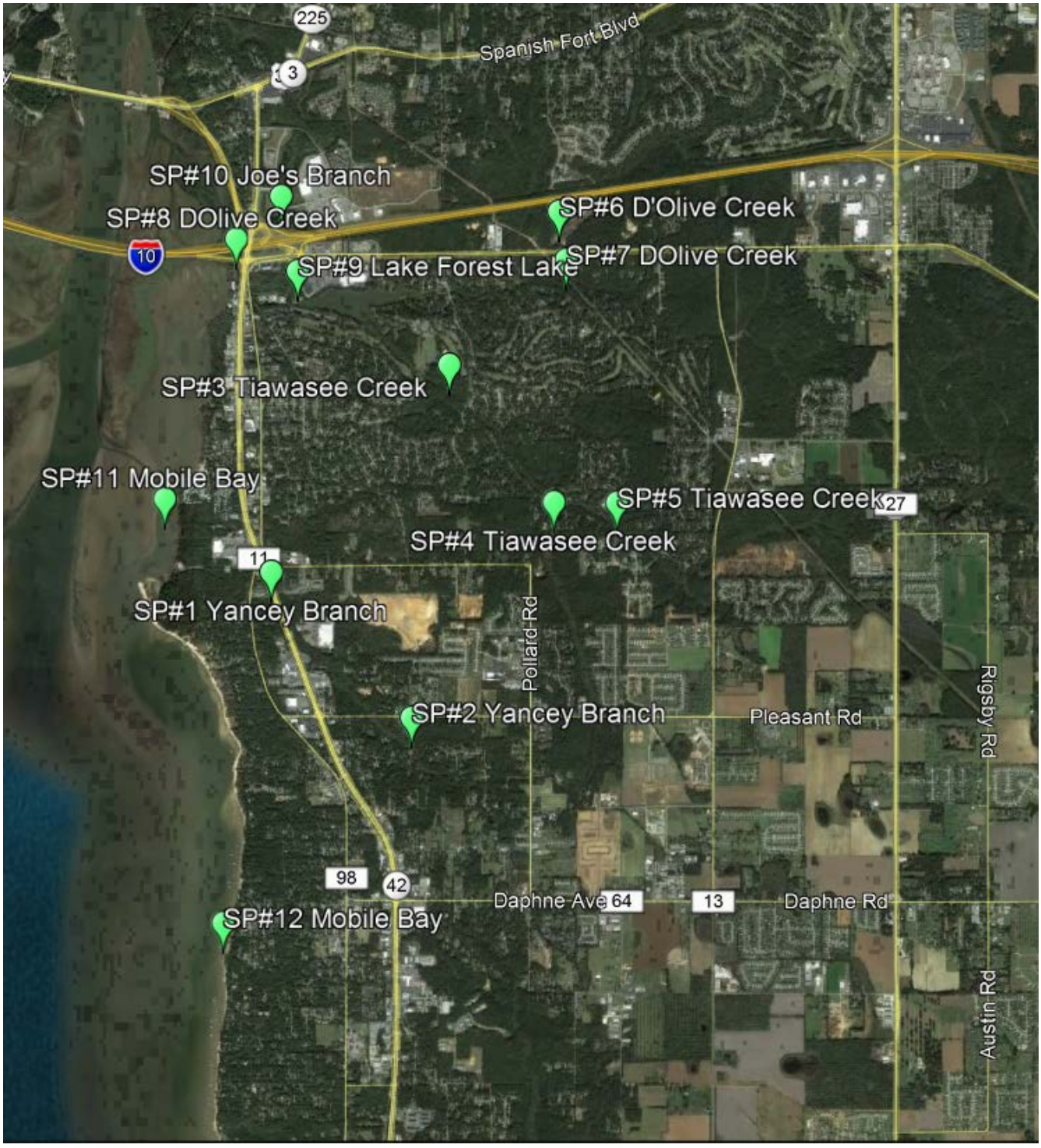
4. The data entered into the computer will be printed and checked against the original data reporting forms and corrections made.

5. A second check will be done of the original data reporting forms against a printout of the corrected data.

6. The data will then be issued as ready for analysis.

7. In addition to original data being maintained in DU office, data is regularly backed up and archived per DU current policy.

APPENDIX A
Sampling Locations Map



APPENDIX B
Sampling Equipment Manufacturer Guidelines

APPENDIX C
Field Monitoring Form

DAPHNE UTILITIES STREAM MONITORING PROGRAM
Sample Data Sheet & Chain of Custody

Sampler**:**_____ Date:_____

Sample Location	Time	Temp	Weather	Sampler Initials	Comments*

Samples Relinquished By:	Date / Time:
Samples Received By:	Date / Time:

Comments:
_____
_____
_____
_____

***** Note qualitative descriptions of relevant water conditions (e.g., color, flow level, clarity) or any unusual occurrences associated with sampling event, particularly those that may affect sample or data quality.

APPENDIX D
Bench Data Sheet

Enterolert Quantitray 2000 – Stream Monitoring
Bench Data Sheet

To be completed by laboratory analyst:

Sampling Location / ID: _____ Analysis Date: ___/___/____Time:_____

Analyzed by (initials): _____

Enterolert lot number: _____ Time in 41°C: _____

Quantitray lot number: _____ Time out of incubator: _____

Tray Read by: _____ Date read: ____/____/_____Time:_____

(Always use sterile distilled or deionized water when making dilutions.)

Well counts:
[Enterococci positive well: fluorescence under UV light]
NWIS Parameter code 99601, Method code BAC06

Sample dilution *(circle one)*: undiluted 1:10 1:100 1:1,000 1:10,000

Positive result	**Large well count**	**Small well count**	**MPN/100 mL[1]**
Enterococci (fluorescence)			

[1]For undiluted samples, results are obtained from MPN table. If diluted, results are obtained from MPN table and multiplied by the dilution factor.

Average results: **Enterococci = _____ MPN/100 mL**

COMMENTS:

_____
_____
_____
_____
_____

Appendix E
Data Management Spreadsheet

POST-SSO
Water Quality Monitoring

DATE: _____

SSO LOCATION: _____ _____

STREAM LOCATION(S) MONITORED: ____ _____

RESULTS:

Sample Date	Location	Sample Results*	Notes

* Enterococcus monitoring performed in-house using Enterolert Quanti-tray method.
* Sampling shall be on-going until the test results for enterococcus are lower than 104 MPN per 100ml, or until there is no visual evidence of the overflow.

Sampling was completed for the following reasons:

☐ The test results for Entero were lower than 104

☐ There is no visual indicators of contaminates as a result of the over flow

_____ _____
Signed Date

Appendix J

SSO Signage

DAPHNE UTILITIES
WATER • NATURAL GAS • SEWER

CAUTION

PLEASE BE ADVISED A SANITARY SEWER OVERFLOW OCCURRED

ON _____

AT _____

PLEASE EXERCISE CAUTION WHEN USING THESE WATERS FOR FISHING OR RECREATIONAL PURPOSES.

PLEASE CONTACT DAPHNE UTILITIES FOR FURTHER INFORMATION

251-626-2628.

Appendix K

Sanitary Sewer Infiltration Prevention Program

UTILITIES BOARD OF THE CITY OF DAPHNE
RESOLUTION NO.: 2005-10

SANITY SEWER INFILTRATION PREVENTION PROGRAM

WHEREAS, the Utilities Board of the City of Daphne, Alabama has determined that the infiltration of storm water runoff and other water and materials into the Sanitary Sewer System poses a substantial threat to the health, welfare and safety of the citizens of the City of Daphne; and

WHEREAS, the Utilities Board of the City of Daphne, Alabama desires to promote the health, welfare and safety of the citizens of Daphne, Alabama by reducing or eliminating the infiltration of storm water runoff and other harmful materials infiltrating the system and to prevent the same from entering the Sanity Sewer System; and

WHEREAS, it has been determined by the Utilities Board of the City of Daphne, Alabama that a substantial amount of infiltration of storm water runoff and other harmful materials are entering the sanitary sewer system in that portion of the system on private property of the board's various customers, which portion of the system is owned by and for which the customer is responsible; and

WHEREAS, the Utilities Board of the City of Daphne, Alabama desires to establish rules, regulations and conditions which is intended to reduce or eliminate the entry of storm water runoff and other harmful materials from infiltrating into the Board's Sanitary Sewer System;

NOW, THEREFORE, BE IT RESOLVED BY THE UTILITIES BOARD OF THE CITY OF DAPHNE, ALABAMA, AS FOLLOWS:

1. The Board shall adopt tests and other procedures deemed reasonable to it to determine where the source of infiltration into the sewer's Sanitary System occurs, both on public and private property from time to time to time as may be deemed appropriate.

2. Any infiltration occurring on public property over which the Utilities Board of the City of Daphne, has control and jurisdiction shall be undertaken and repaired in a timely manner by the Utilities Board. Any infiltration occurring on private property of the customers of the Utilities Board of the City of Daphne, Alabama, shall result in notification to the proprietor, owner or persons in control of the lands upon which the infiltration is occurring and give reasonable notice that the infiltration must be corrected to prevent future infiltration into the Sanitary Sewer System.

3. If the customer fails to correct or cure the infiltration problem after reasonable notice on two separate occasions, the Utilities Board will give notice that the services, including water and sewer, provided by the Utilities Board of the City of Daphne, Alabama, to the subject property where the infiltration is continuing to occur, shall be suspended until the infiltration problem is corrected and approved by the Utilities Board of the City of Daphne, Alabama. After

such notice, the services shall be suspended until that portion of the system is repaired to prevent future infiltration. In the event it becomes necessary to suspend the service as aforesaid, there will be charged to the customer a $500.00 fee to reinstate the suspended service.

APPROVED AND ADOPTED BY THE UTILITIES BOARD OF THE CITY OF DAPHNE, ALABAMA this the 28 **day of** SEPTEMBER**, 2005.**

THE UTILITIES BOARD OF THE CITY
OF DAPHNE, ALABAMA

By: _____
It's: CHAIRMAN

ATTEST: _____
SECRETARY/TREASURER

Appendix L

SORP Training Evaluation

SANITARY SEWER OVERFLOW RESPONSE PLAN (SORP)
TRAINING EVALUATION

NAME:_____ **DATE:**_____

1. What is the 24-hour emergency number for customers to call to report a potential SSO?
   - ○ 911
   - ○ 811
   - ○ 411
   - ○ 251-626-2628
   - ○ 251-380-7514

2. Within how many hours must an SSO be reported to ADEM?
   - ○ Immediately
   - ○ 2 hours
   - ○ 12 hours
   - ○ 24 hours
   - ○ 48 hours

3. Whose responsibility is it for ensuring the SORP guidelines are followed?
   - ○ SSO Coordinator
   - ○ ADEM
   - ○ General Manager
   - ○ The Mayor

4. How often should training on the SORP occur?
   - ○ Every five years
   - ○ Annually
   - ○ Every six months
   - ○ Every month

5. What is the definition of a “Notifiable Sanitary Sewer Overflow”?
   - ○ Any escape of wastewater from the sanitary sewer collection system or the WRF regardless of volume or amount
   - ○ An overflow, spill, release, or diversion of wastewater from a sanitary sewer system that either (1) reaches a surface water of the state or (2) may imminently and substantially endanger human health based on potential for public exposure including by not limited to close proximity public or private water wells or in areas where human contact would be likely to occur
   - ○ Any overflow of more than 1,000 gallons from the sanitary sewer system
   - ○ ALL sewer overflows are notifiable

6. Who is the primary SSO Coordinator?
    - ○ General Manager
    - ○ Wastewater Supervisor
    - ○ Operations Manager
    - ○ Wastewater Manager

7. Which methods are appropriate for determining the volume of the overflow (check all that apply)
    - ○ Calculating pump run times multiplied by flow rate of pump
    - ○ Using the Manhole Overflow Simulator Guide
    - ○ Using the Overflow Rate Calculation Guide
    - ○ Measuring the area of contained overflow and calculating volume
    - ○ Guessing

8. Who is responsible for reporting a notifiable SSO to ADEM?
    - ○ General Manager
    - ○ Wastewater Manager
    - ○ SSO Reporter
    - ○ Operations Manager
    - ○ Communications Manager

9. A minor overflow (less than 10gallons) is not reportable if it didn't reach a "water of the state.
    - ○ True
    - ○ False

10. A 500 Gallon overflow from a manhole on a vacant lot on Stanton Road into a storm drain would be classified as:
    - ○ Class 1 Overflow
    - ○ Class 2 Overflow
    - ○ Class 3 Overflow
    - ○ None of the above – this is not a notifiable SSO

11. A 250 Gallon spill from the D'Olive Bridge Lift Station into D'Olive Creek at Gator Alley Boardwalk would be classified as a:
    - ○ Class 1 Overflow
    - ○ Class 2 Overflow
    - ○ Class 3 Overflow
    - ○ Class 4 Overflow – This is an emergency situation

12. While jetting a manhole, approximately 10 gallons leaks from a seal on the Vac-Truck in the parking lot of Wal-Mart. The leak puddles in a depression on the pavement and is cleaned up immediately. This is a:
    - ○ Class 1 Overflow
    - ○ Class 2 Overflow
    - ○ Class 3 Overflow
    - ○ None of the above – this is not a notifiable SSO

13. The Vac-Truck is parked overnight in the Wal-Mart parking lot. Upon arrival the next morning, crews discover a small leak from the debris body and approximately 10 gallons has puddled in a depression in the parking lot. The crews immediately clean up and disinfect the spill. This is a:
    - ○ Class 1 Overflow
    - ○ Class 2 Overflow
    - ○ Class 3 Overflow
    - ○ None of the above – this is not a notifiable SSO

14. A copy of this SORP is available to the public and can be found on the Daphne Utilities Website
    - ○ True
    - ○ False

15. All of the following methods of public notification for SSOs may be used EXCEPT:
    - ○ Door hangers
    - ○ Signs
    - ○ Press Releases
    - ○ Calls / text messages
    - ○ Social Media Posts
    - ○ US Postal Service

I acknowledge I have been trained on the Daphne Utilities Sanitary Sewer Overflow Response Plan (SORP) and understand my responsibilities related to SSO response, cleanup, documentation, and public notification.

_____ _____

Signature Date

_____

Print