SARASOTA COUNTY GOVERNMENT

INTEROFFICE MEMORANDUM

TO: Board of County Commissioners

THROUGH: Robert S. LaSala, Deputy County Administrator

THROUGH: Gary S. Comp, Director, Natural Resources Department

FROM: J. Kent Kimes, P.E., Manager, Pollution Control Division

SUBJECT: Contribution to Pollution in Phillippi Creek by Sewer Plants

DATE: April 4, 1997

The following analysis is presented to clarify the role that existing wastewater treatment plants may play in contributing to fecal coliform levels in Phillippi Creek.

When a flow of water with a known concentration of a pollutant is mixed with a second flow of water with a different concentration of a pollutant, the flow and concentration of the resulting mixture is readily calculated. This equation can also be worked backwards, that is, knowing the flows and concentrations of the resulting mixture and one of the contributing flows, the second contributing flow and concentration can be determined. This fact can be used to estimate the level of fecal coliform that would have to be discharged from sewer plants along Phillippi Creek if those plants discharged all of their effluent into the Creek and were the SOLE source of pollution.

An analysis was made based on the results of the Longitudinal Study. The results are summarized as follows:

Case 1
Area: All stations upstream of US 41 (less Station 15)
Level of fecal coliform measured: 279 to 1,616 per 100 milliliters
Level of fecal coliform that would have to be contributed by effluent from sewer plants if all of the discharge were into the Creek: 678 to 8,785 per 100 milliliters

Case 2
Area: "Peak" at Station 17
Level of fecal coliform measured: 1,436 per 100 milliliters
Level of fecal coliform that would have to be contributed by the Florida Cities Southgate discharge into the Creek: 14,097 per 100 milliliters

Case 3
Area: "Peak" at Station 30
Level of fecal coliform measured: 1,076 per 100 milliliters
Level of fecal coliform that would have to be contributed by effluent from sewer plants in the vicinity if all of the discharge were into the Creek: 180,790 per 100 milliliters

The fecal coliform permit levels for sewer plants are between <1 and <200 per 100 milliliters. Over a 13-month period, 1,044 samples from 19 sewer plants showed a 99.8 percent compliance with these levels. Eighty five percent of tests showed results $<$ 1 per 100 milliliters. Over a 13-month period, 8,110 samples from 19 sewer plants showed 99.96 percent compliance with chlorine disinfection criteria. Only one plant actually discharges into the Creek.

The statistical conclusion is that sewer plants along Phillippi Creek are not responsible for the level of pollution of fecal coliform found during the Longitudinal Study.

cc: Jeanne A. Teel, Interim County Administrator

SARASOTA COUNTY GOVERNMENT

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TO: Board of County Commissioners

THROUGH: Robert S. LaSala, Deputy County Administrator

THROUGH: Gary S. Comp, Director, Natural Resources Department

FROM: J. Kent Kimes, P.E., Manager, Pollution Control Division

SUBJECT: Domestic Wastewater Facility Regulation Activities with Specific Information Regarding Facilities in the Vicinity of Phillippi Creek

DATE: October 24, 1996 (Revised October 30, 1996)

There is a well-developed system of checks and balances assuring that wastewater facilities are constructed and operated to protect human health and the environment. This report contains a description of the regulatory processes and oversight provided for wastewater facilities in Sarasota County. Table 1 lists the wastewater treatment facilities in close proximity to Phillippi Creek and identifies their associated treatment processes and disposal systems.

Table 2 summarizes the disinfection compliance history for the facilities in close proximity to Phillippi Creek over a 13-month period (August 1995-August 1996). **Fifteen of the nineteen facilities had 100 percent compliance with permitted total residual chlorine levels; the remaining four facilities each had one instance of noncompliance. Seventeen of the nineteen facilities had 100 percent compliance with permitted fecal coliform bacteria levels; each of the remaining two facilities had one instance of noncompliance.** The attached facility summaries include permit information and compliance activities over the same 13-month period, which have been compiled from Division records. Maps of the area, a description of the categories used in the summaries, and a Table of Abbreviations have been provided.

The data show the extensive monitoring and oversight that each facility receives and that no routine or significant negative impacts by these facilities on Phillippi Creek can be identified. Only two wastewater treatment facilities (Florida Cities Water Company South Gate and Siesta Key Utilities Authority) in close proximity to Phillippi Creek are permitted by the Florida Department of Environmental Protection (DEP) to discharge advanced wastewater treatment, disinfected, dechlorinated effluent to surface water. Two wastewater treatment facilities, Atlantic Utilities of Sarasota, Inc., and Florida Cities Water Company South Gate, are described in detail because of their location, size, and their potential for impacts to Phillippi Creek.

PERMITTING OF FACILITIES

Permittees are responsible for all domestic wastewater treatment facilities. Prior to the construction or operation of a wastewater treatment facility a permittee must submit an

application to the DEP. Applications must be prepared by a Professional Engineer (P.E.) licensed in Florida by the Department of Business and Professional Regulation (DBPR). The engineer must show a facility design that gives the DEP reviewer reasonable assurance that the facility will perform within the limits defined by rule. A permit will be issued if the application meets all the rule provisions.

Typically every five years, the permittee must apply to the DEP to renew the operation permit. At this time the operational history, current regulations, and environmental conditions are reviewed to determine if a renewal is appropriate or if facility improvements are necessary. Chronic problems at a facility could result in the DEP or the County requiring changes at any time.

The basis for plant design and permit conditions originates with the DEP regulations that define varying treatment requirements and discharge limits. Discharge limits primarily depend upon the method of effluent disposal. The effluent quality parameters of concern for all facilities, regardless of disposal method, are carbonaceous biochemical oxygen demand (CBOD), total suspended solids (TSS), and fecal coliform bacteria. The CBOD is indicative of the amount of organic material remaining in the final effluent and characterizes the effectiveness of the biological processes involved in the treatment of wastewater. Low TSS values demonstrate the effectiveness of the physical separation processes in the system. The amount of fecal coliform bacteria present in the final effluent is used to measure the effectiveness of the disinfection process. If fecal coliform bacteria values exceed the permitted standards, then the disinfection process was not adequate.

Effluent limits for nitrogen and phosphorus are always set for surface-water dischargers. Effluent limits for nitrate (NO_3) are sometimes required by the DEP where the effluent discharge is to ground water.

Virtually all facilities must meet disinfection criteria by demonstrating certain chlorine contact time as well as meeting limits for fecal coliform bacteria. The criteria and standards vary with the method of disposal and range from a minimum of 0.5 milligrams per liter (mg/L) total chlorine residual after a minimum of 15 minutes contact time at peak hourly flow for basic level disinfection to a minimum of 1.0 mg/L total chlorine residual after a minimum of 15 minutes contact time at peak hourly flow for high level disinfection.

TREATMENT PROCESSES

Raw wastewater typically contains 200 to 300 mg/L CBOD and TSS and in the range of 10,000 to 10,000,000 fecal coliform colonies per 100 milliliter (ml) sample. A variety of treatment processes can be used to meet the different levels of treatment defined by the permits. The treatment processes can be biological, physical, and chemical. The majority of wastewater treatment occurs biologically whereby the organic matter is absorbed by and adsorbed to a

microbial population in aerated conditions. The oxygen-rich conditions allow the microbes to oxidize and metabolize the organic matter to more stable forms and produce more microbes to continue the process.

Physical treatment typically occurs at two points in the process. The first is at the influent to the plant, where large particles and debris are screened from the flow and deposited in bins for disposal at a landfill. Heavy inert grit may also settle out before entering the biological treatment processes. The second follows the biological process. Sedimentation separates the microbes with their load of organic matter from the effluent flow. The settled mixture is referred to as mixed liquor and is either recycled for the microbes to pick up another load of organic matter or wasted for further treatment and disposal thereby controlling the microbial population.

Filtration is sometimes applied as a final physical separation of any remaining particles. Such particles may contain pathogenic organisms and may interfere with the efficiency of the chlorine disinfection processes. Filtration is used where greater barriers between infectious organisms and public access to the effluent are needed, such as when effluent is used for golf course irrigation. Filtration is also used when effluent is applied to subsurface drainfields for disposal as a barrier to particles that could reduce the drainfield capacity by clogging the porous media.

The most common and most important chemical treatment at wastewater facilities in Sarasota County is the application of chlorine for disinfection. At smaller facilities, liquid chlorine is generally used for disinfection. A facility meets basic level disinfection if sufficient chlorine is added so that a minimum of 0.5 mg/L total chlorine residual is present after a minimum contact time of 15 minutes at peak hourly flow before discharge to a disposal system. This is the treatment criteria demonstrated during the permitting process. The effectiveness of this treatment is routinely tested by analyzing samples of the treated effluent to determine whether they are in compliance with the permit limits. Basic level disinfection has been effective when the fecal coliform values do not exceed 200 colonies per 100 ml of sample on an annual or monthly average, do not exceed 400 colonies per 100 ml of sample in more than 10 percent of the samples monthly, and do not exceed 800 colonies per 100 ml of sample on any one day. This is the same bacteriological quality with regard to fecal coliform that is enforced by State Rule for Class I and Class III surface waters. Most facilities apply much more chlorine than is necessary to maintain the minimum 0.5 mg/L total chlorine residual as a precaution and assurance that the fecal coliform standard is met. Permitted limits for CBOD, TSS, and NO_3 must also be in compliance for basic level disinfection. A minimum of basic level disinfection is required for all wastewater treatment facilities in the State, with the exception of those having certain deep well injection disposal systems.

Chlorination also plays an important role in high level disinfection, which is required at facilities permitted for surface-water discharge or public-access irrigation. In addition to the filtration process mentioned previously and a permitted TSS limit of less than 5 mg/L prior to the

application of disinfectant, high level disinfection requires that sufficient chlorine be used so that a minimum of 1.0 mg/L total chlorine residual is present after a minimum contact time of 15 minutes at peak hourly flow before discharge to a disposal system. The filtration and higher level of chlorination are expected to provide an effluent where fecal coliform is not detectable in at least 75 percent of the samples monthly and does not exceed 25 colonies per 100 ml of sample in any single sample monthly.

Other chemicals may be permitted for application to wastewater processes to enhance their effectiveness, such as flocculants to aid in settling, and pH adjustment and methanol to aid the biological process.

DISPOSAL SYSTEMS

Domestic wastewater effluent is permitted to be disposed in a number of ways in Sarasota County. Percolation/evaporation ponds, subsurface drainfields, and irrigation systems represent discharges to ground water. Deep well injection systems are only permitted to inject into very deep strata (1,000 to 3,000 feet deep) that are geologically isolated from aquifers above and that contain water that has no potential for beneficial use. Secondary treatment standards are required for systems that discharge to deep wells (20 mg/L for CBOD and TSS). However, Atlantic Utilities of Sarasota, Inc., wastewater treatment facility, which is located on Main A Canal of Phillippi Creek, provides both filtration and disinfection of effluent prior to injection into its deep well, as required by their permit.

Facilities that discharge to percolation/evaporation ponds must meet secondary treatment standards, typically defined as less than 20 mg/L CBOD and TSS, followed by disinfection to basic level disinfection standards (0.5 mg/L total chlorine residual and permitted fecal coliform limits, as described previously). Discharges to drainfields have similar limits but are often permitted with added filtration to meet a lower TSS standard of 10 mg/L to ensure that the drainfield does not become clogged.

Restricted-access irrigation may be permitted with treatment to secondary standards and basic level disinfection as with percolation/evaporation ponds. Public-access irrigation is permitted only after meeting many other criteria. First, public-access irrigation is only permitted for larger facilities (greater than 100,000 gallons per day) to provide increased assurances of adequate operator coverage and financial resources for proper maintenance. The treatment systems for facilities providing public-access reuse effluent must include filtration to meet a more stringent TSS standard of 5 mg/L prior to the application of disinfectant and maintain a minimum total chlorine residual of 1.0 mg/L, as required by high level disinfection. Finally, facilities must be constructed with adequate redundancy of process equipment and automation to ensure that substandard effluent is not delivered to the irrigation system. This includes continuous monitoring instruments with alarms to alert operators of problems.

Facilities that are permitted to discharge to surface waters receive the most scrutiny by the DEP before the decision is made to issue a permit. The treatment process must provide advanced wastewater treatment (AWT), which means that in addition to lower limits for CBOD and TSS (5 mg/L for CBOD and 5 mg/L for TSS), the facility must be capable of meeting lower limits for nitrogen and phosphorus (3 mg/L for nitrogen and 1 mg/L for phosphorus). The permit application must contain extensive environmental testing information to insure that the receiving water will not be impacted by the discharge. Once permitted, extensive aquatic toxicity testing is required as part the periodic monitoring requirements. The DEP permit stipulates the frequency of toxicity testing (minimum of annual testing) and the type of aquatic organism to be used (such as water fleas, mysid shrimp, and minnows). The testing involves documentation of the mortality rates of the organisms in the effluent. After AWT and high level disinfection, the facilities that are permitted to discharge effluent to surface water must then provide dechlorination to remove the toxic effects that chlorine would exert on the aquatic environment.

In the event of a disposal system failure or effluent-quality problem, the permittee or operator may have the effluent hauled to the Sarasota County Septage Treatment Plant for additional treatment and/or disposal. Hauling may be at the discretion of the permittee or operator or at the direction of the DEP or the County's Pollution Control Division. The hauling of effluent may be performed only by a State licensed septage hauler and the activity is highly regulated through the State Department of Health. Treatment and/or disposal of effluent at the Septage Plant may be of short duration, such as in the case of an abnormal event and subsequent operational upset at the wastewater facility, or may be long term to accommodate disposal system repairs.

SELF MONITORING

The basic philosophy of the wastewater regulatory programs throughout Florida and the United States is that of self monitoring by the permittee with periodic inspections conducted by regulatory personnel. Permit conditions define the frequency, location, and manner in which the permittee is required to collect samples to demonstrate compliance with effluent standards. Permit conditions and rules also define operational conditions necessary for a facility to remain in compliance. In Florida, facilities must be operated by certified operators that have completed certain educational, training, and testing requirements, and that hold a current license from DBPR. While certain standards of conduct and performance by certified operators are defined in State rule, the permittee remains liable for complete compliance of the facility and is subject to criminal, civil and administrative penalties for violations.

Chapter 62-699 of the Florida Administrative Code defines minimum operator staffing at wastewater facilities ranging from 30 minutes two times a week for wastewater treatment facilities with less than 10,000 gallons per day capacity, up to 24 hours per day for facilities with greater than 3 million gallons per day capacity. Most of the facilities in the vicinity of Phillippi Creek are visited by an operator a minimum of three times per week; however, permit conditions also require that the chlorine and flow at the facility be checked a minimum of five days per week. These chlorine and flow checks may be done by a trainee or persons other than the certified operator.

Chapter 62-160 of the Florida Administrative Code governs quality-assurance procedures for collecting compliance and operational samples, and for maintaining the accuracy of field testing equipment. Compliance samples are valid only when analyzed by laboratories that are certified by a program administered by the State Department of Health. Such laboratories must have an approved Quality Assurance/Quality Control Plan to ensure the accuracy of results.

The DEP regulations define that all data collected from a facility must be submitted to the regulatory authorities. All abnormal events, such as mechanical failures and sewage spills, are also required to be reported to the DEP and the local regulatory program. Each permittee is required to submit Monthly Operating Reports (MORs) that contain daily information signed by the certified operator in charge. As of May 1995, new rules call for Daily Monitoring Reports (DMRs) to be submitted each month and signed by the permittee. These records are maintained by the Pollution Control Division and the DEP.

A summary of fecal coliform and chlorine analyses on samples collected by representatives of the 19 facilities in close proximity to Phillippi Creek and Division staff is provided in Table 2. The analytical data reported for samples collected from August 1995 through August 1996 show that 99.81 percent of the 1,044 samples analyzed for fecal coliform bacteria were in compliance with permit limits. Data for the 8,111 samples tested for total chlorine residual showed 99.95 percent to be in compliance with permit limits.

ABNORMAL EVENTS

Even though a system of checks and balances is in place and State and local regulatory oversight is adequate, abnormal events may occur at wastewater treatment facilities. An abnormal event is any condition with any part of the wastewater collection, treatment, or disposal system that has caused or may cause a violation. Abnormal events include, but are not limited to: overflows; sewage spills; operational upsets at the plant; equipment failures; abnormal hauling of sewage or effluent; collection system failures; disposal system malfunctions; and recurrent or severe hydraulic surges. State rule and County ordinance dictate that abnormal events must be reported to the DEP and the local program (Pollution Control Division) within 24 hours of the event. The Division maintains a 24-hour on-call program, which records abnormal event reports and responds, if necessary, to ensure proper actions by the permittee. The initial 24-hour report includes the location of the abnormal event, possible causes, and proposed corrective and remedial actions. Division staff may offer assistance and/or follow up on the event after receiving this initial report.

State rule and County ordinance also require a written report about the abnormal event if there has been a discharge, if another type of violation has occurred, or if requested. County ordinance requires that the written report be received by the Division within 72 hours of the abnormal event. The written report contains: the date, time, and description of the event; the spill volume (if a discharge has occurred); the cause of the abnormal event; corrective and remedial actions for the event; and measures planned or taken to prevent future occurrences. If a discharge to surface water

has occurred, the wastewater treatment facility is required to collect representative samples and submit a copy of the certified laboratory analyses to the Division. Abnormal events are short-lived malfunctions that do not produce long-lasting impacts on the environment.

Abnormal events are reported to the regulatory agencies, are corrected and documented. The Division tracks reported abnormal events over the course of a calendar year and all submitted abnormal event reports are available in the Division's wastewater treatment facility files. There are many minor events reported such as effluent diversions, short interruptions in power source, and failures of redundant equipment. The Division uses this information to identify trends or chronic problems that may lead to violations and encourage proactive actions.

COUNTY AND STATE MONITORING

The DEP staff have the goal to visit and inspect each facility at least once per year. In addition, the permitting engineer for the DEP will typically inspect the plant during the permit review process.

The County's Pollution Control Division provides unannounced inspections of each facility at least once per month and includes a weekend inspection program. The complete facility operation is evaluated from influent to effluent. General plant operations are evaluated in the areas of access control, facilities, and equipment such as the treatment tanks, blowers, clarifiers and chlorination system. Elements of safety and on-site record keeping are also examined. The condition of the effluent and disposal system are checked and recorded on the inspection report (blank inspection forms are attached). The biological and physical processes are examined and the chlorine residual is checked. An inspection report that details findings and expected corrective actions is left with the operator or permittee. When Division staff find conditions that may indicate that the effluent may not be meeting permitted standards, samples are collected for analysis by a certified laboratory contracted by the County. Each Division inspector routinely reviews the MORs or DMRs and other file information as part of the detailed surveillance of the facilities.

The Division maintains 24-hour telephone access for the public and wastewater facility representatives to report problems. The Division has designated on-call staff that can respond on a 24-hour basis to investigate citizen reports of a spill or dumping of sewage or any other materials. Division staff will also assure that the permittee has properly responded to reported emergencies.

COMPLIANCE AND ENFORCEMENT

The Division is committed to timely and appropriate enforcement of all violations regarding wastewater facilities. Most violations that occur with willful intent can be prosecuted as a misdemeanor criminal offense. This includes falsification of samples and records as well as deliberate dumping. This enforcement action remains a primary deterrent. The State and County

are authorized to file a civil court action asking for $10,000 per day per violation. The County can take cases to the Code Enforcement Special Master who can assess $250 per day per violation. The County is also authorized to enter into bilateral agreements to establish schedules for corrective actions and assess administrative penalties. The Division follows the guidelines in the DEP Enforcement Manual in those cases. From the many choices, the Division applies the appropriate enforcement action primarily dependent upon the nature of the violation, all with the goal to ensure and encourage continued compliance.

The Division maintains close contact with County's Sheriff's Department staff for coordinating investigations of illicit dumping incidents. Sheriff's Department staff have been trained by Division staff on how laws can be applied to environmental situations and how to obtain Division assistance. **There has been no evidence of illicit dumping of wastewater or wastewater residuals during the 13-month compilation period.**

ATLANTIC UTILITIES OF SARASOTA, INC. WASTEWATER TREATMENT FACILITY

Atlantic Utilities of Sarasota, Inc., wastewater treatment facility (now owned and operated by Sarasota County) is a 1.75 million gallon per day treatment plant with an on-site deep injection well disposal system located on the east bank of Main A Canal south of Bahia Vista Street in Sarasota. The facility provides wastewater treatment through an extended aeration treatment process that utilizes an oval-shaped tank that is divided into two sections, which combines both a biological treatment and a physical treatment. Effluent from the clarifier is filtered by one of two filters. A third filter is currently under construction. The filtered effluent undergoes basic level disinfection by the addition of chlorine. Filtered and disinfected effluent is then pumped into the on-site deep injection well for disposal. Deep injection wells are permitted by the DEP and undergo a separate but parallel permit review as the wastewater treatment facility by the DEP. Permit conditions requiring basic level disinfection allow the effluent to contain up to 800 fecal coliform colonies per 100 ml of sample for any one sample (not to exceed a monthly average of 200 fecal coliform colonies per 100 ml sample) before injection into the deep well. However, this wastewater treatment facility generally accomplishes a fecal coliform reduction to less than 1 fecal coliform colony per 100 ml sample through disinfection prior to injection.

The Atlantic Utilities wastewater treatment facility also has an on-site reject storage pond. The reject pond has an impermeable liner to ensure that the soils and ground water adjacent to the pond will not be impacted by the storage of rejected effluent. The lined reject pond provides a suitable and permitted place for the temporary storage of effluent that does not meet the permitted criteria for disposal into the deep well. The pond has been designed with a valved underdrain pipe to control the level of ground water under the pond liner. In the event of high ground-water levels, this underdrain device would prevent catastrophic failure (floating) of the reject pond liner. This treatment facility has not had a permitted discharge to surface water since 1991.

Recent operational and associated disposal problems at the Atlantic Utilities facility (April and June 1996) resulted in additional regulatory vigilance for the facility by the Division and the DEP. A temporary reduction in the capacity of the deep injection well in late April 1996 caused

temporary storage of partially treated effluent in the reject pond and alternate disposal at the Sarasota County Septage Plant until the deep well could be repaired. Although the reject pond did overflow onto the facility site during this time, there was no discharge to the canal. This fact was substantiated by the placement of fluorescein dye tablets into stormwater overflow pipes on the site by Division staff.

Operational problems in early June 1996 again required the storage of partially treated effluent in the reject pond until treatment conditions could be corrected. Although a small amount of partially treated effluent did discharge from the pond to an adjacent wooded area during the June 1996 event, there was no discharge to the canal.

During both abnormal event periods, Division staff monitored the situation closely and collected samples both upstream and downstream in the canal daily to document any potential impacts from the facility. The results of these sampling efforts are summarized in a table "Main A Canal Sample Results" that is attached to the facility summary for Atlantic Utilities. The upstream sample location was a few hundred feet upstream of the plant location. The "at plant" location is in the canal adjacent to the lined reject pond. The downstream location was at Bahia Vista Street. The data and observations by staff indicate that no negative impacts on Phillippi Creek resulted from these abnormal situations at the Atlantic Utilities, Inc. wastewater treatment facility.

FLORIDA CITIES WATER COMPANY SOUTH GATE WASTEWATER TREATMENT FACILITY

Florida Cities Water Company operates a 1.36 million gallon per day advanced wastewater treatment facility located on the east bank of Phillippi Creek near Pine Valley Drive and Tanglewood Drive in Sarasota. This facility discharges dechlorinated effluent that has undergone advanced waste treatment, filtration, and high level disinfection to Phillippi Creek. The facility also provides reclaimed effluent to the Forest Lakes Golf and Country Club for spray irrigation.

The South Gate plant provides wastewater treatment through an activated sludge process that is further enhanced through the removal of nitrogen and phosphorus (advanced wastewater treatment). Nutrient removal is accomplished by passing the effluent through rotating biological contactors for additional nitrification and then through suspended growth denitrification tanks. Effluent from the final clarifier is filtered through one of two filters. After filtration, the effluent undergoes high level disinfection by the addition of chlorine. The permitted level of fecal coliform bacteria for high level disinfection is less than 1 fecal coliform colony per 100 ml of sample in greater than 75 percent of the samples. The facility permit requires that the effluent be sampled for fecal coliform bacteria analysis each day that surface-water discharge is occurring. This facility has a continuous total chlorine residual monitoring system and consistently remains in compliance with their permitted chlorine residual and fecal coliform limits.

Following high level disinfection and prior to discharge, the disinfected effluent must be dechlorinated to remove the toxic effects that chlorine would exert on the aquatic environment. The facility is also required by permit to perform acute toxicity testing as described previously.

Florida Cities Water Company South Gate wastewater treatment facility maintains a high level of compliance. The Florida Cities Water Company has also been extremely proactive in their maintenance of compliance. The company has developed a written Spill Response Protocol, designated a Spill Response Team, and dedicated a specially equipped truck for abatement, correction, and clean up of sewage spills at their wastewater treatment facilities and the associated collection/transmission systems.

SUMMARY

- No routine or significant negative impacts by the facilities in close proximity to Phillippi Creek can be identified.
- The combination of biological, physical, and chemical treatment processes serves as barriers between raw sewage and the environment.
- Facilities are issued permits only after technical review concludes that there is reasonable assurance of compliance with permit conditions and Florida Administrative Codes.
- Facilities that discharge to surface water have the most extensive treatment processes, redundant equipment, certified operator coverage, and automatic monitoring systems.
- Facility operators are educated, tested, and licensed according to Statewide standards regulated by DBPR.
- All data collected by operators or permittees is submitted to DEP and the Pollution Control Division.
- The Pollution Control Division provides unannounced inspections of each facility at least once per month.
- Permittees are liable for the complete compliance of the facility and are subject to criminal, civil, and administrative penalties for violations.
- Fifteen of the 19 facilities had 100 percent compliance with permitted total residual chlorine levels over the 13-month period.
- Seventeen of the 19 facilities had 100 percent compliance with permitted fecal coliform bacteria levels over the 13-month period.
- There was no evidence found during inspections and testing at the Atlantic Utilities facility of a discharge to Phillippi Creek or negative impacts on the creek.

- The Florida Cities Water Company South Gate Wastewater Facility, which is the only facility that discharges effluent to Phillippi Creek, operates the highest level of treatment, and has maintained 100 percent compliance with permit limits during the 13-month period.

- Wastewater facilities do malfunction; however, malfunctions are brief episodes that must be managed appropriately and typically do not result in long-term negative impacts to the environment.

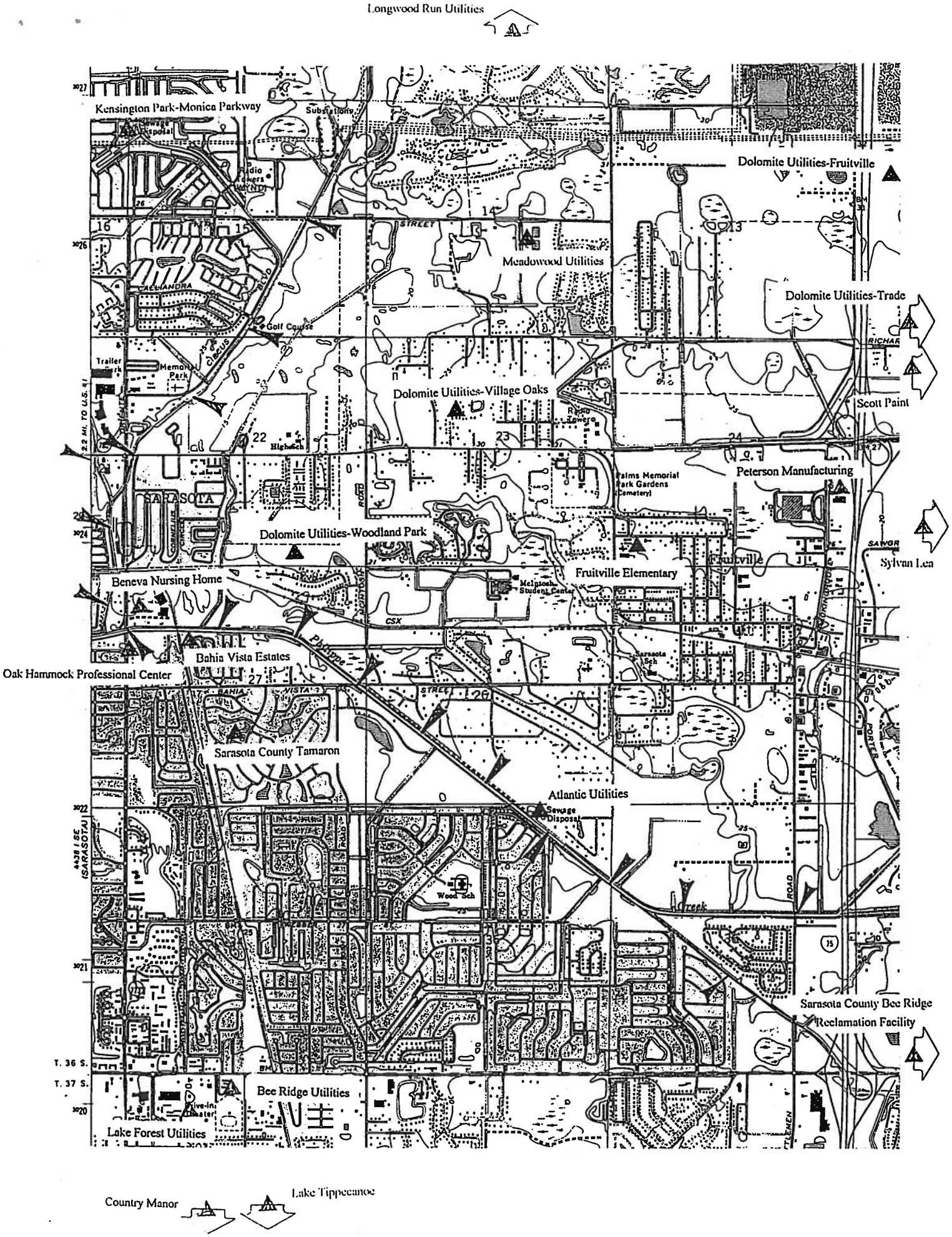
- There are no chronic abnormal events related to wastewater facilities that have negative impacts on Phillippi Creek.

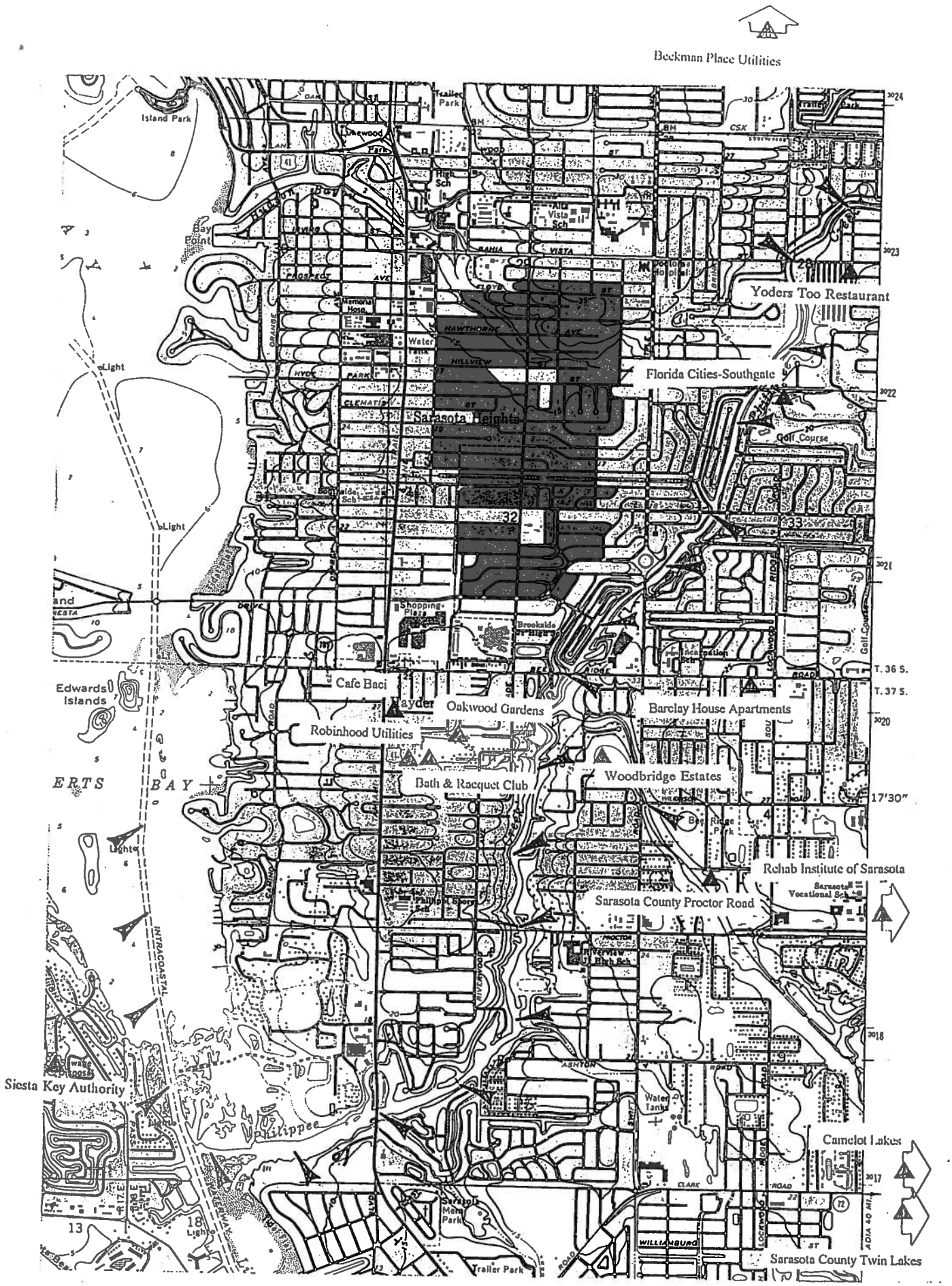
- The State rules, County ordinance, potential for criminal enforcement actions, and the Division's extensive oversight minimize the likelihood of clandestine discharges.

attachments

TABLE OF ABBREVIATIONS

DEP	Florida Department of Environmental Protection
DBPR	Florida Department of Business and Professional Regulation
TSS	Total Suspended Solids
CBOD	Carbonaceous Biochemical Oxygen Demand
NO3	Nitrate
mg/L	Milligrams Per Liter
ml	Milliter
AWT	Advanced Waste Treatment
MOR	Monthly Operating Report
DMR	Daily Operating Report
WWTF	Wastewater Treatment Facility
FECAL	Fecal Coliform Colonies
PCD	Pollution Control Division
mgd	Million Gallons Per Day


Longwood Run Utilities
Kensington Park-Monica Parkway
Substations
Dolomite Utilities-Fruitville
Meadowood Utilities
Dolomite Utilities-Trade
Golf Course
Trailer Park
Memorial Park
Dolomite Utilities-Village Oaks
Scott Paint
Highsch
Palms Memorial Park Gardens (Cemetery)
Peterson Manufacturing
SARASOTA
Dolomite Utilities-Woodland Park
Sylvan Lea
Fruitville
Fruitville Elementary
Beneva Nursing Home
Melntosh Student Center
CSX
Bahia Vista Estates
Oak Hammock Professional Center
Sarasota Sch
Sarasota County Tamaron
Atlantic Utilities
Sewage Disposal
Wood Sch
Creek
Sarasota County Bee Ridge Reclamation Facility
T. 36 S.
T. 37 S.
Bee Ridge Utilities
Drive-In Theater
Lake Forest Utilities
Country Manor
Lake Tippecanoe


Beckman Place Utilities
Island Park
Bay Point
Yoders Too Restaurant
Florida Cities-Southgate
Golf Course
Sarasota Heights
Edwards Islands
Cafe Baci
Oakwood Gardens
Barclay House Apartments
Robinhood Utilities
Bath & Racquet Club
Woodbridge Estates
Rehab Institute of Sarasota
Sarasota County Proctor Road
Siesta Key Authority
Camelot Lakes
Sarasota County Twin Lakes
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T. 37 S.
17'30"
BAY
INTRACOASTAL

Table 1. Wastewater treatment facilities in close proximity to Phillippi Creek with type of treatment, disinfection, and disposal system identified.

FACILITY NAME	TREATMENT		DISINFECTION		DISPOSAL				
	Secondary	Advanced Waste Treatment	Basic Level	High Level	Drainfield	Percolation Pond	Surface-water Discharge	Deep Injection Well	Other
Atlantic Utilities WWTF	X		X					X	
Bahia Vista MHP WWTF	X		X			X			
Barclay House Apts. WWTF	X		X			X			
Bath and Racquet Club WWTF	X		X		X				
Beneva Creek Utilities WWTF	X		X		X				
Beneva Nursing Pavillion WWTF	X		X						X
Cafe Baci WWTF	X		X		X				
Dolomite Utilities Woodland Park WWTF	X		X			X			
Field Club WWTF	X			X	X				
Florida Cities South Gate WWTF		X		X			X		
KPU Monica Parkway WWTF	X		X			X			
Meadowood Utilities WWTF	X			X		X			
Oakwood Gardens Condo. WWTF	X		X		X				
Robinhood Utilities WWTF	X			X	X				
S.C. Proctor Road WWTF	X		X		X				
S.C. Tamaron Utilities WWTF	X		X			X			
Siesta Key Utilities Auth. WWTF		X		X			X		
Woodbridge Estates WWTF	X		X		X				
Yoders Too Restaurant WWTF	X		X		X				

Table 2. Compliance history for disinfection demonstrated by permitted total chlorine residuals and fecal coliform bacteria samples for wastewater treatment facilities in close proximity to Phillippi Creek, August 1995-August 1996. [1]

AVG FLOW	FACILITY NAME	NUMBER OF CHLORINE MEASUREMENTS	NUMBER IN COMPLIANCE	PERCENTAGE IN COMPLIANCE
1.75	Atlantic Utilities WWTF	1,693	1,693	100
.019	Bahia Vista MHP WWTF	337	337	100
.005	Barclay House Apts. WWTF	368	368	100
.0045	Bath and Racquet Club WWTF	352	351	99.7
.006	Beneva Creek Utilities WWTF	294	294	100
.023	Beneva Nursing Pavillion WWTF	405	405	100
.004	Cafe Baci WWTF	351	351	100
.031	Dolomite Utilities Woodland Park WWTF	409	409	100
.005	Field Club WWTF	326	325	99.7
1.176	Florida Cities South Gate WWTF	408	408	100
.258	KPU Monica Parkway WWTF	308	308	100
.445	Meadowood Utilities WWTF	409	408	99.7
.004	Oakwood Gardens Condo. WWTF	288	288	100
.01	Robinhood Utilities WWTF	410	410	100
.009	S.C. Proctor Road WWTF	356	356	100
.046	S.C. Tamaron Utilities WWTF	340	339	99.7
—	Siesta Key Utilities Auth. WWTF	410	410	100
.015	Woodbridge Estates WWTF	297	297	100
.0032	Yoders Too Restaurant WWTF	350	350	100
3.81 MGD		8110	8107	99.96 %

FACILITY NAME	NUMBER OF FECAL COLIFORM BACTERIA SAMPLES	NUMBER IN COMPLIANCE	PERCENTAGE IN COMPLIANCE
Atlantic Utilities WWTF	52	52	100
Bahia Vista MHP WWTF	14	14	100
Barclay House Apts. WWTF	14	14	100
Bath and Racquet Club WWTF	14	14	100
Beneva Creek Utilities WWTF	13	13	100
Beneva Nursing Pavillion WWTF	14	14	100
Cafe Baci WWTF	13	13	100
Dolomite Utilities Woodland Park WWTF	26	26	100
Field Club WWTF	14	13	92.9
Florida Cities South Gate WWTF	227	227	100
KPU Monica Parkway WWTF	52	52	100
Meadowood Utilities WWTF	394	394	100
Oakwood Gardens Condo. WWTF	15	14	93.3
Robinhood Utilities WWTF	13	13	100
S.C. Proctor Road WWTF	13	13	100
S.C. Tamaron Utilities WWTF	25	25	100
Siesta Key Utilities Auth. WWTF	103	103	100
Woodbridge Estates WWTF	13	13	100
Yoders Too Restaurant WWTF	15	15	100
	1044	1042	99.80 %

[1] Samples collected by certified wastewater treatment facility personnel and by Pollution Control Division staff.

SARASOTA COUNTY POLLUTION CONTROL
WASTEWATER TREATMENT PLANT COMPLIANCE INSPECTION FORM

Plant Name _____ Operator _____

Plant Permit No. _____ Exp. Date_____

Date/Time of Inspection _____

I. EFFLUENT QUALITY	
A. Cl_2 residual _____	Comments
B. Clarity of Effluent_____	
C. Samples Collected: Y____ N____	
D. Parameters:_____	

II. GENERAL PLANT CONDITIONS/OPERATION						
	Not Applic.	Adequate	Marginal**	Not Adequ.	Not Evalu.	Comments
A. Access Control						
B. Grounds Maintenance						
C. Facilities/Equipment:						
1. Surge Tank						
2. Aeration Tank(s)						
3. Blowers/Motors						
4. Clarifier						
5. Weirs						
6. Skimmer						
7. Digestor						
8. Filter System						
9. Chlorine Contact Chamber						
10. Chlorination						
11. Flow Meter						
12. Cross Connection Control						
13. Non-Potable signs on hosebibs						
14. Emergency Contact Signs						
15. Other:_____						

Plant Name_____ Date_____

III. SAFETY	Not Applic.	Adequate	Marginal**	Not Adequ.	Not Evalu.	Comments
A. Storage of Compressed Gas						
B. Hazard Warning Signs						
C. Respiratory Equipment						
D. Safety Shower/Eyewash						
E. Walkways,railings						
F. Stairs						
G. Electrical Panels						
H. Other:_____						
I. Other:_____						

IV. ON-SITE RECORD KEEPING						
A. Operations & Maintenance Log						
B. Chain of Custody-Samples						
C. Calibration Records						
D. Other:_____ _____						

V. GENERAL EFFLUENT DISPOSAL/REUSE SITE CONDITIONS/OPERATIONS						
A. Access Control						
B. Warning Signs						
C. General Maintenance of Grounds						
D. Operation/Functioning of System						
E. Other:_____						
F. Other:_____						

- Access control: Ordinance No 77-79; Rule 62-600.400(2)(b), FAC.
- Grounds maintenance (safety, sampling access): Rules 62-600.400(4)(a), 62-600.410(7), FAC.
- Maintenance of facilities and equipment necessary for treatment, reuse, and disposal of domestic wastewater and residuals: Rules 62-600.410(6), 62-600.410(7), 62-600.740(2)(e), 62-600.740(2)(a), 62-602.360(1)(a), 62-602.360(1)(f), FAC.
- Cross connection control: Rule 62-600.300, FAC - ref. Recommended Standards for Sewage Works, 62-610.420, 62-610.470, FAC.
- Rule 62-600.300, FAC - ref. Recommended Standards for Sewage Works; minimum OSHA requirements, 29 CFR 1910.
- Operations and maintenance log: Rules 62-602.360(1)(e), 62-602.360(1)(e) FAC.
- Chain of custody, quality assurance, record keeping: Rules 62-4.160(14)(b),(c), 62-601.300(6), 62-601.400(1) - ref: EPA approved methods, 62-602.360(1)(d), FAC.
- Access control, warning signs: Rule 62-610, FAC.
- Operation: Rules 62-600.740(2)(a), 62-600.410(6), 62-600.740(2)(e), 62-602.360(1)(a), 62-602.360(1)(f), 62-600.410(7), FAC.

**Indicates close to the lower limit of qualification or acceptability

Inspector_____

Plant Representative_____

(Rev. 02.23.95)

WWTF SUMMARY EXPLANATION

Name of Facility: Permitted name of the wastewater treatment facility (WWTF)
Capacity: Capacity permitted by the DEP
Annual Average Flow: WWTF flows are reported each month on the MOR or DMR; averaged for a 12-month period
Treatment: Permitted level of treatment and disinfection that must be maintained
Effluent Disposal: Permitted type of disposal method
Discharge Limits: **CBOD** **TSS** **NO_3** **Fecal** **pH**
Permitted limits for the monitored parameters listed
Monitoring Frequency: Frequency required by permit for reporting the values for the monitored parameters.
Certified Operator Coverage: Amount of certified operator staffing required at the WWTF by permit
Status of surface water discharge at the WWTF

Operations Plant Checks and Operator Samples (8/95-8/96):
Minimum number of monitored parameter checks in a 13-month period; includes dates of noncompliance and recorded values. Some parameters may be checked more than required by permit, but may only be reported in the frequency required. For example, continuous monitoring of the chlorine residual is reported as an average value daily.

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of inspections, inspection results, and sampling events conducted by Pollution Control Division staff; includes noncompliance issues, sampling dates, and analytical results.

DEP Inspections and Compliance Samples (8/95-8/96):
Number of inspections, inspection results, and sampling events conducted by Department of Environmental Protection staff; includes noncompliance issues, any sampling dates, and analytical results.

Abnormal Events (8/95-8/96):
Reported and nonreported abnormal events, type of problem, and record of any unpermitted discharge to surface water; includes date(s) of abnormal event or occurrence, brief description of the problem, and results of any associated sampling.

Other Abnormal Operating Conditions or Events (8/95-8/96):
Additional comments or observations concerning WWTF operations, compliance, problems, reporting, etc.

Name of Facility: Atlantic Utilities of Sarasota, Inc. WWTF
Capacity: 1.75 mgd
Annual Average Flow: 1.0 mgd
Treatment: Secondary/Filtration/Basic disinfection
Effluent Disposal: Deep well injection (on site)

Discharge Limits:	**CBOD**	**TSS**	**NO_3**	**Fecal**	**pH**
(monthly)	<25mg/L	<20mg/L	<12mg/L	<200/100ml	6.0-8.5

Monitoring Frequency: Weekly for above; chlorine and pH checked hourly, 6 hours per day, 5 days per week
Certified Operator Coverage: Class C operator, 6 hours per day, 5 days per week, and one weekend visit.
Surface water discharge of secondary/disinfected effluent to Phillipi Creek until 1991.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 336.
Number of chlorine measurements (minimum): 1,680; number in compliance: 1,680
Number of pH measurements (minimum): 1,680; number in compliance: 1,677
7/12/96: pH = 5.4
8/9/96: pH = 4.8
8/10/96: pH = 4.5
Number of operator samples for CBOD: 65; number in compliance: 65
Number of operator samples for TSS: 65; number in compliance: 64
4/27/96: TSS value = 82 mg/L; plant upset; effluent sent to reject pond.
Number of operator samples for NO_3: 52; number in compliance: 40
1/96: one NO_3 exceedence; NO_3 = 13 mg/L
2/96: two NO_3 exceedences; NO_3 = 19 mg/L and 20 mg/L
3/96: four NO_3 exceedences; NO_3 ranged between 20 mg/L and 24 mg/L
4/96: four NO_3 exceedences; NO_3 ranged between 23 mg/L and 32 mg/L
5/96: one NO_3 exceedence; NO_3 = 24 mg/L
Number of operator samples for fecal coliform bacteria: 52; number in compliance: 52
Other:

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 13
Number satisfactory: 10; number marginal: 0; number unsatisfactory: 3
Noncompliance inspection issues: recurrent odor problems; plant upsets; filter bypass
8/95: effluent going to the reject pond due to infiltration.
1/96: effluent going to the reject pond due to filter problems.
4/96: effluent going to the reject pond due to filter problems; filter bypass; poor effluent quality; TSS violations; injection well plugged; non-reporting of abnormal events.
6/96: effluent going to the reject pond due to filter problems; continuing operational problems.
Number of chlorine measurements: 13; number in compliance: 13
Number of PCD samples for CBOD: 1; number in compliance: 1
Number of PCD samples for TSS: 1; number in compliance: 0
4/25/96: TSS value = 124 mg/L
Number of PCD samples for NO_3: 0; number in compliance: 0
Number of PCD samples for fecal coliform bacteria: 0; number in compliance: 0
Other: See Abnormal Events below.

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 3; number satisfactory: 0
Noncompliance inspection issues: plant failures in April and June 1996.
Number of chlorine measurements: 3; number in compliance: 3
Number of pH measurements: 0; number in compliance: 0
Number of DEP samples for CBOD: 0; number in compliance: 0
Number of DEP samples for TSS: 0; number in compliance: 0
Number of DEP samples for NO_3: 0; number in compliance: 0
Number of DEP samples for fecal coliform bacteria: 0; number in compliance: 0
Other:

Abnormal Events (8/95-8/96):

Number of lift station failures: 2; number of associated surface water discharges: 2

9/2/95: mechanical failure

2/10/96: mechanical float malfunction; discharge to stormwater pond.

Number of force main failures: 0; number of associated surface water discharges: 0

Number of disposal system failures: 1; number of associated surface water discharges: 0

4/24/96-4/30/96: plant upset caused failure of deep injection well; effluent sent to the reject pond.

Number of electrical failures at the WWTF: 1; number of associated surface water discharges: 0

8/6/96: power failure; no associated problems

Number of mechanical failures at the WWTF: 4; number of associated surface water discharges: 0

4/24/96-4/30/96: filter bypass caused by plant upset resulted in failure of the deep injection well.

6/14/96: reject pond overflow to stormwater pond and adjacent property; two incidents on the same date.

8/21/96: chlorine regulator failure; chlorine residual remained in compliance.

Other Abnormal Operating Conditions or Events (8/95-8/96):

Although the abnormal events listed on the 1996 Abnormal Events Summary do indicate three surface water discharges on April 30 and June 14, 1996, these discharges flowed off of the property but were contained on adjacent properties with no documented discharge to Main A Canal.

Main A Canal Sample Results

DATE	PARAMETER	UPSTREAM	AT PLANT	DOWNSTREAM	REJECT POND	STORM POND
4/28/96	Total Coliform (colonies per 100 ml)	2,000	NA	4,000	2,000	NA
	Fecal Coliform (colonies per 100 ml)	900	NA	440	200	NA
	TSS (mg/L)	12	NA	3	50	NA
	CBOD (mg/L)	NA	NA	NA	34.9	NA
	Total N (mg/L)	NA	NA	NA	0.017	NA
	NO_3 (mg/L)	NA	NA	NA	0.001	NA
	Turbidity (NTUs)	7.4	NA	5.7	NA	NA

DATE	PARAMETER	UPSTREAM	AT PLANT	DOWNSTREAM	REJECT POND	STORM POND
4/29/96	Total Coliform (colonies per 100 ml)	2,900	1,500	1,900	>200,000	NA
	Fecal Coliform (colonies per 100 ml)	290	230	360	12,700	NA
	TSS (mg/L)	5.4	0.4	23.4	30.4	NA
	CBOD (mg/L)	1.17	4.8	1.18	26.4	NA
	Total N (mg/L)	0.001	0.007; 0.017	0.053	NA	NA
	NO_3 (mg/L)	0.001	0.002; 0.012	0.028	NA	NA
	Turbidity (NTUs)	4.7	1	6.1	NA	NA

DATE	PARAMETER	UPSTREAM	AT PLANT	DOWNSTREAM	REJECT POND	STORM POND
4/30/96	Total Coliform (colonies per 100 ml)	5,000	12,000	8,000	>200,000	NA
	Fecal Coliform (colonies per 100 ml)	3,400	4,600	3,200	6,900	NA
	TSS (mg/L)	7.4	13.4	36.4	30.4	NA
	CBOD (mg/L)	1.2	1.6	1.08	NA	NA
	Total N (mg/L)	0.001	0.001; 0.03	0.142	NA	NA
	NO_3 (mg/L)	0.001	0.001; 0.007	0.12	NA	NA
	Turbidity (NTUs)	8.3	13.6	NA	NA	NA

DATE	PARAMETER	UPSTREAM	AT PLANT	DOWNSTREAM	REJECT POND	STORM POND
5/1/96	Total Coliform (colonies per 100 ml)	2,500	7,000	1,300	60,000	NA
	Fecal Coliform (colonies per 100 ml)	590	350	330	900	NA
	TSS (mg/L)	4.9	3.1	9.7	12.1	NA
	CBOD (mg/L)	1	1.03	1	18.3	NA
	Total N (mg/L)	0.206	0.208; 0.209	0.034	NA	NA
	NO_3 (mg/L)	0.19	0.19 0.188	0.02	NA	NA
	Turbidity (NTUs)	4.8	4	5.7	NA	NA

DATE	PARAMETER	UPSTREAM	AT PLANT	DOWNSTREAM	REJECT POND	STORM POND
5/2/96	Total Coliform (colonies per 100 ml)	500	1,800	1,500	24,000	NA
	Fecal Coliform (colonies per 100 ml)	360	500	420	1,000	NA
	TSS (mg/L)	3.1	4.3	16.3	13.9	NA
	CBOD (mg/L)	1.08	4	1.98	15	NA
	Total N (mg/L)	0.473	0.423; 0.363	0.019	NA	NA
	NO_3 (mg/L)	0.439	0.388; 0.329	0.008	NA	NA
	Turbidity (NTUs)	3.1	3.6	5.7	NA	NA

DATE	PARAMETER	UPSTREAM	AT PLANT	DOWNSTREAM	REJECT POND	STORM POND
6/11/96	Total Coliform (colonies per 100 ml)	17,000	NA	34,000	17,000	10,000
	Fecal Coliform (colonies per 100 ml)	8,000	26,000	7,900	7,900	2,500

Samples collected at the Atlantic Utilities, Inc., WWTF by Pollution Control Division personnel.

Main A Canal Sample Results

DATE	PARAMETER	UPSTREAM	AT PLANT	DOWNSTREAM	REJECT POND	STORM POND
6/18/96	Total Coliform (colonies per 100 ml)	NA	NA	NA	4,550	NA
	Fecal Coliform (colonies per 100 ml)	NA	NA	NA	850	NA
	Total N (mg/L)	1.69	NA	1.31	22.5	17.9
	NO_3 (mg/L)	0.038	NA	0.011	0.035	0.055

Samples collected at the Atlantic Utilities, Inc., WWTF by Pollution Control Division personnel.

Name of Facility: Bahia Vista Estates Mobile Home Park WWTF
Capacity: 0.040 mgd
Annual Average Flow: 0.019 mgd
Treatment: Secondary/Basic disinfection
Effluent Disposal: Dual percolation/evaporation ponds of 12,100 square feet located immediately adjacent to Phillipi Creek

Discharge Limits:	**CBOD**	**TSS**	**NO_3**	**Fecal**	**pH**
(monthly)	<25 ppm	<25 ppm	<12 ppm	<200/100ml	6.0-8.5

Monitoring Frequency: Monthly for above; chlorine and pH checked daily 5 days per week.
Certified Operator Coverage: Class C Operator for 0.5 hour per day, 5 days per week, and one weekend visit.
Never constructed with a discharge to surface water.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 336
Number of chlorine measurements (minimum): 324; number in compliance: 324
Number of pH measurements (minimum): 324; number in compliance: 324
Number of operator samples for CBOD: 13; number in compliance: 13
Number of operator samples for TSS: 13; number in compliance: 13
Number of operator samples for NO_3: 13; number in compliance: 13
Number of operator samples for fecal coliform bacteria: 13; number in compliance: 13
Other:

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 16
Number satisfactory: 14; number marginal: 1; number unsatisfactory: 1
Noncompliance inspection issues:
1/16/96: effluent in poor condition (cloudy)
3/13/96: plant conditions unsatisfactory; power failure; solids in clarifier going to first disposal pond.
5/96: one incident of failure to provide access for inspection.
Number of chlorine measurements: 13; number in compliance: 13
Number of PCD samples for CBOD: 2 ; number in compliance: 1
3/13/96: power failure; CBOD = 43.3 mg/L
Number of PCD samples for TSS: 2; number in compliance: 1
3/13/96: power failure; TSS = 108 mg/L
Number of PCD samples for NO_3: 0; number in compliance: 0
Number of PCD samples for fecal coliform bacteria: 1; number in compliance: 1
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 0; number satisfactory: NA
Noncompliance inspection issues: NA
Number of chlorine measurements: NA; number in compliance: NA
Number of pH measurements: NA; number in compliance: NA
Number of DEP samples for CBOD: NA; number in compliance: NA
Number of DEP samples for TSS: NA; number in compliance: NA
Number of DEP samples for NO_3: NA; number in compliance: NA
Number of DEP samples for fecal coliform bacteria: NA; number in compliance: NA
Other:

Abnormal Events (8/95-8/96):
Number of lift station failures: 0; number of associated surface water discharges: 0
Number of force main failures: 0; number of associated surface water discharges: 0
Number of disposal system failures: 0; number of associated surface water discharges: 0
Number of electrical failures at the WWTF: 1; number of associated surface water discharges: 0
3/13/96: power failure; WWTF lost solids to one percolation/evaporation pond.
Number of mechanical failures at the WWTF: 0; number of associated surface water discharges: 0

Other Abnormal Operating Conditions or Events (8/95-8/96):
None

Name of Facility: Barclay House Apartments WWTF
Capacity: 0.008 mgd
Annual Average Flow: 0.005 mgd
Treatment: Secondary/Basic disinfection
Effluent Disposal: Single percolation/evaporation pond of 30,000 square feet

Discharge Limits:	**CBOD**	**TSS**	**NO_3**	**Fecal**	**pH**
(monthly)	<30 mg/L	<30 mg/L	<12 mg/L	<200/100ml	6.0-8.5

Monitoring Frequency: Monthly for above; chlorine and pH checked daily 5 days per week.
Certified Operator Coverage: Class D operator, 2 non-consecutive visits per week for 1 hour total per week.
Never constructed with a discharge to surface water.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 356
Number of chlorine measurements (minimum): 356; number in compliance: 356
Number of pH measurements (minimum): 356; number in compliance: 356
Number of operator samples for CBOD: 13; number in compliance: 13
Number of operator samples for TSS: 13; number in compliance: 13
Number of operator samples for NO_3: 13; number in compliance: 13
Number of operator samples for fecal coliform bacteria: 14; number in compliance: 14
Other:

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 13
Number satisfactory: 12; number marginal: 1; number unsatisfactory: 0
Noncompliance inspection issues:
10/3/95: floating solids in clarifier and scum in chlorine contact chamber
Number of chlorine measurements: 12 (no flow one time); number in compliance: 12
Number of PCD samples for CBOD: 0; number in compliance: 0
Number of PCD samples for TSS: 0; number in compliance: 0
Number of PCD samples for NO_3: 0; number in compliance: 0
Number of PCD samples for fecal coliform bacteria: 0; number in compliance: 0
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 0; number satisfactory: NA
Noncompliance inspection issues: NA
Number of chlorine measurements: NA; number in compliance: NA
Number of pH measurements: NA; number in compliance: NA
Number of DEP samples for CBOD: NA; number in compliance: NA
Number of DEP samples for TSS: NA; number in compliance: NA
Number of DEP samples for NO_3: NA; number in compliance: NA
Number of DEP samples for fecal coliform bacteria: NA; number in compliance: NA
Other:

Abnormal Events (8/95-8/96):
Number of lift station failures: 0; number of associated surface water discharges: 0
Number of force main failures: 0; number of associated surface water discharges: 0
Number of disposal system failures: 0; number of associated surface water discharges: 0
Number of electrical failures at the WWTF: 0; number of associated surface water discharges: 0
Number of mechanical failures at the WWTF: 1; number of associated surface water discharges: 0
8/14/96: digester overflow due to a plugged pipe; no discharge off plant site.

Other Abnormal Operating Conditions or Events (8/95-8/96):
None

Name of Facility: Bath and Racquet Club WWTF
Capacity: 0.005 mgd
Annual Average Flow: 0.0045 mgd
Treatment: Secondary/Basic disinfection
Effluent Disposal: Single drainfield of 8,500 square feet

Discharge Limits:	**CBOD**	**TSS**	**NO_3**	**Fecal**	**pH**
(monthly)	<25 mg/L	<10 mg/L	<12 mg/L	<200/100ml	6.0-8.5

Monitoring Frequency: Monthly for above; chlorine and pH checked daily 5 days per week.
Certified Operator Coverage: Class D operator, 2 non-consecutive visits per week for 1 hour total per week.
Never constructed with a discharge to surface water.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 340
Number of chlorine measurements (minimum): 340; number in compliance: 340
Number of pH measurements (minimum): 340; number in compliance: 340
Number of operator samples for CBOD: 13; number in compliance: 13
Number of operator samples for TSS: 13; number in compliance: 6
8/21/95: TSS = 24.7 mg/L
9/28/95: TSS = 31.0 mg/L
11/29/95: TSS = 12.9 mg/L
12/5/95: TSS = 17.0 mg/L
2/26/96: TSS = 34.5 mg/L
3/7/96: TSS = 13.0 mg/L
5/7/96: TSS = 10.4 mg/L
Number of operator samples for NO_3: 13; number in compliance: 13
Number of operator samples for fecal coliform bacteria: 13; number in compliance: 13
Other:

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 12
Number satisfactory: 7; number marginal: 2; number unsatisfactory: 3
Noncompliance inspection issues:
10/12/95 and 11/14/95: marginal or unsatisfactory effluent treatment quality.
1/25/96 and 2/27/96: marginal or unsatisfactory effluent treatment quality.
6/21/96: no chlorine in the effluent.
Number of chlorine measurements: 12; number in compliance: 11
6/21/96: no chlorine in the effluent.
Number of PCD samples for CBOD: 2; number in compliance: 2
Number of PCD samples for TSS: 3; number in compliance: 2
1/25/96: TSS = 45.6 mg/L
Number of PCD samples for NO_3: 0; number in compliance: 0
Number of PCD samples for fecal coliform bacteria: 1; number in compliance: 1
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 0; number satisfactory: NA
Noncompliance inspection issues: NA
Number of chlorine measurements: NA; number in compliance: NA
Number of pH measurements: NA; number in compliance: NA
Number of DEP samples for CBOD: NA; number in compliance: NA
Number of DEP samples for TSS: NA; number in compliance: NA
Number of DEP samples for NO3: NA; number in compliance: NA
Number of DEP samples for fecal coliform bacteria: NA; number in compliance: NA
Other:

Abnormal Events (8/95-8/96):
Number of lift station failures: 0; number of associated surface water discharges: 0
Number of force main failures: 0 ; number of associated surface water discharges: 0
Number of disposal system failures: 0; number of associated surface water discharges: 0
Number of electrical failures at the WWTF: 1; number of associated surface water discharges: 0
2/27/96: breakers off; mixed liquor dark but not septic.
Number of mechanical failures at the WWTF: 1; number of associated surface water discharges: 0
6/21/96: chlorine/disinfection system failure; no chlorine residual in final effluent.

Other Abnormal Operating Conditions or Events (8/95-8/96):

Some events of plant treatment degredation and plant failures not properly reported to the PCD.

6/21/96: chlorine/disinfection system failure not reported by the operator on the MOR.

Name of Facility: Beneva Creek Utilities WWTF (Oak Hammock Professional Center)
Capacity: 0.01 mgd
Annual Average Flow: 0.006 mgd
Treatment: Secondary/Filtration/Basic disinfection
Effluent Disposal: Dual drainfields of 10,530 square feet

Discharge Limits:	**CBOD**	**TSS**	**NO_3**	**Fecal**	**pH**
(monthly)	<25mg/L	<10mg/L	<12mg/L	<200/100ml	6.0-8.5

Monitoring Frequency: Monthly for above; chlorine and pH checked daily 5 days per week.
Certified Operator Coverage: Class D Operator for 3 non-consecutive visits per week for a total of 1.5 hours per week.
Never constructed with a discharge to surface water.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 280
Number of chlorine measurements (minimum): 280; number in compliance: 280
Number of pH measurements (minimum): 280; number in compliance: 280
Number of operator samples for CBOD: 13; number in compliance: 13
Number of operator samples for TSS: 13; number in compliance: 13
Number of operator samples for NO_3: 13; number in compliance: 13
Number of operator samples for Total N: 2; number in compliance: 2
Number of operator samples for fecal coliform bacteria: 13; number in compliance: 13
Other:

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 14
Number satisfactory: 3; number marginal: 6; number unsatisfactory: 5
Noncompliance inspection issues: drainfield leaching, septic digester, no fence or warning signs
8/95-3/96: drainfield leaching documented; drainfield repairs completed 4/95.
Number of chlorine measurements: 14; number in compliance: 14
Number of PCD samples for CBOD: 0; number in compliance: 0
Number of PCD samples for TSS: 0; number in compliance: 0
Number of PCD samples for NO_3: 0; number in compliance: 0
Number of PCD samples for fecal coliform bacteria: 0; number in compliance: 0
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 0; number satisfactory: NA
Noncompliance inspection issues: NA
Number of chlorine measurements: NA; number in compliance: NA
Number of pH measurements: NA; number in compliance: NA
Number of DEP samples for CBOD: NA; number in compliance: NA
Number of DEP samples for TSS: NA; number in compliance: NA
Number of DEP samples for NO_3: NA; number in compliance: NA
Number of DEP samples for fecal coliform bacteria: NA; number in compliance: NA
Other:

Abnormal Events (8/95-8/96):
Number of lift station failures: 1; number of associated surface water discharges: 0
2/25/96: manhole overflow; no discharge to surface water.
Number of force main failures: 0; number of associated surface water discharges: 0
Number of disposal system failures: 1; number of associated surface water discharges: 1
8/95-3/96: drainfield leaching documented; drainfield repairs completed 4/95.
Number of electrical failures at the WWTF: 0; number of associated surface water discharges: 0
Number of mechanical failures at the WWTF: 1; number of associated surface water discharges: 0
8/7/96: chlorinator failure; chlorine residual remained in compliance.

Other Abnormal Operating Conditions or Events (8/95-8/96):
None

Name of Facility: Beneva Nursing Pavillion WWTF
Capacity: 0.03 mgd
Annual Average Flow: 0.023 mgd
Treatment: Secondary/Filtration/Basic disinfection
Effluent Disposal: Treated effluent temporarily hauled to a land application site

Discharge Limits:	**CBOD**	**TSS**	**NO_3**	**Fecal**	**pH**
(monthly)	<25mg/L	<5mg/L	<12mg/L	<1/100ml	6.0-8.5

Monitoring Frequency: Monthly for above; chlorine and pH checked daily 5 days per week.
Certified Operator Coverage: Class C Operator for 0.5 hour per day, 5 days per week, and one weekend visit.
Never constructed with a discharge to surface water; plant went off line 9/96.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 396
Number of chlorine measurements (minimum): 396; number in compliance: 396
Number of pH measurements (minimum): 396; number in compliance: 396
Number of operator samples for CBOD: 14; number in compliance: 14
Number of operator samples for TSS: 14; number in compliance: 14
Number of operator samples for NO_3: 15; number in compliance: 14
12/20/95: NO_3 = 13.4 mg/L
Number of operator samples for fecal coliform bacteria: 14; number in compliance: 14
Other:

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 13
Number satisfactory: 11; number marginal: 1; number unsatisfactory: 1
Noncompliance inspection issues: drainfield failure; effluent hauling; deficient log entries
11/28/95: solids in the filtration system.
5/21/96: on-site log entries unsatisfactory.
Number of chlorine measurements: 9; Number in compliance: 9
11/95,1/96, 4/96, and 5/96: chlorine residual not measured
Number of PCD samples for CBOD: 0; number in compliance: 0
Number of PCD samples for TSS: 0; number in compliance: 0
Number of PCD samples for NO_3: 0; number in compliance: 0
Number of PCD samples for fecal coliform bacteria: 0; number in compliance: 0
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 0; number satisfactory: NA
Noncompliance inspection issues: NA
Number of chlorine measurements: NA; number in compliance: NA
Number of pH measurements: NA; number in compliance: NA
Number of DEP samples for CBOD: NA; number in compliance: NA
Number of DEP samples for TSS: NA; number in compliance: NA
Number of DEP samples for NO_3: NA; number in compliance: NA
Number of DEP samples for fecal coliform bacteria: NA; number in compliance: NA
Other:

Abnormal Events (8/95-8/96):
Number of lift station failures: 0; number of associated surface water discharges: 0
Number of force main failures: 0; number of associated surface water discharges: 0
Number of disposal system failures: 0; number of associated surface water discharges: 0
Number of electrical failures at the WWTF: 0; number of associated surface water discharges: 0
Number of mechanical failures at the WWTF: 4; number of associated surface water discharges: 0
12/17/96: seam on aeration tank ruptured; no discharge to surface water.
1/31/96: plant upset; no discharge to surface water.
2/20/96: aeration tank line plugged; overflow of tank; no discharge to surface water.
3/8/96: return sludge line plugged; overflow; no discharge to surface water.

Other Abnormal Operating Conditions or Events (8/95-8/96):
None

Name of Facility: Cafe Baci WWTF
Capacity: 0.005 mgd
Annual Average Flow: 0.004 mgd
Treatment: Secondary/Basic disinfection
Effluent Disposal: Single drainfield of 1,200 square feet

Discharge Limits:	**CBOD**	**TSS**	**NO_3**	**Fecal**	**pH**
(monthly)	<25 mg/L	<10 mg/L	<12 mg/L	<200/100ml	6.0-8.5

Monitoring Frequency: Monthly for above; chlorine and pH checked five days per week
Certified Operator Coverage: Class D operator, 2 non-consecutive visists per week for a total of 1 hour per week.
Never constructed with a discharge to surface water.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 338
Number of chlorine measurements (minimum): 338; number in compliance: 338
Number of pH measurements (minimum): 338; number in compliance: 338
Number of operator samples for CBOD: 13; number in compliance: 13
Number of operator samples for TSS: 13; number in compliance: 13
Number of operator samples for NO_3: 13; number in compliance: 13
Number of operator samples for fecal coliform bacteria: 13; number in compliance: 13
Other:

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 13
Number satisfactory: 11; number marginal: 0; number unsatisfactory: 2
Noncompliance inspection issues: effluent quality
12/12/95: solids floating in clarifier, plant gate unlocked.
4/15/96: solids in chlorine clarifier, clarifier effluent cloudy.
Number of chlorine measurements: 13; number in compliance: 13
Number of PCD samples for CBOD: 1; number in compliance: 0
4/15/96: CBOD = 117 mg/L
Number of PCD samples for TSS: 1; number in compliance: 0
4/15/96: TSS = 122 mg/L
Number of PCD samples for NO_3: 1; number in compliance: 1
Number of PCD samples for fecal coliform bacteria: 0; number in compliance: 0
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 0; number satisfactory: NA
Noncompliance inspection issues: NA
Number of chlorine measurements: NA; number in compliance: NA
Number of pH measurements: NA; number in compliance: NA
Number of DEP samples for CBOD: NA; number in compliance: NA
Number of DEP samples for TSS: NA; number in compliance: NA
Number of DEP samples for NO_3: NA; number in compliance: NA
Number of DEP samples for fecal coliform bacteria: NA; number in compliance: NA
Other:

Abnormal Events (8/95-8/96):
Number of lift station failures: 0; number of associated surface water discharges: 0
Number of force main failures: 0; number of associated surface water discharges: 0
Number of disposal system failures: 0; number of associated surface water discharges: 0
Number of electrical failures at the WWTF: 0; number of associated surface water discharges: 0
Number of mechanical failures at the WWTF: 0; number of associated surface water discharges: 0

Other Abnormal Operating Conditions or Events (8/95-8/96):
None

Name of Facility: Dolomite Utilities - Woodland Park WWTF
Capacity: 0.067 mgd
Annual Average Flow: 0.031 mgd
Treatment: Secondary/Filtration/Basic disinfection
Effluent Disposal: Dual percolation/evaporation ponds of 131,500 square feet

Discharge Limits:	**CBOD**	**TSS**	**NO_3**	**Fecal**	**pH**
(monthly)	<25 mg/L	<25 mg/L	<12 mg/L	<200/100ml	6.0-8.5

Monitoring Frequency: Monthly for above; chlorine and pH checked daily
Certified Operator Coverage: Class C operator for 0.5 hour, 5 days per week, and one weekend visit.
Never constructed with a discharge to surface water.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 396
Number of chlorine measurements (minimum): 396; number in compliance: 396
Number of pH measurements: 396; number in compliance: 396
Number of operator samples for CBOD: 26; number in compliance: 26
Number of operator samples for TSS: 26; number in compliance: 26
Number of operator samples for NO_3: 26; number in compliance: 26
Number of operator samples for fecal coliform bacteria: 26; number in compliance: 26
Other:

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 13
Number satisfactory: 6; number marginal: 6; number unsatisfactory: 1
Noncompliance inspection issues: no fencing; no flow calibration on site; grounds maintenance
Number of chlorine measurements: 13; number in compliance: 13
Number of PCD samples for CBOD: 0; number in compliance: 0
Number of PCD samples for TSS: 0; number in compliance: 0
Number of DEP samples for TSS: 0; number in compliance: 0
Number of DEP samples for NO_3: 0; number in compliance: 0
Number of DEP samples for fecal coliform bacteria: 0; number in compliance: 0
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 1; number satisfactory: 0
4/8/96: Compliance Evaluation Inspection
Noncompliance inspection issues: turbid clarifier, poor settleability; deficient access control; chlorine gas cylinders on site; NO_3 values averaged on MORs; sample holding times exceeded for fecal coliform samples in 5/95,6/95,10/95, 11/95, and 2/96; loss of lab certification 3/96.
Number of chlorine measurements: 0; number in compliance: 0
Number of pH measurements: 0; number in compliance: 0
Number of DEP samples for CBOD: 0; number in compliance: 0
Number of DEP samples for TSS: 0; number in compliance: 0
Number of DEP samples for NO_3: 0; number in compliance: 0
Number of DEP samples for fecal coliform bacteria: 0; number in compliance: 0
Other:

Abnormal Events (8/95-8/96):
Number of lift station failures: 0; number of associated surface water discharges: 0
Number of force main failures: 0; number of associated surface water discharges: 0
Number of disposal system failures: 0; number of associated surface water discharges: 0
Number of electrical failures at the WWTF: 0; number of associated surface water discharges: 0
Number of mechanical failures at the WWTF: 0; number of associated surface water discharges: 0

Other Abnormal Operating Conditions or Events (8/95-8/96):
None

Name of Facility: Field Club WWTF
Capacity: 0.008 mgd
Annual Average Flow: 0.005 mgd
Treatment: Secondary/ Filtration/High-level disinfection
Effluent Disposal: Single drainfield of 2,400 square feet.

Discharge Limits:	**CBOD**	**TSS**	**NO_3**	**Fecal**	**pH**
(monthly)	<25mg/L	<5mg/L	<12mg/L	<1/100ml	6.0-8.5

Monitoring Frequency: Monthly for above; chlorine and pH checked daily 5 days per week.
Certified Operator Coverage: Class D Operator for 3 non-consecutive visits per week for a total of 1.5 hours per week.
Never constructed with a discharge to surface water.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 312
Number of chlorine measurements (minimum): 312; number in compliance: 312
Number of pH measurements (minimum): 312; number in compliance: 312
Number of operator samples for CBOD: 13; number in compliance: 13
Number of operator samples for TSS: 13; number in compliance: 13
Number of operator samples for NO_3: 13; number in compliance: 13
Number of operator samples for fecal coliform bacteria: 13; number in compliance: 13
Other:

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 14
Number satisfactory: 11; number marginal: 2; number unsatisfactory: 1
Noncompliance inspection issues: sludge discharge to the ground
Number of chlorine measurements: 14; number in compliance: 13 (one trace measurement)
Number of PCD samples for CBOD: 0; number in compliance: 0
Number of PCD samples for TSS: 0; number in compliance: 0
Number of PCD samples for NO_3: 0; number in compliance: 0
Number of PCD samples for fecal coliform bacteria: 1; number in compliance: 0
12/27/95: Fecal = >60,000 colonies per 100 ml sample
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 0; number satisfactory: NA
Noncompliance inspection issues: NA
Number of chlorine measurements: NA; number in compliance: NA
Number of pH measurements: NA; number in compliance: NA
Number of DEP samples for CBOD: NA; umber in compliance: NA
Number of DEP samples for TSS: NA; number in compliance: NA
Number of DEP samples for NO_3: NA; number in compliance: NA
Number of DEP samples for fecal coliform bacteria: NA; number in compliance: NA
Other:

Abnormal Events (8/95-8/96):
Number of lift station failures: 0; number of associated surface water discharges: 0
Number of force main failures: 0; number of associated surface water discharges: 0
Number of disposal system failures: 0; number of associated surface water discharges: 0
Number of electrical failures at the WWTF: 0; number of associated surface water discharges: 0
Number of mechanical failures at the WWTF: 1; number of associated surface water discharges: 0
8/1/96: pump failure; no discharge.

Other Abnormal Operating Conditions or Events (8/95-8/96):
None

Name of Facility: Florida Cities Water Company South Gate WWTF
Capacity: 1.36 mgd
Annual Average Flow: 1.176 mgd
Treatment: Advanced Waste Treatment/Filtration/High-level disinfection/Dechlorination
Effluent Disposal: Treated effluent discharge to Phillippi Creek and spray irrigation of Forest Lakes Golf Course and Country Club

Discharge Limits:	**CBOD**	**TSS**	**Total N**	**Total P**	**Fecal**	**pH**	**DO**	**Temp**
(weekly/daily)	<5mg/L	<5mg/L	<3mg/L	<1mg/L	<1/100ml	6.0-8.5	>5	<32.5°C

Monitoring Frequency: Weekly for CBOD, TSS, Total N, Total P, and Temp.; four days per week for Fecal; DO and dechlorination checked daily; chlorine and pH checked on a continuous basis.
Certified Operator Coverage: Class C operator, 16 hours per day, 7 days per week.
Discharge of advanced waste treatment/disinfected/dechlorinated effluent to Phillippi Creek.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 397
Number of chlorine measurements (minimum): 794 (chlorination and dechlorination)
Number in compliance: 794
Number of pH measurements (minimum): 397; number in compliance: 397
Number of operator samples for CBOD: 57; number in compliance: 57
Number of operator samples for TSS: 57; number in compliance: 57
Number of operator samples for Total N: 66; number in compliance: 66
Number of operator samples for Total P: 66; number in compliance: 66
Number of operator samples for DO: 397; number in compliance: 397
Number of operator samples for fecal coliform bacteria: 227; number in compliance: 227
Other:

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 12
Number satisfactory: 12; number marginal: 0; number unsatisfactory: 0
Noncompliance inspection issues: odors
Number of chlorine measurements: 11; number in compliance: 11
Number of PCD samples for CBOD: 0; number in compliance: 0
Number of PCD samples for TSS: 0; number in compliance: 0
Number of PCD samples for Total N: 0; number in compliance: 0
Number of PCD samples for Total P: 0; number in compliance: 0
Number of PCD samples for DO: 0; number in compliance: 0
Number of PCD samples for fecal coliform bacteria: 0; number in compliance: 0
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 1; number satisfactory: 1
Noncompliance inspection issues: 0
Number of chlorine measurements: 0; number in compliance: 0
Number of pH measurements: 0; number in compliance: 0
Number of DEP samples for CBOD: 0; number in compliance: 0
Number of DEP samples for TSS: 0; number in compliance: 0
Number of DEP samples for Total N: 0; number in compliance: 0
Number of DEP samples for Total P: 0; number in compliance: 0
Number of DEP samples for DO: 0; number in compliance: 0
Number of DEP samples for fecal coliform bacteria: 0; number in compliance: 0
Other:

Abnormal Events (8/95-8/96):
Number of lift station failures: 6; number of associated surface water discharges: 3
- 8/4/95: manhole overflow; no discharge to surface water.
- 10/20/95: manhole overflow; discharge to surface water.
- 11/1/95: manhole overflow; discharge to surface water.
- 2/1/96: manhole overflow; no discharge to surface water.
- 2/15/96: manhole overflow; discharge to surface water.
- 2/15/96: manhole overflow; no discharge to surface water.

Number of force main failures: 2; number of associated surface water discharges: 0

11/17/95: force main rupture by construction activities; no discharge to surface water.

11/18/95: force main rupture by construction activities; no discharge to surface water.

Number of disposal system failures: 0; number of associated surface water discharges: 0

Number of electrical failures at the WWTF: 1; number of associated surface water discharges: 0

8/14/95: power failure; generators out.

Number of mechanical failures at the WWTF: 3; number of associated surface water discharges: 0

8/4/95: grit system out.

7/29/96: plant upset.

8/2/96: pH meter out.

Other Abnormal Operating Conditions or Events (8/95-8/96):

None

Name of Facility: Kensington Park Utilities - Monica Parkway WWTF
Capacity: 0.56 mgd
Annual Average Flow: 0.258 mgd
Treatment: Secondary/Filtration/Basic disinfection
Effluent Disposal: Single percolation/evaporation pond of 22.5 acres; spray irrigation site at 27th St.

Discharge Limits:	**CBOD**	**TSS**	**NO_3**	**Fecal**	**pH**
(monthly)	<25mg/L	<25mg/L	<12mg/L	<200/100 ml	6.0-8.5

Monitoring Frequency: 4 times per month for above; chlorine and pH checked daily 5 days per week.
Certified Operator Coverage: Class C Operator for 6 hours per day, 5 days per week, and one weekend visit.
Surface water discharge of secondary/disinfected effluent to west branch of Phillippi Creek discontinued by 1989.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 295
Number of chlorine measurements (minimum): 295; number in compliance: 295
Number of pH measurements (minimum): 277; number in compliance: 277
Number of operator samples for CBOD: 52; number in compliance: 52
Number of operator samples for TSS: 52; number in compliance: 52
Number of operator samples for NO_3: 52; number in compliance: 52
Number of operator samples for fecal coliform bacteria: 52; number in compliance: 52
Other:

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 13
Number satisfactory: 11; number marginal: 1; number unsatisfactory: 1
Noncompliance inspection issues: cloudy effluent
Number of chlorine measurements: 13; number in compliance: 13
Number of PCD samples for CBOD: 0; number in compliance: 0
Number of PCD samples for TSS: 0; number in compliance: 0
Number of PCD samples for NO_3: 0; number in compliance: 0
Number of PCD samples for fecal coliform bacteria: 0; number in compliance: 0
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 0; number satisfactory: NA
Noncompliance inspection issues: NA
Number of chlorine measurements: NA; number in compliance: NA
Number of pH measurements: NA; number in compliance: NA
Number of DEP samples for CBOD: NA; number in compliance: NA
Number of DEP samples for TSS: NA; number in compliance: NA
Number of DEP samples for NO_3: NA; number in compliance: NA
Number of DEP samples for fecal coliform bacteria: NA; number in compliance: NA
Other:

Abnormal Events (8/95-8/96):
Number of lift station failures: 0; number of associated surface water discharges: 0
Number of force main failures: 0; number of associated surface water discharges: 0
Number of disposal system failures: 0; number of associated surface water discharges: 0
Number of electrical failures at the WWTF: 0; number of associated surface water discharges: 0
Number of mechanical failures at the WWTF: 5; number of associated surface water discharges: 0

8/2/95: filter bypass due to mechanical failure and high flows.
8/4/95: surge tank overflow due to high flows.
8/10/95: filter bypass due to high flows.
8/16/95: float malfunction causing hydraulic overload at plant.
11/1/95: surge tank overflow due to high flows.

Other Abnormal Operating Conditions or Events (8/95-8/96):
None

Name of Facility: Meadowood Utilities WWTF
Capacity: 0.984 mgd
Annual Average Flow: 0.455 mgd
Treatment: Secondary/Filtration/High-level disinfection
Effluent Disposal: Two polishing ponds to percolation/evaporation pond to irrigation of golf course and ball field.

Discharge Limits:	**CBOD**	**TSS**	**NO_3**	**Fecal**	**pH**
(monthly)	<25mg/L	<5mg/L	<12mg/L	<1/100ml	6.0-8.5

Monitoring Frequency: Weekly for above; daily fecal samples when going to reuse; chlorine and pH checked daily.
Certified Operator Coverage: Class C Operator for 6 hours per day, 5 days per week, and one visit each weekend day.
Never constructed with a discharge to surface water.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 397
Number of chlorine measurements (minimum): 397; number in compliance: 396
Number of pH measurements (minimum): 397; number in compliance: 397
Number of operator samples for CBOD: 57; number in compliance: 57
Number of operator samples for TSS: 57; number in compliance: 57
Number of operator samples for NO_3: 57; number in compliance: 57
Number of operator samples for fecal coliform bacteria: 394; number in compliance: 394
Other:

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 13
Number satisfactory: 13; number marginal: 0; number unsatisfactory: 0
Noncompliance inspection issues: questionable underdrain pipe capped in 6/96.
Number of chlorine measurements: 12; number in compliance: 12
Number of PCD samples for CBOD: 0; number in compliance: 0
Number of PCD samples for TSS: 0; number in compliance: 0
Number of PCD samples for NO_3: 0; number in compliance: 0
Number of PCD samples for fecal coliform bacteria: 0; number in compliance: 0
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 0; number satisfactory: NA
Noncompliance inspection issues: NA
Number of chlorine measurements: NA; number in compliance: NA
Number of pH measurements: NA; number in compliance: NA
Number of DEP samples for CBOD: NA; number in compliance: NA
Number of DEP samples for TSS: NA; number in compliance: NA
Number of DEP samples for NO_3: NA; number in compliance: NA
Number of DEP samples for fecal coliform bacteria: NA; number in compliance: NA
Other:

Abnormal Events (8/95-8/96):
Number of lift station failures: 0; number of associated surface water discharges: 0
Number of force main failures: 0; number of associated surface water discharges: 0
Number of disposal system failures: 0; number of associated surface water discharges: 0
Number of electrical failures at the WWTF: 0; number of associated surface water discharges: 0
Number of mechanical failures at the WWTF: 3; number of associated surface water discharges: 1

3/7/96: skimmer plugged; no discharge.
5/6/96: low chlorine; no discharge.
7/3/96: operator error; approximately 75,000 gallons of chlorinated effluent discharged to surface water.

Other Abnormal Operating Conditions or Events (8/95-8/96):
None

Name of Facility: Oakwood Gardens Condominiums WWTF
Capacity: 0.009 MGD
Annual Average Flow: 0.004
Treatment: Secondary/Filtration/Basic disinfection
Effluent Disposal: Single drainfield of 3,000 square feet

Discharge Limits:	**CBOD**	**TSS**	**NO_3**	**Fecal**	**pH**
(monthly)	<25mg/L	<10mg/L	<12mg/L	<200/100ml	6.0-8.5

Monitoring Frequency: Monthly for above; chlorine and pH checked daily 5 days per week.
Certified Operator Coverage: Class D operator or higher for 2 non-consecutive visits per week for a total of 1 hour per week.
Never constructed with a discharge to surface water.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 274
Number of chlorine measurements (minimum): 274; number in compliance: 274
Number of pH measurements (minimum): 274; number in compliance: 274
Number of operator samples for CBOD: 13; number in compliance: 13
Number of operator samples for TSS: 13; number in compliance: 13
Number of operator samples for NO_3: 13; number in compliance: 13
Number of operator samples for fecal coliform bacteria: 13; number in compliance: 12
9/95: Fecal = 223 colonies per 100ml sample; only one sample collected for the month.
Other:

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 14
Number satisfactory: 11; number marginal: 1; number unsatisfactory: 2
Noncompliance inspection issues:
10/26/95: on-site operations log does not document recent loss of solids to filters.
12/12/95 and 12/13/95: very cloudy effluent
3/12/96, 4/11/96, and 5/3/96: access control deficiency; no fence around disposal site.
Number of chlorine measurements: 14; number in compliance: 14
Number of PCD samples for CBOD: 2; number in compliance: 2
Number of PCD samples for TSS: 2; Number in compliance: 0
12/12/95: TSS value = 84.0 mg/L
12/13/95: TSS value = 37.8 mg/L
Number of PCD samples for NO_3: 0; number in compliance: 0
Number of PCD samples for fecal coliform bacteria: 2; number in compliance: 2
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 0; number satisfactory: NA
Noncompliance inspection issues: NA
Number of chlorine measurements: NA; number in compliance: NA
Number of pH measurements: NA; number in compliance: NA
Number of DEP samples for CBOD: NA; number in compliance: NA
Number of DEP samples for TSS: NA; number in compliance: NA
Number of DEP samples for NO_3: NA; number in compliance: NA
Number of DEP samples for fecal coliform bacteria: NA; number in compliance: NA
Other:

Abnormal Events (8/95-8/96):
Number of lift station failures: 0; number of associated surface water discharges: 0
Number of force main failures: 0; number of associated surface water discharges: 0
Number of disposal system failures: 0; number of associated surface water discharges: 0
Number of electrical failures at the WWTF: 0; number of associated surface water discharges: 0
Number of mechanical failures at the WWTF: 0; number of associated surface water discharges: 0

Other Abnormal Operating Conditions or Events (8/95-8/96):
None

Name of Facility: Robinhood Utilities WWTF
Capacity: 0.020 mgd
Annual Average Flow: 0.010 mgd
Treatment: Secondary/Filtration/High-level disinfection
Effluent Disposal: Three alternating drainfields of 12,214 square feet

Discharge Limits:	**CBOD**	**TSS**	**NO_3**	**Fecal**	**pH**
(monthly)	<25mg/L	<5mg/L	<12mg/L	<1/100ml	6.0-8.5

Monitoring Frequency: Monthly for above; chlorine and pH checked daily.
Certified Operator Coverage: Class C operator, 0.5 hour per day, five days per week, and one weekend visit
Never constructed with a discharge to surface water.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 397
Number of chlorine measurements (minimum): 397; number in compliance: 397
Number of pH measurements (minimum): 397; number in compliance: 397
Number of operator samples for CBOD: 13; number in compliance: 13
Number of operator samples for TSS: 13; number in compliance: 13
Number of operator samples for NO_3: 13; number in compliance: 13
Number of operator samples for fecal coliform bacteria: 13; number in compliance: 13
Other:

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 13
Number satisfactory: 12; number marginal: 1; number unsatisfactory: 0
Noncompliance inspection issues: grease in clarifier; expired permit
Number of chlorine measurements: 13; number in compliance: 13
Number of PCD samples for CBOD: 0; number in compliance: 0
Number of PCD samples for TSS: 0; number in compliance: 0
Number of PCD samples for NO_3: 0; number in compliance: 0
Number of PCD samples for fecal coliform bacteria: 0; number in compliance: 0
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 2; number satisfactory: 0
Noncompliance inspection issues: expired permit
Number of chlorine measurements: 0; number in compliance: 0
Number of pH measurements: 0; number in compliance: 0
Number of DEP samples for CBOD: 0; number in compliance: 0
Number of DEP samples for TSS: 0; number in compliance: 0
Number of DEP samples for NO_3: 0; number in compliance: 0
Number of DEP samples for fecal coliform bacteria: 0; number in compliance: 0
Other:

Abnormal Events (8/95-8/96):
Number of lift station failures: 3; number of associated surface water discharges: 1 (possible)
- 3/5/96: pump failure; small amount of discharge to ground.
- 5/2/96: pump failure; possible discharge to a stormwater pond.
- 8/12/96: electrical failure; small amount of discharge to ground.

Number of force main failures: 0; number of associated surface water discharges: 0
Number of disposal system failures: 0; number of associated surface water discharges: 0
Number of electrical failures at the WWTF: 0; number of associated surface water discharges: 0
Number of mechanical failures at the WWTF: 0; number of associated surface water discharges: 0

Other Abnormal Operating Conditions or Events (8/95-8/96):
None

Name of Facility: Sarasota County Proctor Road WWTF
Capacity: 0.025 mgd
Annual Average Flow: 0.009 mgd
Treatment: Secondary/Filtration/Basic disinfection
Effluent Disposal: Dual drainfields of 27,360 square feet

Discharge Limits:	**CBOD**	**TSS**	**NO_3**	**Fecal**	**pH**
(monthly)	<25mg/L	<10mg/L	<12mg/L	<200/100ml	6.0-8.5

Monitoring Frequency: Monthly for above; chlorine and pH checked daily 5 days per week.
Certified Operator Coverage: Class C operator for 1.5 hours per day, 5 days per week, and one weekend visit.
Never constructed with a discharge to surface water.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 341
Number of chlorine measurements (minimum): 341; number in compliance: 341
Number of pH measurements (minimum): 340; number in compliance: 340
Number of operator samples for CBOD: 13; number in compliance: 13
Number of operator samples for TSS: 13; number in compliance: 13
Number of operator samples for NO_3: 13; number in compliance: 13
Number of operator samples for fecal coliform bacteria: 13; number in compliance: 13
Other:

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 15
Number satisfactory: 5; number marginal: 3; number unsatisfactory: 7
Noncompliance inspection issues:

12/28/95 and 12/29/95: clarifier, air tank, and digester covered with a blanket of sludge foam; digester full.
02/26/96: used filter stockpiled on site.
05/07/96: surge tank full; alarm on.

Number of chlorine measurements: 15; number in compliance: 15
Number of PCD samples for CBOD: 0; number in compliance: N/A
Number of PCD samples for TSS: 0; number in compliance: N/A
Number of PCD samples for NO_3: 0; number in compliance: N/A
Number of PCD samples for fecal coliform bacteria: 0; number in compliance: N/A
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: none; number satisfactory: NA
Noncompliance inspection issues: NA
Number of chlorine measurements: NA; number in compliance: NA
Number of pH measurements: NA; number in compliance: NA
Number of DEP samples for CBOD: NA; number in compliance: NA
Number of DEP samples for TSS: NA; number in compliance: NA
Number of DEP samples for NO_3: NA; number in compliance: NA
Number of DEP samples for fecal coliform bacteria: NA; number in compliance: NA
Other:

Abnormal Events (8/95-8/96):
Number of lift station failures: 0; number of associated surface water discharges: 0
Number of force main failures: 0; number of associated surface water discharges: 0
Number of disposal system failures: 0; number of associated surface water discharges: 0
Number of electrical failures at the WWTF: 0; number of associated surface water discharges: 0
Number of mechanical failures at the WWTF: 1; number of associated surface water discharges: 0

09/30/95: approximately 200 gallons of sewage were discharged to the ground at the plant from a sludge return splitter box. WWTF operator reported that two children accessed the plant by climbing a 6-foot high chain-link fence and changed an air lift pump setting.

Other:

Other Abnormal Operating Conditions or Events (8/95-8/96):
None

Name of Facility: Sarasota County Tamaron Utilities
Capacity: 0.155 mgd
Annual Average Flow: 0.046 mgd
Treatment: Secondary/Filtration/Basic disinfection
Effluent Disposal: Dual percolation/evaporation ponds of 69,696 square feet

Discharge Limits:	**CBOD**	**TSS**	**NO_3**	**Fecal**	**pH**
(monthly)	<25mg/L	<25mg/L	<12mg/L	<200/100ml	6.0-8.5

Monitoring Frequency: Bimonthly for CBOD, TSS, and NO_3; quarterly for fecal; chlorine and pH checked daily 5 days per week.
Certified Operator Coverage: Class C operator for 3 hours per day, 5 days per week, and one weekend visit.
Discharge of secondary/disinfected effluent to surface water until 1991.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 327
Number of chlorine measurements (minimum): 327; number in compliance: 327
Number of pH measurements (minimum): 327; number in compliance: 327
Number of operator samples for CBOD: 25; number in compliance: 25
Number of operator samples for TSS: 25; number in compliance: 25
Number of operator samples for NO_3: 25; number in compliance: 25
Number of operator samples for fecal coliform bacteria: 25; number in compliance: 25
Other:
8/95, 9/95, and 10/95: only one sample reported for CBOD, TSS, and NO_3.

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 14
Number satisfactory: 8; number marginal: 2; number unsatisfactory: 4
Noncompliance inspection issues:
05/06/96: floating solids in clarifier, chain broken; solids almost over weirs.
05/06/96: chlorine system being repaired; effluent fairly clear with solids after filter.
Number of chlorine measurements: 13; number in compliance: 12
12/12/95: Chlorine = 0.2 mg/L; chlorine valve malfunctioned
Number of PCD samples for CBOD: 0; number in compliance: NA
Number of PCD samples for TSS: 0; number in compliance: NA
Number of PCD samples for NO_3: 0; number in compliance: NA
Number of PCD samples for fecal coliform bacteria: 0; number in compliance: NA
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 0; number satisfactory: NA
Noncompliance inspection issues: NA
Number of chlorine measurements: NA; number in compliance: NA
Number of pH measurements: NA; number in compliance: NA
Number of DEP samples for CBOD: NA; number in compliance: NA
Number of DEP samples for TSS: NA; number in compliance: NA
Number of DEP samples for NO_3: NA; number in compliance: NA
Number of DEP samples for fecal coliform bacteria: NA; number in compliance: NA
Other:

Abnormal Events (8/95-8/96):
Number of lift station failures: 1; number of associated surface water discharges: 0
11/12/95: electrical failure.
Number of force main failures: 0; number of associated surface water discharges: 0
Number of disposal system failures: 1; number of associated surface water discharges: 0
12/9/95: pond filter out for four days.
Number of electrical failures at the WWTF: 0; number of associated surface water discharges: 0
Number of mechanical failures at the WWTF: 5; number of associated surface water discharges: 0
11/12/95: electrical failure at lift station; discharge at plant when lift station surged on.
1/6/96: filters plugged.
1/30/96 and 1/31/96: filters bypassed due to excessive foaming in the plant.
2/6/96: filters plugged.

Other Abnormal Operating Conditions or Events (8/95-8/96):
None

Name of Facility: Siesta Key Utilities Authority WWTF
Capacity: 2.7 mgd
Annual Average Flow: 1.727 mgd
Treatment: Advanced Waste Treatment / Filtration / High-level disinfection/Dechlorination
Effluent Disposal: Treated effluent discharge to Grand Canal

Discharge Limits:	**CBOD**	**TSS**	**Total N**	**Total P**	**Fecal**	**pH**	**DO**	**Temp**
(weekly/daily)	<5mg/L	<5mg/L	<3mg/L	<1mg/L	<1/100ml	6.0-8.5	>5	<32.5°C

Monitoring Frequency: Weekly for CBOD, TSS, Total N, Total P, and Fecal; chlorine, pH, and checked daily.
Certified Operator Coverage: Class C operator, 16 hours per day, 7 days per week.
Discharge of advanced waste treatment/disinfected/dechlorinated effluent to Grand Canal.

Operations Plant Checks and Operator Samples (8/95-8/96)
Number of operations checks (minimum): 397
Number of chlorine measurements (minimum): 794 (chlorination and dechlorination)
Number in compliance: 793
3/24/96 Chlorine = 0.9 mg/L
Number of pH measurements (minimum): 397; number in compliance: 397
Number of operator samples for CBOD: 103; number in compliance: 103
Number of operator samples for TSS: 103; number in compliance: 103
Number of operator samples for Total N: 103; number in compliance: 101
2/8/96: N = 3.06 mg/L
5/2/96: N = 3.19 mg/L
Number of operator samples for Total P: 103; number in compliance: 101
2/1/96: P = 1.23 mg/L
2/15/96: P = 1.05 mg/L
Number of operator samples for DO: 103; number in compliance: 103
Number of operator samples for fecal coliform bacteria: 103; number in compliance: 103
Other:

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 13
Number satisfactory: 13; number marginal: 0; number unsatisfactory: 0
Noncompliance inspection issues: 0
Number of chlorine measurements: 13; number in compliance: 13
Number of PCD samples for CBOD: 0; number in compliance: 0
Number of PCD samples for TSS: 0; number in compliance: 0
Number of PCD samples for Total N: 0; number in compliance: 0
Number of PCD samples for Total P: 0; number in compliance: 0
Number of PCD samples for DO: 0; number in compliance: 0
Number of PCD samples for fecal coliform bacteria: 0; number in compliance: 0
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 1; number satisfactory: 1
8/5/96: Compliance Inspection for biomonitoring, sampling and water quality
Noncompliance inspection issues: 0
Number of chlorine measurements: 0; number in compliance: 0
Number of pH measurements: 0; number in compliance: 0
Number of DEP samples for CBOD: 0; number in compliance: 0
Number of DEP samples for TSS: 0; number in compliance: 0
Number of DEP samples for Total N: 0; number in compliance: 0
Number of DEP samples for Total P: 0; number in compliance: 0
Number of DEP samples for DO: 0; number in compliance: 0
Number of DEP samples for fecal coliform bacteria: 0; number in compliance: 0
Other: acute and chronic toxicity tests for NPDES permit were satisfactory.

SARASOTA COUNTY GOVERNMENT
SARASOTA, FLORIDA

Natural Resources Department

P.O. Box 8
Sarasota, Florida 34230
1301 Cattlemen Road, Bldg. A.
Sarasota, Florida 34232
Telephone (941) 378-6113
FAX (941) 378-6067

Dear Interested Parties:

Subject: Wastewater Facility Impacts on Phillippi Creek

Attached are several items used at the February 26, 1997 and April 10, 1997 workshops before the Sarasota County Board of County Commissioners (Board) regarding the "septic to sewer" program proposed for the Phillippi Creek basin. These are materials prepared by the Pollution Control Division as part of staff presentations and reports to address the question regarding the possible impacts to Phillippi Creek by wastewater facilities in close proximity. Included are:

- A slide presentation from the February 26, 1997 workshop, printed six to a page.
- Two maps locating sample points from the Longitudinal Study and wastewater facilities.
- A figure prepared by the Sarasota County Public Health Unit (SCPHU) showing all 40 sample sites from the Longitudinal Study.
- A figure prepared by the SCPHU showing seven additional sample sites, unsewered areas (shaded), and canals draining unsewered areas (red). Wastewater facility locations (green triangles) were added by the Pollution Control Division.
- A graph showing average geometric means from Longitudinal Study, the location of wastewater treatment facilities in closest proximity to the creek and locations of drainage inputs from unsewered areas as indicated on previous figure.
- A figure used to compare the potential impacts from wastewater treatment facility effluent disposal systems to septic tank drain fields.
- The October 24, 1996 report to the Board on the "Domestic Wastewater Facility Regulation Activities with Specific Information Regarding Facilities in the Vicinity of Phillippi Creek," included in the materials for the February 26, 1997 workshop.
- The April 4, 1997 report to the Board included in the materials for the April 10, 1997 workshop that shows wastewater treatment facilities are not responsible for the levels of fecal coliform in Phillippi Creek found during the Longitudinal Study.

Please call me at (941) 378-6128 if you have any questions.

Sincerely,

J. Kent Kimes, P.E.
Manager

J. Kent Kimes, P.E., Manager
Pollution Control Division

Is there sufficient, credible evidence to indicate that domestic wastewater treatment facilities in the Phillippi Creek watershed have significant negative impacts on the water quality of Phillippi Creek?

DOMESTIC WASTEWATER FACILITIES AND PHILLIPPI CREEK

- Staff conclusions summarized the October 24, 1996 Report
- Comment on the data from the Longitudinal Study as they may relate to wastewater treatment facilities

DOMESTIC WASTEWATER FACILITIES AND PHILLIPPI CREEK OCTOBER 24, 1996 REPORT

- Permitting of Facilities, Treatment Processes, Disposal Systems, Self Monitoring, Abnormal Events, County and State Monitoring, Compliance and Enforcement

DOMESTIC WASTEWATER FACILITIES AND PHILLIPPI CREEK OCTOBER 24, 1996 REPORT

- Reviewed files of 19 wastewater treatment facilities in closest proximity to Phillippi Creek of the 34 facilities in the watershed

DOMESTIC WASTEWATER FACILITIES AND PHILLIPPI CREEK OCTOBER 24, 1996 REPORT

- Summarizes permit information as well as monitoring and inspection records for 13-month period from August 1995 through August 1996.
- Staff Conclusions

DOMESTIC WASTEWATER FACILITIES AND PHILLIPPI CREEK OCTOBER 24, 1996 REPORT: STAFF CONCLUSIONS

1. No routine or significant negative impacts by the facilities in close proximity to Phillippi Creek can be identified.
2. The combination of biological, physical, and chemical treatment processes serves as barriers between raw sewage and the environment.

DOMESTIC WASTEWATER
FACILITIES AND PHILLIPPI CREEK
OCTOBER 24, 1996 REPORT:
STAFF CONCLUSIONS

3. Facilities are issued permits only after technical review concludes that there is reasonable assurance of compliance with permit conditions and Florida Administrative Codes.

DOMESTIC WASTEWATER
FACILITIES AND PHILLIPPI CREEK
OCTOBER 24, 1996 REPORT:
STAFF CONCLUSIONS

4. Facilities that discharge to surface water have the most extensive treatment processes, redundant equipment, certified operator coverage, and automatic monitoring systems.

DOMESTIC WASTEWATER
FACILITIES AND PHILLIPPI CREEK
OCTOBER 24, 1996 REPORT:
STAFF CONCLUSIONS

5. Facility operators are educated, tested, and licensed according to Statewide standards regulated by DBPR.
6. All data collected by operators or permittees is submitted to DEP and the Pollution Control Division.

DOMESTIC WASTEWATER
FACILITIES AND PHILLIPPI CREEK
OCTOBER 24, 1996 REPORT:
STAFF CONCLUSIONS

7. The Pollution Control Division provides unannounced inspections of each facility at least once per month.
8. Permittees are liable for the complete compliance of the facility and are subject to criminal, civil, and administrative penalties for violations.

DOMESTIC WASTEWATER
FACILITIES AND PHILLIPPI CREEK
OCTOBER 24, 1996 REPORT:
STAFF CONCLUSIONS

9. Fifteen of the 19 facilities had 100 percent compliance with permitted total residual chlorine levels over the 13-month period.
10. Seventeen of the 19 facilities had 100 percent compliance with permitted fecal coliform bacteria levels over the 13-month period.

DOMESTIC WASTEWATER
FACILITIES AND PHILLIPPI CREEK
OCTOBER 24, 1996 REPORT:
STAFF CONCLUSIONS

11. There was no evidence found during inspections and testing at the Atlantic Utilities facility of a discharge to Phillippi Creek or negative impacts on the creek.

DOMESTIC WASTEWATER
FACILITIES AND PHILLIPPI CREEK
OCTOBER 24, 1996 REPORT:
STAFF CONCLUSIONS

12. The Florida Cities South Gate Wastewater Facility, which is the only facility that discharges treated effluent to Phillippi Creek, operates the highest level of treatment and has maintained 100 percent compliance with permit limits.

DOMESTIC WASTEWATER
FACILITIES AND PHILLIPPI CREEK
OCTOBER 24, 1996 REPORT:
STAFF CONCLUSIONS

13. Wastewater facilities do malfunction; however, malfunctions are brief episodes that must be managed appropriately and typically do not result in long-term negative impacts to the environment.

DOMESTIC WASTEWATER
FACILITIES AND PHILLIPPI CREEK
OCTOBER 24, 1996 REPORT:
STAFF CONCLUSIONS

14. There are no chronic abnormal events related to wastewater facilities that have negative impacts on Phillippi Creek.

15. The State rules, County ordinance, potential for criminal enforcement actions, and the Division's extensive oversight minimize the likelihood of clandestine discharges.

DOMESTIC WASTEWATER
FACILITIES AND PHILLIPPI CREEK
LONGITUDINAL STUDY
IMPACTS ON THE CREEK?

- "Peaks" from Longitudinal Study
- Wastewater Facility percolation ponds and drainfields as a source?
- "...breaks and leakage of sewage lines ... could be such a consistent source of contaminating fecal bacteria..."
- "Hot spots" at stations 25 and 15

DOMESTIC WASTEWATER FACILITIES
AND PHILLIPPI CREEK
PEAKS FROM LONGITUDINAL STUDY
Station 35: Downstream from Atlantic Utilities WWTF

- No permitted discharges from the WWTF
- Lined holding pond
- No evidence of discharge (much less chronic)
- Stormwater input from unsewered is a possibility

DOMESTIC WASTEWATER FACILITIES
AND PHILLIPPI CREEK
PEAKS FROM LONGITUDINAL STUDY
Station 30: Peak following Bahia Vista MHP and Oak Hammock WWTFs

- Total flow of 0.025 MGD cannot account for 534 FC jump in the creek with approximately 20 MGD flow
- There are no chronic events to account for the peak
- Stormwater input from unsewered areas
- Neither facility is permitted to discharge

DOMESTIC WASTEWATER FACILITIES AND PHILLIPPI CREEK PEAKS FROM LONGITUDINAL STUDY

Stations 16 and 17: Peak following Florida Cities South Gate WWTF

- Meets permit limits of no fecal coliform in effluent
- Station 18 (downstream) is lower than station 19 (upstream)
- No evidence of chronic failures to cause such impacts
- Stormwater input from unsewered areas

DOMESTIC WASTEWATER FACILITIES AND PHILLIPPI CREEK WWTF PERCOLATION PONDS AND DRAINFIELDS AS A SOURCE?

Bahia Vista MHP	<10
Woodland Park	280
Meadowood Alternate Disposal	<10
Meadowood Public Access	<10
Florida Cities South Gate	150
Barclay House Apartments	~~300~~ 20 ORAL CORRECTION

DOMESTIC WASTEWATER FACILITIES AND PHILLIPPI CREEK

Dr. Fujioka's comment "...breaks and leakage of sewer lines...could be such a consistent source of contaminating fecal bacteria..."

- Breaks in sewage lines are reported to the Division
- Division responds to citizen complaints of sewage spills and odor that may be sources of leaking sewage
- No evidence of chronic leaks that impact the creek

DOMESTIC WASTEWATER FACILITIES AND PHILLIPPI CREEK HOT SPOTS AT STATIONS 15 AND 25

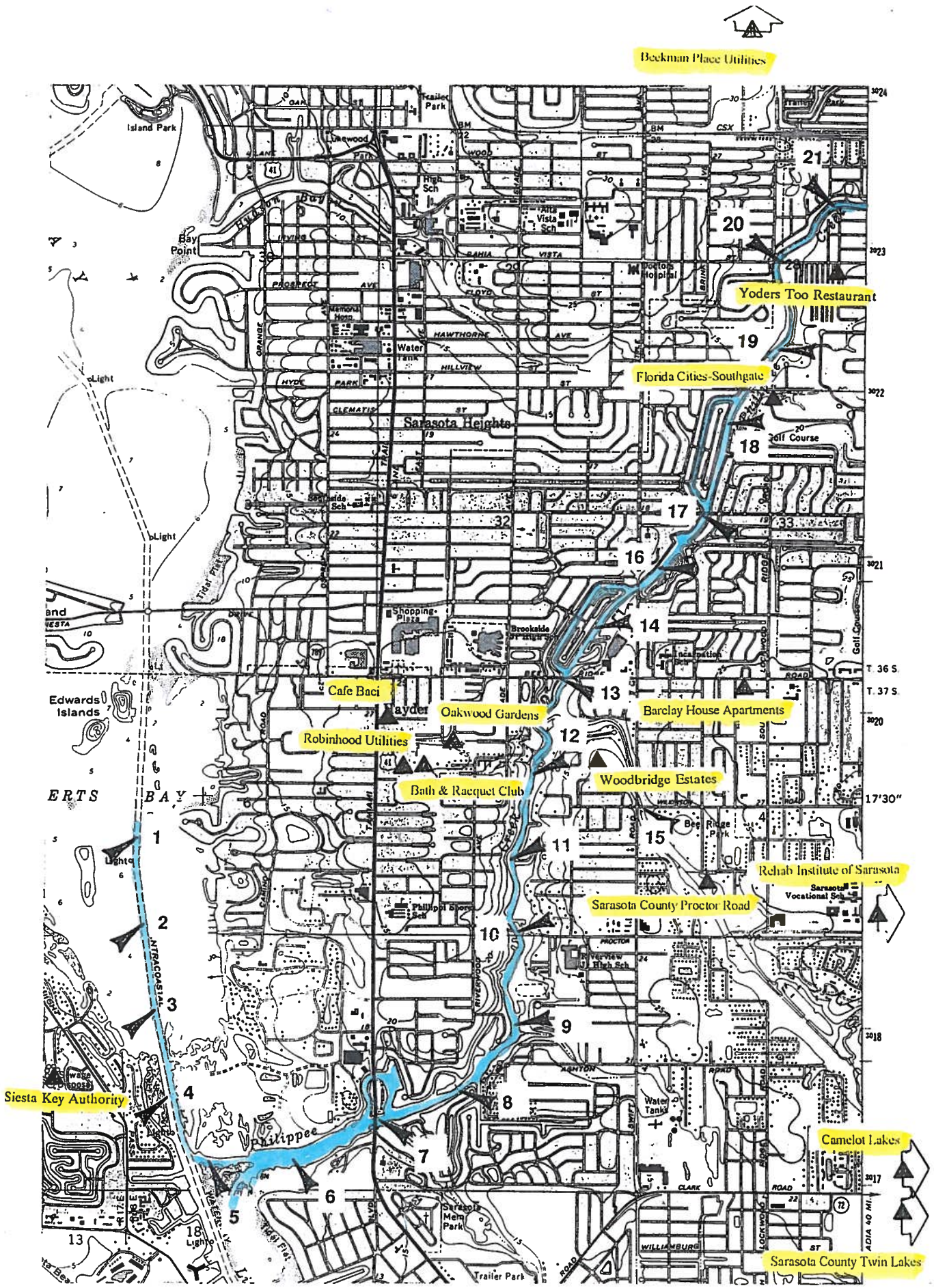
- Public access reuse on Bobby Jones Golf Course is effluent from the City of Sarasota AWT plant and meets high-level disinfection
- No chronic problems from the small WWTF in the vicinity of Station 15

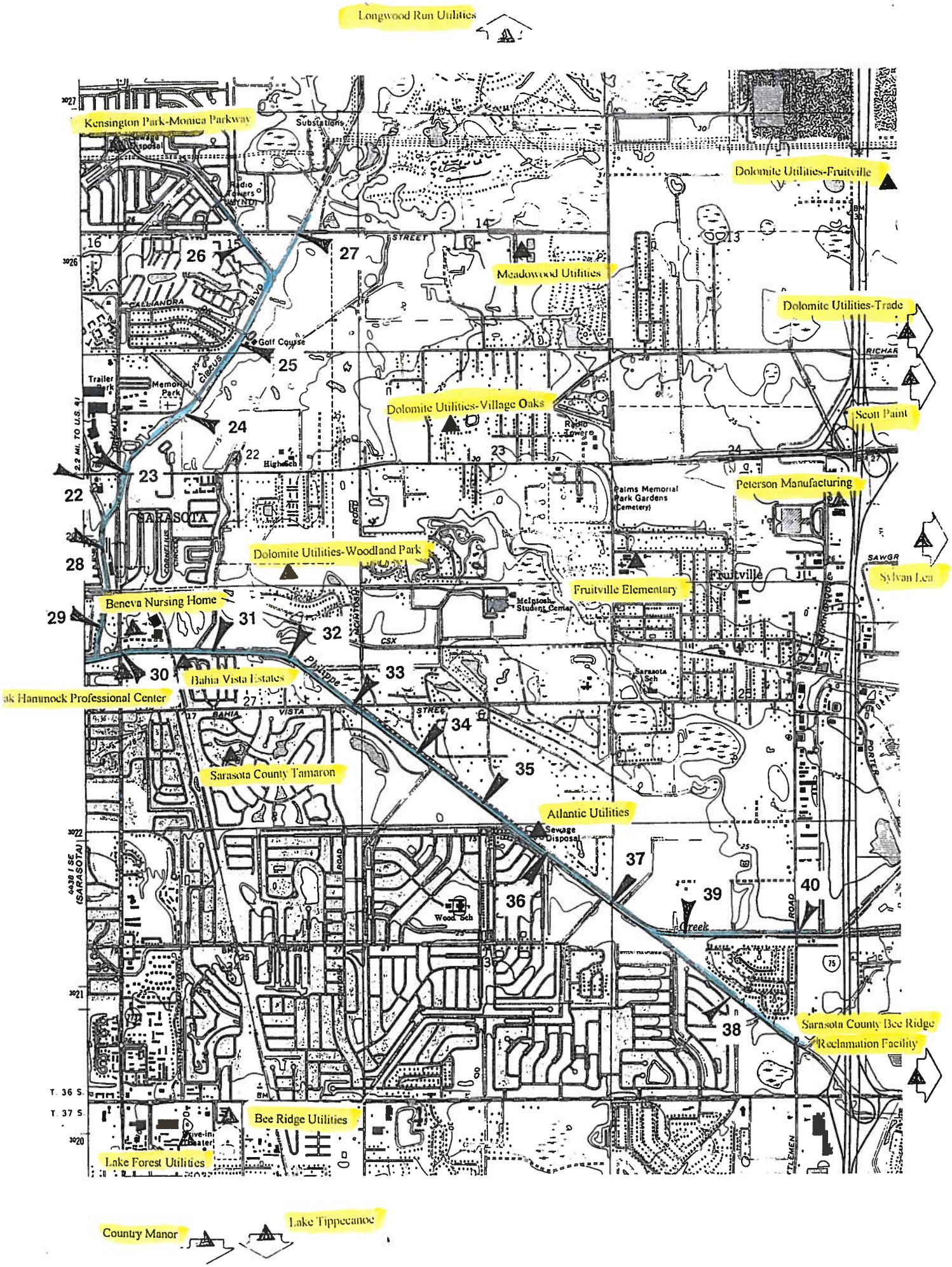
DOMESTIC WASTEWATER FACILITIES AND PHILLIPPI CREEK

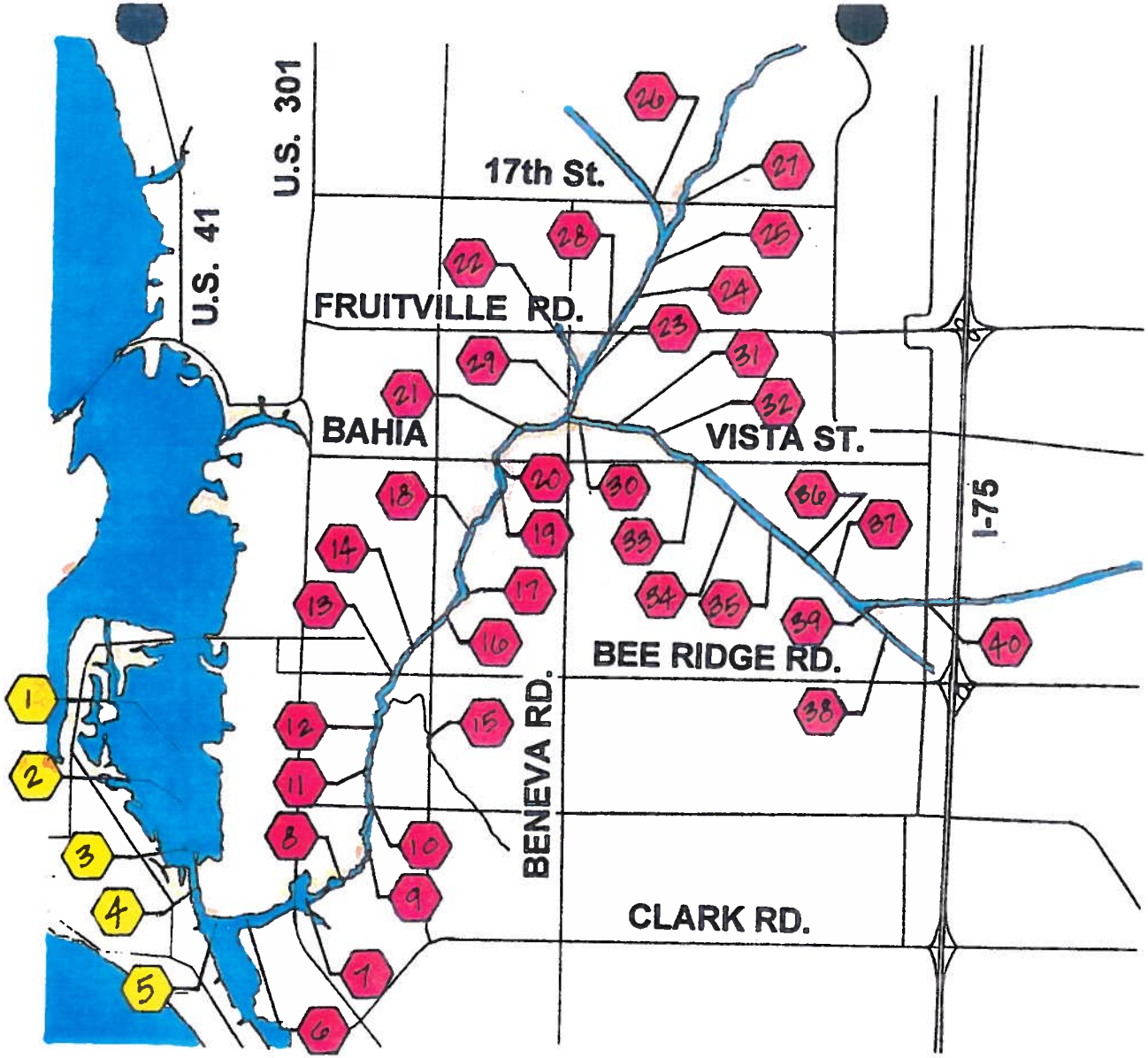
QUESTION:

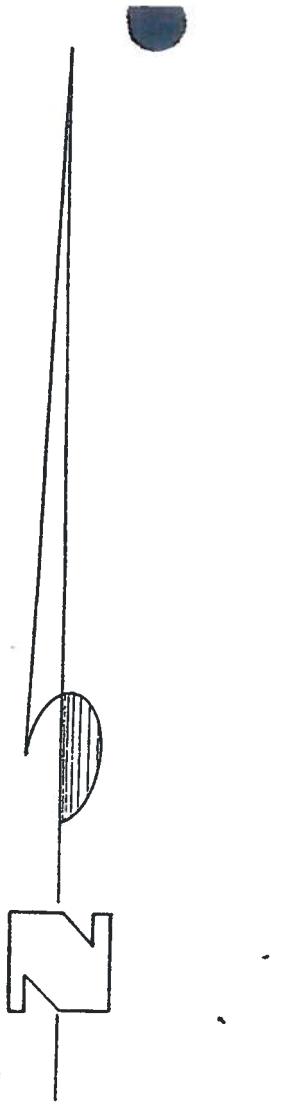
Is there sufficient, credible evidence to indicate that domestic wastewater treatment facilities in the Phillippi Creek watershed have significant negative impacts on the water quality of Phillippi Creek?

ANSWER: No


Beekman Place Utilities
Yoders Too Restaurant
Florida Cities-Southgate
Cafe Baci
Oakwood Gardens
Barclay House Apartments
Robinhood Utilities
Woodbridge Estates
Bath & Racquet Club
Rehab Institute of Sarasota
Sarasota County Proctor Road
Siesta Key Authority
Camelot Lakes
Sarasota County Twin Lakes
Sarasota Heights
Edwards Islands
Bay Point
Island Park
Philippee
17'30"
T. 36 S.
T. 37 S.


Longwood Run Utilities
Kensington Park-Monica Parkway
Substations
Dolomite Utilities-Fruitville
Meadowood Utilities
Dolomite Utilities-Trade
Golf Course
Dolomite Utilities-Village Oaks
Scott Paint
Peterson Manufacturing
Palms Memorial Park Gardens (Cemetery)
SARASOTA
Dolomite Utilities-Woodland Park
Fruitville
Sylvan Lea
Fruitville Elementary
Beneva Nursing Home
McIntosh Student Center
Bahia Vista Estates
Sarasota Sch
Sarasota County Tamaron
Atlantic Utilities
Sewage Disposal
Wood Sch
Creek
Sarasota County Bee Ridge Reclamation Facility
Bee Ridge Utilities
Lake Forest Utilities
Country Manor
Lake Tippecanoe



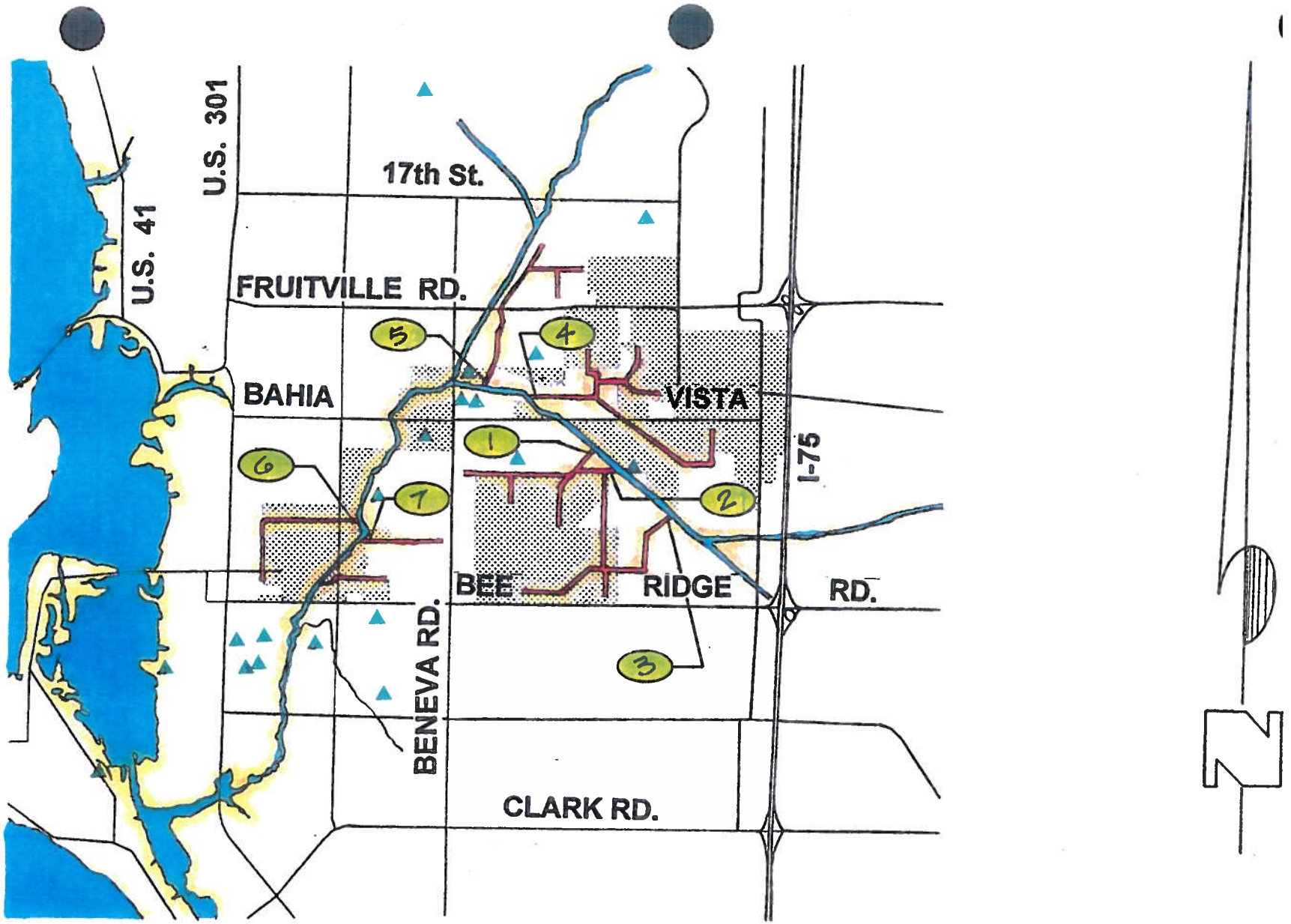


0 1/2 1 2 3

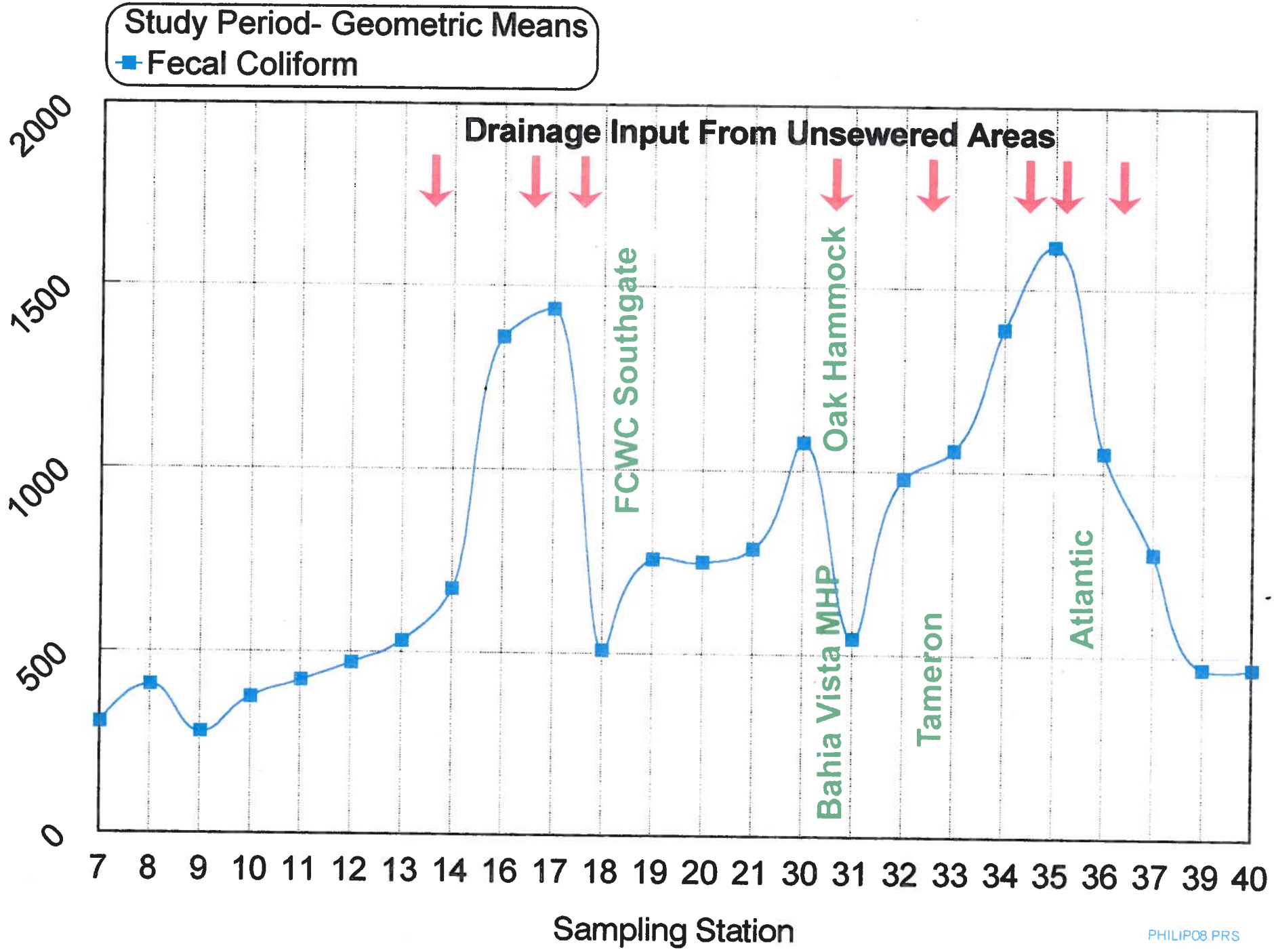
SCALE IN MILES

PHILLIPPI CREEK

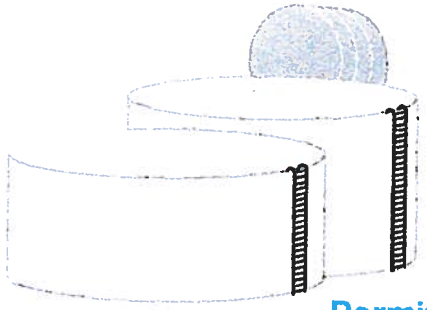
S.C.P.H.U.



PHILLIPPI CREEK


Study Period- Geometric Means
Fecal Coliform
Drainage Input From Unsewered Areas
FCWC Southgate
Oak Hammock
Bahia Vista MHP
Tameron
Atlantic
2000
1500
1000
500
0
7 8 9 10 11 12 13 14 16 17 18 19 20 21 30 31 32 33 34 35 36 37 39 40
Sampling Station
PHILIP08 PRS

POTENTIAL TO IMPACT PHILLIPPI CREEK



Wastewater Treatment Plant

Discharge to Percolation Ponds

Permit Limits to Percolation/Evaporation Ponds
<1 to <200 Fecal Coliform

OR

Discharge to Drainfield

Permit Limits to Drainfields
<1 to <200 Fecal Coliform

** Six Samples
50 to 1,080 TC
<10 to 280 FC

Soil Media

Soil Media

Ground Water

Single Family Septic Tank and Drainfield

* Discharge to Drainfield:
Range 250,000 to 24,000,000 TC
Range 40,000 to 1,400,000 FC

Soil Media

Ground Water

Mean of 30 Samples, 33 Sites
1,184 to 6,383 TC
279 to 1,616 FC

Phillippi Creek

** Results of six samples collected by Pollution Control Division staff

* Salvato, J.A., P.E., "Environmental Engineering and Sanitation," Wiley-Interscience 3rd Ed. 1982

Abnormal Events (8/95-8/96):

Number of lift station failures: 1; number of associated surface water discharges: 1

3/2/96: manhole overflow to storm drains to Gulf; five locations sampled 3/2/96 and two locations sampled 3/5/96 by SKUA personnel for impacts to surface water.

Number of force main failures: 1; Number of associated surface water discharges: 1

4/13/96: force main rupture; discharge to Roberts Bay; two locations sampled by SKUA personnel for impacts to surface water.

Number of disposal system failures: 0; number of associated surface water discharges: 0

Number of electrical failures at the WWTF: 0; number of associated surface water discharges: 0

Number of mechanical failures at the WWTF: 0; number of associated surface water discharges: 0

Other Abnormal Operating Conditions or Events (8/95-8/96):

None

Name of Facility: Woodbridge Estates
Capacity: 0.015 mgd
Annual Average Flow: 0.005 mgd
Treatment: Secondary/Filtration/Basic disinfection
Effluent Disposal: Single drainfield of 10,200 square feet

Discharge Limits:	**CBOD**	**TSS**	**NO_3**	**Fecal**	**pH**
(monthly)	<25mg/L	<10mg/L	<12mg/L	<200/100ml	6.0-8.5

Monitoring Frequency: Monthly for above; chlorine and pH checked daily 5 days per week.
Certified Operator Coverage: Class D operator or higher for 3 non-consecutive visits per week for a total of 1.5 hours.
Never constructed with a discharge to surface water.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 285
Number of chlorine measurements (minimum): 285; number in compliance: 285
Number of pH measurements (minimum): 285; number in compliance: 285
Number of operator samples for CBOD: 13; number in compliance: 13
Number of operator samples for TSS: 13; number in compliance: 12
05/02/96: TSS value = 12 mg/L
Number of operator samples for NO_3: 13; number in compliance: 13
Number of operator samples for fecal coliform bacteria: 13; number in compliance: 13

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 13
Number satisfactory: 9; number marginal: 4; number unsatisfactory: 0
Noncompliance inspection issues:
11/28/95: filter bypassed directly to drainfield for filter repair.
Number of chlorine measurements: 12; number in compliance: 12
01/24/96: chlorine residual was not tested by inspector.
Number of PCD samples for CBOD: 0; number in compliance: N/A
Number of PCD samples for TSS: 0; number in compliance: N/A
Number of PCD samples for NO_3: 0; number in compliance: N/A
Number of PCD samples for fecal coliform bacteria: 0; number in compliance: N/A
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 0; number satisfactory: NA
Noncompliance inspection issues: NA
Number of chlorine measurements: NA; number in compliance: NA
Number of pH measurements: NA; number in compliance: NA
Number of DEP samples for CBOD: NA; number in compliance: NA
Number of DEP samples for TSS: NA; number in compliance: NA
Number of DEP samples for NO_3: NA; number in compliance: NA
Number of DEP samples for fecal coliform bacteria: NA; number in compliance: NA
Other:

Abnormal Events (8/95-8/96):
Number of lift station failures: 0; number of associated surface water discharges: 0
Number of force main failures: 0; number of associated surface water discharges: 0
Number of disposal system failures: 0; number of associated surface water discharges: 0
Number of electrical failures at the WWTF: 0; number of associated surface water discharges: 0
Number of mechanical failures at the WWTF: 0; number of associated surface water discharges: 0

Other Abnormal Operating Conditions or Events (8/95-8/96):
None

Name of Facility: Yoder's Too Restaurant WWTF
Capacity: 0.005 mgd
Annual Average Flow: 0.0032 mgd
Treatment: Secondary / Filtration/Basic disinfection
Effluent Disposal: Single drainfield of 1,650 square feet

Discharge Limits:	**CBOD**	**TSS**	**NO_3**	**Fecal**	**pH**
(monthly)	<25mg/L	<10mg/L	<12mg/L	<200/100ml	6.0-8.5

Monitoring Frequency: Monthly for above; chlorine and pH checked 5 days per week.
Certified Operator Coverage: Class D operator for 2 non-consecutive visits per week for 1 hour total per week.
Never constructed with a discharge to surface water.

Operations Plant Checks and Operator Samples (8/95-8/96):
Number of operations checks (minimum): 339
Number of chlorine measurements (minimum): 339; number in compliance: 339
Number of pH measurements (minimum): 339; number in compliance: 339
Number of operator samples for CBOD: 13; number in compliance: 13
Number of operator samples for TSS: 13; number in compliance: 13
Number of operator samples for NO_3: 16; number in compliance: 15
8/6/96: NO_3 = 34.2mg/L
Number of operator samples for fecal coliform bacteria: 15; number in compliance: 15
Other:

PCD Plant Inspections and Compliance Samples (8/95-8/96):
Number of PCD inspections: 13
Number satisfactory: 12; number marginal: 1; number unsatisfactory: 0
Noncompliance inspection issues: 0
Number of chlorine measurements: 11 (no flow during two inspections); number in compliance: 11
Number of PCD samples for CBOD: 0; number in compliance: 0
Number of PCD samples for TSS: 0; number in compliance: 0
Number of PCD samples for NO_3: 0; number in compliance: 0
Number of PCD samples for fecal coliform bacteria: 0; number in compliance: 0
Other:

DEP Inspections and Compliance Samples (8/95-8/96):
Number of DEP inspections: 1; number satisfactory: 1
5/23/95: Compliance Evaluation Inspection
Noncompliance inspection issues: 0
Number of chlorine measurements: 0; number in compliance: 0
Number of pH measurements: 0; number in compliance: 0
Number of DEP samples for CBOD: 0; number in compliance: 0
Number of DEP samples for TSS: 0; number in compliance: 0
Number of DEP samples for NO_3: 0; number in compliance: 0
Number of DEP samples for fecal coliform bacteria: 0; number in compliance: 0
Other:

Abnormal Events (8/95-8/96):
Number of lift station failures: 0; number of associated surface water discharges: 0
Number of force main failures: 0; number of associated surface water discharges: 0
Number of disposal system failures: 0; number of associated surface water discharges: 0
Number of electrical failures at the WWTF: 0; number of associated surface water discharges: 0
Number of mechanical failures at the WWTF: 0; number of associated surface water discharges: 0

Other Abnormal Operating Conditions or Events (8/95-8/96):
None