2. Clayton McCormack, Infrastructure Solution Services – summary of Wastewater and Onsite Sewage Treatment and Disposal Systems (OSTDS) Draft Remediation Plans.

CITY OF PALM BAY FLORIDA

Indian River Lagoon Basin Management Action Plan Wastewater Treatment Plant and Onsite Sewage Treatment and Disposal System Remediation Plan

City Council Presentation

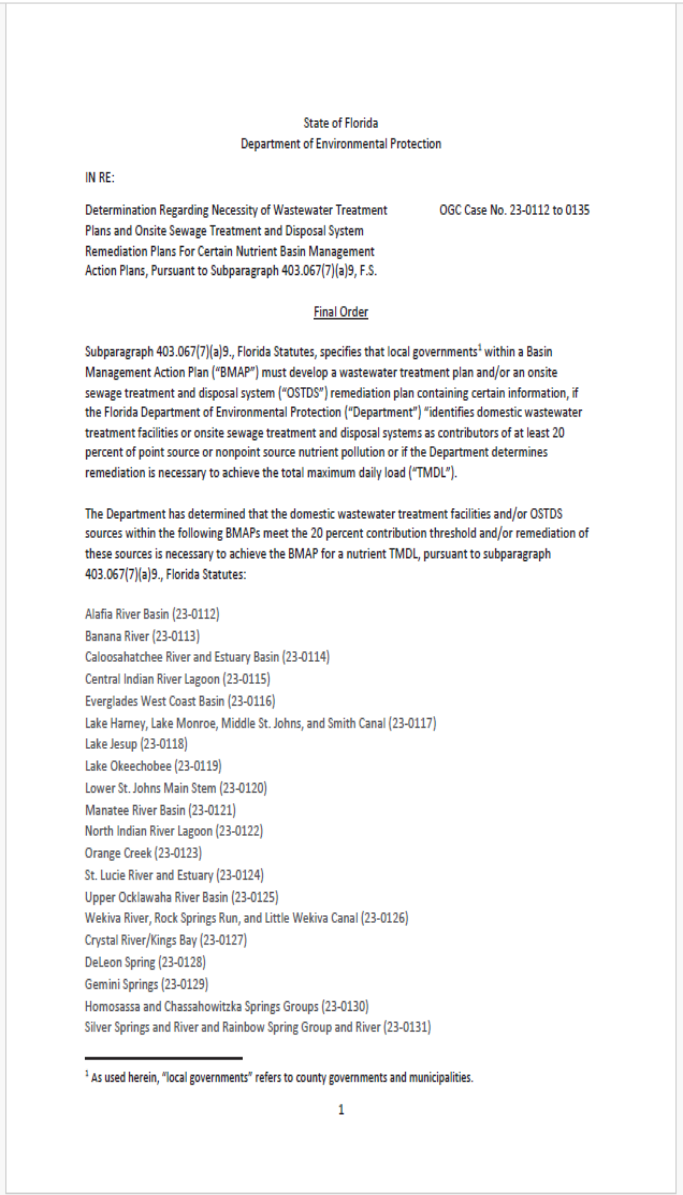
January 18, 2024

Project Goals/Objectives

Assist City to comply with Clean Waterways Act (Senate Bill 712) and FDEP Final Order requiring the preparation of an Wastewater Treatment and Onsite Sewage Treatment and Disposal System (OSTDS) Remediation Plan

FDEP Submittal Requirements:

- Draft Submittal – Feb 1, 2024
- Final Submittal – July 1, 2024
- Documentation & Data



State of Florida
Department of Environmental Protection

IN RE:

Determination Regarding Necessity of Wastewater Treatment Plans and Onsite Sewage Treatment and Disposal System Remediation Plans For Certain Nutrient Basin Management Action Plans, Pursuant to Subparagraph 403.067(7)(a)9, F.S.

OGC Case No. 23-0112 to 0135

Final Order

Subparagraph 403.067(7)(a)9., Florida Statutes, specifies that local governments[1] within a Basin Management Action Plan ("BMAP") must develop a wastewater treatment plan and/or an onsite sewage treatment and disposal system ("OSTDS") remediation plan containing certain information, if the Florida Department of Environmental Protection ("Department") "identifies domestic wastewater treatment facilities or onsite sewage treatment and disposal systems as contributors of at least 20 percent of point source or nonpoint source nutrient pollution or if the Department determines remediation is necessary to achieve the total maximum daily load ("TMDL").

The Department has determined that the domestic wastewater treatment facilities and/or OSTDS sources within the following BMAPs meet the 20 percent contribution threshold and/or remediation of these sources is necessary to achieve the BMAP for a nutrient TMDL, pursuant to subparagraph 403.067(7)(a)9., Florida Statutes:

Alafia River Basin (23-0112)
Banana River (23-0113)
Caloosahatchee River and Estuary Basin (23-0114)
Central Indian River Lagoon (23-0115)
Everglades West Coast Basin (23-0116)
Lake Harney, Lake Monroe, Middle St. Johns, and Smith Canal (23-0117)
Lake Jesup (23-0118)
Lake Okeechobee (23-0119)
Lower St. Johns Main Stem (23-0120)
Manatee River Basin (23-0121)
North Indian River Lagoon (23-0122)
Orange Creek (23-0123)
St. Lucie River and Estuary (23-0124)
Upper Ocklawaha River Basin (23-0125)
Wekiva River, Rock Springs Run, and Little Wekiva Canal (23-0126)
Crystal River/Kings Bay (23-0127)
DeLeon Spring (23-0128)
Gemini Springs (23-0129)
Homosassa and Chassahowitzka Springs Groups (23-0130)
Silver Springs and River and Rainbow Spring Group and River (23-0131)

[1] As used herein, "local governments" refers to county governments and municipalities.

1

What is a Basin Management Plan (BMAP)?

- A Basin Management Action Plan (BMAP) is a framework for water quality restoration that contains local and state commitments to reduce pollutant loading through current and future projects and strategies.
- BMAPs contain a comprehensive set of solutions, such as permit limits on wastewater facilities, septic tanks, urban and agricultural best management practices, and conservation programs designed to achieve pollutant reductions established by a total maximum daily load (TMDL).
- These broad-based plans are developed with local stakeholders and rely on local input and commitment for development and successful implementation.
- BMAP is the regulatory framework used by FDEP to improved water quality.
- BMAPs are adopted by Florida Department of Environmental Protection Orders and are legally enforceable.

Indian River Lagoon BMAP

Total Maximum Daily Load (TMDL)

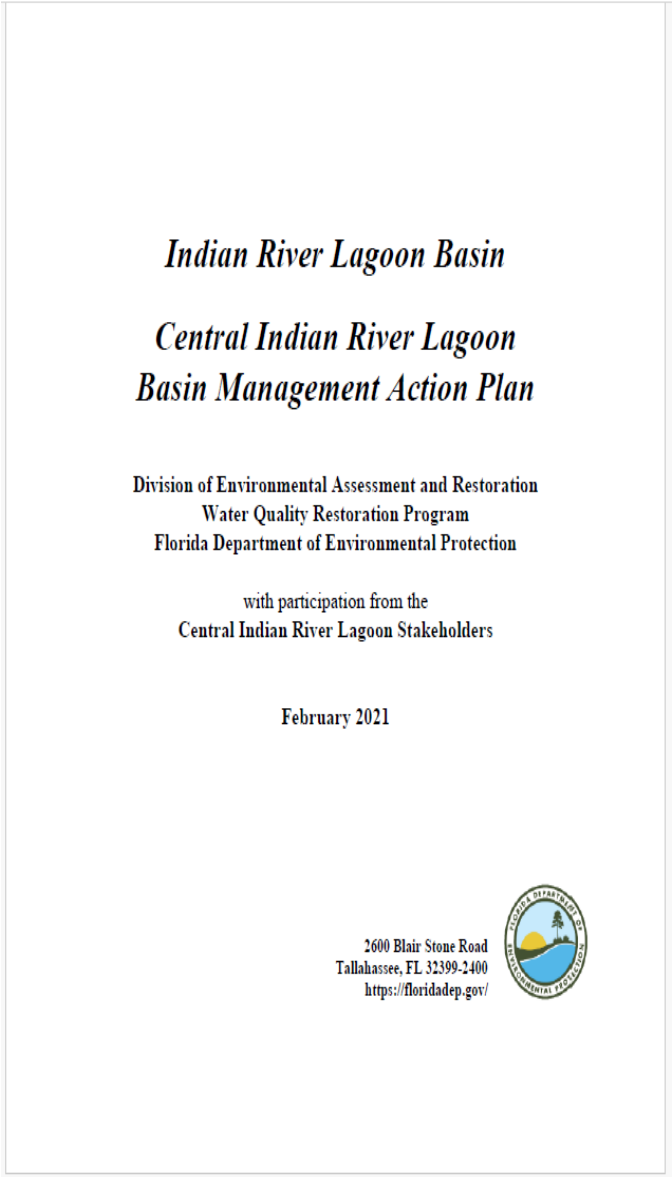
- Water Quality Goal for Max Pollutants Waterbody can Assimilate
- Based upon Seagrass Regrowth & Other Water Quality Indicators
- Established by FDEP in March 2009
- Nutrients Reductions for Nitrogen Phosphorus
- Deadline of 2035 for Achieving Load Reductions

Nutrient Reduction Achieved Through 2020

- Total Nitrogen Reduction 23%
- Total Phosphorus Reduction 51%

Other IRL Stakeholders

- Save Our Indian River Lagoon
- IRL National Estuary Program (IRL Council)
- Brevard County
- Other Local Governments
- FDOT



Indian River Lagoon Basin

Central Indian River Lagoon Basin Management Action Plan

Division of Environmental Assessment and Restoration
Water Quality Restoration Program
Florida Department of Environmental Protection

with participation from the
Central Indian River Lagoon Stakeholders

February 2021

2600 Blair Stone Road
Tallahassee, FL 32399-2400
https://floridadep.gov/

Indian River Lagoon Protection Program

Section 373.469, FS

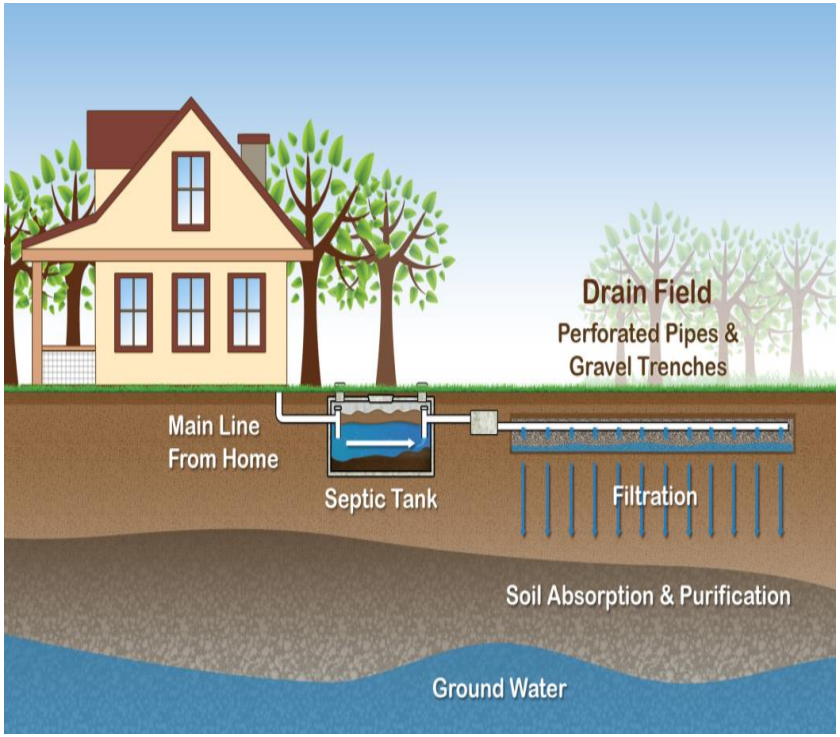
- Starting **January 1, 2024** – Require Enhanced Nutrient Reducing OSTDS for new systems on all lots when sewer is not available.

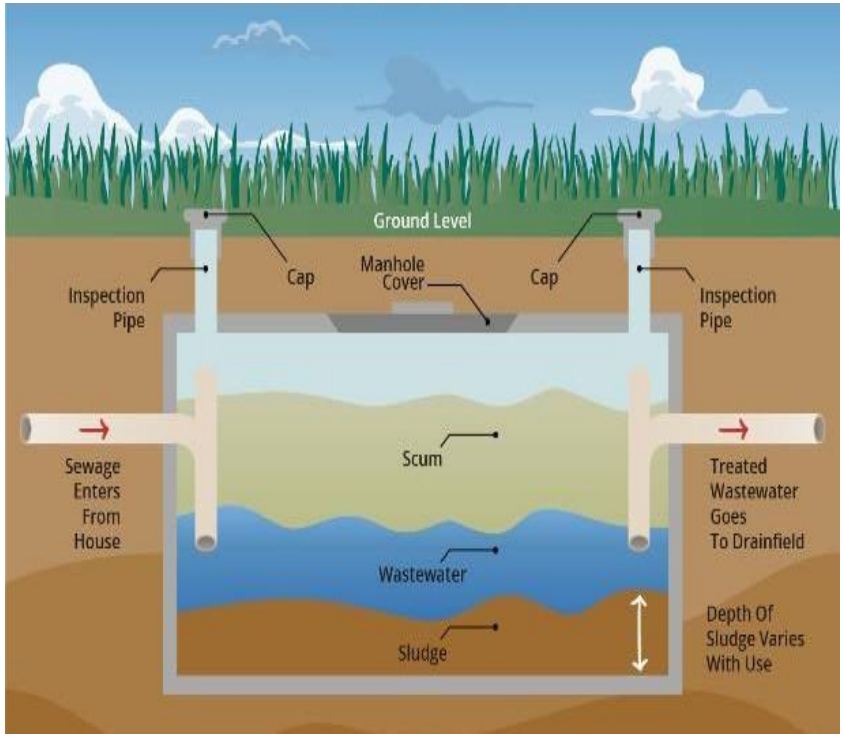
- By **July 1, 2030** – Any commercial or residential with existing OSTDS in IRL BMAP must either 1) Connect to Central Sewer, if available OR 2) Upgrade to Enhanced Nutrient Reducing OSTDS

- Establishes $100M annual appropriation for water quality protection programs

What are Enhanced Nutrient-Reducing OSTDS?

Conventional Septic Systems





What are Enhanced Nutrient-Reducing OSTDS?

Enhanced Nutrient-Reducing Onsite Sewage Treatment and Disposal System (ENR-OSTDS)

Performance

- 65% Nitrogen Reduction

System Types (FDEP Approved)

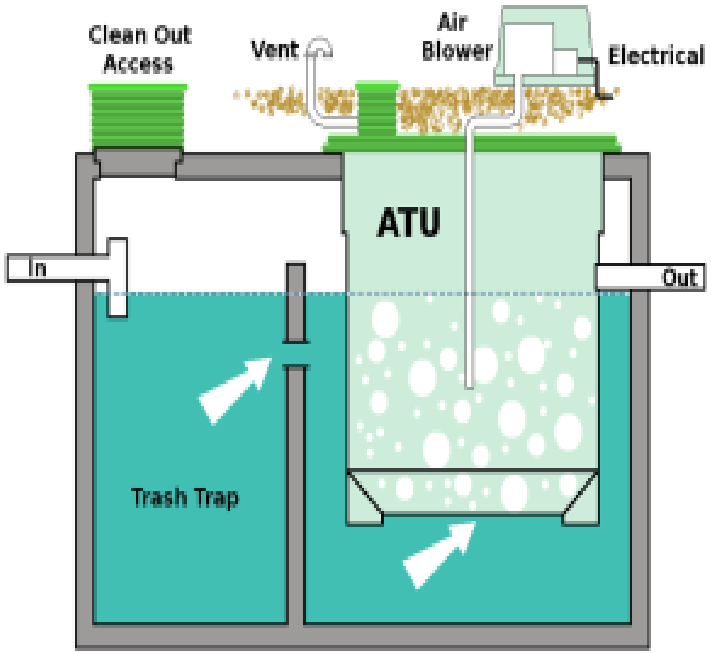
- In-Ground Nitrogen-Reducing Biofilters (INRBs)
- Nitrogen-Reducing Aerobic Treatment Units (ATU)
- Nitrogen-Reducing Performance Based Treatment Systems (PBTS)

Estimated Installed Cost using Existing Drain Field

- $15,000 to $20,000

Annual Operation & Maintenance Cost

- $200 to $500 + Pump Out



ATU with built-in Trash Trap

OSTDS Remediation Plan Elements

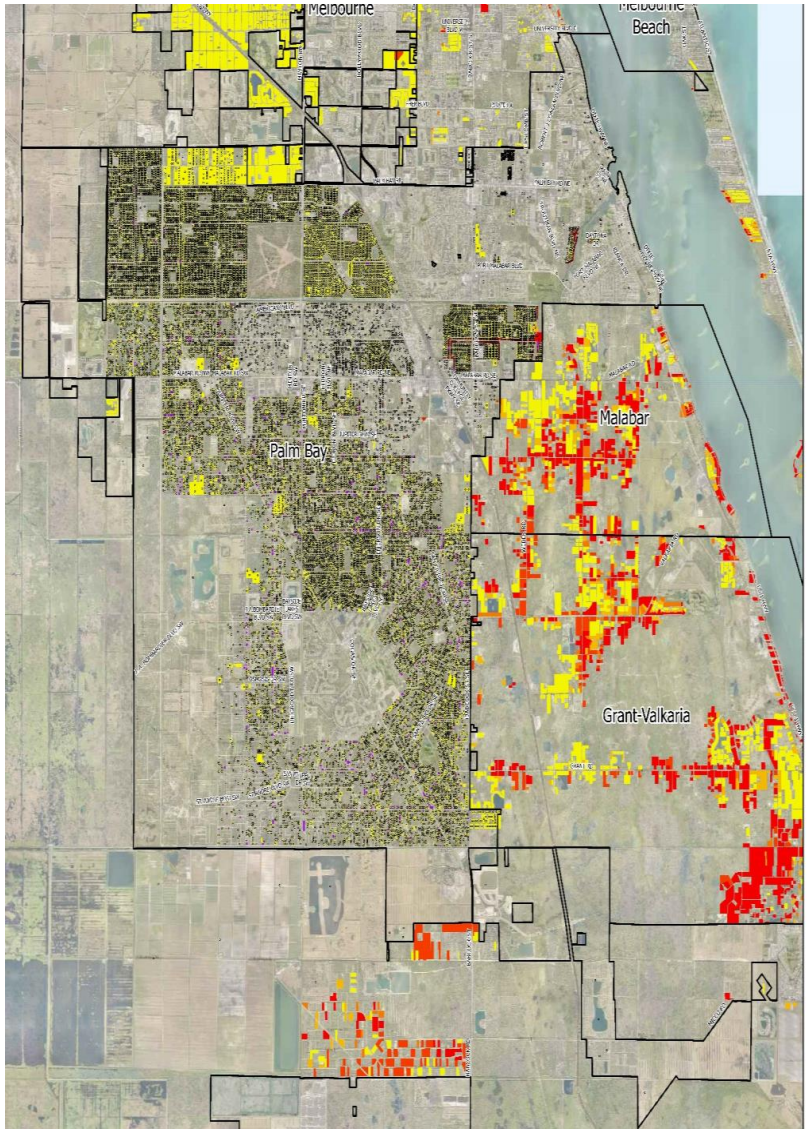
Inventory Existing OSTDS

Existing OSTDS in City - 27,780

Enhanced Nutrient-Reducing OSTDS - 729

Sources of Data

- City provided GIS
- Dept of Health
- Brevard County SOIRL GIS



OSTDS Remediation Plan Elements

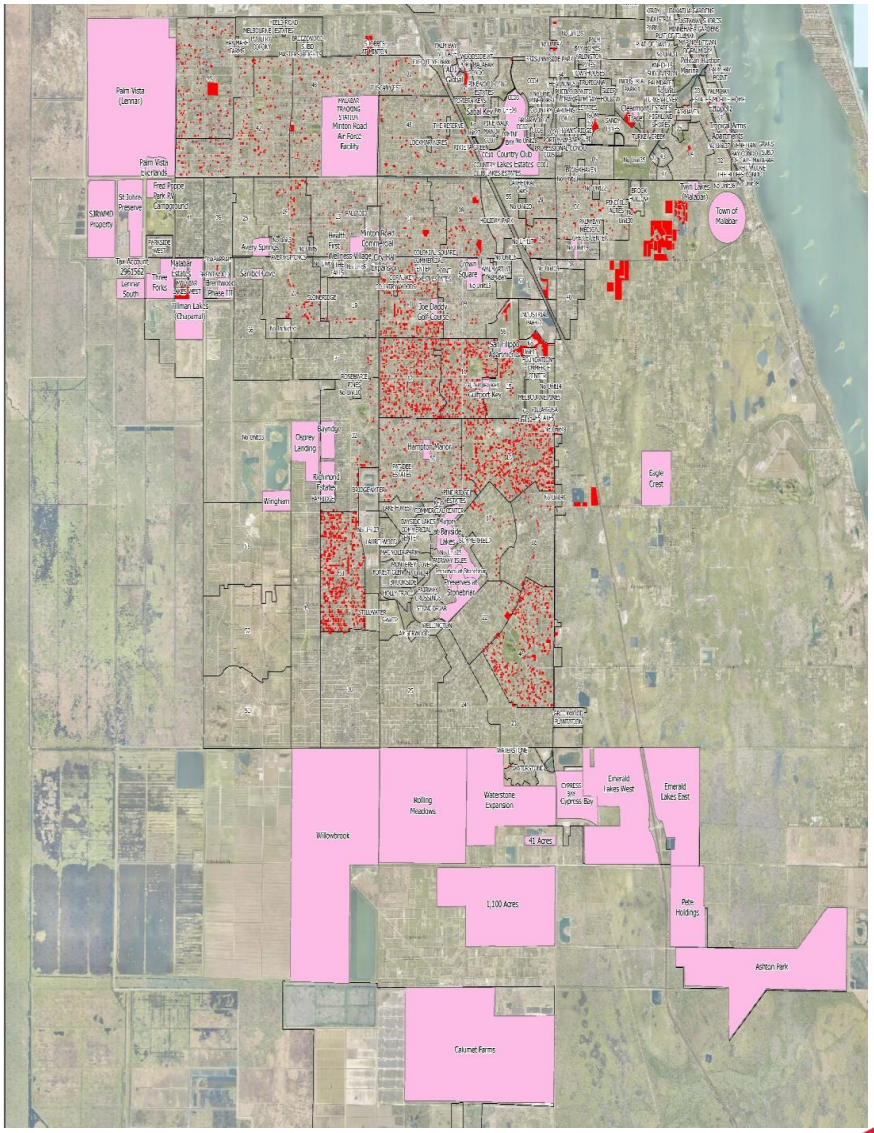
Estimate New OSTDS over Next 20 Yrs

New OSTDS over Next 20 Yrs - 5,834

New OSTDS to be Enhanced Nutrient-Reducing Type

Assumptions

- Comprehensive Plan 2045 Population Growth
- Residential In-Fill Development on OSTDS More Likely in Existing Water Service Area
- New Developments Areas to be Served by Water & Sewer



OSTDS Remediation Plan Elements

Identify OSTDS to be Connected to Central Sewer

Potential Septic To Sewer Conversion Areas	Location	Number of Connections	Estimated Project Costs	Status
Sewer Available Not Connection Area	Units 7, 8, 9, 13	1,066	$ 13 M	On Going
Area A (SOIRL)	Turkey Creek	99	$ 12 M	Design to Start
Area B	Units 6, 28, 29	1,773	$ 100 M	Proposed
Area C	Unit 8	395	$ 25 M	Proposed
	Total	**3,333**	**$ 150 M**	

OSTDS Remediation Plan Elements

Estimated OSTDS to be Upgraded

Existing OSTDS	27,780
Upgraded OSTDS	-729
Septic to Sewer Conversions	-3,333
OSTDS to be Upgraded	**23,718**
Total Cost to Upgrade OSTDS	**$ 500 M**

Wastewater Treatment Remediation Plan

South Regional Water Reclamation Facility

- First Phase Under Construction
- Phased Expansion to 6 MGD over 20 Yrs
- Meets Future BMAP Nutrient Limits

Wadetrim.com

Wastewater Treatment Remediation Plan

North Regional Water Reclamation Facility

- Upgraded to Nutrient Removal in 2022
- SOIRL Program Funded Upgrades ($3.6M)
- Meets Future BMAP Nutrient Limits

Wadetrim.com

Wastewater Treatment Remediation Plan

North Regional Wastewater Treatment Plant

- Feasibility Study for Additional Nutrient Removal
- Does Not Meets Future BMAP Nutrient Limits without Upgrades
- $10 to 15 M Estimated Cost to Upgrade

Basin Action Management Plan
Remediation Plan Overall Cost Summary

Remediation Plan Components	Estimated Project Costs
Connect OSTDS to Central Sewer	$ 150 M
Upgraded OSTDS	$ 500 M
Upgrade Wastewater Treatment Plant	$ 15 M
Total BMAP Remediation Plan Cost	**$ 665 M**

Questions?

INFRASTRUCTURE SOLUTION SERVICES