

# Assessment of Extending Public Sewer Lines

Prepared by the  
Planning Commission  
August 11, 2017



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## *I. Executive Summary*

In 2015 the Planning Commission began analyzing the issues of expanding the public sewer system to every home and lot that do not currently have public sewer available. This assessment is intended to provide an overview of the issues involved, some of the history of the issues, a central source of information; and a series of recommendations, strategies and goals for future action.

The Planning Commission has developed a scenario to fund the expected \$52,000,000 cost of the entire expansion, if this is deemed to be a goal of the City. Additionally, the Commission has developed several recommendations that could lead to a slower incremental expansion of the sewer system. These recommendations include action items like continuing to review stormwater quality data that is collected to determine if water quality is beginning to degrade, monitoring grant opportunities, and improving outreach to the community; as well as possible ordinance changes such as reducing the size of houses allowed to tie into septic systems, requiring owners building new houses within 150' sewer lines to extend the sewer lines, and requiring properties that sell homes with sewer available to tie into the sewer system.

## *II. Introduction*

In October, 2015 the Planning Commission was tasked with researching the issue of whether or not it was feasible to force property owners to tie into the public sewer system when a home is sold that is not currently tied to the sewer system. Additionally, in January, 2016, the Public Works Committee of City Council adopted a goal of providing public sewer to every property on the Isle of Palms and tasked the Planning Commission with developing strategies to achieve this goal.

The Planning Commission spent approximately fifteen months discussing the issues, gathering information and meeting with key agencies involved. The issues involved are extremely complex, including major financial investments, environmental questions, and public perception; and therefore become emotional and challenging.

## *III. Existing Conditions*

Of the total 4,300 dwellings with water service, approximately 1,400 properties, or 33%, do not have sewer service and are served by a septic system. All of the Wild Dunes development and all of the commercial properties are served by public sewer. Outside of these areas, there is a public sewer line running down Ocean Boulevard, Waterway Boulevard and various small extensions off these lines.

The water and sewer system was purchased by the City of Isle of Palms from the Beach Company in 1991 after a referendum vote. The City then created the Isle of Palms Water and Sewer Commission to manage and operate the system in 1992.

There are two existing wastewater treatment centers on the island. One is within the Wild Dunes development and the Isle of Palms Water and Sewer Commission has a long-range plan to retire this system. The second is a new system constructed at the corner of Waterway

Boulevard and 41<sup>st</sup> Avenue in 2013. This system was designed to be modular and expandable with the intention of treating all the wastewater going to the Wild Dunes plant as well as provide service to all properties that are currently using septic systems.

Within the last fifteen years, properties have been allowed to tie into the public sewer system through the residential grinder pump program. Grinder pump systems are comprised of a pump, a tank and an alarm whereby a home's wastewater is ground into a slurry and then pumped through a relatively small line into the central sewer system. Approximately 150 properties have been tied into the sewer system with grinder pumps.

#### *IV. Description of Prior Efforts*

Upon researching the questions of extending public sewer lines, the Planning Commission quickly learned that the question has been investigated many times before. The Commission tried to understand these efforts and determine if lessons could be learned from what had been previously done.

##### **1990 Study and Discussion**

In 1990 the City of Isle of Palms developed conceptual plans and cost estimates to expand the public sewer system to all properties. It is speculated that these plans were developed in anticipation of the City acquiring the water and sewer system in 1991. Details are sparse but Thomas and Hutton developed the plans and they estimated the construction cost was \$5.1M. Other sources indicate that the cost would have been higher. Ultimately the Council decided that the cost of the project was beyond their financial means at the time.

##### **1999 Septic System Inspection Program**

The City Council sought alternate, potentially less costly ways, to ensure the septic systems on the island are generally maintained and functioning properly. Ultimately an ordinance was passed that required that when a property sells, the septic system be inspected and pumped out. A pilot program for this ordinance was developed that provided for the City to pay the expenses associated with the program. Eventually, probably due to the reaction of those concerned with real estate transactions being compromised, the ordinance was repealed.

##### **2003 Ordinance Requiring New Construction to Bring Septic System up to Code**

During a time of significant redevelopment pressure on the island the state agency that handles the permitting of new septic systems, the South Carolina Department of Health and Environmental Control (DHEC), did not require owners replacing older small homes with larger new homes to upgrade or modify their septic systems. The City passed an ordinance (Section 5-4-12(e)) that required property owners replacing old homes with larger homes to either tie into the public sewer system, if available, or install a new septic system designed to serve the number of occupants expected to use the new home. While this ordinance minimized a significant deficiency in the DHEC permitting process, it probably led to the proliferation of grinder systems, which has presented a new set of challenges for the Water and Sewer Commission that is further explained in Section V of this assessment.

## *V. Benefits of Extending Public Sewer Lines*

### **Stormwater Quality**

While the position has been held that a properly functioning septic system has minimal impact on water quality for its surrounding environment, experts universally agree that a malfunctioning system will cause environmental damage through the spread of fecal coliform bacteria. Typically, malfunctioning septic systems will cause effluent to make its way up to the ground surface, into the stormwater system and ultimately into the surrounding waterways.

After heavy rain events, water is left standing over a significant portion of the island. When water stands over a septic system, the system ceases to function properly and becomes a source of pollution. The standing water will typically make its way into the stormwater system and into the surrounding waterway. The importance of keeping the waterways around the Isle of Palms clean and safe for their natural and recreational benefits cannot be stressed enough.

The waterways around the Isle of Palms are tested by the health department on a regular basis to detect abnormal bacteria levels. The Planning Commission has analyzed the data from this testing and determined that there is nothing to show that bacteria levels are increasing. The tests almost always show normal bacteria levels and the results can be seen Exhibit f of this report.

### **Sea Level and Groundwater Level Rise**

As a low-lying barrier island, the Isle of Palms has always been vulnerable to flooding. The National Oceanic and Atmospheric Administration (NOAA) estimates that sea level will rise between two and seven feet on the Isle of Palms over the next 100 years. As sea level rises, it is expected that septic systems will be inundated by floodwaters more frequently. When septic tanks are inundated, not only do they cease to operate, but they allow for bacteria to make their way into the waters surrounding the island.

A centralized public sewer system also faces challenges during flood conditions, but those challenges are less likely to cause environmental problems and they are handled by experts specifically trained for such incidents. From a perspective of being more resilient to the impacts of sea level rise, it would be advantageous to expand the public sewer system and to eliminate septic systems on the island.

In recent years, the DHEC staff testing soils for septic systems has detected higher groundwater levels. Because septic systems need to be in soils that contain oxygen (aerobic) for absorption, they must be above the groundwater table. The high water tables create a challenge in designing new system and many of the new systems must be constructed with fill brought increase the depth of aerobic soil.

### **Minimizing Future Grinder Pump Systems**

The Water and Sewer Commission has not developed a long-term plan for their infrastructure that includes grinder systems. The lack of a long-term plan is leading to a haphazard and inefficient system. An owner wanting to install a grinder system may find that his neighbor installed a system two years prior, but did not size the line appropriately for expansion and

therefore a second line would have to be installed and maintained. These small lines are difficult to locate, easily damaged, and they limit the area available for other utilities within the right-of-way. Grinder pumps are typically seen as short term fixes and ultimately a more permanent solution should be sought. The systems are labor intensive and their cost is approaching the same as conventional sewer.

If significant progress is not made on an initiative of expanding the gravity sewer lines, the Water and Sewer Commission must work on a masterplan that includes grinder systems.

### **Better Now than Later**

According to an estimate of cost produced by Thomas and Hutton Engineering, the cost to expand sewer to all properties in 1990 was \$5.1M, then in 2004 the cost was \$14M. Per the Water and Sewer Commission, the cost to do this same work in 2016 has grown to \$52M. This is a 371% increase in cost increase in 12 years and a 1040% increase in 26 years. It would be shortsighted to plan on this trend of costs increasing over time to diminish.

## *VI. Obstacles to Extending Sewer Lines*

### **Expense**

The Planning Commission understands that the expense of expanding the public sewer is by far the largest obstacle. At the time of the writing of this assessment, the Isle of Palms Water and Sewer Commission expects the cost to be \$52M in infrastructure only, not including individual's plumbing expenses or additional staffing needs.

### **Public Resistance**

As described above in the Description of Prior Projects section, the issue of expanding the public sewer system to serve all properties has been discussed at various times and each time there has been significant resistance from residents of the island. The Council's decision in 1990 not to pursue expanding system and the decision to ultimately rescind the septic inspection program are examples of this resistance. The Commission speculates that the two primary hurdles were the expense and the perception that septic systems are not inferior to public sewer systems.

To understand the basis for the public resistance, an effort should be made to gather input from the residents of the island. If the input suggests that there is a need for a public education effort, then this effort should be made.

## *VII. Overview of the Implementation*

### **Physically Expanding the System**

If the obstacles could be overcome and the community were to move forward with expanding the public sewer lines, the Planning Commission would advise that the expansion of the system occur in a systematic, phased process where environmental need, public demand and engineering design requirements are prioritized. The conceptual plans developed by Thomas and Hutton and the Isle of Palms Water and Sewer Commission show the project broken into fourteen separate basins. The plans call for seven new pump stations and upgrading four of the

existing pump stations. As mentioned in the Existing Conditions section above, the wastewater treatment facility at the corner of 41<sup>st</sup> Avenue and Waterway Boulevard was designed to be able to expand to accept the additional wastewater created by providing sewer service to all properties on the island.

The City will need to rely on the Isle of Palms Water and Sewer Commission to determine how to prioritize expansion of the system.

### **Paying for the Improvements**

The Planning Commission developed scenarios for funding the expansion of sewer service to every property currently not served. There are several variables that could be adjusted in the scenarios, but none of the adjustments make the prospect inexpensive or painless. The proposals included a mandatory tap fee for every new property served by public sewer as well as additional payments by all existing customers. The Commission believes that while most of the benefit of expanding the sewer system is seen by those properties that would be gaining service, there are also community benefits to eliminating septic systems on the island.

The Commission has been advised that banks typically issue bonds for sewer expansions, when an ordinance is passed that requires every property adjacent to the new sewer lines is required to tie into the system and pay the associated fees within a short timeframe, possibly as quickly as 90 days from the installation of the sewer lines.

One example of how the funding could be raised would be to charge all owners that do not have sewer service a \$15,000 sewer fee and increase the millage rate by 42% to raise enough funding to cover \$2.1M of annual debt service for 20 years. In this example, the annual tax bill for an owner-occupied property appraised at \$520,000 would increase 9.6% from \$1,762 to \$1,932.

## *VIII. Planning Commission Recommendations*

While the Planning Commission sees many advantages to expanding the public sewer system and eliminating septic systems on the island, they perceive the hurdles of financing and a negative public perception to be too great to recommend such a program now. However, the Commission would recommend that the City work to remove or reduce these barriers by implementing the following strategies and periodically evaluating the feasibility of a larger scale expansion. If it were the will of the residents to pursue island-wide expansion, professional guidance would have to be sought to explore other options.

### **Improve Dialogue with the Isle of Palms Water and Sewer Commission**

It became clear through the process of analyzing this issue that to make progress, the Isle of Palms Water and Sewer Commission and the Isle of Palms City Council must work together to achieve anything. While the Water and Sewer Commission is willing and capable of physically extending the lines, it can only happen on a large scale with the cooperation and leadership from the Council to pass ordinances and authorize bonds. It would have to be a joint effort with the Commission providing technical and administrative tasks and the Council providing the legal and financial framework for the projects to proceed.

## **Monitor Grant Funding Opportunities**

During the time of undertaking this assessment, the staff reached out to the Berkley, Charleston, Dorchester Council of Governments (BCDCOG) to inquire about the possibilities of grant funding for the expansion of public sewer systems. At the time, it was determined that there were not many opportunities for funding unless communities were classified as low income or if no infrastructure was in place. However, grant funding opportunities change constantly and as new sources of funding become available, the City should consider pursuing those opportunities. While there were several obstacles identified by the Planning Commission, funding is by far the hardest to overcome.

## **Monitor Water Quality Data**

During the time of this report, the Planning Commission analyzed stormwater quality data reaching back over a 10-year period and determined that the levels of pollutants are not increasing and may be decreasing. However, it became evident that there is a significant amount of data available and this type of long range comparison of the data is not being done on a regular basis.

The Commission believes that this data analysis would be an early indicator of problems with septic systems and therefore recommends that every two years the data be collected and analyzed to see if there are any changes indicating problems.

## **Outreach to Residents to Better Understand Resistance to Expansion of Sewer**

The Planning Commission worked closely with various groups to understand some of the technical challenges of the issues involved with expanding sewer service. However, there was no effort made to the garner input from the residents to quantify the demand for public sewer or to better understand the resistance the residents have historically had to the concept. The Planning Commission's goal was primarily to gather facts and develop strategies, but it is acknowledged that for these efforts to be successful, there will need to be considerable outreach efforts and public education on the complex issues associated with expanding the sewer system.

## **Consider Reducing the Size of Homes Allowed to Tie into a Septic Tank**

Consideration should be given to the concept of reducing the size of homes that are allowed to tie into a septic tank. Currently, the City's code establishes a floor-to-area ratio (FAR) and a lot coverage limit of 40%. This requirement is the same for houses tied into the sewer system and those served by a septic system. The Commission is considering recommending an ordinance that would reduce these limits to 30% for houses served by a septic system. For example, a 10,000-square foot lot could currently be developed with a house having 4,000 square feet of living space and 4,000 square feet of impervious surfacing. Under this recommendation, if this property were developed with a septic system, the living area of the house and the lot coverage would be limited to 3,000 square feet.

## **Support Small Incremental Expansions of the Sewer System**

While other sections of this assessment encourage expansion of the sewer system in a logical manner prioritized by need basis, the Planning Commission recognizes that occasionally



opportunities will arise to easily expand the system by working with individuals wanting service, and recommends that these opportunities be taken. Through the years, there have been several small-scale expansions of the sewer system to accommodate new construction. When this is done, generally an owner typically provides infrastructure that allows for future owners to tie into and utilize. If this slow natural expansion could be supported, it would lead to the system growing and over time reducing the number of septic systems on the island.

### **Support the Implementation of a Fee Charged to Owners that Have Sewer Available but Choose to Not Tie In**

The Isle of Palms Water and Sewer Commission met with the Summerville Commissioners of Public Works (CPW) regarding their successful implementation of a fee charged to owners that have public sewer available, but choose not to tie in. In Summerville, the CPW will expand the sewer system into an area when greater than 50% of the residents in the area agree to connect to the sewer system. The cost of the expansion is spread equally over the customers that could be served by the expansion and the CPW pays the pro-rata portion for those owners that choose not to tie in. To recoup this expense the CPW charges those owners that chose not to tie into the system a monthly fee.

The Isle of Palms Water and Sewer Commission feels that a similar provision would lead to incremental expansion of their system and the Planning Commission recommends supporting this effort.

### **Consider Expanding the Distance Requiring Sewer Expansion for New Construction**

Currently an owner building a new or substantially improved house only has to tie into the public sewer system, if the system is immediately adjacent to the property. Consideration should be given to expanding this requirement to require property owners within a certain short distance, maybe 150 feet, to extend the sewer line to the new house. This strategy would build from the recommendation above to support incremental expansions of the sewer system, as opportunities arise.

### **Consider Requiring Properties Adjacent to Gravity Sewer that Sell to Tie in**

Currently a property that is adjacent to a public gravity operated sewer line only has to tie into the public sewer line when the house is substantially improved or reconstructed or when the septic system fails. Consideration should be given to requiring these properties to tie into the public sewer system when the property sells. It is believed that initially such a requirement would only affect a small number of properties, but it may be that as some of the other recommendations cause for lines to be extended, this requirement could be more impactful.

### **Consider Prohibiting Future Subdivisions Unless the Property is Served by Gravity Operated Public Sewer**

Currently owners having property that meets the minimum zoning standards can subdivide property using septic systems. To minimize the number of future septic systems allowed to be installed on the island, the City may consider only allowing properties to be subdivided when the properties are served by the public sewer system. This recommendation is not expected to impact many properties, because there are relatively few lots that can meet the minimum size standards included in the zoning code.

## Isle of Palms Water & Sewer Commission

### Cost to Sewer the Unsewered Areas - Original Study 1990

#### Conventional Gravity Sewer

#### Basin Cost Summary 1990 Costs

Prepared by Thomas & Hutton Engineering Co.

Basin		Gravity Construction Cost	Pump Station, Force Main Costs	TOTAL 1990 COST
I		\$ 111,957	\$ 52,000	\$ 163,957
II		\$ 71,940	\$ -	\$ 71,940
III		\$ 202,395	\$ 51,000	\$ 253,395
IV		\$ 147,409	\$ 12,000	\$ 159,409
V		\$ 291,590	\$ 25,600	\$ 317,190
VI		\$ 77,245	\$ -	\$ 77,245
VII		\$ 228,298	\$ 72,700	\$ 300,998
VIII		\$ 624,368	\$ 110,640	\$ 735,008
IX		\$ 283,698	\$ 8,800	\$ 292,498
X		\$ 91,285	\$ 54,725	\$ 146,010
XI		\$ 885,018	\$ 98,070	\$ 983,088
XII		\$ 1,355	\$ 7,350	\$ 8,705
XIII		\$ 149,348	\$ 6,650	\$ 155,998
XIV		\$ 381,793	\$ 75,450	\$ 457,243
<b>Subtotal</b>		<b>\$ 3,547,700</b>	<b>\$ 574,985</b>	<b>\$ 4,122,685</b>
<b>Contingency, Engineering &amp; Surveying</b>	20.0%	<b>\$ 709,540</b>	<b>\$ 114,997</b>	<b>\$ 824,537</b>
<b>Legal, Fiscal &amp; Adm.</b>		<b>\$ 167,750</b>	<b>\$ 35,018</b>	<b>\$ 202,768</b>
<b>Total</b>		<b>\$ 4,424,990</b>	<b>\$ 725,000</b>	<b>\$ 5,149,990</b>
			<b>Use \$</b>	<b>5,150,000</b>

## EXHIBIT A



ATLANTIC INTRA COASTAL WATERWAY

RESTRICTED SHELLFISH ZONE

PROHIBITED SHELLFISH ZONE



Ma

Ma

GOLF COURSE

Cg

Cg

GOLF COURSE

Cg

CVC

CVC

CVC

CVC

CVC

CVC

CVC

CVC

CVC

CVC

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CVC

CVC

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CVC

CVC

CVC



57I-10-0 (2)

IX

XI

57I-7-0 (3)

57I-5-0 (7)

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON ENGINEERING CO.  
 270 WEST COLUMBIA BOULEVARD  
 MOUNT PLEASANT, SC 29464 (803) 649-0200  
 3 COLLETHORPE PROFESSIONAL, P.L.L.C.  
 FAYATWICH, GA 30416 (912) 253-1500

CITY OF PALMS  
 FOR THE CITY OF ISLE OF PALMS  
 SEWER FACILITY MAP  
 CHARLESTON COUNTY SOUTH CAROLINA

STUDY OF WASTEWATER ALTERNATIVES  
 CITY OF ISLE OF PALMS  
 FOR THE CITY OF PALMS  
 SEWER FACILITY MAP  
 CHARLESTON COUNTY SOUTH CAROLINA

JOB NO. J-6853  
 DATE: OCT. 1990  
 DRAWN: R. SMILETARY  
 CHECKED: M. YODICE  
 SCALE: 1" = 100'  
 SHEET NO. 8 OF 15  
 TAX MAP NO. 57I-6-0



NO.	REVISIONS	BY	DATE

THOMAS & HUTTON ENGINEERING CO.  
 270 WEST COLUMBIA BOULEVARD  
 MOUNT PLEASANT, S.C. 29526 (803)435-0200  
 3 GREENHURST PROFESSIONAL BLDG.  
 BAYWATER, GA 31507 (404)233-5500

CITY OF ISLE OF PALMS  
 FOR THE  
 CITY OF PALMS  
 CHARLESTON COUNTY  
 SOUTH CAROLINA

STUDY OF WASTEWATER ALTERNATIVES  
 SEWER FACILITY MAP  
 JOB NO. A-49353  
 DATE: OCT. 1990  
 DRAWN: R. SMILETTARY  
 CHECKED: M. YODICE  
 SCALE: 1" = 100'

SHEET NO. 7 OF 15  
 TAKE-UP NO. 571-5-0



571-9-0 (II)

ATLANTIC INTRA COASTAL WATERWAY

RESTRICTED SHELLFISH ZONE

PUMP STATION #5

MARSH

Ma

Ma

Ma

UNDER CONSTRUCTION

UNDER CONSTRUCTION

UNDER CONSTRUCTION

UNDER CONSTRUCTION

UNDER CONSTRUCTION

UNDER CONSTRUCTION

UNDER CONSTRUCTION

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UNDER CONSTRUCTION

RESTRICTED SHELLFISH ZONE

PUMP STATION #5

MARSH

Ma

Ma

Ma

UNDER CONSTRUCTION

UNDER CONSTRUCTION

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NO.	REVISIONS	BY	DATE

THOMAS & HUTTON ENGINEERING CO.  
 730 WEST COLLEEN BOULEVARD  
 MOUNT PLEASANT, S.C. 29524 (803) 649-0200  
 3 REGISTERED PROFESSIONAL ENGINEERS  
 LICENSE NO. 19252-0500



**STUDY OF WASTEWATER ALTERNATIVES**  
 FOR THE CITY OF ISLE OF PALMS  
 CHARLESTON COUNTY  
**SEWER FACILITY MAP**

JOB NO. J-6953  
 DATE: OCT. 1990  
 DRAWN BY: BRANN R. SINGLETARY  
 CHECKED BY: M. YODICE  
 SCALE: 1" = 100'  
 SHEET NO. 8 OF 15  
 DRAWING NO. 568-12-0

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON ENGINEERS CO.  
 270 WEST COLLEGE BOULEVARD  
 MOUNT PLEASANT, S.C. 29524 (803)244-0200  
 A LICENSED PROFESSIONAL ENGINEER  
 EXAMINER, P.E. 1046 (012)255-5300



**STUDY OF WASTEWATER ALTERNATIVES FOR THE CITY OF ISLE OF PALMS**  
 CHARLESTON COUNTY SOUTH CAROLINA  
**SEWER FACILITY MAP**

JOB NO. J-6953  
 DATE: OCT. 1990  
 DRAWN: R. SINGLETARY  
 CHECKED: M. YODICE  
 SCALE: 1" = 100'  
 SHEET NO. 5 OF 15  
 TAX MAP NO. 568-11-0



PROHIBITED SHELLFISH ZONE

HAMLIN CREEK

ATLANTIC OCEAN



NO.	REVISIONS	BY	DATE

THOMAS & HUTTON ENGINEERS CO.  
 2701 WEST COLMAN ROAD, SUITE 200  
 MOUNTAIN VIEW, FLORIDA 32081-0200  
 3 DOCKLICK ROAD, SUITE 100  
 SAVANNAH, GA 31408-2255-5900

CITY OF ISLE OF PALMS  
 South Carolina

STUDY OF WASTEWATER ALTERNATIVES FOR THE CITY OF ISLE OF PALMS  
 CHARLESTON COUNTY SOUTH CAROLINA  
 SEWER FACILITY MAP

JOB NO. J-6953  
 DATE, OCT. 1990  
 DRAWN BY R. SINGLETARY  
 CHECKED BY M. YODICE  
 SCALE: 1" = 100'  
 SHEET NO. 4 OF 15  
 TAX MAP NO. 568-10-0



568-10-0 (5)

568-9-0 (3)



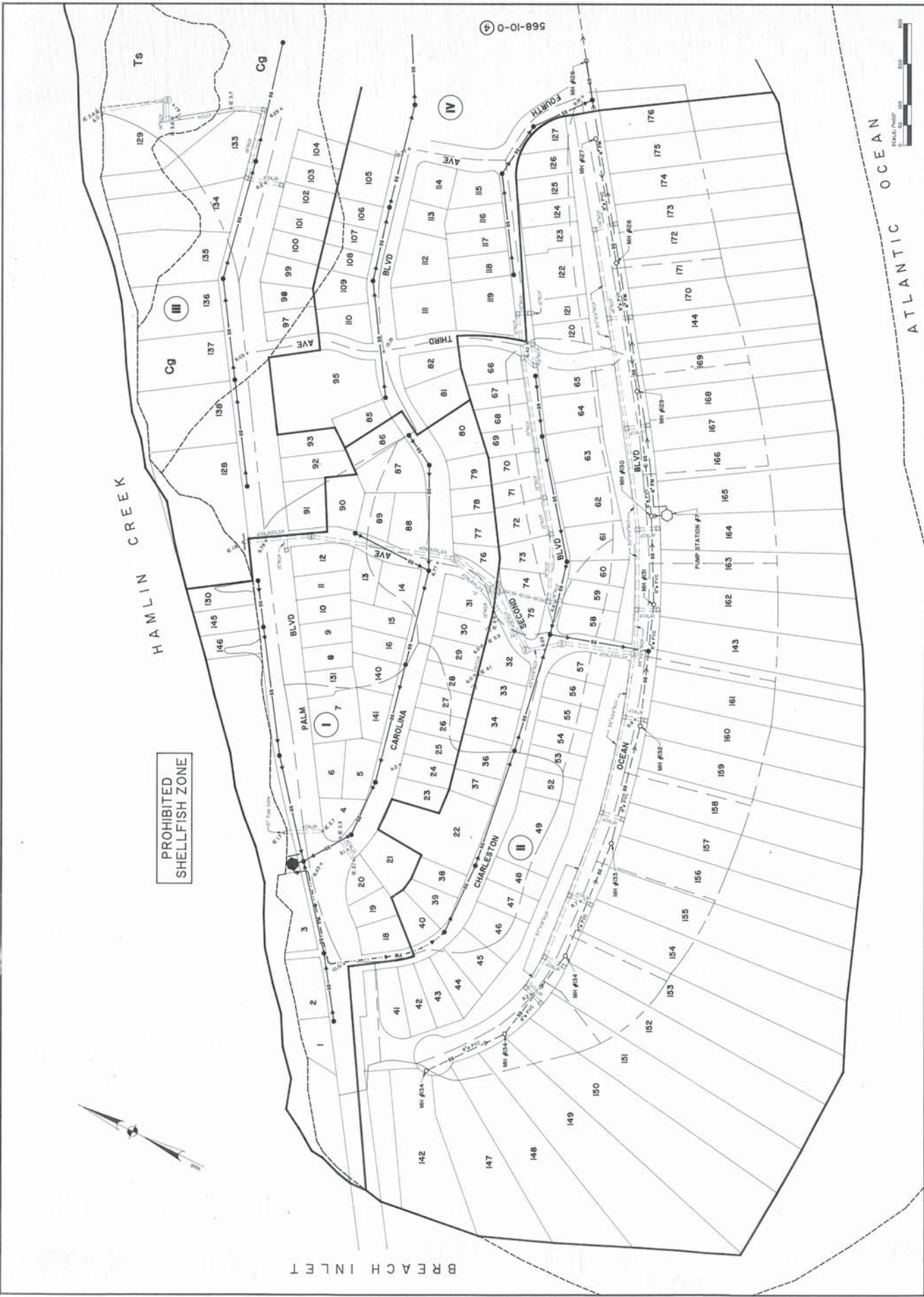
NO.	REVISIONS	BY	DATE

THOMAS B HUTTON ENGINEERING CO.  
 710 WEST COLUMBIA BOULEVARD  
 MOUNT PLEASANT S.C. 29464 (803)449-0200  
 3 OILTOWER PROFESSIONAL BLDG.  
 SAVANNAH, GA. 31401 (912)375-2500



**STUDY OF WASTEWATER ALTERNATIVES FOR THE CITY OF ISLE OF PALMS**  
 CHARLESTON COUNTY SOUTH CAROLINA  
**SEWER FACILITY MAP**

JOB NO. J-6953  
 DATE: OCT. 1990  
 DRAWN: R. SINGLETARY  
 CHECKED: M. YODICE  
 SCALE: 1" = 100'  
 SHEET NO. 3 OF 15  
 TAX MAP NO.  
**568-9-0**



ATLANTIC OCEAN

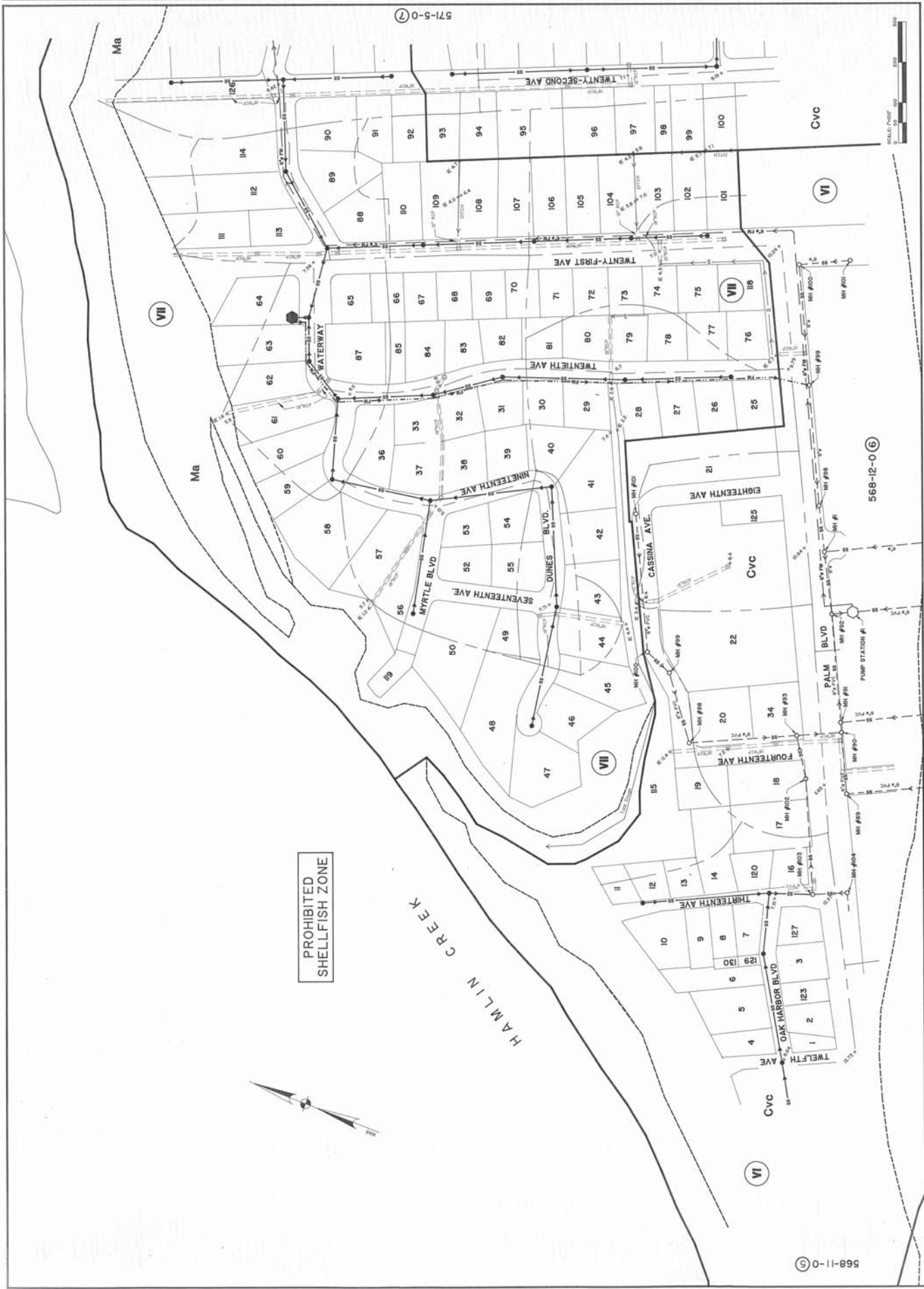
NO.	REVISIONS	BY	DATE

THOMAS & HUTTON ENGINEERING CO.  
 770 WEST COLLEMAN BOULEVARD  
 MOUNT PLEASANT, S.C. 29564 (803) 649-0200  
 A REGISTERED PROFESSIONAL ENGINEER  
 SAVANNAH, GA. STATE LICENSE #3500

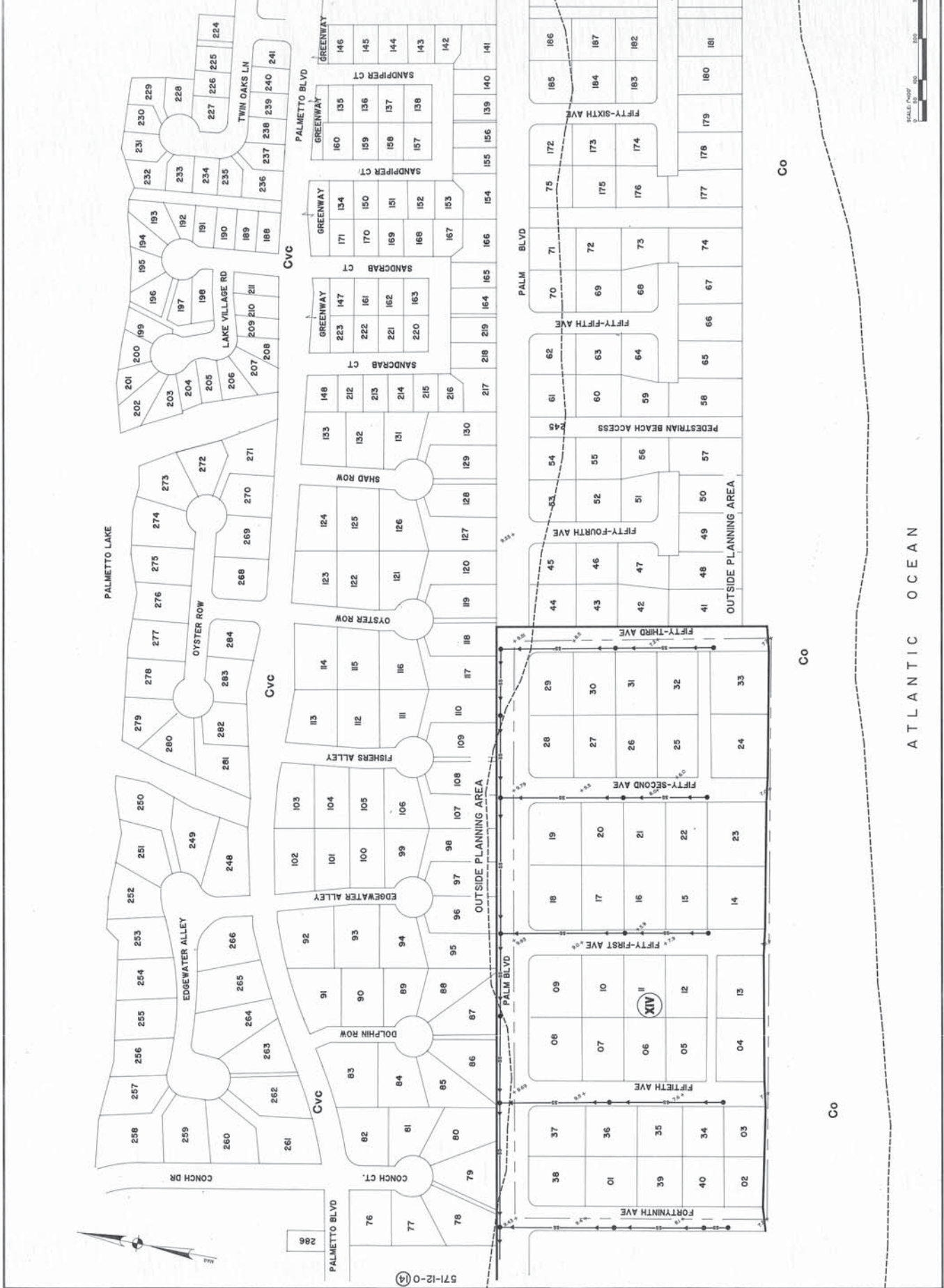
CITY OF ISLE OF PALMS  
 South Carolina

**STUDY OF WASTEWATER ALTERNATIVES FOR THE CITY OF ISLE OF PALMS**  
 CHARLESTON COUNTY SOUTH CAROLINA  
**SEWER FACILITY MAP**

JOB NO. J-6953  
 DATE: SEPT. 1990  
 DRAWN: E. SINGLETARY  
 CHECKED: M. YODICE  
 SCALE: 1" = 100'  
 SHEET NO. 2 OF 15  
 TAX MAP NO. 568-8-0



568-11-0 (5)



604-10-0

571-12-0 (14)

NO.	REVISION	BY DATE

THOMAS & HUTTON ENGINEERING CO.  
 870 WEST COLLEMAN BOULEVARD  
 MOUNT PLEASANT, S.C. 29528-4000  
 3 REGISTERED PROFESSIONAL ENGINEERS  
 BAYWASH, PA. 00225-0300

CITY OF ISLE OF PALMS  
 SOUTH CAROLINA



STUDY OF WASTEWATER ALTERNATIVES FOR THE CITY OF ISLE OF PALMS  
 CHARLESTON COUNTY SOUTH CAROLINA  
 SEWER FACILITY MAP

JOB NO. J-6983  
 DATE: OCT. 1990  
 DRAWN: R. SINGLETARY  
 CHECKED: M. YODICE  
 SCALE: 1" = 100'  
 SHEET NO. 15 OF 15  
 PLAN MAP NO. 804-9-0



ATLANTIC OCEAN

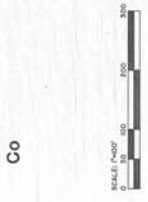
NO.	REVISIONS	BY DATE

THOMAS & HUTTON ENGINEERING CO.  
 270 WEST COLUMBIA BOULEVARD  
 MOUNT PLEASANT, S.C. 29526 (803)448-0200  
 3 GOLFTHORPE PROFESSIONAL, P.A., P.C.  
 3000 W. 10TH STREET, SUITE 200  
 CHARLESTON, S.C. 29405 (803)733-3500

CITY OF ISLE OF PALMS  
 SOUTH CAROLINA

STUDY OF WASTEWATER ALTERNATIVES FOR THE CITY OF ISLE OF PALMS  
 CHARLESTON COUNTY, SOUTH CAROLINA  
 SEWER FACILITY MAP

JOB NO. J-6993  
 DATE: OCT. 1990  
 DRAWN BY: R. SINGLETARY  
 CHECKED BY: M. YODICE  
 SCALE: 1" = 100'  
 SHEET NO. 14 OF 15  
 TAX MAP NO. 571-12-0



ATLANTIC OCEAN

571-8-0 (10)

571-11-0 (13)

XIII

XIV

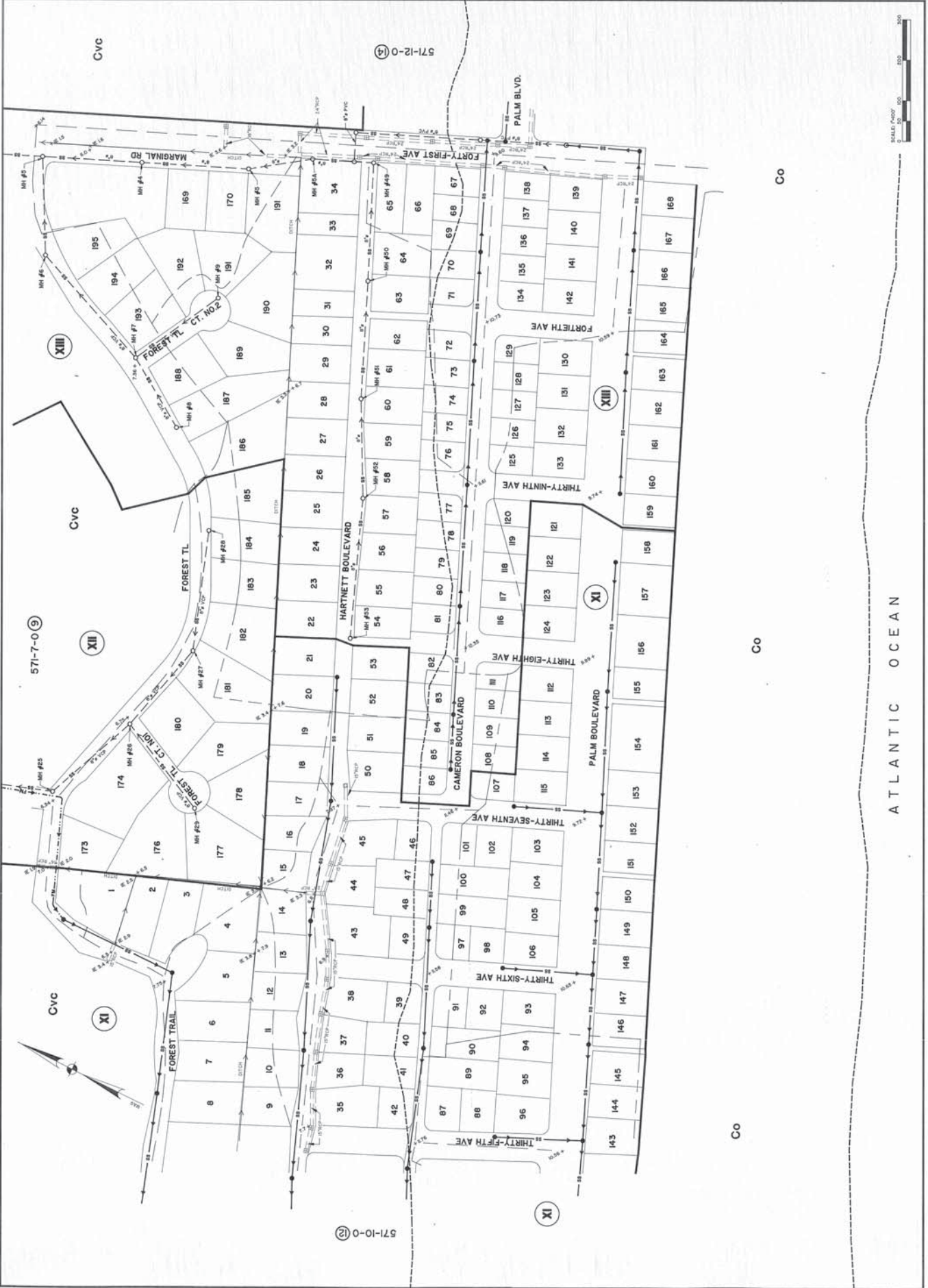
NO.	REVISIONS	BY DATE

THOMAS & HUTTON ENGINEERING CO.  
 270 WEST COLMAN BOULEVARD  
 MOUNT PLEASANT, S.C. 29464 (803) 449-0200  
 3 OLETHORPE PROFESSIONAL, B.V.  
 BAYWATER, GA. 30109 (770) 255-5500



**STUDY OF WASTEWATER ALTERNATIVES FOR THE CITY OF ISLE OF PALMS**  
 CHARLESTON COUNTY  
**SEWER FACILITY MAP**

JOB NO. J-6983  
 DATE: OCT. 1990  
 DRAWN: R. SINGLETARY  
 CHECKED: M. YODICE  
 SCALE: 1" = 100'  
 SHEET NO. 13 OF 15  
 PAX MAP NO. 571-11-0



ATLANTIC OCEAN

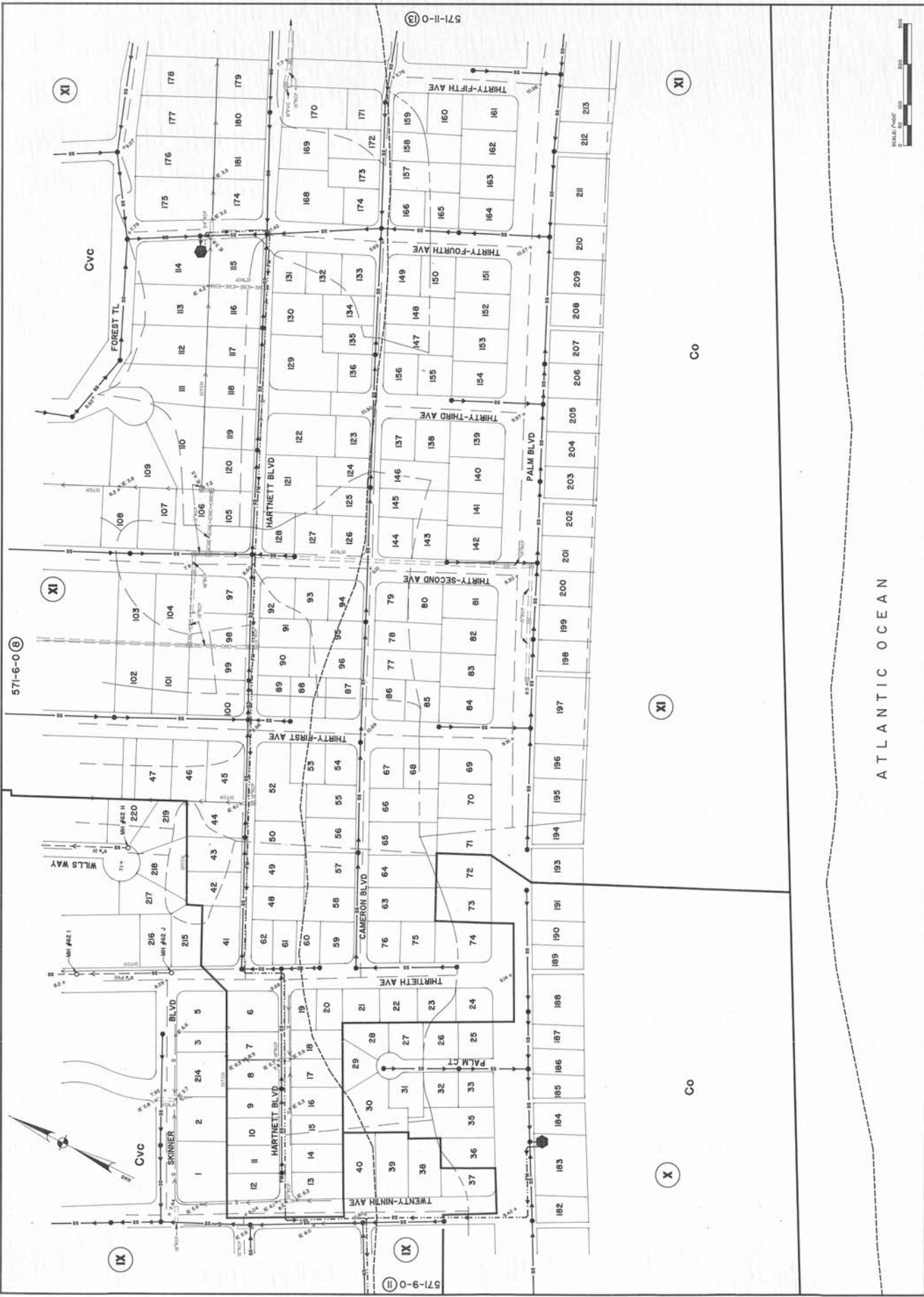
NO.	REVISIONS	BY	DATE

THOMAS & HUTTON ENGINEERING CO.  
 720 WEST CLEMENS BOULEVARD  
 MOUNT PLEASANT, S.C. 29544 (803) 649-0200  
 3 BULLOCK DRIVE PROFESSIONAL BLDG.  
 SAVANNAH, GA 31406 (903) 235-0200



**STUDY OF WASTEWATER ALTERNATIVES FOR THE CITY OF ISLE OF PALMS**  
 CHARLESTON COUNTY SOUTH CAROLINA  
**SEWER FACILITY MAP**

JOB NO. J-6953  
 DATE: OCT. 1990  
 DRAWN BY: R. SINGLEARY  
 CHECKED BY: M. YODICE  
 SCALE: 1" = 100'  
 SHEET NO. 12 OF 15  
 TAX MAP NO.  
**571-10-0**



ATLANTIC OCEAN



NO.	REVISIONS	BY	DATE

THOMAS & HUTTON ENGINEERING CO.  
 210 WEST COLLEMAN BOULEVARD  
 MOUNT PLEASANT, S.C. 29526 (903)448-0200  
 3 OCEANVIEW PROFESSIONAL, B.V.P.  
 BAYWATER, GA. 31506 (903)253-5100

CITY OF ISLE OF PALMS  
 South Carolina


STUDY OF WASTEWATER ALTERNATIVES FOR THE CITY OF ISLE OF PALMS  
 CHARLESTON COUNTY SOUTH CAROLINA  
 SEWER FACILITY MAP

JOB NO. J-6953  
 DATE: SEPT. 1990  
 DRAWN: R. SINGLETARY  
 CHECKED: M. YODICE  
 SCALE: 1" = 100'  
 SHEET NO. 8 OF 15  
 TAX MAP NO. 571-9-0

ATLANTIC OCEAN



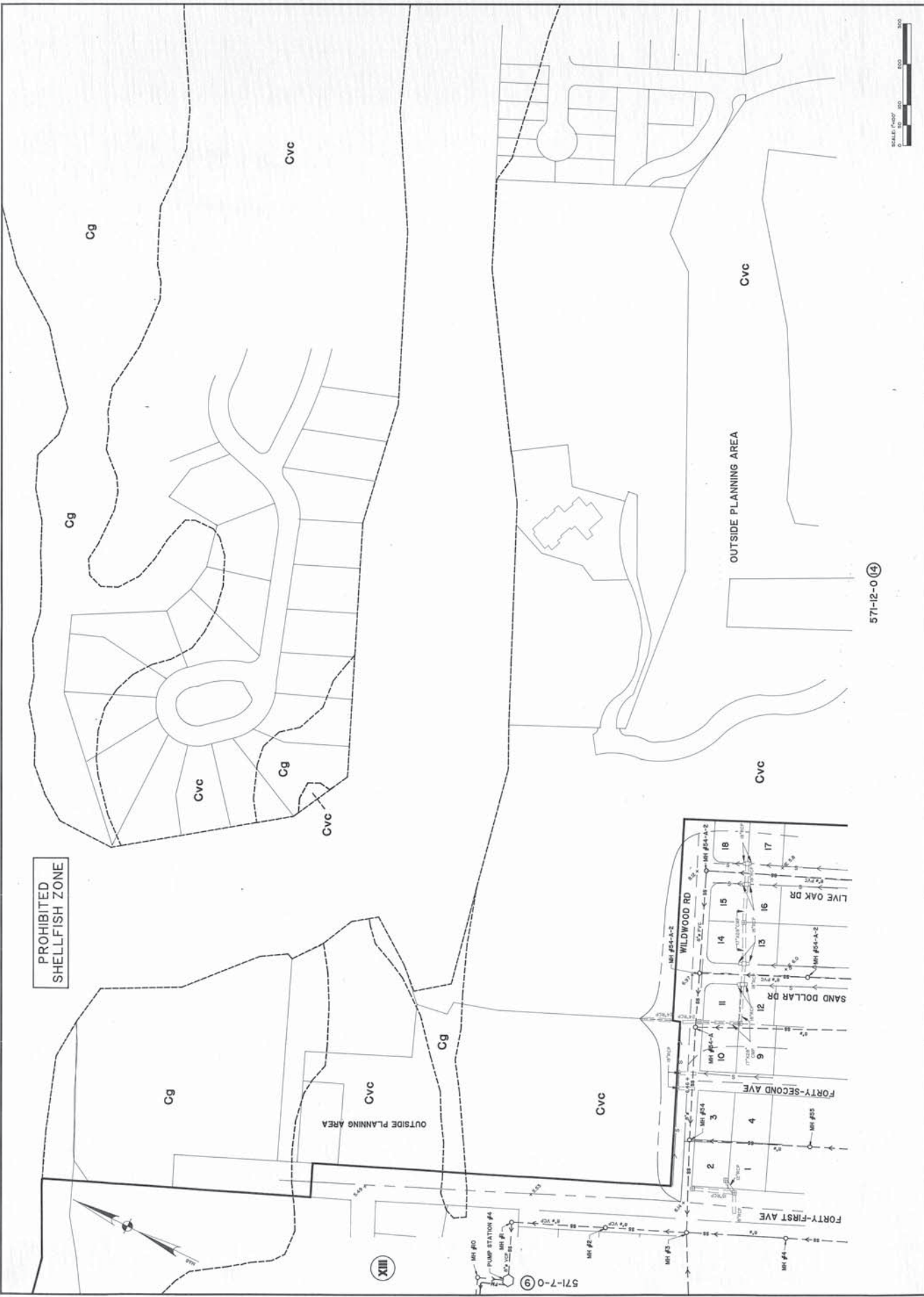
NO.	REVISIONS	BY	DATE


**THOMAS & HUTTON ENGINEERING CO.**  
 270 WEST COLLEMAN BOULEVARD  
 MOUNT PLEASANT, S.C. 29566 (803)244-0200  
 A REGISTERED PROFESSIONAL ENGINEER  
 SAVANNAH, GA. STATE LICENSE 5300

CITY OF  
**ISLE OF PALMS**  
 South Carolina

**STUDY OF WASTEWATER ALTERNATIVES**  
 FOR THE CITY OF ISLE OF PALMS  
 CHARLESTON COUNTY SOUTH CAROLINA  
**SEWER FACILITY MAP**

JOB NO. J-6953  
 DATE: OCT. 1990  
 DRAWN: R. SINGLEARY  
 CHECKED: M. YODICE  
 SCALE: 1" = 100'  
 SHEET NO. 10 OF 15  
 TAX MAP NO.  
**571-8-0**



571-12-0(14)





**COMMISSIONERS**

DIANN FILL  
CURTIS R. HELFRICH, PE  
JAY D. LEIGH  
DANA W. LOVE, JR, PE  
NICHOLAS J. STROUD



**GENERAL MANAGER**

KRISTEN J. CHAMPAGNE, PE

**SPECIAL PROJECTS ADMINISTRATOR**

WILLIAM P. JENKINS

**COMPTROLLER**

LYNNE T. STONESIFER, CPA

May 23, 2016

Mr. Rick Ferencz, Chairman  
Isle of Palms Planning Commission  
Post Office Drawer 508  
Isle of Palms, South Carolina 29451

Dear Chairman Ferencz,

This letter is in response to yours dated May 13, 2016, requesting assistance from the Isle of Palms Water and Sewer Commission (IOPWSC) in regards to providing sewer to all properties on the Isle of Palms. As you may be aware, the IOPWSC has a master plan and associated cost estimate from 2001 to provide sewer service to the remainder of the island. The estimate was informally updated recently to provide the Commissioners and other interested parties an idea as to the cost of such an endeavor.

As plans, albeit outdated, and a preliminary cost estimate already exist, the primary consideration is a financial one. There are many sources of financing available to the Commission, but all funding sources would require an ordinance from the City requiring participation from, at a minimum, all individuals that would be adjacent to the infrastructure as it is placed into operation. Without this, the lender would have no guarantee of repayment and it is unlikely they would consider financing the construction. This ordinance would need to be passed by the City. The technical and operational side of proceeding with the project can be managed by the current IOPWSC staff.

Phasing of the project will be determined by engineering design requirements, environmental need, as well as public demand. The preliminary cost estimate is \$52,164,100, which equates to approximately \$16,228 for new customers and \$4,964 for Wild Dunes customers. This cost does not include abandoning existing septic systems and grinder pumps, plumbing cost and fees all which are determined by site conditions and structure size. If the cost was divided evenly among all properties it would be approximately \$10,615 per parcel. Additional staffing and operational costs which may impact rates are also not considered in this estimate.

In regards to the Commission requesting items in writing, as I understand it, the IOPWSC staff was being approached by multiple members of the City in various capacities on the same topic. The Commission's request to the City to provide questions in writing was to have a single point of contact and be prepared for any and all requests in advance of scheduled City meetings. As some of the City's questions require research, the IOPWSC staff needs adequate time to prepare responses to these questions prior to attending the meetings.

If the City chooses to proceed with requiring all residents to connect to the sewer system as the infrastructure becomes available, the IOPWSC is willing and able to proceed with researching the best funding options, updating the construction plans, and moving forward with the required steps to provide sewer service to the remainder of the Isle of Palms. I hope that this answers your questions. If you would like to schedule a meeting, please let me know your availability.

Best Regards,

*Nicholas Stroud / KJC*

Nicholas Stroud, Chairman  
Isle of Palms Water and Sewer Commission

**EXHIBIT C**



# Non-Point Source Pollution Assessment Project for Waters Around the Isle of Palms, South Carolina

Linda Lovvorn Tucker  
City Administrator  
City of Isle of Palms  
Isle of Palms, South Carolina

Ross Nelson  
Environmental Scientist  
General Engineering & Environmental, LLC  
Charleston, South Carolina

# Isle of Palms, South Carolina



GENERAL ENGINEERING & ENVIRONMENTAL, LLC

City of Isle of Palms, South Carolina

A background image showing a single water droplet falling into a pool of water, creating concentric ripples that spread outwards. The water is a deep blue color, and the ripples are lighter blue, creating a sense of depth and movement.

# Background

- Population of approximately 5,000 (approx. 20,000 during peak tourist season)
- 303(d) list for fecal coliform contamination
- Numerous shellfish bed closures
- Limited resources
- Historical data

# Island Hydrology



# Stormwater Discharge



# Potential Sources







# Historical Data

- **Isle of Palms Water and Sewer Commission**
- **SCDHEC**
  - Shellfish Sanitation Section
  - Trident EQC
- **East Cooper Clean Water Council**
- **National Ocean Service**

A background image showing a single water droplet falling into a pool of water, creating concentric ripples that spread outwards. The water is a deep blue color, and the ripples are lighter blue, creating a sense of depth and movement.

# Methodology

- **Phase I Monitoring Program**
  - Baseline data
  - Systematic sampling design
- **Phase II Monitoring Program**
  - Pinpoint problem areas
  - Ribotyping
  - Summer vs. Winter Conditions

# Monitoring Locations



# Monitoring



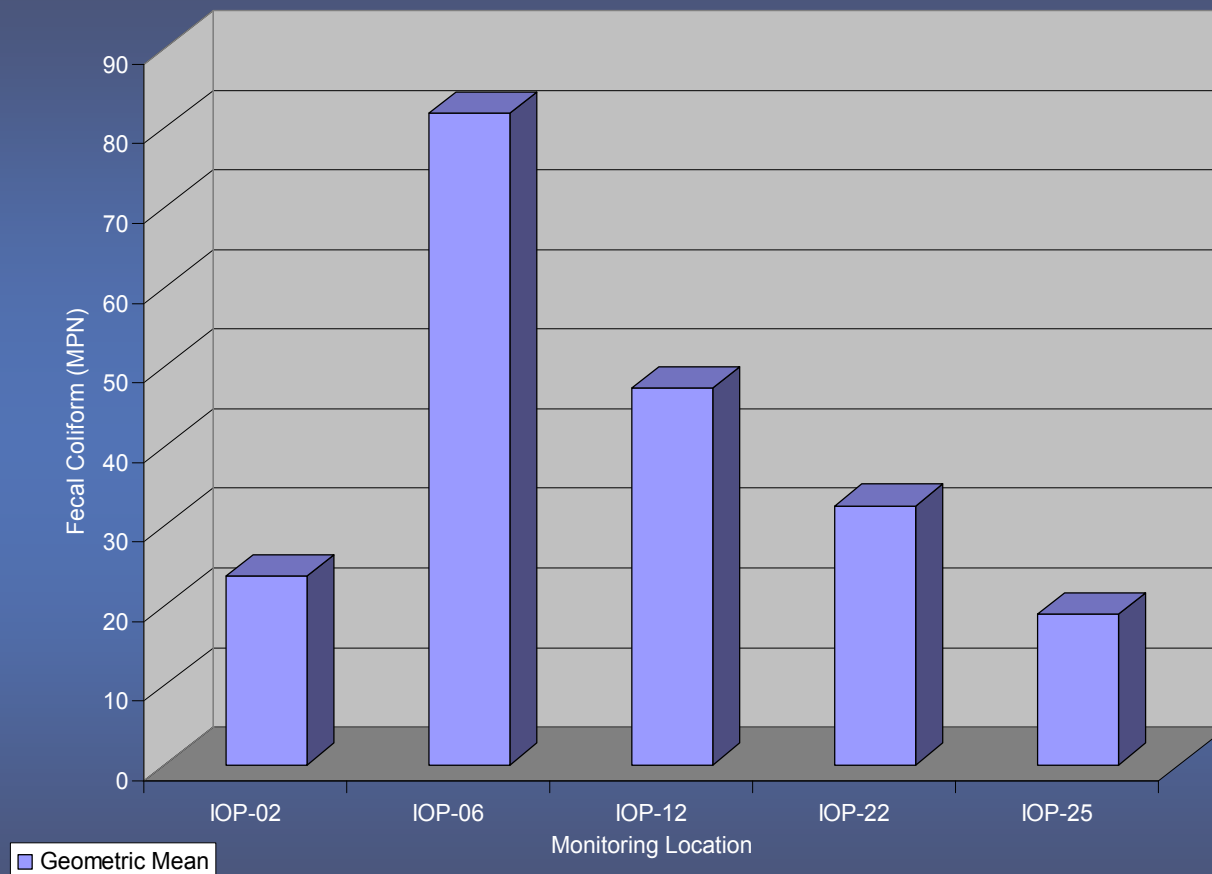


# Phase I Monitoring Program

- **January 2002 to January 2003**
- **Bi-weekly sampling**
- **Inland and open-water locations**
- **Parameters**
  - **Fecal coliform**
  - **TKN, NOx, Ammonia, Phosphorous**
  - **Field parameters**

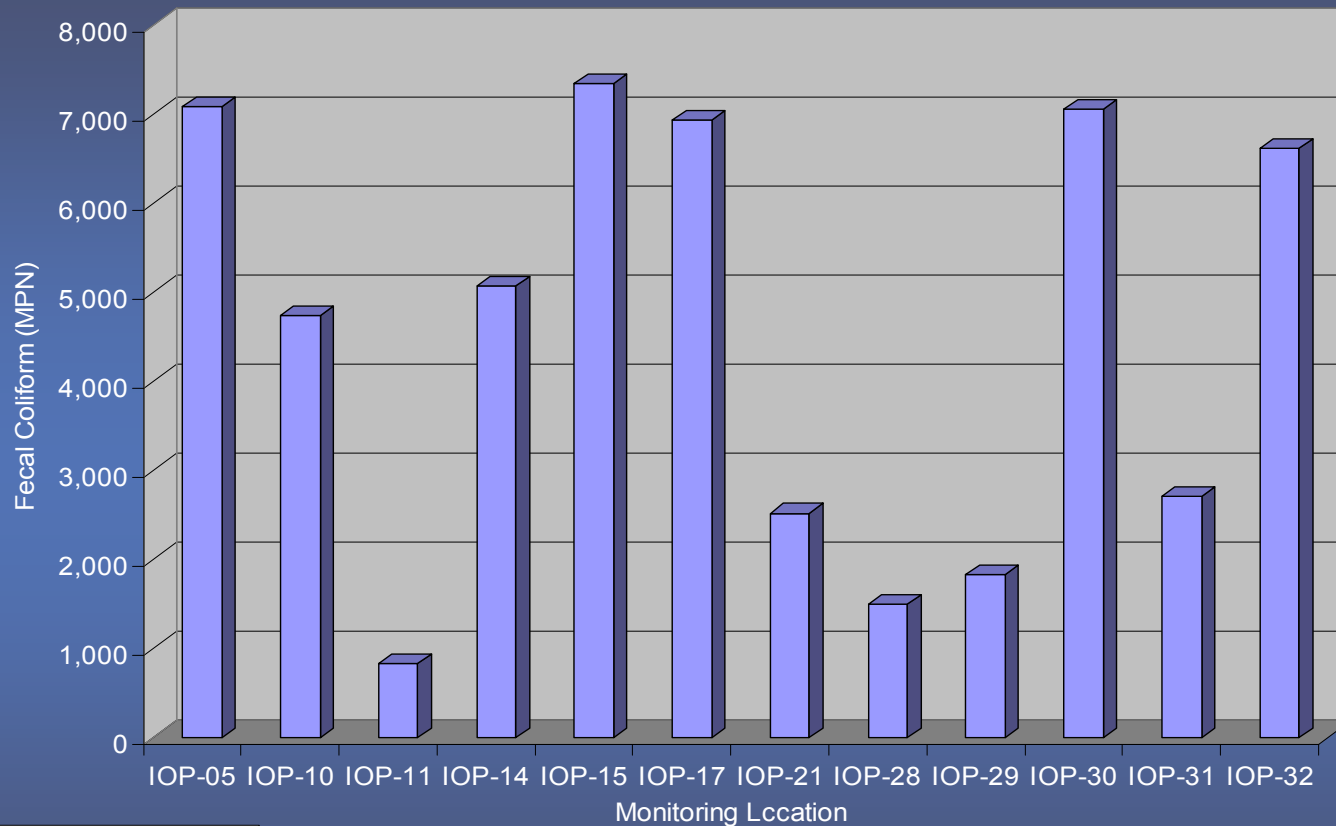
# Phase I Results

Geometric Mean for Open-Water Monitoring Locations



# Phase I Results

## Geometric Mean for Inland Monitoring Locations



■ Geometric Mean



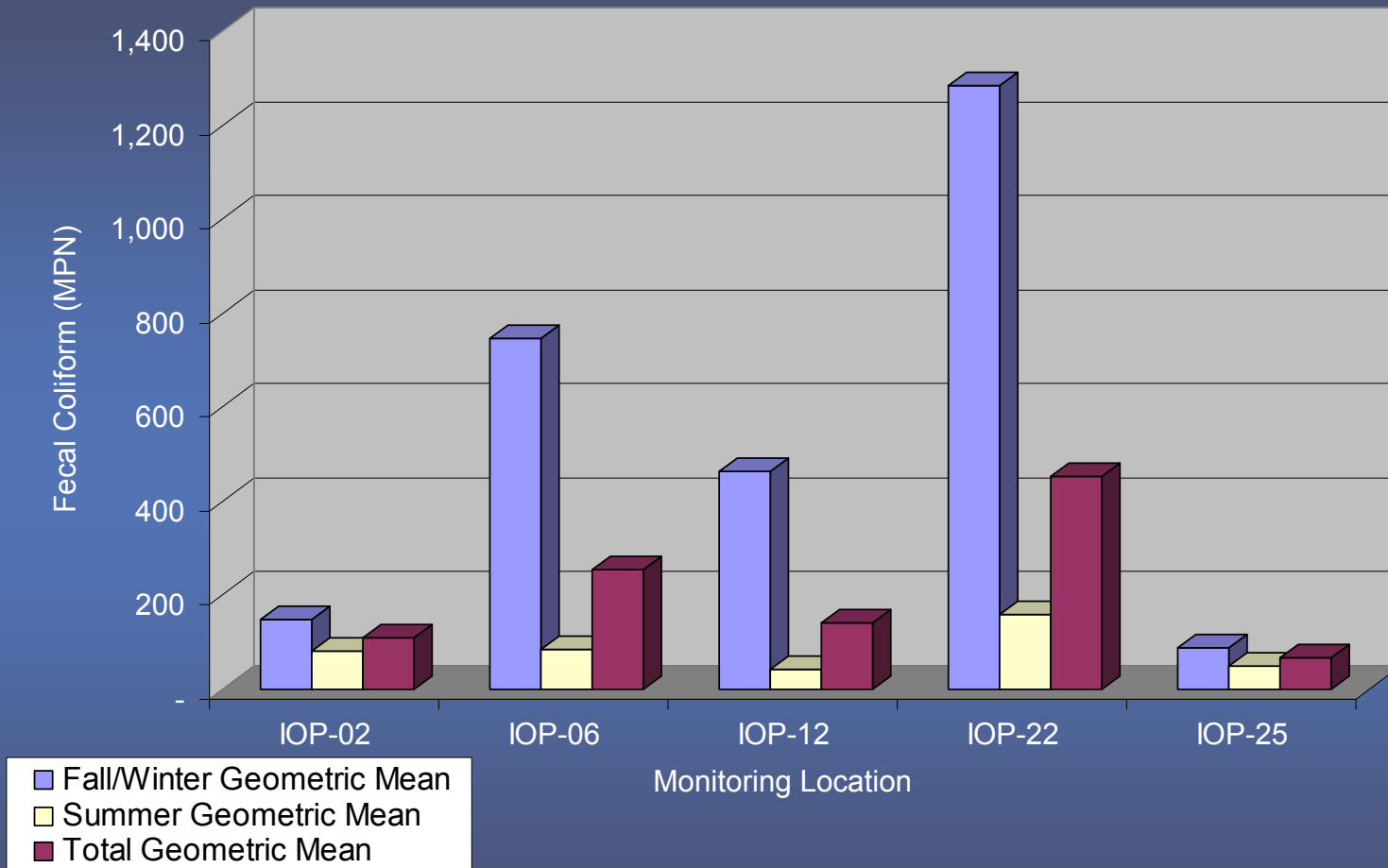
## Phase II Monitoring Program

- **Two Sections - 5 events each**
  - November 2002 to February 2003
  - July 2003 to September 2003
- **‘Worst case’ events (Rain, ebb tide)**
- **Inland and open-water locations**
- **Ditch sub-sections**
- **Parameters**
  - Fecal coliform/Ribotyping
  - Field Parameters



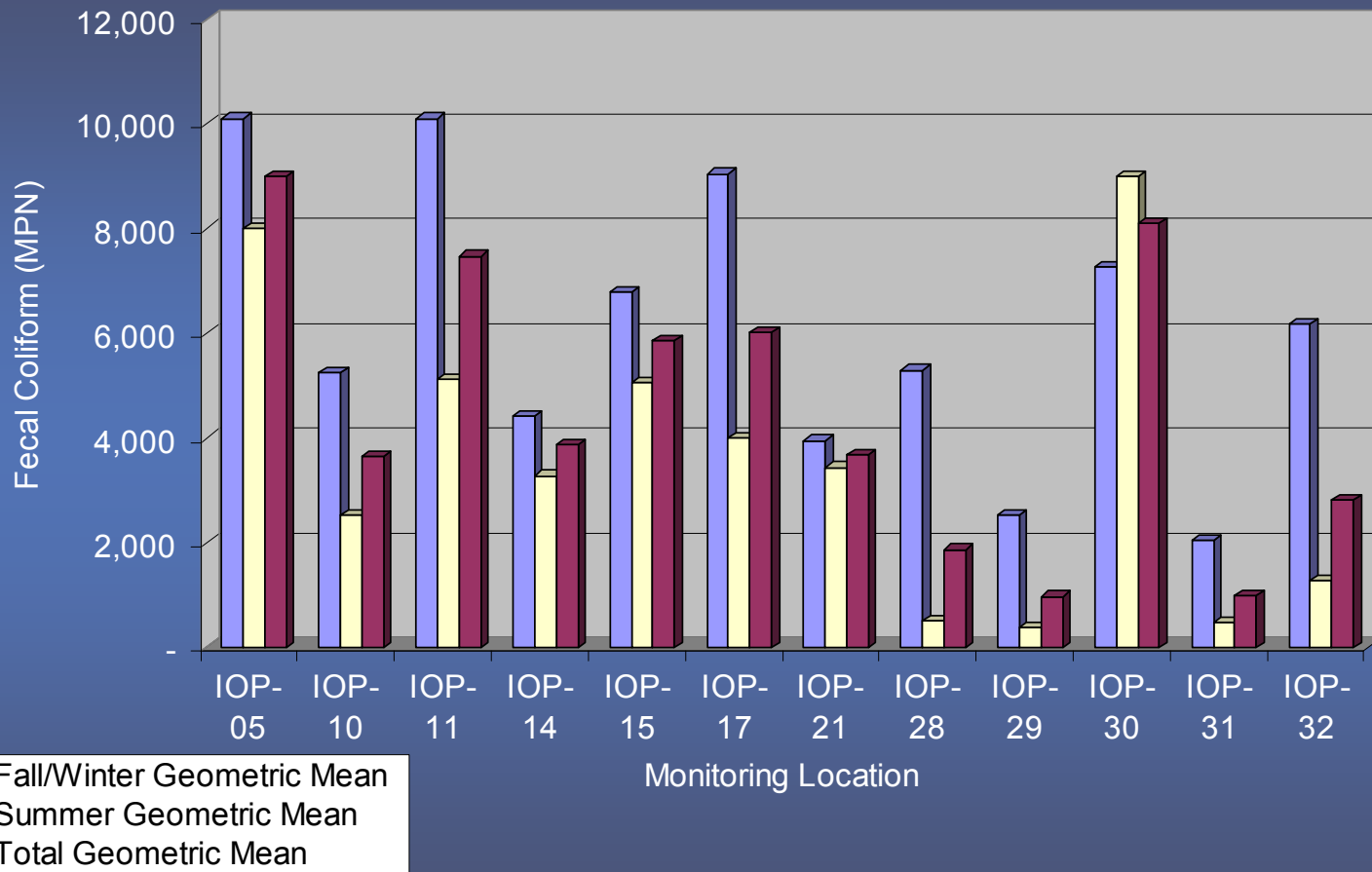
# Phase II Results

## Geometric Mean for Open-Water Monitoring Locations



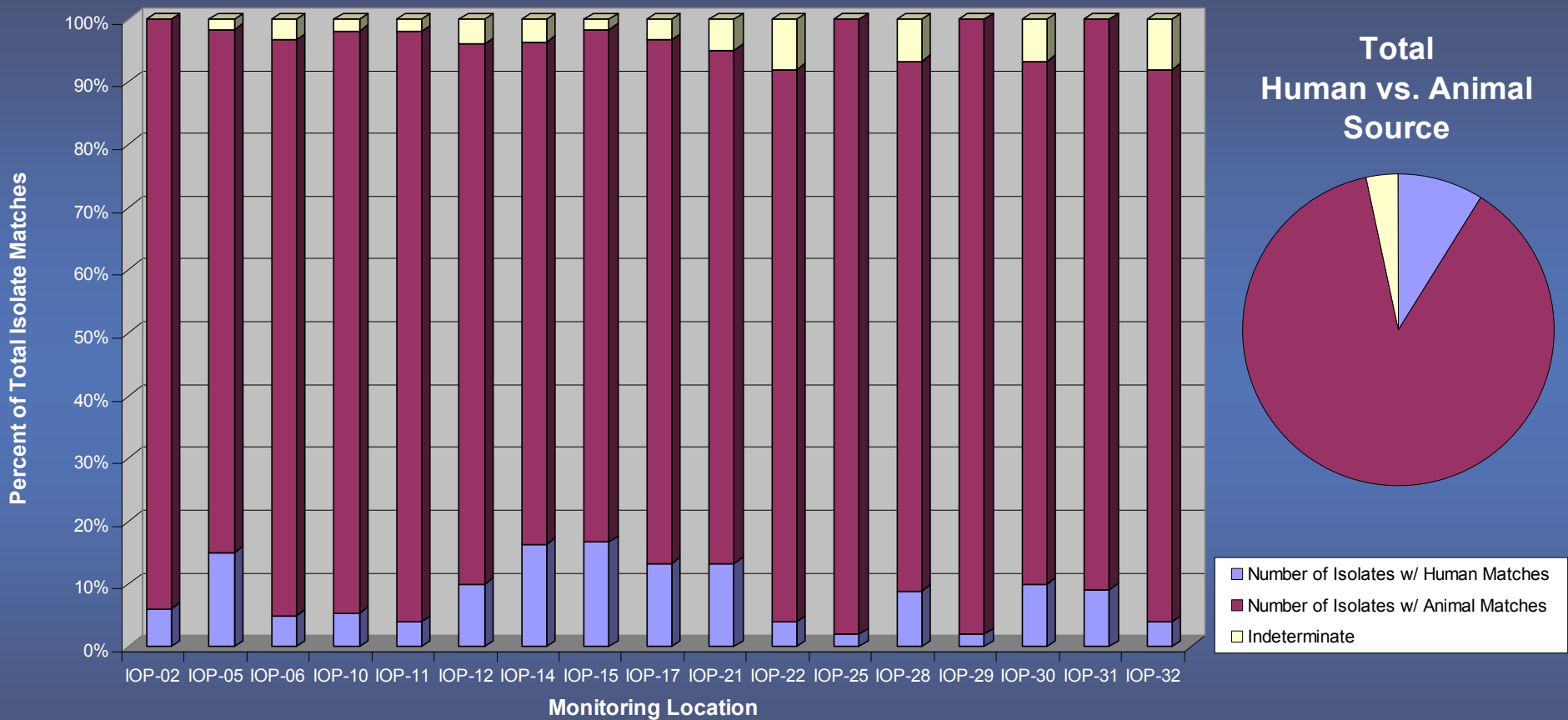
# Phase II Results

## Geometric Mean for Inland Monitoring Locations



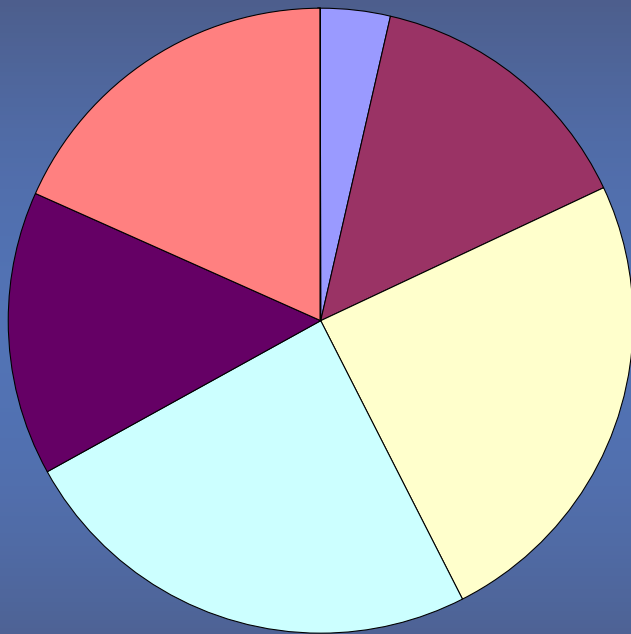
# Phase II Results

## Human vs. Animal Source for Each Monitoring Location

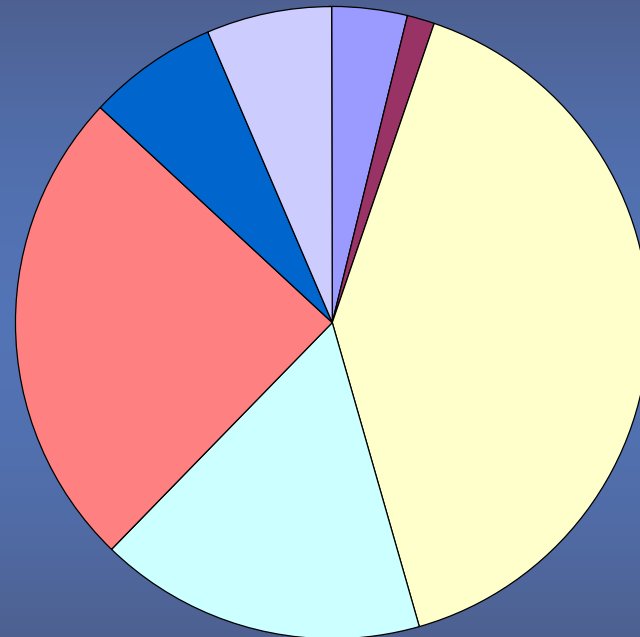


# Scat Comparison Samples

Multiple Matches



Unique Matches



- Bird
- Cat
- Deer
- Dog
- Squirrel
- Raccoon
- Pelican
- Seagull

# SOURCES!!!???



GENERAL ENGINEERING & ENVIRONMENTAL, LLC

City of Isle of Palms, South Carolina

A background image showing a single water droplet falling into a pool of water, creating concentric ripples that spread outwards. The water is a deep blue color, and the ripples are lighter blue, creating a sense of depth and movement.

# Recommendations

- **Public education**
- **Deter wild animal populations**
- **Vegetated buffers**
- **Alternative stormwater treatment**
- **Clean-up of existing ditches**
- **Inspection of septic systems and sewer lines**

# Participating Organizations



**GENERAL ENGINEERING & ENVIRONMENTAL, LLC**

**GEL** a Member of  
**THE GEL GROUP, INC.**



**S.C. SEA GRANT  
EXTENSION  
PROGRAM**



GENERAL ENGINEERING & ENVIRONMENTAL, LLC

City of Isle of Palms, South Carolina

# EXHIBIT E

## ORDINANCE 1999-25

AN ORDINANCE ESTABLISHING A PROGRAM AND PRESCRIBING REGULATIONS REGARDING THE USE AND MAINTENANCE OF SEPTIC TANKS OR OTHER ON-SITE SEWAGE DISPOSAL SYSTEMS AND TO ESTABLISH PROCEDURES FOR THE ENFORCEMENT THEREOF.

BE IT ORDAINED AND ENACTED BY THE MAYOR AND COUNCIL MEMBERS OF THE CITY OF ISLE OF PALMS, SOUTH CAROLINA, IN CITY COUNCIL ASSEMBLED:

### SECTION 1. Findings.

It is hereby found and declared by the City Council of the City of Isle of Palms ("City Council") as follows:

1. That poorly operating or inadequate septic tank systems or other on-site sewage disposal systems (hereinafter "OSDS") within the corporate limits of the City are contributing to the degradation of water quality on and around the City.
2. That the City desires to encourage community stewardship of the natural resources and water quality intrinsic to the quality of life on the Isle of Palms by providing incentives for property owners to maintain their OSDS.
3. That poor water quality is harmful to the health, safety and welfare of the City's residents, its tourists and the surrounding environment and if left unchecked, will likely cause serious and irreparable social, environmental and economic harm to the City.
4. That the City's Comprehensive Plan, Natural Resources Goal 3, Strategy 3.3 recommends that the City "Develop a plan to insure that septic systems work properly, especially septic systems in areas where water quality monitoring programs indicate pollution levels beyond state standards, or functional problems with specific septic systems are identified".
5. That South Carolina Code Section 5-31-2030 confirms the power of the City to prescribe and enforce regulations regarding the discharge of sewage, including the use of OSDS.
6. That immediate action is required by the City to enhance water quality and protect public health by regulating discharge of sewage and the use of OSDS.

SECTION 2. That Title 6, Chapter 1 is hereby amended to add the following Article D:

### "ARTICLE D

### Regulation of On-Site Sewage Disposal Systems



Sec. 6-1-40 Definitions. For purposes of this Article, the following words and terms shall have the following definitions:

(a) OSDS. Any septic tank system or other on-site sewage disposal system.

(b) Inspector. A person appointed by City Council to conduct OSDS inspections as provided in this Article.

(c) Good Operating Condition. An OSDS which: functions in a sanitary manner; prohibits the discharge of untreated or partially untreated wastewater onto ground surface, into surface water, or into groundwater; and allows building plumbing to discharge properly.

(d) Owner. Any person or entity owning any legal interest in a lot containing a OSDS.

Sec. 6-1-41 New Installations. Any new or replacement OSDS installed within the City shall be required to include an access manhole built into the lid over each compartment of the tank, and over the outlet end of the septic tank. An appropriate mechanism shall be provided to make the access manholes vandal, tamper, and child resistant.

Sec. 6-1-42 Registration. Within thirty (30) days from the installation of a new or replacement OSDS on a lot, the Owner of the lot shall register the system with the City. The registration shall consist of supplying the City with a copy of the DHEC issued permit for installation of the OSDS and the full legal name and current mailing address of each Owner of the property. There shall be no fee charged for registration.

Sec. 6-1-43 Inspections and Pump-outs.

(a) The City hereby establishes a one year voluntary pilot program to encourage Owners to have their OSDS inspected and pumped out during the one year period commencing on March 1, 2000. The City shall provide this service to an Owner once during the program period upon the request of the Owner. The Inspector shall provide the Owner with a copy of a written report containing the results of the inspection. There shall be no fee charged to the Owner for the inspection or pump-out service offered by the City. Participation in this program by the Owner is voluntary.

(b) In addition to any other inspection provided for under this Article, prior to the sale of any ownership interest in a lot containing an OSDS, the seller of the interest shall provide the buyer, at or before the transfer of the interest, with a written inspection report of the system prepared by the Inspector and dated within 60 days prior to the transfer of the interest. There shall be no fee charged to the Owner for the report. Compliance with this provision is mandatory and shall continue beyond the expiration of the voluntary pilot program.

(c) The City will develop an information program to inform Owners and the general public of the pilot program and the requirement of an inspection prior to the sale of an

ownership interest in a lot. The voluntary program shall be targeted at those areas where water quality monitoring programs indicate bacteria problems or where functional problems with OSDS are identified. This program shall also contain information regarding OSDS inspection ports and the advantages of their use, and OSDS operation and maintenance.

(d) The City will develop a composite list of all lots served by OSDS. The City shall maintain a record of inspections and pumpouts conducted at each lot and within three months prior to the expiration of the voluntary pilot program, shall notify at least one Owner of the lot if the lot has not received an OSDS inspection.

(e) At the end of the one year pilot program, the City shall evaluate the merits of the program and determine the advisability of implementing a long-term program.

Sec. 6-1-44 Violations; Penalties. A violation of this Article is a misdemeanor punishable pursuant to Section 1-3-66 of this code. Each day that a violation continues shall constitute a separate offense."

SECTION 3. That should any part of this Ordinance be held invalid by a court of competent jurisdiction, the remaining parts shall be severable therefrom and shall continue to be in full force and effect.

SECTION 4. That all Ordinances or parts of Ordinances conflicting with the provisions of this Ordinance are hereby repealed insofar as the same affect this Ordinance.

SECTION 5. That this Ordinance take effect and be in full force as of March 1, 2000.

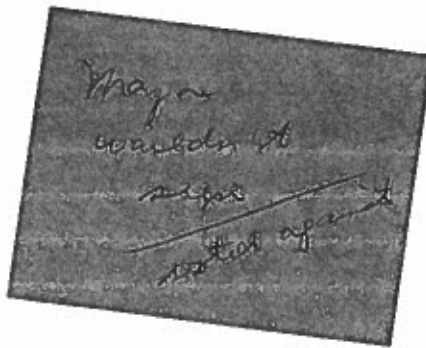
PASSED AND APPROVED BY THE CITY COUNCIL FOR THE CITY OF ISLE OF PALMS, SOUTH CAROLINA ON THE 23rd DAY OF November, 1999.

\_\_\_\_\_  
Carmen R. Bunch, Mayor

(Seal)

Attest:

Janet G. Mauldin  
Janet G. Mauldin, City Clerk



First Reading: 8/24/99  
Public Hearing: 9/20/99  
Second Reading: 10/23/99  
Ratification: 10/23/99

ORDINANCE 2000-\_\_\_

AN ORDINANCE AMENDING TITLE 6, ARTICLE D, OF THE CITY OF ISLE OF PALMS CODE OF ORDINANCES REGARDING REGULATION OF ON-SITE SEWAGE DISPOSAL SYSTEMS.

BE IT ORDAINED AND ENACTED BY THE MAYOR AND COUNCIL MEMBERS OF THE CITY OF ISLE OF PALMS, SOUTH CAROLINA, IN CITY COUNCIL ASSEMBLED:

SECTION 1. That Section 6-1-40 is hereby amended to read as follows:

"Sec. 6-1-40 Definitions. For purposes of this Article, the following words and terms shall have the following definitions:

(a) OSDS. Any septic tank system or other on-site sewage disposal system.

(b) Inspector. Any person licensed by S.C.D.H.E.C. to install, repair, service, monitor, or inspect an OSDS.

(c) Good Operating Condition. An OSDS which: functions in a sanitary manner; prohibits the discharge of untreated or partially untreated wastewater onto ground surface, into surface water, or into groundwater; and allows building plumbing to discharge properly.

(d) Owner. Any person or entity owning any legal interest in a lot containing a OSDS."

SECTION 2. That Section 6-1-42 is hereby repealed in its entirety.

SECTION 3. That Section 6-1-43 is hereby amended to read as follows: ↓

"Sec. 6-1-43 Inspections Prior to Sale of Real Estate Interest.

(a) Prior to the sale of any ownership interest in a lot containing an OSDS, the seller of the interest shall provide the buyer with a written inspection report of the system prepared by an Inspector, which report shall include whether the system is in good operating condition. The cost of the report shall be the responsibility of the seller. A copy of the report shall be filed with the City by the Inspector upon completion of the report. The inspection shall be performed no earlier than sixty (60) days prior to the transfer of the interest.

(b) The City will develop an information program to inform Owners of the requirement of an inspection prior to the sale of an ownership interest in a lot. This program shall also contain information regarding the importance of properly operating OSDS systems and the advantages of the use of OSDS inspection ports.

(c) The City will develop a composite list of all lots served by OSDS for its use in

OR THE BUYER  
THE CITY WILL NOT  
BE RESPONSIBLE  
FOR THESE COSTS

identifying possible contributing sources of water quality degradation in and around the City.”

SECTION 4. That should any part of this Ordinance be held invalid by a court of competent jurisdiction, the remaining parts shall be severable therefrom and shall continue to be in full force and effect.

SECTION 5. That all Ordinances or parts of Ordinances conflicting with the provisions of this Ordinance are hereby repealed insofar as the same affect this Ordinance.

SECTION 6. That this Ordinance take effect and be in full force immediately.

PASSED AND APPROVED BY THE CITY COUNCIL FOR THE CITY OF ISLE OF PALMS, SOUTH CAROLINA, ON THE \_\_\_ DAY OF \_\_\_\_\_, 2000.

\_\_\_\_\_  
Carmen R. Bunch, Mayor

(Seal)  
Attest:

\_\_\_\_\_  
Janet G. Mauldin, City Clerk

First Reading: \_\_\_\_\_  
Public Hearing: \_\_\_\_\_  
Second Reading: \_\_\_\_\_  
Ratification: \_\_\_\_\_

This redlined draft, generated by CompareRite - The Instant Redliner, shows the differences between -  
original document : C:\TRANSFER\NO1SEP~1.WPD  
and revised document: C:\TRANSFER\NO2SEP~1.WPD

CompareRite found 8 change(s) in the text

Deletions appear as struck-through text  
Additions appear as "redlined" text

Sec. 6-1-40 Definitions. For purposes of this Article, the following words and terms shall have the following definitions:

(a) OSDS. Any septic tank system or other on-site sewage disposal system.

(b) Inspector. ~~A person appointed by City Council to conduct OSDS inspections as provided in this Article. Any person licensed by S.C.D.H.E.C. to install, repair, service, monitor, or inspect an OSDS.~~

(c) Good Operating Condition. An OSDS which: functions in a sanitary manner; prohibits the discharge of untreated or partially untreated wastewater onto ground surface, into surface water, or into groundwater; and allows building plumbing to discharge properly.

(d) Owner. Any person or entity owning any legal interest in a lot containing a OSDS.

~~Sec. 6-1-41 New Installations. Any new or replacement OSDS installed within the City shall be required to include an access manhole built into the lid over each compartment of the tank, and over the outlet end of the septic tank. An appropriate mechanism shall be provided to make the access manholes vandal, tamper, and child resistant. 43~~ Inspections Prior to Sale of Real Estate Interest.

~~Sec. 6-1-42 Registration. Within thirty (30) days from the installation of a new or replacement OSDS on a lot, the Owner of the lot shall register the system with the City. The registration shall consist of supplying the City with a copy of the DHEC issued permit for installation of the OSDS and the full legal name and current mailing address of each Owner of the property. There shall be no fee charged for registration.~~ (a) Prior to the sale of any ownership interest in a lot containing an OSDS, the seller of the interest shall provide the buyer with a written inspection report of the system prepared by an Inspector, which report shall include whether the system is in good operating condition. The cost of the report shall be the responsibility of the seller. A copy of the report shall be filed with the City by the Inspector upon completion of the report. The inspection shall be performed no earlier than sixty (60) days prior to the transfer of the interest.

~~Sec. 6-1-43 Inspections and Pump-outs.~~

~~(a) The City hereby establishes a three year voluntary pilot program to encourage Owners to have their OSDS inspected and pumped out during the one year period commencing on March 1, 2000. The City shall provide this service to an Owner once during the program period upon the request of the Owner. The Inspector shall provide the Owner with a copy of a written report containing the results of the inspection. There shall be no fee charged to the Owner for the inspection or pump-out service offered by the City. Participation in this program by the Owner is voluntary.~~

~~(b) In addition to any other inspection provided for under this Article,~~ (b) The City will develop

an information program to inform Owners of the requirement of an inspection prior to the sale of any an ownership interest in a lot containing an OSDS, the seller of the interest shall provide the buyer, at or before the transfer of the interest, with a written inspection report of the system prepared by the Inspector and dated within 60 days prior to the transfer of the interest. There shall be no fee charged to the Owner for the report. Compliance with this provision is mandatory and shall continue beyond the expiration of the voluntary pilot program. This program shall also contain information regarding the importance of properly operating OSDS systems and the advantages of the use of OSDS inspection ports.

(c) The City will develop an information program to inform Owners and the general public of the pilot program and the requirement of an inspection prior to the sale of an ownership interest in a lot. The voluntary program shall be targeted at those areas where water quality monitoring programs indicate bacteria problems or where functional problems with OSDS are identified. This program shall also contain information regarding OSDS inspection ports and the advantages of their use.

(d) The City will develop a composite list of all lots served by OSDS. The City shall maintain a record of inspections and pumpouts conducted at each lot and within three months prior to the expiration of the voluntary pilot program, shall notify at least one Owner of the lot if the lot has not received an OSDS inspection.

(e) At the end of the three year pilot program, the City shall evaluate the merits of the program and determine the advisability of implementing a long-term program for its use in identifying possible contributing sources of water quality degradation in and around the City.

Sec. 6-1-44 Violations; Penalties. A violation of this Article is a misdemeanor punishable pursuant to Section 1-3-66 of this code. Each day that a violation continues shall constitute a separate offense.

# IOP will hold public hearing on septic program

By DAVID QUICK  
Of The Post and Courier staff

Isle of Palms City Council is seeking public comments on a proposed ordinance that would set up a septic tank maintenance program and require sewer hookups if sewer is available.

The ordinance is an effort to improve water quality in the waterways behind the island and comes after evidence showed poorly operating septic tanks are contributing to pollution.

In August, City Council voted 7-2 in favor of the first of two readings of the ordinance but did not debate the regulations. Council

## IOP HEARING

A public hearing on the proposed septic tank program will be at 7 p.m. Monday at the Isle of Palms Exchange Club at 201 Palm Blvd.

members wanted to hear public comments before considering final approval.

At the hearing Monday, island resident Mary Anne Luttrell, who served on a special committee to study the water pollution prob-

lem this year, will give a short presentation on the committee's efforts.

Councilwoman Debra Hernandez will give a brief overview of the proposed ordinance.

Hernandez stressed that the meeting is primarily for getting residents' feedback about the ordinance.

She said the ordinance is not finalized, but she hopes it will be approved in the near future.

"I think there are some changes that need to be made in the original ordinance to assure that it's resident-friendly," she said. "There are changes we can make without weakening it."

The city is not proposing sewer for the en-

tire island and has even acknowledged that septic tanks, in most areas of the island, are working well. Some, however, are concerned that septic tanks are not suited for some lower-lying areas, such as parts of Forest Trail.

The proposed ordinance, in part, would require that residents register septic systems, that a city-appointed inspector inspect a residential system once every three years and rental properties annually, and that a property owner make repairs to malfunctioning systems. The ordinance also would require the owner of a lot in an area identified as having bad conditions for septic tanks to hook up to the city sewer line once it is located within 20 feet of the lot.



# Islanders vent about city

■ **TANK MAINTENANCE:** Many at a public hearing challenged the proposed ordinance, which is aimed at relieving fecal bacteria pollution in nearby waterways.

By **DAVID QUICK**  
Of The Post and Courier staff

Isle of Palms residents recited a familiar anti-government chorus on Monday in opposing the city's proposed ordinance requiring the maintenance of septic tanks.

Most of the 60 people attending a public hearing Monday challenged the city's proposed ordinance, which is being considered to help relieve fecal bacteria pollution in nearby waterways.

The ordinance also proposes that residents in problem areas tie in to a sewer when it becomes available. However, the city and the Isle of Palms water and sewer commission aren't seeking to install sewer throughout the island.

Isle of Palms City Council likely will discuss the matter Tuesday for an expected final reading. It approved the initial reading, 7-2, in August with little discussion.

Of those who attended the meeting Monday, the sentiment was clear. "I resent strongly the city sticking their noses into my business," said Fred Young. "How I maintain my septic tank is none of your business."

Young suspects the program will require more city staff and that the city would start "building yourself another empire."

"This government keeps expanding. There's got to be an end to it," he said.

Jimmy Carroll said everyone wants clean water but that the city's proposal is too intrusive.

"What people are upset about is more government intruding into our lives," he said.

Mary Anne Luttrell, who served on a special committee to study the city's water pollution problems for seven months, disagreed.

"It is everybody's business," she said of malfunctioning septic tanks,

"because it's a matter of public health." She added that sewer customers may take exception to the comments made by septic tank users who are complaining about required routine maintenance.

Keith Rogerson, however, claims that leaky sewer lines and a golf course spray field that uses treated effluent may be more to blame than septic tanks.

Rogerson said that when someone's septic tank backs up, the owner must have it fixed. He added that septic tank owners should be responsible for routine maintenance.

Joe Lubelsky said he opposed the ordinance and called a video about septic tank maintenance, shown before the public comment session, "brainwashing."

"When you have a problem with septic tanks, you know it. ... You can't flush the toilet," Lubelsky

## 's proposed septic law

said. "I don't want anybody coming to my house and asking how much I flush the toilet."

The proposed ordinance calls for a city-hired inspector to check out residential systems once every three years and rental house systems annually. For malfunctioning systems, the property owner would be required to make repairs.

Regarding sewer, the ordinance would require the owner of a house in an area identified as having bad conditions for septic tanks to hook up to the city sewer line once it is located within 20 feet of the owner's lot.

City Councilwoman Debra Hernandez, who has spearheaded the effort for the regulations, held up a 1987 letter from S.C. Department of Health and Environmental Control pinpointing nine areas of the island that are inappropriate for septic tanks.

Isle of Palms water and sewer Commissioner Dana Love said the commission has no proposal to install sewer on the island but that it has capacity at its sewer plant for 400 more homes.

The commission has more than 2,200 sewer customers, including commercial customers. The city has about 4,000 houses and condominium units.

Some in the crowd seemed to think the city and the commission were conspiring to put in the sewer citywide, but Commissioner Harry O'Neal said the cost would be too high.

O'Neal said a 1991 study set the cost at \$20 million, which would have increased substantially since then. He noted, too, that City Council rejected a much smaller bond issue for sewer expansion a few years ago.

Some residents expressed con-

cern that requiring sewer tie-ins would force some off the island.

David Cohen said tying into the sewer would be a major expense for him, as it would be for others. "I would hate to be forced to sell my house because I couldn't afford to tie into sewer."

The cost to tie in varies depending on how far a house is from a sewer line, but the sewer impact fee starts at \$5,000 per customer.

Supporters of the ordinance were few and far between on Monday.

David Huff, who said he was part of the citizens committee that started studying the East Cooper area's water quality a decade ago, stated that septic tanks never should have been permitted on the island to begin with.

Huff said South Carolina is behind other states in having up-to-date controls on maintaining septic systems.

# IOP passes compromise

## ■ VOLUNTARY INSPECTIONS:

The preferred plan requires islanders to register new or replacement septic tanks, while existing ones will be monitored by the city.

By DAVID QUICK  
Of The Post and Courier staff

Isle of Palms officials hope a new pilot program to maintain septic tanks will help alleviate fecal bacteria pollution in waterways on the island's marsh side.

Isle of Palms City Council gave final approval last week to an ordinance regulating new septic tanks and establishing a voluntary program to help resi-

dents maintain existing systems.

Last December, a special committee started studying the issue and later made a recommendation to the council for action, after receiving convincing scientific evidence that humans are a source of the pollution in areas behind the island.

The council's 7-2 vote comes only after major compromises were made to the original plan. That plan drew a vocal, angry crowd opposing it at a Sept. 20 public hearing.

The original plan called for a mandatory, city-run septic tank maintenance program that would have required residents to register the systems with the city and for a city-hired operator to inspect and pump out individual systems in the next three years.

The plan also would have required residents to tie in to the sewer system, if it came near their lots.

Councilwoman Debra Hernandez, who spearheaded the effort, worked with each council member before the vote to find out what level of a program would be acceptable. Hernandez will retire from City Council in a month after serving one term.

The approved program requires only that the owners of new or replacement septic systems register with the city and that those systems include access manholes for easier monitoring. Residents would not be required to tie in to the sewer system.

The city also would establish a one-year voluntary program, starting March 1, in which residents can seek free inspections and pump-outs of their septic systems.

Most council members lauded Hernandez's effort.

"This ordinance has been written and rewritten ... into a form which I believe is acceptable," said Councilman Skipper Shaffer, who also is leaving the council in a month.

Shaffer noted that the city's comprehensive land use plan recommended getting a handle on septic tanks and the water pollution that has shut down shellfish beds for years.

Councilman Bob Abele said the

new ordinance bears "zero resemblance to what people objected to" in September and "that it doesn't intrude into people's back yards."

Still, Mayor Carmen R. Bunch and Councilman Mike Sottile voted against the mostly voluntary plan.

"This thing has been massaged, buttered and squeezed to make it fit," Sottile said, adding that the city should hold another public hearing and that pilot programs only lead to bigger expenditures later.

"We don't need to be pumping out people's septic tanks."

■ In other business, the council voted 7-2 to seek construction bids on repairs on the Breach Inlet boat ramp next to the Carroll Realty building, as well as a gate restricting access to the ramp.

The council has struggled about what to do with the ramp since the S.C. Department of Transportation suggested closing it more than two years ago.

After hearing strong support in favor of keeping it open, council members voted to keep it open and fix it up, but also to restrict access to the ramp to only those people who purchase annual passes. The cost would be \$200 for nonresidents and \$100 for residents.

Bunch and Sottile voted against the city seeking bids.

Sottile objected because a city-hired engineer estimated repairs to run about \$40,000 and the gate to cost another \$10,000. He said the city budgeted \$40,000 for the repairs and that \$10,000 already has

been used for engineering plans.

■ Also, the council voted 5-4 to approve spending \$8,000 for a feasibility study by EventMakers USA about what kind of events the island could hold during the tourism off-season, primarily the winter months.

Opponents said they did not support the idea of trying to attract tourists in winter, when residents enjoy a reprieve from the traffic and crowds.

Julia Tucker, chairwoman of the Accommodations Tax Committee, defended the expenditure, saying that the committee wanted to bring an event to the island that the residents could enjoy and that if "we get a few people from out of town, then great."

# IOP ordinance is put on hold

■ **WHO'S RESPONSIBLE?:** Isle of Palms City Council could rework or repeal controversial law that would regulate septic tanks.

By **ELIZABETH W. COOK**  
Of The Post and Courier staff

The night before a controversial ordinance to regulate septic tanks was to go into effect on the Isle of Palms, City Council voted to place a 60-day moratorium on it, after an attempt to repeal it failed.

The ordinance, heralded by some as a big step toward improving fecal bacteria pollution in the island's waterways, was supposed to go into effect March 1. But as of the last night in February, City Council had not yet agreed on how to implement it.

The ordinance would require septic tank owners to have the tanks inspected before selling their houses and would provide residents with a free pump out of their tanks. City Administrator Mark Williams said several residents and attorneys working on real estate closings have called City Hall requesting the inspections.

At a City Council special meeting

## WANT TO GO?

The Isle of Palms Public Works Committee will discuss the septic tank ordinance Wednesday at 5:45 p.m. at City Hall. The council is scheduled to vote on a repeal ordinance at its regular meeting March 28.

called to discuss repairs at the marina store, Williams advised council members that the septic tank program would be effective the next day. The septic tank ordinance was not on the agenda. He told members he had lined up contractors to do the work and needed the council to authorize spending the money. Each inspection and pump out would cost about \$200.

Councilman Mike Sottile, who opposed the program when it passed last year, wanted the council to repeal the ordinance outright, but after receiving legal advice, he instead made a motion to postpone it for 60 days. Council members unanimously approved that motion.

Then they voted 6-2 to have the attorney draft a repeal ordinance for first reading at its March meeting and have

the issue sent to the Public Works Committee. Councilmen Tom Gear and Marty Bettelli voted no. Councilman Bob Miller was absent.

Even the strongest advocates of the ordinance agree it isn't the best it could be. But now that council is set to rehash the entire issue, proponents fear it'll be scrapped entirely.

"The main frustration for me — to just repeal the whole thing is completely irresponsible," Gear said. "If it needs to be reworked a lot, fine. If it takes 20 meetings, we still need to do it."

Toby Van Buren harvests oysters and clams and was the former president of the East Cooper Clean Water Council.

"I think this would be a step backward to repeal it," said Van Buren, who worked with the council on studying the issue for months. "I can't understand why the leadership of the Isle of Palms isn't more progressive."

The septic tank ordinance was passed in October by the former City Council after being debated and rewritten several times for about a year.

Sottile and Mayor Carmen Bunch voted against it. Ryan Buckhammon and John Marino weren't council members then.

"I don't think it's a good ordinance, and I'm not going to support it. And if I can

## SEPTIC ORDINANCE

Here's a summary of the ordinance passed by City Council in October:

■ Any new or replacement septic tank must include an access manhole.

■ The owner must register a septic tank with the city within 30 days of installation.

■ The city established a one-year voluntary pilot program to encourage owners to have their septic tank inspected and pumped out. The city would provide this service for free.

■ Before the sale of a lot containing a septic tank, the seller must provide a written inspection report dated within 60 days. There shall be no fee charged to the owner for the report. Compliance with this provision is mandatory.

■ The city will develop a way to inform owners and the general public of the voluntary program and the requirement of an inspection prior to the sale. The voluntary program shall be targeted at those areas where water quality monitoring indicates bacteria or where functional problems with septic tanks are identified.

■ The city will develop a composite list of all lots served by septic tanks.

■ At the end of the one-year pilot program, the city shall determine whether to implement a long-term program.

# Palms panel OKs septic

**■ NO FREE INSPECTIONS:**  
The committee nixed a provision for free inspections and pump-out by the city for a year.

By **ELIZABETH W. COOK**  
Of The Post and Courier staff

After more than a year of heated debate about swimming in contaminated water and government going into people's back yards, Isle of Palms may regulate septic tanks after all.

A City Council committee voted with little discussion last week to keep a revised version of an ordi-

nance that regulates septic tanks. The ordinance is designed to reduce the fecal bacteria pollution in the island's waterways.

With only three members from the public in attendance, the Public Works Committee voted, 2-1, to keep the ordinance but remove the provision that created a one-year voluntary program in which the city would pay for free inspection and pump-out of septic tanks. Even some proponents said that program was a giveaway and a waste of city money.

The amended ordinance still would require a septic tank inspection when a property is sold but clarifies that the buyer and seller would have to negotiate which par-

## WANT TO GO?

Isle of Palms City Council will take another look at the septic tank ordinance at its March 28 meeting, which starts at 7 p.m. at City Hall. The council will consider whether to amend or repeal the ordinance.

ty would pay for the inspection. Previously, the ordinance was unclear, and some believed the city would pay for the inspection. Councilman John Marino, who

# tank regulation

was not on the council at the time the ordinance was passed and is one of its most vocal opponents, voted against the amendment. But after the meeting he shook hands with Councilman Tom Gear, who proposed the changes, and said, "I can live with that."

The committee's decision comes after City Council voted last month to place a 60-day moratorium on the ordinance the night before it was to go into effect. The council also voted to have the attorney draft a repeal ordinance, and several council members said they hoped it would go away entirely.

Mary Anne Luttrell served on a committee the city formed more than a year ago to investigate the

pollution problem and recommend a solution. She told the committee she is frustrated that the city still doesn't have an ordinance in place.

"Council was presented in 1989 with a letter from DHEC saying we had a problem," she said. "It's been 11 years, and we've done nothing. I'm so frustrated I'm not even upset anymore. Either you don't care or you don't want to know."

She said she was disappointed that last year City Council never asked the committee for the technical data before drafting an ordinance.

"All they heard was the committee recommendation. They didn't

See PALMS, Page 15

hear the data. They didn't hear the compelling information," she said. "The committee that heard it was convinced." She told the committee about a DHEC-issued grant to study pollution and urged the city to apply for it.

Councilman Bob Miller, the committee chairman, said he agrees that a study needs to be done but that this ordinance is not the place to initiate it. He said he will pursue it in the future.

Marino also agreed with the need for a study. He said he voted against the proposed changes because he didn't like the transfer inspection requirement.

"It's basically a tax on the homeowner through a governmental regulation," he said. He said when he and his wife bought their home a few years ago, he paid \$150 to get the septic tank inspected, and a short while later he had to spend \$1,000 on the drain field.

mine the cause of the problem before enacting sweeping regulations.

"I'm not denying that septic tanks at large are a part of the problem," but, he said, he has also seen shellfish shutdowns in Myrtle Beach, which is on sewer.

Commercial fisherman Toby Van Buren urged the committee to keep the ordinance in some form.

"The intent of this whole effort was to really try to head off problems down the road," he said. "There aren't that many real estate transfers, so it would be a low percentage, but at least it would be a start."

The full City Council will consider the amendment along with the repeal ordinance at its March meeting.

"I don't think it's going to help," he said. "It didn't help me, and I paid it out of my pocket."

Island resident Charlie Claxton suggested that the council deter-

# IOP flushes ordinance on septic tanks

**MORE STUDY** : Isle of Palms City Council voted to repeal the law in its entirety and called for more study of the island's pollution problems.

by **ELIZABETH W. COOK**  
The Post and Courier staff

Plans to regulate septic tanks on the Isle of Palms went down the drain last week when City Council voted 4-3 to repeal the controversial law.

Instead, the city will seek a HEC grant to study the island's pollution problems.

"In my opinion, this was a feel-good ordinance. It wasn't going to solve any problems," said Councilman Mike Sottile. Mayor Carmen Bunch, Council members John Marino and Ryan Buckhannon joined in voting to repeal the ordinance. Council members Bob Miller and Dee Taylor were absent.

Faulty septic tanks have been blamed for the island's fecal coliform bacteria pollution. Fecal coliform, which comes from animal and human waste, can close shellfish beds and, in some cases, lead to swimming advisories.

Opponents said they weren't convinced septic tanks were the greatest source of the pollution, and believe the law would unnecessarily burden taxpayers. Supporters said it was an important first step to getting a handle on the issue, and showed the city was serious about protecting water quality.

"It's preposterous for people to say they want to do something about the water problem and then vote down the first step," Council-

man Tom Gear said.

The law would allow island residents to get their septic tanks inspected and pumped out for free (a \$200 value), and required inspections at the time of a real estate sale. It also would have created a database of septic tank owners at City Hall.

The city passed the ordinance last year after much debate and compromise. But on Feb. 29, the night before it was to go into effect, City Council postponed it for 60 days.

"I think (the law) would have been sending the right message ... but some of the council members still felt like we were unnecessarily targeting septic tanks," said Mary Anne Luttrell, an island resident who served on a committee the city formed more than a year ago to investigate the problem and recommend a solution.

She told City Council members about the DHEC grant and urged them to pursue it.

"If done properly it would be a full-blown monitoring program to determine the sources — that's the point," she said. "My concern is that we get on it." The deadline is June 15.

Several council members also said that determining the source of the problem is critical to deciding who should be responsible for fixing it.

Bunch said the county needs to be included in the process since the problem could be coming in part from nearby Goat Island.

"We are not solely responsible for that water," she said.

A council committee voted earlier this month in favor of keeping the law, but with some amendments. The full council voted against that measure before voting to repeal the law entirely.

# Palms seeks source of pollution

■ **QUALITY STUDY:** Council voted to spend \$9,000 on a grant application for a water quality study to find the source of bacterial pollution in marsh-side waterways.

By **DAVID QUICK**  
Of The Post and Courier staff

**ISLE OF PALMS** — The debate over the source of fecal coliform bacteria pollution in the marsh-side waterways of this island has gone on for more than a decade.

Is it from animals, such as dogs, raccoons and birds? Is it from boats discharging waste directly into the water? Is it from the city's sewer system or homes on Goat Island? Or is it from malfunctioning septic tanks on the Isle of Palms.

On Tuesday, Isle of Palms City Council took one step toward find-

ing out the source by voting to spend \$9,000 for engineers to prepare a grant application for what may be the most comprehensive water quality study ever done on the island.

The city plans to apply to S.C. Department of Health and Environmental Control for a federal water quality grant by June 15.

If the city succeeds in getting the grant, the city would have to pay 40 percent of the total cost of the study.

One of the major points the engineering firm will have to determine is the exact cost of the study.

Councilman Bob Abele, however, thinks the study likely will run more than a similar one recently conducted on Hilton Head for \$30,000.

Mary Anne Luttrell, a member of the citizen water quality committee, was pleased to hear council supported the study.

Luttrell said while the new study may duplicate efforts performed by the East Cooper Clean Water Council in recent years, the new study will be more extensive and done by paid professionals.

She also seemed confident that DHEC will select the island, noting that urban areas of coastal South Carolina were highlighted in the grant application as having a higher priority.

The approval of the expenditure came just minutes before Council tried to repeal an ordinance requiring inspections of septic tanks.

The ordinance had its origins in another effort finished last year.

A volunteer citizens committee

spent six months intensively studying the water pollution problem and were convinced the pollution came from malfunctioning septic tanks.

They made recommendations to improve it by seeking regulations on septic tanks, but when City Council held a public hearing on proposed changes, an angry crowd of residents who have septic tanks accused the city of being "big government."

Council later passed a watered down version of the ordinance, requiring that the tanks be inspected when a property is sold and that new tanks have "port holes" making them more accessible for maintenance.

Newly elected Isle of Palms Councilman John Marino — a vocal opponent of the septic tank regulations — narrowly failed to get council members to repeal the ordinance.

David Quick covers the East Cooper area. Contact him at 937-5516 or [dquick@postand-courier.com](mailto:dquick@postand-courier.com).

# Bacteria complicates IOP ditch cleaning

the material into a truck. When the contractor sought to start depositing the material — a soupy mixture of vegetation, sand, silt and water — on the Hamlin Farm site in Mount Pleasant, the Hamlins wanted DHEC to test it first.

The department found fecal coliform levels too high to be dumped in an area such as Hamlin Farm, because it is too close to shellfish beds.

DHEC engineer Sue Schweikart described the material as being between a solid and a liquid, but that “we don’t want them spreading contamination to other areas.”

Wayne Fanning, DHEC’s district director for environmental quality control, said the material was too liquid and that it must be taken to a landfill that can accept hazardous waste.

Fanning said one alternative was for the contractor to decant the liquid, put it in the city sewer system and take the solid material to a landfill. Another alternative would be to dump it on an approved “upland” site, let the liquid drain off and take the leftover solid material to a landfill.

But City Administrator Mark Williams said any of those alternatives made the city’s ditch-cleaning effort cost prohibitive — and that’s why the city chose to quit.

“They (the contractor) would end up spending more time hauling the material than clearing it,” Williams said.

He added, however, that the city was able to clean about 90 percent of the interior, less accessible ditches before having to suspend operations.

**By DAVID QUICK**  
Of The Post and Courier staff

**ISLE OF PALMS —** Fecal bacteria levels of material in island ditches is high enough to cause state health officials to require the city to handle it with special care.

Isle of Palms City Councilman Tom Gear raised the issue about the bacteria levels last week when fellow council members were trying to repeal recently enacted regulations on septic tank inspections.

Some council members had not heard about the special requirements for disposal by the S.C. Department of Health and Environmental Control and greeted Gear’s comments with skepticism.

Gear is a strong supporter of septic tank inspections and tied fecal coliform levels in the ditches to malfunctioning septic tanks.

Councilman Mike Sottile said he is not convinced that the bacteria come from septic tanks and that he has seen residents dispose of dog waste from their backyards in the ditches, which are often choked with vegetation and stagnant.

“I don’t know where the coliform is coming from,” Sottile said, adding that’s the reason the entire council is supporting a grant application for a comprehensive study of the bacteria’s source.

The city actually stopped the cleaning of relatively inaccessible ditches last fall after its private contractor, Edie Construction, could no longer dump material from the ditches at an area near Wando Crossing shopping center in Mount Pleasant.

Edie used a water cannon to cut vegetation and a vacuum to suck

# Palms septic tank issue unsettled

**By ELIZABETH W. COOK**  
Of The Post and Courier staff

The fate of a controversial Isle of Palms ordinance that was designed to clean up the island’s waterways by regulating septic tanks is still uncertain.

The ordinance, which was passed last year after much debate, would require that septic tanks be inspected upon the sale of a home, and create a one-year program in which the city would pay to pump out residents’ septic tanks for free, among other things.

Earlier this year, City Council voted in a first reading to repeal the law in its entirety, but a second reading of the repeal ordinance failed to get enough votes last week. In a 4-4 vote, the motion to repeal the law failed.

Mayor Carmen Bunch and councilmen Mike Sottile, John Marino, Ryan Buckhannon voted to repeal the law. Council members Bob Abele, Marty Bettelli, Tom Gear and Bob Miller voted against the repeal. Councilman Dee Taylor was absent.

“The old ordinance that nobody likes is in effect,” said Abele before making a motion to put the law on hold for another 60 days until council members can reach a consensus about what to do next. That motion passed. The law was set to go into effect March 1, but the council delayed that in February by passing the moratorium.

Before voting on the repeal, Gear made another effort to save the law by proposing an amendment. It would have removed the free septic tank cleaning program from the law. That motion failed on a 4-4 vote.

In other business, council members:

■ Took the first step toward having a widespread water quality study done on the island by agreeing to spend \$9,000 to hire an engineering firm to develop a model study.

The city will use the model to apply for a state Department of Health and Environmental Control grant. If approved, DHEC would study the island’s water quality. The grant would fund 60 percent of the cost, and the city would pay for the rest. A similar study on Hilton Head Island cost \$30,000, but the Isle of Palms expects its study to cost more because its larger scope.

■ Approved final reading of a law requiring pet owners to remove their pet’s waste. It requires animal owners to immediately collect, remove and dispose of all excrement, whether on the beach, public property, street, right of way, sidewalk, public way, playground or someone else’s private property.

■ Approved spending up to \$3,000 from the Accommodations Tax funds to pay for a band for the Fourth of July. The mayor is working on selecting a band. She said it would play until 11 p.m.

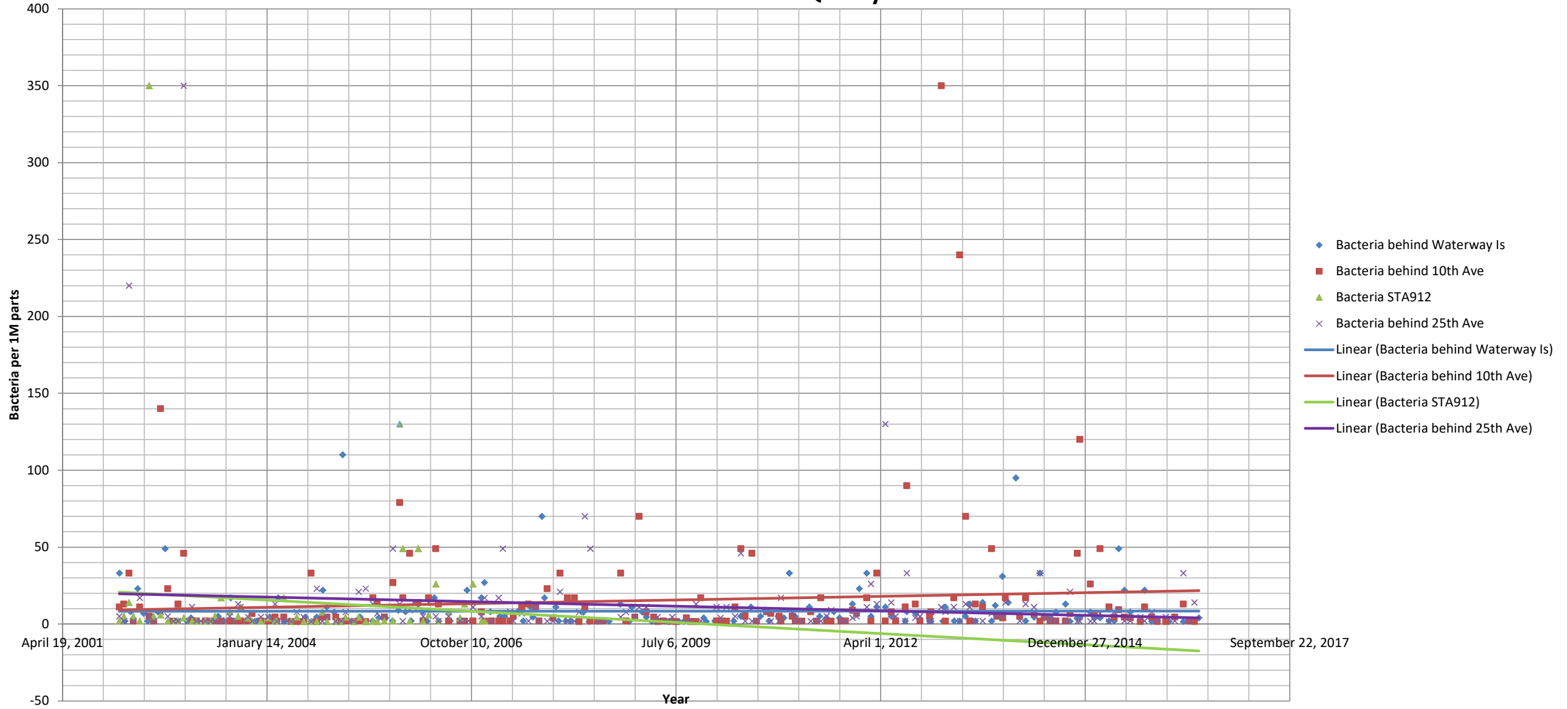
■ Approved applying for a hazard mitigation grant from FEMA for hurricane shutters for City Hall, the two fire stations and the building department. Cost would be \$66,000 and FEMA would provide 75 percent.

■ Voted to sell computers, desks and chairs the city no longer uses at the Recreation Department yard sale planned for May 20.

■ Announced that the fire department has hired three additional firefighters.

# EXHIBIT G

## Historical Water Quality Data





## IOP Sewer Expansion Concept

### Financial Assumptions:

Total Estimated Cost of Sewer Expansion	\$ 52,000,000
Cost of money (tax-free revenue bonds)	3.5%
Existing properties without sewer	1,460
Tap fee to these properties (pay or add to r/e taxes)	<u>\$ 12,000</u>
<b>Revenue (or revenue bonds) from tap fees</b>	<b>\$ 17,520,000</b>
Total # of properties on the island	4,300
Annual "Green Living Charge" to all customers	<u>\$ 300</u>
<b>New Annual Revenue from green living charge</b>	<b>\$ 1,290,000</b>
Anticipated # of new monthly sewer customers	1,095
Annual sewer fees	<u>\$ 720</u>
<b>New Annual Revenue from additional customers</b>	<b>\$ 788,400</b>
Expansion cost	\$ 52,000,000
Tap Fee cash flow	<u>\$ (17,520,000)</u>
Additional Loan needed for expansion	\$ 34,480,000
Annual debt service on loan	\$ 2,426,050
New annual revenue from green living charge	\$ (1,290,000)
new annual revenue from additional customers	<u>\$ (788,400)</u>
Balance of Annual funds needed for debt service	<u>\$ 347,650</u>

### Comments

This estimate is suspect and needs to be reevaluated  
IOPW&SC is currently paying 2 - 4%

This # taken from 2004 cost summary  
Mandatory. If added to r/e tax would include interest

This # "confirmed" by IOPW&SC (includes condos)  
\$25/mo., would cease once the loan is repaid

estimate that 75% of the newly available will connect  
estimate at \$60/mo.

Loan of 34,480,000 at 3.5% for 20 years  
Green Living Charges to all customers  
not all of this may be available for debt service  
Use existing funds/rate adjustment/Etc.

### Additional Assumptions:

# EXHIBIT H

## IOP Sewer Expansion Concept

This expansion project would be done in phases over 5 to 10 year period as would the borrowings. As the sewer is expanded, all properties not currently connected would be required to pay a tap fee of \$12K. They would not however be required to connect at that time (to appease those with a working septic). Connection would be required when property sold, septic fails or upon major improvements. All IOP properties, including condo customers, connected or not would pay a monthly assessment of \$25 (the "green living charge"). New tap fees could be paid up front or added to the property tax bill and paid over 20 years (this would add approximately \$844/yr. to their tax bill). Where this presents a true hardship the city can help. This is obviously a broad overview but indicates that the project is feasible. And, everyone is paying something towards the total cost.

# EXHIBIT I

## EXCERPTS FROM PLANNING COMMISSION MINUTES DISCUSSIONS OF SEPTIC TANKS AND EXPANDING SEWER

### DISCUSS SEPTIC TANKS ON THE ISLAND 11-11-15

Mr. Kerr explained that several owners on the island had approached members of City Council about the issue of septic tanks malfunctioning and asked that consideration be given to expanding the public sewer lines. He stated that an idea that had come out of the Public Works Committee of City Council was to create a requirement to tie properties into a sewer system when they sold outside of the family. The idea being that this requirement would not be a burden to current owners, and that over time all of the properties on the island would be served by a public sewer system. He explained that Bill Jenkins with the Water and Sewer Commission was present to talk about the history of sewer lines on the island.

Bill Jenkins explained that in 1990 the Water and Sewer Commission had Thomas and Hutton analyze what it would take to provide public sewer to the entire island. He said that they created different areas and assigned each property in the areas a cost per property to tie into the sewer system. He explained that the Sewer Commission had Thomas and Hutton update the report in 2005 to reflect current costs and according to that plan, the cost per property ranged from \$9,000 to \$12,000, excluding the cost of work that would be necessary on each individual's property to connect the house to the sewer line.

He said that he expected that the Sewer Commission would have to fund the project with a bond that would have to be repaid within 20 years.

Mr. Gregory asked Mr. Jenkins if he had an estimate of the additional cost to tie the house into the sewer line. Mr. Jenkins answered around \$1,600.

Mr. Mills stated that he knew owners were currently using grinder systems to connect to the line and asked what a project like this typically costs. Mr. Jenkins replied anywhere between \$11,000 and \$22,000 for the work and an additional \$2,400 to \$5,800 for impact fees. He stated that in these arrangements the property owners are responsible for the maintenance of the pump and the Sewer Commission is responsible for the piping.

Mr. Scott asked what the capacity of the new wastewater facility is and how much it can be expanded. Mr. Jenkins responded that the current facility can handle up to 350,000 gallons per day and that it is designed to allow for additional cassettes to be added to increase the capacity to 750,000 gallons per day. He added that on the busiest summer days, the facility is close to treating 350,000 gallons per day.

Mr. Ferencz asked if the expansion of the sewer lines could be done in phases. Mr. Jenkins answered that it would be the intention of the Commission to expand the

system in phases to address the areas of most need first. He presented a map of soil types of the island that showed areas with soils that are not ideal for septic systems.

Ms. Safford asked if there were grants available to help fund the expansion of sewer lines based on the health concerns. Administrator Tucker responded that there were grants, but they are generally targeted to low income areas and to areas with wells supplying drinking water. She added that typically these grants also include a provision that would make tying into the system mandatory.

Mr. Scott stated that the time allotted to discuss the issue was up, but that the issue would continue to be put on the Planning Commission's agenda for discussion.

## **DISCUSS SEPTIC TANKS ON THE ISLAND 12-9-16**

Mr. Kerr explained that at the previous meeting the Commission discussed the issue of expanding sewer lines to areas of the island where soils are substandard and septic tanks would be prone to malfunctioning. He stated that the idea that had been discussed at the Public Works Committee of City Council was to enact an ordinance requiring owners to tie into the sewer line when a property sells outside of the family. He explained that the rationale was that this ordinance would give a bank the assurances they would need to issue a bond to fund the expansion of sewer lines for the areas not served by sewer lines, while not imposing fees on existing owners until they decide to sell their property, where the expense could be absorbed by a buyer. He stated that from conversations held with the Water and Sewer staff, he does not believe that such an ordinance would give a bank the assurance they would need to issue a bond, but he was hopeful that the Commission could come up with other alternatives to addressing the issues.

Ms. Safford explained that she thought that an ordinance requiring an inspection of septic systems when a property sells might be useful. Mr. Kerr explained that the City did enact such an ordinance in the 90's, but it was quickly repealed. The Commission agreed that it would be useful to look at that ordinance and the issues associated with it.

Mr. Ferencz stated that one way to fund sewer projects could be to impose a fee on those owners with septic tanks. These fees could build a fund that could ultimately fund the work and it would take away the current financial incentive to having a septic system, as owners with septic systems do not pay a sewer fee to the Water and Sewer Commission.

Mr. Kerr explained that he was hopeful that a process could be formalized that mirrors what already happens when a group of owners want to expand sewer into their neighborhoods. He explained that in several areas of the island sewer lines have been extended into a neighborhood, usually for the development of a property, and ultimately the existing houses that the lines extend past end up tying into the system.

Mr. Kerr stated that he would do some research and distribute information on the previous ordinance requiring an inspection. Additionally, he would distribute the study developed by Thomas and Hutton regarding expanding the sewer system to cover the entire island. The group agreed to continue the discussion at their next meeting.

## **DISCUSS SEPTIC TANKS ON THE ISLAND 1-13-16**

Mr. Kerr explained that at previous meetings the Commission had discussed the issue of expanding sewer lines to areas of the island where soils are substandard and septic tanks would be prone to malfunctioning. He stated that three ideas discussed by the Commission were to investigate the possibility of inspecting septic systems when a property sold, adding a fee to the water bill of those properties that are not tied into public sewer to ultimately fund sewer lines, and formalizing a process of extending public sewer lines when interest is expressed by neighborhoods.

Mr. Kerr added that at the last Public Works Committee of City Council they made expanding public sewer to the entire island a long range goal of the City. He explained that the City Administrator had sent a message to the Water and Sewer Commission notifying them of this goal as well as a message to the City Attorney asking for an opinion on legal issues that could arise.

Mr. Kerr explained that he had included documents regarding the previous septic tank inspection ordinances in the packet. He said it was not clear exactly why the ordinance was repealed, but he suspected that real estate community objected to the code.

Mr. Gregory asked what the process would be for the Planning Commission. Mr. Kerr said he thought that the Planning Commission should develop a recommendation on how to best handle the issue and City Council would need to pass ordinances necessary to implement the recommendation, if they chose.

Mr. Gregory stated that he felt that of all the strategies discussed, he felt that the inspection program is the least onerous. Ms. Safford stated that she can understand why the real estate industry would object to the program, because of its potential impact on sales.

Mr. Gregory stated that he did not think that the idea of allowing some owners to petition for a sewer line and then obligate their neighbors to tying into the system was viable as it would pit neighbors against each other. Mr. Ferencz added that this is particularly true with the cost of tying into the system approaching \$20,000 according to the 2006 study.

Ms. Safford stated that she liked the idea of adding a fee onto the water bills. Mr. Mills stated that he questioned the fairness of only making those owners without sewer pay. He stated that it may be better to increase the rates across the board to fund the future expansions.

Mr. Ferencz added that a different approach could be to require new houses within a certain distance, maybe 500 feet, to tie into the sewer system. Mr. Kerr stated that the code now requires owners with sewer lines in front of their property to tie into public sewer and this requirement could be expanded to include new houses within 500 feet.

Mr. Ferencz asked if a representative from the Water and Sewer Commission could come to the next meeting and discuss any ideas they may have about expanding sewer services. Mr. Kerr answered that he would try to arrange this.

## **DISCUSS SEPTIC TANKS ON THE ISLAND 2-17-16**

Mr. Kerr explained that at the previous meeting the Commission had requested that a representative from the Water and Sewer Commission (IOPWSC) staff be present to discuss the issue of expanding sewer lines, but that they had refused the invitation and requested that the Planning Commission submit questions in writing and the IOPWSC would respond in writing. He stated that he believed that some of the reluctance to meet was because the City's Public Work Committee was also requesting information of the IOPWSC and they did not want to duplicate effort. He explained that since that time, the Public Works Committee has agreed to hold off on their work until the Planning Commission has had an opportunity to research the issue and make recommendations. He stated that he would inquire with IOPWSC again to see if they would be willing to meet with the Planning Commission since the Public Works Committee's work was on hold.

Mr. Kerr explained that the IOPWSC has agreed to provide a plan detailing how they would propose to sewer the entire island. Additionally, they were working on updating the cost estimates for such a project. He stated that this plan would provide a good jumping off point for the Planning Commission's discussions.

Additionally, Mr. Kerr explained that at the beginning of the septic tank discussions the City Attorney was asked to give her opinion on the legality of requiring owners that sell their property outside of the family to tie into sewer. He stated that the City Attorney had completed her research and summarized her opinion by stating that it would be legal to charge such a fee and that several communities including Kiawah and Corrales, NM have similar requirements. He distributed copies of the ordinances for these two communities. He explained that there would need to be a legitimate reason for exempting any class of people, including family member sales, but that it appeared that there would be a legitimate reason to differentiate between people inheriting property from those buying property.

For informational purposes, Mr. Kerr distributed a schedule created by Councilman Kinghorn showing how the timeframe and information he was proposing to the Public Works Committee while they were discussing the issue. He said he thought he provided a good indication of the expectation of the Public Works Committee.

Mr. Denton stated that he had discussed this issue with a prior IOPWS Commission member and he believe that they did have a long range plan for providing sewer to the entire island, but that there was no expediency to doing the project and it would happen gradually. He stated that prior to moving forward with such an aggressive plan, some analysis should be done on whether or not it would be feasible for the Isle of Palms system to be absorbed by one of the larger utilities operating in the area. He said that it could be that a larger utility could spread the expenses over a larger customer base and they may have greater borrowing power and/or financial reserves.

Mr. Ferencz asked if there was any federal funding available for such a project. Mr. Kerr answered that he had generally been told that this type of money was only available to lower income communities, particularly with wells, but that he would verify this through the Council of Governments. Mr. DiGangi stated that he had done a little research on other funding sources and he also felt that outside funding would be hard to secure. Mr. Kerr added that he had come across a federal study that was being conducted about the effects of sea level rise on septic systems and he would forward information regarding this study.

Mr. Ferencz stated that he thought that public education and outreach would be an important part of this process going forward. He stated that he was surprised to learn that only about half of the houses were on public sewer lines and he was sure many of the residents would be surprised by this fact.

Mr. Denton stated that historically grinder systems and septic systems have been seen as a deterrent from building large houses and the Commission should be mindful of not creating a standard that had an unintended consequence of denser development than expected. Ms. Safford stated that she felt that since the adoption of house size limits and lot coverage limits, the wastewater system is no longer the controlling factor.

Mr. Kerr asked for a list of questions that he could forward to the IOPWSC for responses at the next meeting.

Mr. Ferencz asked how many existing houses have sewer adjacent to their property and available to them, but have not tied into the system.

Mr. Mills asked whether the special assessments for a project like this could be added to a tax bill.

Mr. Ferencz asked for details on the capacity of the existing wastewater treatment systems and if there was some plan that would impact the capacity such as abandoning the Wild Dunes system.

Ms. Safford asked the life expectancy of the Wild Dunes treatment facility.

Ms. Safford asked what the logical phasing of the project would be given the infrastructure that is in place and the areas with poorest soil.

Mr. Ferencz asked if the IOPWSC could give a position of supporting or not supporting the stated goal of providing sewer to the entire island.

Mr. Gregory asked for the IOPWSC position on the idea of joining forces in some way with a larger utility such as the Charleston Water System.

#### **DISCUSSION OF SEPTIC SYSTEMS ON THE ISLAND 3-9-16**

Mr. Ferencz stated that he was impressed with the study that GEL had done years ago and he asked who paid for this work. Mr. Kerr responded that he believed it was paid for with grant funds. Mr. Ferencz stated that he thought it would be useful to recheck three or four of the ditches included in the study to see if they are at the same levels they were when the study was done. Mr. Kerr stated that he could see what this would cost, but he believed that the study was done in February and he assumed that for the comparison to be meaningful, it would have to be done during the same time of year. He said he would inquire with the person who conducted the study to see how much it would cost and when it would be advisable to do so.

Mr. Kerr added that the Water and Sewer Commission was still working on responding to the Commission's questions and he would forward their response, once he has it.

#### **DISCUSS SEPTIC TANKS ON THE ISLAND 4-13-16**

Mr. Kerr explained that he has been in contact with the scientist who did the previous nonpoint source study and he was excited about the idea of taking some new samples and making a comparison. He stated that it sounded as though there would need to be several samples taken for the data to be meaningful and it would probably need to be done at the same time of year to be consistent. He stated that a proposal would be coming forward on this issue.

He stated that he was also still expecting something from the Water and Sewer Commission on what their plan would be to sewer the island.

Mr. Ferencz stated that earlier in the agenda the Commission heard a subdivision request for new sites that would be served by septic tanks and he questioned the wisdom in allowing new lots to be created that would be served by septic systems. Mr. Kerr stated that he thought this would be a logical trigger for requiring sewer.

#### **DISCUSS SEPTIC TANKS ON THE ISLAND 5-11-16**

Mr. Kerr explained that he was still awaiting information from the Isle of Palms Water and Sewer Commission (IOPWSC) regarding how they would propose to approach the goal for providing public sewer for all properties on the island. He stated that he would try to impress on the IOPWSC that the issue of the marina has been passed on from the Planning Commission and they would like to begin focusing more on this initiative. The



Commission agreed to write a letter formally requesting their assistance to hopefully push for more progress on this issue.

Mr. Kerr stated that Ross Nelson, the scientist who handled the original non-point source study, had provided a strategy for evaluating the pollutants making their way into the waterways around the island. He stated that his proposal was to take a total of approximately 15 samples over the course of a few months and at various locations around the island. He stated that the cost of testing the samples was a broad range, between \$250 and \$1000 per sample, so he was trying to get this narrowed down to provide a cost of the project and this should be available before the next meeting.

Mr. Kerr added that in the current budget funding had been added to the professional services line to cover this expense, if the City chose to proceed with the project.

### **DISCUSS SEPTIC TANKS ON THE ISLAND 6-8-16**

Mr. Kerr explained that the Commission had received a letter from the Isle of Palms Water and Sewer Commission (IOPWSC) regarding how they would approach the issue of extending sewer to every lot. He stated that the two points that stood out to him were the cost of \$52M and the requirement that the City pass an ordinance that mandates every property to tie in sewer. He stated that a mandatory requirement to tie in would not be popular.

Mr. Mills asked why the cost has increased so much since the last estimates. Mr. Kerr responded that he was not sure.

Mr. Kerr stated that knowing that the cost and the mandatory tie in requirement will make an island-wide project very unpopular; he thinks that it may be worthwhile for the Commission to look at ways to push for incremental expansion of the system as new buildings and subdivisions are approved. He stated that currently a new house only has to tie into the public sewer system, if the system is directly in front of the house and maybe the Commission could consider making the tie into the system a requirement if the public sewer system is within 300 feet of the house, or some other distance. He felt that such a requirement may push the system to grow in areas where development is taking place.

Mr. DiGangi stated that maybe the IOPWSC could provide some insight on how they work with owners wanting to extend the public sewer line and the Commission could work to formalize the process and include new triggers of when to extend the sewer lines.

Administrator Tucker stated that when the City went through the process of investigating septic systems years ago, the Health Department (DHEC) took the position that there were no environmental advantages of a public sewer system to a community with properly functioning septic systems. She stated that it may be interesting to check in with them to see if this is still their position.

The group agreed that it would be useful to speak with someone from DHEC about septic systems on the island and determine whether or not they perceived a need for the island pursue tying all of the houses into a public sewer system. Mr. Kerr said that he would reach out to the Health Department to see if they could have someone come to the next meeting to discuss their ideas about the septic systems on the island and whether or not they perceive a need to pursue extending sewer lines.

## **DISCUSS SEPTIC POLLUTION STUDY 6-21-16**

Mr. Kerr explained that the Planning Commission had been discussing the possibility of testing samples of stormwater for pollutants to determine whether the levels of fecal coliform are different today from what they were in 2002 when the City conducted a fairly large testing project. He stated that Ross Nelson with Tidewater Engineering was present and he conducted the study in 2002 and he had provided pricing for various tests for comparisons.

Mr. Ross Nelson explained that the 2002 work was primarily paid for with grant money from EPA's 319 grant funding and his first recommendation would be to determine if this grant funding is available to conduct another study.

He explained that originally the 2002 project did not include the ribotyping testing, but this portion of the project was added to determine which animals were producing the pollutants. He stated that in 2002 it was determined that 90% of the fecal coliform bacteria in the waters were from animals (45% wild animals and 45% domesticated animals) and 10% was from human sources.

He stated that he has been back in touch with the company that did the ribotyping testing and determined that it would cost approximately \$1000 per sample/ per event. He stated that he thought the minimum number of locations he believed would be useful would be five and the minimum number of events he thought it would be useful to sample would be two. Therefore a study that included testing five locations twice would cost approximately \$10,000.

Mr. Kerr stated that there was money included in the current budget for a Planning Commission project. He suggested a strategy of moving forward with testing five locations twice in the short term and pursuing 319 grant funding, if available, for a larger scale project in the long term.

Mr. Nelson stated that it may be useful to ask the Isle of Palms Water and Sewer Commission if they conduct any testing and if not, if they would be interested in sharing the cost to study pollutants in the stormwater.

The Planning Commission generally discussed the project and agreed that it would be useful to give the project some thought and discuss it further at their next meeting.

## **DISCUSS SEPTIC TANKS ON THE ISLAND- RICHARD THREATT, DHEC 8-17-16**

Mr. Kerr explained that at the previous meet the Commission discussed the fact that historically the Health Department (DHEC) had held the position that properly functioning and maintained septic systems were not inferior to a properly functioning and maintained centralized sewer system and wanted to discuss this position with DHEC to see if this was still their position. He explained that Richard Threatt with DHEC was the supervisor of the office that tested the soils on the island and issued the septic permits.

Mr. Threatt explained that he had been testing soils on the coast for DHEC for 22 years and he and one other staff member handled all of the permitting for the Isle of Palms. He stated that in his personal opinion both septic systems and sewer systems had their advantages and disadvantages in their appropriate application, and the primary issue that differentiated when one type of system should be used over another was density. He stated that large lots or small houses work well on septic systems, but houses with large numbers of occupants on small lots will be challenging for a septic system.

Mr. DiGangi asked if in his 22 years of testing coastal soils, has he noticed a difference in the soils. Mr. Threatt said that he cannot explain the reason for the differences, but he has seen areas today that have different soil conditions than they did years ago. He stated that there are areas that were previously approved to have septic systems, that he does not believe would pass the soil tests today.

Mr. Mills asked what the disadvantage of public sewer would be. Mr. Threatt answered primarily the cost, but that they also had failures and they also required constant maintenance. He added that in areas where there is low density, there is not a need for the expense of a public sewer system.

Mr. Gregory asked how the regulations have changed over the years. Mr. Threatt answered that they changed in 2006 and then they changed again this year. He stated that the regulation changed to allow owners to have systems designed that pretreated the waste, which greatly reduced the area required for the system, but these type of systems require additional maintenance beyond what a traditional septic system would require.

Mr. Denton asked what type of inspections the City could do or what other cities are requiring be done. Mr. Threatt explained that Folly Beach requires that systems be inspected and pumped at the time of a property sale. Mr. Kerr explained that this is similar to what the Isle of Palms enacted years ago, but the reaction ultimately caused the City to repeal the ordinance, because he believed that there was a fear of the ordinance impacting owners' ability to sell their properties.

Mr. Ferencz asked if Mr. Threatt was aware of another community that was transitioning from septic systems to a centralized sewer system. Mr. Threatt answered no, but that Folly Beach and Edisto Island are very comparable in terms of soils and the pattern of

development and they all have limited sewer systems with large portions of the island served by septic systems.

Mr. Gregory stated that after the recent very rainy season, there were areas that held water for extended periods and there were probably a number of systems not operating correctly, but now things have dried out and things seemed to be back to the way they were. He asked if Mr. Threatt thought there was any reason to panic about the conditions on the island. Mr. Threatt answered that he did not know if the wet conditions would be a constant issue for the area, but if they are not, he did not perceive a need to panic. He stated that if things to continue to be as wet and as saturated as they have been recently, then there could be problems in the future.

Mr. Threatt said that he looked back in the records and he could see that since 2006 they had evaluated 103 lots on the Isle of Palms, so there is still interest in installing septic systems on the island.

The Commission thanked Mr. Threatt for coming and Mr. Threatt said that he was happy to help and to please call or email him if any additional questions come up.

#### **DISCUSS NONPOINT SOURCE POLLUTION STUDY**

Mr. Kerr explained at the last meeting the Commission met with Ross Nelson, who had conducted the nonpoint source pollution study on the island in 2002, and the group wanted to discuss whether or not to pursue a second study to get an update on what the pollution levels were in the ditches on the island. Mr. Kerr stated that it was his impression that the smallest study Mr. Nelson thought would be meaningful in updating the data would be testing five sites twice and each sample would cost approximately \$1,000, so this study would cost about \$10,000.

Mr. Gregory stated that he was not sure it was practical to spend the money for the study, if the Commission will not be in a position to recommend a plan to extend sewer lines. If the Commission determines that extending the sewer lines is not feasible or desirable, regardless of the results of the tests, he does not think spending the money is necessary.

Mr. Kerr stated that he could get the pollution data that DHEC has collected on the backside of the island and see if there is a way to compare this data to the data collected for the nonpoint source study in 2002 and see if there are any correlations or assumptions that can be made about today's levels of pollution.

The group agreed to look at the data already collected and see if any meaningful information could be generated regarding today's septic pollution levels.

#### **DISCUSS FUTURE MEETING WITH THE WATER AND SEWER COMMISSION**

Mr. Kerr explained that Mr. Ferencz and he had met with representatives from the Water and Sewer Commission and they thought that it might be good for the Planning Commission to meet with them as well. He stated that in order to fit their schedule, it would be necessary to meet earlier than normal at 4:00p.m. on September 14<sup>th</sup>. The group agreed that this worked for their schedules.

Mr. Ferencz explained that he was very impressed with the Water and Sewer staff and they are extremely knowledgeable about the system and they have tremendous pride in the system. He stated that he was confident that they would be a great partner in looking deeper into this issue.

## **DISCUSSION OF NONPOINT SOURCE POLLUTION STUDY 9-14-17**

Mr. Kerr explained that since the last meeting, OCRM had provided data regarding the water quality in the waterways on the backside of the island. He stated that the areas of the sample collections seem to roughly correspond to the locations sampled in the 2002 study, but that the format of the data required a conversion to correlate to the samples from 2002. He indicated that he would continue to work with OCRM and Ross Nelson, if necessary, to try to find a correlation between the recent data and the old data to see if any conclusions could be drawn about the water quality.

## **DISCUSS SEPTIC TANKS ON THE ISLAND- KRISTEN CHAMPAGNE AND BILL JENKINS, ISLE OF PALMS WATER AND SEWER COMMISSION**

Mr. Kerr introduced Kristen Champagne and Bill Jenkins of the Isle of Palms Water and Sewer Commission (IOPWSC) and explained that he and Mr. Ferencz had met with the IOPWSC staff twice regarding various issues and they thought it would be good for the entire commission to meet. He stated that there have been general discussions of providing public sewer throughout the entire island, but also there is a real-world example that will show the challenges.

Ms. Champagne thanked the Commission for having her and she explained that she believed that providing sewer to the entire island was a possibility and the IOPWSC has been working on the idea of how to accomplish this for many years. She explained that currently the IOPWSC is researching the Whispering Palms area to see what it would take to build a new lift station and provide sewer to the properties in the area. She explained that the Water Commission hired an engineer to do a feasibility study and cost analysis and it has been determined that it would cost approximately \$6,000,000 to provide sewer to roughly the 300 homes in the area, which comes to a cost of about \$20,000 per new property. She stated that this particular situation has the benefit of the IOPWSC already owning the property that would be necessary for the lift station, so this example avoids any land acquisition hurdles, which can be significant. She added that the cost of the lift station was approximately \$850,000.

Mr. Mills asked how many properties on the island do not have sewer. Ms. Champagne answered about 2,450.

Mr. Ferencz asked if the situation at Whispering Palms was a best case scenario for providing sewer. Ms. Champagne answer yes that she believed it was because the IOPWSC already owned the necessary land.

Mr. Ferencz asked what it would cost to build a smaller lift station to only serve the properties immediately adjacent to the Whispering Palms area. Ms. Champagne answered she believed the smallest lift station would cost about \$350,000 and serve about 25 properties.

Mr. Denton asked how many properties were currently served by the grinder program and asked if those systems were seen more as a band-aide or were they seen as permanent solutions. Ms. Champagne answered that approximately 130 properties had grinder pumps and she would agree that grinder pumps were not a great long term solution, as they are very labor intensive. She explained that each grinder system had to be inspected every week by the IOPWSC staff.

Mr. Mills asked what the feeling of the Water Commission's Board was on expanding the sewer system. Ms. Champagne stated that she felt that they were willing to participate; but that they are all aware of the failure of prior efforts to expand the system. So she said she felt that they were a bit guarded about the residents' perception of trying to expand the system.

The Commission thanked Ms. Champagne and Mr. Jenkins' for their time and their willingness to help.

## **DISCUSSION OF SEPTIC SYSTEMS ON THE ISLAND 10-12-16**

Mr. Kerr explained that since the last meeting, OCRM had provided historical water quality data back to the dates when GEL conducted their nonpoint source study. He stated that he was hopeful that this data would show if there was a difference in water quality from the time of the study and now. He stated that he felt it would be logical to assume that if the water quality is unchanged, then the various sources contributing to the water quality issues are also the same. He stated that he would report back on this issue once the data is sorted through.

Mr. Ferencz stated that he felt that the Planning Commission could continue on the data collection on this issue for a long time, if there are no target dates established for completing the project and he recommended that at the next meeting the Commission establish a time frame for completing their review on the issue and formulating recommendations. Mr. Kerr stated that he would prepare an outline including the key information that the Commission has gathered and hopefully this would highlight information that is still needed to come to conclusions. The group generally agreed with this strategy.

## **DISCUSSION OF SEPTIC SYSTEMS ON THE ISLAND 10-9-16**

Mr. Kerr explained that since the last meeting he has analyzed the water quality data from OCRM, which has been distributed. Additionally, he has created an outline of the issues and pros and cons of expanding the public sewer system to provide a basis for a recommendation to City Council. He stated that the purpose of analyzing the OCRM data was to determine if water quality in waterways on the back side of the island had changed significantly since 2002 when GEL did the nonpoint source study that determined that over 90% of the water quality issues were from animals and not septic tanks. He stated that his analysis suggested that there is no noticeable degradation in water quality and if anything it may be improving slightly. Mr. Lewis explained that he too had analyzed the data and he removed some of the outlying data points and the data shows that water quality is improving on the backside of the island.

Mr. Ferencz asked if the population was the same today as it was in 2002 when GEL conducted their study. Mr. Kerr answered that he thought that the census showed a slight reduction in year round population, but that tourist related funds showed a slight increase in seasonal population, so that he felt the population was roughly the same.

Mr. Ferencz stated that he felt the draft assessment of the issue should include some forecasting of what could happen if the public sewer system is not expanded and the grinder pump systems are allowed to continue to be installed. Would this create long term issues in terms of staffing and maintenance of the system. Mr. Kerr stated that he felt the Water and Sewer Commission staff would be the only ones that could forecast these issues, so he would pass this question to them and give them the opportunity to respond.

Mr. Ferencz asked if there could be some incentive provided to people willing to extend the sewer line to their properties. Mr. Kerr answered that the City could only incentivize owners through the code and he was unaware of any other type of incentive that could be provided by the City. He stated that the Water and Sewer Commission may be able to offer some type of financial incentive and he would also pass this question along to them as well.

Mr. Mills asked if the cost to tie into sewer could be added to a tax bill and collected with property taxes. Mr. Kerr answered that the City Attorney has indicated that the sale of a property could be used to collect fees, but he was unsure about adding any expenses to a property tax bill, but he could ask the City Attorney for an opinion.

Mr. Lewis stated that he would like to look at a policy that might cause incremental expansion of the system, like creating an ordinance that requires owners building new houses within some distance of the public sewer line to extend the sewer line to their new house.

Mr. Kerr stated eventually the Planning Commission would need to come up with a recommendation of this issue, but to facilitate more discussion he would work on adding some detail to the assessment and include a list of goals and strategies. Three goals

that he believes the Commission has identified so far are to stay in touch with the Isle of Palms Water and Sewer Commission about the condition of the infrastructure and what policies they may need to help ensure that the infrastructure stays in good condition; a goal of incremental expansion; and a goal to stay abreast of water quality issues to ensure that the septic systems on the island are not creating an environmental problem for the community.

The Commission generally agreed with this strategy and agreed to review a new draft of an assessment at their next meeting.

## **DISCUSSION OF SEPTIC SYSTEMS ON THE ISLAND 1-11-17**

Mr. Kerr explained that since the last meeting he has prepared an outline and a strategy to hopefully help the Commission come to a consensus and develop some recommendations on the issue of expanding public sewer lines. He stated that he believed that at the last meeting, the Commission generally agreed that an ordinance mandating that every owner on a septic system to tie into sewer was not a practical solution at this time, so the recommendations in the draft were generally middle ground policies that would hopefully lead to incremental expansion of the system.

Mr. Kerr listed a series of recommendations including: improving dialogue with the Isle of Palms Water and Sewer Commission, continuing to monitor water quality in the water bodies surrounding the island, monitoring grant funding opportunities, pushing for smaller incremental expansions as opportunities arise, prohibiting future subdivisions unless the properties are served by conventional gravity operated sewer lines and considering expanding the distance requiring sewer expansion for new construction.

Mr. Ferencz stated that one of the benefits listed under the benefits was to minimize the number of future grinder pumps. He asked if Mr. Kerr could get a forecast from the Water and Sewer Commission regarding how many new pumps are added each year and what will happen to their system, if the trend is continued for 10 or 20 years into the future.

Mr. Gregory stated that for the recommendation regarding monitoring water quality, it would be good to come up with a framework that would allow for easy comparison of future data to current data. He explained that comparing old data with new data had challenges of as the locations and measures did not align in all situations and it would be good to have these standardized to be able compare results.

Mr. Ferencz stated that he believed the Planning Commission should put a timeframe of when this data should be compiled and analyzed and suggested it be done every three years. The group agreed that every three years was reasonable and this should be included in the recommendation.



Mr. DiGangi asked if the new year-round oyster harvesting regulations would affect monitoring and Mr. Lewis thought these rules would only apply to commercial farming operations. Mr. Kerr stated he would inquire about this.

Mr. Kerr asked if the Commission generally agreed with the idea of prohibited future subdivisions unless the properties are served by conventional gravity sewer. He stated that he did not think this would affect a large number of properties as there are relatively few lots left that meet the zoning code's minimum lot size requirements for two properties. The Commission agreed that this would be good to include in the recommendation.

Mr. Kerr asked how the Commission would feel about requiring a property that sells with public sewer adjacent to it to tie into the sewer line. He stated that he also did not think this would affect a large number of properties as there were relatively few lots with septic systems that had public sewer in front of them, but if some of the other recommendations caused additional expansions of the system, this provision may be useful. The Commission agreed that it would be useful to know how many properties this would affect and whether or not the Water and Sewer Commission would support such a requirement.

Mr. Kerr asked how the Commission would feel about reducing the allowable development for lots not having access to public sewer. He stated that currently the City's code allow owners to build a house having a floor to area ratio (FAR) and lot coverage of up to 40% of the size of the lot. For example a lot of 10,000 square feet could have a new house up to 4,000 square feet of heated area and cover 4,000 square feet with impervious surfacing. He stated that this limit could be reduced for those properties that are not tied into sewer. He explained that the logic for this would be that lots with septic systems would have less ability to handle the treatment of waste generated from a large house and the more area of the lot that is left open for septic fields, the better the system should be able to perform.

The Commission discussed the various implications of such a code and agreed to analyze the effects of reducing the FAR and lot coverage limit to 30% for houses not tied into the sewer system. The Commission agreed to ask for input on this limitation from the Water and Sewer Commission.

Mr. Kerr asked how the Commission would feel about requiring a property that is reconstructed or to substantially improved within a certain distance, maybe 300 feet, of a sewer line to extend the line to the house. He stated that he felt that this recommendation could lead to the slow incremental expansion of the line. The Commission agreed that this may be a good middle ground position that would allow the sewer system to gradually grow, but they felt like it would be useful to have input from the Water and Sewer Commission on what a good distance might be and whether or not this would be too challenging for them to administer.

The Commission agreed to get some feedback from various agencies regarding the ideas discussed and aim for discussing that feedback at the February meeting and having a recommendation to forward onto City Council by their March meeting.