

# Water Quality Update Workshop Outline

## Welcome and Introductions (Councilman Blonna) (5 minutes)

## Water Quality Overview (Councilman Blonna & Former Councilman Howard Reed) (20 Minutes)

### 1. Session Goals

### 2. What is Impaired Water?

- The Florida Department of Environmental Protection (FDEP) is responsible for overseeing the program in Florida.
- In 2012 FDEP set standards for Marco area Estuary Nutrient Region 3 (ESNER 3) comprising Rookery Bay, Marco Island, 10,000 Islands.

### 3. Impairment Defined

- Total Nitrogen (TN) = .30 mg/L.
- Total Phosphorous (TP) = .046mg/L.
- Chlorophyl a = 4.9 ug/L.

4. Impairment is determined if the parameter criteria (.30, .046 etc.) is exceeded more than once in a three year period. Marco test sites exceeded criteria in 2017, 2018.

### 5. Effects of Nitrogen and Phosphorus on Water Quality

### 6. Common Sources of Nitrogen in Waterways

- Atmospheric Deposits
- Stormwater Runoff
- Fertilizing
- Grass Clippings
- Reuse Water (7mg/L)
- Potable Water (.7mg/L)
- Storm/Hurricane Debris
- Animal Waste

### 7. Historical Overview of Water Testing On Marco Island (**Howard Reed**)

### 8. Testing Issues Related to Gulf Currents and Tides (**Howard Reed**)

### 9. Other Factors Influencing Testing (**Howard Reed**)

10. Stormwater and Impaired Waterways

- Stormwater defined.
- Stormwater conveyance.

11. The National Pollutant Discharge Elimination System (NPDES) and Stormwater

- Created in 1990, by the U.S. Environmental Protection Agency (EPA).
- Divided into two phases based on population and urbanization.
- Phase I is designed for large municipalities of more than 100,000 people.
- Phase II targets municipalities that have at least 10,000 people, but less than 100,000.

12. The City of Marco Island falls under Phase II and on January 30th, 2013, was designated as a small Municipal Separate Storm Sewer System (MS4). City required to:

- Apply for an annual MS4 permit.
- Develop a Stormwater Management Plan.
- Create a Stormwater Control Ordinance.

13. On 5/2015 the City of Marco Island implemented a Stormwater Management Program that revolved around four components:

- Stormwater Maintenance.
- Drainage Facilities.
- Illegal Discharges Into the System.
- Alterations or Obstructions to the system.

14. 3/5/2018 the City of Marco Island passed a Stormwater Control Ordinance 18.07 that codifies the stormwater management program .

15. MS4 permit approvals require that the City of Marco Island comply with six elements:

- Public Education and Outreach as to Stormwater Impacts.
- Public Involvement/Public Participation.
- Illicit Discharge Detection and Elimination.
- Construction Site Stormwater Runoff Control.
- Post– Construction Stormwater Management in New Development and Redevelopment.\*
- Pollution Prevention/Good Housekeeping for Municipal Operations.

## **Water Quality Oversight (Tim Pinter; Public Works Director, Jason Tomassetti; Stormwater Engineer) (30 minutes)**

### **1. Public Education and Outreach as to Stormwater Impacts**

- City Participation at Local Events
- City Stormwater Information Website
- New Homeowner Packets
- Utility inserts
- Labeling of Storm Sewer Drains

### **2. Public Involvement/Public Participation**

- Public Involvement in Meetings
- Beach Clean-Up/Outfall Monitoring

### **3. Illicit Discharge Detection and Elimination**

- Storm Sewer Map
- Illicit Discharge Inspections

### **4. Construction Site Stormwater Runoff Control**

- Erosion and Sediment Control Ordinance
- Construction Site Waste Control Ordinance
- Site Plan Review
- Public Complaints, Comments, and Feedback
- Construction Site Inspections

### **5. Post– Construction Stormwater Management in New Development and Redevelopment\***

### **6. Pollution Prevention/Good Housekeeping for Municipal Operations.**

- Pet Waste Collection.
- Storm Sewer System Vacuuming.
- Storm Sewer System Maintenance.
- Recycling Program.
- Grate Inlet Skimmer Boxes.
- City of Marco Island Facility Inspections.
- Street Sweeping.
- Employee Spill Prevention/ Hazardous Materials Training.
- Fleet Maintenance.
- Erosion and Sediment Control Inspection Training.

## **Waterways Committee Report on Best Practices (Crain & Roth ) (30 minutes)**

1. Overview of WAC Committee members

2. Review Waterway's Committee Mission Statement.

- water quality.
- safe boating/navigation.
- waterway maintenance.
- infrastructure and public awareness.

3. Discuss Educational Materials Developed by Committee

- Clean Boating Habits
- Healthy Waterways
- Fertilizing/Lawn Care ???

4. Amend the current Stormwater Ordinance to:

- Expand coverage to single family homes.
- Improve pollutant removal efficiencies.
- Provide for penalties for failure to adhere to the Code.

5. Street Vacuuming

- Main & Residential streets.
- Cost estimates.

6. What Can Residents Do?

- Pervious walkways and driveways.
- Rain gardens.
- Florida friendly gardens and lawns.
- Fix illegal outlets to canals.
- Personal backyard reefs.

7. By the end of 2021 survey all swales to identify missing and non-compliant areas.

- Develop 5 year plan with Capital Budget requests to fix problem areas.

8. Elimination of illegal outlets into canals.

9. Explore the feasibility of establishing a Marco Island Stormwater Management District funded by annual fees.

## **Public Comments (30 minutes)**