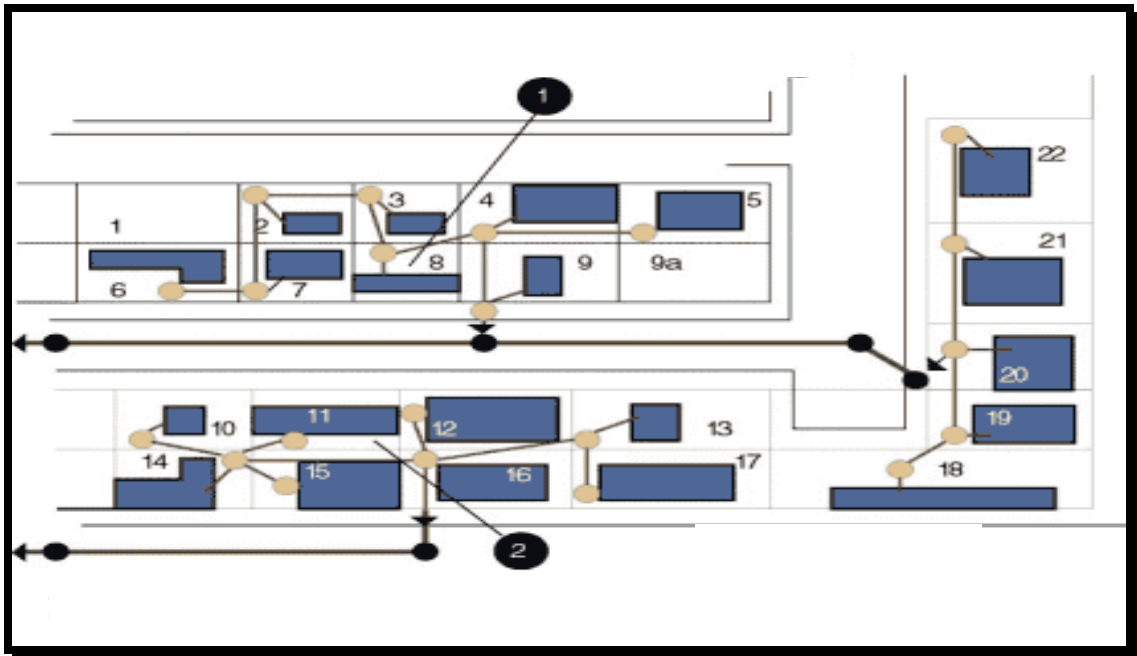


# Guidelines for the Sanitary Sewer Evaluation Survey (SSES)

## - PLAN B -



**2<sup>nd</sup> Cycle Report**

**Due November 12, 2012**



# Report Cover Letter Requirements - Sample

## SSES PLAN B 2nd CYCLE REPORT

PSO-00108

Report Phase No. \_\_\_\_\_

1st, 2nd, etc. Submittal

Date: \_\_\_\_\_

Facility name / address:

SUNSET ROYAL APARTMENTS

7399 SW 119 Avenue

Miami, Florida 33173

Engineering Co. name / address:

John Smith Engineering, Inc.

2022 SW 122 Avenue

Miami, Fl. 33174

Ph: (305) 230-2240

email: js@jseng.com

Service Contractor Company Name

1200 NE 96 ST

North Miami, Fl. 33124

Contact Name:

Emergency-Phone Number: Email:

Prepared By:

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name & title

---

signature

seal of the Florida Professional  
Engineer signing the manual

**WASTEWATER PERMITTING SECTION Guidelines for  
the Second Cycle SSES Submittals (PLAN B) Table of  
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***GENERAL COMMENTS -PLAN B  
Sanitary Sewer Evaluation Survey (SSES)  
2nd Cycle Report Due November 12, 2012***

**Purpose of the SSES**

The sanitary sewer evaluation survey is intended to locate and correct excessive infiltration and inflow (I/I) into the sewer lines in Miami-Dade County. Excessive I/I flow cause sewer overflows leading to public health threats. This survey is one of several actions required by Chapter 24 of the Miami-Dade County Code to prevent these problems.

**County Code Requirement for SSES:**

Section 24-42.2 (1) (a) of the Miami-Dade County Code provides that:

*“Each publicly or privately-owned or operated sanitary sewer collection system shall be evaluated in order to identify and reduce infiltration and inflow into the sanitary sewer collection system The person responsible for the sewer system’s operation shall implement a sewer system evaluation survey (SSES) and, if required, a rehabilitation program, incorporating the provisions and requirements set forth in the U.S. EPA’s Sewer System Infrastructure Analysis and Rehabilitation Handbook”*

The deadline for the completion of this survey, as set by the Miami-Dade County Code, requires that it be completed and submitted on or before **November 12, 2012**.

**Note:**

From the experience gained during the first SSES cycle, it is highly recommended that you start scheduling with your contractor or consultant of choice, the work required under the SSES, as early as possible. Contact PERA - PSO program if you need a copy of the list of contractors and consultants from the first cycle.

**Description of SSES      Due November 12, 2012**

There are two types of facilities. The type of facility depends on the quantity of gravity pipe and the existence of a Pump Station. Facilities with a Pump Station and less than 1000 feet of gravity pipe may use the abbreviated survey described below as Plan A. Facilities with equal or greater than 1000 feet of qualifying pipe, with or without a private sanitary pump station, will be required to complete a different survey under **Plan B**. If you are unsure which category your facility falls into, please contact:

**PERA – PSO Program Coordinator**

Phone Number: (305) 372-6600

Fax Number: (305) 372-6410

E-mail Address: [aguero@miamidade.gov](mailto:aguero@miamidade.gov)  
[pablo.asencio@miamidade.gov](mailto:pablo.asencio@miamidade.gov)  
[elsa.cabrejo@miamideda.gov](mailto:elsa.cabrejo@miamideda.gov)

for Oscar Aguirre, Eng.3  
for Pablo Asencio, Eng.1  
for Elsa Cabrejo, Eng.1



## *Guidelines for the Sanitary Sewer Evaluation Survey (SSES) 2<sup>nd</sup> Cycle Report - PLAN B*

These guidelines are supplied as an aide guide for the preparation of the SSES for your facility and it does not include all the possible requirements according to the specific SSCS systems. Since each system is different, the guidelines are rather general in nature. An SSES sample report is available. The guidelines are designed to be used with the sample SSES report provided. They reflect the same criteria used in the evaluation forms that are used by DERM to review SSES report submittals for acceptance. Failure to meet these guidelines will result in the report being disapproved.

### **SYSTEM TYPE**

Those facilities containing 1000 feet or more than 1000 feet of pipe, six inches or larger in nominal diameter, whether or not they have a private pump station, must follow **PLAN B**. In some cases, facilities following Plan B may be required to generate four or more reports on the phases of the SSES. In other cases, they will need only a single report, but this report will be significantly more detailed than that required for a small system.

### **SSES Phases**

Phase 1: Evaluation and Minor Repairs

Phase 2: Investigation of Point Sources of I/I, Repair and Re-testing

Phase 3: Additional Repairs OR Cost-Benefit Analysis

### **Plan B - Survey Description**

This survey will require the evaluation of the system to determine the amount of infiltration/inflow (I/I) entering the collection system, and, if this flow exceeds the maximum allowed rate, locate the major sources of these flows. This survey may include such methods as measurement of actual flows during dry and wet season conditions, television surveys of the collection system, and smoke testing.

The initial part of the survey will consist of the smoke testing, visual inspection, and required repairs. Additionally, flow measurements shall be taken to determine the amount of infiltration/inflow into the system. These measurements shall be taken during the wet season between June 15 and September 15, and shall be conducted continuously for a period of at least three days. These measurements and any additional required studies shall be carried out by firms of individuals competent in this field, using approved methods.

If the measured infiltration/inflow of the system exceeds the allowed rate, an additional survey shall be conducted to determine the source of the infiltration/inflow. Upon the completion of the study, repair work to correct the problems discovered shall be carried out and completed within the time required by DERM. Required work in this phase shall include correction of point source problems including repair of crushed or broken pipes, properly sealing cleanout caps, correcting improper connections of stormwater drains and sewers, repair of visible inflow sources into manholes, and any other specific actions as documented in the SSES Report.

### **Evaluation Criterion for SSES**

Pursuant to Chapter 24-42.2 (1)(a) of the Miami-Dade County Code, the total combined Infiltration/Inflow shall be less than 5,000 gallons flow per day times the product of the nominal diameter of the pipe in inches and the length of the pipe in miles. Where the system contains pipes of different diameters, each run of pipe shall be calculated separately and the values added to determine the total for the system. For example, a system with 1,000 feet of 6 inch nominal pipe diameter and 450 feet of 8 in nominal pipe diameter would have a maximum permissible Infiltration/Inflow of:

$1,000 \times 6 \times 5000/5280 = 5,682$  gallons per day.

$450 \times 8 \times 5000/5280 = \underline{3,409}$  gallons per day.

Max. Allowable I/I = **9,091 GPD**

### **Requirements for Additional Corrections**

Section 24-42.2 (1)(e) of the Miami-Dade County Code provides that:

*“In the event that implementation of the initial sewer system infiltration and inflow rehabilitation programs fail to achieve the performance standards established in this section, the person responsible for the system's operation may, in lieu of performing additional rehabilitation, submit a cost-benefit analysis which analyzes the feasibility of performing additional rehabilitation to achieve said performance standards. If the Director or his designee determines that there is no technically feasible, economically reasonable means of compliance, then no further rehabilitation shall be required.”*

#### **Note:**

This Section is applicable only under specific conditions. The cost-benefit analysis shall be conducted only after the SSES has been completed, required corrections have been made, and a second flow measurement has indicated I/I flows in excess of the allowed rate.

This Section does not allow for the cost-benefit analysis to be submitted instead of the Sanitary Sewer Evaluation Survey (SSES).

After completion of required repairs, the system shall again be tested by flow measurements to determine if it meets the mandated standard. The wet season portions of these measurements shall be carried out between June 15 and September 15 and within one year of the completion of repairs. If measured I/I flow is less than the allowable maximum; no further action is required, but a final report shall be submitted to DERM. If the I/I flow exceeds the maximum allowable I/I rate, the system operator has the option of either taking further action to reduce the flow or conducting a cost analysis and submitting it to DERM to determine if further action can be economically justified. Economic justification of the work shall be based on the estimated reduction in I/I flow, the estimated cost-benefit of the work, and a cost factor for the flow based on one hundred twenty (120) times the monthly per gallon rate. Cost estimates for the work will be based on standard nationally accepted price-estimating sources.

Within two months of the second flow measurement; the permittee must submit either a schedule of additional repairs or an economic cost-benefit analysis.

Those actions shown to be economically justified shall be carried out within one year of the inception of the cost-benefit analysis. Even if the entire project does not have a positive cost-benefit ratio, action on parts of the work that do have a positive ratio may be required.

### **Exempt Facilities**

All Properties/Facilities with sanitary sewer collection systems built after November 12, 2007 will be granted a grandfather exemption from submitting the SSES for the Second Cycle only, which ends on November 12, 2012. Proof of Inspection and testing must be provided. Be advised that said exempt properties/facilities will have to submit the next third cycle SSES report, which runs from November 12, 2012, through November 12, 2022, and thereafter. DERM will send reminders of the SSES requirements for the third cycle to all facilities when appropriate.

Contact DERM –Wastewater Permitting Section if you have any questions about exemptions.

Please also note that you are required to notify DERM at least three (3) working days in advance of the day of any flow measurement as well as the day for any smoke testing, in order for PERA's personnel to be present to monitor each test, if desired. Submit test notification via email to [ps0@miamidade.gov](mailto:ps0@miamidade.gov) or call DERM-PSO Program at (305) 372-6600 or via fax at (305) 372-6410. **The Department reserves the right to request a change of the test date and time as per the Department's discretion.**

**FAILURE TO PROVIDE THIS ADVANCE NOTIFICATION OF THE TESTING MAY RESULT IN NON-ACCEPTANCE OF THE TESTS, REQUIRING THAT THEY BE REPEATED. YOU MAY ALSO NOTIFIED PERA VIA E-MAIL AT [PSO@MIAMIDADE.GOV](mailto:PSO@MIAMIDADE.GOV)**



## ***Report Guidelines for a Large Collection System - PLAN B***

According to our records, your facility / property does have at least 1000 feet of pipe, of 6 inches or larger in nominal diameter, whether or not there is a private pump station. Therefore, you must follow these guidelines.

### **Important notes about the SSES report:**

- **Partial submittals will not be reviewed.** Only SSES reports containing the full set of activities for a given Phase will be reviewed.
- **SSES reports shall be provided according to the sample format in these guidelines.**
- Failure to provide the three (3) day advance notice of any testing may result in rejection of testing data/result and will be required to repeat the test.
- Before performing the flow testing, it is recommended that all buildings within the property be checked for plumbing problems that could cause abnormal flow to the sewage system, such as leaking sinks or toilets. These problems can cause a facility to fail the flow test, requiring additional costly testing.

Failure to comply with these requirements may result in an inaccurate review, and disapproval.

## **Phase 1: Evaluation and Minor Repairs**

### **1.0 Facility Name and Location**

- Provide facility/property name and street address.
- Provide PSO number.

### **2.0 System Description**

- Provide a description of the system. Include characteristics of the pump station if any present, and the collection system.
- Provide information about the components of the system and provide dimensions of piping.

### **3.0 Evaluation Survey Information**

- Provide detail information about the survey of the facility's Sanitary Sewer Collection System.
- Indicate the exact dates of the survey.
- Provide name of the company that conducted the Survey and names of persons doing specific parts of the work.
- Indicate if any repairs were completed.

- If repairs were completed, provide exact date for re-testing of the system. Final approval will not be provided until all problems/defects are repaired and retested.

#### **4.0 Smoke Test**

- The local fire Marshall/Department shall be notified before starting smoke tests.
- Provide date of testing. Describe method and equipment used for testing.
- Give results found in testing.
- Note weather or other conditions that may have affected testing.
- Note if the testing was monitored by DERM.
- Note in the report if smoke passes thru all parts of the system. Smoke shall pass through entire system, between all manholes, and through laterals into building systems, as indicated by smoke from roof vent stacks. Surcharged conditions in the gravity lines can block the smoke flow and may be cause for disapproval.
- Smoke shall be introduced into system in as many places as necessary to force smoke through all parts of system.
- All problems discovered by smoke testing shall be corrected and retested.
- DERM shall be notified within one week of any interconnection between sanitary and storm sewers located by the smoke testing. These problems shall be corrected within 30 days of their discovery.
- You are required to notify DERM at least three working days for all smoke testing, in case that DERM elects to send an observer to monitor the test. Providing pictures (recommended) of smoke coming from sewer stacks and any deficiency found in the SSCS during the test shall make the test report more complete and assist the DERM reviewer in the SSES report review and approval process.

#### **5.0 Flow Measurement**

- Flow testing shall be carried out during the wet season, running from June 15 to September 15, of each year. DERM shall be notified three days in advance of the flow testing.
- Flow measurements shall be made on three (3) consecutive days, during a time of day when there is minimal flow of normal sewage. Three (3) successive measurements shall be made on each day.
- Calculate allowable flow for system based on ordinance standard. If the results show a higher than allowable flow during the first or second day of testing, the facility has failed and further testing should be discontinued until corrections are made to the system.
- Provide raw data for all factors used to calculate the flow.
- All data used for calculation of flow shall take into account any error created by the measurement of the value.
- Describe methods, equipment and times of flow measurement.

- Note weather conditions during and before testing that may have influenced
- Provide results of flow measurement and compare to maximum permissible flow for the system.
- Note whether or not the measurement was monitored by DERM personnel.

## **6.0 Visual Inspection of System**

- Provide results of the visual inspection.
- Indicate the exact date of the inspection and name of person and company name conducting inspection.
- Note conditions at each MH on DERM Manhole Visual Inspection Form. See copy of Form and guidelines attached.
- If the Sanitary Sewer Collection System does not have MH, a visual inspection of the clean-outs must be included. Report their status in a table, if appropriate.
- Report condition of pump station wet well, if any.

### ***Help Tip:***

It is recommended that the visual inspection and repairs be performed before the flow testing, as this work may provide the margin allowing the system to pass the flow test, thereby avoiding the necessity of additional costly testing.

## **7.0 System Repairs**

- All problems/defects located in the inspection and smoke testing shall be corrected.
- Describe the actions and methods employed in correcting problems discovered in the system.
- Provide date when repairs were completed.
- Provide information on who completed the repairs.

## **8.0 Re-testing (Flow Test / Smoke Test)**

- Provide date of re-testing.
- Describe method and equipment used for re-testing.
- Give results found in re-testing. Note weather or other conditions, which may have affected re-testing.
- Note whether or not re-testing was monitored by DERM.
- PERA shall be given three days advance notice of all retesting.
- Flow re-testing shall be done during the wet season as well.
- If problems were found only on part of the system, only those parts need to be re-tested.

## 9.0 SSES Final Results.

- Confirm if the system now meets required standards.
- Compare measured flow to the maximum allowed by standards.
- If applicable, provide statement that standards are not met and that the required additional phases and correction work will be performed according to the submitted SSES Plan and Schedule.

## 10.0 Updated Sanitary Collection System Drawing

- Identify any modifications to the system. Mark/Show new or existing items not identified in previous drawing submitted toDERM.
- You must provide a **complete drawing** of the system.
- Refer to the Guidelines of the submittal of drawings at in this package.
- Identified (labels, MH #) each manhole.

***Note 1:*** *If at the end of Phase 1 all identified defects or interconnections have been corrected and the measured Infiltration /Inflow (I/I) Rate is less than the allowable I/I Rate, then you must submit final report to DERM. See SSES Report Sample 1.*

*Please note that the allowable I/I Rate is based on 5,000 gallons flow per day times the product of the nominal diameter of the pipe in inches and the length of the pipe in miles.*

***Note 2:*** *If the SSCS is not found to be in satisfactory condition after the initial inspections. Smoke testing and repairs, OR If the final measured I/I Rate is larger than the allowable I/I Rate, then PHASE 2, is required. See SSES Report Sample 2*

***Note 3:*** *There is the possibility of a Phase 3 report if the final inspection at the end of Phase 2 is not satisfactory.*

## **Phase 2: Investigation of Point Sources of I/I, Repairs and Re-testing**

### **1.0 Facility Name and Location**

- Provide facility/property name and street address.
- Provide PSO number.

### **2.0 System Description**

- Provide a description of the system. Include characteristics of the pump station if any present, and the collection system.
- Provide information about the components of the system and provide dimensions of piping.
- Provide updated drawing of the system if applicable. Refer to the Guidelines of the submittal of drawings.
- Identified (labels, MH #) each manhole.

### **3.0 Evaluation Survey Information**

- Provide detail information about the survey of the facility's Sanitary Sewer Collection System.
- Indicate the exact dates of the survey.
- Provide name of the company that conducted the Survey and names of persons doing specific parts of the work.
- Indicate if any repairs were completed.
- If repairs were completed, provide exact date for re-testing of the system. Final approval will not be provided until all problems are repaired and retested.

### **4.0 Repair Work**

- Describe work done to repair system.
- Describe specific problems corrected.
- Describe methods and equipment used.
- Provide name of contractor performing work and dates on which work was performed.

### **5.0 Re-Measurement of Flow after repairs**

- Flow testing shall be carried out during the wet season, running from June 15 to September 15, of each year. DERM shall be notified three days in advance of the flow testing.
- Flow measurements shall be made on three (3) consecutive days, during a time of day when there is minimal flow of normal sewage. Three (3) successive measurements shall be made on each day.

- Calculate allowable flow for system based on ordinance standard. If the results show a higher than allowable flow during the first or second day of testing, the facility has failed and further testing should be discontinued until corrections are made to the system.
- Provide raw data for all factors used to calculate the flow.
- All data used for calculation of flow shall take into account any error created by the measurement of the value.
- Describe methods, equipment and times of flow measurement.
- Note weather conditions during and before testing that may have influenced testing.
- Provide results of flow measurement and compare to maximum permissible flow for the system.
- Note whether or not the measurement was monitored by DERM personnel.

## **6.0 Survey Conclusion / Final Status**

- Provide statement that report is submitted in accordance to requirements of Chapter 24 of the Miami-Dade County and meets requirements for the Phase 2 submittal.

## **Phase 3: Additional Repairs OR Cost-Benefit Analysis**

*If you need to complete PHASE 3, please contact Mr. Oscar Aguirre, PSO Program Coordinator, at DERM – Wastewater Permitting Section, (305) 372-6600, for additional instructions.*

# **SSES Report Sample 1- For a Large Collection System – PLAN B**

This report sample describes in a single report a system that **IS FOUND TO BE IN SATISFACTORY CONDITION** after the initial inspections. Refer to Note 1 on the General guidelines. Only *Phase 1: Evaluation Report* is required in this case. **This sample reflects the level of thoroughness and clarity expected in the submittals. It should be reviewed carefully by whoever prepares the SSES for your facility.**

## **Phase 1: Evaluation Report**

### **REMARK**

#### **1.0 Facility Name and Location:**

**PSO-108**  
Big Times and Blue Sea Condominium  
4411 SE Miami Drive  
Miami, FL. 33333

**Include a cover sheet with the information listed in the Guidelines Report Cover Sheet.**

#### **2.0 System Description:**

This system includes a wet well/dry well type pump station with two ten-horsepower pumps, a run of six-inch force main, a grease trap, and a gravity collection system. The gravity collection system has roughly 1900 feet of 8-inch main, 600 feet of 6-inch main, and seven manholes. There are thirteen cleanouts on the laterals to these mains.

<b>Pipe Length (Ft)</b>	<b>Pipe Diameter (in)</b>	<b>Material</b>
105	4	PVC
600	6	PVC
1260	8	PVC
640	8	CIP

#### **3.0 Evaluation Survey Information:**

Underground Investigations Engineers, Inc conducted the sanitary sewer evaluation survey for this facility on the following dates:

Smoke Testing	June 5, 2009
Flow Measurement	July 27-30, 2009
Visual Inspection	July 28, 2009
Second Smoke Test	August 28, 2009

Sewerfixers Extraordinary, Inc did the repair work required on the system during the period of August 5-14, 2009. Underground Investigations Engineers, Inc prepared the SSES report.

#### **4.0 Smoke Test:**

The gravity collection system was smoke tested on June 5, 2009. DERM was notified of the test on June 1, but elected not to attend. A 10,000 cubic foot smoke charge was set off in the wet well of the pump station and an Acme model AIR-100 blower was used to force the smoke into the system. Smoke was observed coming from the ground near the northeast corner of the 100 building, and at the southeast corner of the 200 building. Smoke was also observed coming out of the roof vent stacks of all the buildings.

#### **5.0 Flow Measurement:**

Total flow at this facility was measured by timing flow into the wet well of the pump station, after determining the capacity of the wet well by measurement. Measurements were taken at 2:00 am, 3:00 am, and 4:00 am on the mornings of July 28, 29, and 30. The flows measured corresponded to daily flows ranging from a minimum of 940 GPD to 2360 GPD, with an average of 1270 GPD.

The maximum measured flow of 2360 GPD is less than the calculated maximum permitted I/I value of 18201 GPD. Therefore, this system will not be required to carry out the further phases of the SSES.

**6.0 Visual Inspection of System:**

Mr. W. E. Coyote of U.I.E carried out the visual inspection of the system on July 28, 2009. The number one manhole, about twenty feet west of the pump station, was in satisfactory condition. There was normal flow through the manhole, and physical condition was satisfactory. The invert of the manhole was 15.6 feet below grade.

The number two manhole, located about 300 feet north had observable infiltration at two places. Flow through the manhole was normal. The invert of the manhole was 12.5 feet below grade.

The number three manhole, located about 300 feet north, was in satisfactory condition. The collection system splits at this point, with flow entering the manhole from the north and the west. Flow through the manhole is normal. The invert of the manhole is 9.8 feet below grade.

The number four manhole, located about 320 feet north, was in satisfactory condition. Flow through the manhole is normal. The invert of the manhole is 7.0 feet below grade.

The number five manhole, located about 320 feet north, was in satisfactory condition. This is the terminal manhole for this run. There is now flow through this manhole. The invert of the manhole is 4.0 feet below grade.

The number six manhole, located about 300 feet west of manhole three, was in satisfactory condition. Flow through the manhole is normal. The invert of the manhole is 7.3 feet below grade. A six-inch main enters this manhole from the north, and a four-inch lateral enters from the west.

The number seven manhole, located 340 feet north, was in satisfactory condition. This is the terminal manhole for this run. A four-inch lateral enters this manhole from the west. The invert of the manhole is 4.0 feet below grade.

A photograph was taken of the interior of each manhole.

Thirteen cleanouts on laterals were located. Two of these laterals were not properly capped. These were the two locations found during the smoke testing.

See Manhole Visual Inspection Form attached.

**7.0 System Repairs:**

The two sources of infiltration in manhole number two were repaired. New covers and lids were installed on the incomplete cleanouts. Manhole liners were installed on all manholes.

**8.0 Re-testing:**

A second smoke testing was carried out on August 28, 2009, was following the same procedures as the first test. PERA was notified on August 24 and sent an inspector to monitor the test. No problems were discovered as a result of the second smoke test.

**9.0 SSES Final Status:**

This system is now determined to be in satisfactory condition for the duration of this evaluation cycle. The raw flow data, flow calculations, and photographs of the system manholes are supplied with this report.

**10.0 Updated Sanitary Collection System Drawing:**

Copy of current Sanitary Sewer Collection System Drawing is attached.

Signed,



Dated

8/20/2014

\_\_\_\_\_  
President, Underground Investigations Engineers, Inc.



# **SSES Report Sample 2- For a Large Collection System – PLAN B**

This report sample describes a system that **IS NOT FOUND TO BE IN SATISFACTORY CONDITION** after the initial inspections. Refer to Note 2 on the General Guidelines. There are four reports required in this case, with the possibility of additional reporting if the final inspection is not satisfactory. This hypothetical system contains many of the problems common to collection systems in this area. In conjunction with some of the problems, there are comment boxes describing the pertinent PERA regulations and the time frames for required correction of the problems.

**This sample reflects the level of thoroughness and clarity expected in the submittals. It should be reviewed carefully by whoever prepares the SSES for your facility.**

## **Phase 1: Evaluation Report**

### **1.0 Facility Name and Location:**

PSO-108  
Big Times and Blue Sea Condominium  
4411 SE Miami Drive  
Miami, FL. 33333

### **2.0 System Description:**

This system includes a wet well/dry well type pump station with two ten-horsepower pumps, a run of six-inch force main, a grease trap, and a gravity collection system. The gravity collection system has roughly 1900 feet of 8-inch main, 600 feet of 6-inch main, and seven manholes. There are thirteen cleanouts on the laterals to these mains.

<b>Pipe Length (Ft)</b>	<b>Pipe Diameter (in)</b>	<b>Material</b>
105	4	PVC
600	6	PVC
1260	8	PVC
640	8	CIP

### **3.0 Evaluation Survey Information:**

Underground Investigations Engineers, Inc conducted the initial sanitary sewer evaluation survey for this facility on the following dates:

Smoke Testing	June 5, 2009
Visual Inspection	June 10, 15 2009
Second Smoke Test	June 18, 2009
Flow Measurement	July 27-30, 2009

Sewerfixers Extraordinary, Inc. did jetting to open the main between manholes one and two during the period of June 11-14, 2009. An attempt was made at this time to clear the main between manholes six and seven on June 17, but this was not successful. The repair work required for the cleanouts was done on June 20, 2009. Underground Investigations Engineers, Inc prepared the SSES report.

### **4.0 Smoke Test:**

The gravity collection system was smoke tested on June 18, 2009. DERM was notified of the test on June 21, and sent an observer. A 10,000 cubic foot smoke charge was set off in the wet well of the pump station and an Acme model AIR-100 blower was used to force the smoke into the system. Smoke was observed coming from two open laterals, one of them had discovered during the visual inspection, the other had not. No smoke was observed to come from the other open clean out discovered by the visual inspection. The blockage in the main between manholes six and seven was reported to DERM at this time. Smoke was also observed coming from the ground some distance west of building 500. No clean out was found at this point, but it appears to be from a lateral pipe. Smoke was also observed coming from the ground between manholes six and seven.

In addition smoke was observe coming out of all roof vent stacks of all buildings.

*Comment: It is apparent from the surcharge at manhole seven and the lack of flow into manhole six that the line is blocked between these two points. It also follows from these observations that sewage is escaping from the system, otherwise manhole seven would be overflowing. This is considered to be a serious failure of the system. DERM would require that this problem be corrected within 30 days of its being discovered.*

#### **5.0 Flow Measurement:**

Total flow at this facility was measured by timing flow into the wet well of the pump station, after determining the capacity of the wet well by measurement. Measurements were taken at 2:00 am, 3:00 am, and 4:00 am on the mornings of July 28, 29, and 30. The flows measured corresponded to daily flows ranging from a minimum of 19000GPD to 23000 GPD, with an average of 22000 GPD.

The maximum measured flow of 23000 GPD is greater than the calculated maximum permitted I/I value of 18201 GPD. Therefore, this system will be required to carry out the further phases of the SSES.

#### **6.0 Visual Inspection of System:**

Mr. W. E. Coyote of U.I.E carried out the visual inspection of the system on June 10, 2009. The number one manhole, about twenty feet west of the pump station, was in satisfactory condition. There was normal flow through the manhole, and physical condition was satisfactory. The invert of the manhole was 15.9 feet below grade.

The number two manhole, located about 300 feet north was surcharged to about 6 feet below grade. There appeared to be grease floating on top of the water in the manhole. The invert of the manhole could not be determined. The grease at the restaurant was examined and found to not be working. The visual inspection was halted at this time to await clearance of the surcharge condition.

An operating permit is required for all grease traps connected to public sewers. If your facility is not presently permitted, please contact Mr. Derrick Roby at 305-372-6508.

The visual inspection was recommenced on June 15, 2009. Flow in the number two manhole was satisfactory. There were two infiltration leaks into the manhole. The invert of the manhole is 13.1 feet below grade.

The number three manhole, located about 300 feet north, was in satisfactory condition. The collection system splits at this point, with flow entering the manhole from the north and the west. Flow through the manhole is normal. The invert of the manhole is 12.0 feet below grade.

The number four manhole, located about 320 feet north, had several infiltration leaks. Flow through the manhole was normal. The invert of the manhole is 8.0 feet below grade.

The number five manhole, located about 320 feet north, was in satisfactory condition. This is the terminal manhole for this run. There is no flow through this manhole. The invert of the manhole is 4.9 feet below grade.

The number six manhole, located about 300 feet west of manhole three, was in satisfactory condition. There was flow into this manhole from a four-inch lateral entering the manhole from the west, but no flow from a six-inch main entering from the north. The invert of the manhole is 7.3 feet below grade.

The number seven manhole, located 340 feet north, was surcharged to within two feet of grade. This is the terminal manhole for this run. Due to the surcharge, this manhole could not be further investigated.

A photograph was taken of the interior of each manhole.

Thirteen cleanouts on laterals were located. Two of these laterals were not properly capped. See Manhole Visual Inspection Form attached.

**7.0 System Repairs:**

The sources of infiltration in manholes two and four were repaired. New covers and lids were installed on the three incomplete cleanouts. The main between manholes six and seven was dug up where the smoke was observed and found to be broken. The main was repaired with a new section of pipe. The lateral west of building 500 was discovered to be broken and was repaired. Manhole liners were installed on all manholes. Sewerfixers Extraordinary, Inc. did all work on June 22, 2009.

**8.0 Re-testing:**

A second smoke testing was carried out on July 28, 2009, following the same procedures as the previous test. DERM was notified on July 24 and sent an inspector to monitor the test. No problems were discovered as a result of the second smoke test.

**9.0 Survey Conclusion / Final Status:**

The infiltration/inflow level in this system presently exceeds the allowable maximum. Therefore, additional inspection and repair work will be conducted as required by regulation. This document is submitted as the required Phase 1 report for the SSES. The additional Phase reports will be delivered. The raw flow data, flow calculations, and photographs of the system manholes are supplied with this report.

**10.0 Updated Sanitary Collection System Drawing:**

Insert / Attach Sewer Collection System Drawing. For sample see Drawing "Plan B" at the end of this package.

Signed



Dated  
8/20/2014

\_\_\_\_\_  
President, Underground Investigations Engineers, Inc.

**Phase 2: Investigation of Point Sources of I/I, Repair and Re-test.**

**1.0 Facility Name and Location:**

**PSO-108**  
Big Times and Blue Sea Condominium  
4411 SE Miami Drive  
Miami, FL. 33333

**2.0 System Description:**

This system includes a wet well/dry well type pump station with two ten-horsepower pumps, a run of six-inch force main, a grease trap, and a gravity collection system. The gravity collection system has roughly 1900 feet of 8-inch main, 600 feet of 6-inch lateral, 105 feet of 4-inch lateral and seven manholes. There are thirteen cleanouts on the laterals to these mains.

**3.0 Evaluation Survey Information:**

Underground Investigations Engineers, Inc conducted the Phase 2 investigations for this facility on the following dates:

Televising Sewer Mains      August 5-8, 2009

The television inspection of the system revealed a badly broken main between manholes three and four, 174 feet north of manhole three. Several other small infiltration leaks were also detected and located. Repair of the broken main will require excavation and replacement. The other leaks can be repaired using in-place techniques.

Copies of the videotapes of the TV main inspections are available upon request.

This document is submitted as the required Phase 2 report for this facility.

#### 4.0 Repair Work

Sewerfixers Extraordinary, Inc did the repair work required on the system during the period of January 12-21, 2010. The broken main between manholes three and four was dug up and replaced with a section of new 8-inch PVC sewer main. The other leaks were sealed in place using epoxy grout. A list of the locations of these leaks is provided with this report.

*Other department permits and other local agency (s) having jurisdiction permits may be required for repair work, depending on type of work and location of facility.*

#### 5.0 Flow Measurement:

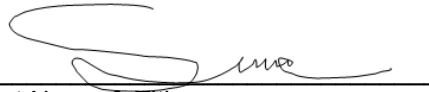
Total flow at this facility was measured by timing flow into the wet well of the pump station, after determining the capacity of the wet well by measurement. Measurements were taken at 2:00 am, 3:00 am, and 4:00 am on the mornings of July 28, 29, and 30, 2010. The flows measured corresponded to daily flows ranging from a minimum of 940 GPD to 2360 GPD, with an average of 1270 GPD.

The maximum measured flow of 2360 GPD is less than the calculated maximum permitted I/I value of 18201 GPD. Therefore, this system is now in compliance with the requirements of Chapter 24 of the Miami-Dade County Code.

#### 6.0 Survey Conclusion / Final Status:

This system is now determined to be in satisfactory condition for the duration of this evaluation cycle. The raw flow data, and flow calculations are supplied with this report.

Signed



Print Name & Title

Thomas Smith

President, Underground Investigations Engineers, Inc.

### **Phase 3: Additional Repairs OR Cost-Benefit Analysis Report**

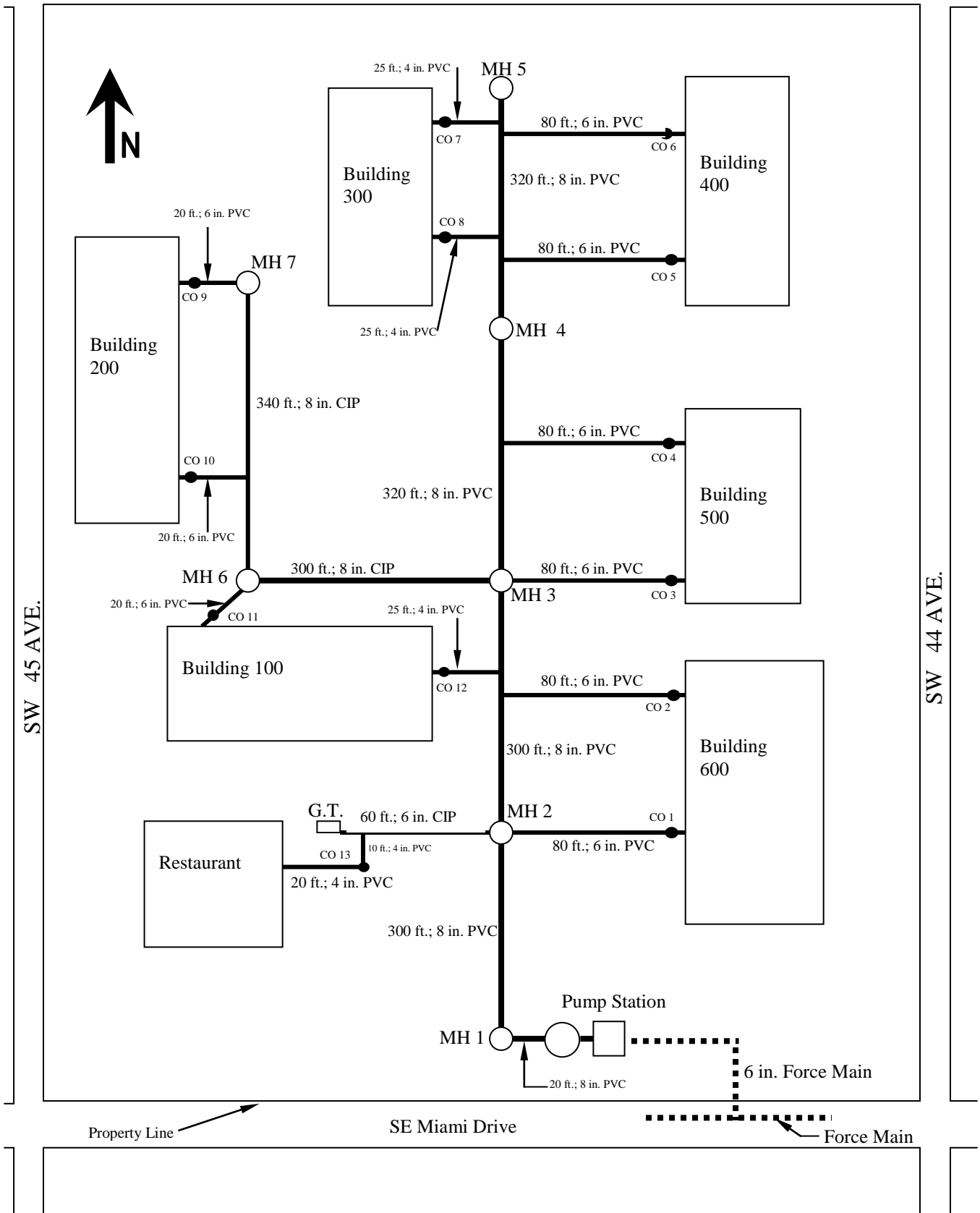
If you need to complete Phase 3, please contact the PSO Program Coordinator at DERM –Wastewater Permitting Section, 305.372.6600, for specific instructions for this report.

**Sample Drawing Plan B**

SCALE 1:80

**PSO-108**  
Big Times & Blue Sea Condominium

4411 SE Miami Drive



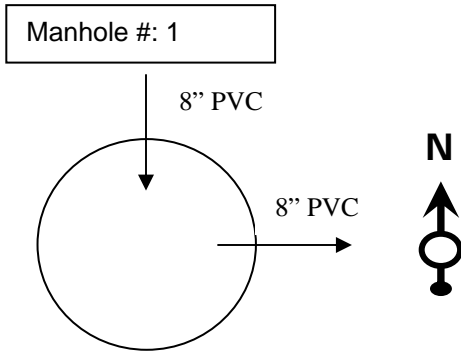
**Manhole Visual Inspection Form**

**SAMPLE**

**Manholes 1 thru 4 only**

**PSO- 108**

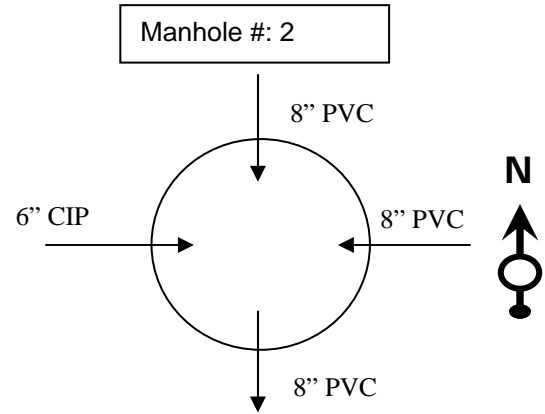
- Make copies of this form as necessary.
- Use arrows to show all mains (lines) connected to MH and flow direction. See sample on the back of this form.
- Indicate pipe of material (if possible), and pipe sizes. Cross check and verify this form information with the SCS in the site plan submitted and permittee O & M Manual records. A copy of this form shall be submitted with the SSES Site Plan.



Surcharged: NO                      WW Flow: YES  
 Infiltration: NO                     MH Inserts: NO  
 MH Cover Damaged: NO           Grease: NO

**Comments:**

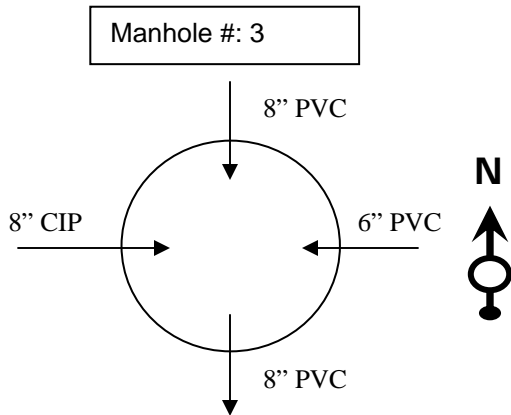
Normal Flow  
Physical Condition OK



Surcharged: NO                      WW Flow: YES  
 Infiltration: YES                     MH Inserts: NO  
 MH Cover Damaged: NO           Grease: NO

**Comments:**

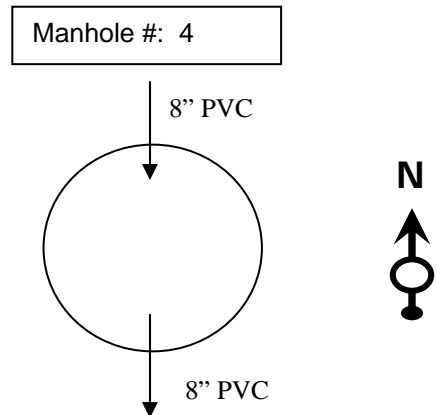
Physical Condition OK  
Normal Flow



Surcharged: NO                      WW Flow: YES  
 Infiltration: NO                     MH Inserts: NO  
 MH Cover Damaged: NO           Grease: NO

**Comments:**

Physical Condition OK  
Terminal Manhole- No flow at the moment



Surcharged: NO                      WW Flow: YES  
 Infiltration: NO                     MH Inserts: NO  
 MH Cover Damaged: NO           Grease: NO

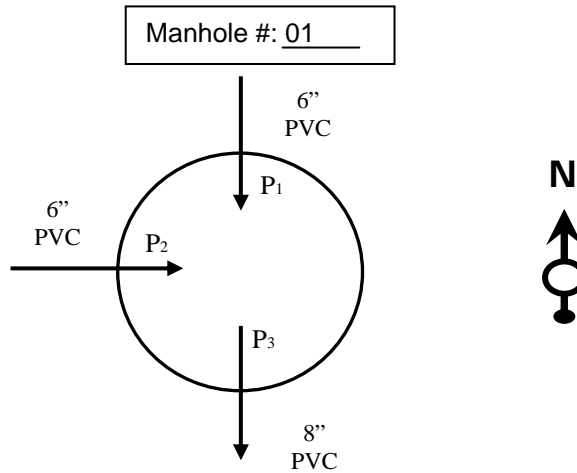
**Comments:**

Physical Condition OK  
Terminal Manhole- No flow at the moment

Completed by (print name): Mr. W. E. Coyote / Company Title

Date: 5/14/2015

# SAMPLE DIAGRAM



<b>Surcharged:</b> <u>No</u>	<b>WW Flow:</b> <u>Yes</u>
<b>Infiltration:</b> <u>Yes</u>	<b>MH Inserts:</b> <u>Yes</u>
<b>MH Cover Damaged:</b> <u>No</u>	<b>Grease:</b> <u>No</u>
<b>Comments:</b>	
<u>Normal sanitary Flow observed. No stains on</u>	
<u>walls from surcharging. Good Condition.</u>	

**NOTE:**

When completing the Manhole Inspection Form, please follow the **“Guidelines for the Manhole Visual Inspection”** in this package.

# Guidelines for the Manhole Visual Inspection

## **General Observations:**

### **Manhole Inspection:**

- Open manhole. Note if there is an insert and if there are holes in the cover.
- Check for surcharge and grease buildup.
- Note on Manhole diagram the openings into and out of the manhole.
- Check if manhole is noted on sanitary sewer drawing submitted.
- If manhole is surcharged, determine level below rim of manhole and extent of surcharge, if possible.

### **New Installation:**

- Mark new piping and/or manholes on system diagram.
- Advise permittee that the Operations and Maintenance (O&M) manual, previously submitted to PERA, must be updated accordingly.

### **Surcharged Condition:**

- If surcharged condition found, determine extent of surcharge in system.
- If final manhole in system leading to public utility is surcharged, determine, if possible, if utility system is surcharged also.
- If system has a pump station, determine if surcharge exists in pump station wet well. If this is the case, determine if condition is caused by pump failure, incorrect control settings, or any other cause.
- Notify DERM at (305) 372-6600, if surcharge conditions exist in the public sanitary sewer lines (utility mains).

### **Clean-outs:**

- If collection system does not have sanitary sewer manholes, but Clean-outs, then provide general observations regarding status at the time of the inspection. Indicate if damaged or missing and/or type of corrective actions taken or to be taken.





## ***PRIVATE SANITARY SEWER SYSTEMS Guidelines for the Submittal of Drawings***

In order to assure that the drawings submitted to this Department contain the required information, coordinate with the sample drawing(s) in these guidelines and carefully read the following guidelines:

- *The drawings accepted are Construction, As-Built or Survey Drawings, showing the property boundaries and adjacent main streets. Also, it must show the building footprints, the location, the North arrow, length and diameter of all underground sanitary sewer pipes, outside of the building structures, including the laterals, manholes, clean-outs pump station(s) and force main line(s) up to the property line (P/L) as applicable to each facility. The total pipe length per pipe-size and number of manholes shall be provided.*
- *Also accepted are Certified Microfilm Copies, if they exist, of the Sanitary Sewer Layout within the subject property, from the corresponding Building and Zoning Department, and/or Plumbing Department files. The drawing must show the property boundaries and adjacent main streets, the location, length and diameter of all underground sanitary sewer pipes, outside of the building structures, including the laterals and according to the above requirements. Contact your Building Department for more information on how to obtain such copies.*
- *The Drawing may be submitted in an 8 - 1/2" X 11", 11" X 17" paper sheet or larger.*
- *The scale of the drawing must be proportional and the drawing(s) legible.*

If none of these documents are currently available, you may employ the services of a competent professional in the field to collect and provide the required information.

The information requested is necessary in order to determine to what extent your property has to comply with the requirements of the ordinance. If you fail to submit such information and the SSES report is not finally approved, a minimum estimated pipe length and diameter will be assigned to your property. This may imply that your property will be subject to additional regulatory requirements of the ordinance.

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**ELECTRONIC SUBMITTALS THAT MEET THE ABOVE GUIDELINES ARE ALSO ACCEPTED.**

**If you have additional questions, contact RER-DERM - PSO Program (305) 372-6600 .**

# SSES Plan B - Report Check List

## Phase 1: Evaluation and Minor Repairs

Item Number	Description	Check if Completed
1.0	Facility Name and Location	
2.0	System Description	
3.0	Evaluation Survey Information	
4.0	Smoke Test	
5.0	Flow Measurement	
6.0	Visual Inspection of System	
7.0	System Repairs	
8.0	Re-testing (Flow Test / Smoke Test)	
9.0	SSES Final Results.	
10.0	Updated Sanitary Collection System Drawing	

Enter N/A if Not-Applicable

## **SSES Plan B - Report Check List**

### **Phase 2: Investigation of Point Sources of I/I, Repairs and Re-testing**

<b>Item Number</b>	<b>Description</b>	<b>Check if Completed</b>
1.0	Facility Name and Location	
2.0	System Description	
3.0	Evaluation Survey Information	
4.0	Repair Work	
5.0	Flow Measurement	
6.0	Survey Conclusion / Final Status	

Enter N/A if Not-Applicable

