Lake Park Town Commission, Florida

Regular Commission Meeting

Commission Chamber, Town Hall, 535 Park Avenue, Lake Park, FL 33403
November 18, 2026
Immediately Following the Community Redevelopment Agency Meeting

Roger Michaud	__	**Mayor**
Michael Hensley	__	**Vice Mayor**
John Linden	__	**Commissioner**
Michael O'Rourke	__	**Commissioner**
Judith Thomas	__	**Commissioner**
Richard J. Reade	__	**Town Manager**
Thomas J. Baird	__	**Town Attorney**
Vivian Mendez, MMC	__	**Town Clerk**

PLEASE TAKE NOTICE AND BE ADVISED, that if any interested person desires to appeal any decision of the Town Commission, with respect to any matter considered at this meeting, such interested person will need a record of the proceedings, and for such purpose, may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based. Persons with disabilities requiring accommodations in order to participate in the meeting should contract the Town Clerk's office by calling 881-3311 at least 48 hours in advance to request accommodations.

CIVILITY AND DECORUM

The Town of Lake Park is committed to civility and decorum to be applied and observed by its elected officials, advisory board members, employees and members of the public who attend Town meetings. The following rules are hereby established to govern the decorum to be observed by all persons attending public meetings of the Commission and its advisory boards:

- Those persons addressing the Commission or its advisory boards who wish to speak shall first be recognized by the presiding officer. No person shall interrupt a speaker once the speaker has been recognized by the presiding officer. Those persons addressing the Commission or its advisory boards shall be respectful and shall obey all directions from the presiding officer.
- Public comment shall be addressed to the Commission or its advisory board and not to the audience or to any individual member on the dais.
- Displays of disorderly conduct or personal derogatory or slanderous attacks of anyone in the assembly is discouraged. Any individual who does so may be removed from the meeting.
- Unauthorized remarks from the audience, stomping of feet, clapping, whistles, yells or any other type of demonstrations are discouraged.
- A member of the public who engages in debate with an individual member of the Commission or an advisory board is discouraged. Those individuals who do so may be removed from the meeting.
- All cell phones and/or other electronic devices shall be turned off or silenced prior to the start of the public meeting. An individual who fails to do so may be removed from the meeting.

CALL TO ORDER/ROLL CALL

PLEDGE OF ALLEGIANCE

APPROVAL OF AGENDA:

SPECIAL PRESENTATION/REPORT:

1. Presentation - Palm Beach Sheriff's Office (PBSO) District 10 Drone First Responders Program Trial
2. Presentation, Discussion & Direction – Various Projects – Seacoast Utility Authority (SUA)

PUBLIC COMMENT:

This time is provided for addressing items that do not appear on the Agenda. Please complete a comment card and provide it to the Town Clerk so speakers may be announced. Please remember comments are limited to a TOTAL of three minutes.

CONSENT AGENDA:

All matters listed under this item are considered routine and action will be taken by one motion. There will be no separate discussion of these items unless a Commissioner or person so requests, in which event the item will be removed from the general order of business and considered in its normal sequence on the agenda. Any person wishing to speak on an agenda item is asked to complete a public comment card located on either side of the Chambers and given to the Town Clerk. Cards must be submitted before the item is discussed.

3. Regular Commission Meeting Minutes - November 4, 2026

PUBLIC HEARING(S) - ORDINANCE ON FIRST READING: NONE

PUBLIC HEARING(S) - ORDINANCE ON SECOND READING:

4. Ordinance #10-2026 - Amendment - Town's Comprehensive Plan - Capital Improvements Element - Five Year Capital Improvements Schedule Update (2nd Reading)

AN ORDINANCE OF THE TOWN COMMISSION OF THE TOWN OF LAKE PARK, FLORIDA, UPDATING THE CAPITAL IMPROVEMENTS ELEMENT OF ITS COMPREHENSIVE PLAN; PROVIDING FOR AN UPDATED CAPITAL IMPROVEMENTS SCHEDULE; PROVIDING FOR THE UPDATE OF THE TEXT OF THE CAPITAL IMPROVEMENTS SCHEDULE SO AS TO BE CONSISTENT WITH THE NEW CAPITAL IMPROVEMENTS SCHEDULE; PROVIDING FOR THE REPEAL OF ALL ORDINANCES IN CONFLICT; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

NEW BUSINESS:

5. Discussion - Town Manager Selection Process

TOWN ATTORNEY, TOWN MANAGER, COMMISSIONER COMMENTS:

REQUEST FOR FUTURE AGENDA ITEMS:

ADJOURNMENT:

FUTURE MEETING DATE: Next Scheduled Regular Commission Meeting will be held on December 2, 2026.

Town of Lake Park Town Commission

Agenda Request Form

Meeting Date:	November 18, 2026
Originating Department:	Communications and Grants
Agenda Title:	Presentation - Palm Beach Sheriff's Office (PBSO) District 10 Drone First Responders Program Trial
Agenda Category:	Presentations
Approved by Town Manager:	**Date:**

Cost of Item:	$0.00	**Funding Source:**	N/A
Account Number:	N/A	**Finance Signature:**	N/A
Advertised:			
Date:	N/A	**Newspaper:**	N/A
Attachments:	N/A		

Please initial one:

	Yes I have notified everyone
MDA	Not applicable in this case

Summary Explanation/Background:

The Palm Beach Sheriff's Office (PBSO) will provide the Town Commission with a presentation on the District 10 Drone First Responders Program Trial.

The PBSO is currently in the undergoing of a 30-day trial (which could be extended) within the Town of Lake Park using drone technology to respond to calls for service.

This technology requires certified drone pilots (who are sworn PBSO officers) to operate the drones, which are dispatched to various incidents as part of the trial. The goal of the trial is to evaluate the effectiveness, efficiency, and impact of drone-assisted response. The DFR is enhancing officer safety and providing an extra set of eyes during 911 calls for service.

Recommended Motion:

N/A.

Town of Lake Park Town Commission

Agenda Request Form

Meeting Date:	November 18, 2026
Originating Department:	Public Works Department
Agenda Title:	Presentation, Discussion & Direction – Various Projects – Seacoast Utility Authority (SUA)
Agenda Category:	Presentations
Approved by Town Manager:	_____ **Date:** _____

Cost of Item:	$0.00	**Funding Source:**	N/A
Account Number:	N/A	**Finance Signature:**	N/A
Advertised:			
Date:	N/A	**Newspaper:**	N/A
Attachments:	N/A		

Please initial one:

_____ Yes I have notified everyone

MDA Not applicable in this case

Summary Explanation/Background:

Mr. Rim Bishop, Executive Director, Mr. Keith Webber, Chief Operating Officer, with Seacoast Utility Authority (SUA) as well as members of their consultant engineering firm and construction contractor will provide the Town Commission with a presentation on the following:

- SUA's water and wastewater capacity to support the utility needs within the Town
- Update on the current water line replacement project within the norther section of the Town
- Update on future utility projects within the Town of Lake Park
- Provide information on how the SUA can assist the Town with the design and construction of the septic-to-sewer project that is planned to be completed.

It should be noted that SUA has a history of supporting the Town's capital projects, most recently along Lakeshore Boulevard, and they continue to be supportive of the Town with the proposed septic-to-sewer project. As a result, Mr. Bishop and Mr. Webber and the SUA team are expected to present ideas and

options for the Town to complete this important environmental project especially since funding is not fully available at this time and there will be a property owner amount/cost that will need to be funded (some of the properties are expected to be six-figures).

However, please note that this presentation will not discuss the funding options at length as the Town's PW Director has been directed to investigate assessment options similar to programs that the SUA has worked under with previous projects within other local communities (i.e., Palm Beach Gardens, etc.). This information, along with how to engage with the community that will be impacted by this program, will be brought back to the Town Commission for discussion and direction at a later date.

Note: After reviewing the design work that has been previously completed by the Town and its continuing engineering services contracted firm, Engenuity Group, SUA noted that the Town will need to meet Consultants' Competitive Negotiation Act (CCNA) and state law with the selection of an engineering firm for this project. Although the Town engaged with Engenuity Group to do the design work earlier, the Town did not competitively solicit bids for design services on this project and, as a result (due to the expected overall pricing of this project), state law will require the Town to separately bid this engineering work as a separate project rather than using Engenuity Group under the Town's existing continuing services contract.

This is concerning as it will appear that the Town is double spending on this aspect of the project; however, the Public Works Department staff will attempt to obtain the completed design files that have been completed to be utilized by a new, competitively selected vendor to complete the design work going forward and not require the Town to support the costs for new design and engineering plans.

Further, since Engenuity has completed the work that we have today, they will not be able to bid/be selected as our project engineering firm on this project.

This is another example of the real need for the Town's staff to better understand the Town's procurement policy as well as local, state and federal purchasing laws and regulations. The Town Commission has authorized funding for a procurement specialist/manager position (reclassified a previously existing position within the Finance Department) and will begin the process of advertising once our new Assistant Finance Director begins (finalizing the vetting process) to help with these type of issues in the future.

Recommended Motion:

The Town Commission is requested to consider, discuss and provide input/direction regarding the Town partnering with the SUA to support the funding, design and construction of the Town's proposed septic-to-sewer project.

Lake Park Utility Infrastructure Improvement Program

Capital Improvement Program Overview & Project Updates

Presented to the Town of Lake Park Commission

November 18, 2026

Seacoast Utility Authority | Overview

Serving approximately 100,000 residents in northern Palm Beach County

History

- Established August 17, 1988
- Operations began December 20, 1988
- Not-for-profit governmental utility formed by interlocal agreement

Member Governments

- **Town of Lake Park**
- Village of North Palm Beach
- Town of Juno Beach
- City of Palm Beach Gardens
- Palm Beach County (Unincorporated)

Governance

- Five-member Board, one seat per member government
- Lake Park seat: Town Manager Richard Reade

Seacoast Utility Authority | System Overview

Serving 65 square miles of northern Palm Beach County

	SUA System-Wide	Town of Lake Park	
Water Main Miles	529	39.5	7.5% of SUA
Water Service Connections Residential & Commercial	41,506	2,451	5.9% of SUA
Gravity Sewer Main Miles	323	26.0	8.0% of SUA
Sewer Service Connections Residential & Commercial	35,486	~2,300	6.5% of SUA

30.5 MGD Hood Road Water Treatment Plant

12.0 MGD PGA Wastewater Treatment Plant

Treatment plants serve the entire SUA system, including the Town of Lake Park.

Lake Park | Downtown Sewer Capacity

Park Avenue Downtown District (PADD): uncommitted capacity for redevelopment

PERMITTED WATER SUPPLY CAPACITY AVAILABLE

1.94 MGD

5,545 ERC system-wide

Distribution system adequate for demand and fire flow

PERMITTED WASTEWATER TREATMENT CAPACITY AVAILABLE

3.86 MGD

14,034 ERC system-wide

Treatment and disposal capacity in place

PADD SEWER COLLECTION CAPACITY AVAILABLE

229 ERC

About 250 housing units

Limiting factor for PADD redevelopment

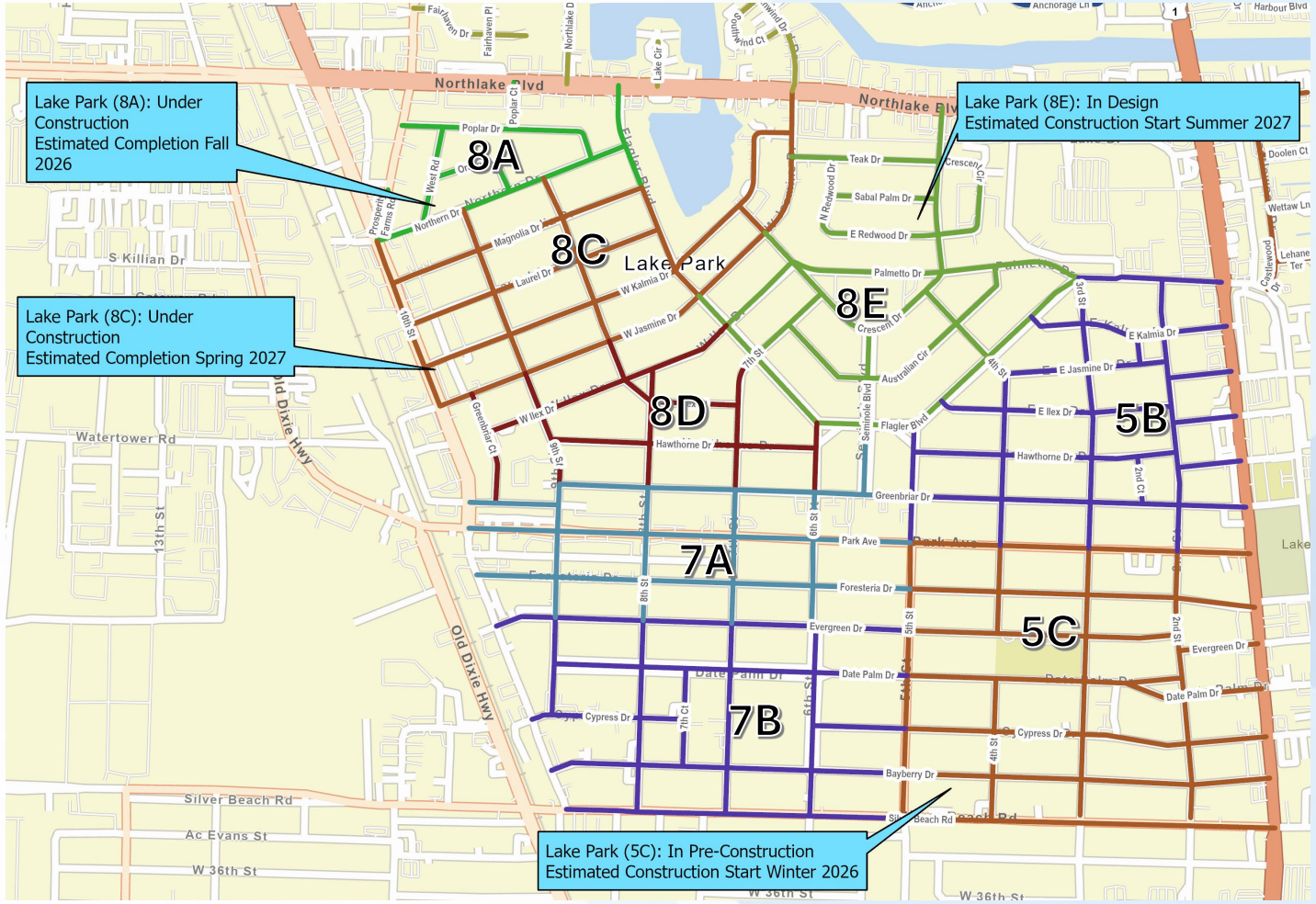
- **Plant capacity is not the constraint.** The local gravity collection and pumping system serving the core PADD area is.
- **No capacity problems today.** No history of failures, backups, or pumping issues, and no upgrade is currently planned.
- **If PADD development needs more,** SUA will work with the Town on expansion. This may require additional lift stations, force mains, or an upgraded gravity system.

ERC = Equivalent Residential Connection (275 gpd wastewater). Multifamily unit = 0.91 sewer ERC. Capacity as of February 18, 2026.

Lake Park | Infrastructure Improvement Program

Why Infrastructure Improvements Are Needed

- Much of Lake Park's water system was installed between 1956 and 1960 using Transite water mains, a cement-based pipe.
- Transite mains typically last 65 to 100 years depending on pipe size. Lake Park's mains are approaching 70 years of service.
- Approximately 24 miles of water main to be replaced within the Town
- Approximately 2,451 residential and commercial water service connections within the Town



Lake Park 8A | Neighborhood Improvements

ACTIVE CONSTRUCTION



LOCATION

Prosperity Farms Road, Poplar Drive, Poplar Court, West Road, Orange Drive, Northern Drive, and Flagler Boulevard

PROJECT DESCRIPTION

Replacement of Transite water mains installed around 1960 with new ductile iron pipe, plus additional sanitary sewer service cleanouts to improve maintenance access.

PROJECT STATUS

- Construction in Progress
- Water Main Installation Complete
- Water Service Switchover in Progress

SCHEDULE

- Construction Start: December 2025
- Anticipated Substantial Completion: November 2026
- Anticipated Final Restoration: December 2026

CONTRACTOR

Centerline Utilities, Inc.



Sidewalk and Roadway Restoration



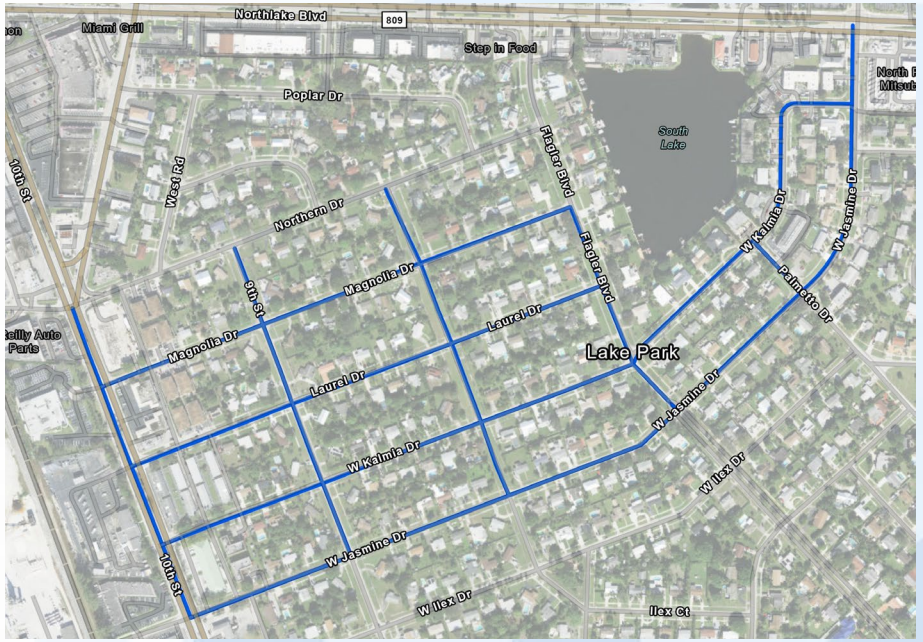
Sanitary Sewer Service Cleanout



Water Main Installation

Lake Park 8C | Neighborhood Improvements

ACTIVE CONSTRUCTION



LOCATION

Magnolia Drive, Laurel Drive, Kalmia Drive, Jasmine Drive, Flagler Boulevard, Palmetto Drive, and 8th Street through 10th Street

PROJECT DESCRIPTION

Replacement of Transite water mains installed around 1960 with new ductile iron pipe, plus additional sanitary sewer service cleanouts to improve maintenance access.

PROJECT STATUS

- Construction in Progress
- Water Main Installation in Progress
- Water Service Installation in Progress

SCHEDULE

- Construction Start: April 2026
- Anticipated Substantial Completion: March 2027
- Anticipated Final Restoration: April 2027

CONTRACTOR

Centerline Utilities, Inc.



Sidewalk Restoration



Fire Hydrant Installation



Water Main Installation

Lake Park 5C | Neighborhood Improvements

PRE-CONSTRUCTION

LOCATION

Bayberry Drive, Cypress Drive, Date Palm Drive, Evergreen Drive, Foresteria Drive, Silver Beach Road, and 2nd Street through 5th Street

PROJECT DESCRIPTION

Replacement of Transite water mains installed around 1957 with new ductile iron pipe, plus additional sanitary sewer service cleanouts to improve maintenance access.

PROJECT STATUS

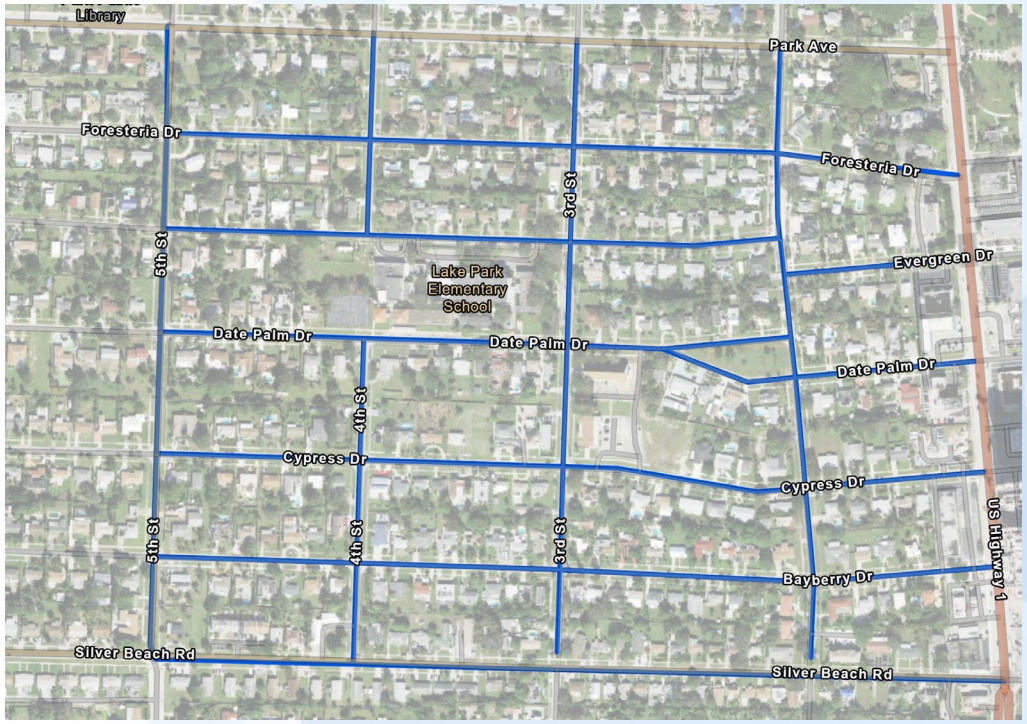
- Construction Authorization Issued to Contractor
- Contractor Obtaining Maintenance of Traffic (MOT) Permits

SCHEDULE

- Anticipated Construction Start: January 2027
- Anticipated Substantial Completion: December 2027
- Anticipated Final Restoration: January 2028

CONTRACTOR

Centerline Utilities, Inc.



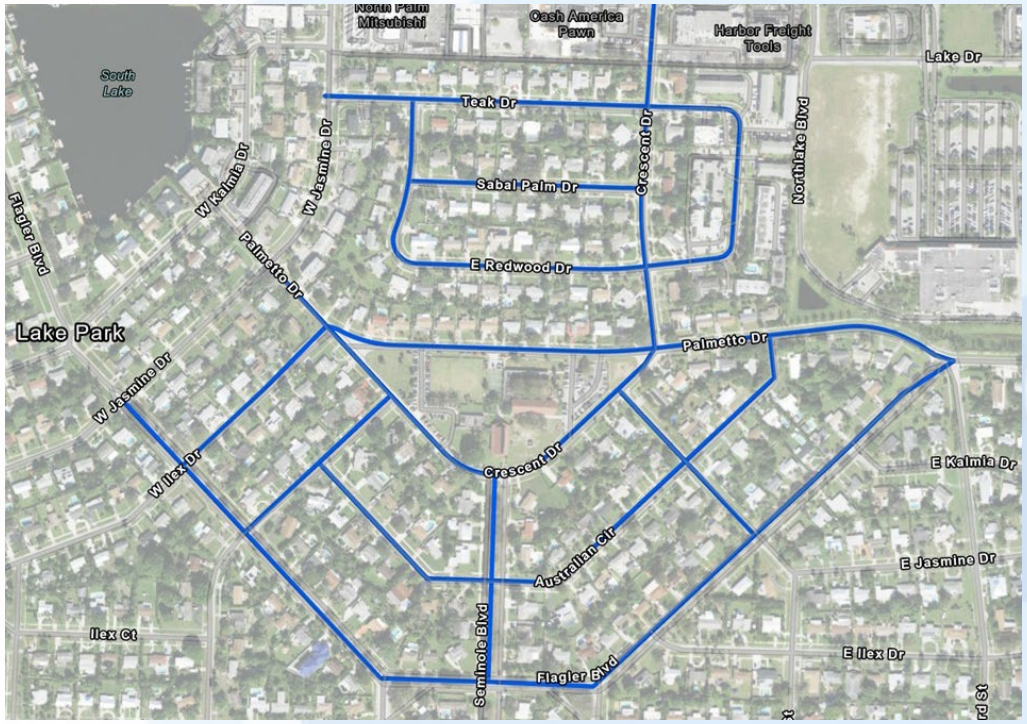
Lake Park 8E | Neighborhood Improvements
DESIGN

LOCATION
Flagler Boulevard, Australian Circle, Crescent Drive, Palmetto Drive, Redwood Drive, Sabal Palm Drive, Teak Drive, Seminole Boulevard, Ilex Drive, 4th Street, and 7th Street

PROJECT DESCRIPTION
Replacement of Transite water mains installed around 1957 with new ductile iron pipe, plus additional sanitary sewer service cleanouts to improve maintenance access.

PROJECT STATUS
- 60% Design Plans Reviewed by SUA
- 90% Design Plans in Progress
- Permit Applications in Preparation

SCHEDULE
- Anticipated Design Completion: January 2027
- Anticipated Construction Bidding: March 2027
- Anticipated Construction Start: Summer 2027



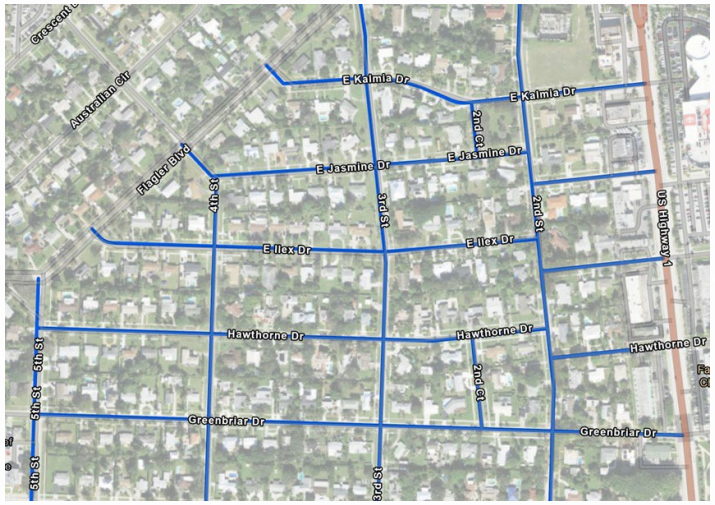
Lake Park | Near-Term Improvements

PROJECTS 5B & 7B

5B PLANNED IMPROVEMENTS

LOCATION

Palmetto Drive
Kalmia Drive
Jasmine Drive
Ilex Drive
Hawthorne Drive
Greenbriar Drive
2nd-5th Streets



PROJECT STATUS

- Design Authorized October 2026

SCHEDULE

- Anticipated Design Completion: September 2027
- Anticipated Construction Bidding: October 2027
- Anticipated Construction Start: Spring 2028

7B PLANNED IMPROVEMENTS

LOCATION

Evergreen Drive
Date Palm Drive
Cypress Drive
Bayberry Drive
Silver Beach Road
6th-8th Streets



PROJECT STATUS

- Design Authorization Pending Board Approval

SCHEDULE

- Anticipated Design Completion: October 2027
- Anticipated Construction Bidding: December 2027
- Anticipated Construction Start: Summer 2028

Anticipated schedules are preliminary and subject to design authorization, funding availability, and budget approval.

Lake Park | Future Improvements
PROJECTS 8D & 7A

8D PLANNED IMPROVEMENTS



LOCATION
Ilex Drive, Ilex Court, Hawthorne Drive, and 6th-9th Streets

PROJECT STATUS
- Design Not Yet Authorized
- Budgetary Cost Analysis Complete

SCHEDULE
- Anticipated Design Completion: September 2028
- Anticipated Construction Start: Spring 2029

7A PLANNED IMPROVEMENTS



LOCATION
Greenbriar Drive, Greenbriar Court, Foresteria Drive, and 6th-9th Street

PROJECT STATUS
- Design Not Yet Authorized
- Budgetary Cost Analysis Complete

SCHEDULE
- Anticipated Design Completion: Fall 2029
- Anticipated Construction Start: Summer 2030

Anticipated schedules are preliminary and subject to design authorization, funding availability, and budget approval.

Lake Park | Utility Infrastructure Investments

CURRENT AND PROJECTED INVESTMENT

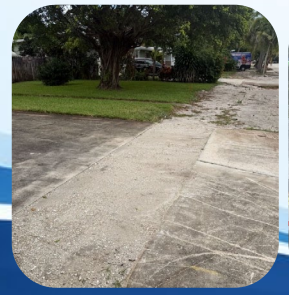
Project Name	Engineering & Inspection Cost	Construction Cost	Total Investment
Lake Park 8A	$388,565	$2,195,600	$2,584,165
Lake Park 8C	$569,362	$3,994,900	$4,564,262
Lake Park 5C	$613,115	$5,397,600	$6,010,715
Lake Park 8E	$754,169	$4,035,000*	$4,789,169*
Total Authorized Project Investment			$17,948,311*
Lake Park 5B	$585,000*	$5,627,000*	$6,212,000*
Lake Park 7B	$750,000*	$5,919,000*	$6,669,000*
Lake Park 8D	$600,000*	$3,756,000*	$4,356,000*
Lake Park 7A	$650,000*	$4,278,000*	$4,928,000*
Planned Projected Total Investment by 2032			$40,113,311*

Current project investments reflect authorized contract values. Estimated costs (*) are based on preliminary budgetary analyses and are subject to design development, funding availability, and final contract authorization.

Lake Park | Construction & Coordination

Construction Impacts

- Temporary lane, roadway, and sidewalk closures as needed
- Access to homes, businesses, and emergency services maintained
- Maintenance of Traffic (MOT) plans in place as required
- Affected residents notified ahead of work and access restrictions


Restoration

- Sidewalks, driveways, roads, and landscaping restored
- Final restoration follows pipe installation
- Timing varies by project





Town Coordination

- Align construction with the Town's paving and microresurfacing program
- Identify conflicts with planned roadway work
- Coordinate closures and traffic impacts with Town staff




Lake Park Program | Project Contacts

Keith Webber, P.E., PMP, ENV SP
Chief Operating Officer
Seacoast Utility Authority
kwebber@sua.com

Scott Serra, P.E.
Engineering Manager
Seacoast Utility Authority
sserra@sua.com

Brian Keilty
Capital Projects Construction Coordinator
Seacoast Utility Authority
bkeilty@sua.com

Kelley Conboy, P.E.
Resident Engineer
Holtz Consulting Engineers
Kelley.Conboy@holtzconsulting.com

Tri-City Industrial Park | Septic to Sewer

Project information provided by the Town of Lake Park and its engineer, Engenuity Group

BACKGROUND (TOWN OF LAKE PARK)

- **42 properties on septic:** Tri-City Industrial Park (29), Public Works area (6), and north section (7)
- **Why convert:** groundwater protection, tightening septic regulations, and limits on redevelopment
- **Recommended system:** Engenuity recommended gravity sewer in Tri-City and low-pressure sewer in the other areas. Low-pressure sewer could also serve the entire project area.
- **Status:** conceptual design plans completed; on hold pending funding and Town direction

TOWN OF LAKE PARK

- Engineering, cost estimates, and assessment options
- Adopt and collect special assessment
- Require properties to connect
- Secure funding; bid and award construction
- Convey completed system to Seacoast

SEACOAST

- Review design at all stages for compliance with Seacoast Engineering Standards and Specifications
- Oversee and inspect construction of the utility improvements
- Own, operate, maintain, and replace the system once it is complete and accepted

$4.74M
2022 conceptual estimate (Engenuity)

$6.01M
January 2026 conceptual estimate (Engenuity)

Cost estimates were prepared by the Town of Lake Park's engineer, not Seacoast Utility Authority. They are preliminary, may not reflect current construction costs, and are subject to change based on final design and Seacoast review comments.

Tri-City Industrial Park | Seacoast's Limitations

SEACOAST CANNOT

Levy or collect assessments

Seacoast was created by interlocal agreement. It isn't a chartered subdivision of the State or a special district with assessment power, and it has no access to the tax roll.

SEACOAST CANNOT

Require properties to connect

Under Florida law (s. 381.00655, F.S.), septic owners must connect within 365 days. That clock starts only when the Town notifies property owners that the sewer is complete and ready for connection. FDEP regulates septic systems. Seacoast has no enforcement authority.

SEACOAST CANNOT

Fund installation without Board approval

Staff has no policy or precedent to fund the project; any request must go to the Seacoast Board. Capital improvements and replacements are paid through rates by existing customers, for the infrastructure that serves them.

TOWN FUNDING OPTIONS eligibility varies

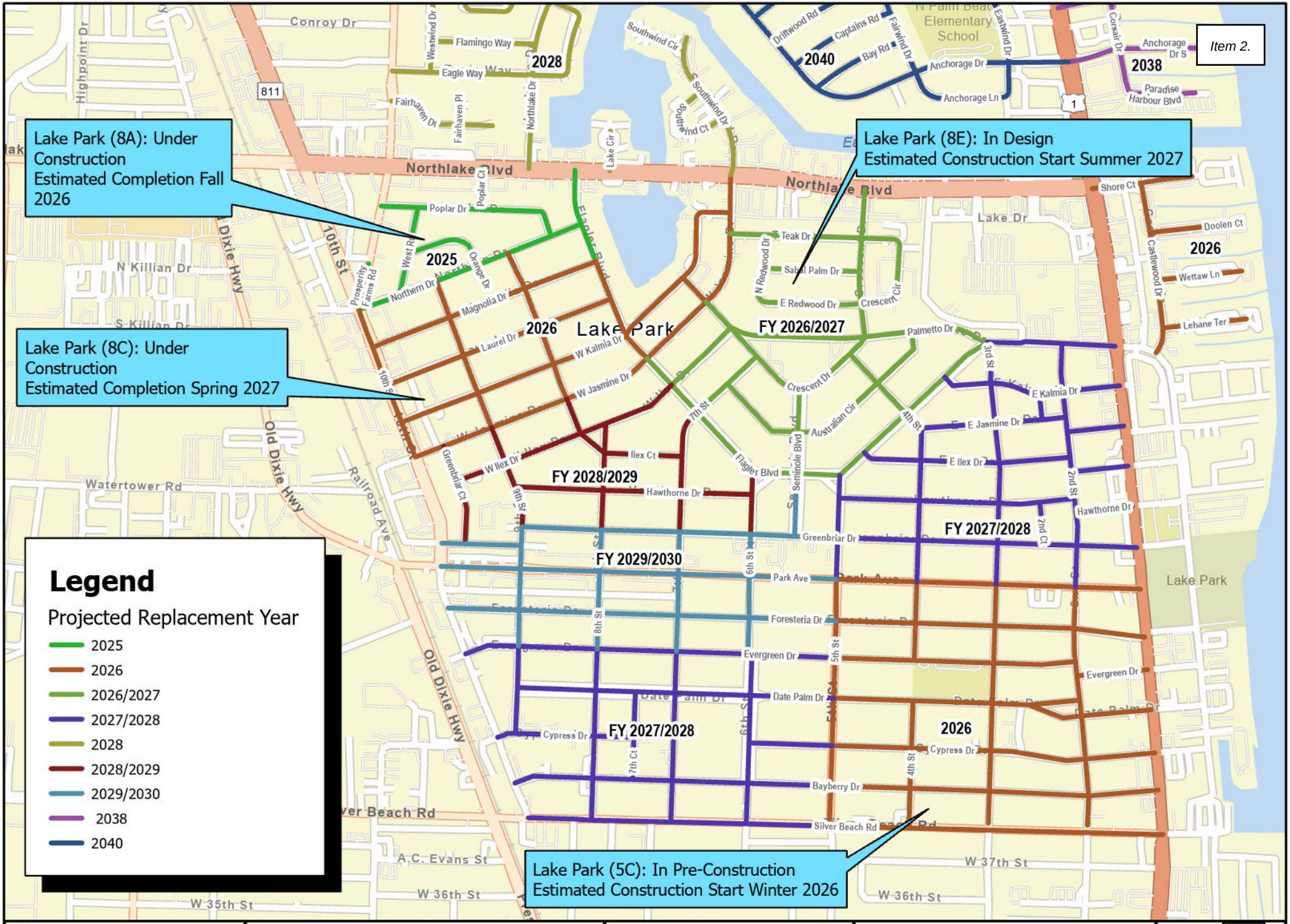
- Special assessment on benefiting properties, collected on the tax bill
- FDEP Clean Water State Revolving Fund (SRF) low-interest loans
- FDEP wastewater grants for septic-to-sewer conversion
- State appropriations or federal community project funding
- Town financing repaid through the assessment

RECOMMENDED PATH FORWARD

1. Town's engineer updates plans and costs
2. Estimate the minimum assessment per property
3. Commission decides on an assessment plan and funding
4. Town confirms funding sources
5. Project goes to bid and construction begins

Questions & Discussion

Lake Park Utility Infrastructure Improvement Program



N / Not to Scale	Seacoast Utility Authority Pipeline Continuing Contractors Program	Town of Lake Park Future Projects	HOLTZ CONSULTING ENGINEERS, INC. 270 SOUTH CENTRAL BLVD., SUITE 207 JUPITER, FLORIDA 33458 PH. (561) 575-2005	FIG

Town of Lake Park

Stakeholder Meeting

August 22, 2022

OLD DIXIE SEPTIC TO SEWER CONCEPTUAL REPORT

PRESENTED BY:

ENGENUITY GROUP INC

1280 N Congress Ave, Suite 101

West Palm Beach, FL 33409

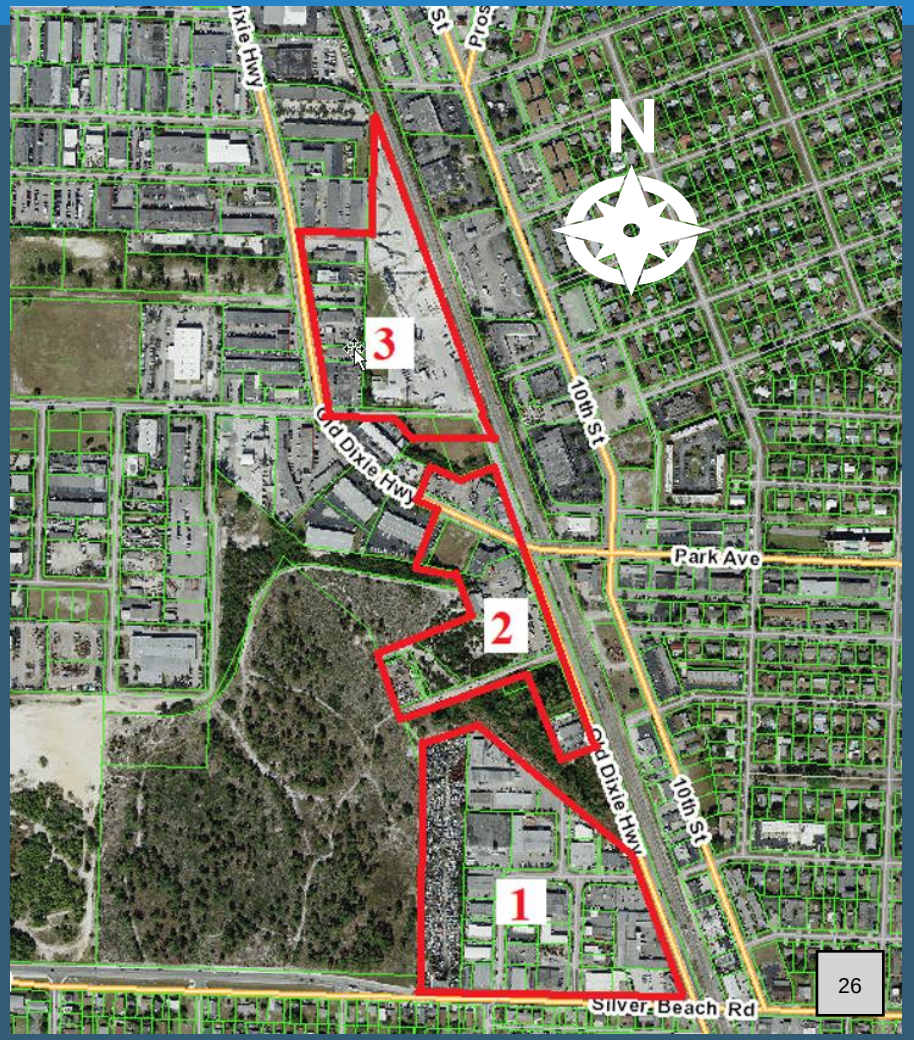
T: 561-655-1151

Job#: 18187.27

THE 3 SECTIONS

- Section 1 - South-Section – Tri City Industrial Park
  29 Properties
- Section 2 – Mid-Section – Lake Park Public Works
  6 Properties
- Section 3 – North-Section
  7 Properties

Total of 42 Properties

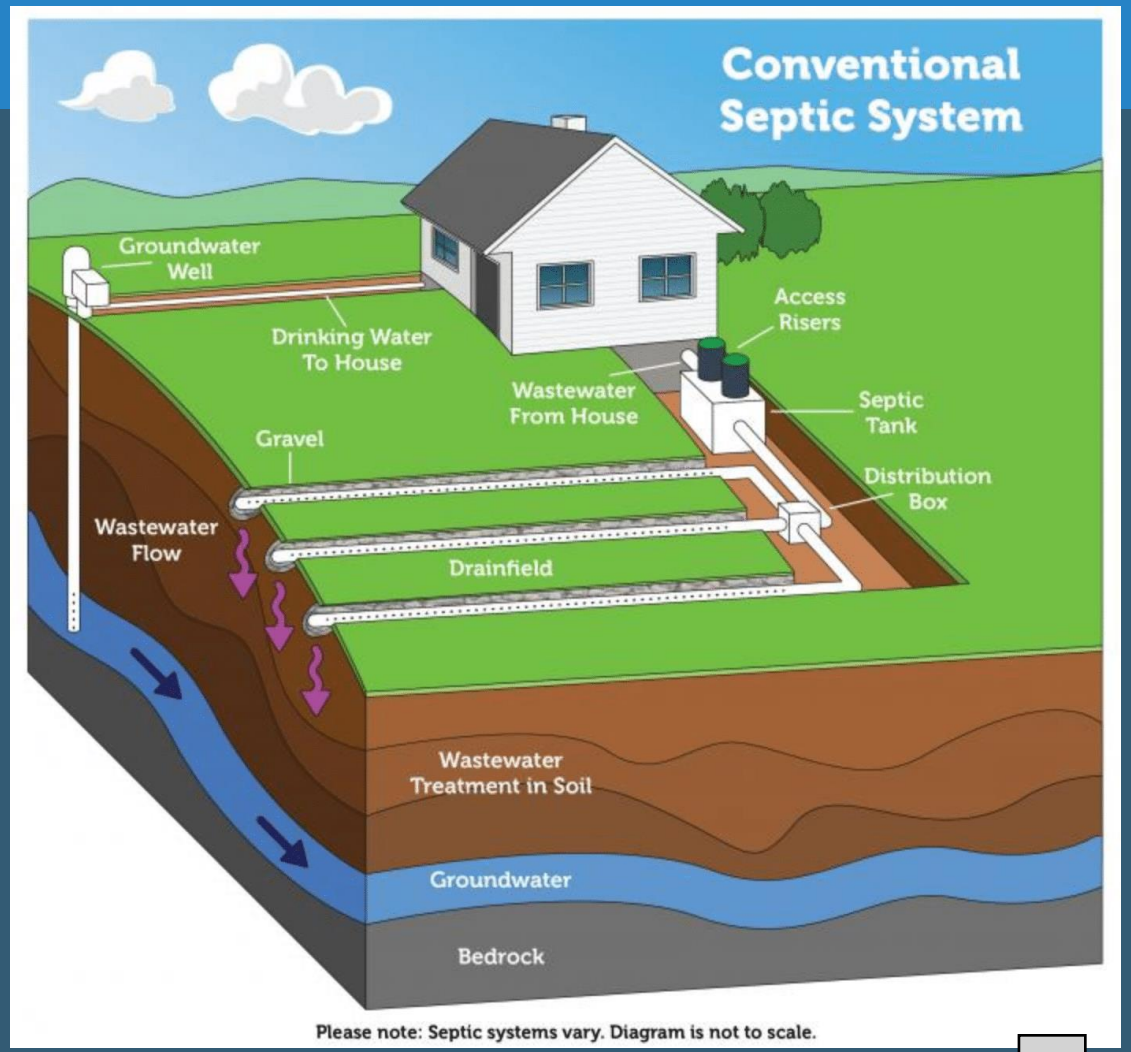


CURRENT SITUATION

- All 42 properties are on septic-type systems
- Groundwater contamination concerns ongoing
- State regulations are discussed annually regarding the adverse environmental impact of these systems
- Palm Beach County Health Department continues to tighten their regulations
- Re-development could be a potential problem
- Property values may remain stagnant

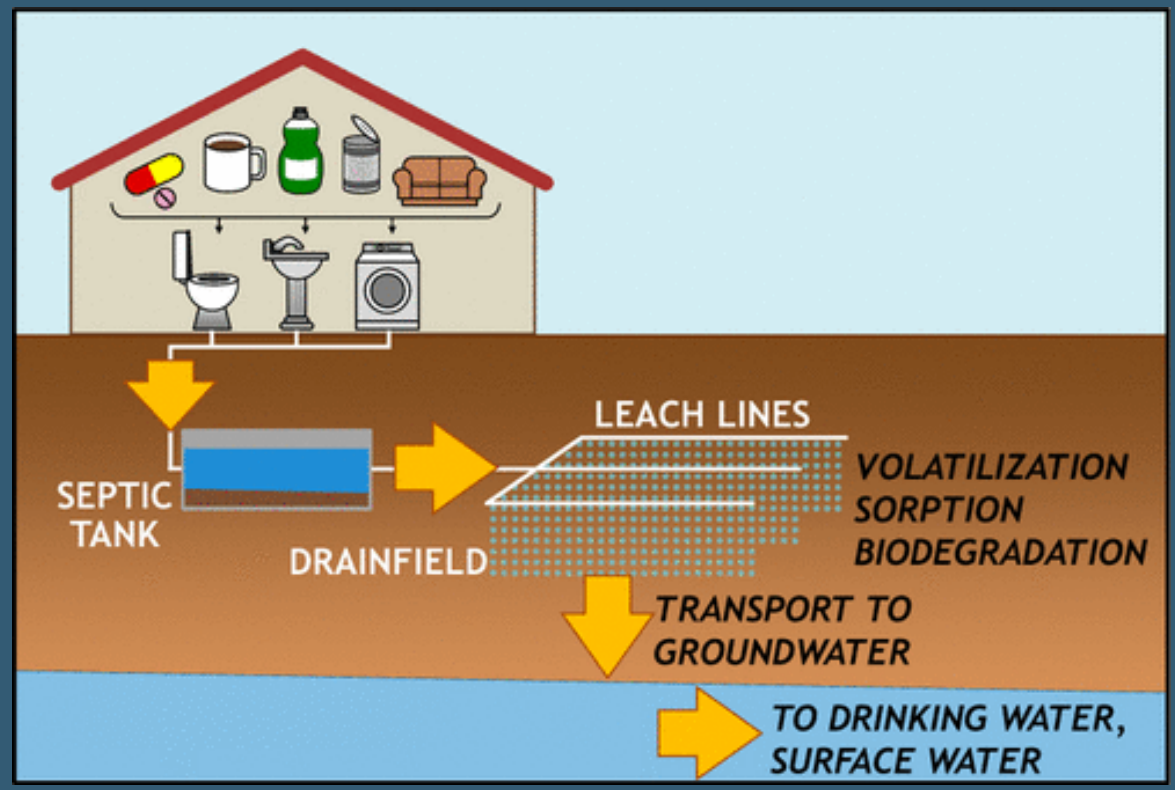
CURRENT WASTEWATER SYSTEM

- THE SEPTIC TANK PROCESS:
  - An underground chamber holds wastewater from a building or home
  - The waste settles and is broken down by naturally occurring enzymes and bacteria
  - The treated wastewater is then drained through underground drainage pipes on the property



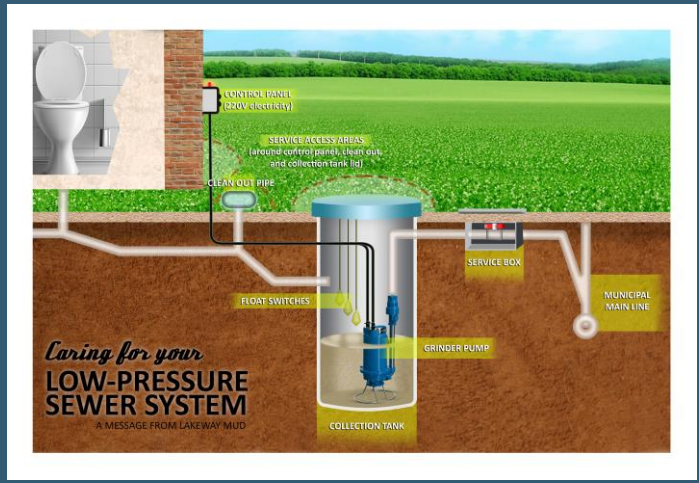
CURRENT SEPTIC TANK CONCERNS

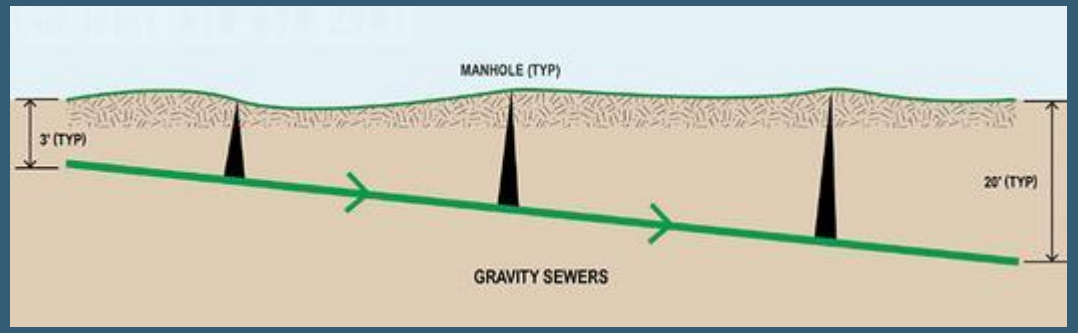
- Concern over effectiveness of the septic tanks for larger-scale industrial use
- Concern over hazardous waste discharge which cannot be treated by septic tanks



TWO REPLACEMENT ALTERNATIVES

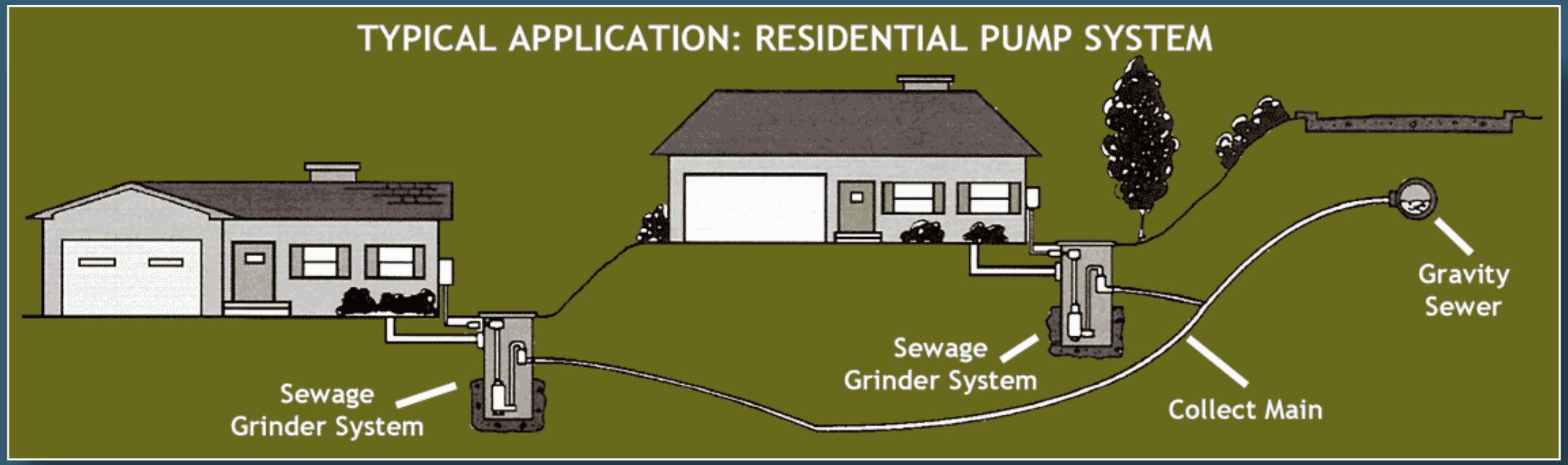
- *The low pressure system* in which every property will have one
- *The gravity/low pressure combination system* where the South-Section (1) will have a gravity sewer, and the rest will have *the low pressure*





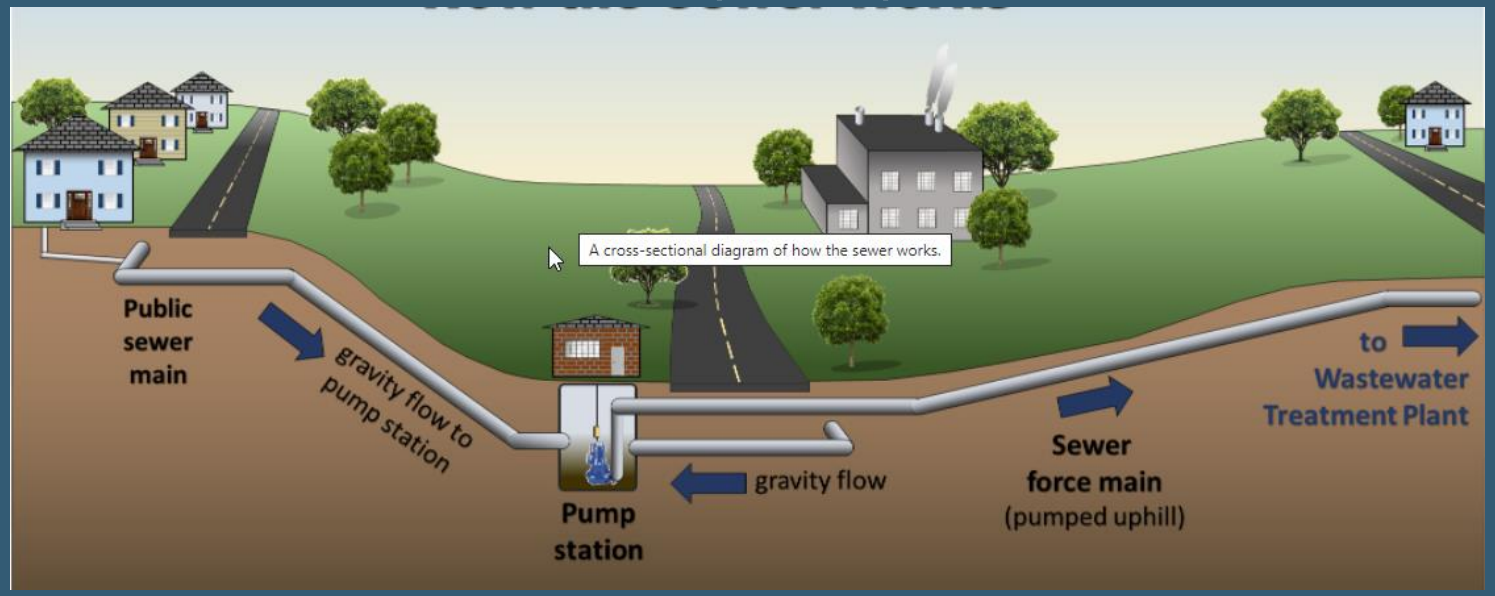
LOW PRESSURE

- The low pressure sewer system:
  - Uses a small pump station located at each property to move wastewater from the building to the regional wastewater treatment facility



GRAVITY SEWER

- The gravity sewer system:
  - Use pipe that are constructed by gravity (called laterals) from a building to a main gravity system.
  - All of the wastewater will travel to a lift station, where it pumps the wastewater to another pump station or a treatment plant.



COST SUMMARY: LOW PRESSURE

Septic to Sewer Feasibility Report

April 2022
Project No. 18187.27

Summary of Estimated Costs -Low Pressure System

		Conceptual Capital Construction Cost[1]	Operation and Maintenance Estimated Annual Costs[2]	Annual Construction Cost - Amortized over 20 years at 4% interest rate	Total annual cost (Maintenance and amortized construction cost)	Average annual cost per property[3]
Proposed Alternatives	Proposed SUA Public System	~$1.04 million	Paid by SUA. (excludes monthly sewer billing)	$75.6k	$75.6k	$1,800
	Proposed Onsite Private System (All 42 properties)	~$3.80 million	~$190k (paid by property owner)	$276k	$466k	$11,090
	Total	~$4.84 million	~$190k (paid by property owner)	$352k	$542k	$12,890

[1] Cost does not include Seacoast Utilities fees for *reservation and administration charges*.

[2] Cost includes the following assumptions: SUA sewer base fee of $30 per month per property as well as usage fee of $0.79/1000 gallons, $1,000 per year per property for lift station maintenance, electricity costs, and 3% of construction cost for ongoing annual renewal and replacement costs.

[3] This cost is the total cost divided evenly over the 42 properties analyzed in this report, and is an average. This is an estimate of the annual total costs during a 20-year loan payback period. The actual cost to each prope[illegible] vary per the enclosed detailed cost breakdowns – see Appendix J

Systems Summary

COST SUMMARY: GRAVITY/LOW PRESSURE

Septic to Sewer Feasibility Report

February 2022
Project No. 18187.27

Summary of Estimated Costs -Gravity / Low Pressure Combination System

		Conceptual Capital Construction Cost[1]	Operation and Maintenance Estimated Annual Costs[2]	Annual Construction Cost Amortized over 20 years at 4% interest rate	Total annual cost (Maintenance and amortized construction cost)	Average annual cost per property[3]
Proposed Alternatives	Proposed SUA Public System	~$3.14 million	Paid by SUA. (excludes monthly sewer billing)	$217k	$217k	$5,160
	Proposed Onsite Private System (All 42 properties)	~$1.60 million	~$60k (paid by property owner)	$116k	$176k	$4,190
	Total	~$4.74 million	~$60k (paid by property owner)	$333k	$393k	$9,350

[1] Cost does not include Seacoast Utilities fees for *reservation and administration charges*.

[2] Cost includes the following assumptions: SUA sewer base fee of $30 per month per property as well as usage fee of $0.79/1000 gallons, 2% of construction cost for ongoing annual renewal and replacement costs.

[3] This cost is the total cost divided evenly over the 42 properties analyzed in this report, and is an average. This is an estimate of the annual total costs during a 20-year loan payback period. The actual cost to each prope[illegible] vary per the enclosed detailed cost breakdowns – see Appendix K

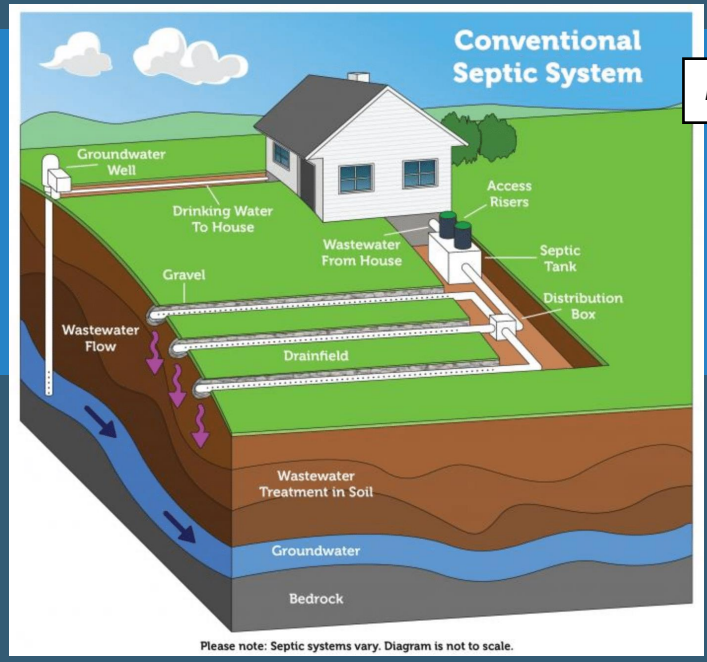
HOW WILL IT BE PAID?

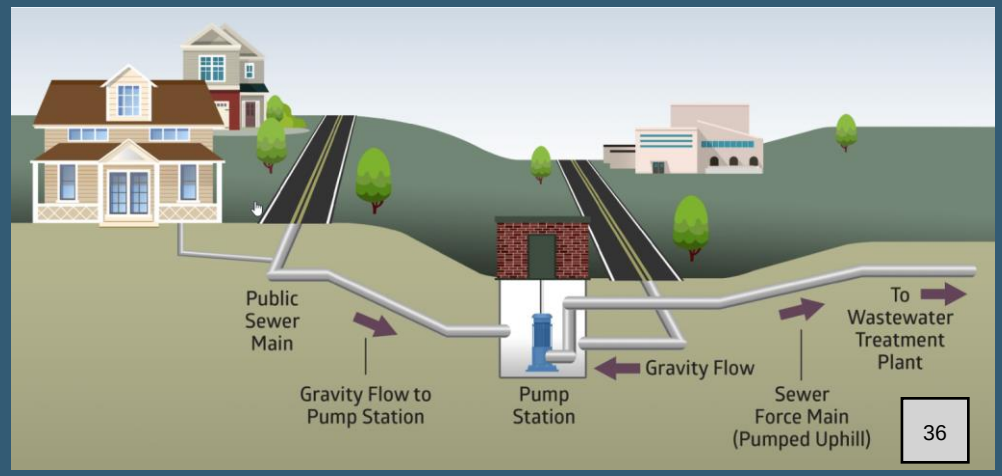
- Several Options
  - Special assessments
  - For public utilities: State/Local taxes or public grants/loans (ARPA Project)
  - For private parcels: direct billing or local taxes
  - Potential bond referendum from Palm Beach County ($30 million)



SUMMARY/ RECOMMENDATION

- Both the gravity and low pressure systems have their advantages and limitations.
- The gravity/low pressure combination system is the recommended option due to lowest construction and maintenance costs.





NEXT STEPS

- Meet with the stakeholders this summer to discuss the project and seek public input (August 22, 2022)
- Engage a financial management consulting firm to discuss funding options for both private and public properties
- Continue to coordinate with Seacoast Utilities to monitor any utility changes, cost changes, and design needs
- Decide on the ultimate alternative in order to prepare a construction set of plans and an opinion of cost
- Have a funding plan in place to ultimately bid out the project for construction

ANY QUESTIONS?



Town of Lake Park

Old Dixie Septic to Sewer Conceptual Report

DRAFT

Prepared for:

Lake Park Town Commission

Michael O'Rourke– Mayor
Kimberly Glas-Castro – Vice Mayor
John Linden - Commissioner
Erin Flaherty – Commissioner
Roger Michaud - Commissioner

Lake Park Town Hall
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October 15, 2021

Prepared by:

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Project No. 18187.27

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1. Purpose and Scope

Over the years, addressing Florida's environmental issues has become increasingly more important. Recently, State Representatives and Senators have been formally discussing the subject of converting existing septic systems to wastewater collection (i.e. Sewer) systems. In order to make this transformation more widespread and meaningful during the upcoming Legislative Session, discussions in Tallahassee included the possibilities of expanding mandatory conversion areas, providing additional funding sources and evaluating the costs/benefits.

The Lake Park Town Commission, in their capacity to strive to provide their landowners a better quality of life, acknowledges the importance of knowing the options of converting the Town's individual septic systems to a more complex sewer system. During their July 7, 2021 Commission meeting, the Town Commission directed Engenuity Group, Inc. to prepare a Conceptual Septic to Sewer Conversion Report for the last portion of Lake Park that remains on septic systems.

The scope of work involves understanding the current conditions and capacities, describing the sewer collection options, and calculating a conceptual opinion of cost. This planning document will assist in future deliberations moving forward.

2. Introduction

The Town of Lake Park is a small residential community located in the northern portion of Palm Beach County, north of the Riviera Beach, and south of North Palm Beach. With a population of approximately 8,605 residents, the Town is approximately 1500 acres in size and is bordered by the Intracoastal Waterway (Lake Worth Lagoon) to the East.

The majority of the land is built out, but new development and redevelopment is ongoing and dependent upon the economy.

As requested by the Town Commission of Lake Park, this Septic to Sewer Conceptual Report includes conceptual options for converting the Town's individual private systems to a more unified collection system. Also included are preliminary opinion of costs for converting to these systems along with various funding options for construction and maintenance.

It should be noted that this Report is prepared without the benefit of detailed soil analysis, permits or a final design. The conceptual layout of the proposed system was provided by Seacoast Utility Authority (SUA). Current economic conditions were used to prepare our opinion of costs. Final costs may vary substantially.

3. Existing Conditions and Environmental Concerns

Currently most landowners and residents are already provided with public sewer service by Seacoast Utility (SUA). These systems are made up of a combination of gravity sewer, and low pressure. The area of concern in this Report focuses on the commercial/industrial properties along Old Dixie Highway, which retain and sustain their own individual septic sewer systems, which include septic tanks and drain fields. The properties in question are the last of the remaining properties in Lake Park which are not connected to a wastewater collection system.

A total of 42 properties are analyzed as part of this study. The areas are separated into three sections, South-Section 1 (Tri City Industrial Park), Mid-Section 2 (Lake Park Public Works), and North-Section 3. Section 1 has the option to implement either a full low pressure sewer system or a combination gravity/low pressure sewer system. There is known groundwater contamination in Section 1. However, the groundwater in this area is anticipated to be low enough to not be an issue during construction as dewatering will likely not be required.



Figure 1 – Area Map



(South-Section 1)



(Mid-Section 2)



(North-Section 3)

4. Calculation of the Total Flows

Type of Property	Number of Properties	Calculated Flow (GPD)*	Measured Flow 2020(GPD)**
Commercial	**42**	**37,664**	**13,251**

* Calculated Flows per unit type were based on Seacoast Utilities standards of 0.1 gallons per day per square foot of building size.

**The measured flows are the actual water usages for the properties in question based on the Seacoast water bills over the previous year (2020).

See Appendix J for the estimated flow breakdown.

5. Capacity of Existing Treatment Plant

The Seacoast Utility Authority PGA Regional Wastewater Treatment Facility is owned and operated by Seacoast Utilities. This facility services customers residing in Palm Beach Gardens, Lake Park, North Palm Beach, and Juno Beach. Its projected flow in 2030 is 10 million gallons per day (MGD), however, it is permitted to treat up to 12 MGD. This facility treats the influent sewage into reclaimed water.

Based on the estimated flows, the PGA Regional Wastewater Treatment and Disposal Facility has sufficient capacity for the proposed conversion to a wastewater collection system.

6. Sewage Collection Options

6.1 Gravity Sewer System

A gravity sewer system is a system of pipes that are constructed by gravity (called laterals) from a building to a main gravity system. A gravity sewer system solely utilizes the energy

created from the pipe ends being at different elevations which creates a slope to transport sewage from the source to the main to then be transferred to the wastewater treatment plant. Via pump stations and force mains.

Within the municipal right-of –way, there will be a series of gravity mains and manholes usually located along the centerline of the roadways. Manholes are located approximately 400 feet apart. When the gravity system becomes too deep, a lift station is installed to mechanically move the wastewater. Force mains, which are pressurized piping systems, are subsequently used downstream to move the wastewater to other lift stations or to the treatment plant itself.

The gravity system would not have any mechanical parts located on the individual property. Improvements within the right-of-way would be the responsibility of the municipality or Seacoast Utilities. This system is more expensive and more intrusive in construction; however, long term maintenance is minimal for the landowner.

In a gravity sewer system where the roadways are to be removed and replaced, it is to the advantage of the municipality to upgrade any other existing utilities at the same time. Some of these improvements could be water main replacement, storm drainage upgrades, underground electric, telephone, cable, etc.

Appendices B, D, F, and H provide conceptual plans, images and estimated costs associated with sewer system options. Refer to Appendix A and K for a summary and comparison of all systems and Appendix L for informational technical facts from the Environmental Protection Agency (EPA).

6.2 Low Pressure Sewer System – Description and Brief History

A low pressure force main system starts with individual grinder stations at each home or building. The system is entirely under pressure from the private property to the collection system/ treatment facility. The grinder station can be physically adjacent to the building or placed near the road right of way (within the private property). It includes components like control panels, a small wet well, valves, and piping. Within the municipal right-of-way, a series of pressure pipes would be constructed.

This system is a mechanical system and would need more on-site maintenance than a gravity system mentioned in section 6.1. Grinder stations are "small lift stations" and typically require training and education to properly maintain and sustain, and are therefore typically maintained by private companies that provide this service. These stations also require connection the private property's electrical system for power.

Even though these private low-pressure stations are not owned or maintained by Seacoast Utilities, they will need to be permitted and meet SUA construction standards. Per the current SUA standards the approved pump station products are manufactured by Atlantic Environmental Systems, Inc, Southeastern Pump, and E-one W-Series (or approved equal). The pump stations will also be required to meet the Palm Beach County Health Department standards for commercial pump stations.

Appendices C, E, G, and I provide conceptual plans, images and estimated costs associated with low pressure sewer systems. Refer to Appendix A and K for a summary and comparison of all systems and Appendix L for informational technical facts from the Environmental Protection Agency (EPA).

6.3 Vacuum Sewer System

A vacuum system consists of a series of piping that is not under positive pressure like a force main or drinking water line. It is a system that utilizes negative pressure, like a vacuum cleaner, to move wastewater. This system begins at the house or building with a gravity lateral. The individual laterals usually connect to an on-site vacuum valve pit that is shared by one to four landowners. In the municipal right-of-way, vacuum lines are constructed. Ultimately these lines lead to a vacuum lift station facility prior to being transported to the wastewater treatment plant. The vacuum lift station facility can be as large as a 2,000 square foot single family house.

A vacuum sewer collection system is NOT being proposed in Lake Park, due to Seacoast Utilities not supporting this type of collection system.

7. Conceptual Plans of Town System for Old Dixie

There are two conceptual town-wide plans that are part of this report. The first proposed plan is a 'low pressure' sewer system with individual grinder stations placed at each property to be served. These pumps would discharge the sewage into the proposed low pressure force main discharge pipe in the public right of way. These force mains direct the sewage effluent back to the existing Seacoast collection system. The low pressure grinder pump stations would be privately owned and maintained.

The second proposed system is a combination gravity sewer system and low pressure system. The low pressure would remain for the proposed option for Sections 2 and 3, but Section 1 would be mostly served via a gravity collection system. This system would involve underground piping connecting to each property, which conveys the sewage effluent to the gravity main within the public right of way. From here the sewage flows to a central lift station that will ultimately be pumped out to the existing Seacoast collection system. The central lift station in this option would be owned and maintained by SUA.

8. Opinion of Capital Costs

The following table below depicts the conceptual cost of the conversion from septic tanks to both a gravity sewer system and a low-pressure sewer system.

Proposed Sewer System	Conceptual Construction Cost*
Gravity / Low Pressure Combination	$4.93 million
Low Pressure Only	$5.02 million
Vacuum	Not evaluated in this report

* Costs for re-routing of on-site sewer lines were based on septic tank location assumptions, and will need to be refined further after field locating the existing septic systems. In addition, Seacoast Utility may impose additional fees for *Reservation Fees connections charges*.

* These cost estimates were calculated without the benefit of soil analysis, sub surface utility information, permits and a final design. The conceptual layouts in this area were provided by Seacoast Utilities. Current economic conditions were used to prepare our opinion of costs. Conceptual construction costs are an estimate and based on conceptual plans and current unit prices. Final costs may vary substantially.

9. Water Distribution Considerations

SUA currently owns the Water Distribution System and its appurtenances within the Town's municipal boundary. Currently, SUA provides the bulk "finished" potable water for each connection requested. The request may be for domestic water or for irrigation purposes. SUA reads the meters and issues invoices directly to landscape.

If the Town proceeds with a gravity Septic to Sewer option, older water mains and other utilities may need to be replaced/upgraded simultaneously with the new sewer system in order to upgrade the area while the road work is ongoing. Doing this all-in-one project can save costs, versus replacing utilities in a piecemeal fashion as they become obsolete. Further investigation would be needed to determine the areas that would be affected.

10. Existing Utility Rates

SUA currently bills its customers for water and sewer via a meter system. Each bill is broken down into three categories: Water Service Charges, Sewer Charges, and Other Charges were applicable.

The Sewer connection fee charges are $1,200 for a 1.0 ERC (Equivalent Residential Connection) estimated usage for non-residential, per the below tables. The Sewer Charges category is billed the base monthly charge of $30.19 (for 5/8"x3/4" meter) and then a rate of $0.74 per thousand gallons of water metered.

These numbers reflect the 2021 fiscal year rates

Connection Fees

	ERC Equivalency	Potable Water	Wastewater	TOTAL
Residential - Single Family				
5/8 x 3/4 Inch Meter	1.0	$1,500.00	$1,200.00	$2,700.00
1 Inch Meter	2.5	$3,750.00	$1,200.00	$4,950.00
1-1/2 Inch Meter	5.0	$7,500.00	$1,200.00	$8,700.00
2 Inch Meter	8.0	$12,000.00	$1,200.00	$13,200.00
Residential - Multi-Family	0.67	$1,071.00	$1,092.00	$2,163.00
Non-Residential				
Esimated usage per ERC	1.0	$1,500.00	$1,200.00	$2,700.00

Non-Residential Rates

	FY2017/18 Indicated Cost of Service	FY2020/21 Indexed Cost of Service	FY2020/21 Adopted	Indicated Monthly Increase (Decrease)	Percent Monthly Increase (Decrease)
Water Point of Service Charge	$2.06	$2.21	$1.27	$0.94	74.02%
Wastewater Point of Service Charge	$1.85	$1.99	$2.06	($0.07)	-3.40%
Potable Water					
Monthly Base Facility Charge, $/month					
5/8 Inch Meter, $/month	$23.43	$25.23	$20.81	$4.42	21.24%
1 Inch Meter, $/month	$58.58	$63.08	$52.01	$11.07	21.28%
1-1/2 Inch Meter, $/month	$117.16	$126.15	$104.03	$22.12	21.26%
2 Inch Meter, $/month	$187.45	$201.85	$166.45	$35.40	21.27%
3 Inch Meter, $/month	$374.90	$403.69	$332.87	$70.82	21.28%
4 Inch Meter, $/month	$585.78	$630.77	$520.13	$110.64	21.27%
6 Inch Meter, $/month	$1,171.55	$1,261.54	$1,040.23	$221.31	21.28%
Gallonage Charge					
0-6,000, $/000[3]	$1.87	$2.02	$1.12	$0.90	80.36%
≥7,000, $/000	$3.91	$4.21	$4.41	($0.20)	-4.54%
Wastewater					
Monthly Base Facility Charge, $/month					
5/8 Inch Meter, $/month	$32.21	$34.69	$30.19	$4.50	14.91%
1 Inch Meter, $/month	$80.54	$86.72	$75.48	$11.24	14.89%
1-1/2 Inch Meter, $/month	$161.07	$173.44	$150.95	$22.49	14.90%
2 Inch Meter, $/month	$257.71	$277.51	$241.54	$35.97	14.89%
3 Inch Meter, $/month	$515.43	$555.02	$483.08	$71.94	14.89%
4 Inch Meter, $/month	$805.35	$867.22	$754.79	$112.43	14.90%
6 Inch Meter, $/month	$1,610.71	$1,734.43	$1,509.62	$224.81	14.89%
Gallonage Charge					
All Flow, $/000	$0.71	$0.77	$0.74	$0.03	4.05%

ERC Equivalencies

Service/Customer Class	Consumption [1]	ERC Equivalencies	
		Existing	AWWA [2]
	Gal/Mo	*ERCs/Meter*	*ERCs/Meter*
Single-Family Residential			
5/8x3/4 Inch Meter	8,677	1.0	1.0
1 Inch Meter	19,784	2.5	2.5
1-1/2 Inch Meter	61,371	5.0	5.0
2 Inch Meter	99,917	8.0	8.0
Multi-Family Residential			
All Meter Sizes (per Dwelling Unit)	2,326	0.7	0.7
Mixed Units			
Non-Residential			
5/8x3/4 Inch Meter	8,784	1.0	1.0
1 Inch Meter	29,939	2.5	2.5
1-1/2 Inch Meter	60,811	5.0	5.0
2 Inch Meter	119,475	8.0	8.0
3 Inch Meter	207,476	16.0	16.0
4 Inch Meter	517,325	25.0	25.0
6 Inch Meter	1,565,958	50.0	50.0

Source: SUA Rate Study Fiscal Year 2020/21 Presentation

If the Town proceeds with a septic to sewer conversion, wastewater rates will be added to the affected property's monthly utility bill.

11. Funding Options for Capital Costs

Funding for the Septic to Sewer project may be available by a variety of government funded loans and grants. The United States Department of Agriculture (USDA) also offers two loan/grant programs: the Water and Waste Disposal Loan and Grant Program as well as the Technical Assistance and Training and Solid Waste Management Grant Programs.

The last option is the Clean Water State Revolving Fund which is issued to the state from the Environmental Protection Agency (EPA).

11.1 Loans

11.1.1 USDA Loan/Grant

The USDA provides several options for loans and grants for waste water disposal. These consist of mostly long-term, low-interest loans. However, these USDA programs are limited to rural areas[1], which Lake Park will likely not quality.

[1] https://www.rd.usda.gov/programs-services/solid-waste-management-grants

11.1.2 Clean Water State Revolving Fund (EPA Loan)

The Clean Water State Revolving Fund (CWSRF) is a low interest loan program in which the EPA issues grants that are to be utilized for various water and wastewater infrastructure projects. The loans are given directly to the state where they then have the ability to control and target priority sites to fund. There are eleven eligibility categories within the CWSRF including: centralized wastewater treatment, surface water protection and restoration, and contaminated sites[4]. The proposed sewer system conversion falls under the centralized wastewater treatment category where a loan can be issued for the upgrade, repair, placement, or installation/construction of new pipes, pump stations, and force mains[1].

[1] https://www.epa.gov/sites/production/files/2016-07/documents/overview_of_cwsrf_eligibilities_may_2016.pdf

11.2 Grants

11.2.1 Florida Section 319(h) Nonpoint Source Grant Program (Federal Clean Water Act Grants)

The Florida Section 319(h) Nonpoint Source Grant Program, or more commonly known as the 319 Grant Funds, has set its goal to reduce nonpoint source pollution from land use activities with a focus on septic to sewer conversions. Included in the EPA's definition of nonpoint sources, examples include bacteria and nutrients from livestock, pet wastes, and septic systems. This would make the Town of Lake Park a candidate for the future application periods.

11.2.2 Future Possibilities

Other grant or loan options with the more specific cause of septic conversion may be surfacing in the near future due to Florida's Governor, Ron Desantis, initiatives. The Governor's 2019 Executive Order focuses primarily on the improvement of Florida's water

quality along with the following statement that he will "Direct DEP to establish a septic conversion and remediation grant program with a local government match requirement[1]."

[1] https://floridadep.gov/sec/sec/documents/executive-order-19-12

11.3 Bonds

Municipal bonds are used to raise money for capital projects like the Septic to Sewer Program. City governments can sell municipal bonds to investors. In Florida, this type of funding is, for the most part, exempt from federal and state taxes which make it attractive to investors. Municipalities usually pay back the debt over 20 to 30 years.

The Florida League of Cities, Inc. administers the Florida Municipal Loan Council (FMLC) that offers municipalities, of all sizes, a variety of funding options to finance capital projects. The FMLC has authorized and validated the issuance of up to $1.25 billion in revenue bonds. The FMLC is just one of several entities that can provide this type of funding.

11.4 Seacoast Utility Authority (SUA)

If this project moves forward, the proposed sewer system will connect to the Seacoast Utility Authority PGA Regional Wastewater Treatment and Disposal Facility. This provides the option for SUA to choose to assist in obtaining financing options for the potential septic to sewer conversion project in the Town. Further discussion with the Utility would be needed to see if there is any potential for financing with SUA assistance.

11.5 Summary of Financial Options

Based off of research and selection criteria of all of the above options, the most likely method of funding the proposed project may be through the Clean Water State Revolving Fund. This option is an EPA funded, low interest loan.

Further investigation will be necessary to determine specific funding sources and availability. The Florida Legislature may also fully fund several programs not currently funded at the time of this Report.

12. Conclusions and Recommendations

The Town of Lake Park has taken a proactive role in the pursuit of converting existing septic systems to sewer collection systems. They are accomplishing this by gaining knowledge of the options set forth in this Report, by seeking input from landowners, and by continuing the dialog between the Town and SUA.

Two systems, a gravity system combo and a low-pressure system have been introduced and compared in this report. Even though we listed another alternative, a vacuum

system, we did not focus on this system as it did not appear to be a reasonable option or one that SUA is proposing to maintain in the future.

See Appendix A for a summary comparison of the proposed options. Conceptual construction costs for the options presented are an estimate and based on conceptual plans and current unit prices. Potential water, drainage, or other utility replacement costs are not contemplated in this report but should be analyzed further to fully understand the possibility of additional fiscal impacts.

Our Recommendation: Both the gravity and the low-pressure systems have their advantages and limitations. Both systems are good options based on the Town's conditions. The gravity / low-pressure combination system is the recommended option due to it having the lowest estimated construction and maintenance cost, as well as having the least amount of onsite maintenance required by landowners.

Appendices

A Systems Summary (2 Sheets)
B Conceptual Gravity Sewer Plans (3 Sheets)
C Conceptual Low Pressure System Plans (5 Sheets)
D Gravity Sewer System Image
E Low Pressure Sewer System Image
F Onsite Engineer's Opinion of Probable Cost – *Gravity / Low Pressure Combination Sewer System*
G Onsite Engineer's Opinion of Probable Cost – Low Pressure *Sewer System*
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Appendix A

Systems Summary

(2 Sheets)

Septic to Sewer Feasibility Report

September 2021
Project No. 18187.27

Summary of Estimated Costs -Low Pressure System

		Conceptual Capital Construction Cost[1]	Operation and Maintenance Estimated Annual Costs[2]	Annual Construction Cost Amortized over 20 years at 4% interest rate	Total annual cost (Maintenance and amortized construction cost)	Average annual cost per property[3]
Proposed Alternatives	Proposed SUA Public System	$1.04 million	Paid by SUA.	$75.6k	$75.6k	$1,800
	Proposed Onsite Private System (All 42 properties)	$3.95 million	$190k (paid by property owner)	$289k	$479k	$11,400
	Total	$5.02 million	$190k (paid by property owner)	$365k	$555k	$13.2k

[1] Cost does not include Seacoast Utilities fees for *reservation and administration charges*.

[2] Cost includes the following assumptions: SUA sewer base fee of $30 per month per property as well as usage fee of $0.74/1000 gallons, $1,000 per year per property for lift station maintenance, electricity costs, and 3% of construction cost for ongoing annual renewal and replacement costs.

[3] This cost is the total cost divided evenly over the 42 properties analyzed in this report, and is an average. The actual cost to each property will vary per the enclosed detailed cost breakdowns.

Septic to Sewer Feasibility Report

September 2021
Project No. 18187.27

Summary of Estimated Costs -Gravity / Low Pressure Combination System

		Conceptual Capital Construction Cost[1]	Operation and Maintenance Estimated Annual Costs[2]	Annual Construction Cost Amortized over 20 years at 4% interest rate	Total annual cost (Maintenance and amortized construction cost)	Average annual cost per property[3]
Proposed Alternatives	Proposed SUA Public System	$2.98 million	Paid by SUA.	$217k	$217k	$5,160
	Proposed Onsite Private System (All 42 properties)	$1.93 million	$67k (paid by property owner)	$142k	$209k	$4,980
	Total	$4.93 million	$67k (paid by property owner)	$359k	$426k	$10.1k

[1] Cost does not include Seacoast Utilities fees for *reservation and administration charges*.

[2] Cost includes the following assumptions: SUA sewer base fee of $30 per month per property as well as usage fee of $0.74/1000 gallons, 2% of construction cost for ongoing annual renewal and replacement costs.

[3] This cost is the total cost divided evenly over the 42 properties analyzed in this report, and is an average. The actual cost to each property will vary per the enclosed detailed cost breakdowns.

Appendix B

Conceptual Gravity Sewer Plans

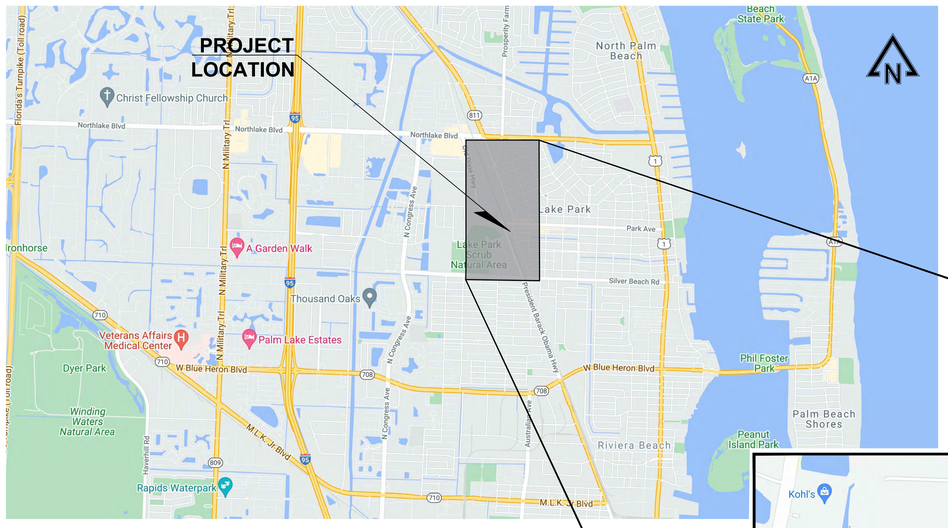
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OLD DIXIE SEPTIC TO SEWER
TOWN OF LAKE PARK, FL
CONCEPTUAL ENGINEERING PLAN -GRAVITY OPTION

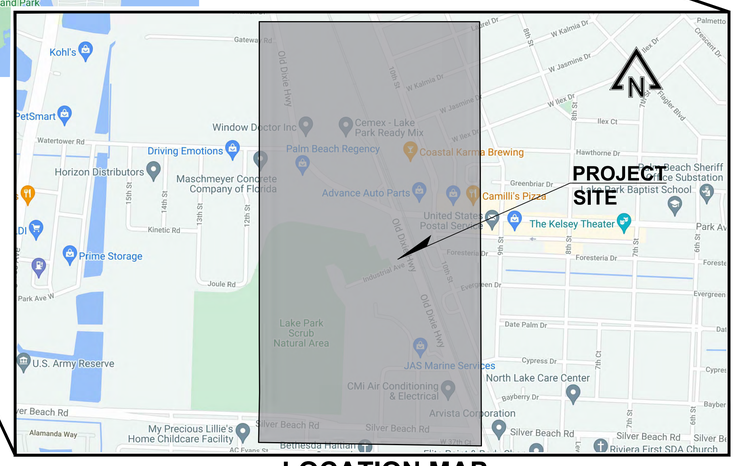
PREPARED FOR

TOWN OF LAKE PARK

9/20/21



VICINITY MAP
NTS



LOCATION MAP
NTS

SHEET INDEX:

1	COVER SHEET
2	ENGINEERING PLANS
3	DETAILS

TOTAL NO. OF SHEETS - 3

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TOWN OF LAKE PARK, FL
CONCEPTUAL ENGINEERING PLAN - GRAVITY
COVER

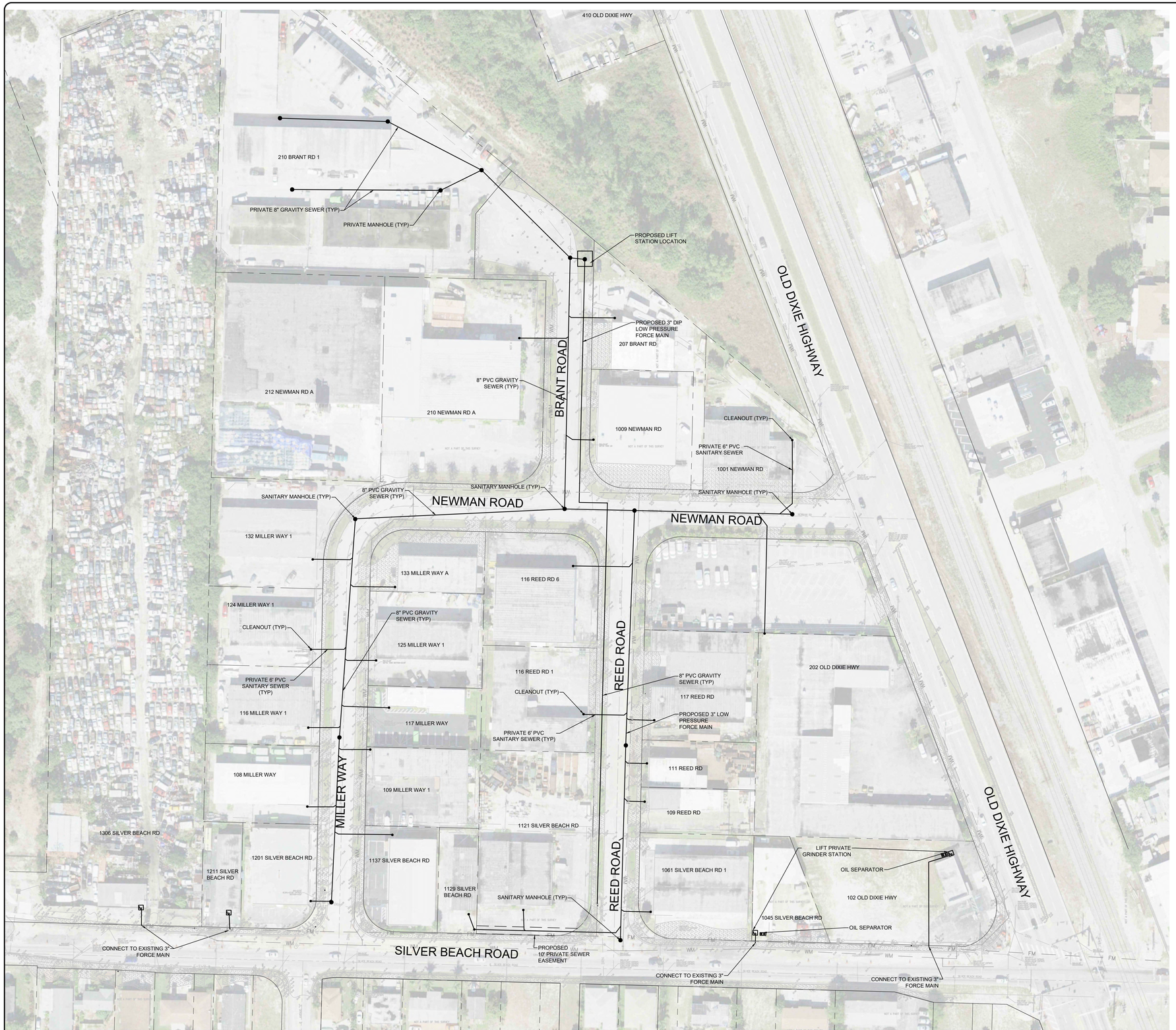
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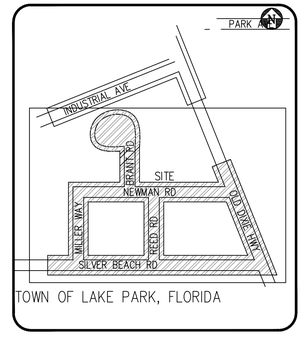
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PROJECT MANAGER	ACS			
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SHEET NO. 1 / 3

JOB NO. 18187.01



GRAPHIC SCALE
0 60 90 120
SCALE: 1" = 60'



LOCATION MAP
N.T.S.

LEGEND

- PROPOSED GRINDER PUMP STATION
- FM — EXISTING FORCE MAIN
- WM — EXISTING WATER MAIN
- PROPERTY LINE

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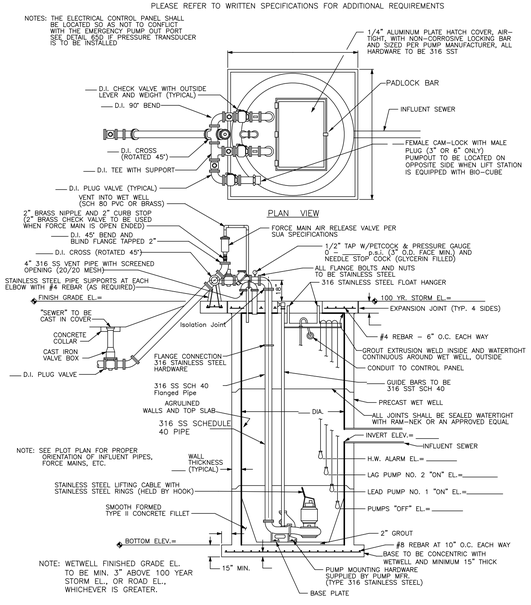
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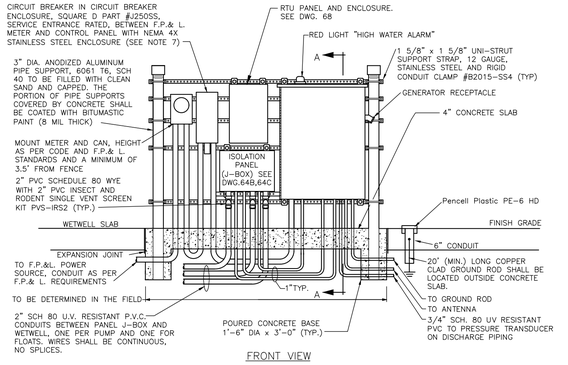
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PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS



Lift Station Detail

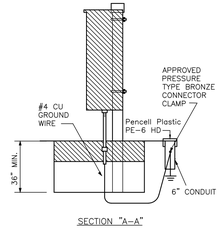
JANUARY 25, 2018 (Rev D-19)



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

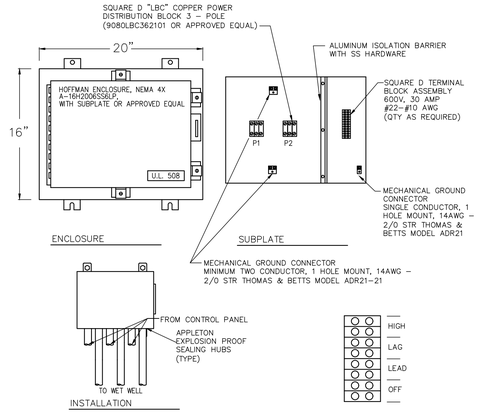
1. ALL CONDUIT SIZES INCLUDING F.P.& L. SHALL BE SIZED FOR TWICE THE INSTALLED H.P. AMPACITY UNLESS OTHERWISE INDICATED.
2. ALL CONDUCTORS SHALL BE COPPER.
3. ALL CONDUIT OPENINGS IN J-BOX AND CONTROL PANEL SHALL BE SEALED AIR TIGHT.
4. CONDUITS BETWEEN CONTROL PANEL AND ISOLATION PANEL SHALL HAVE SEALING HUBS, APPLETON ES150-100 OR EQUIVALENT, AT THE ISOLATION PANEL.
5. CONTROL PANEL AND ANTENNA GROUND RODS TO BE UL LISTED COPPER CLAD STEEL ¾" THICK.
6. ALL PVC CONDUIT TO BE SCH 80 UV RESISTANT.
7. FOR LIFT STATIONS UP TO 150 AMP:
   (a.) H(L)36###(C) - MOLDED CASE CIRCUIT BREAKER, 3 POLE, 600 VAC FRAME, ### = CURRENT RATING (15-150 AMP)
   (b.) PDC3HD2 - POWER DISTRIBUTION CONNECTOR FOR H FRAME BREAKER (3 14-2AWG Cu)
   (c.) S37449 - H FRAME LONG LUG SHIELD

   FOR LIFT STATIONS OVER 150 AMP:
   (a.) J(L)36###(C) - MOLDED CASE CIRCUIT BREAKER, 3 POLE, 600 VAC FRAME, ### = CURRENT RATING (150-250 AMP)
   (b.) PDC3JD20 - POWER DISTRIBUTION CONNECTOR FOR J FRAME BREAKER (2 14-1AWG AND 1 3-2/0 Cu)
   (c.) S37450 - J FRAME LONG LUG SHIELD



Lift Station Control Panel (Single Door)

AUGUST 26, 2020 (Rev D-20)

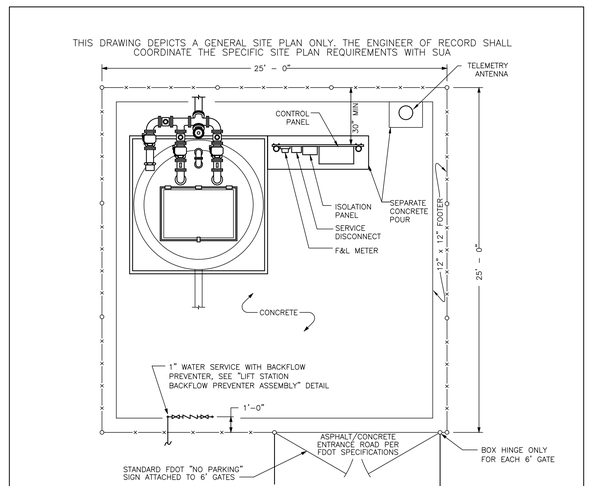


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. SHOWN FOR GENERAL ARRANGEMENT PROVIDE EQUIPMENT AS INDICATED PER NUMBER OF PUMPS.
2. JUNCTION BOX SHALL BE PROVIDED BY THE SAME MANUFACTURER AS THE CONTROL PANEL AND SHALL BE U.L. 508 LISTED.
3. ALL CONTROL CABLES SHALL HAVE A SERVICE LOOP WITHIN J BOX AND CONTROL PANEL.
4. JUNCTION BOX ENCLOSURE SHALL BE NEMA 4X AND MINIMUM 16"H x 20"W x 6"D.

Duplex Lift Station Control Panel Junction Box

AUGUST 26, 2020 (Rev D-18)

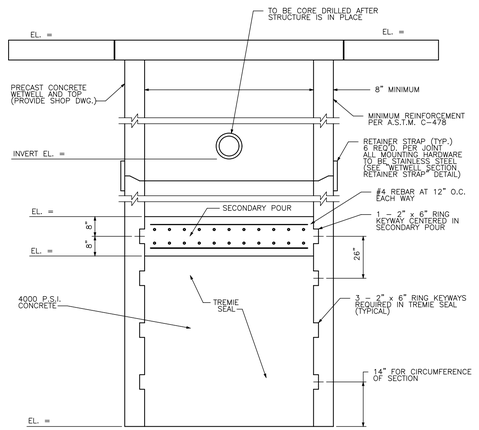


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. COLLECTOR MANHOLE SHALL NOT BE PLACED IN TRAVEL LANE OR AREAS THAT WOULD LIMIT ACCESS.
2. GROUND COVER WITHIN FENCED AREA SHALL BE 6" THICK CONCRETE (4000psi) WITH A 12" x 12" FOOTER AND 6" x 6" WIRE MESH AND BE SLOPED IN SUCH A WAY TO PROMOTE RUNOFF AND PREVENT PUDDLING. FIBER CONCRETE SHALL NOT BE ALLOWED AS AN ALTERNATIVE TO WIRE MESH.
3. LANDSCAPING SHALL BE A MINIMUM OF 2' FROM FENCE. TREE PLACEMENT AND LANDSCAPING SHALL CONFORM TO SUA SETBACK REQUIREMENTS AND BE APPROVED BY SUA.
4. FENCE SHALL BE INSTALLED PER DETAIL 17.

Typical Lift Station Site Plan

February 12, 2019 (Rev D-20)

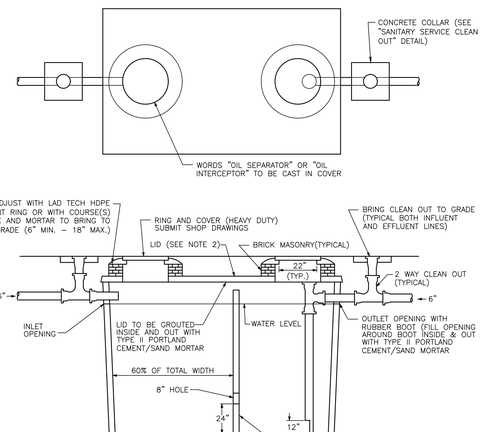


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. CONCRETE USED FOR TREMIE SEAL AND SECONDARY POUR MUST BE 4000 P.S.I. AT 28 DAYS WITH TYPE II PORTLAND CEMENT. SECONDARY POUR SHALL NOT OCCUR UNTIL WETWELL IS WATER TIGHT ON ALL SIDES AND BOTTOM.
2. MINIMUM OF FOUR 2" x 6" RING KEYWAYS REQUIRED WITH TOP KEYWAY CENTERED IN THE SECONDARY CONCRETE POUR.
3. TREMIE SEAL REQUIRED TO BE A MINIMUM OF 36" THICK AND SECONDARY CONCRETE POUR 16" THICK.
4. TREMIE SEAL TO CURE 48 HOURS PRIOR TO PUMPING OFF WATER TO PREPARE FOR SECONDARY CONCRETE POUR.
5. E.O.R. SHALL SUBMIT SIGNED AND SEALED BUOYANCY CALCULATIONS TO SUA FOR REVIEW AND APPROVAL.
6. WEIGHT OF TOP SLAB, SECONDARY CONCRETE POUR, PUMPS AND EXTERIOR SKIN FRICTION SHALL NOT BE INCLUDED IN BUOYANCY CALCULATIONS. GROUNDWATER SHALL BE CONSIDERED AT GROUND LEVEL FOR BUOYANCY CALCULATIONS UNLESS SPECIAL CONSIDERATIONS APPLY (ON COASTAL RIDGE, ETC.).

Wet Well Installation (Caisson Construction)

AUGUST 26, 2020 (Rev B-20)



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. SHOP DRAWINGS FOR PRECAST TANKS SHALL BEAR THE FOLLOWING STATEMENT:"THIS CONCRETE STRUCTURE MEETS OR EXCEEDS ALL THE REQUIREMENTS FOR GREASE INTERCEPTORS/SEPTIC TANKS AS IN THE FLORIDA ADMINISTRATIVE CODE, CHAPTER 10D-6 AND 64E-6, AND SUA "SPECIFICATIONS AND STANDARDS". THE SHOP DRAWINGS (3 COPIES MINIMUM) SHALL THEN BE SIGNED AND SEALED BY THE ENGINEER OF RECORD AND FORWARDED TO SUA FOR APPROVAL.
2. LID TYPES:
   A) 4" REGULAR LID
   B) 8" TRAFFIC BEARING LID
3. INTERIOR PIPING SHALL BE SOLVENT WELD PVC PIPE.
4. ALL TANKS IN TRAFFIC AREA SHALL BE H2O WHEEL LOAD BEARING.
5. INSPECTION OF TANK REQUIRED BY SUA PRIOR TO PLACEMENT.
6. INSPECTION OF TANK REQUIRED BY SUA AFTER TANK IS PIPED.

Oil Separator

AUGUST 26, 2020 (Rev B-18)

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CONCEPTUAL ENGINEERING PLAN - GRAVITY
DETAILS

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SHEET NO. 3 OF 3

JOB NO. 18187.01

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Appendix C

Conceptual Low Pressure System Plans

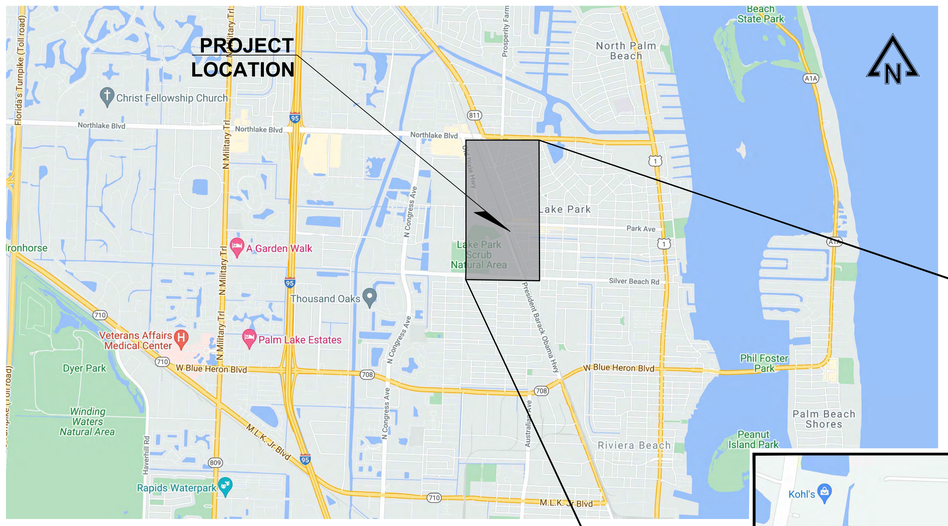
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CONCEPTUAL ENGINEERING PLAN - LOW PRESSURE OPTION

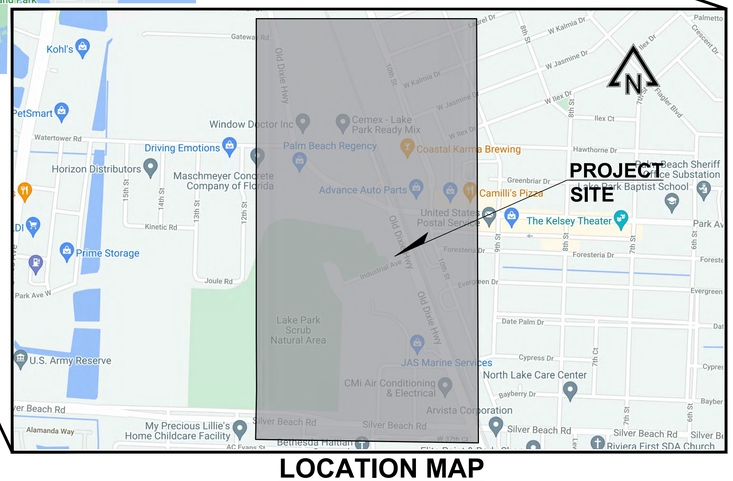
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TOWN OF LAKE PARK

9/20/21



VICINITY MAP
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LOCATION MAP
NTS

SHEET INDEX:

1	COVER SHEET
2-4	ENGINEERING PLANS
5	DETAILS

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CONCEPTUAL ENGINEERING PLAN - LOW PRESSURE
COVER

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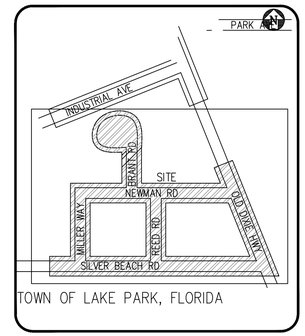
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GRAPHIC SCALE
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SCALE: 1" = 60'



LOCATION MAP
N.T.S.

LEGEND

- PROPOSED GRINDER PUMP STATION
- FM — EXISTING FORCE MAIN
- WM — EXISTING WATER MAIN
- PROPERTY LINE

CONCEPTUAL
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SECTION 1-TRI CITY INDUSTRIAL PARK

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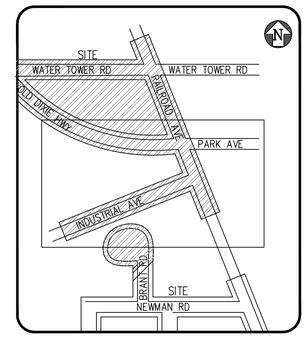
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LOCATION MAP
N.T.S.

LEGEND

- PROPOSED GRINDER PUMP STATION
- FM — EXISTING FORCE MAIN
- WM — EXISTING WATER MAIN
- PROPERTY LINE

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CONCEPTUAL ENGINEERING PLAN - LOW PRESSURE
SECTION 2- LAKE PARK PUBLIC WORKS

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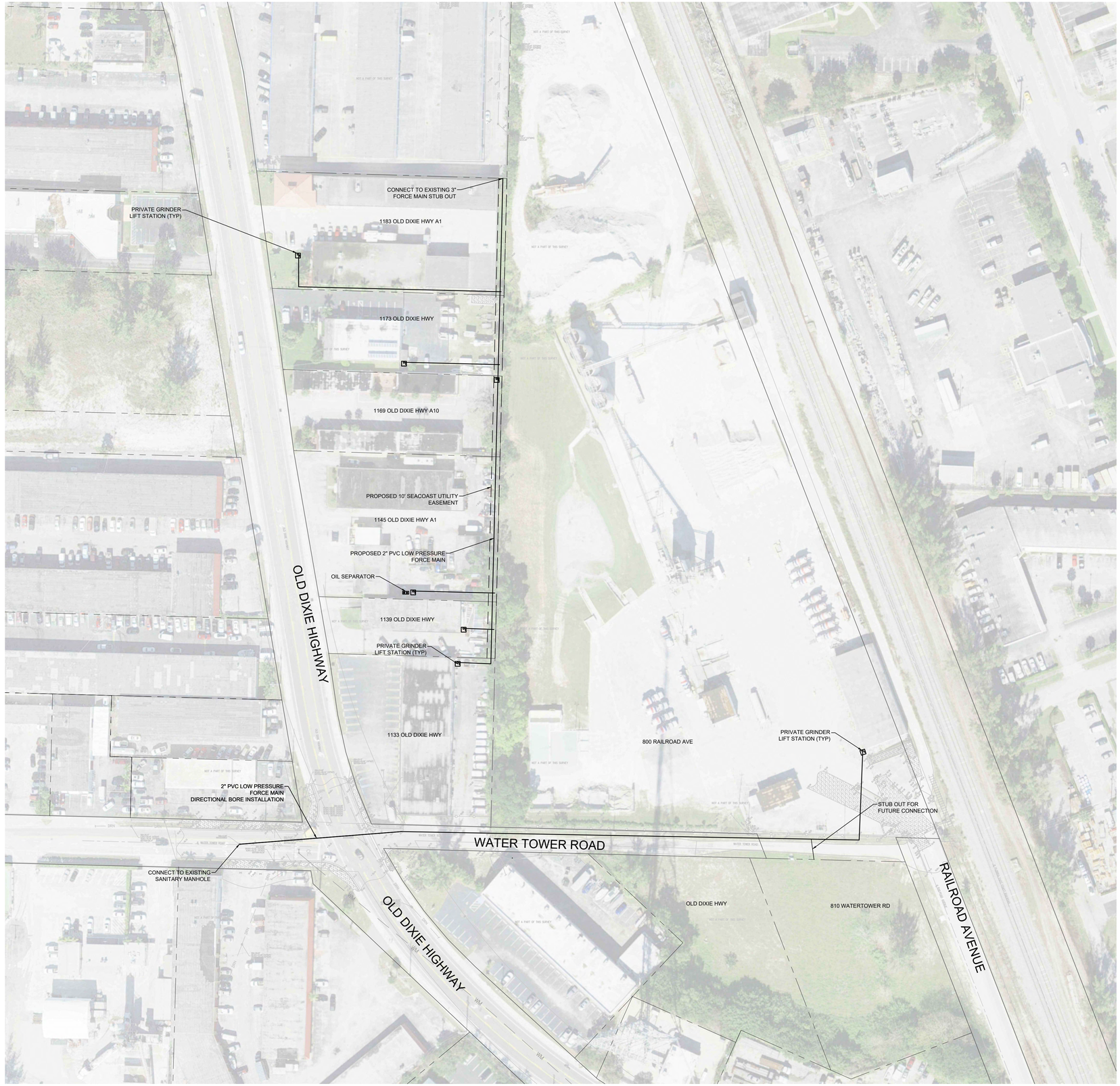
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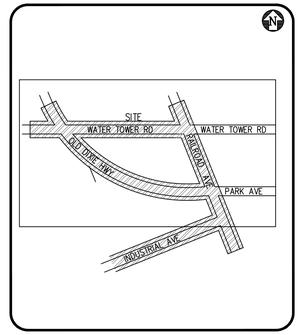
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LOCATION MAP
N.T.S.

LEGEND

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- FM — EXISTING FORCE MAIN
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OLD DIXIE SEPTIC TO SEWER
TOWN OF LAKE PARK, FL
CONCEPTUAL ENGINEERING PLAN - LOW PRESSURE
SECTION 3

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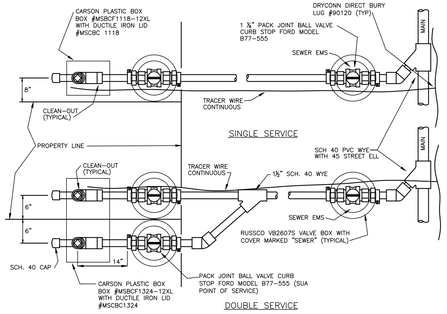
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DATE	9/20/21
DRAWN	STAFF
PROJECT ENGINEER	ACS
PROJECT MANAGER	ACS
CHECKED	LT

SHEET NO. 4 OF 5
JOB NO. 18187.01

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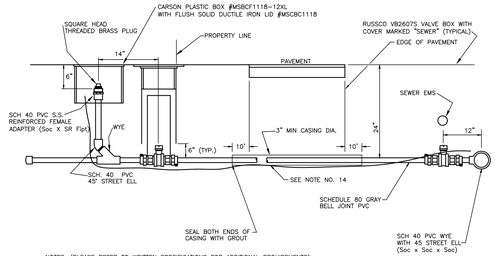
9/20/21, CONCEPTUAL



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. SERVICE PIPE FITTINGS AND VALVES FOR SIMPLEX STATION SHALL BE 1½" AND FOR DUPLEX STATION SHALL BE 1½" SCHEDULE 80 GRAY BELL JOINT PVC, 400 PSI (CHARLOTTE PIPE). NO SLIP X SLIP COUPLINGS ALLOWED.
2. SERVICE FITTINGS SHALL BE SPEARS MANUFACTURING COMPANY OR EQUAL, SCHEDULE 40 PVC. NO DWV FITTINGS, SCHEDULE 40 MALE ADAPTERS, SLIP COUPLINGS, SLIP BUSHINGS, OR SCHEDULE 80 PVC FITTINGS ARE ALLOWED.
3. VALVE BOXES REQUIRED FOR BALL VALVE AT TEE NEXT TO MAIN ON SHORT SIDE SERVICES UNLESS SPECIFICALLY INDICATED AND NOTED ON THE PLANS.
4. TRACER WIRE TO BE #6 AWG, STRANDED COPPER, TYPE THHN WITH GREEN INSULATION. USE 11" CABLE TIES TO CONNECT TO PVC PIPE AND FITTINGS. TRACER WIRE SHALL WRAP AROUND AND TERMINATE INSIDE CLEAN OUT BOX WITH ENOUGH SLACK TO EXTEND 2-3" ABOVE GRADE.
5. PVC PRIMER AND CEMENT SHALL BE OATEY MEDIUM-BODIED.
6. CURB STOPS SHALL BE FULL PORT BALL VALVES WITH PACK JOINT FOR PVC PIPE BOTH ENDS, FORD METER BOX COMPANY MODEL B77-555.
7. SHORT SIDE SINGLE SERVICE MAY REQUIRE ONLY ONE BALL VALVE. LONG SIDE SINGLE SERVICE REQUIRES TWO BALL VALVES.
8. ZIP TIE TRACER WIRE TO PIPE EVERY 5'.

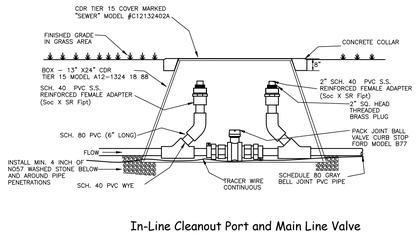
Low Pressure Sewer Service
AUGUST 26, 2020 (Rev B-18)



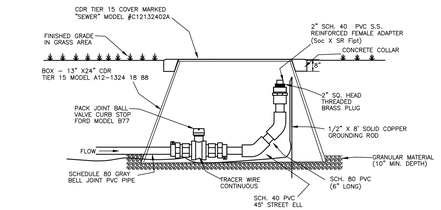
NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. CASINGS SHALL BE REQUIRED FOR ALL LONG SIDE SERVICES.
2. SUCCESSIVE SERVICE LINES OFF THE LOW PRESSURE FORCE MAIN SHALL BE SPACED A MINIMUM OF 18" APART.
3. WHERE NO SIDEWALK EXISTS, VALVE BOXES SHALL BE SET TO CONFORM TO FINISH GRADE.
4. SERVICE PIPE SHALL BE SCHEDULE 80 GRAY BELL JOINT PVC, 400 PSI (CHARLOTTE PIPE). NO SLIP X SLIP COUPLINGS ALLOWED.
5. SERVICE FITTINGS SHALL BE SPEARS MANUFACTURING COMPANY ONLY, SCHEDULE 40 PVC. NO DWV FITTINGS, SCHEDULE 40 MALE ADAPTERS, SLIP COUPLINGS, SLIP BUSHINGS, OR SCHEDULE 80 PVC FITTINGS ARE ALLOWED.
6. VALVE BOXES NOT REQUIRED FOR BALL VALVE AT TEE NEXT TO MAIN ON LONG SIDE SERVICES UNLESS SPECIFICALLY INDICATED AND NOTED ON THE PLANS.
7. CONTRACTOR SHALL UTILIZE FULL LENGTHS OF BELL JOINT PIPE WHENEVER POSSIBLE UNDER ROAD CROSSINGS.
8. PLUGS SHALL BE SCHEDULE 40 RED BRASS, SOLID TYPE WITH SQUARE HEAD.
9. TRACER WIRE TO BE #6 AWG, STRANDED COPPER, TYPE THHN WITH GREEN INSULATION. USE 11" CABLE TIES TO CONNECT TO PVC PIPE AND FITTINGS. TRACER WIRE SHALL WRAP AROUND AND TERMINATE INSIDE CLEANOUT BOX WITH ENOUGH SLACK TO EXTEND 2-3" ABOVE GRADE.
10. PVC PRIMER AND CEMENT SHALL BE OATEY MEDIUM BODIED.
11. THREAD SEALING COMPOUND – PTFE PASTE SHALL BE LA-CO SLIC-TITE OR HERCULES REAL-TUFF.
12. CURB STOPS SHALL BE FULL PORT BALL VALVES WITH PACK JOINT FOR PVC PIPE BOTH ENDS, FORD METER BOX COMPANY MODEL B77-555.
13. SERVICE CASING SHALL NOT BE INSTALLED BY WATER JETTING UNDER ROADWAY.
14. GALVANIZED CASING REQUIRED FOR ANY INSTALLATION REQUIRING A JACK AND BORE. SCHEDULE 40 PVC MAY BE USED FOR AN OPEN CUT INSTALLATION WITH THE APPROVAL OF SUA. CASING SHOULD EXTEND TEN (10) FEET BEYOND EDGE OF PAVEMENT AND SIZED AS FOLLOWS:
    A.) 2" MAIN USE 4" CASING
    B.) 3" MAIN USE 6" CASING
15. ALL OTHER UTILITIES SHALL BE LOCATED 4' MINIMUM CLEAR OF ALL LOW PRESSURE MAINS AND SERVICES.
16. ZIP TIE TRACER WIRE TO PIPE EVERY 5'.

Low Pressure Sewer Service Installation
AUGUST 26, 2020 (Rev B-18)



In-Line Cleanout Port and Main Line Valve

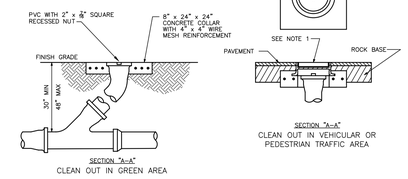


Terminal Cleanout Port and Main Line Valve

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. MAINLINE VALVES SHALL BE FULL PORT BALL VALVES WITH PACK JOINT FOR PVC PIPE BOTH ENDS, FORD METER BOX B77
2. PIPE AND FITTING SIZE WILL BE DETERMINED BY PROJECT FLOW CALCULATIONS.
3. DEPTH SHALL BE 24" UNLESS OTHERWISE REQUIRED BY ROAD PERMITTING AGENCY.
4. ZIP TRACER WIRE TO PIPE EVERY 10'.

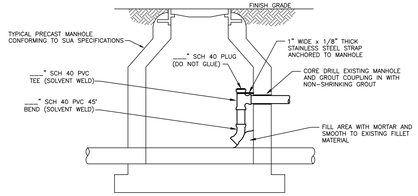
Low Pressure Sewer Cleanout Port with Valve
JANUARY 25, 2019 (Rev C-19)

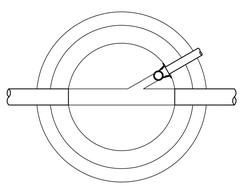


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. U.S. FOUNDRY NO. 7621 REVERSIBLE HANDHOLE RING AND COVER OR APPROVED EQUAL SHALL BE USED, COVER TO BE CAST WITH "S" IN THE CENTER.
2. CLEAN OUT REQUIRED ON ALL SERVICES AT PROPERTY LINE OR EASEMENT LINE WHERE APPLICABLE.
3. STANDARD WYE SHALL BE USED AT CLEAN OUT.

Sanitary Service Clean Out
AUGUST 26, 2020 (Rev C-20)

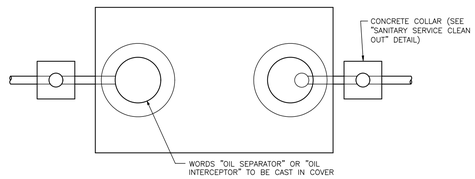


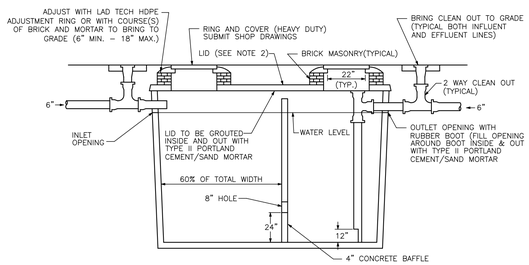


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. NO INSIDE DROP IS PERMITTED IN A MANHOLE WITH MORE THAN TWO INVERTS.
2. INTERIOR OF MANHOLE SHALL BE COATED IN ACCORDANCE WITH THE AUTHORITY'S MINIMUM CONSTRUCTION STANDARDS AND SPECIFICATIONS.

Low Pressure Force Main into Manhole Connection
AUGUST 26, 2020 (Rev A-15)

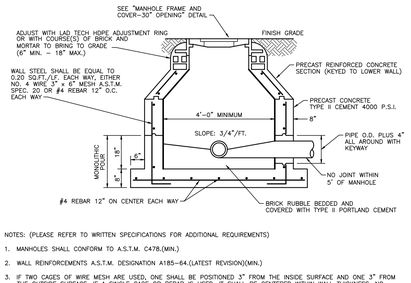




NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. SHOP DRAWINGS FOR PRECAST TANKS SHALL BEAR THE FOLLOWING STATEMENT:"THIS CONCRETE STRUCTURE MEETS OR EXCEEDS ALL THE REQUIREMENTS FOR GREASE INTERCEPTORS/SEPTIC TANKS AS IN THE FLORIDA ADMINISTRATIVE CODE, CHAPTER 10D-6 AND 64E-6, AND SUA "SPECIFICATIONS AND STANDARDS". THE SHOP DRAWINGS (3 COPIES MINIMUM) SHALL THEN BE SIGNED AND SEALED BY THE ENGINEER OF RECORD AND FORWARDED TO SUA FOR APPROVAL.
2. LID TYPES:
    A) 4" REGULAR LID
    B) 8" TRAFFIC BEARING LID
3. INTERIOR PIPING SHALL BE SOLVENT WELD PVC PIPE.
4. ALL TANKS IN TRAFFIC AREA SHALL BE H2O WHEEL LOAD BEARING.
5. INSPECTION OF TANK REQUIRED BY SUA PRIOR TO PLACEMENT.
6. INSPECTION OF TANK REQUIRED BY SUA AFTER TANK IS PIPED.

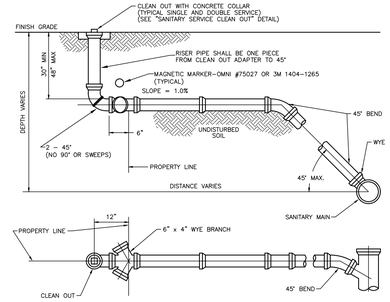
Oil Separator
AUGUST 26, 2020 (Rev B-18)



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. MANHOLES SHALL CONFORM TO A.S.T.M. C478.(MIN.)
2. WALL REINFORCEMENTS A.S.T.M. DESIGNATION A185-64.(LATEST REVISION)(MIN.)
3. IF TWO CAGES OF WIRE MESH ARE USED, ONE SHALL BE POSITIONED 3" FROM THE INSIDE SURFACE AND ONE 3" FROM THE OUTSIDE SURFACE. IF A SINGLE CAGE OR REBAR IS USED, IT SHALL BE CENTERED WITHIN WALL THICKNESS. NO EXPOSED STEEL SHALL BE PERMITTED.
4. LIFT HOLES THROUGH PRECAST STRUCTURE ARE PERMITTED.
5. A MINIMUM OF SEVEN DAYS CURE TIME IS REQUIRED PRIOR TO DELIVERY.
6. ALL PIPE HOLES SHALL BE PRECAST OR CORE DRILLED. OVERSIZED HOLES WILL BE REJECTED.
7. ANY VISIBLE REINFORCING WIRE, STEEL OR HONEYCOMBS SHALL BE CAUSE FOR REJECTION.
8. SEE TECHNICAL SPECIFICATIONS FOR BEDDING REQUIREMENTS.
9. "RAM-NEK" OR APPROVED EQUAL AT ALL RISER JOINTS (1/2" THICK WITH WIDTH AT LEAST 1/2 THE WALL THICKNESS) WITH GROUT ON INSIDE AND OUTSIDE.
10. ALL OPENINGS SHALL BE SEALED USING ONLY TYPE II PORTLAND CEMENT/SAND MORTAR AND POTABLE WATER FOR MUD WORK ON JOINTS, LIFTING HOLES, INVERTS, ETC. WHEN AN ACCELERATOR IS NECESSARY, "ANTI HYDRO" IS THE ONLY PRODUCT APPROVED.
11. BRICK MASONRY CONSTRUCTION TO BE STUCCOED WITH 3/4" TYPE II CEMENT INSIDE AND OUTSIDE, AND INSIDE TO BE COATED WITH TWO COATS OF KOPPERS 300 OR APPROVED EQUAL.
12. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM, AND COATED WITH TWO COATS OF KOPPERS 300 OR APPROVED EQUAL.
13. INTERIOR OF ALL SANITARY MANHOLES SHALL HAVE AGRU SURE GRIP CONCRETE PROTECTIVE LINER INSTALLED AT THE TIME OF MANUFACTURING. SEE "AGRU SURE GRIP LINER DETAILS" DRAWING FOR ADDITIONAL AGRU SURE GRIP REQUIREMENTS.

Standard Precast Manhole
AUGUST 26, 2020 (Rev B-18)



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. THE END OF EACH SERVICE CONNECTION SHALL BE MARKED WITH A 2" x 2" TREATED WOOD STAKE AND AN E.M.S. SANITARY SEWER MARKER.
2. EACH SERVICE CONNECTION SHALL BE PLUGGED WATERTIGHT WITH AN APPROVED CAP OR PLUG.
3. CUT OFF BELL END WHEN USING FERNCO COUPLING FOR VCP (FOR EXISTING SERVICES ONLY)
4. FOR PVC INSTALLATIONS, CONNECT TO EXISTING "BELL END" AND CONNECT OPPOSITE END WITH PVC TO PVC KNOCK ON SLEEVE.
5. SOLIDLY TAMP BACKFILL AT LEAST ONE FOOT ABOVE TOP OF PIPE. SERVICES UNDER PAVED AREAS SHALL BE BACKFILLED TO THE SAME SPECIFICATIONS AS SHOWN ON "PAVEMENT REPLACEMENT" DETAIL.
6. CONTRACTOR SHALL MARK ON A CLEAN SET OF PLANS THE FINAL STATIONING OR DISTANCE AND DIRECTION FROM MANHOLE TO EACH SERVICE LATERAL AND GIVE TO ENGINEER FOR RECORD DRAWING PURPOSES.
7. ANY DEVIATION FROM THESE METHODS MUST BE APPROVED BY SUA.
8. THE USE OF UNNECESSARY FITTINGS ON THE CUSTOMERS LINE TO REDUCE EXCAVATION EFFORTS WILL BE CAUSE FOR REJECTION.
9. THE USE OF 90° SWEEPS ON THE CUSTOMERS LINE IN LIEU OF 45° BENDS WILL REQUIRE AN ADDITIONAL CLEAN OUT AS SHOWN ON "SANITARY SERVICE CLEAN OUT DETAIL". THE CLEAN OUT SHALL BE ON THE HOUSE SIDE OF THE TOP SWEEP WITHIN 2' OF THE SWEEP.

Sewer Service Connection (Wye Branch)
AUGUST 26, 2020 (Rev A-15)

CONCEPTUAL
9/20/21

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Know what's below. Call before you dig.

NO.	DATE	REMARKS	BY
		REVISIONS	

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ADAM SWANEY, P.E.
NO. 72235

OLD DIXE SEPTIC TO SEWER
TOWN OF LAKE PARK, FL
CONCEPTUAL ENGINEERING PLAN - LOW PRESSURE
DETAILS

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J:\Land Projects R2\18187 27 Lake Park Septic to Sewer\18187 27 Conceptual.dwg DATE: 10/14/2021 8:52 AM

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DRAWN	9/20/21	STAFF
PROJECT ENGINEER		ACS
PROJECT MANAGER		ACS
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SHEET NO. 5 OF 5

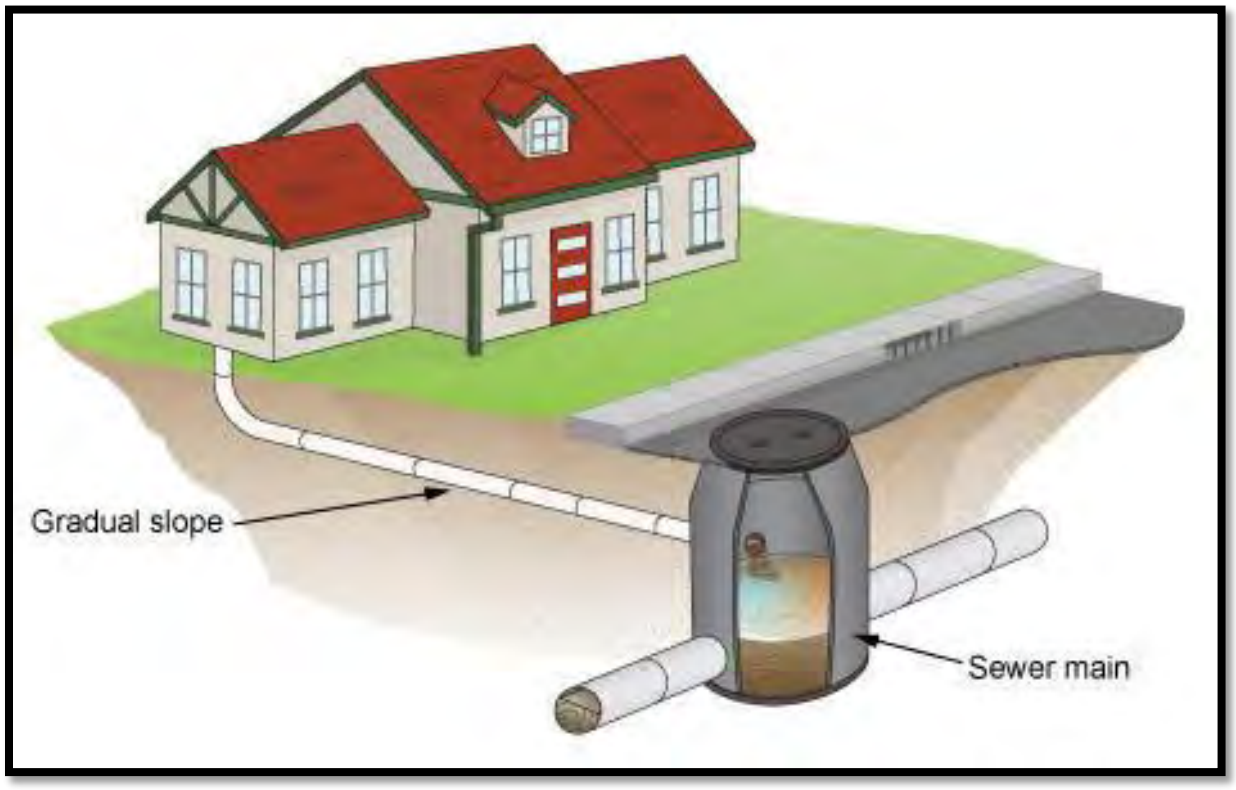
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Appendix D

Gravity Sewer System Image

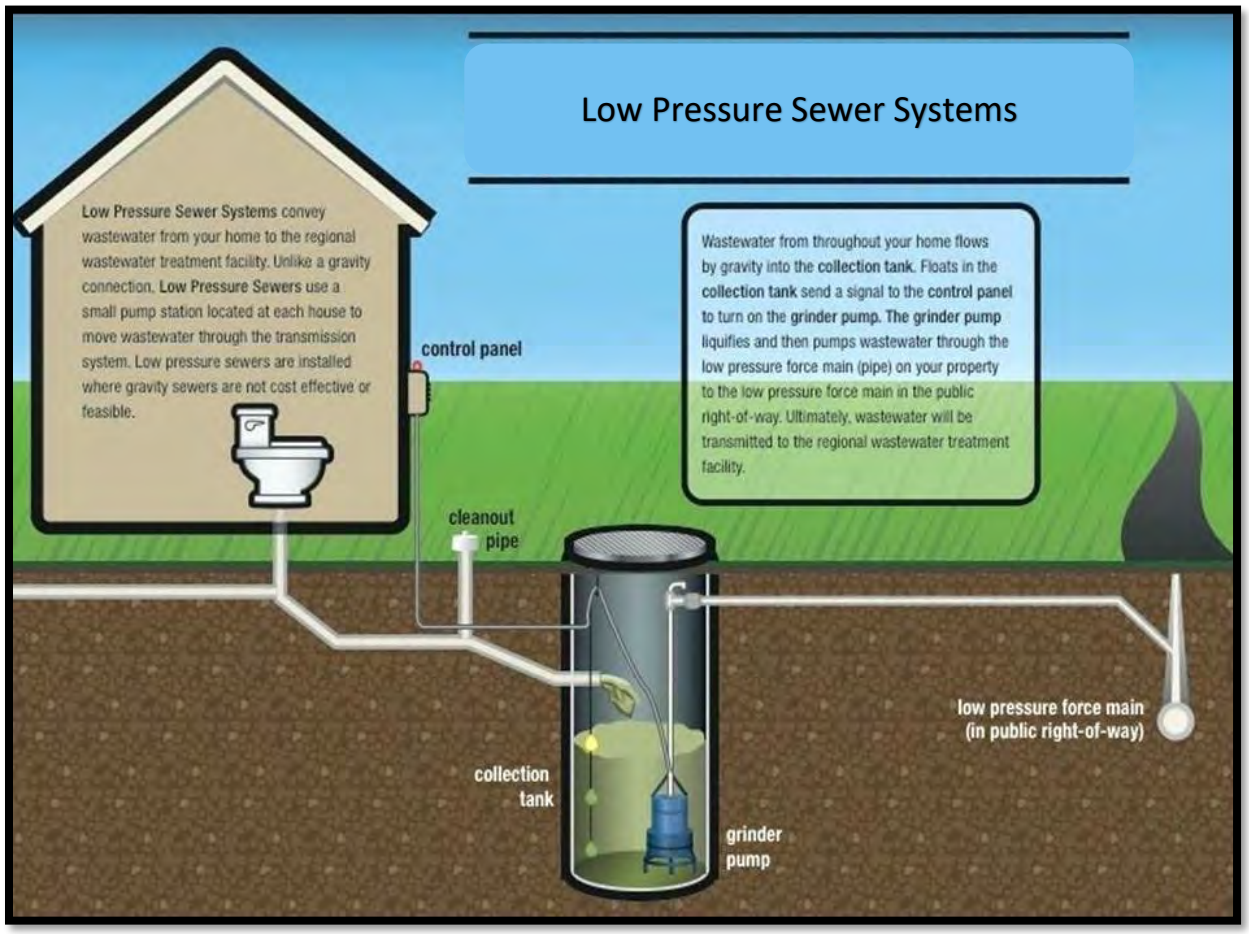
Gravity Sewer System Image



Appendix E

Low Pressure Sewer System Image

Low Pressure Sewer System Image



Appendix F

Onsite Engineer's Opinion of Probable Cost

Gravity Sewer System

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
ONSITE GRAVITY SEWER SYSTEM
JOB NO. 18187.27
SEPTEMBER 2021

Property	Address	Estimated Onsite Cost
	SOUTH - SECTION	$ -
1	1306 SILVER BEACH RD	$ 9,028.75
2	1211 SILVER BEACH RD	$ 9,028.75
3	1201 SILVER BEACH RD	$ 9,028.75
4	108 MILLER WAY	$ 9,028.75
5	116 MILLER WAY 1	$ 9,028.75
6	124 MILLER WAY 1	$ 9,028.75
7	132 MILLER WAY 1	$ 9,028.75
8	212 NEWMAN RD A	$ 9,028.75
9	210 NEWMAN RD A	$ 9,028.75
10	210 BRANT RD 1	$ 186,248.00
11	207 BRANT RD	$ 9,028.75
12	1009 NEWMAN RD	$ 9,028.75
13	1001 NEWMAN RD	$ 9,028.75
14	133 MILLER WAY A	$ 9,028.75
15	125 MILLER WAY 1	$ 9,028.75
16	117 MILLER WA	$ 9,028.75
17	109 MILLER WAY 1	$ 9,028.75
18	1137 SILVER BEACH RD	$ 9,028.75
19	1129 SILVER BEACH RD	$ 9,028.75
20	1121 SILVER BEACH RD	$ 9,028.75
21	116 REED RD 1	$ 9,028.75
22	116 REED RD 6	$ 9,028.75
23	1061 SILVER BEACH RD 1	$ 9,028.75
24	109 REED RD	$ 9,028.75
25	111 REED RD	$ 9,028.75
26	117 REED RD	$ 9,028.75
27	202 OLD DIXIE HWY	$ 20,653.75
28	1045 SILVER BEACH RD	$ 16,778.75
29	102 OLD DIXIE HWY	$ 16,778.75
	Subtotal	$ 466,178.00
	Mobilization, Demobilization, MOT, Bonds & Insurance (10%)	$ 46,617.80
	Contingency (25%)	$ 116,544.50
	Legal, Engineering, Administration (20%)	$ 93,235.60
	Total SOUTH - SECTION	$ 722,575.90

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
ONSITE GRAVITY SEWER SYSTEM
JOB NO. 18187.27
SEPTEMBER 2021

	MID-SECTION		
30	410 OLD DIXIE HWY	$	54,366.00
31	1215 INDUSTRIAL AVE	$	54,366.00
32	640 OLD DIXIE HWY	$	102,029.00
33	700 OLD DIXIE HWY 101	$	54,366.00
34	1107 OLD DIXIE HWY A	$	62,116.25
35	1101 OLD DIXIE HWY	$	62,116.25
	Subtotal	$	389,359.50
	Mobilization, Demobilization, MOT, Bonds & Insurance (10%)	$	38,935.95
	Contingency (25%)	$	97,339.88
	Legal, Engineering, Administration (20%)	$	77,871.90
	Total MID-SECTION	$	603,507.23

	NORTH-SECTION		
36	1133 OLD DIXIE HWY 1	$	54,366.00
37	1145 OLD DIXIE HWY A1	$	62,116.25
38	1183 OLD DIXIE HWY A1	$	54,366.00
39	1173 OLD DIXIE HWY	$	54,366.00
40	1169 OLD DIXIE HWY A10	$	54,366.00
41	1139 OLD DIXIE HWY	$	54,366.00
42	800 RAILROAD AVE	$	54,366.00
	Subtotal	$	388,312.25
	Mobilization, Demobilization, MOT, Bonds & Insurance (10%)	$	38,831.23
	Contingency (25%)	$	97,078.06
	Legal, Engineering, Administration (20%)	$	77,662.45
	Total NORTH - SECTION	$	601,883.99

GRAND TOTAL (ALL 3 SECTION) **$** **1,927,967.11**

Notes: (2) Number of units are an estimate only. Costs are based on conceptual plans and unit costs at the time of this report.

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
GRAVITY SEWER SYSTEM
JOB NO. 18187.27
OCTOBER 2021

	Address: 210 Brant Road				
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Total Amount**
1	8" PVC Gravity Sewer Line	541	LF	$ 60.00	$ 32,460.00
2	Private Sanitary Manhole	5	EA	$ 6,000.00	$ 30,000.00
3	Pavement, Restoration, Sub-grade, Sub-base, Asphalt	750	SQ YD	$ 50.00	$ 37,500.00
4	6" PVC Service Lateral (including connection to exisitng, cleanouts, bends)	250	LF	$ 25.00	$ 6,250.00
5	Abandon Septic tank & drainfield assuming each building has one)	5	EA	$ 2,500.00	$ 12,500.00
6	Connection Fee (Assumming 1 ERCs Equivalent)	1	EA	$ 1,200.00	$ 1,200.00
7	Sodding Restoration	50	SQ YD	$ 5.00	$ 250.00
	Subtotal				$ 120,160.00
	Mobilization, Demobilization, MOT, Bonds & Insurance (10%)	1	LS		$ 12,016.00
	Contingency (25%)	1	LS		$ 30,040.00
	Legal, Engineering, Administration (20%)	1	LS		$ 24,032.00
	TOTAL				**$ 186,248.00**

Note: Estimated costs are based on conceptual plans and unit costs at the time of this report

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
GRAVITY SEWER SYSTEM
JOB NO. 18187.27
OCTOBER 2021

Address: Gravity served properties in Section 1 (except 210 Brant Road and 202 Old Dive)					
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Total Amount**
1	Pavement, Restoration, Sub-grade, Sub-base, Asphalt	25	SQ YD	$ 50.00	$ 1,250.00
2	6" PVC Service Lateral connection (including connection to existing, cleanouts, bends)	1	EA	$ 750.00	$ 750.00
3	Abandon Septic tank & drainfield assuming each building has one)	1	EA	$ 2,500.00	$ 2,500.00
4	Connection Fee (Assumming 1 ERC Equivalent)	1	EA	$ 1,200.00	$ 1,200.00
5	Sodding Restoration	25	SQ YD	$ 5.00	$ 125.00
	Subtotal				$ 5,825.00
	Mobilization, Demobilization, MOT, Bonds & Insurance (10%)	1	LS		$ 582.50
	Contingency (25%)	1	LS		$ 1,456.25
	Legal, Engineering, Administration (20%)	1	LS		$ 1,165.00
	TOTAL				**$ 9,028.75**

Note: Estimated costs are based on conceptual plans and unit costs at the time of this report. It was assumed that septic tanks are located in the same locations as the grinder stations in the conceptual plans. These locations will need to be verified in the final design in order to finalize pricing estimates.

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
GRAVITY SEWER SYSTEM
JOB NO. 18187.27
OCTOBER 2021

	Address: 202 Old Dixie				
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Total Amount**
1	Pavement, Restoration, Sub-grade, Sub-base, Asphalt	120	SQ YD	$ 50.00	$ 6,000.00
2	6" PVC Service Lateral (including connection to exisitng, cleanouts, bends)	140	LF	$ 25.00	$ 3,500.00
3	Abandon Septic tank & drainfield assuming each building has one)	1	EA	$ 2,500.00	$ 2,500.00
4	Connection Fee (Assumming 1 ERC Equivalent)	1	EA	$ 1,200.00	$ 1,200.00
5	Sodding Restoration	25	SQ YD	$ 5.00	$ 125.00
	Subtotal				$ 13,325.00
	Mobilization, Demobilization, MOT, Bonds & Insurance (10%)	1	LS		$ 1,332.50
	Contingency (25%)	1	LS		$ 3,331.25
	Legal, Engineering, Administration (20%)	1	LS		$ 2,665.00
	TOTAL				**$ 20,653.75**

Note: Estimated costs are based on conceptual plans and unit costs at the time of this report. It was assumed that septic tanks are located in the same locations as the grinder stations in the conceptual plans. These locations will need to be verified in the final design in order to finalize pricing estimates.

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
GRAVITY SEWER SYSTEM
JOB NO. 18187.27
OCTOBER 2021

Address: Oil Seprator properties (102 OLD DIXIE HWY, 1045 SILVER BEACH RD)					
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Total Amount**
1	Pavement, Restoration, Sub-grade, Sub-base, Asphalt	25	SQ YD	$ 50.00	$ 1,250.00
2	6" PVC Service Lateral connection (including connection to existing, cleanouts, bends)	1	EA	$ 750.00	$ 750.00
3	Oil Separator	1	EA	$ 5,000.00	$ 5,000.00
4	Abandon Septic tank & drainfield assuming each building has one)	1	EA	$ 2,500.00	$ 2,500.00
5	Connection Fee (Assumming 1 ERC Equivalent)	1	EA	$ 1,200.00	$ 1,200.00
6	Sodding Restoration	25	SQ YD	$ 5.00	$ 125.00
	Subtotal				$ 10,825.00
	Mobilization, Demobilization, MOT, Bonds & Insurance (10%)	1	LS		$ 1,082.50
	Contingency (25%)	1	LS		$ 2,706.25
	Legal, Engineering, Administration (20%)	1	LS		$ 2,165.00
	TOTAL				**$ 16,778.75**

Note: Estimated costs are based on conceptual plans and unit costs at the time

Appendix G

Onsite Engineer's Opinion of Probable Cost

Lower Pressure Sewer System

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
ONSITE LOW PRESSURE SEWER SYSTEM
JOB NO. 18187.27
SEPTEMBER 2021

Property	Address	Estimated Onsite Cost
	SOUTH - SECTION	$ -
1	1306 SILVER BEACH RD	$ 54,366.00
2	1211 SILVER BEACH RD	$ 54,366.00
3	1201 SILVER BEACH RD	$ 54,366.00
4	108 MILLER WAY	$ 54,366.00
5	116 MILLER WAY 1	$ 54,366.00
6	124 MILLER WAY 1	$ 54,366.00
7	132 MILLER WAY 1	$ 54,366.00
8	212 NEWMAN RD A	$ 54,366.00
9	210 NEWMAN RD A	$ 54,366.00
10	210 BRANT RD 1	$ 254,525.00
11	207 BRANT RD	$ 54,366.00
12	1009 NEWMAN RD	$ 54,366.00
13	1001 NEWMAN RD	$ 54,366.00
14	133 MILLER WAY A	$ 54,366.00
15	125 MILLER WAY 1	$ 54,366.00
16	117 MILLER WA	$ 54,366.00
17	109 MILLER WAY 1	$ 54,366.00
18	1137 SILVER BEACH RD	$ 54,366.00
19	1129 SILVER BEACH RD	$ 54,366.00
20	1121 SILVER BEACH RD	$ 54,366.00
21	116 REED RD 1	$ 54,366.00
22	116 REED RD 6	$ 54,366.00
23	1061 SILVER BEACH RD 1	$ 54,366.00
24	109 REED RD	$ 54,366.00
25	111 REED RD	$ 54,366.00
26	117 REED RD	$ 54,366.00
27	202 OLD DIXIE HWY	$ 54,366.00
28	1045 SILVER BEACH RD	$ 54,366.00
29	102 OLD DIXIE HWY	$ 54,366.00
	Subtotal	$ 1,776,773.00
	Mobilization, Demobilization, MOT, Bonds & Insurance (10%)	$ 177,677.30
	Contingency (25%)	$ 444,193.25
	Legal, Engineering, Administration (20%)	$ 355,354.60
	Total SOUTH - SECTION	$ 2,753,998.15

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
ONSITE LOW PRESSURE SEWER SYSTEM
JOB NO. 18187.27
SEPTEMBER 2021

	MID-SECTION		
30	410 OLD DIXIE HWY	$	54,366.00
31	1215 INDUSTRIAL AVE	$	54,366.00
32	640 OLD DIXIE HWY	$	102,029.00
33	700 OLD DIXIE HWY 101	$	54,366.00
34	1107 OLD DIXIE HWY A	$	54,366.00
35	1101 OLD DIXIE HWY	$	54,366.00
	Subtotal	$	373,859.00
	Mobilization, Demobilization, MOT, Bonds & Insurance (10%)	$	37,385.90
	Contingency (25%)	$	93,464.75
	Legal, Engineering, Administration (20%)	$	74,771.80
	Total MID-SECTION	$	579,481.45

	NORTH-SECTION		
36	1133 OLD DIXIE HWY 1	$	54,366.00
37	1145 OLD DIXIE HWY A1	$	54,366.00
38	1183 OLD DIXIE HWY A1	$	54,366.00
39	1173 OLD DIXIE HWY	$	54,366.00
40	1169 OLD DIXIE HWY A10	$	54,366.00
41	1139 OLD DIXIE HWY	$	54,366.00
42	800 RAILROAD AVE	$	54,366.00
	Subtotal	$	380,562.00
	Mobilization, Demobilization, MOT, Bonds & Insurance (10%)	$	38,056.20
	Contingency (25%)	$	95,140.50
	Legal, Engineering, Administration (20%)	$	76,112.40
	Total NORTH - SECTION	$	589,871.10

GRAND TOTAL (ALL 3 SECTION) **$ 3,923,350.70**

Notes: (2) Number of units are an estimate only. Costs are based on conceptual plans and unit costs at the time of this report.

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
LOW PRESSURE SEWER SYSTEM
JOB NO. 18187.27
AUGUST 2021

	Address: 640 Old Dixie (Lake Park Public Works)				
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Total Amount**
1	Private Grinder Station	1	EA	$ 30,000.00	$ 30,000.00
2	2" Low Pressure Force Main	25	LF	$ 25.00	$ 625.00
3	Pavement, Restoration, Sub-grade, Sub-base, Asphalt	250	SQ YD	$ 50.00	$ 12,500.00
4	6" PVC Service Lateral (including connection to exisitng, cleanouts, bends)	334	LF	$ 25.00	$ 8,350.00
5	Abandon Septic tank & drainfield assuming each building has one)	3	EA	$ 2,500.00	$ 7,500.00
6	Connection Fee (Assumming 1 ERCs Equivalent)	1	EA	$ 1,200.00	$ 1,200.00
7	Sodding Restoration	50	SQ YD	$ 5.00	$ 250.00
8	Electrical service connection	1	LS	$ 1,500.00	$ 1,500.00
9	Water connection for hose bib	1	LS	$ 1,500.00	$ 1,500.00
	Subtotal				$ 63,425.00
	Mobilization, Demobilization, MOT, Bonds & Insurance (10%)	1	LS		$ 6,342.50
	Contingency (25%)	1	LS		$ 15,856.25
	Legal, Engineering, Administration (20%)	1	LS		$ 12,685.00
	TOTAL				**$ 98,308.75**

Note: Estimated costs are based on conceptual plans and unit costs at the time

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
LOW PRESSURE SEWER SYSTEM
JOB NO. 18187.27
AUGUST 2021

	Address: 210 Brant Road				
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Total Amount**
1	Private Grinder Station	1	EA	$ 30,000.00	$ 30,000.00
2	8" PVC Gravity Sewer Line	541	LF	$ 60.00	$ 32,460.00
3	2" Low Pressure Force Main	10	LF	$ 25.00	$ 250.00
4	Private Sanitary Manhole	5	EA	$ 6,000.00	$ 30,000.00
5	Pavement, Restoration, Sub-grade, Sub-base, Asphalt	750	SQ YD	$ 50.00	$ 37,500.00
6	6" PVC Service Lateral (including connection to exisitng, cleanouts, bends)	250	LF	$ 25.00	$ 6,250.00
7	Abandon Septic tank & drainfield assuming each building has one)	5	EA	$ 2,500.00	$ 12,500.00
8	Connection Fee (Assumming 1 ERCs Equivalent)	1	EA	$ 1,200.00	$ 1,200.00
9	Sodding Restoration	50	SQ YD	$ 5.00	$ 250.00
10	Electrical service connection	1	LS	$ 1,500.00	$ 1,500.00
11	Water connection for hose bib	1	LS	$ 1,500.00	$ 1,500.00
	Subtotal				$ 153,410.00
	Mobilization, Demobilization, MOT, Bonds & Insurance (10%)	1	LS		$ 15,341.00
	Contingency (25%)	1	LS		$ 38,352.50
	Legal, Engineering, Administration (20%)	1	LS		$ 30,682.00
	TOTAL				**$ 237,785.50**

Note: Estimated costs are based on conceptual plans and unit costs at the time

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
LOW PRESSURE SEWER SYSTEM
JOB NO. 18187.27
AUGUST 2021

Address: All Properties Without Oil Interceptor with exception of 210 Brant Road, and 640 Old Dixie					
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Total Amount**
1	Private Grinder Station	1	EA	$ 25,000.00	$ 25,000.00
2	2" Low Pressure Force Main	50	LF	$ 25.00	$ 1,250.00
3	Pavement, Restoration, Sub-grade, Sub-base, Asphalt	25	SQ YD	$ 50.00	$ 1,250.00
4	6" PVC Service Lateral connection (including connection to existing, cleanouts, bends)	1	EA	$ 750.00	$ 750.00
5	Abandon Septic tank & drainfield assuming each building has one)	1	EA	$ 2,500.00	$ 2,500.00
6	Connection Fee (Assumming 1 ERC Equivalent)	1	EA	$ 1,200.00	$ 1,200.00
7	Sodding Restoration	25	SQ YD	$ 5.00	$ 125.00
8	Electrical service connection	1	LS	$ 1,500.00	$ 1,500.00
9	Water connection for hose bib	1	LS	$ 1,500.00	$ 1,500.00
	Subtotal				$ 35,075.00
	Mobilization, Demobilization, MOT, Bonds & Insurance (10%)	1	LS		$ 3,507.50
	Contingency (25%)	1	LS		$ 8,768.75
	Legal, Engineering, Administration (20%)	1	LS		$ 7,015.00
	TOTAL				**$ 54,366.25**

Note: Estimated costs are based on conceptual plans and unit costs at the time
Electrical cost is assumed and will need to be verified w/ individual site analysis bby FPL/construction.

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
LOW PRESSURE SEWER SYSTEM
JOB NO. 18187.27
AUGUST 2021

	Address: Oil Seprator properties (102 OLD DIXIE HWY, 1045 SILVER BEACH RD, 1101 OLD DIXIE HWY 1107 OLd DIXIE HWY A,1145 OLD DIXIE HWY A1)				
Item	**Description**	**Quantity**	**Unit**	**Unit Cost**	**Total Amount**
1	Private Grinder Station	1	EA	$ 25,000.00	$ 25,000.00
2	2" Low Pressure Force Main	50	LF	$ 25.00	$ 1,250.00
3	Pavement, Restoration, Sub-grade, Sub-base, Asphalt	25	SQ YD	$ 50.00	$ 1,250.00
4	6" PVC Service Lateral connection (including connection to existing, cleanouts, bends)	1	EA	$ 750.00	$ 750.00
5	Oil Separator	1	EA	$ 5,000.00	$ 5,000.00
6	Abandon Septic tank & drainfield assuming each building has one)	1	EA	$ 2,500.00	$ 2,500.00
7	Connection Fee (Assumming 1 ERC Equivalent)	1	EA	$ 1,200.00	$ 1,200.00
8	Sodding Restoration	25	SQ YD	$ 5.00	$ 125.00
9	Electrical service connection	1	LS	$ 1,500.00	$ 1,500.00
10	Water connection for hose bib	1	LS	$ 1,500.00	$ 1,500.00
	Subtotal				$ 40,075.00
	Mobilization, Demobilization, MOT, Bonds & Insurance (10%)	1	LS		$ 4,007.50
	Contingency (25%)	1	LS		$ 10,018.75
	Legal, Engineering, Administration (20%)	1	LS		$ 8,015.00
	TOTAL				**$ 62,116.25**

Note: Estimated costs are based on conceptual plans and unit costs at the time of

Appendix H

Offsite Engineer's Opinion of Probable Cost

Gravity Sewer System

Preliminary Cost Estimate
Lake Park Old Dixie Highway Sewer System

PART I - PUBLIC UTILITIES PORTION

Section 1 - Tri-City Industrial Park

Item	Number	Unit	Unit Cost	Cost
Miller Way				
2-Inch PVC Low Pressure Force Main	410	LF	$14	$5,740
In-Line Cleanout Port & Main Line Valve	1	LS	$2,000	$2,000
Terminal Cleanout Port and Main Line Valve	1	LS	$1,000	$1,000
8" PVC Gravity Main (0 - 6 feet)	520	LF	$80	$41,600
4' Diameter Sanitary Sewer Manhole 0' to 6' deep	3	EA	$7,500	$22,500
6" PVC C-900 Gravity Service Lateral - 0' to 6' deep	330	LF	$60	$19,800
Miscellanious Restoration	1	LS	$4,000	$4,000
Roadway Restoration	1,390	SY	$75	$104,250
Contaminated Groundwater Dewatering/Treatment	2	Weeks	$4,000	$8,000
Reed Road				
8" PVC Gravity Main (0 - 6 feet)	510	LF	$80	$40,800
4' Diameter Sanitary Sewer Manhole 0' to 6' deep	3	EA	$7,500	$22,500
6" PVC C-900 Gravity Service Lateral - 0' to 6' deep	270	LF	$60	$16,200
Miscellanious Restoration	1	LS	$4,000	$4,000
Roadway Restoration	1,370	SY	$75	$102,750
Contaminated Groundwater Dewatering/Treatment	2	Weeks	$4,000	$8,000
Newman Road				
4" DIP Main	350	LF	$35	$12,250
8" PVC Gravity Main (0 - 6 feet)	450	LF	$80	$36,000
8" PVC C-900 Gravity Sanitary Sewer Main 6' to 8' deep	100	LF	$90	$9,000
4' Diameter Sanitary Sewer Manhole 0' to 6' deep	1	EA	$7,500	$7,500
4' Diameter Sanitary Sewer Manhole 6' to 8' deep	1	EA	$8,500	$8,500
6" PVC C-900 Gravity Service Lateral - 0' to 6' deep	120	LF	$60	$7,200
Miscellanious Restoration	1	LS	$5,000	$5,000
Pavement Restoration	1,740	SY	$75	$130,500
Contaminated Groundwater Dewatering/Treatment	1	Week	$4,000	$4,000

Preliminary Cost Estimate
Lake Park Old Dixie Highway Sewer System

Brant Road				
4" DIP Main	320	LF	$35	$11,200
8" PVC Gravity Main (6-8 feet)	450	LF	$90	$40,500
4' Diameter Sanitary Sewer Manhole 6' to 8' deep	2	EA	$8,500	$17,000
6" PVC C-900 Gravity Service Lateral - 6' to 8' deep	120	LF	$65	$7,800
Miscellanious Restoration	1	LS	$4,000	$4,000
Roadway Restoration	1,270	SY	$75	$95,250
Contaminated Groundwater Dewatering/Treatment	1	Week	$4,000	$4,000
Lift Station Allowance				
Duplex Lift Station	1	LS	$500,000	$500,000
Contaminated Groundwater Dewatering/Treatment	3	Weeks	$4,000	$12,000
Subtotal				**$1,314,840**

General Conditions (3%)	*$40,000*
Mobilization, Bonds, and Insurance (3%)	*$40,000*
Overhead (8%)	*$106,000*
Subtotal	*$1,500,840*
Profit (15%)	*$226,000*
Subtotal	*$1,726,840*
Contingency (30%)	$519,000
Total Construction Cost	$2,245,840
Technical Services (15%)	$337,000
Total Project Cost	**$2,582,840**

Preliminary Cost Estimate
Lake Park Old Dixie Highway Sewer System

Section 2 - Town of Lake Park Public Works Area

Item	Number	Unit	Unit Cost	Cost
2-Inch PVC Low Pressure Force Main	2,450	LF	$14	$34,300
In-Line Cleanout Port & Main Line Valve	6	LS	$2,000	$12,000
Terminal Cleanout Port and Main Line Valve	1	LS	$1,000	$1,000
Core through existing manhole near Old Dixie	1	LS	$7,500	$7,500
Driveway Restoration	2	EA	$3,500	$7,000
Sodding Restoration	1,470	SY	$5	$7,350
Sidewalk Restoration	400	SY	$40	$16,000
Roadway Restoration	500	SY	$75	$37,500
Miscellanious Restoration	1	LS	$20,000	$20,000
Subtotal				**$142,650**

General Conditions (3%)	*$5,000*
Mobilization, Bonds, and Insurance (3%)	*$5,000*
Overhead (8%)	*$12,000*
Subtotal	*$164,650*
Profit (15%)	*$25,000*
Subtotal	*$189,650*
Contingency (30%)	$57,000
Total Construction Cost	$246,650
Technical Services (15%)	$37,000
Total Project Cost	**$283,650**

Preliminary Cost Estimate
Lake Park Old Dixie Highway Sewer System

Section 3 - Commercial Area on Old Dixie, North of Water Tower Road

Item	Number	Unit	Unit Cost	Cost
2-Inch PVC Low Pressure Force Main	1,050	LF	$14	$14,700
In-Line Cleanout Port & Main Line Valve	2	LS	$2,000	$4,000
Terminal Cleanout Port and Main Line Valve	1	LS	$1,000	$1,000
Core through existing manhole near Old Dixie	1	LS	$7,500	$7,500
Sodding Restoration	1,500	SY	$5	$7,500
Miscellanious Restoration	1	LS	$20,000	$20,000
Subtotal				**$54,700**

General Conditions (3%)	*$2,000*
Mobilization, Bonds, and Insurance (3%)	*$2,000*
Overhead (8%)	*$5,000*
Subtotal	*$63,700*
Profit (15%)	*$10,000*
Subtotal	*$73,700*
Contingency (30%)	$23,000
Total Construction Cost	$96,700
Technical Services (15%)	$15,000
Total Project Cost	**$111,700**

Preliminary Cost Estimate
Lake Park Old Dixie Highway Sewer System
PART II - MAJOR PRIVATE IMPROVEMENTS REQUIRED

Section	Number	Unit	Unit Cost	Cost
Section 1 - Grinder Pump Stations	1	EA	$30,000	$30,000
Section 2 - Grinder Pump Stations	5	EA	$30,000	$150,000
Section 3 - Grinder Pump Stations	7	EA	$30,000	$210,000

Note: Does not include sewer laterals on private property, abandonment of septic tanks and electrical improvements, if needed.

Construction Subtotal **$390,000**

Appendix I

Offsite Engineer's Opinion of Probable Cost

Low Pressure Sewer System

Low Pr

Preliminary Cost Estimate
Lake Park Old Dixie Highway Sewer System

PART I - PUBLIC UTILITIES PORTION

Section 1 - Tri-City Industrial Park

Item	Number	Unit	Unit Cost	Cost
Miller Way				
2" PVC Main	550	LF	$14	$7,700
In-Line Cleanout Port & Main Line Valve	1	LS	$2,000	$2,000
Terminal Cleanout Port and Main Line Valve	1	LS	$1,000	$1,000
Double Service - Short Side	2	LS	$1,600	$3,200
Double Service - Long Side	2	LS	$2,000	$4,000
Single Service - Short Side	1	LS	$1,200	$1,200
Single Service-Long Side	2	LS	$1,600	$3,200
Driveway Restoration	200	SY	$50	$10,000
Sodding Restoration	400	SY	$5	$2,000
Miscellanious Restoration	1	LS	$10,000	$10,000
Reed Road				
2" PVC Main	550	LF	$14	$7,700
In-Line Cleanout Port & Main Line Valve	1	LS	$2,000	$2,000
Terminal Cleanout Port and Main Line Valve	1	LS	$1,000	$1,000
Double Service - Short Side	1	LS	$1,600	$1,600
Double Service - Long Side	1	LS	$2,000	$2,000
Single Service - Short Side	1	LS	$1,200	$1,200
Single Service-Long Side	1	LS	$1,600	$1,600
Driveway Restoration	200	SY	$50	$10,000
Sodding Restoration	400	SY	$5	$2,000
Miscellanious Restoration	1	LS	$10,000	$10,000
Brant Road				
2" PVC Main	475	LF	$14	$6,650
In-Line Cleanout Port & Main Line Valve	1	LS	$2,000	$2,000
Terminal Cleanout Port and Main Line Valve	1	LS	$1,000	$1,000
Double Service - Long Side	1	LS	$2,000	$2,000
Pavement Restoration	40	SY	$75	$3,000
Driveway Restoration	150	SY	$50	$7,500
Sodding Restoration	200	SY	$5	$1,000
Miscellanious Restoration	1	LS	$10,000	$10,000

Preliminary Cost Estimate
Lake Park Old Dixie Highway Sewer System

Newman Road				
2" PVC Main	450	LF	$14	$6,300
In-Line Cleanout Port & Main Line Valve	2	LS	$2,000	$4,000
Terminal Cleanout Port and Main Line Valve	2	LS	$1,000	$2,000
Single Service-Long Side	3	LS	$1,600	$4,800
Pavement Restoration	280	SY	$75	$21,000
Driveway Restoration	75	SY	$50	$3,750
Sodding Restoration	490	SY	$5	$2,450
Miscellanious Restoration	1	LS	$12,000	$12,000
Old Dixie Highway (Assumed that easements are obtained from PBC and Lake Park)				
2" PVC Main	500	LF	$14	$7,000
In-Line Cleanout Port & Main Line Valve	1	LS	$2,000	$2,000
Terminal Cleanout Port and Main Line Valve	1	LS	$1,000	$1,000
Single Service - Short Side	2	LS	$1,200	$2,400
Pavement Restoration	40	SY	$75	$3,000
Driveway Restoration	50	SY	$50	$2,500
Sodding Restoration	250	SY	$5	$1,250
Sidewalk Restoration	300	SY	$40	$12,000
Miscellanious Restoration	1	LS	$10,000	$10,000
Silver Beach Road				
2" PVC Main	250	LF	$14	$3,500
Terminal Cleanout Port and Main Line Valve	1	LS	$1,000	$1,000
Single Service - Short Side	5	LS	$1,200	$6,000
Driveway Restoration	150	SY	$50	$7,500
Sodding Restoration	50	SY	$5	$250
Sidewalk Restoration	25	SY	$40	$1,000
Miscellanious Restoration	1	LS	$7,500	$7,500
LOW PRESSURE FORCE MAIN CONSTRUCTION SUBTOTAL				**$240,800**

General Conditions (3%)	*$8,000*
Mobilization, Bonds, and Insurance (3%)	*$8,000*
Overhead (8%)	*$20,000*
Subtotal	*$276,800*
Profit (15%)	*$42,000*
Subtotal	*$318,800*
Contingency (30%)	$96,000
Total Construction Cost	$414,800
Technical Services (15%)	$63,000
Total Section 1 Project Cost	**$477,800**

Preliminary Cost Estimate
Lake Park Old Dixie Highway Sewer System

Section 2 - Town of Lake Park Public Works Area

Item	Number	Unit	Unit Cost	Cost
2-Inch PVC Low Pressure Force Main	2,450	LF	$14	$34,300
In-Line Cleanout Port & Main Line Valve	6	LS	$2,000	$12,000
Terminal Cleanout Port and Main Line Valve	1	LS	$1,000	$1,000
Single Service - Short Side	2	LS	$1,200	$2,400
Core Through Existing Manhole	1	LS	$7,500	$7,500
Driveway Restoration	140	SY	$50	$7,000
Sodding Restoration	1,470	SY	$5	$7,350
Sidewalk Restoration	400	SY	$40	$16,000
Roadway Restoration	500	SY	$75	$37,500
Miscellanious Restoration	1	LS	$20,000	$20,000
LOW PRESSURE FORCE MAIN CONSTRUCTION SUBTOTAL				**$145,100**

General Conditions (3%)	*$5,000*
Mobilization, Bonds, and Insurance (3%)	*$5,000*
Overhead (8%)	*$12,000*
Subtotal	*$167,100*
Profit (15%)	*$26,000*
Subtotal	*$193,100*
Contingency (30%)	$58,000
Total Construction Cost	$251,100
Technical Services (15%)	$38,000
Total Section 2 Project Cost	**$289,100**

Preliminary Cost Estimate
Lake Park Old Dixie Highway Sewer System

Section 3 - Commercial Area on Old Dixie, North of Water Tower Road

Item	Number	Unit	Unit Cost	Cost
2-Inch PVC Low Pressure Force Main	1,900	LF	$14	$26,600
In-Line Cleanout Port & Main Line Valve	2	LS	$2,000	$4,000
Terminal Cleanout Port and Main Line Valve	1	LS	$1,000	$1,000
Double Service - Short Side	3	LS	$1,600	$4,800
Single Service - Short Side	4	LS	$1,200	$4,800
Core Through Existing Manhole	2	LS	$7,500	$15,000
Sodding Restoration	2,400	SY	$5	$12,000
Driveway Restoration	140	SY	$50	$7,000
Roadway Restoration	500	SY	$75	$37,500
Miscellanious Restoration	1	LS	$24,000	$24,000
LOW PRESSURE FORCE MAIN CONSTRUCTION SUBTOTAL				**$136,700**

General Conditions (3%)	*$5,000*
Mobilization, Bonds, and Insurance (3%)	*$5,000*
Overhead (8%)	*$11,000*
Subtotal	*$157,700*
Profit (15%)	*$24,000*
Subtotal	*$181,700*
Contingency (30%)	$55,000
Total Construction Cost	$236,700
Technical Services (15%)	$36,000
Total Section 3 Project Cost	**$272,700**

PART I - PUBLIC UTILITIES PORTION TOTAL **$1,039,600**

Preliminary Cost Estimate
Lake Park Old Dixie Highway Sewer System

PART II - MAJOR PRIVATE IMPROVEMENTS REQUIRED

Section	Number	Unit	Unit Cost	Cost
Section 1 - Grinder Pump Stations	28	EA	$25,000	$700,000
Section 2 - Grinder Pump Stations	5	EA	$25,000	$125,000
Section 3 - Grinder Pump Stations	10	EA	$25,000	$250,000

Note: Does not include sewer laterals on private property, abandonment of septic tanks and electrical improvements, if needed. Assumes one grinder pump station per parcel.

Construction Subtotal $1,075,000

Appendix J

Property Information Summary

TOWN OF LAKE PARK
PROPERTY INFORMATION
JOB NO. 18187.27
SEPTEMBER 2021

Property	Address	PCN	Zoning	2020 Taxes Paid	Actual usage (Average Gallons per Month in 2020 (in thousands)	Building Size (SF)	Gallons Per Day (0.1 GPD per SF)	ERCs
	SOUTH - SECTION			$ -				
1	1306 SILVER BEACH RD	36434220000007170	CLIC	$ 31,209.00	0	1,860	186	1
2	1211 SILVER BEACH RD	36434220070040060	CLIC	$ 5,447.00	0	3,000	300	1
3	1201 SILVER BEACH RD	36434220070040070	CLIC	$ 11,289.00	17.7	8,440	844	1
4	108 MILLER WAY	36434220070040050	CLIC	$ 9,310.00	1	6,000	600	1
5	116 MILLER WAY 1	36434220070040040	CLIC	$ 9,392.00	5.6	5,250	525	1
6	124 MILLER WAY 1	36434220070040030	CLIC	$ 11,713.00	5.6	5,250	525	1
7	132 MILLER WAY 1	36434220070040020	CLIC	$ 13,058.00	2.5	7,200	720	1
8	212 NEWMAN RD A	36434220000005110	CLIC	$ 43,254.00	5.4	30,400	3040	1
9	210 NEWMAN RD A	36434220000005120	CLIC	$ 41,617.00	73.9	20,750	2075	1
10	210 BRANT RD 1	36434220070040010	CLIC	$ 56,866.00	73.9	33,600	3360	1
11	207 BRANT RD	36434220070010010	CLIC	$ 9,119.00	2.6	4,369	436.9	1
12	1009 NEWMAN RD	36434220070010020	CLIC	$ 18,932.00	5.1	10,000	1000	1
13	1001 NEWMAN RD	36434220070010030	CLIC	$ 14,116.00	2.3	6,480	648	1
14	133 MILLER WAY A	36434220070030010	CLIC	$ 9,587.00	0.8	4,500	450	1
15	125 MILLER WAY 1	36434220070030011	CLIC	$ 11,863.00	0.6	6,000	600	1
16	117 MILLER WA	36434220070030031	CLIC	$ 14,140.00	21.1	4,048	404.8	1
17	109 MILLER WAY 1	36434220070030040	CLIC	$ 11,886.00	7.4	6,195	619.5	1
18	1137 SILVER BEACH RD	36434220070030050	CLIC	$ 14,321.00	24.9	6,600	660	1
19	1129 SILVER BEACH RD	36434220070030070	CLIC	$ 6,015.00	2.9	2,400	240	1
20	1121 SILVER BEACH RD	36434220070030080	CLIC	$ 17,602.00	4.1	7,680	768	1
21	116 REED RD 1	36434220070030120	CLIC	$ 15,268.00	2.2	8,280	828	1
22	116 REED RD 6	36434220070030130	CLIC	$ 18,024.00	2.2	9,300	930	1
23	1061 SILVER BEACH RD 1	36434220070020050	CLIC	$ 13,967.00	2.4	8,760	876	1
24	109 REED RD	36434220070020041	CLIC	$ 7,929.00	1.7	3,432	343.2	1
25	111 REED RD	36434220070020032	CLIC	$ 6,416.00	4.2	2,160	216	1
26	117 REED RD	36434220070020020	CLIC	$ 19,629.00	1.1	11,588	1158.8	1
27	202 OLD DIXIE HWY	36434220070020010	CLIC	$ 41,492.00	16.2	26,906	2690.6	1
28	1045 SILVER BEACH RD	36434220000005100	CLIC	$ 6,693.00	1.9	3,836	383.6	1
29	102 OLD DIXIE HWY	36434220000005080	CLIC	$ 8,818.00	44.9	1,431	143.1	1
	MID-SECTION							
30	410 OLD DIXIE HWY	36434220000007010	CLIC	$ 16,082.00	16.6	6,060	606	1
31	1215 INDUSTRIAL AVE	36434220000007040	CLIC	$ 6,678.00	0.0	2,923	292.3	1
32	640 OLD DIXIE HWY	36434220000007191	CSV	$ -	11.7	10,235	1023.5	1
33	700 OLD DIXIE HWY 101	36434220000007100	CLIC	$ 27,954.00	4.7	13,124	1312.4	1
34	1107 OLD DIXIE HWY A	36434220000007120	CLIC	$ 23,639.00	5.9	8,750	875	1
35	1101 OLD DIXIE HWY	36434220000007153	CLIC	$ 7,867.00	2.1	5,888	588.8	1
	NORTH-SECTION							
36	1133 OLD DIXIE HWY 1	36434220110000010	C4	$ 3,696.00	16.4	12,200	1220	1
37	1145 OLD DIXIE HWY A1	36434220000003110	C4	$ 24,651.00	6.7	11,362	1136.2	1
38	1183 OLD DIXIE HWY A1	36434220000003151	C4	$ 43,432.00	13.4	24,742	2474.2	1
39	1173 OLD DIXIE HWY	36434220000003152	C4	$ 13,670.00	19.1	4,700	470	1
40	1169 OLD DIXIE HWY A10	36434220000003140	C4	$ 17,693.00	3.3	8,575	857.5	1
41	1139 OLD DIXIE HWY	36434220000003130	C4	$ 9,404.00	7.7	4,200	420	1
42	800 RAILROAD AVE	36434220000003200	C4	$ 61,653.00		8,168	816.8	1
	TOTAL			**$ 755,391.00**	**441.7**	**376,642**	**37,664**	

Appendix K

Septic to Sewer Alternative Comparison

Septic to Sewer Alternative Comparison

October 2021
Project No. 18187.27

Existing Conditions

		Conceptual Construction Cost	Disruption During Construction	Landowner Maintenance Obligation	Re-development Opportunity	Current Challenges
Existing Systems	Existing Septic (42 Units)	N/A	N/A	Moderate	Limited, due to lower capacity of septic systems,	Routine maintenance of existing septic system and drain field

Summary of Options

		Estimated Conceptual Construction Cost	Disruption During Construction	Landowner Maintenance Obligation	Re-development Opportunity	Future Challenges to Landowner
Proposed Alternatives	Proposed Gravity/ Low Pressure Combination System	$4.9 million	High	Minimal	Greater potential	None for gravity properties. Routine maintenance of onsite pump stations where proposed.
	Proposed Low Pressure System	$5.0 million	Minimal	Moderate	Greater potential	Routine maintenance of onsite pump stations where proposed.

Appendix L

EPA Fact Sheets for Force Mains, Lift Stations and Low Pressure Systems

United States Environmental Protection Agency | Office of Water Washington, D.C. | EPA 832-F-00 September 2000

Wastewater Technology Fact Sheet
Sewers, Force Main

DESCRIPTION

Force mains are pipelines that convey wastewater under pressure from the discharge side of a pump or pneumatic ejector to a discharge point. Pumps or compressors located in a lift station provide the energy for wastewater conveyance in force mains. The key elements of force mains are:

1. Pipe.
2. Valves.
3. Pressure surge control devices.
4. Force main cleaning system.

Force mains are constructed from various materials and come in a wide range of diameters. Wastewater quality governs the selection of the most suitable pipe material. Operating pressure and corrosion resistance also impact the choice. Pipeline size and wall thickness are determined by wastewater flow, operating pressure, and trench conditions.

Common Modifications

Force mains may be aerated or the wastewater chlorinated at the pump station to prevent odors and excessive corrosion. Pressure surge control devices are installed to reduce pipeline pressure below a safe operating pressure during lift station start-up and shut-off. Typically, automatically operated valves (cone or ball type) control pressure surges at the pump discharge or pressure surge tanks. Normally, force main cleaning includes running a manufactured "pigging" device through the line and long force mains are typically equipped with "pig" insertion and retrieval stations. In most cases, insertion facilities are located within the lift station and the pig removal station is at the discharge point of the force main. Several launching and retrieval stations are usually provided in long force mains to facilitate cleaning of the pipeline.

APPLICABILITY

Force mains are used to convey wastewater from a lower to higher elevation, particularly where the elevation of the source is not sufficient for gravity flow and/or the use of gravity conveyance will result in excessive excavation depths and high sewer pipeline construction costs.

Ductile iron and polyvinyl chloride (PVC) are the most frequently used materials for wastewater force mains. Ductile iron pipe has particular advantages in wastewater collection systems due to its high strength and high flow capacity with greater than nominal inside diameters and tight joints. For special corrosive conditions and extremely high flow characteristics, polyethylene-lined ductile iron pipe and fittings are widely used.

Cast iron pipe with glass lining is available in standard pipe sizes, with most joints in lengths up to 6.1 meters (20 feet). Corrosion-resistant plastic lined piping systems are used for certain waste carrying applications. Polyethylene-lined ductile iron pipe and fittings known as "poly-bond-lined" pipe is widely used for force mains conveying highly corrosive industrial or municipal wastewater.

The types of thermoplastic pipe materials used for force main service are PVC, acrylonitrile-butadiene-styrene (ABS), and polyethylene (PE).

The corrosion resistance, light weight, and low hydraulic friction characteristics of these materials offer certain advantages for different force main applications, including resistance to microbial attack. Typically, PVC pipes are available in standard diameters of 100 to 900 mm (4 to 36 inches) and their laying lengths normally range from 3 to 6 meters (10 to 20 feet). The use of composite material pipes, such as fiberglass reinforced mortar pipe ("truss pipe"), is increasing in the construction of force mains. A truss pipe is constructed on concentric ABS cylinders with annular space filled with cement. Pipe fabricated of fiberglass reinforced epoxy resin is almost as strong as steel, as well as corrosion and abrasion resistant.

Certain types of asbestos-cement pipe are applicable in construction of wastewater force mains. The advantage of asbestos-cement pipes in sewer applications is their low hydraulic friction. These pipes are relatively lightweight, allowing long laying lengths in long lines. Asbestos-cement pipes are also highly corrosion resistant. At one time it was thought that many asbestos containing products (including asbestos-cement pipe) would be banned by the Environmental Protection Agency. However, a court ruling overturned this ban and this pipe is available and still used for wastewater force main applications (Sanks, 1998).

Force mains are very reliable when they are properly designed and maintained. In general, force main reliability and useful life are comparable to that of gravity sewer lines, but pipeline reliability may be compromised by excessive pressure surges, corrosion, or lack of routine maintenance.

ADVANTAGES AND DISADVANTAGES

Advantages

Use of force mains can significantly reduce the size and depth of sewer lines and decrease the overall costs of sewer system construction. Typically, when gravity sewers are installed in trenches deeper than 6.1 meters (20 feet), the cost of sewer line installation increases significantly because more complex and costly excavation equipment and trench shoring techniques are required. Usually, the diameter of pressurized force mains is one to two sizes smaller than the diameter of gravity sewer lines conveying the same flow, allowing significant pipeline cost reduction. Force main installation is simple because of shallower pipeline trenches and reduced quantity of earthwork. Installation of force mains is not dependent on site specific topographic conditions and is not impacted by available terrain slope, which typically limits gravity wastewater conveyance.

Disadvantages

While construction of force mains is less expensive than gravity sewer lines for the same flow, force main wastewater conveyance requires the construction and operation of one or more lift stations. Wastewater pumping and use of force mains could be eliminated or reduced by selecting alternative sewer routes, consolidating a proposed lift station with an existing lift station, or extending a gravity sewer using directional drilling or other state-of-the art deep excavation methods.

The dissolved oxygen content of the wastewater is often depleted in the wet-well of the lift station, and its subsequent passage through the force main results in the discharge of septic wastewater, which not only lacks oxygen but often contains sulfides. Frequent cleaning and maintenance of force mains is required to remove solids and grease buildup and minimize corrosion due to the high concentration of sulfides.

Pressure surges are abrupt increases in operating pressure in force mains which typically occur during pump start-up and shut-off. Pressure surges may have negative effects on force main integrity but can be reduced by proper pump station and pipeline design.

DESIGN CRITERIA

Force main design is typically integrated with lift station design. The major factors to consider in analyzing force main materials and hydraulics include the design formula for sizing the pipe, friction losses, pressure surges, and maintenance. The Hazen-Williams formula is recommended for the design of force mains. This formula includes a roughness coefficient C, which accounts for

pipeline hydraulic friction characteristics. The roughness coefficient varies with pipe material, size, and age.

Force Main Pipe Materials

Selection criteria for force main pipe materials include:

1. Wastewater quantity, quality, and pressure.
2. Pipe properties, such as strength, ease of handling, and corrosion resistance.
3. Availability of appropriate sizes, wall thickness, and fittings.
4. Hydraulic friction characteristics
5. Cost.

Ductile iron pipe offers strength, stiffness, ductility, and a range of sizes and thicknesses and is the typical choice for high-pressure and exposed piping. Plastic pipe is most widely used in short force mains and smaller diameters. Table 1 lists the types of pipe recommended for use in a force main system and suggested applications.

Velocity

Force mains from the lift station are typically designed for velocities between 0.6 to 2.4 meters per second (2 to 8 feet per second). Such velocities are normally based on the most economical pipe diameters and typical available heads. For shorter force mains (less than 610 meters or 2,000 feet) and low lift requirements (less than 9.1 meters or 30 feet), the recommended design force main velocity range is 1.8 to 2.7 meters per second (6 to 9 feet per second). This higher design velocity allows the use of smaller pipe, reducing construction costs. Higher velocity also increases pipeline friction loss by more than 50 percent, resulting in increased energy costs. To reduce the velocity, a reducer pipe or a pipe valve can be used. Reducer pipes are often used because of the costly nature of pipe valves. These reducer pipes, which are larger in diameter, help to disperse the flow, therefore reducing the velocity.

The maximum force main velocity at peak conditions is recommended not to exceed 3 meters per second (10 feet per second). Table 2 provides examples of force main capacities at various pipeline sizes, materials, and velocities. The flow volumes may vary depending on the pipe material used.

TABLE 1 CHARACTERISTICS OF COMMON FORCE MAIN PIPE MATERIALS

Material	Application	Key Advantages	Key Disadvantages
Cast or Ductile Iron, Cement Lined	High pressure Available sizes of 4-54 inches	Good resistance to pressure surges	More expensive than concrete and fiberglass
Steel, Cement Lined	High pressure All pipe sizes	Excellent resistance to pressure surges	More expensive than concrete and fiberglass
Asbestos Cement	Moderate pressure For 36-inch + pipe sizes	No corrosion Slow grease buildup	Relatively brittle
Fiberglass Reinforced Epoxy Pipe	Moderate pressure For up to 36-inch pipe sizes	No corrosion Slow grease buildup	350 psi max pressure
Plastic	Low pressure For up to 36-inch pipe sizes	No corrosion Slow grease buildup	Suitable for small pipe sizes and low pressure only

Source: Sanks, 1998.

TABLE 2 FORCE MAIN CAPACITY

Diameter (inches)	Velocity = 2 fps		Velocity = 4 fps		Velocity = 6 fps	
	gpm	lps	gpm	lps	gpm	lps
6	176	11	362	22	528	33
8	313	20	626	40	626	60
10	490	31	980	62	1,470	93
18	1,585	100	3,170	200	4,755	300
24	2,819	178	5,638	356	8,457	534
36	6,342	400	12,684	800	19,026	1,200

Source: Metcalf and Eddy, 1981.

Vertical Alignment

Force mains should be designed so that they are always full and pressure in the pipe is greater than 69 kiloPascals (10 pounds per square inch) to prevent the release of gases. Low and high points in the vertical alignment should be avoided; considerable effort and expense are justified to maintain an uphill slope from the lift station to the discharge point. High points in force mains trap air, which reduces available pipe area, causes non-uniform flow, and creates the potential for sulfide corrosion. Gas relief and vacuum valves are often installed if high points in the alignment of force mains cannot be avoided, while blowoffs are installed at low points.

Pressure Surges

The possibility of sudden changes in pressure (pressure surges) in the force main due to starting and/or stopping pumps (or operation of valves appurtenant to a pump) must be considered during design. The duration of such pressure surges ranges between 2 to 15 seconds. Each surge is site specific and depends on pipeline profile, flow, change in velocity, inertia of the pumping equipment, valve characteristics, pipeline materials, and pipeline accessories. Critical surges may be caused by power failure. If pressure surge is a concern, the force main should be designed to withstand calculated maximum surge pressures.

Valves

Valves are installed to regulate wastewater flow and pressure in the force mains. Valves can be used to stop and start flow, control the flow rate, divert the flow, prevent backflow, and control and relieve the pressure. The number, type, and location of force main valves depends on the operating pressures and potential surge conditions in the pipeline. Although valves have a lot of benefits, the costliness of them prevents them from being used extensively.

PERFORMANCE

Force main performance is closely tied to the performance of the lift station to which it is connected. Pump-force main performance curves are used to define and compare the operating characteristics of a given pump or set of pumps along with the associated force main. They are also used to identify the best combination of performance characteristics under which the lift station-force main system will operate under typical conditions (flows and pressures). Properly designed pump-force main systems usually allow the lift station pumps to operate at 35 to 55 percent efficiency most of the time. Overall pump efficiency depends on the type of pumps, their control system, and the fluctuation of the influent wastewater flow.

OPERATION AND MAINTENANCE

The operation of force main-lift station systems is usually automated and does not require continuous on-site operator presence. However, annual force

main route inspections are recommended to ensure normal functioning and to identify potential problems.

Special attention is given to the integrity of the force main surface and pipeline connections, unusual noise, vibration, pipe and pipe joint leakage and displacement, valving arrangement and leakage, lift station operation and performance, discharge pump rates and pump speed, and pump suction and discharge pressures. Depending on the overall performance of the lift station-force main system, the extent of grease build-up and the need for pipeline pigging are also assessed.

If there is an excessive increase in pump head and the headloss increase is caused by grease build-up, the pipeline is pigged. Corrosion is rarely a problem since pipes are primarily constructed of ductile iron or plastic, which are highly resistant to corrosion. Buildup can be removed by pigging the pipeline.

COSTS

Force main costs depend on many factors including:

1. Conveyed wastewater quantity and quality.
2. Force main length.
3. Operating pressure.
4. Soil properties and underground conditions.
5. Pipeline trench depth.
6. Appurtenances such as valves and blowoffs.
7. Community impacts.

These site and system specific factors must be examined and incorporated in the preparation of force main cost estimates.

Construction Costs

Unit force main construction costs are usually expressed in $ per linear foot of installed pipeline and costs typically include labor and the equipment and materials required for pipeline installation. Table 3 unit pipeline construction costs for ductile iron and plastic (PVC) pipes used for force main construction. These costs are base installation costs and do not include the following:

1. General contractor overhead and profit.
2. Engineering and construction management.
3. Land or right-of-way acquisition.
4. Legal, fiscal, and administrative costs.
5. Interest during construction.
6. Community impacts.

All unit pipeline costs are adjusted to 1999 dollars.

TABLE 3 CONSTRUCTION COSTS FOR DUCTILE IRON AND PLASTIC PIPES

Pipe Diameter (inches)	Ductile Iron Pipe ($/linear foot)	PVC Pressure Pipe ($/linear foot)
8	23	15
10	29	20
12	36	26
14	46	33
16	53	41
18	66	48
20	72	56
24	84	65
30	142	90
36	190	135

Source: James M. Montgomery Consulting Engineers, 1998.

Operation and Maintenance Costs

Force main operation and maintenance costs include labor and maintenance requirements. Typically, labor costs account for 85 to 95 percent of total operation and maintenance costs and are dependent on the force main length. The

maintenance costs usually vary from $7 to $20/meter ($2 to $6/linear foot), depending on the size and number of appurtenances installed on the force main. An internal inspection using TV equipment can be completed, if visual inspection is not sufficient. TV inspection can be costly, ranging from $1,000 to $11,450 per mile with an average cost of $4,600 per mile (WERF, 1997; Arbour and Kerri, 1997).

Table 4 summarizes force main construction costs from several projects, adjusted to 1999 dollars.

TABLE 4 FORCE MAIN CONSTRUCTION COSTS

Project/ Location	Force Main Average Capacity (mgd)	Construction Costs ($US/linear foot)
Compton, CA	8	70
Oceanside, CA	18	85
Eugene, OR	12	90
CMCWD I, CA	42	510
CMCWD II, CA	30	260
Goleta, CA	56	365
Gillette, WY	30	120

Source: James M. Montgomery Consulting Engineers, 1998.

REFERENCES

Other Related Fact Sheets

Sewers, Lift Stations
EPA 832-F-00-073
September 2000

Pipe Construction and Materials
EPA 832-F-00-068
September 2000

Sewer Cleaning and Inspection
EPA 832-F-99-031
September 1999

Other EPA Fact Sheets can be found at the following web address:
http://www.epa.gov/owmitnet/mtbfact.htm

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United States Environmental Protection Agency | Office of Water Washington, D.C. | EPA 832-F-00 September 2000

Collection Systems Technology Fact Sheet
Sewers, Lift Station

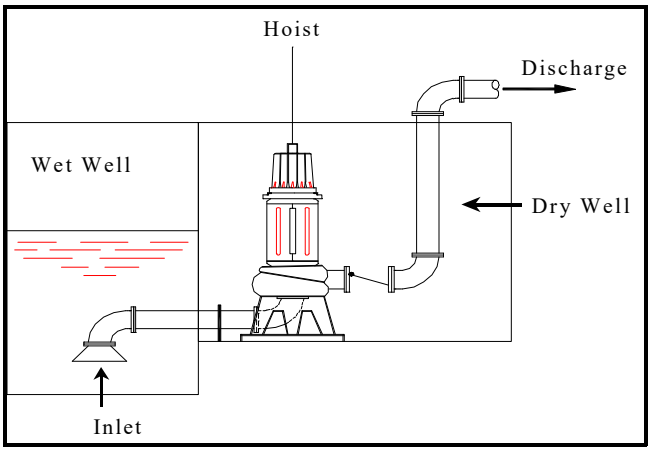
DESCRIPTION

Wastewater lift stations are facilities designed to move wastewater from lower to higher elevation through pipes. Key elements of lift stations include a wastewater receiving well (wet-well), often equipped with a screen or grinding to remove coarse materials; pumps and piping with associated valves; motors; a power supply system; an equipment control and alarm system; and an odor control system and ventilation system.

Lift station equipment and systems are often installed in an enclosed structure. They can be constructed on-site (custom-designed) or pre-fabricated. Lift station capacities range from 76 liters per minute (20 gallons per minute) to more than 378,500 liters per minute (100,000 gallons per minute). Pre-fabricated lift stations generally have capacities of up to 38,000 liters per minute (10,000 gallons per minute). Centrifugal pumps are commonly used in lift stations. A trapped air column, or bubbler system, that senses pressure and level is commonly used for pump station control. Other control alternatives include electrodes placed at cut-off levels, floats, mechanical clutches, and floating mercury switches. A more sophisticated control operation involves the use of variable speed drives.

Lift stations are typically provided with equipment for easy pump removal. Floor access hatches or openings above the pump room and an overhead monorail beam, bridge crane, or portable hoist are commonly used.

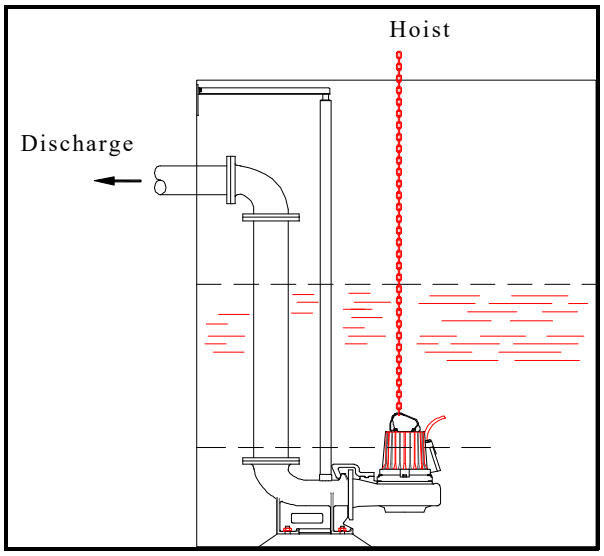
The two most common types of lift stations are the dry-pit or dry-well and submersible lift stations. In dry-well lift stations, pumps and valves are housed in a pump room (dry pit or dry-well), that is easily accessible. The wet-well is a separate chamber attached or located adjacent to the dry-well (pump room) structure. Figures 1 and 2 illustrate the two types of pumps.



Source: Qasim, 1994.

FIGURE 1 DRY-WELL PUMP

Submersible lift stations do not have a separate pump room; the lift station header piping, associated valves, and flow meters are located in a separate dry vault at grade for easy access. Submersible lift stations include sealed pumps that operate submerged in the wet-well. These are removed to the surface periodically and reinstalled using guide rails and a hoist. A key advantage of dry-well lift stations is that they allow easy access for routine visual inspection and maintenance. In general, they are easier to repair than submersible pumps. An advantage of submersible lift stations is that they typically cost less than dry-well stations and operate without frequent pump maintenance. Submersible lift stations do not usually include



Source: Qasim, 1994.

FIGURE 2 WET-WELL SUBMERSIBLE

large aboveground structures and tend to blend in with their surrounding environment in residential areas. They require less space and are easier and less expensive to construct for wastewater flow capacities of 38,000 liters per minute (10,000 gallons per minute) or less.

APPLICABILITY

Lift stations are used to move wastewater from lower to higher elevation, particularly where the elevation of the source is not sufficient for gravity flow and/or when the use of gravity conveyance will result in excessive excavation depths and high sewer construction costs.

Current Status

Lift stations are widely used in wastewater conveyance systems. Dry-well lift stations have been used in the industry for many years. However, the current industry-wide trend is to replace dry-well lift stations of small and medium size (typically less than 24,000 liters per minute or 6,350 gallons per minute) with submersible lift stations mainly because of lower costs, a smaller footprint, and simplified operation and maintenance.

Variable speed pumping is often used to optimize pump performance and minimize power use. Several types of variable-speed pumping equipment are available, including variable voltage and frequency drives, eddy current couplings, and mechanical variable-speed drives. Variable-speed pumping can reduce the size and cost of the wet-well and allows the pumps to operate at maximum efficiency under a variety of flow conditions. Because variable-speed pumping allows lift station discharge to match inflow, only nominal wet-well storage volume is required and the well water level is maintained at a near constant elevation. Variable-speed pumping may allow a given flow range to be achieved with fewer pumps than a constant-speed alternative. Variable-speed stations also minimize the number of pump starts and stops, reducing mechanical wear. Although there is significant energy saving potential for stations with large friction losses, it may not justify the additional capital costs unless the cost of power is relatively high. Variable speed equipment also requires more room within the lift station and may produce more noise and heat than constant speed pumps.

Lift stations are complex facilities with many auxiliary systems. Therefore, they are less reliable than gravity wastewater conveyance. However, lift station reliability can be significantly improved by providing stand-by equipment (pumps and controls) and emergency power supply systems. In addition, lift station reliability is improved by using non-clog pumps suitable for the particular wastewater quality and by applying emergency alarm and automatic control systems.

ADVANTAGES AND DISADVANTAGES

Advantages

Lift stations are used to reduce the capital cost of sewer system construction. When gravity sewers are installed in trenches deeper than three meters (10 feet), the cost of sewer line installation increases significantly because of the more complex and costly excavation equipment and trench shoring techniques required. The size of the gravity sewer lines is dependent on the minimum pipe slope and flow. Pumping wastewater can convey the same flow using smaller pipeline size at shallower depth, and thereby, reducing pipeline costs.

Disadvantages

Compared to sewer lines where gravity drives wastewater flow, lift stations require a source of electric power. If the power supply is interrupted, flow conveyance is discontinued and can result in flooding upstream of the lift station, It can also interrupt the normal operation of the downstream wastewater conveyance and treatment facilities. This limitation is typically addressed by providing an emergency power supply.

Key disadvantages of lift stations include the high cost to construct and maintain and the potential for odors and noise. Lift stations also require a significant amount of power, are sometimes expensive to upgrade, and may create public concerns and negative public reaction.

The low cost of gravity wastewater conveyance and the higher costs of building, operating, and maintaining lift stations means that wastewater pumping should be avoided, if possible and technically feasible. Wastewater pumping can be eliminated or reduced by selecting alternative sewer routes or extending a gravity sewer using direction drilling or other state-of-the-art deep excavation methods. If such alternatives are viable, a cost-benefit analysis can determine if a lift station is the most viable choice.

DESIGN CRITERIA

Cost effective lift stations are designed to: (1) match pump capacity, type, and configuration with wastewater quantity and quality; (2) provide reliable and uninterruptible operation; (3) allow for easy operation and maintenance of the installed equipment; (4) accommodate future capacity expansion; (5) avoid septic conditions and excessive release of odors in the collection system and at the lift station; (6) minimize environmental and landscape impacts on the surrounding residential and commercial developments; and (7) avoid flooding of the lift station and the surrounding areas.

Wet-well

Wet-well design depends on the type of lift station configuration (submersible or dry-well) and the type of pump controls (constant or variable speed). Wet-wells are typically designed large enough to prevent rapid pump cycling but small enough to prevent a long detention time and associated odor release.

Wet-well maximum detention time in constant speed pumps is typically 20 to 30 minutes. Use of variable frequency drives for pump speed control allows wet-well detention time reduction to 5 to 15 minutes. The minimum recommended wet-well bottom slope is to 2:1 to allow self-cleaning and minimum deposit of debris. Effective volume of the wet-well may include sewer pipelines, especially when variable speed drives are used. Wet-wells should always hold some level of sewage to minimize odor release. Bar screens or grinders are often installed in or upstream of the wet-well to minimize pump clogging problems.

Wastewater Pumps

The number of wastewater pumps and associated capacity should be selected to provide head-capacity characteristics that correspond as nearly as possible to wastewater quantity fluctuations. This can be accomplished by preparing pump/pipeline system head-capacity curves showing all conditions of head (elevation of a free surface of water) and capacity under which the pumps will be required to operate.

The number of pumps to be installed in a lift station depends on the station capacity, the range of flow and the regulations. In small stations, with maximum inflows of less than 2,640 liters per minute (700 gallons per minute), two pumps are customarily installed, with each unit able to meet the maximum influent rate. For larger lift stations, the size and number of pumps should be selected so that the range of influent flow rates can be met without starting and stopping pumps too frequently and without excessive wet-well storage.

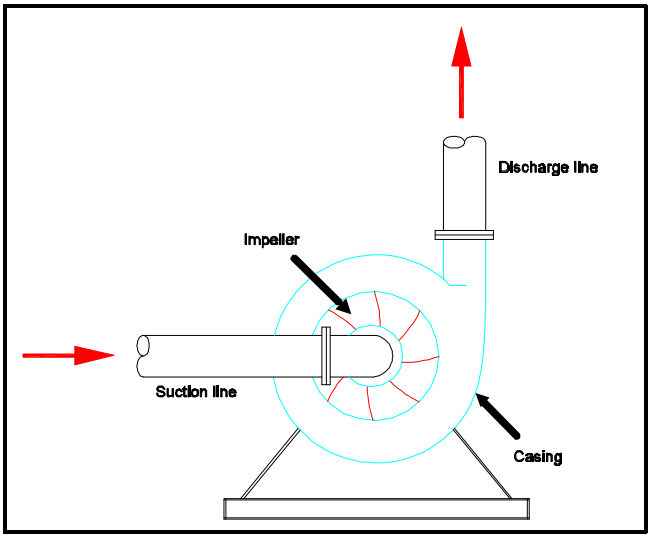
Depending on the system, the pumps are designed to run at a reduced rate. The pumps may also alternate to equalize wear and tear. Additional pumps may provide intermediate capacities better matched to typical daily flows. An alternative option is to provide flow flexibility with variable-speed pumps.

For pump stations with high head-losses, the single-pump flow approach is usually the most suitable. Parallel pumping is not as effective for such stations because two pumps operating together yield only slightly higher flows than one pump. If the peak flow is to be achieved with multiple pumps in parallel, the lift station must be equipped with at least three pumps: two duty pumps that together provide peak flow and one standby pump for emergency backup. Parallel peak pumping is typically used in large lift stations with relatively flat system head curves. Such curves allow multiple pumps to deliver substantially more flow than a single pump. The use of multiple pumps in parallel provides more flexibility.

Several types of centrifugal pumps are used in wastewater lift stations. In the straight-flow centrifugal pumps, wastewater does not change direction as it passes through the pumps and into the discharge pipe. These pumps are well suited for low-flow/high head conditions. In angle-flow pumps, wastewater enters the impeller axially and passes through the volute casing at 90 degrees to its original direction (Figure 3). This type of pump is appropriate for pumping against low or moderate heads. Mixed flow pumps are most viable for pumping large quantities of wastewater at low head. In these pumps, the outside diameter of the impeller is less than an ordinary centrifugal pump, increasing flow volume.

Ventilation

Ventilation and heating are required if the lift station includes an area routinely entered by personnel. Ventilation is particularly important to prevent the collection of toxic and/or explosive gases. According to the Nation Fire Protection Association (NFPA) Section 820, all continuous ventilation systems should be fitted with flow detection devices connected to alarm systems to



Source: Lindeburg, revised edition 1995.

FIGURE 3 CENTRIFUGAL ANGLE-FLOW PUMP

indicate ventilation system failure. Dry-well ventilation codes typically require six continuous air changes per hour or 30 intermittent air changes per hour. Wet-wells typically require 12 continuous air changes per hour or 60 intermittent air changes per hour. Motor control center (MCC) rooms should have a ventilation system adequate to provide six air changes per hour and should be air conditioned to between 13 and 32 degrees Celsius (55 to 90 degrees F). If the control room is combined with an MCC room, the temperature should not exceed 30 degrees C or 85 degrees F. All other spaces should be designed for 12 air changes per hour. The minimum temperature should be 13 degrees C (55 degrees F) whenever chemicals are stored or used.

Odor Control

Odor control is frequently required for lift stations. A relatively simple and widely used odor control alternative is minimizing wet-well turbulence. More effective options include collection of odors generated at the lift station and treating them in scrubbers or biofilters or the addition of odor control chemicals to the sewer upstream of the lift station. Chemicals typically used for odor control include chlorine, hydrogen peroxide, metal salts (ferric chloride and ferrous sulfate) oxygen, air, and potassium permanganate. Chemicals should be

closely monitored to avoid affecting downstream treatment processes, such as extended aeration.

Power Supply

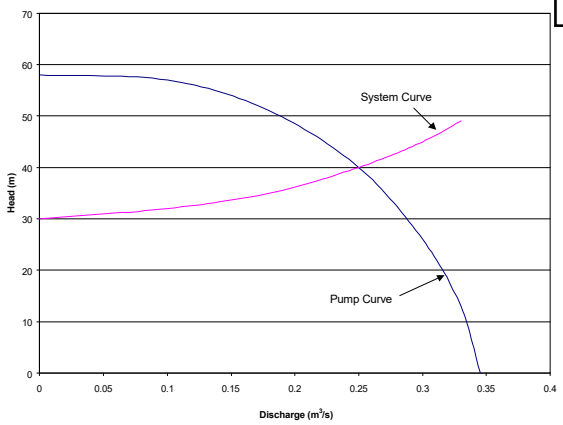
The reliability of power for the pump motor drives is a basic design consideration. Commonly used methods of emergency power supply include electric power feed from two independent power distribution lines; an on-site standby generator; an adequate portable generator with quick connection; a stand-by engine driven pump; ready access to a suitable portable pumping unit and appropriate connections; and availability of an adequate holding facility for wastewater storage upstream of the lift station.

PERFORMANCE

The overall performance of a lift station depends on the performance of the pumps. All pumps have four common performance characteristics: capacity, head, power, and overall efficiency. Capacity (flow rate) is the quantity of liquid pumped per unit of time, typically measured as gallons per minute (gpm) or million gallons per day (mgd). Head is the energy supplied to the wastewater per unit weight, typically expressed as feet of water. Power is the energy consumed by a pump per unit time, typically measured as kilowatt-hours. Overall efficiency is the ratio of useful hydraulic work performed to actual work input. Efficiency reflects the pump relative power losses and is usually measured as a percentage of applied power.

Pump performance curves (Figure 4) are used to define and compare the operating characteristics of a pump and to identify the best combination of performance characteristics under which a lift station pumping system will operate under typical conditions (flows and heads). Pump systems operate at 75 to 85 percent efficiency most of the time, while overall pump efficiency depends on the type of installed pumps, their control system, and the fluctuation of influent wastewater flow.

Performance optimization strategies focus on different ways to match pump operational characteristics with system flow and head requirements. They may include the following



Source: Adapted from Roberson and Crowe, 1993.

FIGURE 4 PUMP PERFORMANCE CURVE

options: adjusting system flow paths installing variable speed drives; using parallel pumps installing pumps of different sizes trimming a pump impeller; or putting a two-speed motor on one or more pumps in a lift station. Optimizing system performance may yield significant electrical energy savings.

OPERATION AND MAINTENANCE

Lift station operation is usually automated and does not require continuous on-site operator presence. However, frequent inspections are recommended to ensure normal functioning and to identify potential problems. Lift station inspection typically includes observation of pumps, motors and drives for unusual noise, vibration, heating and leakage, check of pump suction and discharge lines for valving arrangement and leakage, check of control panel switches for proper position, monitoring of discharge pump rates and pump speed, and monitoring of the pump suction and discharge pressure. Weekly inspections are typically conducted, although the frequency really depends on the size of the lift station.

If a lift station is equipped with grinder bar screens to remove coarse materials from the wastewater, these materials are collected in containers and disposed of to a sanitary landfill site as needed. If the lift station has a scrubber system for odor control, chemicals are supplied and replenished typically every three months. If chemicals are added for odor control ahead of the lift station, the

chemical feed stations should be inspected weekly and chemicals replenished as needed.

The most labor-intensive task for lift stations is routine preventive maintenance. A well-planned maintenance program for lift station pumps prevents unnecessary equipment wear and downtime. Lift station operators must maintain an inventory of critical spare parts. The number of spare parts in the inventory depends on the critical needs of the unit, the rate at which the part normally fails, and the availability of the part. The operator should tabulate each pumping element in the system and its recommended spare parts. This information is typically available from the operation and maintenance manuals provided with the lift station.

COSTS

Lift station costs depend on many factors, including (1) wastewater quality, quantity, and projections; (2) zoning and land use planning of the area where the lift station will be located; (3) alternatives for standby power sources; (4) operation and maintenance needs and support; (5) soil properties and underground conditions; (6) required lift to the receiving (discharge) sewer line; (7) the severity of impact of accidental sewage spill upon the local area; and (8) the need for an odor control system. These site and system specific factors must be examined and incorporated in preparing a lift station cost estimate.

Construction Costs

The most important factors influencing cost are the design lift station capacity and the installed pump power. Another cost factor is the lift station complexity. Factors which classify a lift station as complex include two or more of the following: (1) extent of excavation; (2) congested site and/or restricted access; (3) rock excavation; (4) extensive dewatering requirements, such as cofferdams; (5) site conflicts, including modification or removal of existing facilities; (6) special foundations, including piling; (7) dual power supply and on-site switch stations and emergency power generator; and (8) high pumping heads (design heads in excess of 200 ft).

Mechanical, electrical, and control equipment delivered to a pumping station construction site typically account for 15 to 30 percent of total construction costs. Lift station construction has a significant economy-of-scale. Typically, if the capacity of a lift station is increased 100 percent, the construction cost would increase only 50 to 55 percent. An important consideration is that two identical lift stations will cost 25 to 30 percent more than a single station of the same combined capacity. Usually, complex lift stations cost two to three times more than more simple lift stations with no construction complications.

Table 1 provides examples of complex lift stations and associated construction costs in 1999 dollars.

TABLE 1 LIFT STATION CONSTRUCTION COSTS

Lift Station	Design Flowrate (MGD)	Construction Costs (1999 $US)
Cost curve data[1]	0.5	$134,467
Cost curve data[1]	1	$246,524
Cost curve data[1]	3	$392,197
Valencia, California[2]	6	$1,390,000
Sunneymead, California[2]	12	$3,320,000
Sunset/Heahfield, California[2]	14	$2,600,000
Springfield, Oregon Terry Street Pumping Station[2]	20	$5,470,000
Detroit, Michigan[2]	750	$128,800,000

Source: [1]Qasim, 1994 and [2] James M. Montgomery Consulting Engineers, 1998.

Operation and Maintenance Costs

Lift station operation and maintenance costs include power, labor, maintenance, and chemicals (if used for odor control). Usually, the costs for solids disposal are minimal, but are included if the lift station is equipped with bar screens to remove coarse materials from the wastewater. Typically, power costs account for 85 to 95 percent of the total operation and maintenance costs and are directly proportional to the unit cost of power and the actual power used by the lift station pumps. Labor costs average 1 to 2 percent of total costs. Annual maintenance costs vary, depending on the complexity of the equipment and instrumentation.

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September 2000

In-Plant Pump Stations
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Wastewater Technology Fact Sheet

Sewers, Pressure

DESCRIPTION

Conventional Wastewater Collection System

Conventional wastewater collection systems transport sewage from homes or other sources by gravity flow through buried piping systems to a central treatment facility. These systems are usually reliable and consume no power. However, the slope requirements to maintain adequate flow by gravity may require deep excavations in hilly or flat terrain, as well as the addition of sewage pump stations, which can significantly increase the cost of conventional collection systems. Manholes and other sewer appurtenances also add substantial costs to conventional collection systems.

Alternative

Alternative wastewater collection systems can be cost effective for homes in areas where traditional collection systems are too expensive to install and operate. Pressure sewers are used in sparsely populated or suburban areas in which conventional collection systems would be expensive. These systems generally use smaller diameter pipes with a slight slope or follow the surface contour of the land, reducing excavation and construction costs.

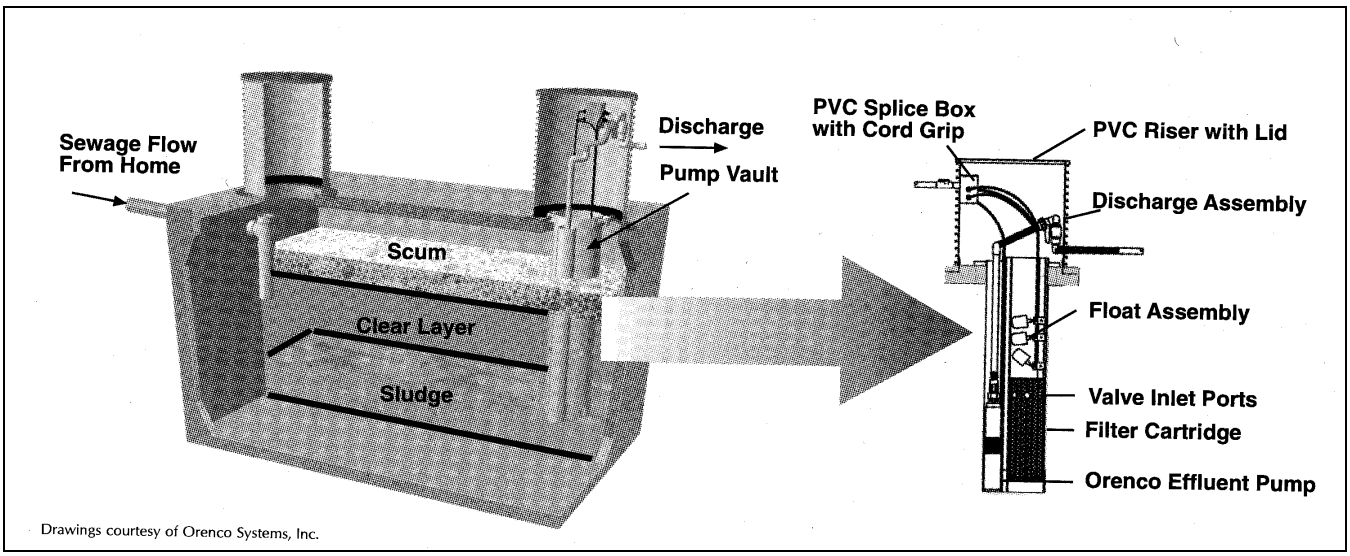
Pressure sewers differ from conventional gravity collection systems because they break down large solids in the pumping station before they are transported through the collection system. Their watertight design and the absence of manholes eliminates extraneous flows into the system. Thus, alternative sewer systems may be preferred in areas that have high groundwater that could seep into the sewer, increasing the amount of wastewater to be treated. They also protect groundwater sources by keeping wastewater in the sewer. The disadvantages of alternative sewage systems include increased energy demands, higher maintenance requirements, and greater on-lot costs. In areas with varying terrain and population density, it may prove beneficial to install a combination of sewer types.

This fact sheet discusses a sewer system that uses pressure to deliver sewage to a treatment system. Systems that use vacuum to deliver sewage to a treatment system are discussed in the *Vacuum Sewers* Fact Sheet, while gravity flow sewers are discussed in the *Small Diameter Sewers* Fact Sheet.

Pressure Sewers

Pressure sewers are particularly adaptable for rural or semi-rural communities where public contact with effluent from failing drain fields presents a substantial health concern. Since the mains for pressure sewers are, by design, watertight, the pipe connections ensure minimal leakage of sewage. This can be an important consideration in areas subject to groundwater contamination. Two major types of pressure sewer systems are the **septic tank effluent pump (STEP)** system and the **grinder pump (GP)**. Neither requires any modification to plumbing inside the house.

In STEP systems, wastewater flows into a conventional septic tank to capture solids. The liquid effluent flows to a holding tank containing a pump and control devices. The effluent is then pumped and transferred for treatment. Retrofitting existing septic tanks in areas served by septic tank/drain field systems would seem to present an opportunity for cost savings, but a large number (often a majority) must be replaced or expanded over the life of the system because of insufficient capacity, deterioration of concrete tanks, or leaks. In a GP system, sewage flows to a vault where a grinder pump grinds the solids and discharges the sewage into a pressurized pipe system. GP systems do not require a septic tank but may require more horsepower than STEP systems because of the grinding action. A GP system can result in significant capital cost



Source: C. Falvey, 2001.

FIGURE 1 TYPICAL SEPTIC TANK EFFLUENT PUMP

savings for new areas that have no septic tanks or in older areas where many tanks must be replaced or repaired. Figure 1 shows a typical septic tank effluent pump, while Figure 2 shows a typical grinder pump used in residential wastewater treatment.

The choice between GP and STEP systems depends on three main factors, as described below:

Cost: On-lot facilities, including pumps and tanks, will account for more than 75 percent of total costs, and may run as high as 90 percent. Thus, there is a strong motivation to use a system with the least expensive on-lot facilities. STEP systems may lower on-lot costs because they allow some gravity service connections due to the continued use of a septic tank. In addition, a grinder pump must be more rugged than a STEP pump to handle the added task of grinding, and, consequently, it is more expensive. If many septic tanks must be replaced, costs will be significantly higher for a STEP system than a GP system.

Downstream Treatment: GP systems produce a higher TSS that may not be acceptable at a downstream treatment facility.

Low Flow Conditions: STEP systems will better tolerate low flow conditions that occur in areas with highly fluctuating seasonal occupancy and those with slow build out from a small initial population to the ultimate design population. Thus, STEP systems may be better choices in these areas than GP systems.

APPLICABILITY

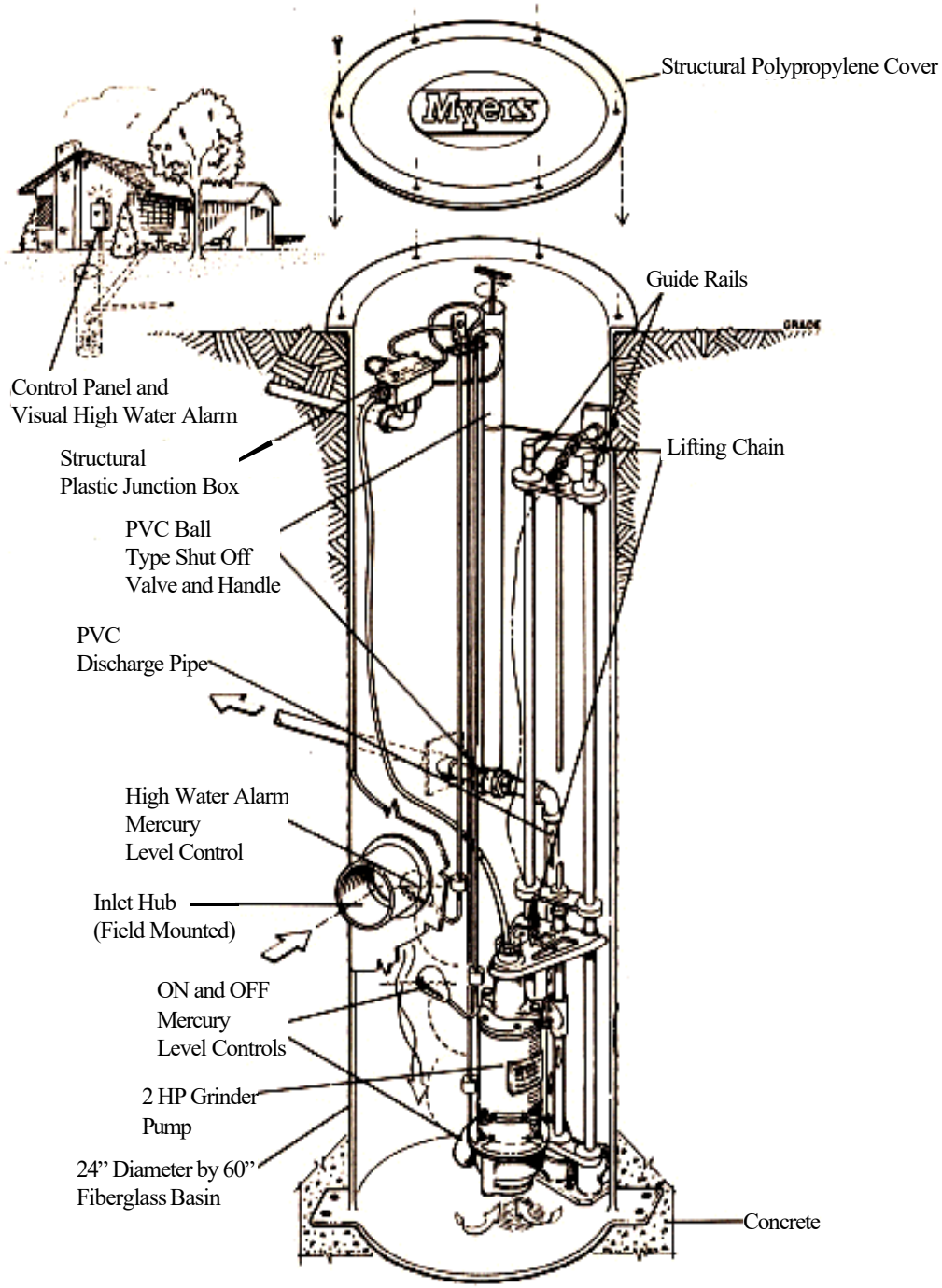
Pressure sewer systems are most cost effective where housing density is low, where the terrain has undulations with relatively high relief, and where the system outfall must be at the same or a higher elevation than most or all of the service area. They can also be effective where flat terrain is combined with high ground water or bedrock, making deep cuts and/or multiple lift stations excessively expensive. They can be cost effective even in densely populated areas where difficult construction or right of way conditions exist, or where the terrain will not accommodate gravity sewers.

Since pressure systems do not have the large excess capacity typical of conventional gravity sewers, they must be designed with a balanced approach, keeping future growth and internal hydraulic performance in mind.

ADVANTAGES AND DISADVANTAGES

Advantages

Pressure sewer systems that connect several residences to a "cluster" pump station can be less expensive than



Source: F.E. Meyers Company, 2000.

FIGURE 2 TYPICAL GRINDER PUMP

conventional gravity systems. On-property facilities represent a major portion of the capital cost of the entire system and are shared in a cluster arrangement. This can be an economic advantage since on-property components are not required until a house is constructed and are borne by the homeowner. Low front-end investment makes the present-value cost of the entire system lower than that of conventional gravity sewerage, especially in new development areas where homes are built over many years.

Because wastewater is pumped under pressure, gravity flow is not necessary and the strict alignment and slope restrictions for conventional gravity sewers can be relaxed. Network layout does not depend on ground contours: pipes can be laid in any location and extensions can be made in the street right-of-way at a relatively small cost without damage to existing structures.

Other advantages of pressure sewers include:

Material and trenching costs are significantly lower because pipe size and depth requirements are reduced.

Low-cost clean outs and valve assemblies are used rather than manholes and may be spaced further apart than manholes in a conventional system.

Infiltration is reduced, resulting in reductions in pipe size.

The user pays for the electricity to operate the pump unit. The resulting increase in electric bills is small and may replace municipality or community bills for central pumping eliminated by the pressure system.

Final treatment may be substantially reduced in hydraulic and organic loading in STEP systems. Hydraulic loadings are also reduced for GP systems.

Because sewage is transported under pressure, more flexibility is allowed in siting final treatment facilities and may help reduce the length of outfall lines or treatment plant construction costs.

Disadvantages

Requires much institutional involvement because the pressure system has many mechanical components throughout the service area.

The operation and maintenance (O&M) cost for a pressure system is often higher than a conventional gravity system due to the high number of pumps in use. However, lift stations in a conventional gravity sewer can reverse this situation.

Annual preventive maintenance calls are usually scheduled for GP components of pressure sewers. STEP systems also require pump-out of septic tanks at two to three year intervals.

Public education is necessary so the user knows how to deal with emergencies and how to avoid blockages or other maintenance problems.

The number of pumps that can share the same downstream force main is limited.

Power outages can result in overflows if standby generators are not available.

Life cycle replacement costs are expected to be higher because pressure sewers have a lower life expectancy than conventional systems.

Odors and corrosion are potential problems because the wastewater in the collection sewers is usually septic. Proper ventilation and odor control must be provided in the design and non-corrosive components should be used. Air release valves are often vented to soil beds to minimize odor problems and special discharge and treatment designs are required to avoid terminal discharge problems.

DESIGN CRITERIA

Many different design flows can be used in pressure systems. When positive displacement GP units are used, the design flow is obtained by multiplying the pump discharge by the maximum number of pumps expected to be operating simultaneously. When centrifugal pumps are used, the equation used is $Q = 20 + 0.5D$, where Q is the flow in gpm and D is the number of homes served. The operation of the system under various assumed conditions should be simulated

by computer to check design adequacy. No allowances for infiltration and inflow are required. No minimum velocity is generally used in design, but GP systems must attain three to five feet per second at least once per day. A Hazen-Williams coefficient, (C) = 130 to 140, is suggested for hydraulic analysis. Pressure mains generally use 50 mm (2 inch) or larger PVC pipe (SDR 21) and rubber-ring joints or solvent welding to assemble the pipe joints. High-density polyethylene (HDPE) pipe with fused joints is widely used in Canada. Electrical requirements, especially for GP systems, may necessitate rewiring and electrical service upgrading in the service area. Pipes are generally buried to at least the winter frost penetration depth; in far northern sites insulated and heat-traced pipes are generally buried at a minimal depth. GP and STEP pumps are sized to accommodate the hydraulic grade requirements of the system. Discharge points must use drop inlets to minimize odors and corrosion. Air release valves are placed at high points in the sewer and often are vented to soil beds. Both STEP and GP systems can be assumed to be anaerobic and potentially odorous if subjected to turbulence (stripping of gases such as H_2S).

PERFORMANCE

STEP

When properly installed, septic tanks typically remove about 50 percent of BOD, 75 percent of suspended solids, virtually all grit, and about 90 percent of grease, reducing the likelihood of clogging. Also, wastewater reaching the treatment plant will be weaker than raw sewage. Typical average values of BOD and TSS are 110 mg/L and 50 mg/L, respectively. On the other hand, septic tank effluent has virtually zero dissolved oxygen.

Primary sedimentation is not required to treat septic tank effluent. The effluent responds well to aerobic treatment, but odor control at the headworks of the treatment plant should receive extra attention.

The small community of High Island, Texas, was concerned that septic tank failures were damaging a local area frequented by migratory birds. Funds and materials were secured from the EPA, several state agencies, and the Audubon Society to replace undersized septic tanks with larger ones equipped with STEP units and low pressure sewerage ultimately discharging to a constructed wetland. This system is expected to achieve an effluent quality of less than 20 mg/L each of BOD and TSS, less than 8 mg/L ammonia, and greater than 4 mg/L dissolved oxygen (Jensen 1999).

In 1996, the village of Browns, Illinois, replaced a failing septic tank system with a STEP system discharging to low pressure sewers and ultimately to a recirculating gravel filter. Cost was a major concern to the residents of the village, who were used to average monthly sewer bills of $20. Conditions in the village were poor for conventional sewer systems, making them prohibitively expensive. An alternative low pressure-STEP system averaged only $19.38 per month per resident, and eliminated the public health hazard caused by the failed septic tanks (ICAA, 2000).

GP Treatment

The wastewater reaching the treatment plant will typically be stronger than that from conventional systems because infiltration is not possible. Typical design average concentrations of both BOD and TSS are 350 mg/L (WPCF, 1986).

GP/low pressure sewer systems have replaced failing septic tanks in Lake Worth, Texas (Head, et. al., 2000); Beach Drive in Kitsap County, Washington (Mayhew and Fitzwater, 1999); and Cuyler, New York (Earle, 1998). Each of these communities chose alternative systems over conventional systems based on lower costs and better suitability to local soil conditions.

OPERATION AND MAINTENANCE

Routine operation and maintenance requirements for both STEP and GP systems are minimal. Small systems that serve 300 or fewer homes do not usually require a full-time staff. Service can be performed by personnel from the municipal public works or highway department. Most system maintenance activities involve responding to homeowner service calls usually for electrical control problems or pump blockages. STEP systems also require pumping every two to three ye

TABLE 1 RELATIVE CHARACTERISTICS OF ALTERNATIVE SEWERS

Sewer Type	Slope Requirement	Construction Cost in Rocky, High Groundwater Sites	Operation and Maintenance Requirements	Ideal Power Requirements
Conventional	Downhill	High	Moderate	None*
Pressure				
STEP	None	Low	Moderate-high	Low
GP	None	Low	Moderate-high	Moderate

* Power may be required for lift stations
Source: Small Flows Clearinghouse, 1992.

The inherent septic nature of wastewater in pressure sewers requires that system personnel take appropriate safety precautions when performing maintenance to minimize exposure to toxic gases, such as hydrogen sulfide, which may be present in the sewer lines, pump vaults, or septic tanks. Odor problems may develop in pressure sewer systems because of improper house venting. The addition of strong oxidizing agents, such as chlorine or hydrogen peroxide, may be necessary to control odor where venting is not the cause of the problem.

Generally, it is in the best interest of the municipality and the homeowners to have the municipality or sewer utility be responsible for maintaining all system components. General easement agreements are needed to permit access to on-site components, such as septic tanks, STEP units, or GP units on private property.

COSTS

Pressure sewers are generally more cost-effective than conventional gravity sewers in rural areas because capital costs for pressure sewers are generally lower than for gravity sewers. While capital cost savings of 90 percent have been achieved, no universal statement of savings is possible because each site and system is unique. Table 1 presents a generic comparison of common characteristics of sanitary sewer systems that should be considered in the initial decision-making process on whether to use pressure sewer systems or conventional gravity sewer systems.

Table 2 presents data from recent evaluations of the costs of pressure sewer mains and appurtenances (essentially the same for GP and STEP), including items specific to each type of pressure sewer. Purchasing pumping stations in volume may reduce costs by up to 50 percent. The linear cost of mains can vary by a factor of two to three, depending on the type of trenching equipment and local costs of high-quality backfill and pipe. The local geology and utility systems will impact the installation cost of either system.

The homeowner is responsible for energy costs, which will vary from $1.00 to $2.50/month for GP systems, depending on the horsepower of the unit. STEP units generally cost less than $1.00/month.

Preventive maintenance should be performed annually for each unit, with monthly maintenance of other mechanical components. STEP systems require periodic pumping of septic tanks. Total O&M costs average $100-200 per year per unit, and include costs for troubleshooting, inspection of new installations, and responding to problems.

Mean time between service calls (MTBSC) data vary greatly, but values of 4 to 10 years for both GP and STEP units are reasonable estimates for quality installations.

TABLE 2 AVERAGE INSTALLED UNIT COSTS FOR PRESSURE SEWER MAINS & APPURTENANCES

Item	Unit Cost ($)
2 inch mains	9.40/LF
3 inch mains	10.00/LF
4 inch mains	11.30/LF
6 inch mains	15.80/LF
8 inch mains	17.60/LF
Extra for mains in asphalt concrete pavement	6.30/LF
2 inch isolation valves	315/each
3 inch isolation valves	345/each
4 inch isolation valves	440/each
6 inch isolation valves	500/each
8 inch isolation valves	720/each
Individual Grinder pump	1,505/each
Single (simplex) package pump system	5,140/each
package installation	625 - 1,880/each
Automatic air release stations	1,255/each

Source: U.S. EPA, 1991.

REFERENCES

Other Related Fact Sheets

Other EPA Fact Sheets can be found at the following web address:

http://www.epa.gov/owm/mtb/mtbfact.htm

1. Barrett, Michael E. and J. F. Malina, Jr., Sep. 1, 1991. *Technical Summary of Appropriate Technologies for Small Community Wastewater Treatment Systems*, The University of Texas at Austin.

2. Barrett, Michael E. and J. F. Malina, Jr[illegible] 1, 1991. *Wastewater Treatment Systems for Small Communities: A Guide for Local Government Officials*, The University of Texas at Austin.

3. Earle, George, 1998. *Low Pressure Sewer Systems: The Low Cost Alternative to Gravity Sewers.*

4. Falvey, Cathleen, 2001. *Pressure Sewers Overcome Tough Terrain and Reduce Installation Costs.* Small Flows Quarterly, National Small Flows Clearinghouse.

5. F.E. Meyers Company, 2000. Diagram of grinder pump provided to Parsons Engineering Science.

6. Gidley, James S., Sep. 1987. *Case Study Number 12: Augusta, Maine, Grinder Pump Pressure Sewers.* National Small Flows Clearinghouse.

7. Head, Lee A., Mayhall, Madeline R.,Tucker, Alan R., and Caffey, Jeffrey E., 2000. *Low Pressure Sewer System Replaces Septic System in Lake Community.* http://www.eone.com/sewer/resources/resource01/content.html

8. Illinois Community Action Association, 2000. *Alternative Wastewater Systems in Illinois.* http://www.icaanet.com/rcap/aw_pamphlet.htm.

9. Jensen, Ric., August 1999. *Septic Tank Effluent Pumps, Small Diameter Sewer, Will Replace Failing Septic Systems at Small Gulf Coast Community.* Texas On-Site Insights, Vol.8, No.3. http://twri.tamu.edu/./twripubs/Insights/v8n3/article-1.html.

10. Mayhew, Chuck and Richard Fitzwater, September 1999. *Grinder Pump Sewer System Saves Beach Property.* Water Engineering and Management.

11. Parker, Mike A., 1997. *Step Pressure Sewer Technology Package*. National Small Flows Clearinghouse.

12. Texas On-Site Insights, Volume 7, Number 2. *Grinder Pumps, Small Diameter Sewer, Replacing Failing On-Site Systems Near Lake Worth*. 1998. http://twri.tamu.edu/./twripubs/Insights/v7n2/article-5.html.

13. U.S. EPA, 1980. *Design Manual: Onsite Wastewater Treatment and Disposal Systems.* EPA Office of Water. EPA Office of Research & Development. Cincinnati, Ohio. EPA 625/1-80/012.

14. U.S. EPA, 1989. *Alternative Sewers Operation and Maintenance Special Evaluation Project*. USEPA & Office of Water. Cincinnati, Ohio.

15. U.S. EPA, 1991. *Design Manual: Alternative Wastewater Collection Systems.* EPA Office of Water. EPA Office of Research & Development. Cincinnati, Ohio. EPA 625/1-91/024.

16. U.S. EPA, 1992. *Summary Report Small Community Water and Wastewater Treatment*. EPA Office of Research and Development. Cincinnati, Ohio.

ADDITIONAL INFORMATION

Environment One Corporation
2773 Balltown Road
Niskayuna, NY 12309-1090

F.E. Meyers
1101 Myers Parkway
Ashland, OH 44805

Interon
620 Pennsylvania Dr.
Exton, PA 19341

Haldex Barnes
2222 15th Street
Rockford, IL 61104

Allen Sims
Carroll and Blackman, Inc.
1360 Seventh Street
Beaumont, TX 77702

John Acree
Lamac Engineering Company
P.O.Box 160
Mt. Carmel, IL 62863

Illinois Community Action Association
P.O. Box 1090
Springfield, IL 62705

Alan Plummer Associates Inc.
7524 Mosier View Court Suite 200
Fort Worth, TX 76118
Chuck Mayhew
Kennedy/Jenkins Consultants
530 S 336th Street
Federal Way, WA 98003

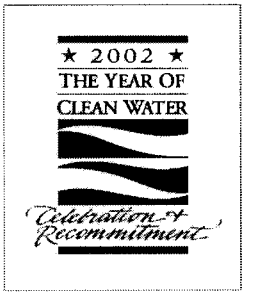
Richard Fitzwater
Kitsap County Sewer District #5
614 Division Street MS 27
Port Orchard, WA 98366

The mention of trade names or commercial products does not constitute endorsement or recommendation for use by the U. S. Environmental Protection Agency.

Office of Water
EPA 832-F-02-006
September 2002

For more information contact:

Municipal Technology Branch
U.S. EPA
ICC Building
1200 Pennsylvania Ave., N.W.
7th Floor, Mail Code 4201M



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MUNICIPAL TECHNOLOGY BRANCH

XII. JOINT PARTICIPATION AGREEMENT – TOWN OF LAKE PARK, LAKESHORE DRIVE PROJECT

Consider a motion to approve Joint Participation Agreement – Town of Lake Park, Lakeshore Drive Project, in the amount of $822,904.50, as recommended by staff.

XIII. ANNUAL GRAVITY SEWER REHABILITATION PROGRAM

Consider a motion to approve authorization of Annual Gravity Sewer Rehabilitation Program to Insituform Technologies, LLC, pursuant to City of Daytona Beach Contract through February 5, 2021, estimated annual cost of $700,000.00, as recommended by staff.

XIV. PGA WWTP LIME SILO AND ODOR CONTROL SYSTEM DEMOLITION – AGREEMENT FOR PROFESSIONAL SERVICES

Consider a motion to approve PGA WWTP Lime Silo and Odor Control System Demolition -Agreement for Professional Services with Holtz Consulting Engineers in amount of$62,667.00, as recommended by staff.

XV. AGREEMENTS FOR PROFESSIONAL SERVICES – CHEN MOORE & ASSOCIATES, INC.

1. Lift Station No. 19 Force Main Replacement $72,095.00
2. Lift Station No. 48 Force Main Replacement $51,000.00

Consider a motion to approve Agreements for Professional Services with Chen Moore & Associates in the aggregate amount of $123,095.00, as recommended by staff.

XVI. DESIGN BUILD SERVICES – COMMITTEE SHORT LIST SELECTIONS

Consider a motion to approve Design Build Services – Committee Short List Selections to the following firms: CES Consultants, Chen Moore & Associates, Globaltech and Holtz Consulting Engineers, as recommended by the committee.

XVII. YEAR 2021 GROUP HEALTH/DENTAL/VISION/LIFE/DISABILITY INSURANCE BENEFITS PACKAGE

Consider a motion to renew Year 2021 Group Health/Dental/Vision/Life/Disability Insurance Benefits Package to Cigna (health), Solstice (dental), EyeMed (vision), Mutual of Omaha (basic life/AD&D/voluntary life/short-term disability/long-term disability) and Aetna Resources for Living (EAP) at a total annual program cost of $2,129,370.95, resulting in an increase of 8.29% or $162,930.72 for the 2021 plan year.

SEACOAST UTILITY AUTHORITY

ADMINISTRATIVE DIVISION
M E M O R A N D U M

TO: Seacoast Utility Authority Board

FROM: Rim Bishop, Executive Director

DATE: October 20, 2020

RE: **JOINT PARTICIPATION AGREEMENT – TOWN OF LAKE PARK, LAKESHORE DRIVE PROJECT**

Next month, the Town of Lake Park will consider awarding a competitively bid contract for Lakeshore Drive drainage improvements from Silver Beach Road northward to Palmetto Drive. The contract provides for replacement of aging Seacoast-owned water and sewer infrastructure within the construction area at Seacoast's expense, subject to board approval.

The enclosed Joint Participation Agreement ("JPA") requires Seacoast to reimburse the Town of Lake Park $822,904.50 for funding and construction of Seacoast water and sewer facilities. The JPA has been accepted by Seacoast legal counsel as legally sufficient, and at its September 2020 meeting, the board encumbered $860,000.00 in FY 2019/2020 funding for this project.

Staff recommends board approval.

RECOMMENDED MOTION

Motion to approve Joint Participation Agreement – Town of Lake Park, Lakeshore Drive Project, in the amount of $822,904.50, as recommended by staff.

JM.18

INTERLOCAL AGREEMENT BETWEEN THE TOWN OF LAKE PARK, FLORIDA AND SEACOAST UTILITY AUTHORITY FOR JOINT PARTICIPATION AND PROJECT FUNDING FOR CONSTRUCTION AND UTILITY ADJUSTMENT OF LAKE SHORE DRIVE DRAINAGE AND UTILITY IMPROVEMENTS LAKE PARK PROJECT BID NO. 106-200

THIS Interlocal Agreement, (hereinafter "Agreement"), is made as of the 16 day of December, 2020, by and between the Town of Lake Park, a municipal corporation of the State of Florida, 535 Park Avenue, Lake Park, Florida, 33403 (hereinafter "TOWN") and the Seacoast Utility Authority, a municipal corporation exiting under the laws of Florida, (hereinafter "AUTHORITY"), each one constituting a public agency defined in Part I of Chapter 163, Florida Statues.

WHEREAS, Section 163.01, Florida Statutes, known as the "Florida Interlocal Cooperation Act of 1969", authorizes local governments to make the most efficient use of their powers by enabling them to cooperate with other localities on a basis of mutual advantage, thereby providing services and facilities that will harmonize geographic, economic, population, and other factors influencing the needs and development of local communities, and

WHEREAS, Part I of Chapter 163, Florida Statutes, permits public agencies as defined therein to enter into Interlocal Agreements with each other to jointly exercise any power, privilege, or authority which such agencies share in common and which each might exercise separately; and

WHEREAS, the TOWN intends to make drainage and roadway improvements to Lake Shore Drive (hereinafter the "Project"); and

WHEREAS, the TOWN and the AUTHORITY desire to jointly participate in the construction of utility adjustments to the AUTHORITY'S water main, force main and other improvements within the Project area, hereinafter referred to as the "Work"; and

WHEREAS, both the TOWN and AUTHORITY declare that it is in the public interest to construct the Work as part of the aforementioned Project; and

NOW, THEREFORE, in consideration of the mutual covenants, promises, and representations contained herein, the parties agree as follows:

Section 1. Recitals.

The above recitals are true and correct and are incorporated herein.

Section 2. Project and Work to be completed by the TOWN:

TOWN shall provide construction and administrative services to the Project, and will assemble bid documents that identify the Authority's portion of the work as a bid alternate. Said Bid Documents will include the Work as shown in AUTHORITY prepared Utility Matrix, Applicable Technical Specifications, Standard Construction Details, and Approved Product List.

Section 3. Responsibilities and Duties:

A. AUTHORITY shall reimburse TOWN a total estimated cost including 10% contingency of $822,904.50, provided TOWN performs pursuant to the terms and conditions of this Agreement for all potable water main and sanitary sewer Work associated with the Bid Tabulations (Exhibit "A"). Any cost exceeding this amount attributable to Seacoast Utility Authority items shall be paid by the AUTHORITY.

B. Costs shall be based upon actual contract costs using contract unit prices and actual constructed quantities, said quantities being measured by the TOWN with the concurrence of the AUTHORITY.

C. TOWN shall obtain written approval from the AUTHORITY in advance of any change orders, including any costs associated with the AUTHORITY'S failure to approve change orders in a timely manner, which increase the cost attributable to the Work to an amount greater than the contract amount as stated in Paragraph A of this Section. The AUTHORITY shall not unreasonably withhold its approval.

D. TOWN shall secure all necessary easements and permits required to perform the Project.

E. TOWN shall publicly bid, administer, construct and inspect the Project and Work in.

F. TOWN shall require the contractor to provide a Public Construction Bond in an amount equal to the contractor's bid for the Project and the Work.

G. Upon completion of the Project, the AUTHORITY shall repair and maintain the Work, at AUTHORITY'S expense.

Section 4. Payments/Invoicing and Reimbursement:

The TOWN shall invoice the AUTHORITY on a periodic basis during construction of the Project. The AUTHORITY agrees to reimburse the TOWN for all documented costs of the Work in the amount established in Section 3.A. Upon TOWN'S submission of acceptable documents needed to substantiate its costs for the Work, AUTHORITY shall provide said funds to TOWN on a reimbursement basis with 30 days of receipt of all required documents. TOWN shall submit all invoices to the AUTHORITY identifying the Work, including TOWN'S total expenditure for the Project, and identifying the amount attributable to the Work under Exhibit "A". TOWN shall

supply any further documentation such as copies of paid receipts, canceled checks, invoices and other documents deemed reasonably necessary by the AUTHORITY within 7 calendar days of request by the AUTHORITY. Invoices and documentation received from TOWN shall be reviewed and approved by the AUTHORITY only to the extent necessary to document that the TOWN's expenditures have been made in conformity with the Agreement. Invoices shall be paid within 30 days following approval. In no event shall the AUTHORITY provide advance funding to the Town, unless otherwise as mutually agreed upon.

The Project will be administered by the TOWN. Only those costs incurred by the TOWN relating to the Work are eligible for reimbursement by the AUHORITY pursuant to the terms and conditions hereof. In the event the TOWN ceases or suspends the Project or the Work for any reason, the AUTHORITY shall reimburse the TOWN for the Work completed as of the date the TOWN uses to suspend the Work. Any remaining unpaid portion of this Agreement shall be retained by the AUTHORITY and the AUTHORITY shall have no further obligation to honor reimbursement requests submitted by the TOWN.

Section 5. Repayment:

TOWN shall repay the AUTHORITY for all unauthorized, illegal or unlawful expenditures of revenues, including those it may discover after the termination of this Agreement.

Section 6. Access and Audits:

TOWN and AUTHORITY shall maintain books, records, and documents to justify all charges, expenses and costs incurred under this Agreement for the Project, in accordance with Generally Accepted Accounting Principles (GAAP), as promulgated by the Government Finance Officers Association from time to time. The TOWN and AUTHORITY shall have access to all books, records, and documents as required in this Agreement, and for at least (3 years after completion of the Project. In the event any work is subcontracted by TOWN, TOWN shall similarly require each Contractor and/or subcontractor to maintain and allow access to such records for audit purposes.

Section 7. Independent Contractor:

TOWN and the AUTHORITY are and shall be, in the performance of all work, service, and activities for the Project pursuant to the Agreement as Independent Contractors and not employees, agents, or servants of the other party. All TOWN employees engaged in the work or services performed as part of the Project pursuant to this Agreement shall at all times, and in all places be subject to TOWN'S sole direction, supervision, and control. All AUTHORITY employees engaged in the work or services performed for the Project pursuant to this Agreement shall at all times, and in all places, be subject to AUTHORITY'S sole direction, supervision, and control. The Parties shall exercise control over the means and manner in which it and its employees perform the work, and in all respects the parties relationship and the relationship of its employees to the other party shall be that of an Independent Contractor and not as employees or agents of the other.

TOWN does not have the power or authority to bind the AUTHORITY in any promise, Agreement or representation.

Section 8. Personnel:

TOWN represents that it has, or will secure at its own expense, all necessary personnel required to perform the service under the Agreement. Such personnel shall not be employees of or have any contractual relationship with the AUTHORITY.

All of the work and services required herein under as part of the Project shall be performed by TOWN or its contractor, and personnel engaged in performing the services shall be fully qualified and, if required, authorized or permitted under state and local law to perform such services.

All of TOWN'S personnel, Contractors and all subcontractors while on TOWN premises shall conduct themselves in an acceptable manner and follow acceptable safety and security procedures.

Section 9. Indemnification:

The AUTHORITY and TOWN recognize they could incur liability for certain tortious acts of it agents, officers, employees and invitees to the extent and limits provided in Section 768.28, Florida Statues. To the extent permitted by law, the AUTHORITY and TOWN shall indemnify, defend and hold the other harmless against any actions, claims and damages arising out of the their own negligence in connection with the Work and the Project and the use of the funds provided under this Agreement. The foregoing indemnification shall not constitute a waiver of sovereign immunity beyond the limits set forth in Section 768.28, Florida Statues, nor shall the same be construed to constitute an Agreement by the AUTHORITY or TOWN to indemnify each other for sole negligence, or willful or intentional acts of the other. The foregoing indemnification shall survive termination of the Agreement.

No provision of the Agreement is intended to, or shall be construed to, create any third party beneficiary or to provide any rights to any person or entity not a party to this Agreement, including but not limited to any citizen or employees of the TOWN and/or AUTHORITY.

Section 10. Annual Appropriation:

All provisions of this Agreement calling for the expenditure of ad valorem tax money by either the TOWN or the AUTHORITY are subject to annual budgetary funding and should either Party involuntarily fail to fund any of their respective obligations pursuant to the Agreement, this Agreement may be terminated.

Section 11. Breach and Opportunity to Cure:

The parties expressly covenant and agree that in the event either party is in default of its obligations under this Agreement, each party shall have 30 days written notice before exercising any of its rights.

Section 12. Enforcement Costs:

Any cost or expenses (including reasonable attorney's fees) associated with the enforcement of the terms and conditions of this Agreement shall be borne by the respective parties.

Section 13. Notice:

All notices required to be given under this Agreement shall be in writing, and deemed sufficient to each party when sent by United States Mail, postage prepaid, to the following:

All notices to the AUTHORITY shall be sent to:

Rim Bishop, Executive Director
Seacoast Utility Authority
4200 Hood Road
Palm Beach Gardens, FL 33410

All notices to the TOWN shall be sent to:

Town Manager
Town of Lake Park
535 Park Avenue
Lake Park, FL 33403

Section 14. Modification and Amendment:

Except as expressly permitted herein to the contrary, no modification, amendment or alteration in the terms and conditions contained herein shall be effective unless contained in a written document executed with the same formality and equality of dignity herewith.

Section 15. Remedies:

This Agreement shall be governed by and in accordance with the laws of the State of Florida. Any legal action necessary to enforce this Agreement shall be held in Palm Beach County. No remedy herein conferred upon any party is intended to be exclusive of any other remedy, and each and every such remedy shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing at law or in equity by statute or otherwise. No single or

partial exercise by any party of any right, power or remedy hereunder shall preclude any other or further exercise thereof.

Section 16. No Waiver:

Any waiver by either Party of its right with respect to a default under this Agreement, or with respect to any other matters arising in connection with this Agreement, shall not be deemed a waiver with respect to any subsequent default or other matter. The failure of either Party to enforce strict performance by the other Party of any of the provisions of this Agreement or to exercise any rights under this Agreement shall not be construed as a waiver or relinquishment to any extent of such Party's right to assert or rely upon any such provisions or rights in that or any other instance.

Section 17. Joint Preparation:

The preparation of this Agreement has been a joint effort of the parties, and the resulting document shall not, solely as a matter of judicial constraint, be construed more severely against one of the parties than the other.

Section 18. Non-Discrimination:

TOWN and AUTHORITY agree that both parties shall not conduct business with nor appropriate any funds for any organization or entity that practices discrimination on the basis of race, color, national origin, religion, ancestry, sex, age, familial status, marital status, sexual orientation, gender identity and expression, disability, or genetic information. TOWN will ensure that all contracts let for the Project pursuant to the terms of this Agreement will contain a similar non-discrimination clause.

Section 19. Execution:

This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

Section 20. Filing:

A copy of this Agreement shall be filed with the Clerk of the Circuit Court in and for Palm Beach County, Florida.

Section 21. Termination:

This Agreement may be terminated by either party to this Agreement upon 60 days written notice to the other party, except as otherwise addressed in this Agreement. However, once the Project has commenced, it shall be prosecuted to completion and this Agreement shall be binding upon the parties and neither party shall have the right to terminate the subject Agreement.

Section 22. Compliance with Codes and Laws:

TOWN and AUTHORITY shall abide by all applicable federal, state and local laws, orders, rules and regulations when performing under this Agreement. TOWN and AUTHORITY further agree to include this provision in all subcontracts issued as a result of this Agreement.

Section 23. Office of the Inspector General:

Palm Beach County has established the Office of the Inspector General, in Palm Beach County Code Section 2-421-2-440, as may be amended. The Inspector General's authority includes but is not limited to the power to review past present and proposed Town contracts, transactions, accounts and records, to require the production of records, and audit, investigate, monitor, and inspect the activities of the contractor, its officers, agents, employees, and lobbyists in order to ensure compliance with contract specifications and detect corruption and fraud. All contractors and parties doing business with the Town and receiving Town funds shall fully cooperate with the Inspector General including receiving access to records relating to Bid or any resulting contract.

Section 24. Public Entity Crime Certification:

As provided in F.S. 287.132-133, as may be amended from time to time, by entering into this Agreement or performing any work in furtherance hereof, TOWN shall have its contractors certify that their affiliates, suppliers, subcontractors and consultants who will perform hereunder, have not been placed on the convicted vendor list maintained by the State of Florida Department of Management Services within thirty-six (36) months immediately preceding the date hereof. This notice is required by F.S.287.133 (3) (a).

Section 25. Severability:

If any section, paragraph, sentence, clause or provision of this Agreement is for any reason held by a court of competent jurisdiction to be unconstitutional, inoperative, or void, such holding shall not affect the remaining portions of this Agreement.

Section 26. Entirety of Agreement:

TOWN and AUTHORITY agree that this Agreement, including the Bid Documents described in Section 2, sets forth the entire Agreement between the parties, and there are not promises or understandings other than those stated herein.

Section 27. Survival:

The obligations, rights, and remedies of the Parties hereunder, which by their nature survive the termination of this Agreement or the completion of the Project, shall survive such termination or Project completion and inure to the benefit of the Parties.

SEACOAST UTILITY AUTHORITY INTERLOCAL AGREEMENT

IN WITNESS WHEREOF, the undersigned parties have executed this Agreement on the day and year first written above.

SEACOAST UTILITY AUTHORITY

BY: _____
Authority Chair
John D'Agostino

ATTEST:

JESSICA MOORE,
AUTHORITY CLERK

BY: Jessica Moore 10/28/2020
(Date)

TOWN OF LAKE PARK, FLORIDA
BY ITS
TOWN COMMISSION

BY: _____
Michael O'Rourke, Mayor

ATTEST:

VIVIAN MENDEZ,
TOWN CLERK

BY: _____ 12/16/2020
(Date)

ATTEST:
APPROVED AS TO TERMS
AND CONDITIONS

BY: _____

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY

BY: _____
Nathan Nason, Authority Attorney

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY

BY: _____
Thomas J. Baird, Town Attorney

P:\DOCS\26508\00001\DOC\1XJ0019.DOCX

Exhibit "A"

BID TABULATION
Seacoast Utility Authority
Lakeshore Drive Water and Sewer Improvements

Item No.	Item Description	Unit	Estimated Quantity	Foster Marine Contractors, Inc.	
				Unit Price	Cost
Sanitary Sewer					
A2-1	Remove Existing Gravity Sanitary Sewer Main	LF	550	$ 5.00	$ 2,750.00
A2-2	Remove Existing Sanitary Sewer Manhole	EA	4	$ 800.00	$ 3,200.00
A2-3	4' Dia. MH (8'-10')	EA	2	$ 11,500.00	$ 23,000.00
A2-4	Connect New / Existing Sanitary Sewer Main to New / Existing Sanitary Sewer MH	EA	2	$ 1,300.00	$ 2,600.00
A2-5	8" PVC SDR 26 Sanitary Sewer Pipe (6'-8')	LF	205	$ 87.00	$ 17,755.00
A2-6	8" PVC SDR 26 Sanitary Sewer Pipe (8'-10')	LF	200	$ 80.00	$ 20,800.00
A2-7	Remove Existing Sewer Lateral & Install 6" Single Sanitary Sewer Lateral w/ Clean-Out	EA	3	$ 2,100.00	$ 6,300.00
A2-8	Remove Existing Sewer Lateral & Install 8" Sanitary Sewer Lateral w/ Clean-Out	EA	1	$ 2,900.00	$ 2,900.00
A2-9	Remove Existing Sewer Lateral & Install 10" Single Sanitary Sewer Lateral & Connect to Existing Lateral at ROW Line	EA	1	$ 3,600.00	$ 3,600.00
A2-10	Cut & Cap Existing Sanitary Sewer Lateral at Wye; Remove or Abandon & Grout Existing Lateral from Main to R/W line(includes all trenching & excavation required) (Dwg. C-21 & C-22)	EA	3	$ 1,000.00	$ 3,000.00
A2-11	Plug Existing Western Invert Inside and Outside at Manhole at STA 51+57; Remove or Abandon & Grout Existing Lateral from Manhole to R/W line (Dwg. C-22)	LS	1	$ 1,500.00	$ 1,500.00
A2-12	Sanitary Sewer Bypass Pumping	LS	1	$ 30,000.00	$ 30,000.00
A2-13	Open-Cut Pavement Trench Repair	LF	30	$ 100.00	$ 3,000.00
			Subtotal Sanitary Sewer:		$ 120,405.00
Potable Water Main					
A2-14	4" DIP (CL51) WM (Restrained Joints), cement lined	LF	20	$ 120.00	$ 2,400.00
A2-15	6" DIP (CL51) WM (Restrained Joints), cement lined	LF	300	$ 80.00	$ 24,000.00
A2-16	8" DIP (CL51) WM (Restrained Joints), cement lined w/ FKM gaskets (Dwg. C-24)	LF	150	$ 85.00	$ 12,750.00
A2-17	8" DIP (CL51) WM (Restrained Joints), cement lined	LF	2,950	$ 64.00	$ 188,800.00
A2-18	8" DIP (CL51) WM (Push-On), cement lined	LF	550	$ 50.00	$ 27,500.00
A2-19	4"x4" Tapping Tee & 4" Tapping Valve	EA	1	$ 4,500.00	$ 4,500.00
A2-20	6"x6" Tapping Tee & 6" Tapping Valve	EA	4	$ 5,000.00	$ 20,000.00
A2-21	8"x8" Tapping Tee & 8" Tapping Valve	EA	1	$ 5,300.00	$ 5,300.00
A2-22	8" Gate Valve	EA	14	$ 1,650.00	$ 23,100.00
A2-23	8" Gate Valve	EA	22	$ 1,950.00	$ 42,900.00
A2-24	6" Line Stop	EA	1	$ 6,100.00	$ 6,100.00
A2-25	DIP Compact Fittings (cement-lined)	TON	7.5	$ 8,000.00	$ 60,000.00
A2-26	Install New Single Water Service (1"-2") on Proposed WM & Connect to Existing Meter Box	EA	12	$ 2,500.00	$ 30,000.00
A2-27	Install New Single Water Service (2") w/ Meter Box on Proposed WM	EA	1	$ 3,300.00	$ 3,300.00
A2-28	Install New Double Water Service (2") on Proposed WM & Connect to Existing Meter Box	EA	1	$ 3,700.00	$ 3,700.00
A2-29	Install New Single Water Service (1"-2") on Existing WM, incl. Corp Stop (1"-2"), & Connect to Existing Meter Box	EA	1	$ 4,000.00	$ 4,000.00
A2-30	Connect to Existing Water Main / Fire Line (4"-8") / Master Meter	EA	21	$ 2,500.00	$ 52,500.00
A2-31	Install Fire Hydrant Assembly	EA	5	$ 5,500.00	$ 27,500.00
A2-32	Remove Existing Fire Hydrant Assembly	EA	5	$ 800.00	$ 4,000.00
A2-33	Sample Point	EA	20	$ 800.00	$ 16,000.00
A2-34	Fill & Flush Assembly	EA	20	$ 1,000.00	$ 20,000.00
A2-35	Terminal Blow-Off Assembly	EA	4	$ 2,100.00	$ 8,400.00
A2-36	1" ARV w/ 4' Diameter MH at High Point	EA	1	$ 6,500.00	$ 6,500.00
A2-37	Abandon & Grout Existing 6" WM, incl Plugs	LF	4,100	$ 4.40	$ 18,040.00
A2-38	Remove & Dispose of Existing 6" AC WM	LF	450	$ 22.00	$ 9,900.00
A2-39	Install Restraints on Existing WM up to 4 pipe joints on Lake Shore Drive @ STA 56+34 (Dwg. C-23)	LS	1	$ 3,500.00	$ 3,500.00
A2-40	Coordination with Gas Company for Utility Underground Relocations	LS	1	$ 1,000.00	$ 1,000.00
			Subtotal Potable Water Main:		$ 627,690.00
TOTAL ALTERNATE 2					$ 748,095.00

BAXTER & WOODMAN
Consulting Engineers
477 S. Rosemary Avenue, Suite 330, West Palm Beach, FL 33401 • baxterwoodman.com

October 9, 2020

John D'Agostino, Town Manager
Town of Lake Park
535 Park Avenue
Lake Park, FL 33403.

Rim Bishop, Executive Director
Seacoast Utility Authority
4200 Hood Road
Palm Beach Gardens, FL 33410

Subject: ***Town of Lake Park and Seacoast Utility Authority***
Lake Shore Drive Drainage and Utility Improvements
Bid Evaluation

Dear Mr. D'Agostino and Mr. Bishop:

On Friday, October 2, 2020, at 1:00 PM, bids were received by the Town of Lake Park Lake Shore Drive Drainage and Utility Improvement Project. Seven (7) bids were received as follows:

Name of Bidder	Base Bid Total Cost	Base Bid + Alternate 1 & 2 Total Cost
1. Foster Marine Contractors, Inc.	$4,556,859.00	$5,471,954.00
2. DP Development, LLC	$4,660,209.99	$5,558,977.34
3. Hinterland Group, Inc.	$4,917,963.50	$6,023,313.50
4. DS Eakins Construction Corp.	$5,403,570.75	$6,622093.25
5. Gibbs & Register	$5,789,534.50	$6,731,635.50
6. Ferreira Construction Southern Division Co., Inc.	$6,856,420.62	$7,876,938.92
7. Man Con Inc.	$7,122,888.00	$8,417,126.50

Baxter & Woodman has reviewed the bid proposals submitted by each of the contractors and produced a Bid Tab, attached to this letter. One mathematical error was found in the bid submitted by Ferreira Construction Southern Division Co., Inc. Our bid tabulation determined their base bid to be $6,856,420.62 while their bid submittal stated a base bid total of $5,943,668.50.

The following summarizes our findings for the low bidder (Foster Marine Contractors, Inc.):

- The Contractor acknowledged Addenda No. 1, 2, and 3.
- The Contractor's office is located in Wellington, Florida.
- The Contractor has been in business for over 50 years.
- The Contractor's bid bond for 5% of the bid payment.
- The Schedule of Bid Prices was filled out correctly.
- The previous work experience provided by the Contractor was determined to be satisfactory.

BAXTER & WOODMAN
Consulting Engineers

Based on the specific project experience qualifications criteria established in the Bid Documents and based on Baxter & Woodman's review of the Bid Proposal provided by Foster Marine Contractors, Inc., we have determined that Foster Marine Contractors, Inc., is responsive, responsible and qualified to meet the contract requirements for the Base Bid, Alternate 1 and Alternate 2.

Should you have any questions regarding the information presented, please contact me at 561-425-7760.

Sincerely,
BAXTER & WOODMAN, INC.

Jeffrey G. Hiscock, P.E.
Stormwater Department Manager

Attachment: *Bid Tabulation*
B&W File No. 180551.00

Item 2.

BID TABULATION
Town of Lake Park and Seacoast Utility Authority
Lakeshore Drive Drainage, Water Sewer Improvements
Bid Opening: October 2, 2020 1:00 pm

Item No.	Item Description	Unit	Quantity	Foster Marine Contractors, Inc.		DP Development, LLC		Hinterland Group, Inc.		DS Eakins Construction Corp.		Gibbs & Register, Inc.		Ferreira Construction Southern Division Co., Inc.		Man-Con Incorporated	
				Unit Price	Cost	Unit Price	Cost	Unit Price	Cost	Unit Price	Cost	Unit Price	Cost	Unit Price	Cost	Unit Price	Cost
General																	
1	Mobilization, Bonds, Insurance	LS	1	$ 315,000.00	$ 315,000.00	$ 370,000.00	$ 370,000.00	$ 200,000.00	$ 200,000.00	$ 613,000.00	$ 613,000.00	$ 330,000.00	$ 330,000.00	$ 465,000.00	$ 465,000.00	$ 317,000.00	$ 317,000.00
2	Maintenance of Traffic	LS	1	$ 35,000.00	$ 35,000.00	$ 173,000.00	$ 173,000.00	$ 45,000.00	$ 45,000.00	$ 125,000.00	$ 125,000.00	$ 60,000.00	$ 60,000.00	$ 44,251.90	$ 44,251.90	$ 157,860.00	$ 157,860.00
3	As-Built Record Drawings	LS	1	$ 32,000.00	$ 32,000.00	$ 18,849.61	$ 18,849.61	$ 65,000.00	$ 65,000.00	$ 82,000.00	$ 82,000.00	$ 25,000.00	$ 25,000.00	$ 41,462.40	$ 41,462.40	$ 105,878.00	$ 105,878.00
4	NPDES Permit Erosion Protection Measures	LS	1	$ 10,500.00	$ 10,500.00	$ 14,120.21	$ 14,120.21	$ 25,000.00	$ 25,000.00	$ 25,300.00	$ 25,300.00	$ 40,000.00	$ 40,000.00	$ 81,145.92	$ 81,145.92	$ 34,956.00	$ 34,956.00
5	Professional Audio/Video of Construction Site	LS	1	$ 3,000.00	$ 3,000.00	$ 2,576.74	$ 2,576.74	$ 7,500.00	$ 7,500.00	$ 9,750.00	$ 9,750.00	$ 5,000.00	$ 5,000.00	$ 2,030.40	$ 2,330.40	$ 18,000.00	$ 18,000.00
			Subtotal General:		$ 395,500.00		$ 578,354.58		$ 342,500.00		$ 855,050.00		$ 520,000.00		$ 634,718.72		$ 633,694.00
Roadway																	
6	Remove & Dispose / Existing Pavement Section (varying thickness)	SY	10,100	$ 3.00	$ 30,300.00	$ 11.90	$ 120,190.00	$ 4.50	$ 45,450.00	$ 8.00	$ 80,800.00	$ 8.00	$ 80,800.00	$ 3.70	$ 37,370.00	$ 5.00	$ 50,500.00
7	1-1/2" Superpave Asphalt Concrete SP 12.5	TONS	825	$ 121.00	$ 99,825.00	$ 133.22	$ 109,906.50	$ 130.00	$ 107,250.00	$ 110.00	$ 90,750.00	$ 150.00	$ 121,750.00	$ 144.00	$ 169,125.00	$ 130.00	$ 138,600.00
8	Optional Base Group 9 (Type B-12.5) w/ RC-70 Prime Coat	SY	10,000	$ 42.00	$ 420,000.00	$ 45.22	$ 452,200.00	$ 20.00	$ 200,000.00	$ 30.00	$ 300,000.00	$ 50.00	$ 500,000.00	$ 43.00	$ 430,000.00	$ 42.00	$ 420,000.00
9	Additional Type B-12.5 w/ RC-70 Prime Coat for Roadway Overbuild in South-Bound Lane	CY	150	$ 230.00	$ 34,500.00	$ 289.78	$ 43,467.00	$ 325.00	$ 48,750.00	$ 40.00	$ 6,000.00	$ 400.00	$ 60,000.00	$ 343.80	$ 51,570.00	$ 315.00	$ 47,250.00
10	12" Compacted Subgrade (LBR 40)	SY	6,500	$ 5.66	$ 36,725.00	$ 6.24	$ 41,820.00	$ 8.00	$ 52,000.00	$ 6.00	$ 39,000.00	$ 5.00	$ 32,500.00	$ 8.10	$ 52,650.00	$ 4.00	$ 26,000.00
11	Embankment - Compacted In Place (Material Used from On-Site)	CY	300	$ 7.00	$ 2,100.00	$ 21.35	$ 6,405.00	$ 15.00	$ 4,500.00	$ 10.00	$ 3,000.00	$ 15.00	$ 4,500.00	$ 51.42	$ 15,426.00	$ 9.00	$ 2,700.00
12	Embankment - Compacted In Place (Material Brought in from Off-Site)	CY	4,200	$ 15.00	$ 63,000.00	$ 8.00	$ 33,600.00	$ 24.00	$ 100,800.00	$ 12.00	$ 50,400.00	$ 10.00	$ 42,000.00	$ 23.70	$ 99,540.00	$ 13.00	$ 54,600.00
13	Remove & Dispose Existing Concrete Curbing (All Types)	LF	1,700	$ 5.50	$ 9,350.00	$ 4.53	$ 7,701.00	$ 4.00	$ 5,600.00	$ 3.00	$ 5,100.00	$ 8.00	$ 13,600.00	$ 2.40	$ 4,080.00	$ 5.00	$ 8,500.00
14	Remove & Dispose Existing Concrete Sidewalk / Driveway (4"-6" Thick)	SY	4,900	$ 8.50	$ 41,650.00	$ 9.53	$ 46,697.00	$ 5.00	$ 24,500.00	$ 6.00	$ 29,400.00	$ 12.00	$ 58,800.00	$ 8.60	$ 42,140.00	$ 15.00	$ 73,500.00
15	Concrete Sidewalk, 4" Thick, 3000 PSI	SF	41,450	$ 4.10	$ 171,565.00	$ 3.84	$ 159,081.50	$ 5.00	$ 207,250.00	$ 5.50	$ 228,175.00	$ 3.60	$ 149,650.00	$ 52.30	$ 2,159,795.00	$ 1.75	$ 108,812.50
16	Concrete Driveway, 6" Thick, 3000 PSI	SF	18,000	$ 4.85	$ 87,300.00	$ 5.89	$ 106,020.00	$ 6.50	$ 117,000.00	$ 7.50	$ 135,000.00	$ 5.20	$ 93,600.00	$ 5.00	$ 90,000.00	$ 6.50	$ 117,000.00
17	Decorative Asphalt Concrete at Cross-Walks	SY	170	$ 150.00	$ 25,500.00	$ 134.30	$ 22,831.00	$ 150.00	$ 25,500.00	$ 150.00	$ 25,500.00	$ 150.00	$ 25,500.00	$ 177.50	$ 30,175.00	$ 264.00	$ 43,260.00
18	Solar-Powered In-Pavement Lighting System with Motion-Activated Sensors at Cross-Walks (Dwg. C-3 & C-4)	EA	2	$ 26,000.00	$ 52,000.00	$ 31,143.96	$ 62,287.92	$ 55,000.00	$ 110,000.00	$ 55,000.00	$ 110,000.00	$ 25,000.00	$ 50,000.00	$ 11,393.10	$ 22,786.20	$ 61,501.00	$ 123,002.00
19	Type F Curb & Gutter	LF	6,200	$ 16.50	$ 102,300.00	$ 22.15	$ 137,330.00	$ 26.00	$ 161,200.00	$ 17.00	$ 105,400.00	$ 27.00	$ 167,400.00	$ 19.40	$ 120,280.00	$ 20.00	$ 124,000.00
20	Header Curb	LF	25	$ 30.00	$ 750.00	$ 31.66	$ 792.00	$ 35.00	$ 875.00	$ 44.00	$ 1,100.00	$ 30.00	$ 750.00	$ 35.00	$ 875.00	$ 20.00	$ 500.00
21	Drainage Concrete Apron (Curb Openings & Inlet Structures)	SF	200	$ 12.25	$ 2,450.00	$ 22.33	$ 4,466.00	$ 15.00	$ 3,000.00	$ 9.00	$ 1,800.00	$ 10.00	$ 2,000.00	$ 14.70	$ 2,940.00	$ 163.00	$ 32,600.00
22	Curb Ramp with ADA Compliant Tactile Surface Mat per FDOT Index 304	EA	25	$ 1,040.00	$ 26,000.00	$ 642.12	$ 15,103.35	$ 1,400.00	$ 35,000.00	$ 900.00	$ 22,500.00	$ 840.00	$ 21,000.00	$ 627.30	$ 17,564.40	$ 344.00	$ 8,600.00
23	Furnish & Install Sod (St. Augustine)	SY	2,750	$ 6.00	$ 16,500.00	$ 10.16	$ 27,940.00	$ 5.00	$ 13,750.00	$ 10.00	$ 27,500.00	$ 8.00	$ 22,000.00	$ 5.30	$ 14,575.00	$ 5.00	$ 13,750.00
			Subtotal Roadway:		$ 1,225,971.00		$ 1,391,481.28		$ 1,448,075.00		$ 1,333,125.00		$ 1,448,800.00		$ 3,444,895.60		$ 1,460,461.50
Striping / Signage																	
24	Raised Reflective Pavement Markers (RPMs)	EA	180	$ 5.60	$ 1,008.00	$ 1.75	$ 315.00	$ 4.00	$ 720.00	$ 6.50	$ 1,170.00	$ 8.00	$ 1,440.00	$ 5.00	$ 900.00	$ 8.00	$ 1,440.00
25	6" Double Yellow Thermo	LF	2,850	$ 2.10	$ 5,985.00	$ 2.11	$ 6,013.50	$ 2.50	$ 7,125.00	$ 2.50	$ 7,125.00	$ 3.50	$ 9,975.00	$ 2.10	$ 5,985.00	$ 3.00	$ 8,550.00
26	6" Single White Thermo	LF	2,400	$ 1.05	$ 2,520.00	$ 1.05	$ 2,520.00	$ 1.50	$ 3,600.00	$ 1.25	$ 3,000.00	$ 1.75	$ 4,200.00	$ 1.10	$ 2,640.00	$ 1.00	$ 2,400.00
27	12" Single White Thermo	LF	750	$ 2.10	$ 1,575.00	$ 3.53	$ 2,647.50	$ 2.50	$ 1,875.00	$ 2.50	$ 1,875.00	$ 4.80	$ 3,600.00	$ 2.10	$ 1,575.00	$ 3.00	$ 2,250.00
28	18" Single White Thermo at 10' O.C.	LF	225	$ 32.00	$ 7,200.00	$ 4.61	$ 1,037.25	$ 3.00	$ 675.00	$ 3.75	$ 843.75	$ 7.00	$ 1,575.00	$ 3.20	$ 720.00	$ 4.00	$ 900.00
29	24" Stop Bar White Thermo	LF	130	$ 7.00	$ 910.00	$ 5.69	$ 739.70	$ 4.50	$ 585.00	$ 8.00	$ 1,040.00	$ 9.00	$ 1,170.00	$ 6.20	$ 806.00	$ 10.00	$ 1,300.00
30	6" Single Blue Thermo	LF	170	$ 3.15	$ 535.50	$ 8.41	$ 1,429.70	$ 3.50	$ 595.00	$ 3.75	$ 637.50	$ 5.00	$ 850.00	$ 4.60	$ 782.00	$ 5.00	$ 850.00
31	Handicap Parking Symbol (White Thermo)	EA	2	$ 145.00	$ 290.00	$ 173.66	$ 347.32	$ 150.00	$ 300.00	$ 160.00	$ 320.00	$ 250.00	$ 500.00	$ 214.00	$ 428.00	$ 200.00	$ 400.00
32	Remove Existing Sign, Salvage & Return to Town	EA	54	$ 185.00	$ 3,915.00	$ 31.43	$ 4,335.61	$ 150.00	$ 3,500.00	$ 135.00	$ 9,530.00	$ 55.00	$ 2,975.00	$ 147.90	$ 7,986.60	$ 233.00	$ 12,532.00
33	Furnish & Install New Sign	EA	19	$ 185.00	$ 3,515.00	$ 379.87	$ 7,217.53	$ 350.00	$ 6,650.00	$ 210.00	$ 3,990.00	$ 250.00	$ 4,750.00	$ 455.50	$ 8,654.50	$ 264.00	$ 5,016.00
34	Furnish & Install New Solar Powered R1-1 Sign (Dwg. SM-2)	EA	3	$ 1,700.00	$ 5,100.00	$ 5,252.99	$ 15,758.97	$ 2,500.00	$ 7,500.00	$ 3,550.00	$ 10,650.00	$ 1,600.00	$ 4,800.00	$ 11,416.80	$ 34,250.40	$ 4,080.00	$ 12,240.00
35	Furnish & Install New Sign Post	EA	20	$ 205.00	$ 4,100.00	$ 321.30	$ 6,426.00	$ 200.00	$ 4,000.00	$ 235.00	$ 4,700.00	$ 55.00	$ 1,100.00	$ 213.90	$ 4,278.00	$ 280.00	$ 5,600.00
36	Remove & Dispose of Existing Sign Post	EA	61	$ 80.00	$ 4,880.00	$ 54.27	$ 3,310.47	$ 75.00	$ 4,575.00	$ 90.00	$ 5,490.00	$ 15.00	$ 915.00	$ 215.00	$ 13,115.00	$ 110.00	$ 6,710.00
37	Relocate Existing Sign to New Location	EA	22	$ 90.00	$ 2,000.00	$ 104.67	$ 2,304.74	$ 20.00	$ 440.00	$ 178.00	$ 3,916.00	$ 60.00	$ 1,320.00	$ 216.00	$ 4,752.00	$ 100.00	$ 2,200.00
			Subtotal Striping / Signage:		$ 62,808.50		$ 54,754.88		$ 60,700.00		$ 53,067.25		$ 39,195.00		$ 87,284.00		$ 63,233.00
Stormwater																	
38	Remove Existing Drainage Structure	EA	14	$ 1,085.00	$ 15,200.00	$ 793.64	$ 11,112.92	$ 1,000.00	$ 15,000.00	$ 500.00	$ 9,500.00	$ 4,650.00	$ 65,100.00	$ 667.60	$ 15,394.40	$ 1,700.00	$ 24,710.00
39	Remove Existing Drainage Pipe (12"-30")	LF	1,515	$ 21.00	$ 32,340.00	$ 18.00	$ 27,270.00	$ 10.00	$ 15,150.00	$ 30.00	$ 46,200.00	$ 35.00	$ 53,025.00	$ 15.00	$ 22,260.00	$ 15.00	$ 24,540.00
40	Type C Inlet (D-1, D-3, D-4, D-6, D-7, D-9, D-10, D-12, D-14, D-17, D-22, D-24, D-26, D-29, D-30, D-32, D-33, D-35, D-36, D-37, D-41)	EA	11	$ 4,960.00	$ 54,600.00	$ 4,100.19	$ 45,102.21	$ 2,300.00	$ 25,300.00	$ 4,600.00	$ 50,600.00	$ 4,600.00	$ 50,600.00	$ 3,260.60	$ 35,867.00	$ 14,306.00	$ 157,366.00
41	Type D Curb Inlet (D-13)	EA	1	$ 5,400.00	$ 5,400.00	$ 3,543.61	$ 3,543.61	$ 2,800.00	$ 2,800.00	$ 4,865.00	$ 4,865.00	$ 4,600.00	$ 4,600.00	$ 3,964.80	$ 3,964.80	$ 13,000.00	$ 13,000.00
42	Type E Curb Inlet (D-15)	EA	1	$ 4,700.00	$ 4,700.00	$ 3,705.22	$ 3,705.22	$ 3,400.00	$ 3,400.00	$ 5,340.00	$ 5,340.00	$ 6,500.00	$ 6,500.00	$ 7,614.30	$ 7,614.30	$ 14,375.00	$ 14,375.00
43	4' Dia. MH (D-42)	EA	1	$ 4,500.00	$ 4,500.00	$ 3,489.17	$ 3,489.17	$ 4,500.00	$ 4,500.00	$ 5,150.00	$ 5,150.00	$ 6,000.00	$ 6,000.00	$ 5,033.40	$ 5,033.40	$ 15,621.00	$ 15,621.00
44	4' Dia. Ditch Inlet (D-21)	EA	1	$ 3,500.00	$ 3,500.00	$ 3,222.15	$ 3,222.15	$ 4,800.00	$ 4,800.00	$ 4,500.00	$ 4,500.00	$ 5,200.00	$ 5,200.00	$ 6,429.20	$ 6,429.20	$ 15,210.00	$ 15,210.00
45	5' Dia. Type J Bottom with Curb Inlet Top (D-23)	EA	1	$ 6,800.00	$ 6,800.00	$ 8,133.10	$ 8,133.10	$ 5,500.00	$ 5,500.00	$ 7,360.00	$ 7,360.00	$ 7,000.00	$ 7,000.00	$ 8,126.70	$ 8,126.70	$ 16,523.00	$ 16,523.00
46	5' Dia. Conflict MH (D-34)	EA	1	$ 9,400.00	$ 9,400.00	$ 11,241.31	$ 11,241.31	$ 6,500.00	$ 6,500.00	$ 14,060.00	$ 14,060.00	$ 15,000.00	$ 15,000.00	$ 6,518.40	$ 6,518.40	$ 21,310.00	$ 21,310.00
47	6' Dia. Type J Bottom w/ Curb Inlet Top Conflict Structure (D-31)	EA	1	$ 15,000.00	$ 15,000.00	$ 12,557.20	$ 12,557.20	$ 5,600.00	$ 5,600.00	$ 14,320.00	$ 14,320.00	$ 18,500.00	$ 18,500.00	$ 7,614.30	$ 7,614.30	$ 17,935.00	$ 17,935.00
48	3' x 4' Type J Bottom Inlet Top Conflict Structure (D-5)	EA	1	$ 8,500.00	$ 8,500.00	$ 15,773.15	$ 15,773.15	$ 8,500.00	$ 8,500.00	$ 14,600.00	$ 14,600.00	$ 15,000.00	$ 15,000.00	$ 5,126.70	$ 5,126.70	$ 17,566.00	$ 17,566.00
49	5' Dia. Type J Bottom w/ Curb Inlet Top (D-8, D-16, D-27, D-40)	EA	4	$ 5,700.00	$ 22,800.00	$ 8,160.66	$ 33,870.64	$ 6,800.00	$ 27,200.00	$ 4,280.00	$ 17,120.00	$ 10,500.00	$ 42,000.00	$ 4,676.70	$ 13,964.80	$ 18,014.00	$ 72,056.00
50	3' x 4' Type J Bottom Inlet w/ PRB (D-2)	EA	1	$ 8,100.00	$ 8,100.00	$ 8,226.56	$ 8,226.56	$ 6,500.00	$ 6,500.00	$ 9,065.00	$ 9,065.00	$ 9,000.00	$ 9,000.00	$ 5,008.80	$ 5,008.80	$ 20,826.00	$ 20,826.00
51	4' x 5' Type J Bottom w/ Curb Inlet Top (D-13, D-15)	EA	2	$ 11,000.00	$ 22,000.00	$ 9,742.81	$ 19,485.62	$ 7,200.00	$ 14,400.00	$ 10,785.00	$ 21,570.00	$ 11,000.00	$ 22,000.00	$ 7,063.20	$ 14,126.40	$ 26,080.00	$ 52,160.00
52	4' x 5' Type J Bottom w/ Curb Inlet Top & PRB (D-34)	EA	1	$ 11,600.00	$ 11,600.00	$ 10,553.52	$ 10,553.52	$ 7,600.00	$ 7,600.00	$ 11,510.00	$ 11,510.00	$ 12,000.00	$ 12,000.00	$ 6,267.90	$ 6,267.90	$ 28,707.00	$ 28,707.00
53	5' x 6' Type J Bottom w/ Drop Curb Inlet & PRB (D-11)	EA	1	$ 11,700.00	$ 11,700.00	$ 11,160.60	$ 11,160.60	$ 7,300.00	$ 7,300.00	$ 11,740.00	$ 11,740.00	$ 13,500.00	$ 13,500.00	$ 6,925.70	$ 6,925.70	$ 26,416.00	$ 26,416.00
54	4' x 5' Type J Bottom w/ MH & PRB (D-20)	EA	1	$ 9,700.00	$ 9,700.00	$ 8,100.61	$ 8,100.61	$ 7,200.00	$ 7,200.00	$ 10,510.00	$ 10,510.00	$ 13,000.00	$ 13,000.00	$ 7,334.30	$ 7,334.30	$ 26,125.00	$ 26,125.00
55	8' x 8' Type J Bottom with Inlet Top (D-37)	EA	1	$ 14,300.00	$ 14,300.00	$ 15,743.86	$ 15,743.86	$ 18,000.00	$ 18,000.00	$ 13,810.00	$ 13,810.00	$ 16,000.00	$ 16,000.00	$ 6,516.40	$ 6,516.40	$ 29,000.00	$ 29,000.00
56	5' Dia. Manhole (D-28, D-42)	EA	2	$ 11,000.00	$ 22,000.00	$ 8,048.67	$ 16,097.33	$ 6,500.00	$ 13,000.00	$ 8,780.00	$ 17,560.00	$ 8,000.00	$ 16,000.00	$ 5,673.70	$ 13,347.40	$ 15,556.00	$ 31,112.00
57	6' Dia. Conflict Manhole (D-25)	EA	1	$ 14,250.00	$ 14,250.00	$ 12,311.33	$ 12,311.33	$ 6,500.00	$ 6,500.00	$ 15,150.00	$ 15,150.00	$ 15,000.00	$ 15,000.00	$ 6,582.70	$ 6,582.70	$ 24,552.00	$ 24,552.00
58	Yard Drain System	EA	9	$ 2,500.00	$ 22,500.00	$ 1,874.63	$ 16,871.67	$ 2,500.00	$ 22,500.00	$ 4,475.00	$ 40,275.00	$ 5,000.00	$ 45,000.00	$ 1,557.50	$ 14,017.50	$ 2,635.00	$ 23,715.00
59	Connect Existing Drainage Pipe to New Drainage Structure	EA	7	$ 2,500.00	$ 17,500.00	$ 1,911.78	$ 13,382.46	$ 900.00	$ 6,300.00	$ 6,975.00	$ 48,825.00	$ 2,500.00	$ 17,500.00	$ 776.10	$ 5,432.70	$ 11,566.00	$ 80,962.00
60	12" PVC (A-2000)	LF	6	$ 250.00	$ 1,500.00	$ 108.28	$ 649.66	$ 50.00	$ 300.00	$ 240.00	$ 1,440.00	$ 100.00	$ 600.00	$ 96.41	$ 578.46	$ 277.00	$ 1,662.00
61	15" PVC (A-2000)	LF	46	$ 66.00	$ 3,036.00	$ 47.12	$ 2,167.76	$ 30.00	$ 1,380.00	$ 100.00	$ 4,600.00	$ 115.00	$ 5,290.00	$ 33.41	$ 1,536.86	$ 216.00	$ 9,936.00
62	15" RCP	LF	421	$ 72.00	$ 30,312.00	$ 73.69	$ 31,023.49	$ 45.00	$ 18,945.00	$ 35.00	$ 14,735.00	$ 65.00	$ 27,365.00	$ 59.50	$ 25,049.50	$ 230.00	$ 96,830.00
63	18" RCP	LF	711	$ 95.00	$ 67,545.00	$ 80.00	$ 56,880.00	$ 50.00	$ 35,550.00	$ 90.00	$ 63,990.00	$ 88.00	$ 62,568.00	$ 63.00	$ 44,793.00	$ 264.00	$ 187,704.00
64	24" RCP	LF	149	$ 85.00	$ 12,665.00	$ 86.04	$ 12,819.96	$ 70.00	$ 10,430.00	$ 110.00	$ 16,390.00	$ 136.00	$ 20,264.00	$ 77.13	$ 11,492.37	$ 279.00	$ 41,571.00
65	30" RCP	LF	257	$ 111.00	$ 28,527.00	$ 117.76	$ 30,264.32	$ 90.00	$ 23,130.00	$ 170.00	$ 43,690.00	$ 150.00	$ 38,550.00	$ 98.00	$ 25,186.00	$ 315.00	$ 80,955.00
66	36" RCP	LF	500	$ 138.00	$ 69,000.00	$ 141.59	$ 70,795.00	$ 110.00	$ 55,000.00	$ 166.00	$ 83,000.00	$ 205.00	$ 102,500.00	$ 115.50	$ 59,795.00	$ 321.00	$ 160,500.00
67	42" RCP	LF	1,263	$ 195.00	$ 246,285.00	$ 167.76	$ 211,880.88	$ 135.00	$ 170,505.00	$ 225.00	$ 284,175.00	$ 250.00	$ 315,750.00	$ 139.60	$ 176,314.80	$ 399.00	$ 503,937.00
68	48" RCP	LF	845	$ 195.00	$ 164,775.00	$ 213.10	$ 180,069.50	$ 160.00	$ 135,200.00	$ 278.00	$ 234,910.00	$ 330.50	$ 279,272.50	$ 170.86	$ 144,376.70	$ 442.00	$ 373,490.00
69	72" RCP	LF	40	$ 500.00	$ 20,000.00	$ 603.81	$ 24,152.40	$ 380.00	$ 15,200.00	$ 540.00	$ 21,600.00	$ 1,000.00	$ 40,000.00	$ 225.50	$ 9,020.00	$ 1,210.00	$ 48,400.00
70	Stormwater Pump Station (includes wetwell, Primary Submersible Electric Pump No. 1, all pump cans, all discharge piping, all flap gates, trash rack, grating hatch covers, shoring, excavation, dewatering, cast in place concrete and backfill, etc.)	LS	1	$ 842,000.00	$ 842,000.00	$ 664,206.99	$ 664,206.99	$ 750,000.00	$ 750,000.00	$ 575,000.00	$ 575,000.00	$ 1,000,000.00	$ 1,000,000.00	$ 545,600.00	$ 545,360.00	$ 782,275.00	$ 782,275.00
71	Stormwater Pump Station - Electrical and Controls (including Motor Control Center, SS Rack, Motor Can, Disconnect, Service Light, Stilling Well, and Nema 4X 316 SS Control Panel with Generator Receptacle, Surge Arrestor, Phase Monitor, Soft Starts, GFI Receptacle, Conduit, FPL Service Point, Triplex Pump Station Controller including Level Transmitters and Backup Floats, etc.)	LS	1	$ 121,000.00	$ 121,000.00	$ 10,883.24	$ 10,883.24	$ 96,000.00	$ 96,000.00	$ 138,500.00	$ 138,500.00	$ 200,000.00	$ 200,000.00	$ 84,568.30	$ 84,568.30	$ 147,700.00	$ 147,700.00
72	Rock Riprap with Filter Fabric	LS	1	$ 12,000.00	$ 12,000.00	$ 12,171.65	$ 12,171.65	$ 7,500.00	$ 7,500.00	$ 17,500.00	$ 17,500.00	$ 21,000.00	$ 21,000.00	$ 7,753.45	$ 7,753.45	$ 97,000.00	$ 97,000.00
73	Retaining Walls	EA	2	$ 12,500.00	$ 25,000.00	$ 34,651.44	$ 84,292.66	$ 12,000.00	$ 24,000.00	$ 26,000.00	$ 52,000.00	$ 38,500.00	$ 77,000.00	$ 14,868.13	$ 29,736.26	$ 38,175.00	$ 76,350.00
74	Seawall Repair	LS	1	$ 2,000.00	$ 2,000.00	$ 1,126.54	$ 1,126.54	$ 10,000.00	$ 10,000.00	$ 12,000.00	$ 12,000.00	$ 5,000.00	$ 5,000.00	$ 13,297.10	$ 13,297.10	$ 33,500.00	$ 33,500.00
75	Excavation and Grading Detention Area	CY	1,407	$ 25.00	$ 35,175.00	$ 23.97	$ 33,782.93	$ 18.00	$ 25,326.00	$ 10.50	$ 14,773.50	$ 5.00	$ 7,035.00	$ 14.20	$ 20,401.40	$ 18.00	$ 25,326.00
76	Sod Detention Area	SY	3,000	$ 5.00	$ 15,000.00	$ 7.67	$ 23,010.00	$ 4.00	$ 12,000.00	$ 5.10	$ 15,300.00	$ 10.00	$ 30,000.00	$ 4.70	$ 14,100.00	$ 5.00	$ 15,000.00
77	24" Inline WaSTOP Valve	EA	1	$ 12,000.00	$ 12,000.00	$ 13,366.49	$ 13,366.49	$ 12,500.00	$ 12,500.00	$ 17,500.00	$ 17,500.00	$ 20,000.00	$ 20,000.00	$ 20,020.50	$ 20,020.50	$ 18,415.00	$ 18,415.00
78	30" Inline WaSTOP Valve	EA	3	$ 45,000.00	$ 135,000.00	$ 17,735.64	$ 53,206.92	$ 17,500.00	$ 52,500.00	$ 23,535.00	$ 70,605.00	$ 30,000.00	$ 90,000.00	$ 14,780.83	$ 44,342.49	$ 23,291.00	$ 69,873.00
79	Stormwater Bypass Pumping	LS	1	$ 25,000.00	$ 25,000.00	$ 35,637.25	$ 35,637.25	$ 35,000.00	$ 35,000.00	$ 15,000.00	$ 15,000.00	$ 25,000.00	$ 25,000.00	$ 456,248.80	$ 456,248.80	$ 59,430.00	$ 59,430.00
80	Swale Regrading and Sod	SY	3,500	$ 8.25	$ 28,875.00	$ 7.29	$ 25,500.00	$ 6.00	$ 21,000.00	$ 10.00	$ 35,000.00	$ 8.00	$ 28,000.00	$ 4.43	$ 15,498.50	$ 7.00	$ 24,500.00
81	Flowable Fill	CY	75	$ 180.00	$ 13,500.00	$ 312.18	$ 23,413.50	$ 160.00	$ 12,000.00	$ 180.00	$ 13,500.00	$ 200.00	$ 15,000.00	$ 264.90	$ 19,867.50	$ 100.00	$ 7,500.00
82	Remove Existing Trench Drain (including saw cut pavement repair) (Dwg. C-6)	LS	1	$ 750.00	$ 750.00	$ 1,424.15	$ 1,424.15	$ 8,500.00	$ 8,500.00	$ 4,500.00	$ 4,500.00	$ 1,500.00	$ 1,500.00	$ 2,363.70	$ 2,363.70	$ 5,621.00	$ 5,621.00
83	Coordination with FPL and Comcast for Utility Underground Relocations	LS	1	$ 1,000.00	$ 1,000.00	$ 1,077.94	$ 1,077.94	$ 15,000.00	$ 15,000.00	$ 14,500.00	$ 14,500.00	$ 1.00	$ 1.00	$ 2,613.90	$ 2,613.90	$ 24,080.00	$ 24,080.00
			Subtotal Stormwater:		$ 2,020,618.00		$ 1,900,348.60		$ 1,803,795.00		$ 2,186,040.00		$ 2,213,537.00		$ 1,678,118.00		$ 3,663,417.00
Street Lighting																	
84	2" PVC Conduit	LF	6,500	$ 14.25	$ 92,625.00	$ 3.96	$ 25,740.00	$ 8.00	$ 52,000.00	$ 17.50	$ 113,750.00	$ 10.00	$ 65,000.00	$ 5.80	$ 37,700.00	$ 11.00	$ 71,500.00
85	Pull Box (12"x24")	EA	25	$ 1,000.00	$ 25,000.00	$ 624.64	$ 15,616.00	$ 3,000.00	$ 75,000.00	$ 1,376.00	$ 34,400.00	$ 1,000.00	$ 75,000.00	$ 494.22	$ 12,355.50	$ 1,134.00	$ 28,350.00
			Subtotal Street Lighting:		$ 117,625.00		$ 41,356.00		$ 127,000.00		$ 148,150.00		$ 140,000.00		$ 50,055.50		$ 99,850.00
Landscaping and Irrigation																	
86	Clearing & Grubbing	LS	1	$ 135,000.00	$ 135,000.00	$ 49,741.32	$ 49,741.32	$ 20,000.00	$ 20,000.00	$ 61,000.00	$ 61,000.00	$ 150,000.00	$ 150,000.00	$ 15,514.20	$ 15,514.20	$ 81,106.00	$ 81,106.00
87	Landscaping	LS	1	$ 200,000.00	$ 200,000.00	$ 184,424.32	$ 184,424.32	$ 525,000.00	$ 525,000.00	$ 215,000.00	$ 215,000.00	$ 140,000.00	$ 140,000.00	$ 177,456.20	$ 177,456.20	$ 250,725.00	$ 250,725.00
88	Fences (Pump Station and Bioswale)	LS	1	$ 27,500.00	$ 27,500.00	$ 41,066.37	$ 41,066.37	$ 75,000.00	$ 75,000.00	$ 45,000.00	$ 45,000.00	$ 40,000.00	$ 40,000.00	$ 3,720.00	$ 3,720.00	$ 45,223.00	$ 45,223.00
89	Irrigation in Lake Shore Drive R/W	LS	1	$ 105,000.00	$ 105,000.00	$ 150,557.65	$ 150,557.65	$ 210,000.00	$ 210,000.00	$ 125,000.00	$ 125,000.00	$ 130,000.00	$ 130,000.00	$ 65,365.20	$ 65,365.20	$ 216,944.00	$ 216,944.00
90	Irrigation in Bioswale	LS	1	$ 3,500.00	$ 3,500.00	$ 6,345.01	$ 6,345.01	$ 25,000.00	$ 25,000.00	$ 10,250.00	$ 10,250.00	$ 18,000.00	$ 18,000.00	$ 65,365.20	$ 65,365.20	$ 117,152.00	$ 117,152.00
			Subtotal Miscellaneous:		$ 471,000.00		$ 404,132.17		$ 855,000.00		$ 620,250.00		$ 478,000.00		$ 378,453.80		$ 712,240.00
Allowances																	
91	FPL Lighting Allowance	AL	1	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00
92	Unforeseen Underground Conditions Allowance	AL	1	$ 150,000.00	$ 150,000.00	$ 150,000.00	$ 150,000.00	$ 150,000.00	$ 150,000.00	$ 150,000.00	$ 150,000.00	$ 150,000.00	$ 150,000.00	$ 150,000.00	$ 150,000.00	$ 150,000.00	$ 150,000.00
93	Permit Fees Allowance	AL	1	$ 39,892.50	$ 39,892.50	$ 39,892.50	$ 39,892.50	$ 39,892.50	$ 39,892.50	$ 39,892.50	$ 39,892.50	$ 39,892.50	$ 39,892.50	$ 39,892.50	$ 39,892.50	$ 39,892.50	$ 39,892.50
			Subtotal Allowances:		$ 239,892.50		$ 239,892.50		$ 239,892.50		$ 239,892.50		$ 239,892.50		$ 239,892.50		$ 239,892.50
			SUBTOTAL		$ 4,556,853.00		$ 4,565,209.85		$ 4,917,663.50		$ 5,455,579.75		$ 5,769,594.50		$ 6,556,420.62		$ 7,122,835.05

BID ALTERNATE 1

Item No.	Item Description	Unit	Estimated Quantity	Foster Marine Contractors, Inc.		DP Development, LLC		Hinterland Group, Inc.		DS Eakins Construction Corporation		Gibbs & Register, Inc.		Ferreira Construction Southern Division Co., Inc.		Man-Con Incorporated	
				Unit Price	Cost	Unit Price	Cost	Unit Price	Cost	Unit Price	Cost	Unit Price	Cost	Unit Price	Cost	Unit Price	Cost
Stormwater																	
A1-1	Stormwater Pump Station Primary Submersible Electric Pump No. 2	LS	1	$ 74,000.00	$ 74,000.00	$ 66,064.83	$ 66,064.83	$ 58,000.00	$ 58,000.00	$ 54,350.00	$ 54,350.00	$ 80,000.00	$ 80,000.00	$ 78,534.10	$ 78,534.10	$ 77,231.00	$ 77,231.00
A1-2	Stormwater Pump Station Duty Submersible Electric Pump	LS	1	$ 93,000.00	$ 93,000.00	$ 86,741.53	$ 86,741.53	$ 78,000.00	$ 78,000.00	$ 77,300.00	$ 77,300.00	$ 60,000.00	$ 60,000.00	$ 56,964.90	$ 56,964.90	$ 38,883.00	$ 38,883.00
			Subtotal Stormwater:		$ 167,000.00		$ 152,726.26		$ 136,000.00		$ 131,650.00		$ 140,000.00		$ 135,499.00		$ 116,114.00

BID ALTERNATE 2

Item No.	Item Description	Unit	Estimated Quantity	Foster Marine Contractors, Inc.		DP Development, LLC		Hinterland Group, Inc.		DS Eakins Construction Corporation		Gibbs & Register, Inc.		Ferreira Construction Southern Division Co., Inc.		Man-Con Incorporated	
				Unit Price	Cost	Unit Price	Cost	Unit Price	Cost	Unit Price	Cost	Unit Price	Cost	Unit Price	Cost	Unit Price	Cost
Sanitary Sewer																	
A2-1	Remove Existing Gravity Sanitary Sewer Main	LF	550	$ 5.00	$ 2,750.00	$ 15.44	$ 8,492.00	$ 25.00	$ 13,750.00	$ 20.00	$ 11,000.00	$ 30.00	$ 16,500.00	$ 19.50	$ 10,525.00	$ 13.00	$ 7,150.00
A2-2	Remove Existing Sanitary Sewer Manhole	EA	4	$ 800.00	$ 3,200.00	$ 574.59	$ 2,298.36	$ 1,500.00	$ 6,000.00	$ 500.00	$ 2,000.00	$ 1,500.00	$ 6,000.00	$ 1,949.80	$ 7,799.20	$ 1,571.00	$ 6,284.00
A2-3	4' Dia. MH (7-10)	EA	2	$ 11,500.00	$ 23,000.00	$ 6,244.36	$ 13,488.72	$ 8,500.00	$ 17,000.00	$ 12,130.00	$ 24,260.00	$ 5,000.00	$ 10,000.00	$ 7,616.10	$ 15,232.20	$ 7,587.00	$ 15,174.00
A2-4	Connect New / Existing Sanitary Sewer Main to New / Existing Sanitary Sewer MH	EA	2	$ 1,300.00	$ 2,600.00	$ 2,158.87	$ 4,317.74	$ 1,200.00	$ 2,400.00	$ 11,100.00	$ 22,200.00	$ 1,500.00	$ 3,000.00	$ 3,567.20	$ 7,134.40	$ 3,200.00	$ 6,400.00
A2-5	8" PVC SDR 26 Sanitary Sewer Pipe (1'-6')	LF	265	$ 67.00	$ 17,755.00	$ 72.46	$ 19,201.90	$ 120.00	$ 31,800.00	$ 67.00	$ 17,755.00	$ 80.00	$ 21,200.00	$ 72.00	$ 19,080.00	$ 172.00	$ 45,580.00
A2-6	8" PVC SDR 26 Sanitary Sewer Pipe (6'-10')	LF	290	$ 69.00	$ 20,010.00	$ 72.85	$ 21,127.50	$ 100.00	$ 29,000.00	$ 77.70	$ 22,533.00	$ 100.00	$ 29,000.00	$ 33.40	$ 9,534.00	$ 174.00	$ 45,240.00
A2-7	Remove Existing Sewer Lateral & Install 6" Single Sanitary Sewer Lateral w/ Clean-Out	EA	3	$ 2,100.00	$ 6,300.00	$ 2,145.40	$ 6,436.20	$ 3,400.00	$ 10,200.00	$ 4,875.00	$ 14,625.00	$ 2,000.00	$ 6,000.00	$ 2,551.60	$ 7,654.80	$ 3,171.00	$ 9,513.00
A2-8	Remove Existing Sewer Lateral & Install 8" Sanitary Sewer Lateral w/ Clean-Out	EA	1	$ 2,900.00	$ 2,900.00	$ 2,761.67	$ 2,761.67	$ 4,000.00	$ 4,000.00	$ 7,350.00	$ 7,350.00	$ 5,200.00	$ 5,200.00	$ 3,237.50	$ 3,237.50	$ 4,286.00	$ 4,286.00
A2-9	Remove Existing Sewer Lateral & Install 10" Single Sanitary Sewer Lateral & Connect to Existing Lateral at ROW Line	EA	1	$ 3,600.00	$ 3,600.00	$ 3,457.21	$ 3,457.21	$ 5,000.00	$ 5,000.00	$ 7,200.00	$ 7,200.00	$ 4,300.00	$ 4,300.00	$ 2,433.80	$ 2,433.80	$ 2,720.00	$ 2,720.00
A2-10	Cut & Cap Existing Sanitary Sewer Lateral at Wye; Remove or Abandon & Grout Existing Lateral from Main to R/W line; includes all trenching & excavation required (Dwg. C-21 & C-22)	EA	3	$ 1,000.00	$ 3,000.00	$ 2,201.45	$ 6,604.35	$ 2,400.00	$ 7,200.00	$ 8,000.00	$ 24,000.00	$ 2,800.00	$ 8,400.00	$ 346.50	$ 1,039.50	$ 5,614.00	$ 16,842.00
A2-11	Plug Existing Western Invert inside and Outside at Manhole at STA 61+57; Remove or Abandon & Grout Existing Lateral from Manhole to R/W line (Dwg. C-22)	LS	1	$ 1,500.00	$ 1,500.00	$ 2,457.64	$ 2,457.64	$ 6,000.00	$ 6,000.00	$ 7,000.00	$ 7,000.00	$ 2,800.00	$ 2,800.00	$ 671.20	$ 671.20	$ 6,046.00	$ 6,046.00
A2-12	Sanitary Sewer Bypass Pumping	LS	1	$ 30,000.00	$ 30,000.00	$ 14,511.61	$ 14,511.61	$ 8,500.00	$ 8,500.00	$ 8,000.00	$ 8,000.00	$ 13,500.00	$ 13,500.00	$ 26,292.13	$ 26,292.13	$ 6,582.00	$ 6,582.00
A2-13	Open Cut Pavement / Trench Repair	LF	30	$ 100.00	$ 3,000.00	$ 88.86	$ 2,665.80	$ 7,500.00	$ 225,000.00	$ 150.00	$ 4,500.00	$ 250.00	$ 7,500.00	$ 83.53	$ 2,505.90	$ 239.00	$ 7,165.00
			Subtotal Sanitary Sewer:		$ 129,405.00		$ 109,905.72		$ 374,350.00		$ 173,110.00		$ 127,600.00		$ 123,093.70		$ 179,169.00
Potable Water Main																	
A2-14	4" DIP (CL51) WM (Restrained Joints), cement lined	LF	20	$ 120.00	$ 2,400.00	$ 45.94	$ 918.80	$ 55.00	$ 1,100.00	$ 67.00	$ 1,340.00	$ 220.00	$ 4,400.00	$ 114.00	$ 2,280.00	$ 155.00	$ 3,100.00
A2-15	6" DIP (CL51) WM (Restrained Joints), cement lined	LF	300	$ 80.00	$ 24,000.00	$ 68.24	$ 20,472.00	$ 40.00	$ 12,000.00	$ 63.00	$ 18,900.00	$ 70.00	$ 21,000.00	$ 80.70	$ 24,210.00	$ 89.00	$ 26,700.00
A2-16	8" DIP (CL51) WM (Restrained Joints), cement lined w/ FM gaskets (Dwg. C-24)	LF	150	$ 85.00	$ 12,750.00	$ 72.61	$ 10,891.50	$ 50.00	$ 7,500.00	$ 77.00	$ 11,550.00	$ 100.00	$ 15,000.00	$ 102.30	$ 15,345.00	$ 311.00	$ 46,650.00
A2-17	8" DIP (CL51) WM (Restrained Joints), cement lined	LF	2,950	$ 54.00	$ 159,300.00	$ 55.34	$ 163,253.00	$ 45.00	$ 132,750.00	$ 59.00	$ 174,050.00	$ 95.00	$ 280,250.00	$ 94.30	$ 278,185.00	$ 109.00	$ 321,550.00
A2-18	8" DIP (CL51) WM (Push-On), cement lined	LF	550	$ 50.00	$ 27,500.00	$ 59.92	$ 32,956.00	$ 40.00	$ 22,000.00	$ 55.00	$ 30,250.00	$ 80.00	$ 44,000.00	$ 90.00	$ 49,500.00	$ 112.00	$ 61,600.00
A2-19	4"x4" Tapping Tee & 4" Tapping Valve	EA	1	$ 4,500.00	$ 4,500.00	$ 4,706.13	$ 4,706.13	$ 6,500.00	$ 6,500.00	$ 7,450.00	$ 7,450.00	$ 3,600.00	$ 3,600.00	$ 4,519.50	$ 4,519.50	$ 2,064.00	$ 2,064.00
A2-20	8"x6" Tapping Tee & 6" Tapping Valve	EA	4	$ 5,000.00	$ 20,000.00	$ 5,836.21	$ 23,344.84	$ 7,500.00	$ 30,000.00	$ 9,280.00	$ 37,120.00	$ 4,600.00	$ 18,400.00	$ 5,168.60	$ 20,674.40	$ 3,645.00	$ 14,580.00
A2-21	8"x8" Tapping Tee & 8" Tapping Valve	EA	1	$ 5,300.00	$ 5,300.00	$ 6,150.91	$ 6,150.91	$ 8,500.00	$ 8,500.00	$ 10,500.00	$ 10,500.00	$ 5,000.00	$ 5,000.00	$ 5,473.10	$ 5,473.10	$ 3,776.00	$ 3,776.00
A2-22	6" Gate Valve	EA	14	$ 1,650.00	$ 23,100.00	$ 1,160.29	$ 16,244.06	$ 1,800.00	$ 25,200.00	$ 2,100.00	$ 29,400.00	$ 1,300.00	$ 18,200.00	$ 2,151.80	$ 30,125.20	$ 2,380.00	$ 33,320.00
A2-23	8" Gate Valve	EA	22	$ 1,950.00	$ 42,900.00	$ 1,637.30	$ 36,022.53	$ 2,100.00	$ 46,200.00	$ 2,400.00	$ 52,800.00	$ 1,800.00	$ 39,600.00	$ 2,480.50	$ 54,570.00	$ 2,778.00	$ 61,116.00
A2-24	8" Line Stop	EA	1	$ 8,150.00	$ 8,150.00	$ 8,817.12	$ 8,817.12	$ 8,500.00	$ 8,500.00	$ 11,500.00	$ 11,500.00	$ 7,650.00	$ 7,650.00	$ 6,907.15	$ 6,907.15	$ 4,445.00	$ 4,445.00
A2-25	DIP Compact Fittings, cement-lined	TON	7.5	$ 8,000.00	$ 60,000.00	$ 8,500.00	$ 63,750.00	$ 6,500.00	$ 48,750.00	$ 21,325.00	$ 159,937.50	$ 11,000.00	$ 82,500.00	$ 4,676.40	$ 35,073.00	$ 3,000.00	$ 22,500.00
A2-26	Install New Single Water Service (1"-2") on Proposed WM & Connect to Existing Meter Box	EA	12	$ 2,500.00	$ 30,000.00	$ 1,525.56	$ 18,306.76	$ 1,200.00	$ 14,400.00	$ 3,700.00	$ 44,400.00	$ 1,300.00	$ 15,600.00	$ 1,276.30	$ 15,315.60	$ 1,860.00	$ 22,320.00
A2-27	Install New Single Water Service (2") w/ Meter Box on Proposed WM	EA	1	$ 2,300.00	$ 2,300.00	$ 1,737.33	$ 1,737.33	$ 1,400.00	$ 1,400.00	$ 5,240.00	$ 5,240.00	$ 1,500.00	$ 1,500.00	$ 2,074.20	$ 2,074.20	$ 2,125.00	$ 2,125.00
A2-28	Install New Double Water Service (2") on Proposed WM & Connect to Existing Meter Box	EA	1	$ 3,700.00	$ 3,700.00	$ 1,666.33	$ 1,666.33	$ 1,300.00	$ 1,300.00	$ 4,525.00	$ 4,525.00	$ 1,600.00	$ 1,600.00	$ 1,931.30	$ 1,931.30	$ 1,679.00	$ 1,679.00
A2-29	Install New Single Water Service (1"-2") on Existing WM incl. Corp Stop (1"-2") & Connect to Existing Meter Box	EA	1	$ 4,000.00	$ 4,000.00	$ 1,316.73	$ 1,316.73	$ 2,400.00	$ 2,400.00	$ 4,935.00	$ 4,935.00	$ 750.00	$ 750.00	$ 2,345.60	$ 2,345.60	$ 1,201.00	$ 1,201.00
A2-30	Connect to Existing Water Main / Fire Line (4"-30") / Master Main	EA	21	$ 2,500.00	$ 52,500.00	$ 1,300.26	$ 27,305.46	$ 2,500.00	$ 52,500.00	$ 5,250.00	$ 110,250.00	$ 1,500.00	$ 31,500.00	$ 1,268.20	$ 26,632.20	$ 3,256.00	$ 68,376.00
A2-31	Install Fire Hydrant Assembly	EA	5	$ 5,500.00	$ 27,500.00	$ 4,600.49	$ 23,002.45	$ 4,200.00	$ 21,000.00	$ 5,900.00	$ 29,500.00	$ 4,500.00	$ 22,500.00	$ 4,257.30	$ 21,286.50	$ 6,209.00	$ 31,045.00
A2-32	Remove Existing Fire Hydrant Assembly	EA	5	$ 800.00	$ 4,000.00	$ 719.53	$ 3,597.65	$ 1,200.00	$ 6,000.00	$ 800.00	$ 4,000.00	$ 500.00	$ 2,500.00	$ 664.10	$ 3,320.50	$ 700.00	$ 3,500.00
A2-33	Sample Point	EA	20	$ 800.00	$ 16,000.00	$ 625.27	$ 12,505.40	$ 750.00	$ 15,000.00	$ 1,075.00	$ 21,500.00	$ 500.00	$ 10,000.00	$ 653.30	$ 13,066.00	$ 1,824.00	$ 36,480.00
A2-34	Fill & Flush Assembly	EA	20	$ 1,000.00	$ 20,000.00	$ 2,438.54	$ 48,770.80	$ 2,500.00	$ 50,000.00	$ 1,650.00	$ 33,000.00	$ 75.00	$ 1,500.00	$ 2,016.10	$ 40,322.00	$ 3,856.00	$ 77,120.00
A2-35	Terminal Blow Off Assembly	EA	4	$ 2,100.00	$ 8,400.00	$ 1,583.57	$ 6,334.28	$ 2,000.00	$ 8,000.00	$ 2,662.50	$ 10,650.00	$ 2,100.00	$ 8,400.00	$ 2,056.50	$ 8,226.00	$ 6,179.00	$ 24,716.00
A2-36	1" ARV w/ 4' Diameter MH at High Point	EA	1	$ 8,500.00	$ 8,500.00	$ 4,592.60	$ 4,592.60	$ 7,500.00	$ 7,500.00	$ 10,175.00	$ 10,175.00	$ 8,500.00	$ 8,500.00	$ 2,103.10	$ 2,103.10	$ 5,353.00	$ 5,353.00
A2-37	Abandon & Grout Existing 6" WM incl Plugs	LF	4,100	$ 4.40	$ 18,040.00	$ 8.41	$ 34,481.00	$ 9.00	$ 36,900.00	$ 11.00	$ 45,100.00	$ 4.50	$ 18,450.00	$ 11.60	$ 47,560.00	$ 3.00	$ 12,300.00
A2-38	Remove & Dispose of Existing 6" AC WM	LF	450	$ 22.00	$ 9,900.00	$ 38.48	$ 17,316.00	$ 40.00	$ 18,000.00	$ 30.00	$ 13,500.00	$ 20.00	$ 9,000.00	$ 51.30	$ 23,085.00	$ 39.00	$ 17,550.00
A2-39	Install Restraints on Existing WM Up to 4 pipe joints on Lake Shore Drive @ STA 66+34 (Dwg. C-23)	LS	1	$ 3,500.00	$ 3,500.00	$ 1,834.57	$ 1,834.57	$ 8,000.00	$ 8,000.00	$ 4,445.00	$ 4,445.00	$ 2,000.00	$ 2,000.00	$ 4,412.20	$ 4,412.20	$ 12,101.00	$ 12,101.00
A2-40	Coordination with Gas Company for Utility Underground Relocations	LS	1	$ 1,000.00	$ 1,000.00	$ 1,077.94	$ 1,077.94	$ 4,500.00	$ 4,500.00	$ 17,500.00	$ 17,500.00	$ 1.00	$ 1.00	$ 3,231.50	$ 3,231.50	$ 12,101.00	$ 12,101.00
			Subtotal Potable Water Main:		$ 627,690.00		$ 636,155.77		$ 695,000.00		$ 913,757.50		$ 674,601.00		$ 781,925.80		$ 938,953.00
TOTAL ALTERNATE 2					$ 748,095.00		$ 746,061.49		$ 969,350.00		$ 1,086,872.50		$ 802,101.00		$ 905,019.50		$ 1,118,122.59
			TOTAL BASE BID + ALTERNATE 1 + ALTERNATE 2		$ 5,471,954.00		$ 5,463,977.34		$ 6,023,313.50		$ 6,622,103.25		$ 6,711,695.50		$ 7,576,912.82		$ 8,417,126.50

Certification
I, Vivian Mendez, Clerk of the Town of Lake Park Florida, do hereby certify that the foregoing is a true and correct copy of the original instrument as contained in the official records of the Town.
Witness my hand and the Official Seal of the Town of Lake Park This 17 day of December, 2020
Town Seal
Vivian Mendez
Town Clerk

RESOLUTION NO. 80-11-20

A RESOLUTION OF THE TOWN COMMISSION OF THE TOWN OF LAKE PARK, FLORIDA AUTHORIZING AND DIRECTING THE MAYOR TO EXECUTE A CONTRACT WITH FOSTER MARINE CONTRACTORS, INC. AND TO EXECUTE AN INTER-LOCAL AGREEMENT BETWEEN THE TOWN OF LAKE PARK, FLORIDA AND SEACOAST UTILITY AUTHORITY (AUTHORITY) FOR JOINT PARTICIPATION AND PROJECT FUNDING FOR LAKE SHORE DRIVE DRAINAGE IMPROVEMENTS PROJECT BID NUMBER 106-2020; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the Town of Lake Park, Florida (hereinafter "Town") is a municipal corporation of the state of Florida with such power and authority as has been conferred upon it by the Florida Constitution and Chapter 166, Florida Statutes; and

WHEREAS, Part I of Chapter 163, Florida Statutes, permits public agencies as defined therein to enter into Inter-local Agreements with each other to jointly exercise any power, privilege, or authority which such agencies share in common and which each might exercise separately; and

WHEREAS, the Town is empowered to enter into contractual arrangements with public agencies, private corporations or other persons; and

WHEREAS, the Town Commission has determined that it requires the services of a qualified and experienced Contractor for a project including new drainage infrastructure, a pump station, a dry detention/bio-swale areas for water quality, and in-line check valves to prevent backflow from the Intracoastal Waterway along a portion of Lake Shore Drive (the Project); and

WHEREAS, the Project would involve the reconstruction of Lake Shore Drive with curb and gutter, and sidewalks and improve drainage; and

WHEREAS, the Town and the AUTHORITY desire to jointly participate in the construction of utility adjustments to the AUTHORITY'S water main, force main and other Improvements within the Project area, hereinafter referred to as the "Work"; and

WHEREAS, both the Town and AUTHORITY declare that it is in the public interest to construct the Work as part of the aforementioned Project; and

WHEREAS, the Town has budgeted funds in its current fiscal year budget which are available for the funding of this Contract.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COMMISSION OF THE TOWN OF LAKE PARK, FLORIDA AS FOLLOWS:

Section 1. The whereas clauses are true and correct and are incorporated herein.

Section 2. The Town Commission hereby authorizes and directs the Mayor to execute a contract with Foster Marine Contractors, Inc., and to execute the inter-local agreement with SEACOAST UTILITY AUTHORITY a copy of which is attached hereto and incorporated herein.

Section 3. This Resolution shall become effective immediately upon execution.

Certification

I, Vivian Mendez Clerk of the Town of Lake Park Florida, do Hereby certify that the foregoing is a true and correct copy of the original instrument as contained in the official records of the Town. Witness my hand and the Official Seal of the Town of Lake Park This 17 day of December, 2020

Town Seal

Vivian Mendez
Town Clerk

TOWN OF LAKE PARK SEAL FLORIDA

The foregoing Resolution was offered by Vice-Mayor Glas-Castro, who moved its adoption. The motion was seconded by Commissioner Linden and upon being put to a roll call vote, the vote was as follows:

	AYE	NAY
MAYOR MICHAEL O'ROURKE	✓	
VICE-MAYOR KIMBERLY GLAS-CASTRO	✓	
COMMISSIONER ERIN FLAHERTY	Absent	
COMMISSIONER JOHN LINDEN	✓	
COMMISSIONER ROGER MICHAUD	✓	

The Town Commission thereupon declared the foregoing Resolution No. 80-11-20 duly passed and adopted this 16 day of December, 2020.

Certification

I, Vivian Mendez Clerk of the Town of Lake Park Florida, do hereby certify that the foregoing is a true and correct copy of the original instrument as contained in the official records of the Town. Witness my hand and the Official Seal of the Town of Lake Park This 17 day of December, 2020

Town Seal

Vivian Mendez
Town Clerk

TOWN OF LAKE PARK SEAL FLORIDA

TOWN OF LAKE PARK, FLORIDA

BY: _____
MICHAEL O'ROURKE
MAYOR

ATTEST:

Vivian Mendez
VIVIAN MENDEZ
TOWN CLERK

Approved as to form and legal sufficiency:

BY: _____
THOMAS J. BAIRD
TOWN ATTORNEY

TOWN OF LAKE PARK SEAL FLORIDA

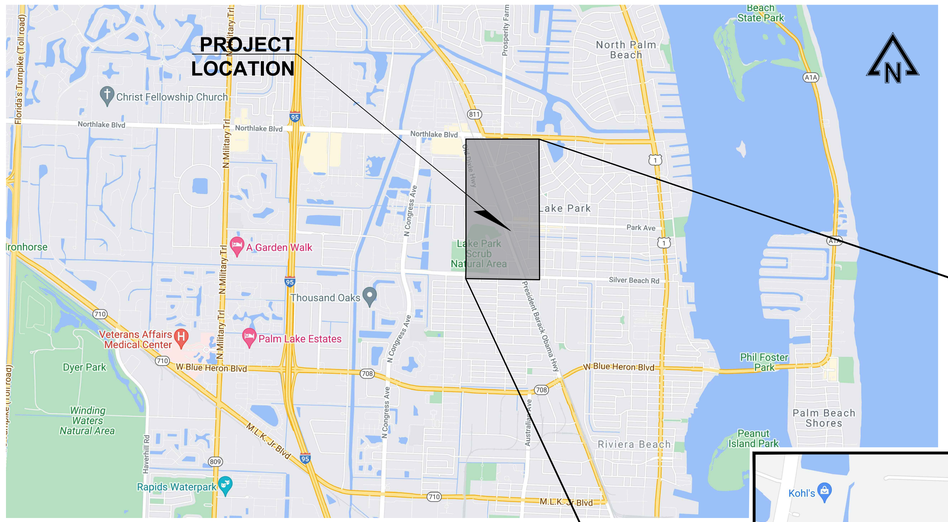
(TOWN SEAL)

OLD DIXIE SEPTIC TO SEWER
TOWN OF LAKE PARK, FL
GRAVITY AND LOW PRESSURE FORCE MAIN PLANS

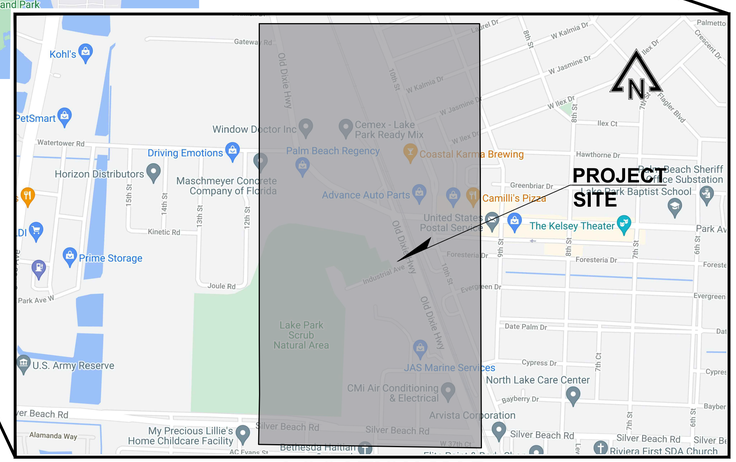
PREPARED FOR

TOWN OF LAKE PARK

01/15/2024



VICINITY MAP
NTS



LOCATION MAP
NTS

SHEET INDEX:

0	COVER SHEET
1	KEY SHEET
2-11	SECTION I - TRI CITY INDUSTRIAL PARK UTILITY PLANS
12-15	SECTION II - LAKE PARK PUBLIC WORKS UTILITY PLANS
16-17	SECTION III - WATERTOWER ROAD UTILITY PLANS
18-23	UTILITY DETAILS
24	PALM BEACH COUNTY R/W DETAILS

TOTAL NO. OF SHEETS - 25

NOT FOR CONSTRUCTION

ADAM SWANEY, P.E., PROFESSIONAL ENGINEER LICENSE NO. 72235. THIS DOCUMENT HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY ADAM SWANEY, P.E. USING A SHA-1 AUTHENTICATION CODE. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SHA-1 AUTHENTICATION CODE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

Know what's below. Call before you dig.

CONSTRUCTION, NOT FOR

Item 2.

REVISIONS

NO.	DATE	REMARKS

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ADAM SWANEY, P.E.
NO. 72235

OLD DIXIE SEPTIC TO SEWER
TOWN OF LAKE PARK, FL
GRAVITY AND LOW PRESSURE FORCE MAIN PLANS
COVER

A Higher Standard of Excellence
engenuity group inc.
ENGINEERS • SURVEYORS • GIS MAPPERS
1280 N CONGRESS AVE, SUITE 101
WEST PALM BEACH, FLORIDA 33409
PH: (561) 855-1455 FAX: (561) 855-1950
WWW.ENGENUITYGROUP.COM CERTIFICATE OF AUTHORIZATION #7095

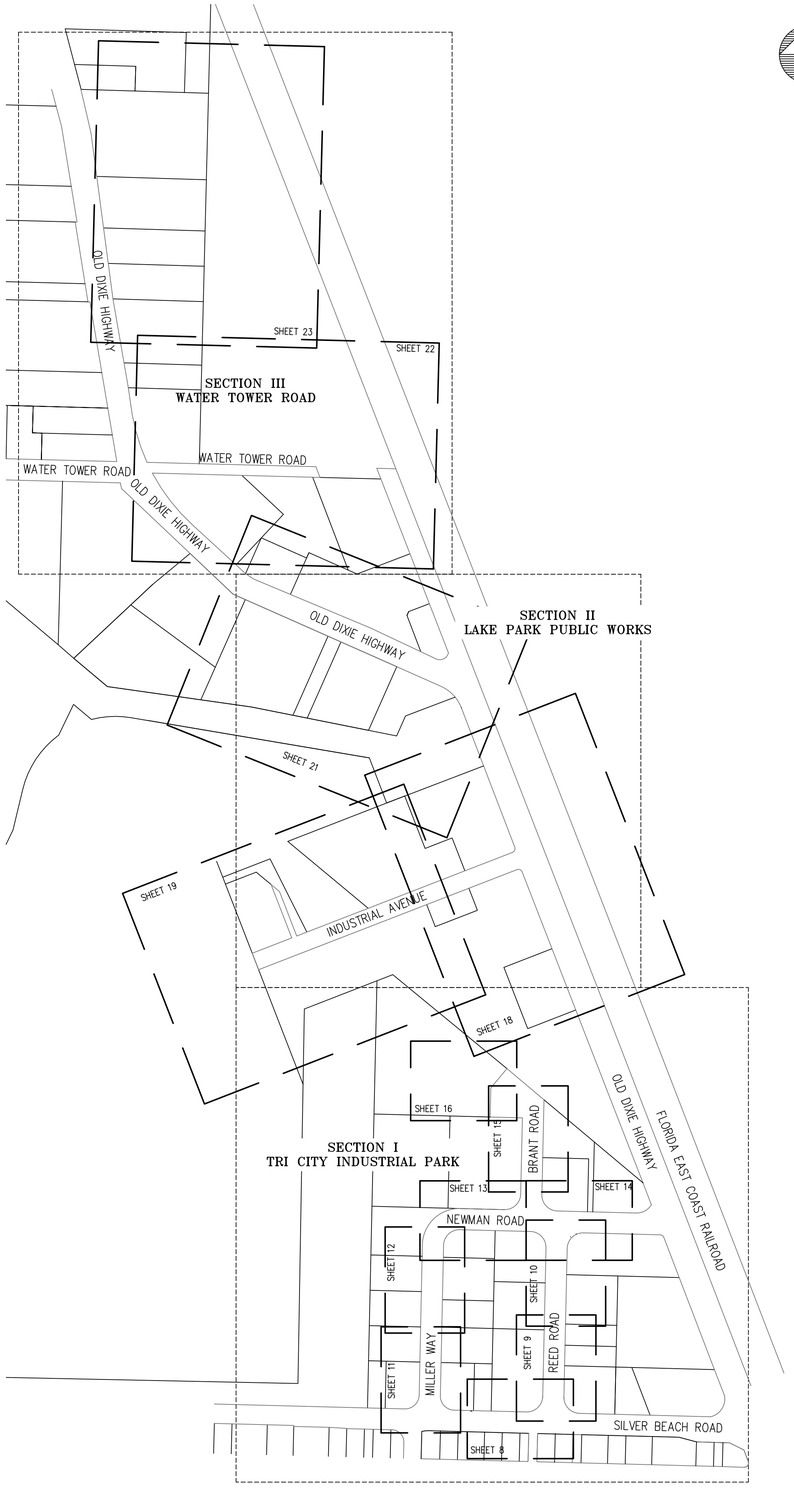
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PROJECT ENGINEER	MK	
PROJECT MANAGER	MK	
CHECKED	ACS	ACS

SHEET NO. COV 24

JOB NO. 18187.01

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PLOT: 1/29/2025 3:20:48 PM



KEY MAP (N.T.S)

SHEET INDEX:

0	COVER SHEET
1	KEY SHEET
2-11	SECTION I - TRI CITY INDUSTRIAL PARK UTILITY PLANS
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TOTAL NO. OF SHEETS - 25

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Know what's below. Call before you dig.

CONSTRUCTION, NOT FOR

Item 2.

REVISIONS

NO.	DATE	REMARKS

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ADAM SWANEY, P.E.
NO. 72235

OLD DIXIE SEPTIC TO SEWER
TOWN OF LAKE PARK, FL
GRAVITY AND LOW PRESSURE FORCE MAIN PLANS

KEY SHEET

engenuity group inc.
A Higher Standard of Excellence
ENGINEERS + SURVEYORS + GIS MAPPERS
1280 N CONGRESS AVE, SUITE 101
WEST PALM BEACH, FLORIDA 33409
PH: (561) 855-1455 FAX: (561) 855-1490
WWW.ENGENUITYGROUP.COM CERTIFICATE OF AUTHORIZATION #7095

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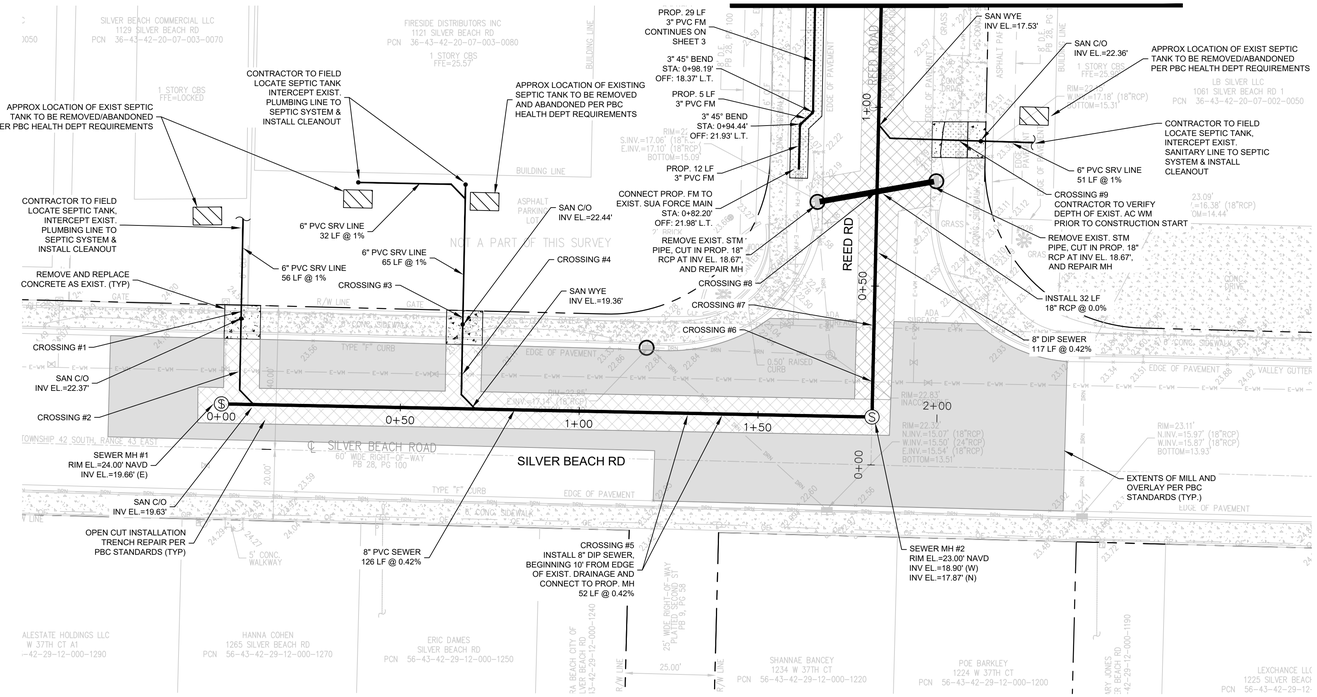
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PROJECT MANAGER	ACS	
CHECKED	ACS	

SHEET NO. 1 / 24

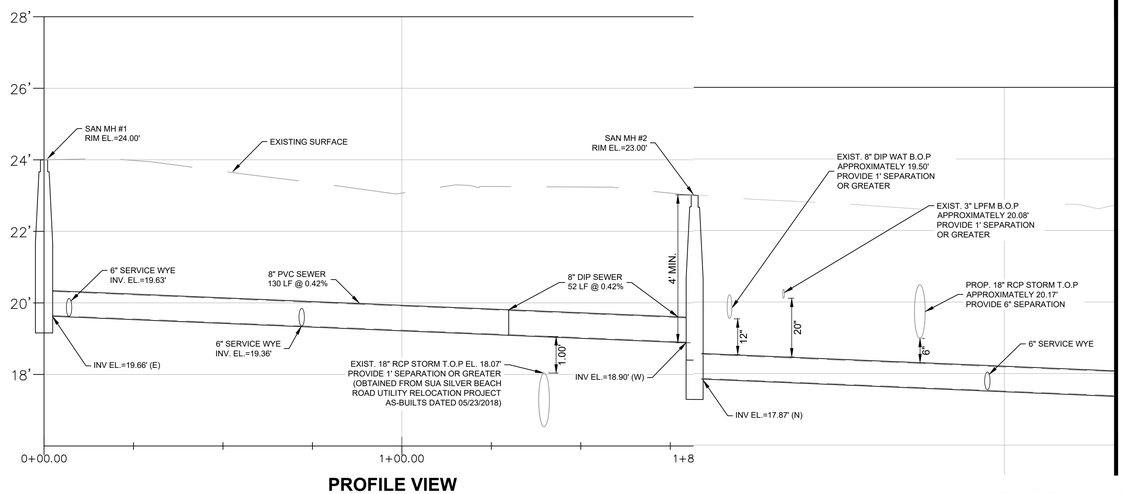
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MATCHLINE REED ROAD (SEE SHEET 3)



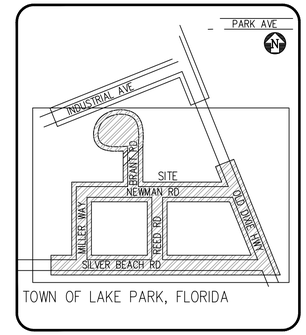
PLAN VIEW
SCALE 1" = 20'



PROFILE VIEW
VERTICAL SCALE 1" = 2'
HORIZONTAL SCALE 1" = 20'

MATCHLINE REED ROAD (SEE SHEET 3)

GRAPHIC SCALE
0 20 30 40
SCALE: 1" = 20'



LOCATION MAP
N.T.S.

LEGEND

- PROPOSED GRINDER PUMP STATION
- PROPOSED PRIVATE GRINDER PUMP STATION
- PROPOSED OIL/GRIT SEPERATOR
- EXISTING SEPTIC TANK
- FULL DEPTH ASPHALT REPAIR
- MILL/OVERLAY PER PBC STANDARDS
- CONCRETE RESTORATION
- FM — EXISTING FORCE MAIN
- WM — EXISTING WATER MAIN
- PROPERTY / ROW LINE
- SANITARY MANHOLE
- SANITARY CLEANOUT
- SILT FENCE
- INLET PROTECTION
- PROPOSED SOD RESTORATION

CROSSING TABLE

CROSSING #	BOTTOM OF PIPE	TOP OF PIPE	SEPERATION
1	PROP. 6" SAN SRV EL.=22.39'	EXST. 3" FM EL.=21.20'	1.00'
2	PROP. 6" SAN SRV EL.=22.23'	EXST. 8" DIP WM EL.=21.23'	1.00'
3	PROP. 6" SAN SRV EL.=22.46'	EXST. 3" LPFM EL.=21.04'	1.00'
4	PROP. 6" SAN SRV EL.=22.30'	EXST. 8" DIP WM EL.=21.30'	1.00'
5	PROP. 8" DIP GSM EL.=19.07'	EXST. 18" RCP STM EL.=18.07'	1.00'
6	EXST. 8" DIP WM EL.=19.50'	PROP. 8" DIP GSM EL.=18.50'	1.00'
7	EXST. 3" LPFM EL.=20.08'	PROP. 8" DIP GSM EL.=18.44'	1.64'
8	PROP. 8" DIP GSM EL.=17.50'	EXST. 18" RCP STM EL.=±18.64'	0.50'
9	EXST. 6" AC WM EL.=±20.08'	PROP. 6" SAN SRV EL.=19.81'	1.00'

GENERAL NOTES:

1. ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD.88) AND REFERENCE THE FOLLOWING PALM BEACH COUNTY BENCHMARK 'FRIDGE' HAVING AN ELEVATION OF 18.023 (NAVD88) AS PUBLISHED BY PALM BEACH COUNTY ENGINEERING.
   CONVERSION FACTOR
   FRIDGE: 18.023(NAVD88) + 1.524 = 19.547(NGVD29)
2. ALL AREAS DISTURBED BY CONSTRUCTION WHICH INCLUDES ALL DRIVEWAYS, PAVERS, ASPHALT, CONCRETE AND VEGETATION SHALL BE RESTORED TO THEIR ORIGINAL OR BETTER CONDITION.
3. TOPOGRAPHIC SURVEY PERFORMED BY ENGENUITY GROUP, INC DATED AUGUST 4, 2023.
4. ALL CONSTRUCTION DEBRIS & DEMOLISHED MATERIAL TO BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF.
5. CONTRACTOR TO FIELD VERIFY LOCATION OF SEPTIC TANK PRIOR TO CONSTRUCTION. SEPTIC TANK ABANDONMENT AND CONNECTION TO PROPOSED SYSTEM SHALL OCCUR AFTER PBC HEALTH DEPARTMENT CLEARANCE OF THE NEW SEWER SYSTEM.
6. CONSTRACTOR TO CONFIRM THAT CONSTRUCTION AUTHORIZATION DOCUMENTS HAVE BEEN SECURED FOR EACH PRIVATE PROPERTY PRIOR TO ANY CONSTRUCTION OUTSIDE OF PUBLIC RIGHT-OF-WAYS.
7. CONTRACTOR TO CONFIRM PLUMBING LINE ELEVATION TIE IN POINTS WILL WORK FOR THE PROPOSED GRAVITY SERVICE/MAIN LINE ELEVATIONS PROPOSED PRIOR TO COMMENCING ANY CONSTRUCTION.

PALM BEACH COUNTY RIGHT OF WAY NOTES:

1. MAINTAIN HORIZONTAL SEPARATION OF 4' AND VERTICAL SEPARATION OF 1' BETWEEN ALL PROPOSED UTILITIES AND PALM BEACH COUNTY UTILITY STRUCTURES, CONDUITS, AND PIPES.
2. ANY AND ALL PB COUNTY STORM DRAIN / SIDEWALK / PATHWAY / C&G / ADA AND OR ADDITIONAL ROADWAY THAT IS AFFECTED BY THE PROPOSED CONSTRUCTION MUST BE RESTORED TO LIKE OR BETTER THEN LIKE CONDITION TO INCLUDE ALL APPLICABLE FDOT / PB COUNTY DETAILS AND SPECIFICATIONS (APPLICABLE THOROUGHFARE / NON-THOROUGHFARE).
3. SIDEWALK AFFECTED TO INCLUDE ONE FLAG ON EITHER SIDE OF THE DISTRUBED AREA. SIDEWALKS WILL BE RESTORED BY REPLACING; TWO FLAGS IF THE POINT OF CONSTRUCTION IS LOCATED AT A CONTROL JOINT AND THREE FLAGS IF THE POINT OF CONSTRUCTION IS LOCATED BETWEEN CONTROL JOINTS. NO PARTIAL JOINTS ACCEPTED. (PER SITUATION)
4. ROADWAY LANES AFFECTED WILL REQUIRE THE AFFECTED LANES AND/OR ADDITIONAL LANES BE RESTORED TO LIKE OR BETTER THEN LIKE CONDITION AND TO EQUAL DIMENSIONS AS THE ADJACENT LANES (EOP TO EOP)
5. ALL AFFECTED ROADWAYS ARE TO BE RESTORED FROM EOP TO EOP, LANE WIDTH MIN. AND 50' IN EITHER DIRECTION (THROUGHFARE) AND 25' MIN. RESTORATION (NON-THOROUGHFARE).
6. MILL AND PAVE TRANSITION AREA IN PALM BEACH COUNTY R/W, (SILVER BEACH ROAD AND PRESIDENT BARACK OBAMA HWY) WILL BE REQUIRED TO INCLUDE THE INTERSECTION IN ITS ENTIRETY, (25' IN ALL DIRECTIONS).
7. FLOWABLE FILL IS NOT AN APPROVED WEAR COURSE IN PB COUNTY. PBC THOROUGHFARE ROAD RESTORATION DETAIL / LANE WIDTH NEEDS TO REFLECT A MIN. 50' OUTSIDE THE PC IN ALL DIRECTIONS.
8. IF PROPOSED CONSTRUCTION/CROSSING ANY EXISTING PB COUNTY STORM DRAIN PIPE/STRUCTURES ARE AFFECTED IN ANY WAY. PB COUNTY R&B REQUIRES FULL RESOTRATION OF THE AFFECTED SYSTEM TO LIKE OR BETTER THEN LIKE CONDITION AND TO PB COUNTY/FDOT STANDARD.
9. ANY DRAINAGE SWALES AFFECTED BY THE PROPOSED CONSTRUCTION, SHALL BE RESTORED TO LIKE OR BETTER THEN LIKE CONDITION TO INCLUDE ORIGINAL DESIGN ELEVATIONS.

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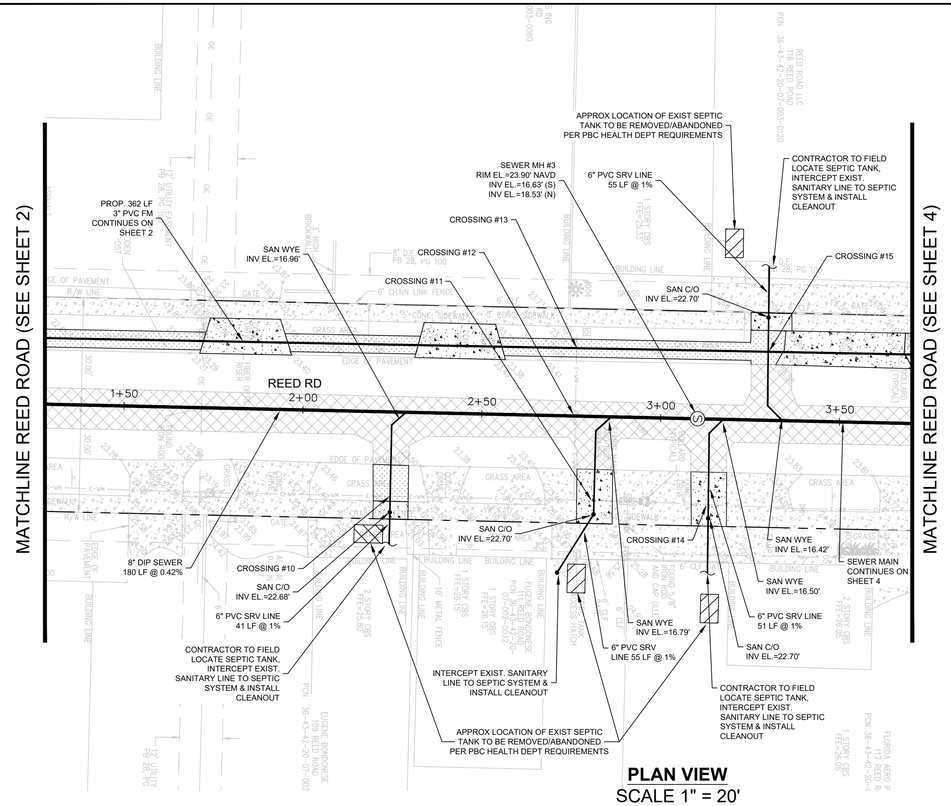
OLD DIXIE SEPTIC TO SEWER
TOWN OF LAKE PARK, FL
GRAVITY AND LOW PRESSURE FORCE MAIN PLANS
TRI CITY INDUSTRIAL PARK - SILVER BEACH ROAD

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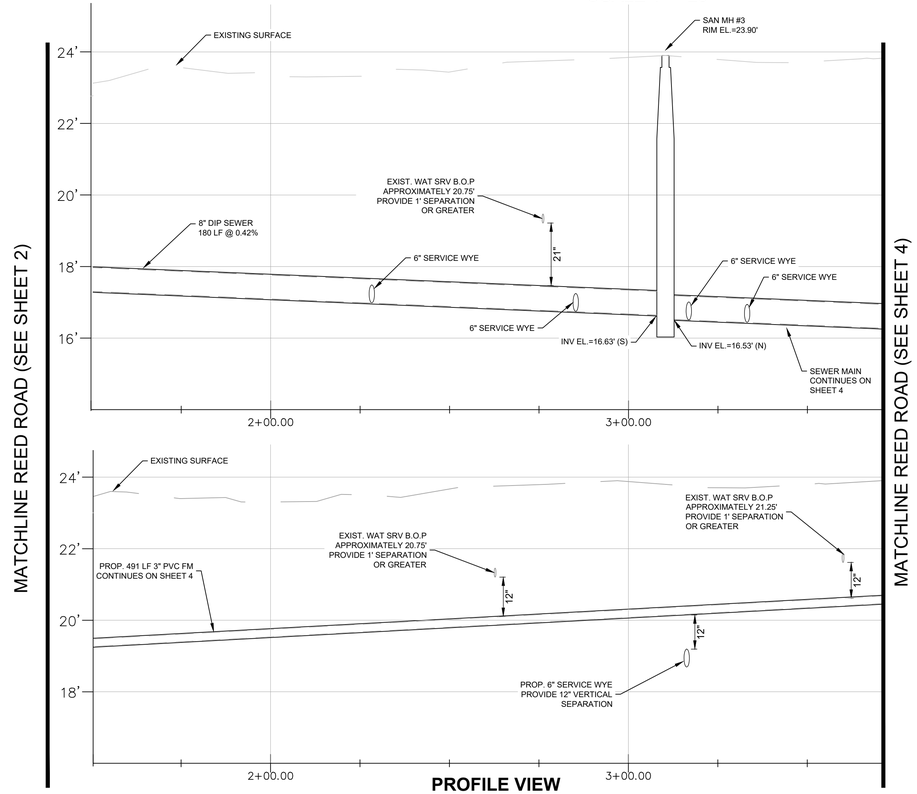
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PROJECT MANAGER	ACS	
CHECKED	ACS	

SHEET NO. 2 / 24

JOB NO. 18187.27

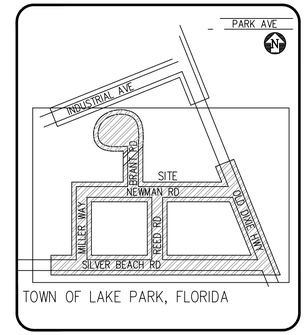


PLAN VIEW
SCALE 1" = 20'



PROFILE VIEW
VERTICAL SCALE 1" = 2'
HORIZONTAL SCALE 1" = 20'

GRAPHIC SCALE
0 20 30 40
SCALE: 1" = 20



LOCATION MAP
N.T.S.

LEGEND

- PROPOSED GRINDER PUMP STATION
- PROPOSED PRIVATE GRINDER PUMP STATION
- PROPOSED OIL/GRIT SEPERATOR
- EXISTING SEPTIC TANK
- FULL DEPTH ASPHALT REPAIR
- MILL/OVERLAY PER PBC STANDARDS
- CONCRETE RESTORATION
- FM — EXISTING FORCE MAIN
- WM — EXISTING WATER MAIN
- PROPERTY / ROW LINE
- S — SANITARY MANHOLE
- SANITARY CLEANOUT
- SILT FENCE
- INLET PROTECTION
- PROPOSED SOD RESTORATION

CROSSING TABLE

CROSSING #	BOTTOM OF PIPE	TOP OF PIPE	SEPERATION
10	EXST. 6" AC WM EL.=±20.75'	PROP. 6" SAN SRV EL.=19.08'	1.67'
11	EXST. 6" AC WM EL.=±20.50'	PROP. 6" SAN SRV EL.=19.00'	1.50'
12	EXST. (") WAT SRV EL.=±20.75'	PROP. 8" DIP GSM EL.=17.45'	3.30'
13	EXST. (") WAT SRV EL.=±20.75'	PROP. 3" LPFM EL.=19.75'	1.00'
14	EXST. 6" AC WM EL.=±20.50'	PROP. 6" SAN SRV EL.=19.00'	1.50'
15	PROP. 3" LPFM EL.=21.40'	PROP. 6" SAN SRV EL.=18.90'	2.50'

GENERAL NOTES:

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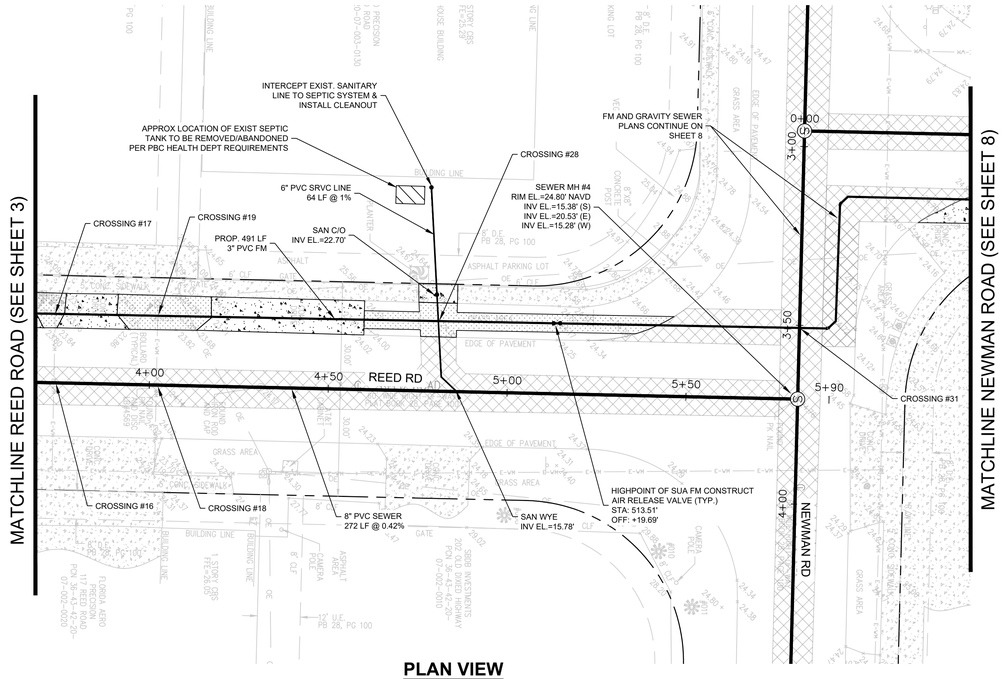
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	APRIL	MK	MK	ACS	ACS

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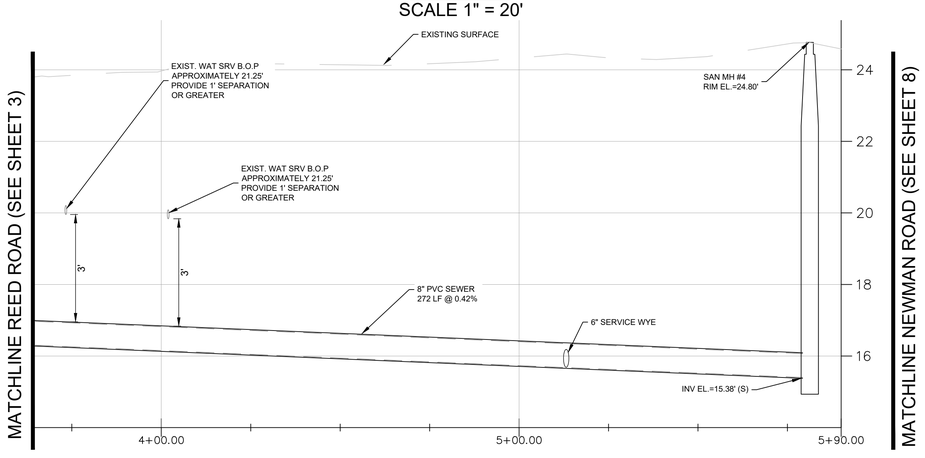
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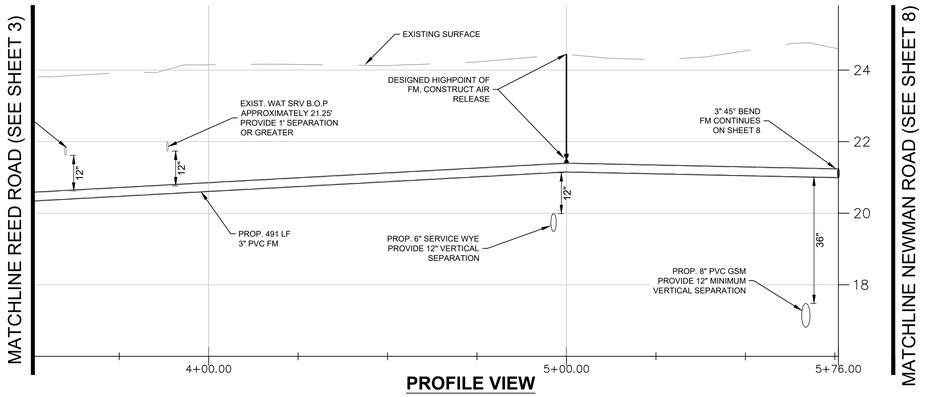
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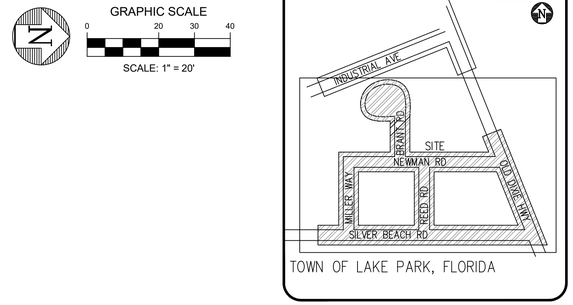


PLAN VIEW
SCALE 1" = 20'





PROFILE VIEW
VERTICAL SCALE 1" = 2'
HORIZONTAL SCALE 1" = 20'



LOCATION MAP
N.T.S.

GRAPHIC SCALE
0 20 30 40
SCALE: 1" = 20'

LEGEND

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- PROPOSED PRIVATE GRINDER PUMP STATION
- PROPOSED OIL/GRIT SEPERATOR
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- CONCRETE RESTORATION
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- S — SANITARY MANHOLE
- SANITARY CLEANOUT
- SF — SILT FENCE
- INLET PROTECTION
- PROPOSED SOD RESTORATION

CROSSING TABLE

CROSSING #	BOTTOM OF PIPE	TOP OF PIPE	SEPERATION
16	EXST. (") WAT SRV EL.=±21.25'	PROP. 8" PVC GSM EL.=16.92'	4.33'
17	EXST. (") WAT SRV EL.=±21.25'	PROP. 3" LPFM EL.=20.25'	1.00'
18	EXST. (") WAT SRV EL.=±21.25'	PROP. 8" PVC GSM EL.=16.80'	4.45'
19	EXST. (") WAT SRV EL.=±21.25'	PROP. 3" LPFM EL.=20.25'	1.00'
28	PROP. 3" LPFM EL.=21.93'	EXST. (") WAT SRV EL.=20.79'	1.14'
31	PROP. 3" LPFM EL.=20.48'	PROP. 8" PVC GSM EL.=15.87'	4.61'

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TRI CITY INDUSTRIAL PARK - REED ROAD

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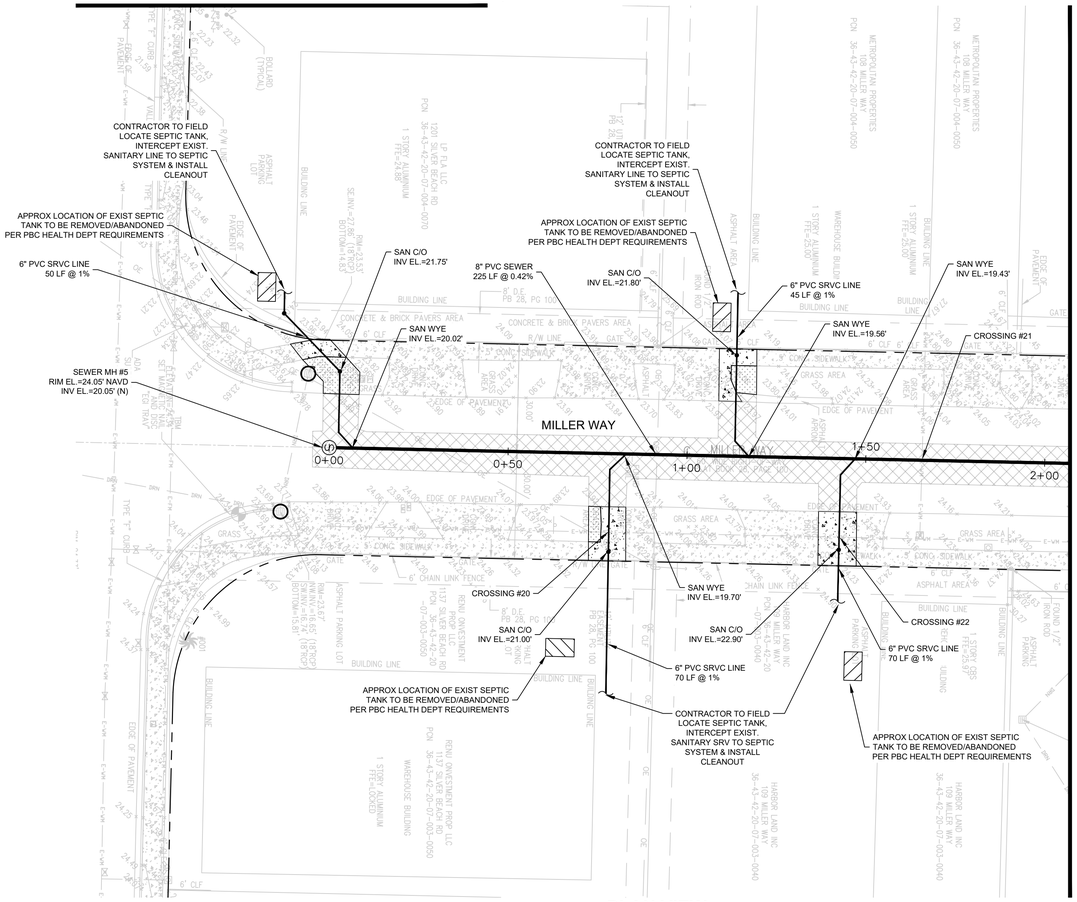
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PROJECT MANAGER	ACS		
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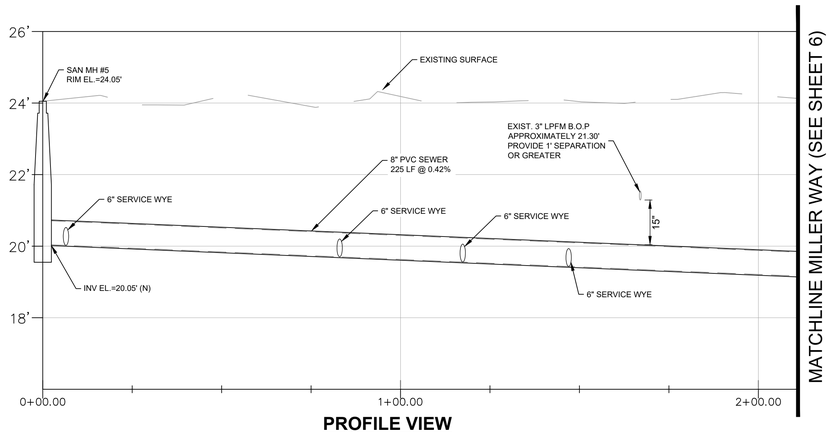
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MATCHLINE SILVER BEACH ROAD (SEE SHEET 11)

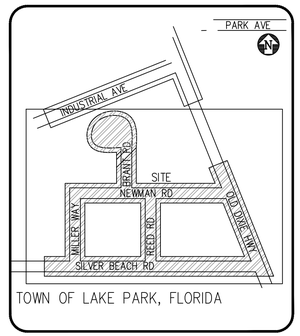


PLAN VIEW
SCALE 1" = 20'



PROFILE VIEW
VERTICAL SCALE 1" = 2'
HORIZONTAL SCALE 1" = 20'

GRAPHIC SCALE
0 20 30 40
SCALE: 1" = 20'



LOCATION MAP
N.T.S.

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CROSSING TABLE			
CROSSING #	BOTTOM OF PIPE	TOP OF PIPE	SEPERATION
20	EXST. 4" AC WM EL.=±22.50'	PROP. 6" SAN SRV EL.=21.50'	1.00'
21	EXST. 6" FIRE EL.=±22.33'	PROP. 8" PVC GSM EL.=20.02'	2.31'
22	EXST. 4" AC WM EL.=±21.67'	PROP. 6" SAN SRV EL.=20.67'	1.00'

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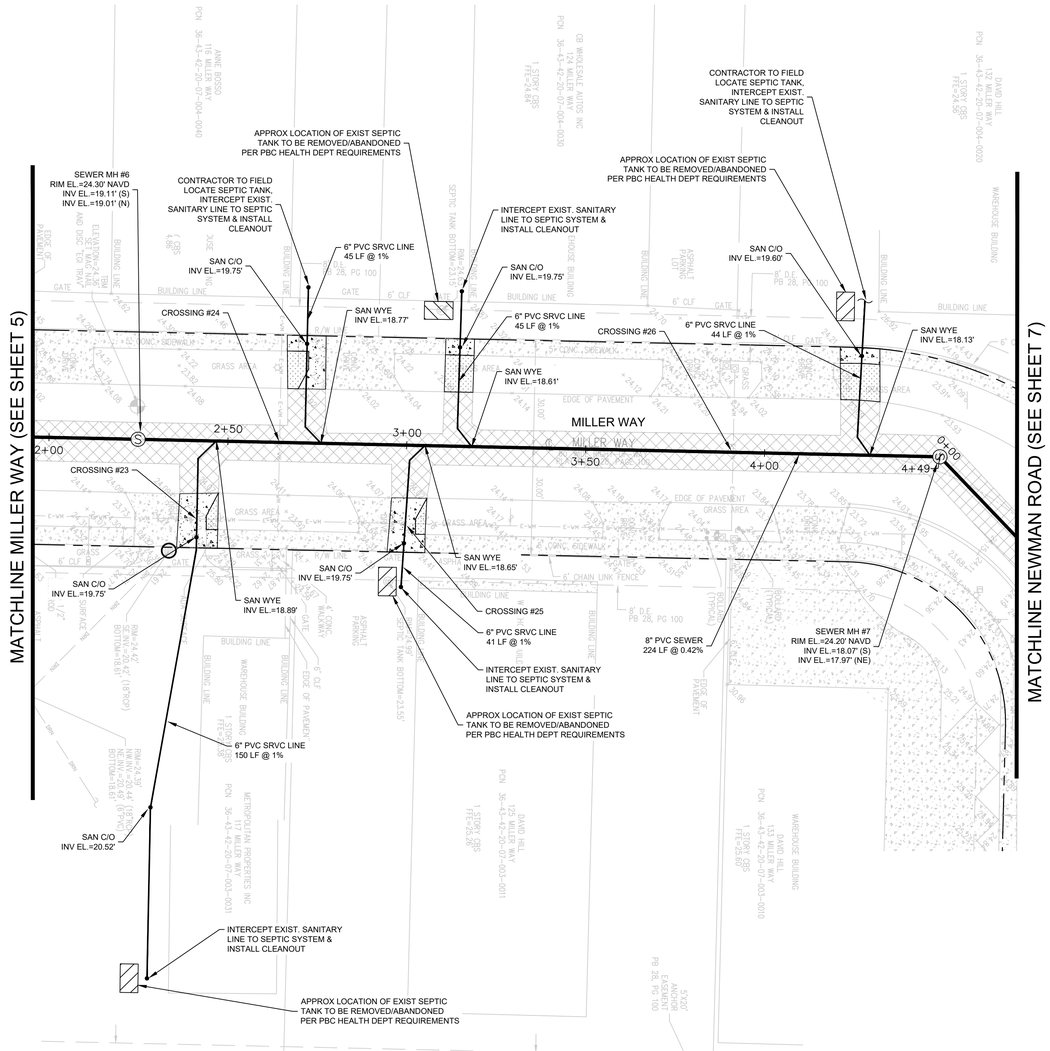
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DRAWN	MK
PROJECT ENGINEER	MK
PROJECT MANAGER	ACS
CHECKED	ACS

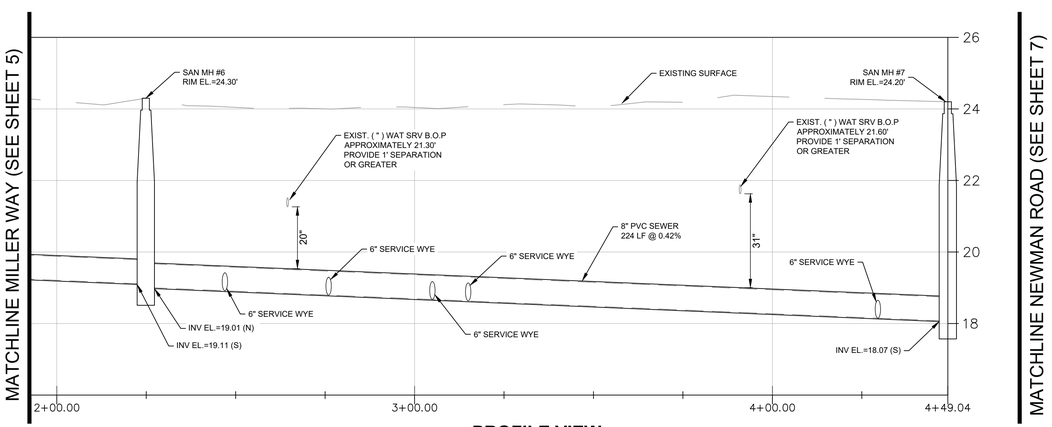
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JOB NO. 18187.27

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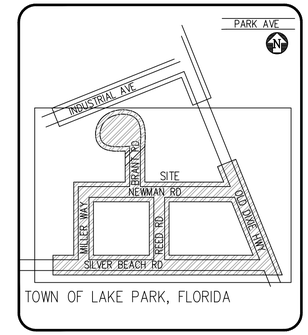


PLAN VIEW
SCALE 1" = 20'



PROFILE VIEW
VERTICAL SCALE 1" = 2'
HORIZONTAL SCALE 1" = 20'

GRAPHIC SCALE
0 20 30 40
SCALE: 1" = 20'



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CROSSING TABLE

CROSSING #	BOTTOM OF PIPE	TOP OF PIPE	SEPERATION
23	EXST. 4" AC WM EL.=±20.70'	PROP. 6" SAN SRV EL.=19.70'	1.00'
24	EXST. (") WAT SRV EL.=±21.30'	PROP. 8" PVC GSM EL.=19.53'	1.77'
25	EXST. 4" AC WM EL.=±22.00'	PROP. 6" SAN SRV EL.=21.00'	1.00'
26	EXST. (") WAT SRV EL.=±21.60'	PROP. 8" PVC GSM EL.=18.98'	2.62'

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Item 2.

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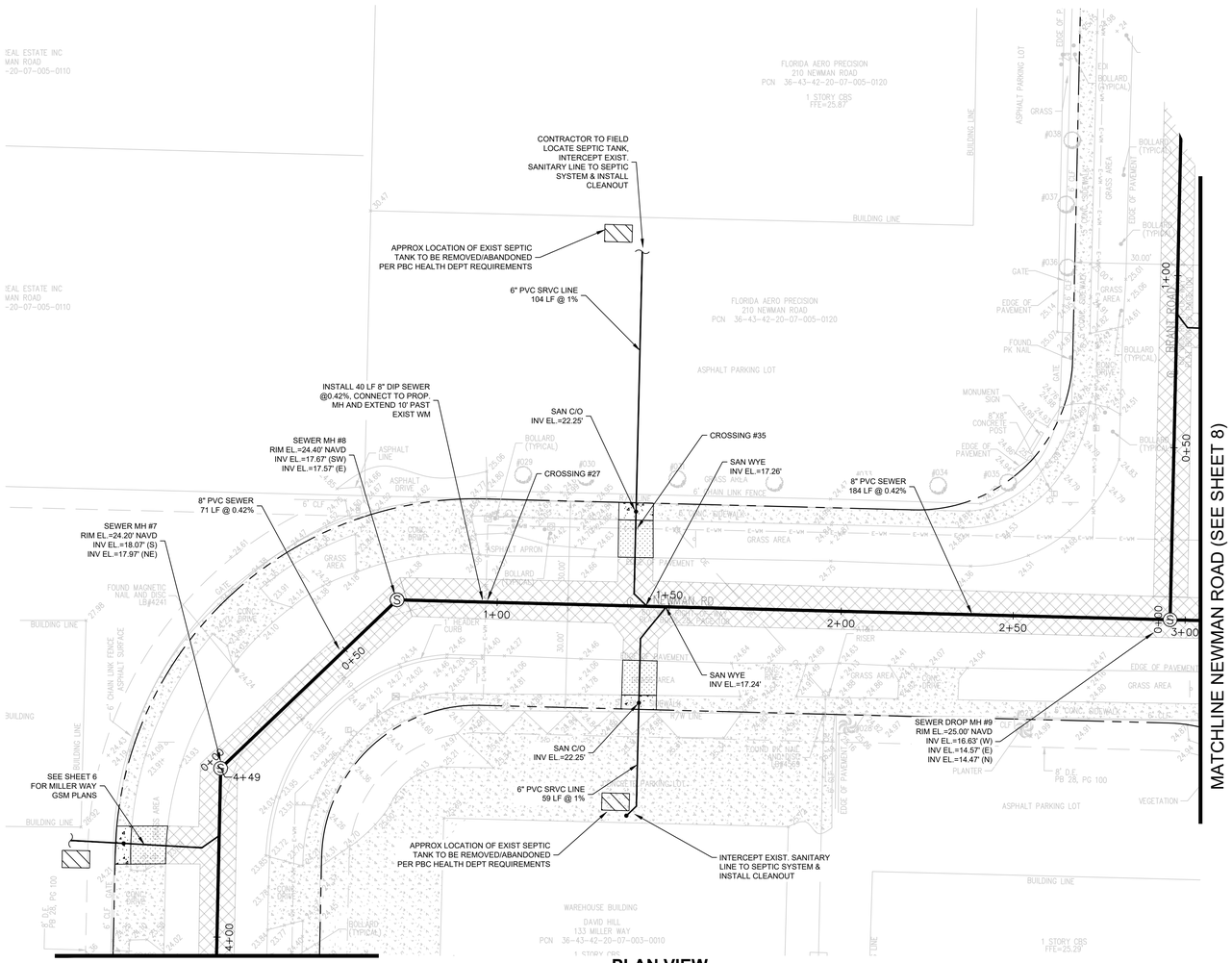
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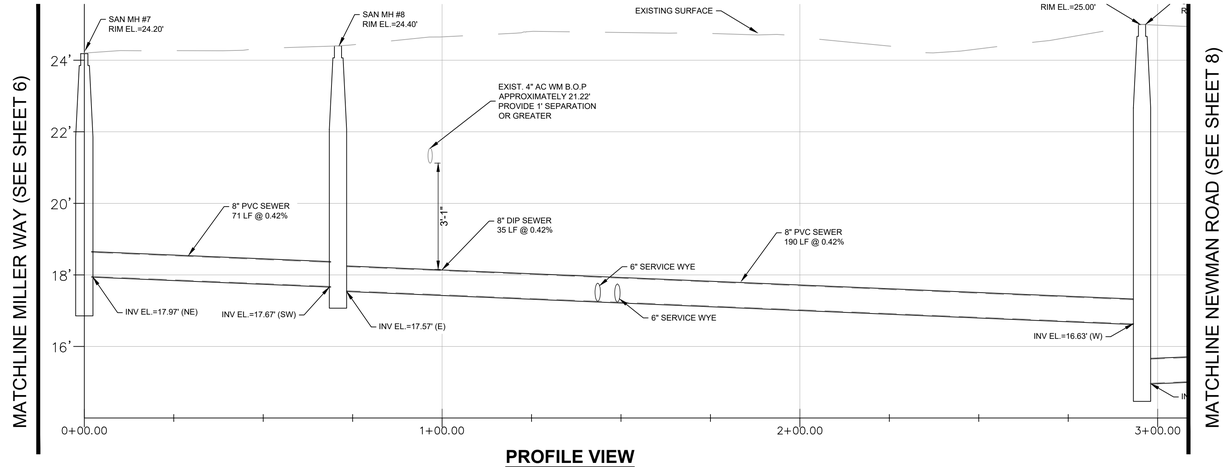
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PROJECT MANAGER	MARCH
CHECKED	ACS

SHEET NO. 6 / 24

JOB NO. 18187.27

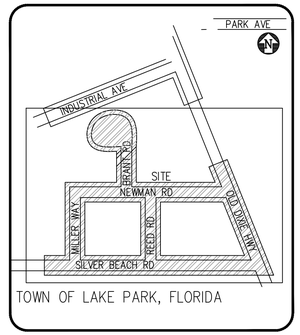


PLAN VIEW
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PROFILE VIEW
VERTICAL SCALE 1" = 2'
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GRAPHIC SCALE
0 20 30 40
SCALE: 1" = 20'



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N.T.S.

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- SANITARY CLEANOUT
- SILT FENCE
- INLET PROTECTION
- PROPOSED SOD RESTORATION

CROSSING TABLE

CROSSING #	BOTTOM OF PIPE	TOP OF PIPE	SEPERATION
27	EXST. 4" AC WM EL.=±21.22'	PROP. 8" PVC GSM EL.=18.13'	3.09'
35	EXST. 4" AC WM EL.=±21.30'	PROP. 6" SAN SRV EL.=20.05'	1.25'

GENERAL NOTES:

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ADAM SWANEY, P.E.
NO. 72235

OLD DIXIE SEPTIC TO SEWER
TOWN OF LAKE PARK, FL
GRAVITY AND LOW PRESSURE FORCE MAIN PLANS
TRI CITY INDUSTRIAL PARK - NEWMAN ROAD

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WEST PALM BEACH, FLORIDA 33409
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	PROJECT ENGINEER	MK
	PROJECT MANAGER	ACS
	CHECKED	ACS

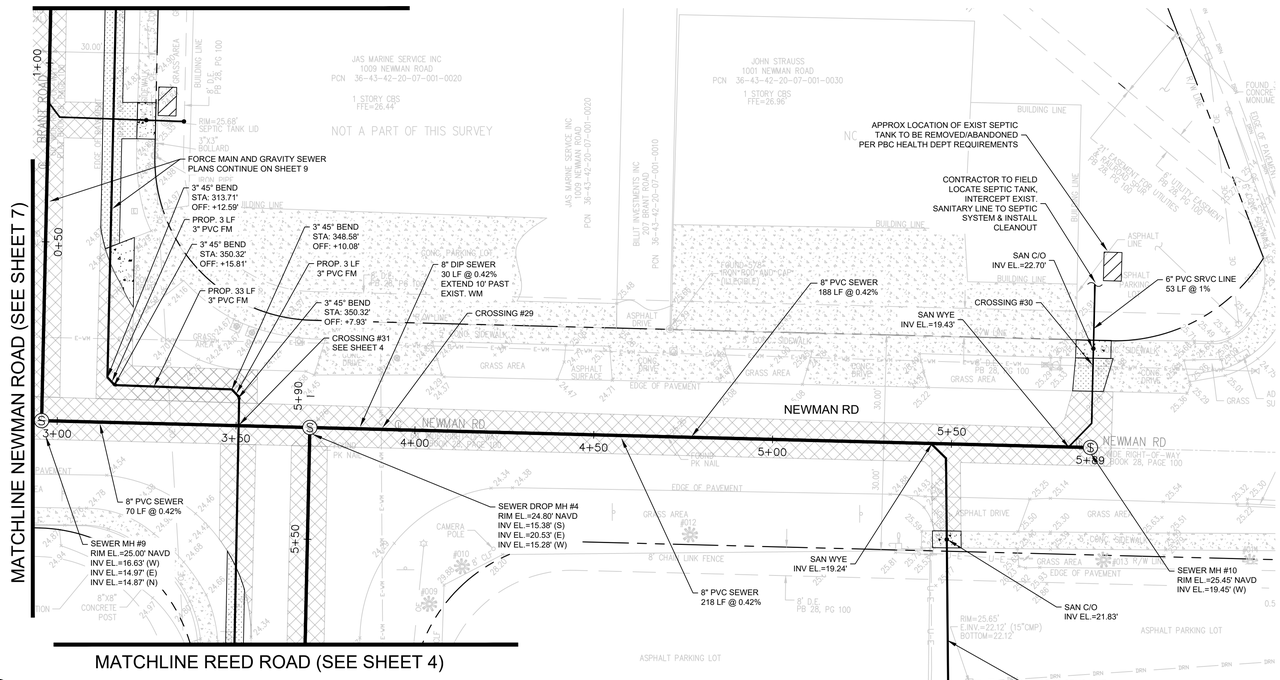
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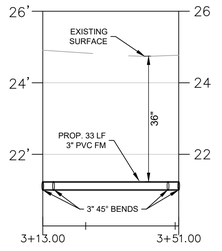
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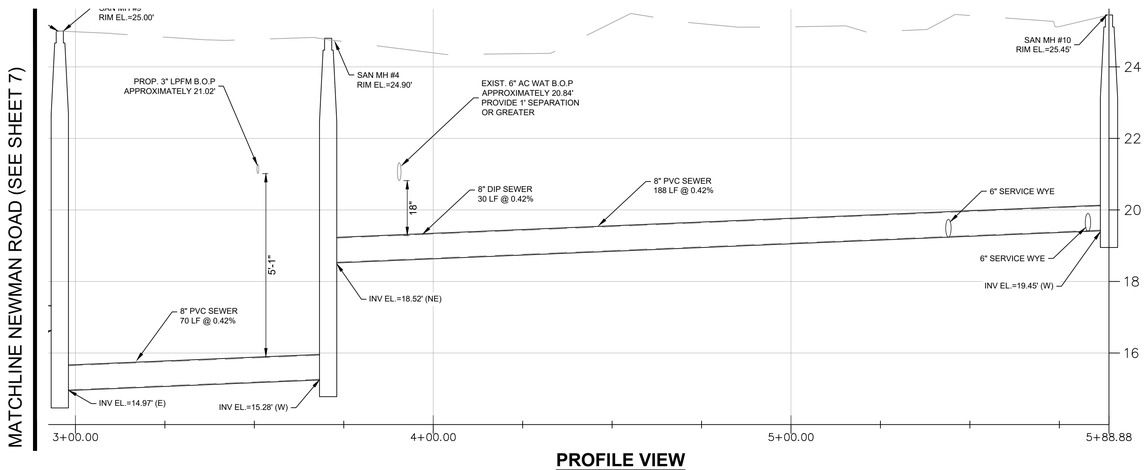
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MATCHLINE BRANT ROAD (SEE SHEET 9)



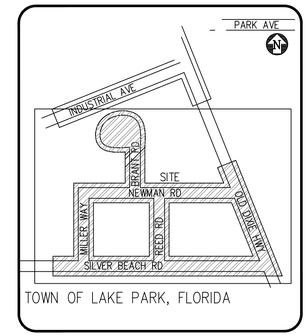


PLAN VIEW
SCALE 1" = 20'



PROFILE VIEW
VERTICAL SCALE 1" = 2'
HORIZONTAL SCALE 1" = 20'

GRAPHIC SCALE
0 20 30 40
SCALE: 1" = 20'



LOCATION MAP
N.T.S.

LEGEND

- PROPOSED GRINDER PUMP STATION
- PROPOSED PRIVATE GRINDER PUMP STATION
- PROPOSED OIL/GRIT SEPERATOR
- EXISTING SEPTIC TANK
- FULL DEPTH ASPHALT REPAIR
- MILL/OVERLAY PER PBC STANDARDS
- CONCRETE RESTORATION
- FM — EXISTING FORCE MAIN
- WM — EXISTING WATER MAIN
- PROPERTY / ROW LINE
- SANITARY MANHOLE
- SANITARY CLEANOUT
- SILT FENCE
- INLET PROTECTION
- PROPOSED SOD RESTORATION

CROSSING TABLE			
CROSSING #	BOTTOM OF PIPE	TOP OF PIPE	SEPERATION
29	EXST. 6" AC WM EL.=20.84'	PROP. 8" DIP GSM EL.=19.34'	1.50'
30	EXST. 8" DIP WM EL.=22.23'	PROP. 6" SAN SRV EL.=19.43'	2.80'

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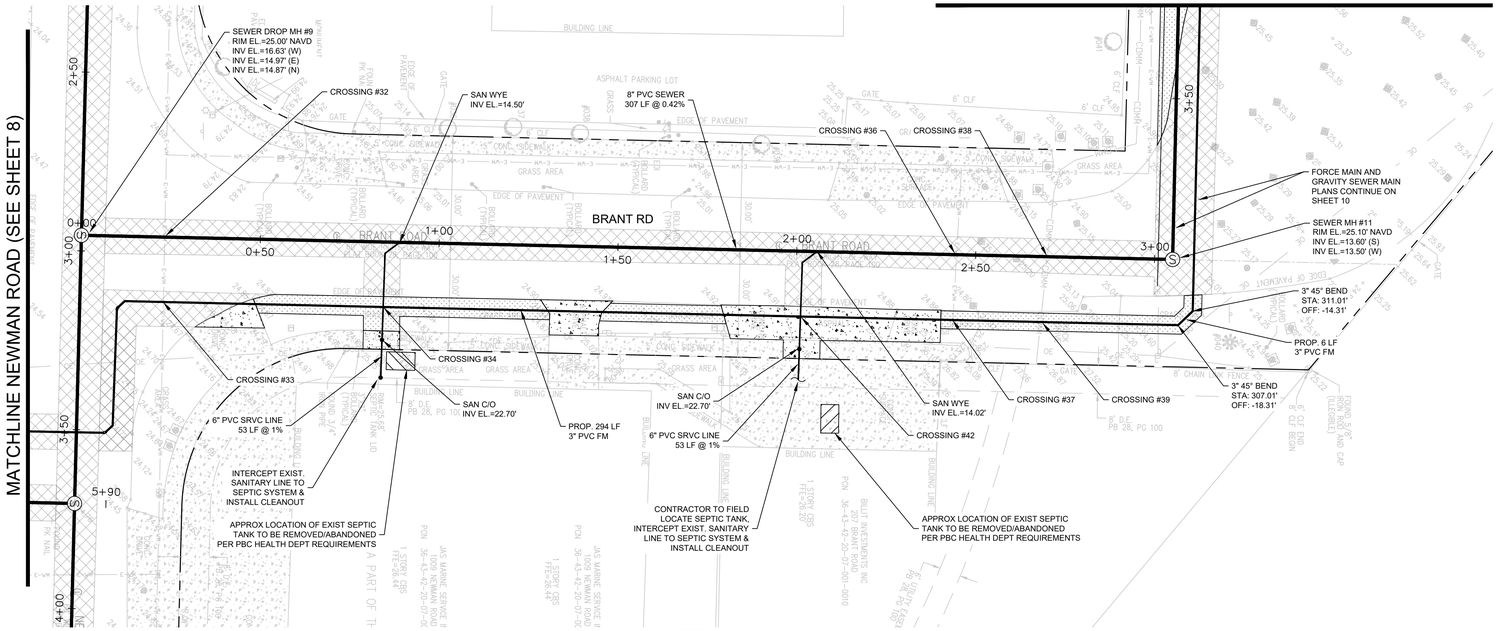
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PROJECT MANAGER	ACS	
CHECKED	ACS	

SHEET NO. 8
TOTAL SHEETS 24
JOB NO. 18187.27

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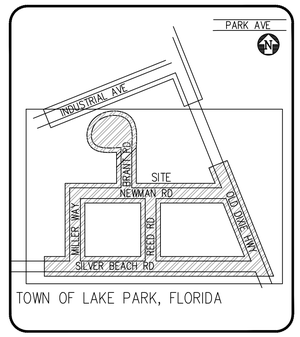
CONSTRUCTION, NOT FOR



PLAN VIEW
SCALE 1" = 20'

PROFILE VIEW
VERTICAL SCALE 1" = 2'
HORIZONTAL SCALE 1" = 20'

GRAPHIC SCALE
0 20 30 40
SCALE: 1" = 20'



LOCATION MAP
N.T.S.

LEGEND

- PROPOSED GRINDER PUMP STATION
- PROPOSED PRIVATE GRINDER PUMP STATION
- PROPOSED OIL/GRIT SEPERATOR
- EXISTING SEPTIC TANK
- FULL DEPTH ASPHALT REPAIR
- MILL/OVERLAY PER PBC STANDARDS
- CONCRETE RESTORATION
- FM — EXISTING FORCE MAIN
- WM — EXISTING WATER MAIN
- PROPERTY / ROW LINE
- SANITARY MANHOLE
- SANITARY CLEANOUT
- SILT FENCE
- INLET PROTECTION
- PROPOSED SOD RESTORATION

CROSSING TABLE

CROSSING #	BOTTOM OF PIPE	TOP OF PIPE	SEPERATION
32	EXST. 6" AC WM EL.=±22.29'	PROP. 8" PVC GSM EL.=15.44'	6.85'
33	EXST. 6" AC WM EL.=±22.29'	PROP. 3" LPFM EL.=21.23'	1.06'
34	PROP. 3" LPFM EL.=±20.17'	PROP. 6" SAN SRV EL.=21.17'	1.00'
36	EXST. (") WAT SRV EL.=±22.77'	PROP. 8" PVC GSM EL.=14.52'	8.25'
37	EXST. (") WAT SRV EL.=±22.77'	PROP. 3" LPFM EL.=21.77'	1.00'
38	EXST. COMM LINE EL.=±22.92'	PROP. 8" PVC GSM EL.=14.41'	8.51'
39	EXST. COMM LINE EL.=±22.92'	PROP. 3" LPFM EL.=21.82'	1.10'
42	PROP. 3" LPFM EL.=21.42'	PROP. 6" SAN SRV EL.=20.42'	1.00'

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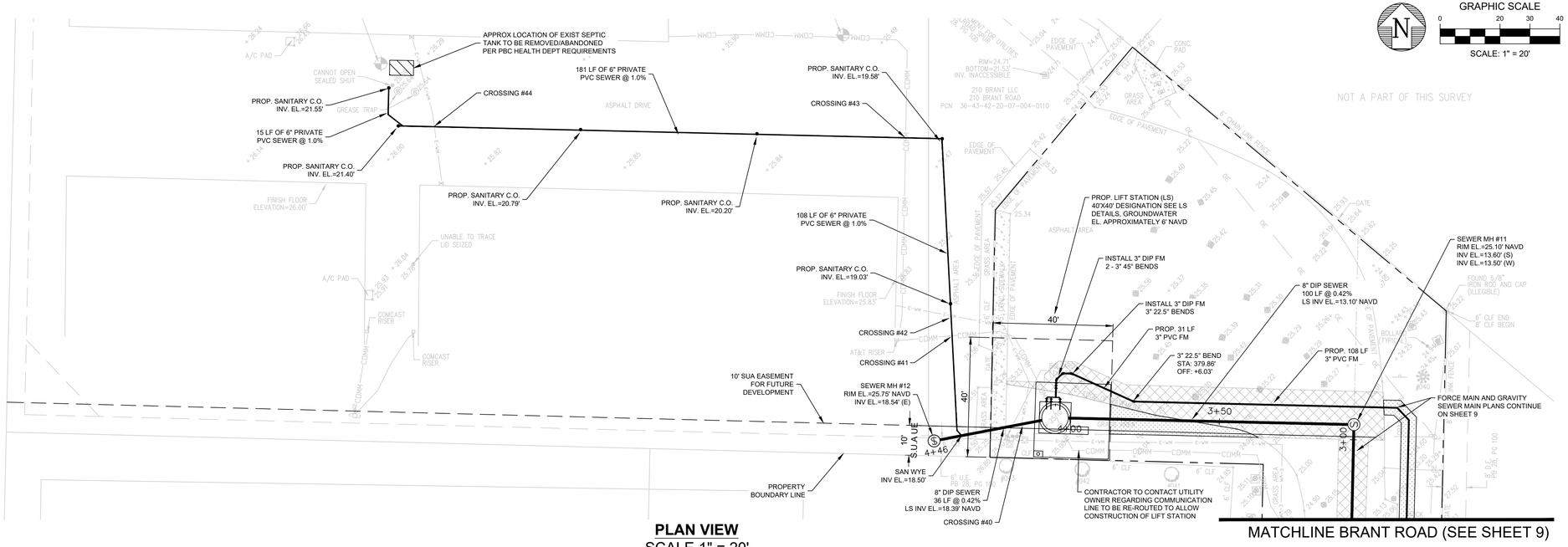
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PROJECT MANAGER	ACS		
CHECKED	ACS		

SHEET NO. 9 / 24
JOB NO. 18187.27

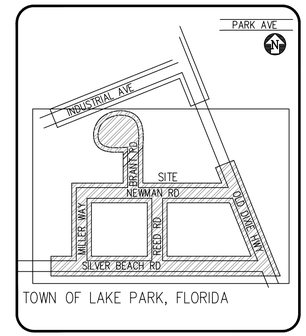
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PLAN VIEW
SCALE 1" = 20'

PROFILE VIEW
VERTICAL SCALE 1" = 2'
HORIZONTAL SCALE 1" = 20'

GRAPHIC SCALE
0 20 30 40
SCALE: 1" = 20'



LOCATION MAP
N.T.S.

CROSSING TABLE

CROSSING #	BOTTOM OF PIPE	TOP OF PIPE	SEPERATION
40	EXST. WAT SRV EL.=±22.08'	PROP. 8" DIP GSM EL.=19.10'	2.98'
41	EXST. COMM LINE EL.=±23.26'	PROP. 6" SAN SRV EL.=19.42'	3.84'
42	EXST. WAT SRV EL.=±22.26'	PROP. 6" SAN SRV EL.=19.49'	2.77'
43	EXST. COMM LINE EL.=±23.17'	PROP. 6" SAN SRV EL.=20.70'	2.47'
44	EXST. WAT SRV EL.=±23.36'	PROP. 6" SAN SRV EL.=22.27'	1.09'

LEGEND

- PROPOSED GRINDER PUMP STATION
- PROPOSED PRIVATE GRINDER PUMP STATION
- PROPOSED OIL/GRIT SEPERATOR
- EXISTING SEPTIC TANK
- FULL DEPTH ASPHALT REPAIR
- MILL/OVERLAY PER PBC STANDARDS
- CONCRETE RESTORATION
- FM — EXISTING FORCE MAIN
- WM — EXISTING WATER MAIN
- PROPERTY / ROW LINE
- (S) SANITARY MANHOLE
- SANITARY CLEANOUT
- SILT FENCE
- INLET PROTECTION
- PROPOSED SOD RESTORATION

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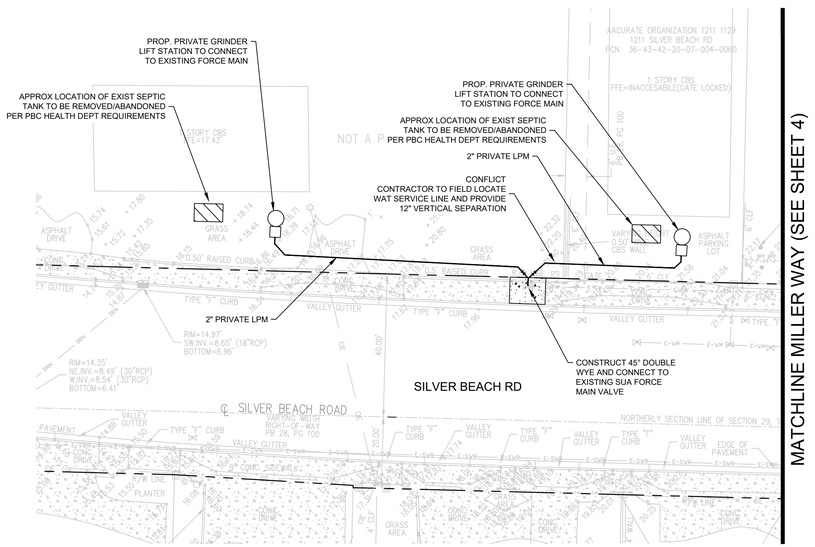
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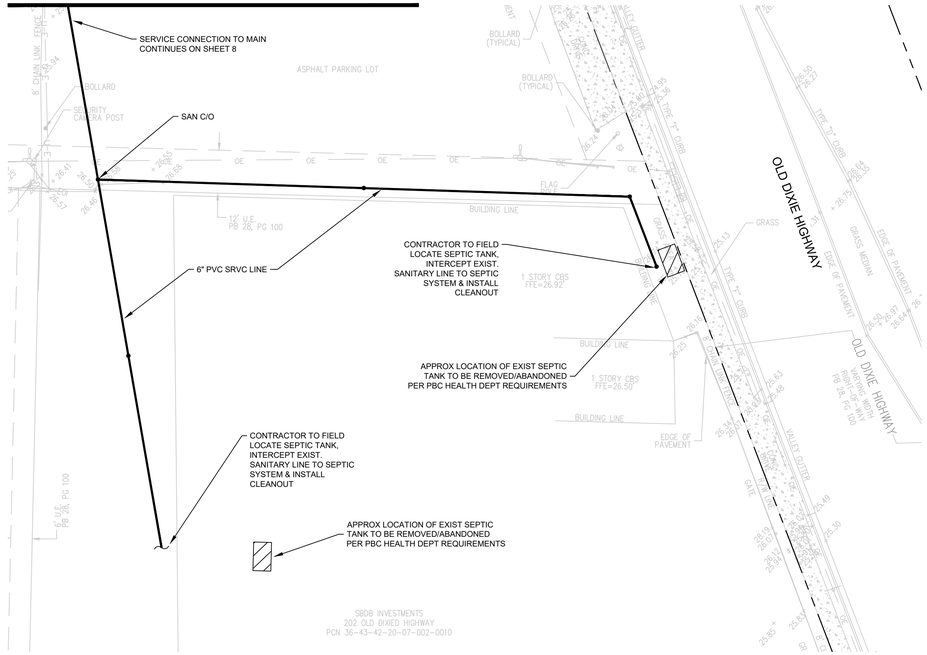
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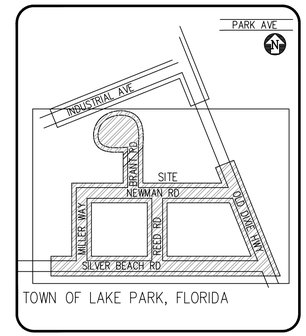
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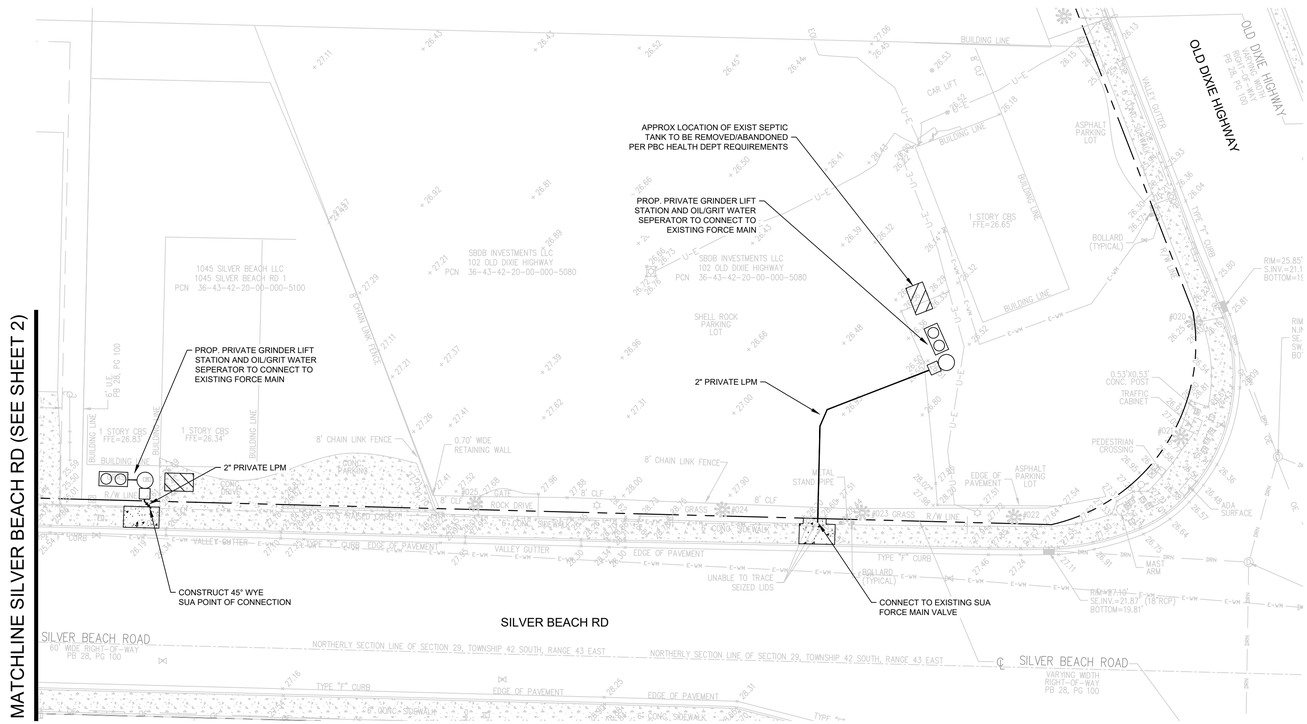
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SCALE: 1" = 20'



LOCATION MAP
N.T.S.

LEGEND

- PROPOSED GRINDER PUMP STATION
- PROPOSED PRIVATE GRINDER PUMP STATION
- PROPOSED OIL/GRIT SEPERATOR
- EXISTING SEPTIC TANK
- FULL DEPTH ASPHALT REPAIR
- MILL/OVERLAY PER PBC STANDARDS
- CONCRETE RESTORATION
- FM — EXISTING FORCE MAIN
- WM — EXISTING WATER MAIN
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SECTION I - TRI CITY INDUSTRIAL PARK

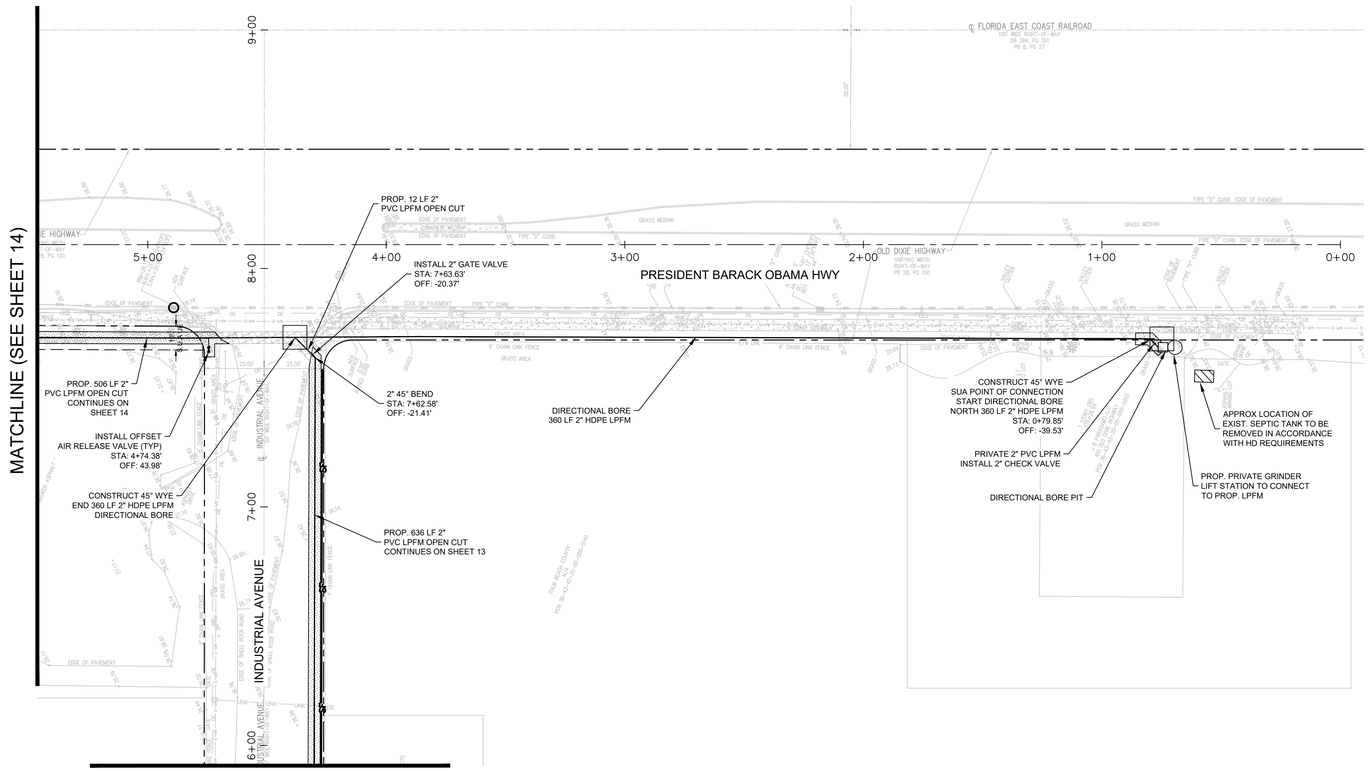
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PROJECT MANAGER	ACS
CHECKED	ACS

SHEET NO. 11
24
JOB NO. 18187.27

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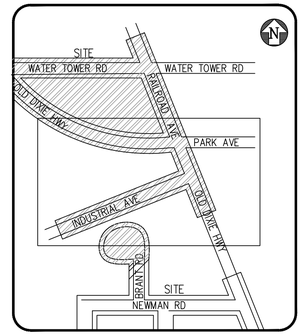
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GRAPHIC SCALE

0 30 45 60

SCALE: 1" = 30'



LOCATION MAP
N.T.S.

LEGEND

- PROPOSED GRINDER PUMP STATION
- PROPOSED PRIVATE GRINDER PUMP STATION
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- MILL/OVERLAY PER PBC STANDARDS
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- SANITARY CLEANOUT
- SILT FENCE
- INLET PROTECTION
- PROPOSED SOD RESTORATION

PALM BEACH COUNTY RIGHT OF WAY NOTES:

1. MAINTAIN HORIZONTAL SEPARATION OF 4' AND VERTICAL SEPARATION OF 1' BETWEEN ALL PROPOSED UTILITIES AND PALM BEACH COUNTY UTILITY STRUCTURES, CONDUITS, AND PIPES.
2. ANY AND ALL PB COUNTY STORM DRAIN / SIDEWALK / PATHWAY / C&G / ADA AND OR ADDITIONAL ROADWAY THAT IS AFFECTED BY THE PROPOSED CONSTRUCTION MUST BE RESTORED TO LIKE OR BETTER THEN LIKE CONDITION TO INCLUDE ALL APPLICABLE FDOT / PB COUNTY DETAILS AND SPECIFICATIONS (APPLICABLE THOROUGHFARE / NON-THOROUGHFARE).
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4. ROADWAY LANES AFFECTED WILL REQUIRE THE AFFECTED LANES AND/OR ADDITIONAL LANES BE RESTORED TO LIKE OR BETTER THEN LIKE CONDITION AND TO EQUAL DIMENSIONS AS THE ADJACENT LANES (EOP TO EOP)
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NOT FOR CONSTRUCTION

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NO. 72235

OLD DIXIE SEPTIC TO SEWER
TOWN OF LAKE PARK, FL
GRAVITY AND LOW PRESSURE FORCE MAIN PLANS
SECTION II - LAKE PARK PUBLIC WORKS

A Higher Standard of Excellence
engenuity group inc.
ENGINEERS • SURVEYORS • GIS MAPPERS
1280 N. CONGRESS AVE. SUITE 101
WEST PALM BEACH, FLORIDA 33409
PH (561)655-1151 • FAX (561)832-9390 •
WWW.ENGENUITYGROUP.COM CERTIFICATE OF AUTHORIZATION #7095

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PROJECT ENGINEER	MK		
PROJECT MANAGER	ACS		
CHECKED	ACS		

J:\Land Projects R2\18187.27 Lake Park Septic to Sewer\18187.27 Sewer Plans.dwg DATE: 1/29/2025 3:11 PM

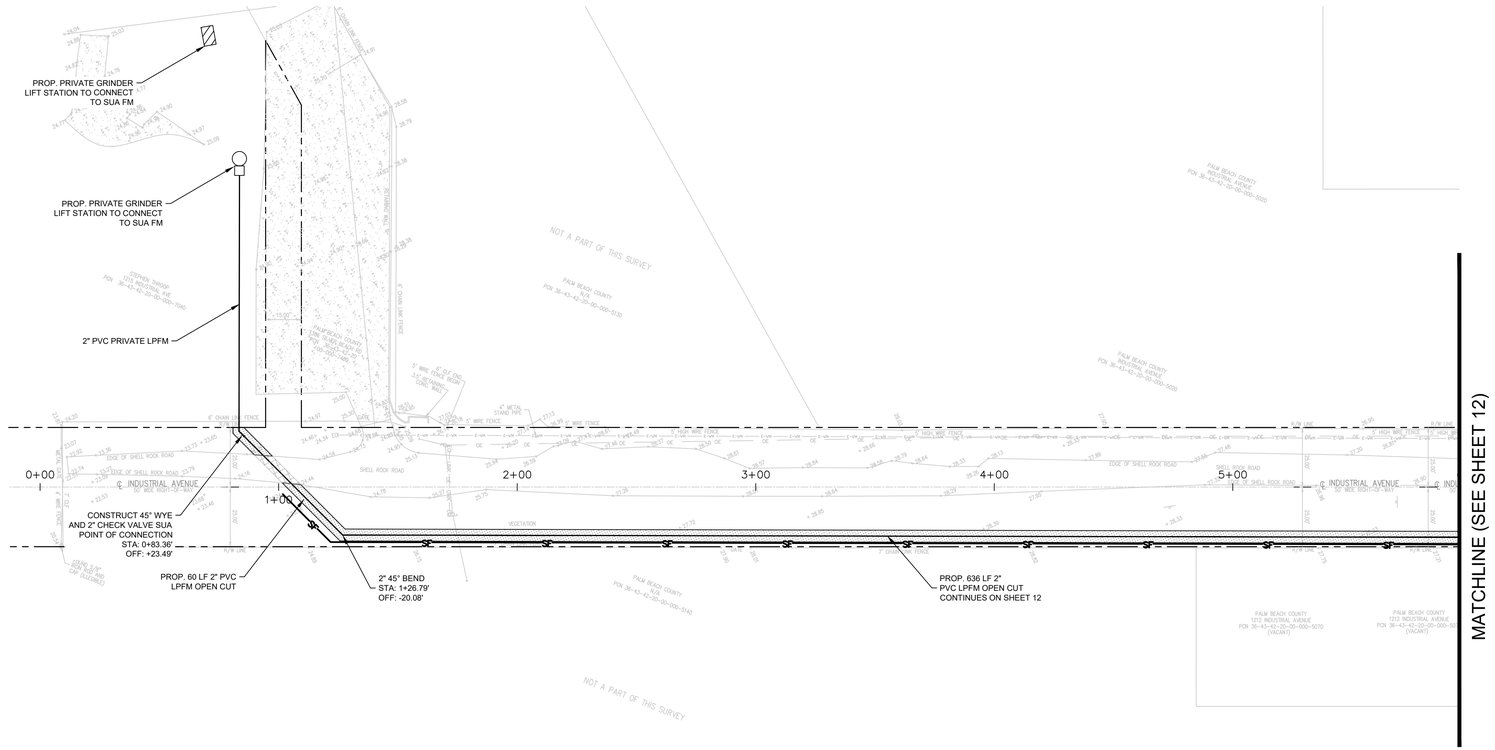
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JOB NO. 18187.27

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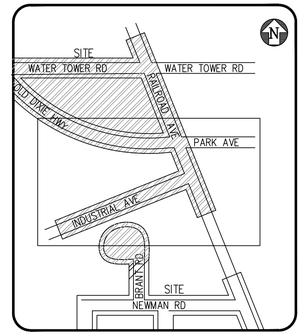
CONSTRUCTION, NOT FOR



GRAPHIC SCALE

0 30 45 60

SCALE: 1" = 30'



LOCATION MAP
N.T.S.

LEGEND

- PROPOSED GRINDER PUMP STATION
- PROPOSED PRIVATE GRINDER PUMP STATION
- PROPOSED OIL/GRIT SEPERATOR
- EXISTING SEPTIC TANK
- FULL DEPTH ASPHALT REPAIR
- MILL/OVERLAY PER PBC STANDARDS
- CONCRETE RESTORATION
- FM — EXISTING FORCE MAIN
- WM — EXISTING WATER MAIN
- PROPERTY / ROW LINE
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- SANITARY CLEANOUT
- SILT FENCE
- INLET PROTECTION
- PROPOSED SOD RESTORATION

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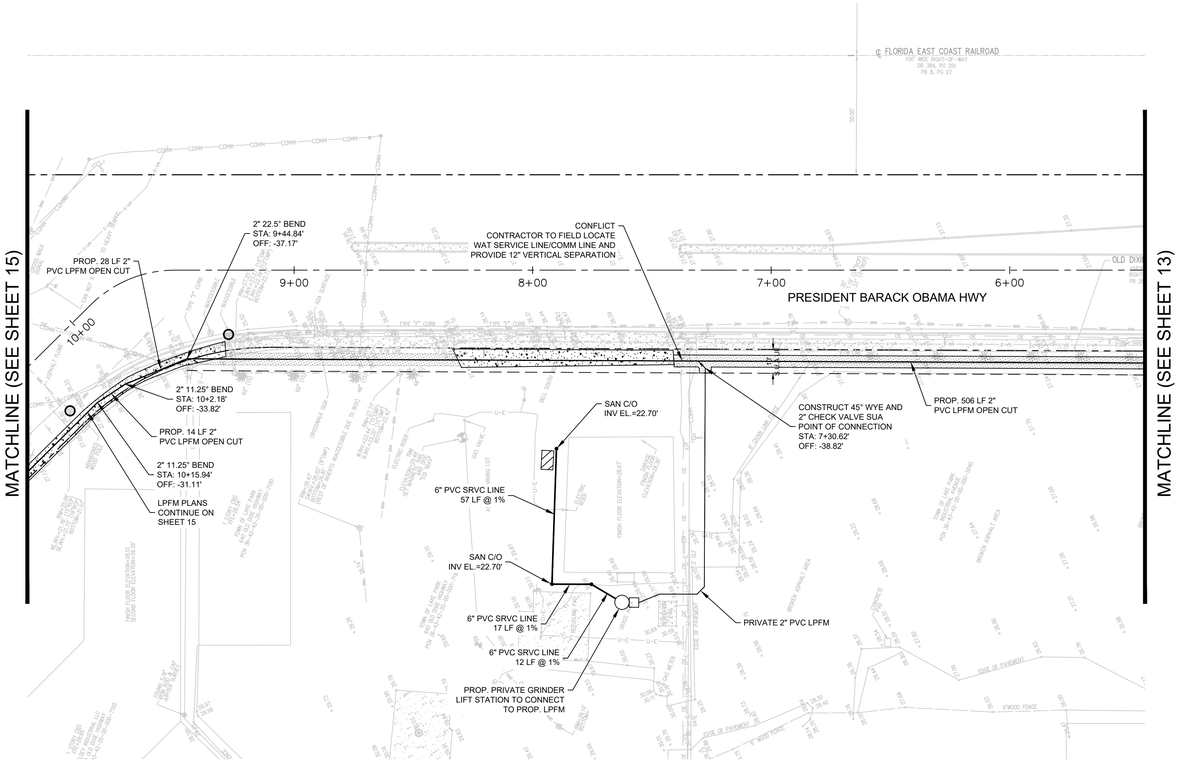
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PROJECT ENGINEER	MK	
PROJECT MANAGER	ACS	
CHECKED	ACS	

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JOB NO. 18187.27

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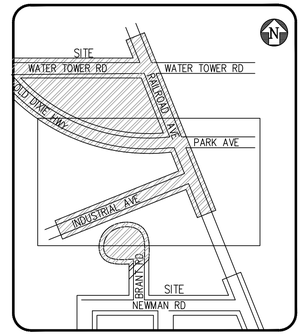
CONSTRUCTION, NOT FOR



GRAPHIC SCALE

0 30 45 60

SCALE: 1" = 30'



LOCATION MAP
N.T.S.

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TOWN OF LAKE PARK, FL
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PROJECT MANAGER	ACS
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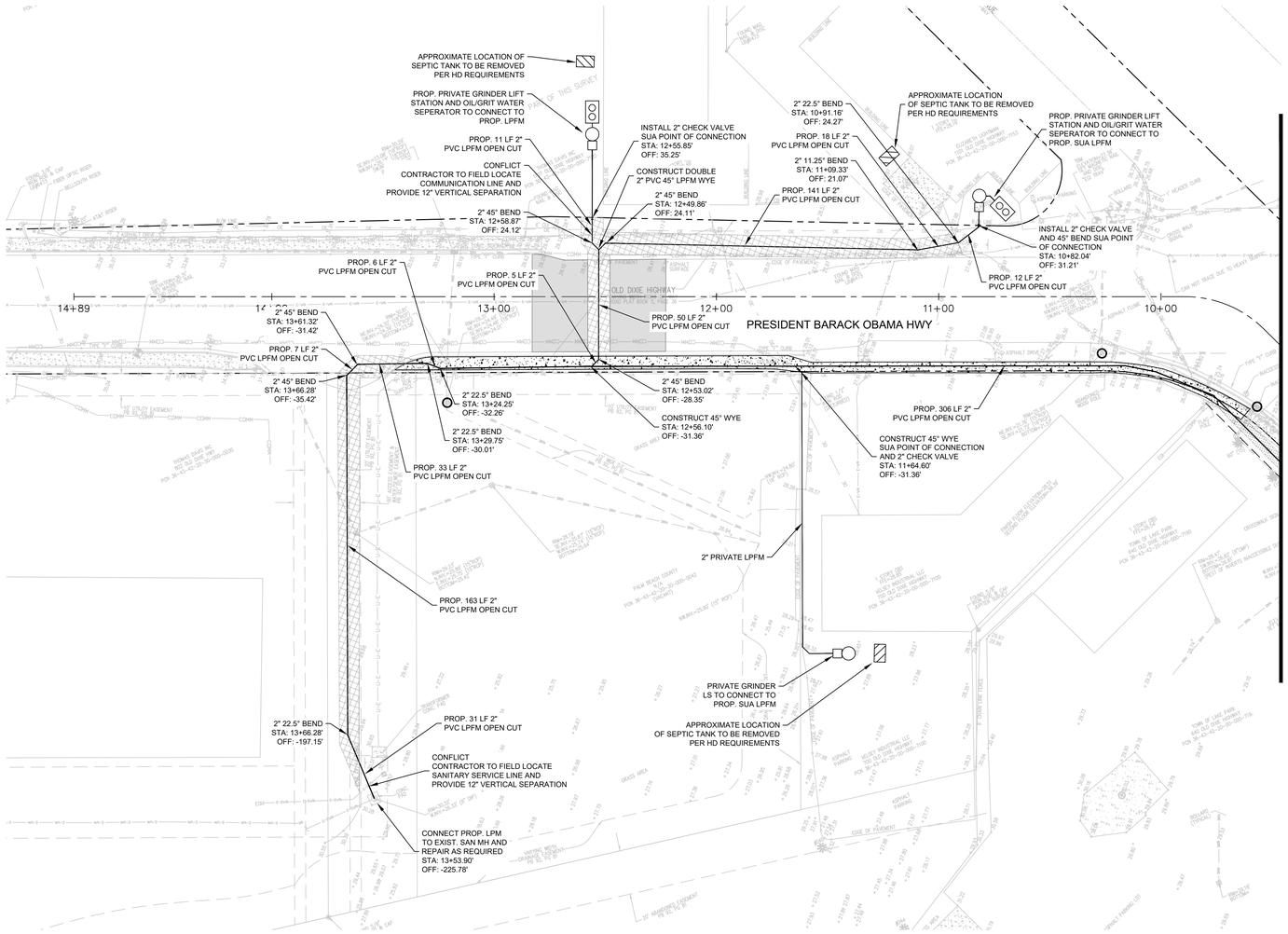
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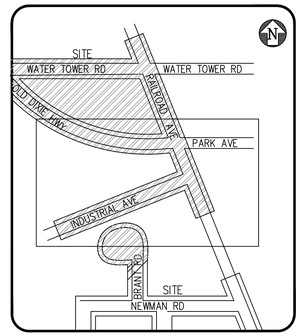
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PLOT: 1/29/2025 3:23:05 PM

CONSTRUCTION, NOT FOR



GRAPHIC SCALE
0 30 45 60
SCALE: 1" = 30'



LOCATION MAP
N.T.S.

LEGEND

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SECTION II - LAKE PARK PUBLIC WORKS

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DRAWN	MK	
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PROJECT MANAGER	ACS	
CHECKED	ACS	

SHEET NO. 15 / 24

JOB NO. 18187.27

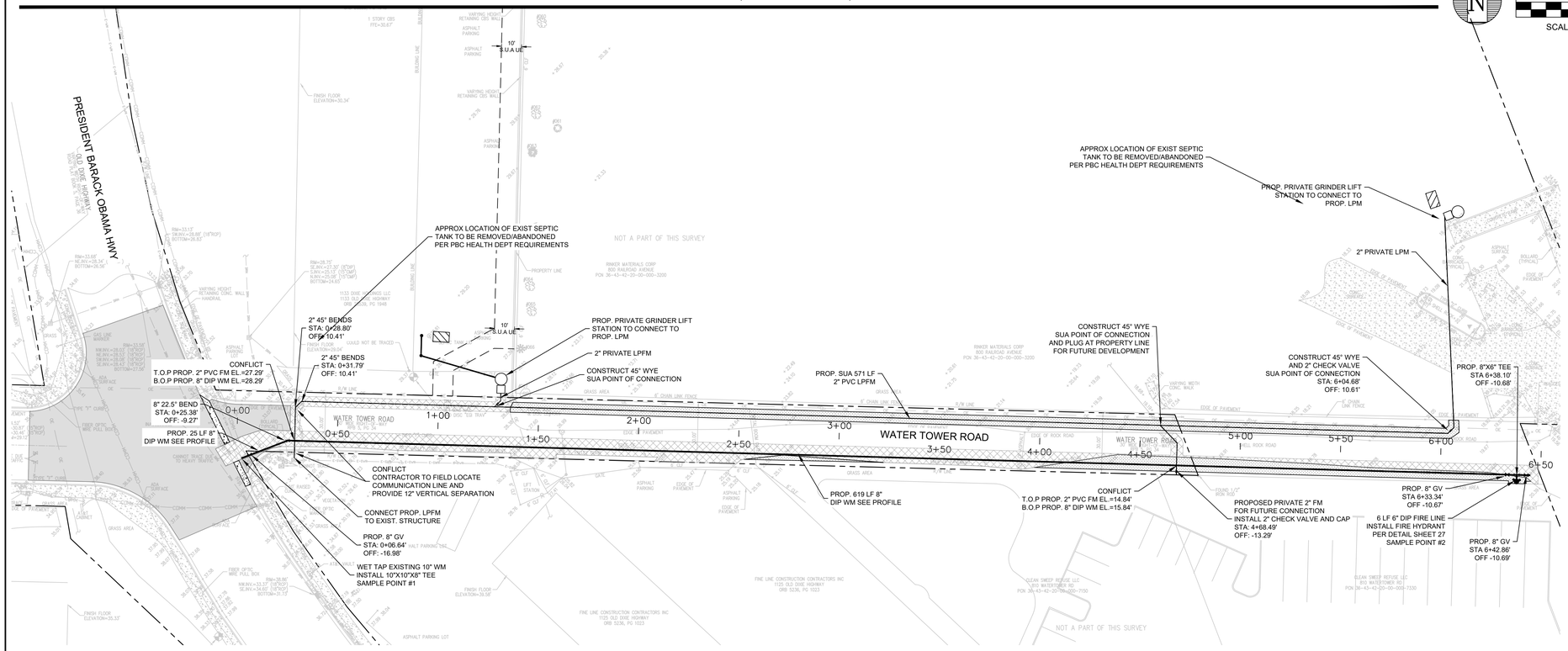
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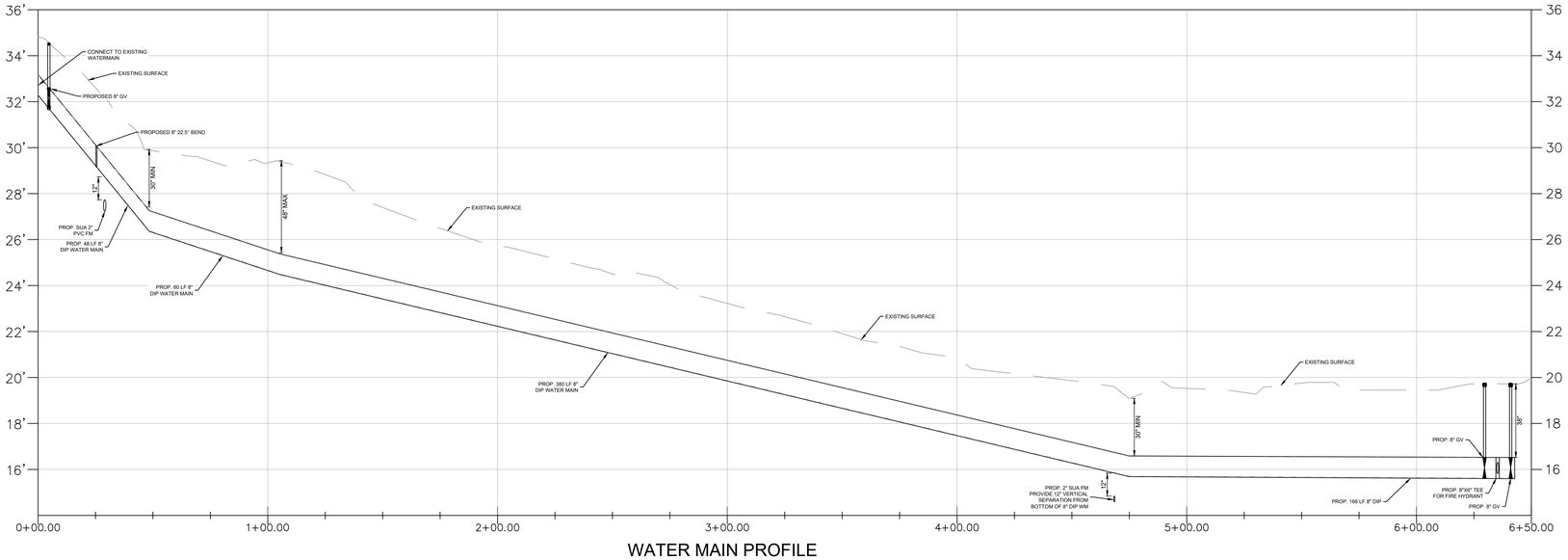
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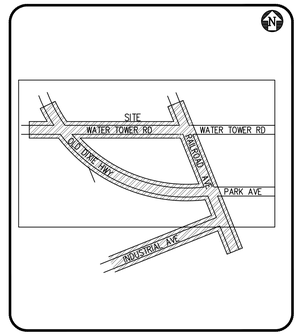
MATCHLINE (SEE SHEET 17)

GRAPHIC SCALE
0 30 45 60
SCALE: 1" = 30'





WATER MAIN PROFILE



LOCATION MAP
N.T.S.

LEGEND

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1. ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD.88) AND REFERENCE THE FOLLOWING PALM BEACH COUNTY BENCHMARK 'FRIDGE' HAVING AN ELEVATION OF 18.023 (NAVD88) AS PUBLISHED BY PALM BEACH COUNTY ENGINEERING.
   CONVERSION FACTOR
   FRIDGE: 13.103(NAVD88) + 1.524 = 14.627(NGVD29)
2. ALL AREAS DISTURBED BY CONSTRUCTION WHICH INCLUDES ALL DRIVEWAYS, PAVERS, ASPHALT, CONCRETE AND VEGETATION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.
3. TOPOGRAPHIC SURVEY PERFORMED BY ENGENUITY GROUP, INC DATED AUGUST 4, 2023.
4. ALL REMOVED DEBRIS & DEMOLISHED MATERIAL TO BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF.
5. CONTRACTOR TO FIELD VERIFY LOCATION OF SEPTIC TANK PRIOR TO CONSTRUCTION. SEPTIC TANK ABANDONMENT AND CONNECTION TO PROPOSED SYSTEM SHALL OCCUR AFTER PBC HEALTH DEPARTMENT CLEARANCE OF THE NEW SEWER SYSTEM.

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ADAM SWANEY, P.E.
NO. 72235

OLD DIXIE SEPTIC TO SEWER
TOWN OF LAKE PARK, FL
GRAVITY AND LOW PRESSURE FORCE MAIN PLANS
SECTION III - WATER TOWER ROAD

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ENGINEERS • SURVEYORS • GIS MAPPERS
1280 N. CONGRESS AVE. SUITE 101
WEST PALM BEACH, FLORIDA 33409
PH (561)655-1151 • FAX (561)832-9390 •
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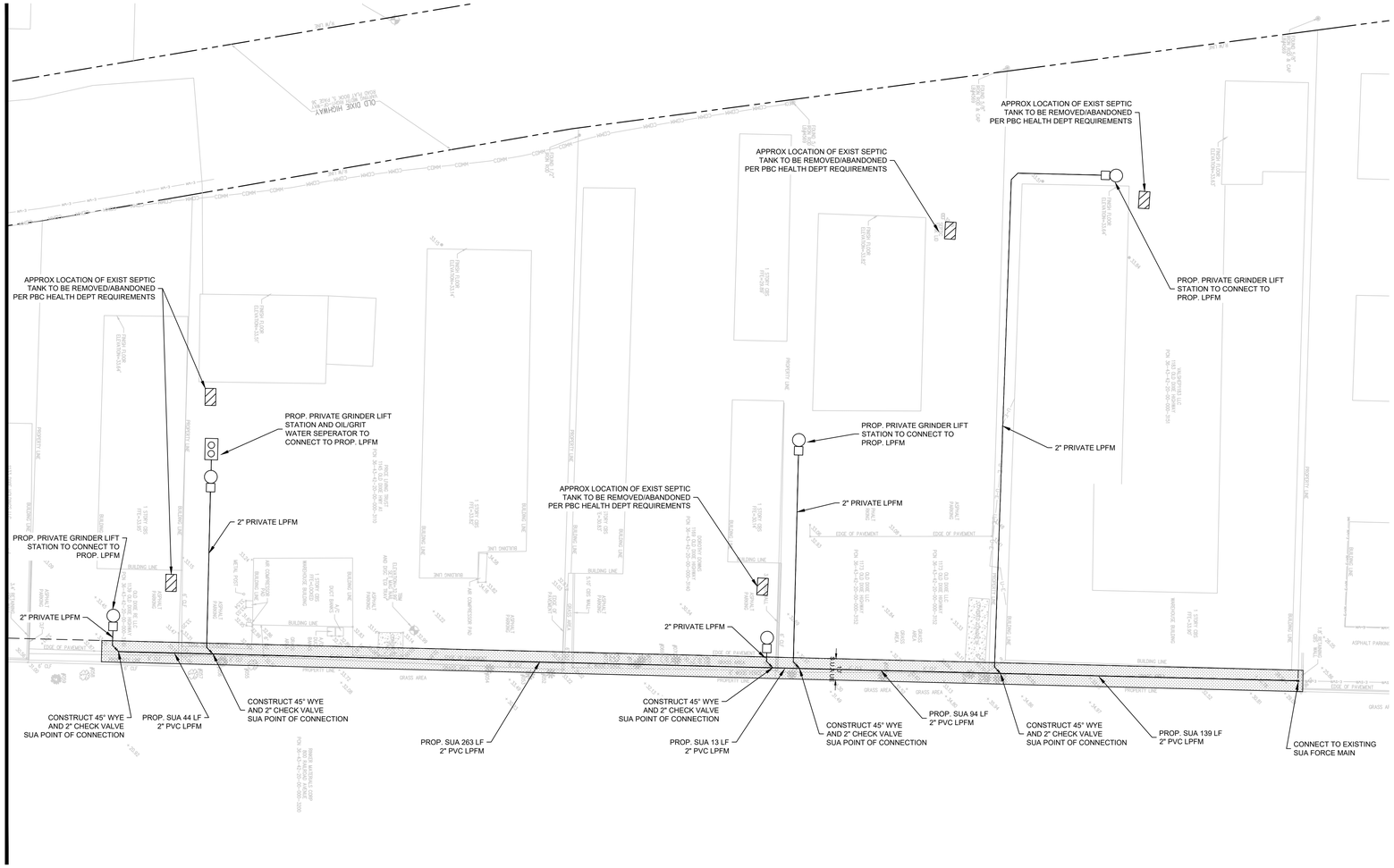
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PROJECT MANAGER	ACS
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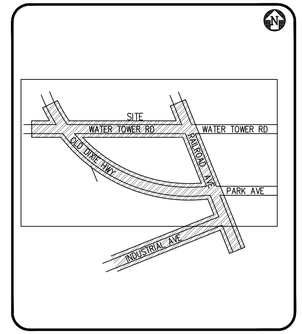
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GRAPHIC SCALE
0 30 45 60
SCALE: 1" = 30'



LOCATION MAP
N.T.S.

LEGEND

- PROPOSED GRINDER PUMP STATION
- PROPOSED PRIVATE GRINDER PUMP STATION
- PROPOSED OIL/GRIT SEPERATOR
- EXISTING SEPTIC TANK
- FULL DEPTH ASPHALT REPAIR
- MILL/OVERLAY PER PBC STANDARDS
- CONCRETE RESTORATION
- FM — EXISTING FORCE MAIN
- WM — EXISTING WATER MAIN
- PROPERTY / ROW LINE
- SANITARY MANHOLE
- SANITARY CLEANOUT
- SILT FENCE
- INLET PROTECTION
- PROPOSED SOD RESTORATION

GENERAL NOTES:

1. ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND REFERENCE THE FOLLOWING PALM BEACH COUNTY BENCHMARK 'FRIDGE' HAVING AN ELEVATION OF 18.023 (NAVD88) AS PUBLISHED BY PALM BEACH COUNTY ENGINEERING.
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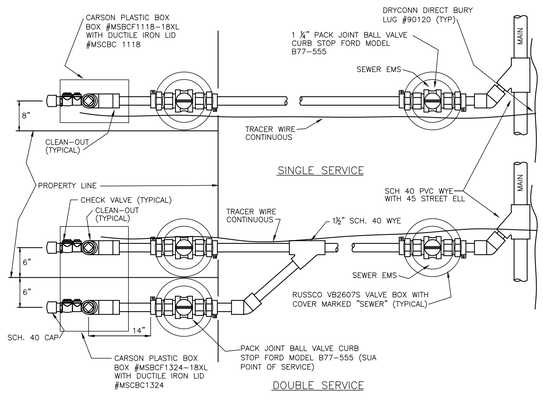
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SHEET NO. 17 OF 24

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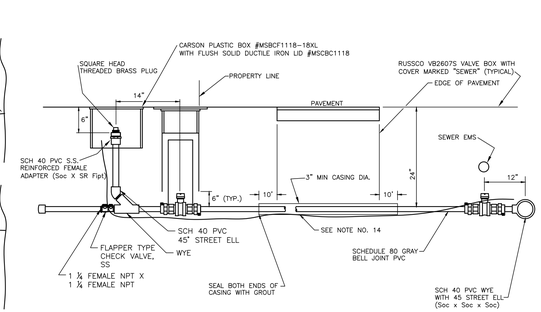


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. SERVICE PIPE FITTINGS AND VALVES FOR SIMPLEX STATION SHALL BE 1¼" AND FOR DUPLEX STATION SHALL BE 1½" SCHEDULE 80 GRAY BELL JOINT PVC, 400 PSI (CHARLOTTE PIPE). NO SLIP X SLIP COUPLINGS ALLOWED.
2. SERVICE FITTINGS SHALL BE SPEARS MANUFACTURING COMPANY OR EQUAL, SCHEDULE 40 PVC. NO DWV FITTINGS, SCHEDULE 40 MALE ADAPTERS, SLIP COUPLINGS, SLIP BUSHINGS, OR SCHEDULE 80 PVC FITTINGS ARE ALLOWED.
3. VALVE BOXES REQUIRED FOR BALL VALVE AT TEE NEXT TO MAIN ON SHORT SIDE SERVICES UNLESS SPECIFICALLY INDICATED AND NOTED ON THE PLANS.
4. TRACER WIRE TO BE #6 AWG, STRANDED COPPER, TYPE THHN WITH GREEN INSULATION. USE 11" CABLE TIES TO CONNECT TO PVC PIPE AND FITTINGS. TRACER WIRE SHALL WRAP AROUND AND TERMINATE INSIDE CLEAN OUT BOX WITH ENOUGH SLACK TO EXTEND 2-3' ABOVE GRADE.
5. PVC PRIMER AND CEMENT SHALL BE OATEY MEDIUM-BODIED.
6. CURB STOPS SHALL BE FULL PORT BALL VALVES WITH PACK JOINT FOR PVC PIPE BOTH ENDS, FORD METER BOX COMPANY MODEL B77-555.
7. SHORT SIDE SINGLE SERVICE MAY REQUIRE ONLY ONE BALL VALVE. LONG SIDE SINGLE SERVICE REQUIRES TWO BALL VALVES.
8. ZIP TIE TRACER WIRE TO PIPE EVERY 5'.

Low Pressure Sewer Service

MAY 24, 2023 (Rev B-18)

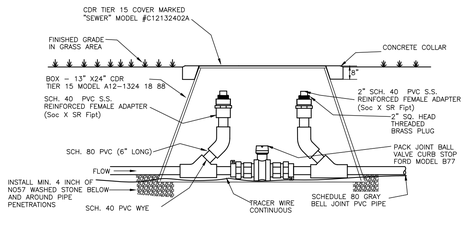


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

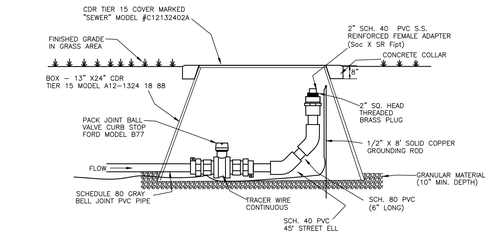
1. CASINGS SHALL BE REQUIRED FOR ALL LONG SIDE SERVICES.
2. SUCCESSIVE SERVICE LINES OFF THE LOW PRESSURE FORCE MAIN SHALL BE SPACED A MINIMUM OF 18" APART.
3. WHERE NO SIDEWALK EXISTS, VALVE BOXES SHALL BE SET TO CONFORM TO FINISH GRADE.
4. SERVICE PIPE SHALL BE SCHEDULE 80 GRAY BELL JOINT PVC, 400 PSI (CHARLOTTE PIPE). NO SLIP X SLIP COUPLINGS ALLOWED.
5. SERVICE FITTINGS SHALL BE SPEARS MANUFACTURING COMPANY ONLY, SCHEDULE 40 PVC. NO DWV FITTINGS, SCHEDULE 40 MALE ADAPTERS, SLIP COUPLINGS, SLIP BUSHINGS, OR SCHEDULE 80 PVC FITTINGS ARE ALLOWED.
6. VALVE BOXES NOT REQUIRED FOR BALL VALVE AT TEE NEXT TO MAIN ON LONG SIDE SERVICES UNLESS SPECIFICALLY INDICATED AND NOTED ON THE PLANS.
7. CONTRACTOR SHALL UTILIZE FULL LENGTHS OF BELL JOINT PIPE WHENEVER POSSIBLE UNDER ROAD CROSSINGS.
8. PLUGS SHALL BE SCHEDULE 40 RED BRASS, SOLID TYPE WITH SQUARE HEAD.
9. TRACER WIRE TO BE #6 AWG, STRANDED COPPER, TYPE THHN WITH GREEN INSULATION. USE 11" CABLE TIES TO CONNECT TO PVC PIPE AND FITTINGS. TRACER WIRE SHALL WRAP AROUND AND TERMINATE INSIDE CLEANOUT BOX WITH ENOUGH SLACK TO EXTEND 2-3' ABOVE GRADE.
10. PVC PRIMER AND CEMENT SHALL BE OATEY MEDIUM BODIED.
11. THREAD SEALING COMPOUND – PTFE PASTE SHALL BE LA-CO SLIC-TITE OR HERCULES REAL-TUFF.
12. CURB STOPS SHALL BE FULL PORT BALL VALVES WITH PACK JOINT FOR PVC PIPE BOTH ENDS, FORD METER BOX COMPANY MODEL B77-555.
13. SERVICE CASING SHALL NOT BE INSTALLED BY WATER JETTING UNDER ROADWAY.
14. GALVANIZED CASING REQUIRED FOR ANY INSTALLATION REQUIRING A JACK AND BORE, SCHEDULE 40 PVC MAY BE USED FOR AN OPEN CUT INSTALLATION WITH THE APPROVAL OF SUA, CASING SHOULD EXTEND TEN (10) FEET BEYOND EDGE OF PAVEMENT AND SIZED AS FOLLOWS:
    A.) 2" MAIN USE 4" CASING
    B.) 3" MAIN USE 6" CASING
15. ALL OTHER UTILITIES SHALL BE LOCATED 4' MINIMUM CLEAR OF ALL LOW PRESSURE MAINS AND SERVICES.
16. ZIP TIE TRACER WIRE TO PIPE EVERY 5'.

Low Pressure Sewer Service Installation

MAY 24, 2023 (Rev B-18)



In-Line Cleanout Port and Main Line Valve



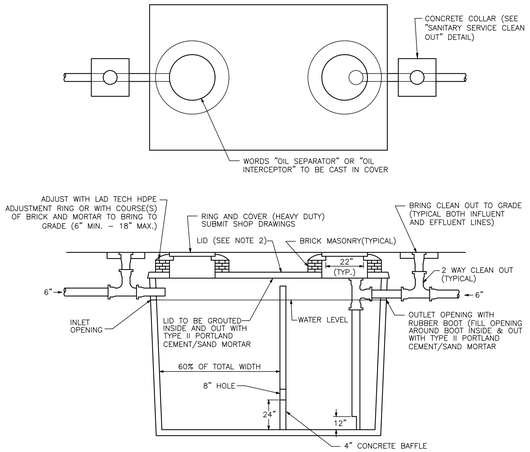
Terminal Cleanout Port and Main Line Valve

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. MAINLINE VALVES SHALL BE FULL PORT BALL VALVES WITH PACK JOINT FOR PVC PIPE BOTH ENDS, FORD METER BOX B77
2. PIPE AND FITTING SIZE WILL BE DETERMINED BY PROJECT FLOW CALCULATIONS.
3. DEPTH SHALL BE 24" UNLESS OTHERWISE REQUIRED BY ROAD PERMITTING AGENCY.
4. ZIP TRACER WIRE TO PIPE EVERY 10'.

Low Pressure Sewer Cleanout Port with Valve

MAY 24, 2023 (Rev C-19)

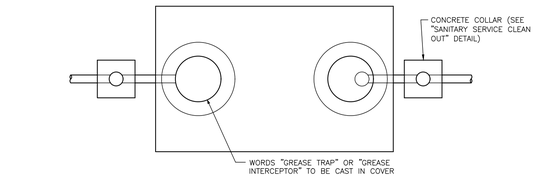


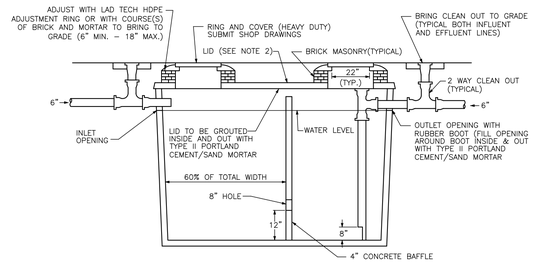
NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. SHOP DRAWINGS FOR PRECAST TANKS SHALL BEAR THE FOLLOWING STATEMENT:"THIS CONCRETE STRUCTURE MEETS OR EXCEEDS ALL THE REQUIREMENTS FOR GREASE INTERCEPTORS/SEPTIC TANKS AS IN THE FLORIDA ADMINISTRATIVE CODE, CHAPTER 10D-6 AND 64E-6, AND SUA "SPECIFICATIONS AND STANDARDS". THE SHOP DRAWINGS (3 COPIES MINIMUM) SHALL THEN BE SIGNED AND SEALED BY THE ENGINEER OF RECORD AND FORWARDED TO SUA FOR APPROVAL.
2. LID TYPES:
    A) 4" REGULAR LID
    B) 8" TRAFFIC BEARING LID
3. INTERIOR PIPING SHALL BE SOLVENT WELD PVC PIPE.
4. ALL TANKS IN TRAFFIC AREA SHALL BE H20 WHEEL LOAD BEARING.
5. INSPECTION OF TANK REQUIRED BY SUA PRIOR TO PLACEMENT.
6. INSPECTION OF TANK REQUIRED BY SUA AFTER TANK IS PIPED.

Oil Separator

MAY 24, 2023 (Rev B-18)



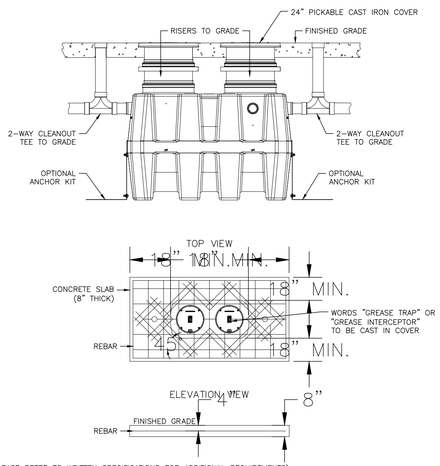


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

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2. LID TYPES:
    A) 4" REGULAR LID
    B) 8" TRAFFIC BEARING LID
3. ALL PIPING SHALL BE SOLVENT WELD PVC.
4. ALL TANKS IN TRAFFIC AREA SHALL BE H20 WHEEL LOAD BEARING.
5. INSPECTION OF TANK REQUIRED BY SUA PRIOR TO PLACEMENT.
6. INSPECTION OF TANK REQUIRED BY SUA AFTER TANK IS PIPED.
7. TANKS IN SERIES SHALL HAVE BAFFLE IN LAST TANK ONLY.

Concrete Grease Trap

MAY 24, 2023 (Rev C-18)

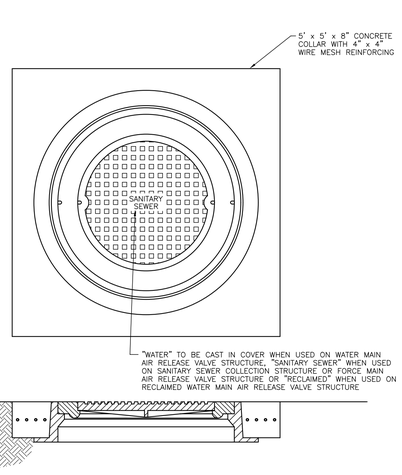


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. ALL PIPING SHALL BE SOLVENT WELD PIPE.
2. ALL INTERCEPTORS IN TRAFFIC AREA SHALL BE H2O WHEEL LOAD BEARING.
3. INSPECTION OF INTERCEPTORS REQUIRED BY SUA PRIOR TO PLACEMENT.
4. INSPECTION OF INTERCEPTORS REQUIRED BY SUA AFTER TANK IS PIPED.

Polyethylene Grease Interceptor

MAY 24, 2023 (Rev C-23)

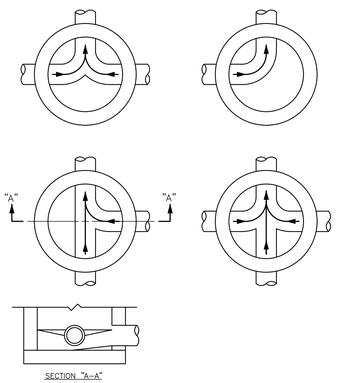


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. IN GREEN AREAS OR ANY AREA DEEMED TO HAVE QUESTIONABLE DRAINAGE, A WATER TIGHT MANHOLE INSERT SUCH AS "SEWER GUARD" OR APPROVED EQUAL WILL BE REQUIRED.
2. APPROVED MANHOLES (DOUBLE COVER TYPE):
    A.) U.S. FOUNDRY MODEL No. 230-AB-M
    B.) VULCAN FOUNDRY MODEL No. VM-101
3. CONCRETE COLLAR IS REQUIRED ONLY WHEN MANHOLE IS OUT OF PAVEMENT.

Manhole Frame and Cover (30" Opening)

MAY 24, 2023 (Rev A-15)



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
2. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOWS.
3. CHANNELS FOR FUTURE CONSTRUCTIONS (STUBS) SHALL BE CONSTRUCTED, FILLED WITH SAND, AND COVERED WITH 1" OF MORTAR.
4. SLOPE MANHOLE ITSELF WITH A 1:2 SLOPE FROM MANHOLE WALL TO CHANNEL.
5. INVERT SHALL BE A MINIMUM OF 1/2 THE DIAMETER OF THE LARGEST PIPE OR 4" DEEP, WHICHEVER IS GREATER.

Flow Patterns for Invert Channels

MAY 24, 2023 (Rev B-23)

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ADAM SWANEY, P.E.
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TOWN OF LAKE PARK, FL
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UTILITY DETAILS

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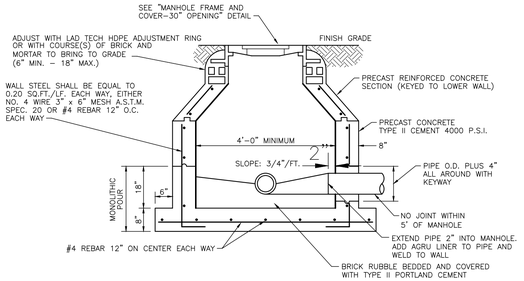
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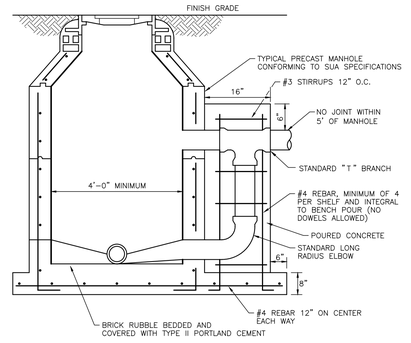


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. MANHOLES SHALL CONFORM TO A.S.T.M. C478.(MIN.)
2. WALL REINFORCEMENTS A.S.T.M. DESIGNATION A185–64.(LATEST REVISION)(MIN.)
3. IF TWO CAGES OF WIRE MESH ARE USED, ONE SHALL BE POSITIONED 3" FROM THE INSIDE SURFACE AND ONE 3" FROM THE OUTSIDE SURFACE. IF A SINGLE CAGE OR REBAR IS USED, IT SHALL BE CENTERED WITHIN WALL THICKNESS. NO EXPOSED STEEL SHALL BE PERMITTED.
4. LIFT HOLES THROUGH PRECAST STRUCTURE ARE PERMITTED.
5. A MINIMUM OF SEVEN DAYS CURE TIME IS REQUIRED PRIOR TO DELIVERY.
6. ALL PIPE HOLES SHALL BE PRECAST OR CORE DRILLED. OVERSIZED HOLES WILL BE REJECTED.
7. ANY VISIBLE REINFORCING WIRE, STEEL OR HONEYCOMBS SHALL BE CAUSE FOR REJECTION.
8. SEE TECHNICAL SPECIFICATIONS FOR BEDDING REQUIREMENTS.
9. "RAM–NEK" OR APPROVED EQUAL AT ALL RISER JOINTS (1/2" THICK WITH WIDTH AT LEAST 1/2 THE WALL THICKNESS) WITH GROUT ON INSIDE AND OUTSIDE.
10. ALL OPENINGS SHALL BE SEALED USING ONLY TYPE II PORTLAND CEMENT/SAND MORTAR AND POTABLE WATER FOR MUD WORK ON JOINTS, LIFTING HOLES, INVERTS, ETC. WHEN AN ACCELERATOR IS NECESSARY, "ANTI HYDRO" IS THE ONLY PRODUCT APPROVED.
11. BRICK MASONRY CONSTRUCTION TO BE STUCCOED WITH 3/4" TYPE II CEMENT INSIDE AND OUTSIDE, AND INSIDE TO BE COATED WITH TWO COATS OF KOPPERS 300 OR APPROVED EQUAL.
12. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM, AND COATED WITH TWO COATS OF KOPPERS 300 OR APPROVED EQUAL
13. INTERIOR OF ALL SANITARY MANHOLES SHALL HAVE AGRU SURE GRIP CONCRETE PROTECTIVE LINER INSTALLED AT THE TIME OF MANUFACTURING. SEE "AGRU SURE GRIP LINER DETAILS" DRAWING FOR ADDITIONAL AGRU SURE GRIP REQUIREMENTS.

Standard Precast Manhole

JANUARY 17, 2024 (Rev C-24)

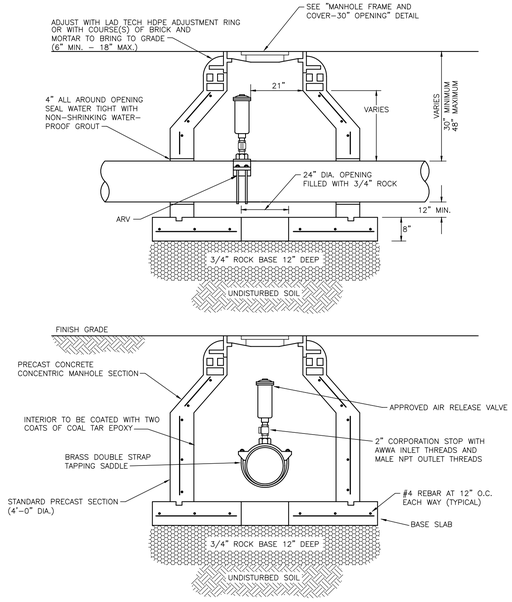


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. CONCRETE ENCASEMENT FOR DROP CONNECTION TO BE FIELD POURED.
2. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT SEWER IS LOCATED TWO (2) FEET OR MORE ABOVE THE MAIN INVERT CHANNEL.
3. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
4. WHEN PVC IS USED IN SANITARY SEWER LINES, SOLVENT TYPE JOINT PVC FITTINGS MAY BE UTILIZED IN THE DROP ASSEMBLY ONLY.
5. MINIMUM PIPE SIZE FOR DROP IS 8".
6. SEE "STANDARD PRECAST MANHOLE" DETAIL FOR ADDITIONAL REQUIREMENTS.

Precast Manhole - Drop Connection Type A

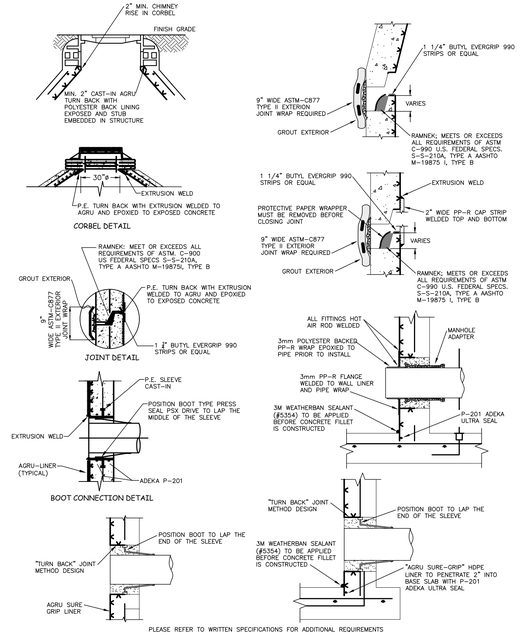
MAY 24, 2023 (Rev A-15)



PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

Air Release Valve (Underground Force Main)

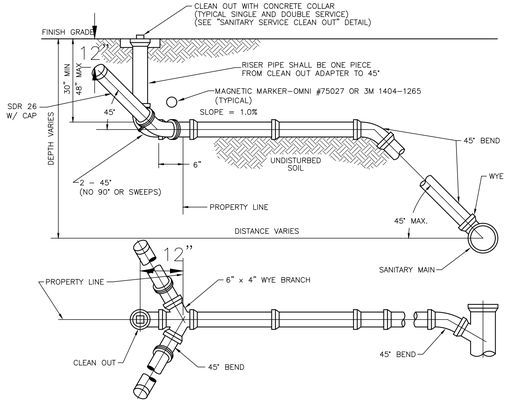
JANUARY 17, 2024 (Rev F-24)



PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

Agru Sure Grip Liner Details

MAY 24, 2023 (Rev D-15)

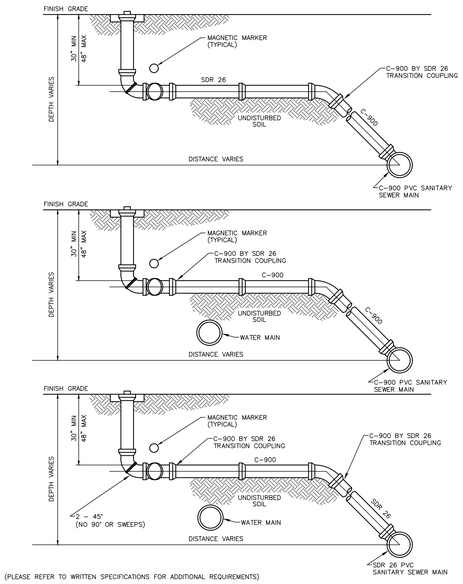


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. THE END OF EACH SERVICE CONNECTION SHALL BE MARKED WITH A 2" x 2" TREATED WOOD STAKE AND AN E.M.S. SANITARY SEWER MARKER.
2. EACH SERVICE CONNECTION SHALL BE PLUGGED WATERTIGHT WITH AN APPROVED CAP OR PLUG.
3. CUT OFF BELL END WHEN USING FERNCO COUPLING FOR VCP (FOR EXISTING SERVICES ONLY)
4. FOR PVC INSTALLATIONS, CONNECT TO EXISTING "BELL END" AND CONNECT OPPOSITE END WITH PVC TO PVC KNOCK ON SLEEVE.
5. SOLIDLY TAMP BACKFILL AT LEAST ONE FOOT ABOVE TOP OF PIPE. SERVICES UNDER PAVED AREAS SHALL BE BACKFILLED TO THE SAME SPECIFICATIONS AS SHOWN ON "PAVEMENT REPLACEMENT" DETAIL.
6. CONTRACTOR SHALL MARK ON A CLEAN SET OF PLANS THE FINAL STATIONING OR DISTANCE AND DIRECTION FROM MANHOLE TO EACH SERVICE LATERAL AND GIVE TO ENGINEER FOR RECORD DRAWING PURPOSES.
7. ANY DEVIATION FROM THESE METHODS MUST BE APPROVED BY SUA.
8. THE USE OF UNNECESSARY FITTINGS ON THE CUSTOMERS LINE TO REDUCE EXCAVATION EFFORTS WILL BE CAUSE FOR REJECTION.
9. THE USE OF 90° SWEEPS ON THE CUSTOMERS LINE IN LIEU OF 45° BENDS WILL REQUIRE AN ADDITIONAL CLEAN OUT AS SHOWN ON "SANITARY SERVICE CLEAN OUT DETAIL". THE CLEAN OUT SHALL BE ON THE HOUSE SIDE OF THE TOP SWEEP WITHIN 2' OF THE SWEEP.

Sewer Service Connection (Wye Branch)

JANUARY 17, 2024 (Rev C-24)

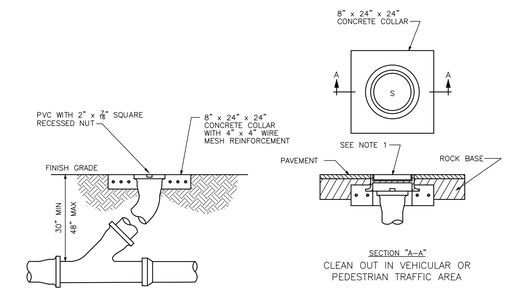


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

SEWER SERVICE LATERALS SHALL CROSS UNDER WATER MAINS WITH A MINIMUM VERTICAL SEPARATION OF TWELVE (12) INCHES. IF 12" VERTICAL SEPARATION CANNOT BE MAINTAINED, THEN THE WATER MAIN SHALL BE D.I.P. AND THE SEWER SERVICE LATERAL SHALL BE C-900 SDR 18 OR BETTER AND THE MINIMUM SEPARATION SHALL BE SIX (6) INCHES. WHEN IT IS NOT POSSIBLE FOR THE WATER MAIN TO CROSS OVER THE SEWER SERVICE LATERAL A MINIMUM VERTICAL SEPARATION OF AT LEAST TWELVE (12) INCHES MUST BE MAINTAINED, THE WATER MAIN SHALL BE D.I.P. AND THE SEWER LATERAL SHALL BE C-900 SDR 18 OR BETTER.

C-900 Sewer Service Transition

MAY 24, 2023 (Rev B-18)

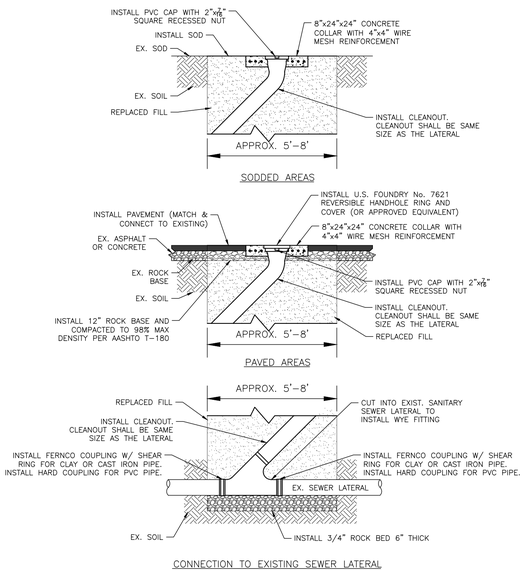


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. U.S. FOUNDRY NO. 7621 REVERSIBLE HANDHOLE RING AND COVER OR APPROVED EQUAL SHALL BE USED, COVER TO BE CAST WITH "S" IN THE CENTER.
2. CLEAN OUT REQUIRED ON ALL SERVICES AT PROPERTY LINE OR EASEMENT LINE WHERE APPLICABLE.
3. STANDARD WYE SHALL BE USED AT CLEAN OUT.

Sanitary Service Clean Out

MAY 24, 2023 (Rev C-20)



CONNECTION TO EXISTING SEWER LATERAL

NOTES:
1. EXCAVATION DEPTH VARIES WITH DEPTH OF EXISTING SEWER LATERAL AND EXISTING SURFACE ELEVATIONS.
2. CONCRETE COLLARS SHALL BE MATCHED TO EXISTING GRADES IN WORK AREA.

Clean Out Connection to Existing Lateral

JANUARY 17, 2024 (Rev B-24)

Item 2.

REVISIONS

NO.	DATE	REMARKS	BY

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ADAM SWANEY P.E. NO. 79235

OLD DIXIE SEPTIC TO SEWER
TOWN OF LAKE PARK, FL
GRAVITY AND LOW PRESSURE FORCE MAIN PLANS
UTILITY DETAILS

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PROJECT MANAGER	ACS
CHECKED	ACS

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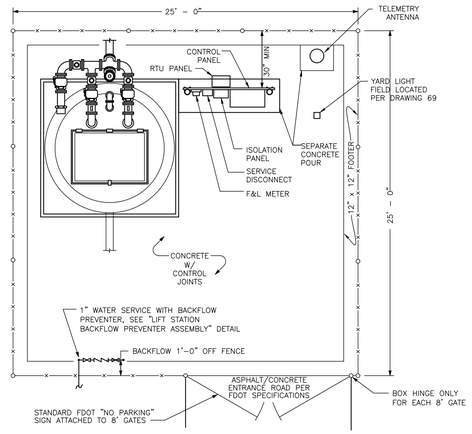
JOB NO. 18187.27

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CONSTRUCTION, NOT FOR

THIS DRAWING DEPICTS A GENERAL SITE PLAN ONLY. THE ENGINEER OF RECORD SHALL COORDINATE THE SPECIFIC SITE PLAN REQUIREMENTS WITH SUA

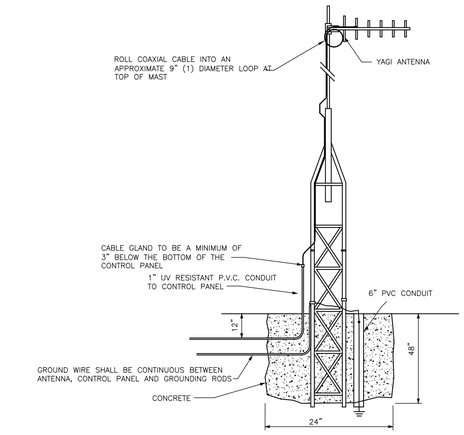


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. COLLECTOR MANHOLE SHALL NOT BE PLACED IN TRAVEL LANE OR AREAS THAT WOULD LIMIT ACCESS.
2. GROUND COVER WITHIN FENCED AREA SHALL BE 6" THICK CONCRETE (4000psi) WITH A 12" x 12" FOOTER AND 6" x 6" WIRE MESH AND BE SLOPED IN SUCH A WAY TO PROMOTE RUNOFF AND PREVENT PUDDLES. FIBER CONCRETE SHALL NOT BE ALLOWED AS AN ALTERNATIVE TO WIRE MESH.
3. LANDSCAPING SHALL BE A MINIMUM OF 2' FROM FENCE. TREE PLACEMENT AND LANDSCAPING SHALL CONFORM TO SUA SETBACK REQUIRMENTS AND BE APPROVED BY SUA.
4. FENCE SHALL BE INSTALLED PER DRAWING 17.

Typical Lift Station Site Plan

MAY 24, 2023 (Rev E-23)

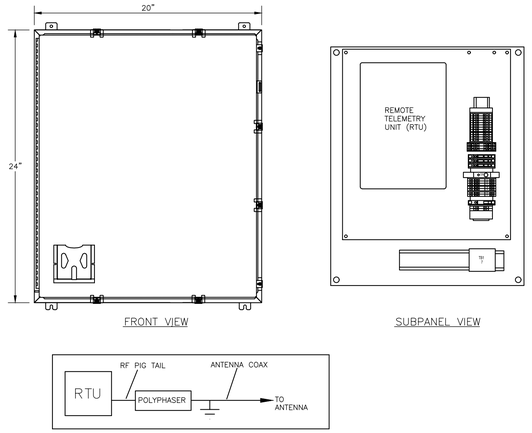


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. ANTENNA HEIGHT SHALL CONFORM TO F.C.C. AND TELEMETRY MANUFACTURERS REQUIREMENTS AND SPECIFICATIONS.
2. TELEMETRY ANTENNA AND RELATED EQUIPMENT AS MANUFACTURED BY DATA FLOW SYSTEMS, INC. SHALL BE COMPATIBLE WITH EXISTING SUA TELEMETRY SYSTEM.
3. GROUND WIRE SHALL BE CONTINUOUS FROM FIRST GROUND ROD TO SERVICE DISCONNECT, TO CONTROL PANEL, TO ANTENNA BASE, TO SECOND GROUND ROD 6' TO 8' FROM FIRST GROUND ROD.
4. ANTENNA AND ROHN TOWER SHALL BE INSTALLED TO WITHSTAND 150 MPH WINDS.

Telemetry Antenna General Requirements

MAY 24, 2023 (Rev F-23)



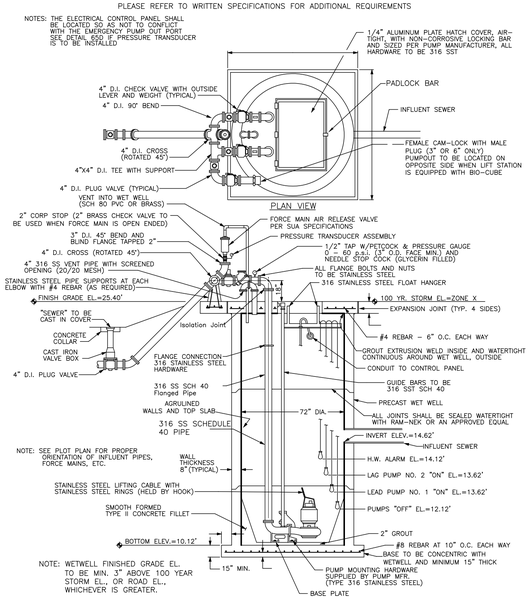
NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. TELEMETRY CONTROL UNIT SUPPLIED WITH PANEL. (ANTENNA SUPPLIED BY OTHERS)
2. MINIMUM ENCLOSURE 24x20x10.
3. LEAVE MINIMUM 6" SPACE AT BOTTOM OF ENCLOSURE.
4. CONTROL WIRE TO BE AWG 14 MINIMUM.
5. LAMINATED SCHEMATIC TO BE 11X17.
6. NEMA TYPE 4X 316 S.S. ENCLOSURE WITH CONTINUOUS HINGE.
7. ALL HARDWARE TYPE 316 S.S.
8. TYPICAL, ACTUAL LAYOUT MAY VARY WITH HORSEPOWER.

Lift Station Remote Telemetry Unit (RTU) Panel Layout

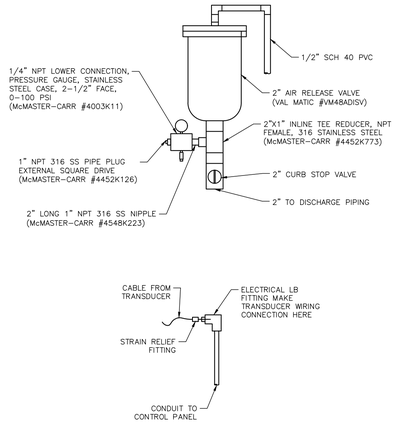
MAY 24, 2023 (Rev A-20)

PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS



Lift Station Detail

MAY 24, 2023 (Rev E-23)



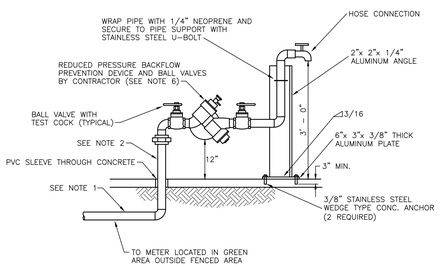
NOTES:

1. WIKA PART NUMBER 52831470 WITH THE FOLLOWING ATTRIBUTES:

   MODEL S-20 PRESSURE TRANSMITTER
   0-100 PSIG RANGE
   4-20 mA OUTPUT
   1/4" NPT CONDUIT MALE, WITH CABLE OUTLET

Diaphragm Seal Installation Detail

MAY 24, 2023 (Rev E-23)

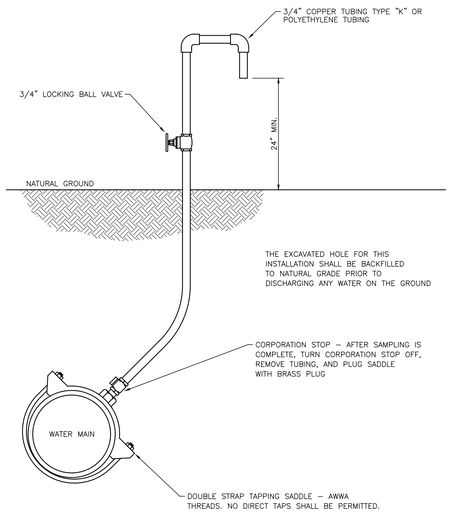


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. TYPE "K" COPPER TUBING (SOFT DRAWN).
2. BOTH RISERS SHALL BE TYPE "K" COPPER TUBING (HARD DRAWN) WITH COPPER/BRASS SOLDER FITTINGS AND ADAPTERS. ONLY LEAD FREE PIPE, FITTINGS, VALVES, SOLDER AND FLUX SHALL BE PERMITTED.
3. BACKFLOW PREVENTION DEVICE SHALL BE EQUIPPED WITH BALL VALVES.
4. FOR PLACEMENT OF BACKFLOW ASSEMBLY WITHIN FENCED AREA SEE "TYPICAL LIFT STATION SITE PLAN" DETAIL.
5. BACKFLOW PREVENTION DEVICE SHALL BE SUPPORTED AT BOTH RISERS WITH ALUMINUM ANGLE AS SHOWN ABOVE. RISERS TO BE SECURED TO ANGLE WITH TYPE 304 SST MOUNTING HARDWARE AND NEOPRENE INSULATORS.
6. APPROVED BACKFLOW PREVENTION DEVICES WITH SILICONE RUBBER SEAL RINGS OR DISCS; 3/4" TO 2"
   A.) AMES LF4000B
   B.) APOLLO RPLF 4A
   C.) WATTS LF919
   D.) ZURN 975XL2

Lift Station Backflow Preventer Assembly

MAY 24, 2023 (Rev D-23)

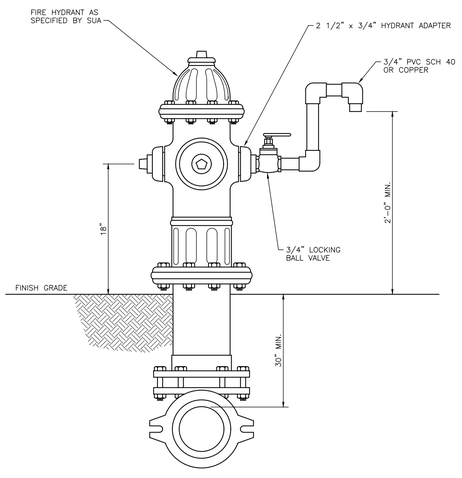


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. WHERE POSSIBLE, SERVICE TAPS OR FIRE HYDRANTS (SEE "SAMPLE POINT - FIRE HYDRANT" DETAIL) SHALL BE USED AS SAMPLING POINTS.

Sample Point - In Line

MAY 24, 2023 (Rev A-15)



PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

Sample Point - Fire Hydrant

MAY 24, 2023 (Rev A-15)

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OLD DIXIE SEPTIC TO SEWER
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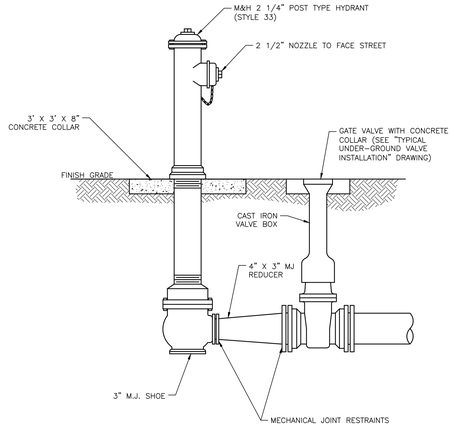
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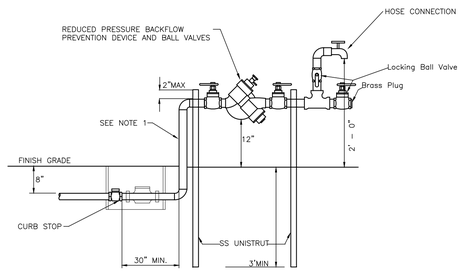
CONSTRUCTION, NOT FOR



PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

Flushing Hydrant

JANUARY 17, 2024 (Rev D-24)



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. BOTH RISERS SHALL BE TYPE "K" COPPER TUBING (HARD DRAWN) WITH COPPER/BRASS SOLDER FITTINGS AND ADAPTERS. ONLY LEAD FREE SOLDER AND FLUX SHALL BE PERMITTED.
2. BACKFLOW PREVENTION DEVICE SHALL BE SUPPORTED AT BOTH RISERS WITH SS UNISTRUT AS SHOWN ABOVE. RISERS TO BE SECURED TO ANGLE WITH TYPE 304 SST MOUNTING HARDWARE AND NEOPRENE INSULATORS.
3. BACKFLOW DEVICE SHALL BE MINIMUM OF 3' FROM BACK OF CURB AND/OR SIDEWALK
4. APPROVED BACKFLOW PREVENTION DEVICES WITH SILICONE RUBBER SEAL RINGS OR DISCS; 3/4" TO 2"
   A.) AMES LF4000B
   B.) APOLLO RPLF 4A
   C.) WATTS LF919
   D.) ZURN 975XL2

Sampling / Flushing Station

MAY 24, 2023 (Rev D-23)

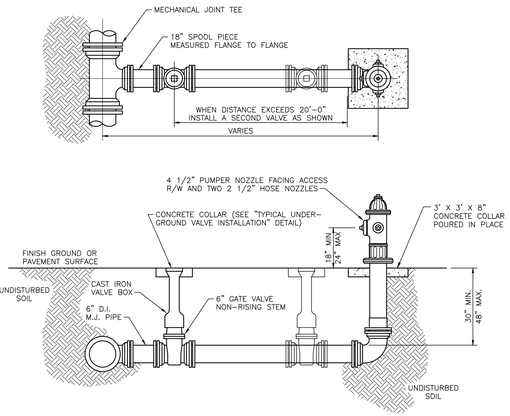
NOTE: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. MOUNT SIGN TO HOT DIPPED GALVANIZED STANDARD U-CHANNEL SIGN POST WITH STAINLESS STEEL HARDWARE.
2. SIGN SHALL BE .080 GAUGE ALUMINUM, WITH UV RESISTANT POLYURETHANE COATING.
3. COLOR SHALL BE WHITE LETTERS ON DARK BLUE BACKGROUND. COLORS MAY VARY WITH PRIOR APPROVAL OF SUA.



Sampling / Flushing Water Sign

MAY 24, 2023 (Rev D-23)

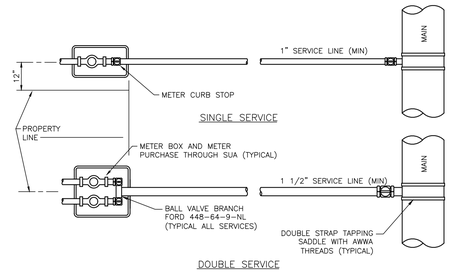


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. DRAINS OR WEEP HOLES ON HYDRANT BARREL SHALL BE PLUGGED.
2. FIRE HYDRANT SHALL BE INSTALLED PLUMB AND TRUE.
3. REFER TO EXHIBIT "D" SHOP SPECIFICATION LIST FOR ACCEPTABLE FIRE HYDRANTS.
4. TWO OF THE FOLLOWING FORMS OF RESTRAINT SHALL BE USED WHEN PIPE IS GREATER THAN 12".
   A) APPROVED MECHANICAL JOINT RESTRAINT (i.e. MEGALUG)
   B) TIE RODS AND NUTS EQUAL IN DIA. TO TEE BOLTS AND NUTS, COATED WITH KOP-COAT 300-M OR APPROVED EQUAL.

Typical Fire Hydrant Installation

JANUARY 17, 2024 (Rev C-24)

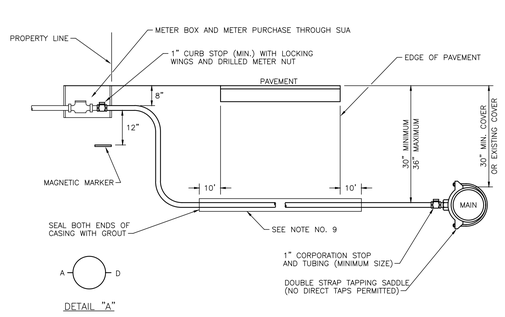


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. AUTHORIZED SERVICE LINE MATERIAL:
   A) TYPE "K" COPPER TUBING WITH COMPRESSION FITTINGS.
   B) POLYETHYLENE TUBING SDR 9, COPPER TUBE SIZE.
2. METER CURB STOP SHALL BE WITH LOCKING WINGS AND DRILLED METER NUT, 1" MINIMUM.
3. 1" METER CURB STOPS WITH 3/4" VALVES SHALL NOT BE PERMITTED.
4. MULTIPLE SERVICE/METER INSTALLATIONS OF MORE THAN 4 METERS PER SERVICE AND SERVICE LINES LARGER THAN 2" IN DIAMETER SHALL BE APPROVED ON AN INDIVIDUAL BASIS.
5. METER CURB STOPS 1 1/2" AND 2" IN SIZE SHALL BE PROVIDED WITH A METER FLANGE.
6. SERVICE LINE SHALL BE CONTINUOUS BETWEEN CORP STOP AND CURB STOP WITH THE EXCEPTION OF THE "Y" BRANCH.
7. SERVICE TAPS SHALL BE SPACED AT A MINIMUM DISTANCE OF 18 INCHES.

Typical Water Service

JANUARY 17, 2024 (Rev D-24)

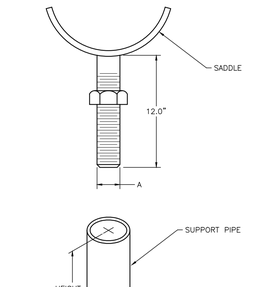


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. CASINGS SHALL BE REQUIRED FOR ALL LONG SIDE SERVICES.
2. SUCCESSIVE TAPS ON THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" OFFSET AND AT 90° FROM THE CENTERLINE AS SHOWN ON DETAIL "A".
3. WHERE NO SIDEWALK EXISTS, METER BOXES SHALL BE SET TO CONFORM TO FINISH GRADE.
4. COPPER TUBING SHALL BE TYPE "K" WITH COMPRESSION FITTINGS.
5. POLYETHYLENE TUBING SHALL BE SDR 9, COPPER TUBE SIZE.
6. ROTATE THE CORPORATION STOP SO THAT THE OPERATING NUT IS ACTUATED FROM THE VERTICAL POSITION RATHER THAN THE HORIZONTAL POSITION.
7. BOTH COPPER AND POLYETHYLENE TUBING SERVICE LINES SHALL BE CONTINUOUS FROM CORPORATION STOP TO CURB STOP WITH NO FITTINGS IN BETWEEN.
8. TAPPING SADDLES AND CORPORATION STOPS SHALL HAVE AWWA INLET THREADS.
9. SERVICE CASING SHALL NOT BE INSTALLED BY WATER JETTING UNDER ROADWAY.
10. GALVANIZED SCHEDULE 40 CASING REQUIRED FOR ANY INSTALLATION REQUIRING A JACK AND BORE , SCHEDULE 40 PVC MAY BE USED FOR AN OPEN CUT INSTALLATION WITH THE APPROVAL OF SUA, CASING SHOULD EXTEND TEN (10) FEET BEYOND EDGE OF PAVEMENT AND SIZED AS FOLLOWS:
    A.) 1" SERVICE USE 2" CASING
    B.) 1 1/2" SERVICE USE 3" CASING
    C.) 2" SERVICE USE 4" CASING

Typical Water Service Installation

MAY 24, 2023 (Rev B-23)



PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

PIPE SIZE	A	SUPPORT PIPE	SADDLE	PLATE	HEIGHT
3"	3/4"	1"	1/4" x 2"	4" x 4"	1' - 0"
4"	3/4"	1"	1/4" x 2"	4" x 4"	1' - 0"
6"	3/4"	1"	1/4" x 2"	4" x 4"	1' - 0"
8"	3/4"	1"	1/4" x 2"	4" x 4"	1' - 0"
10"	1"	1 1/4"	3/8" x 3"	6" x 6"	1' - 0"
12"	1"	1 1/4"	3/8" x 3"	6" x 6"	1' - 0"
14"	1"	1 1/4"	3/8" x 3"	6" x 6"	1' - 0"
16"	1 1/4"	1 1/2"	1/2" x 3"	6" x 6"	1' - 0"
18"	1 1/4"	1 1/2"	1/2" x 3"	6" x 6"	1' - 0"

NOTE: ALL MATERIAL SHALL BE 316 STAINLESS STEEL

Pipe Support

MAY 24, 2023 (Rev B-16)

STANDARD WATER, RECLAIMED WATER AND SEWER SEPARATION STATEMENT

1. STORM SEWER, GRAVITY WASTEWATER, FORCE MAINS AND RECLAIMED WATER MAINS CROSSING UNDER POTABLE WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF TWELVE (12) INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED BETWEEN GRAVITY SEWER OR STORM SEWER, THE CROSSING SHALL BE ARRANGED SO THAT THE STORM/GRAVITY SEWER PIPE JOINTS AND POTABLE WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN SIX (6) FEET BETWEEN ANY TWO JOINTS, BOTH PIPES SHALL BE D.I.P., AND THE MINIMUM VERTICAL SEPARATION SHALL BE SIX (6) INCHES. WHERE THERE IS NO ALTERNATIVE TO STORM/WASTEWATER/FORCE MAIN/RECLAIMED WATER MAINS CROSSING OVER A POTABLE WATER MAIN, THE CRITERIA FOR MINIMUM TWELVE (12) INCH VERTICAL SEPARATION BETWEEN LINES AND JOINT ARRANGEMENT, AS STATED ABOVE, SHALL BE REQUIRED, AND BOTH PIPES SHALL BE D.I.P. IRRESPECTIVE OF SEPARATION, IN ALL OF THE ABOVE CASES D.I.P. IS NOT REQUIRED FOR STORM SEWER PIPE.
2. FORCE MAINS CROSSING RECLAIMED WATER MAINS OR STORM SEWER SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF TWELVE (12) INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND THE OUTSIDE OF THE RECLAIMED WATER MAIN OR STORM SEWER AND THE RECLAIMED WATER MAIN SHALL CROSS OVER THE FORCE MAIN.
3. AT THE UTILITY CROSSING DESCRIBED IN ITEMS 1 AND 2 ABOVE, ONE FULL LENGTH OF DUCTILE IRON WATER MAIN PIPE SHALL BE CENTERED SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE JOINTS. WHERE THIS IS NOT POSSIBLE, JOINTS SHALL BE AT LEAST THREE (3) FEET FROM STORM SEWERS AND SIX (6) FEET FROM GRAVITY SEWER MAINS, FORCE MAINS AND RECLAIMED WATER MAINS.
4. SEWER SERVICE LATERALS SHALL CROSS UNDER WATER MAINS WITH A MINIMUM VERTICAL SEPARATION OF TWELVE (12) INCHES. IF (12") VERTICAL SEPARATION CANNOT BE MAINTAINED, THEN THE WATER MAIN SHALL BE D.I.P. AND THE SEWER SERVICE LATERAL SHALL BE C-900 SDR 18 OR BETTER AND THE MINIMUM SEPARATION SHALL BE SIX (6) INCHES. WHEN IT IS NOT POSSIBLE FOR THE WATER MAIN TO CROSS OVER THE SEWER SERVICE LATERAL A MINIMUM VERTICAL SEPARATION OF AT LEAST TWELVE (12) INCHES MUST BE MAINTAINED, THE WATER MAIN SHALL BE D.I.P. AND THE SEWER LATERAL SHALL BE C-900 SDR 18 OR BETTER.
5. MAINTAIN MINIMUM TEN (10) FEET HORIZONTAL DISTANCE BETWEEN POTABLE WATER MAIN OR FORCE MAIN, RECLAIMED WATER MAIN, STORM SEWER OR GRAVITY SEWER MAIN OR ON SITE SEWAGE DISPOSAL SYSTEMS. ADDITIONAL SEPARATION MAY BE REQUIRED AS OUTLINED IN SECTION II OF SUA STANDARDS.

Water, Reclaimed Water, and Sewer Separation Statement

MAY 24, 2023 (Rev B-18)

Item 2.

REVISIONS

NO.	DATE	REMARKS	BY

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ADAM SWANEY, P.E.
NO. 72235

OLD DIXIE SEPTIC TO SEWER
TOWN OF LAKE PARK, FL
GRAVITY AND LOW PRESSURE FORCE MAIN PLANS
UTILITY DETAILS

engenuity group inc.
A Higher Standard of Excellence
ENGINEERS • SURVEYORS • GIS MAPPERS
1280 N. CONGRESS AVE. SUITE 101
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J:\Land Projects RD\18187.27 Lake Park Septic to Sewer\18187.27 DETAILS.dwg DATE: 12/17/2024 11:02 AM

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PROJECT MANAGER	MK	
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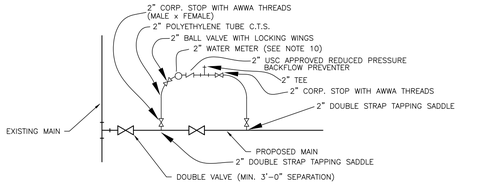
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CONSTRUCTION, NOT FOR

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

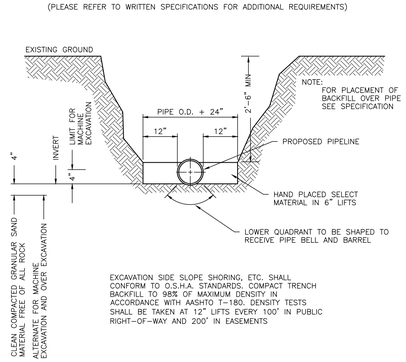
1. THIS METHOD SHALL BE COMPLIED WITH WHEN CONNECTING TO AN EXISTING WATER MAIN, (ONE THAT HAS ALREADY BEEN BACTERIOLOGICALLY CLEARED OR IS IN USE) WHETHER BY TEE AND VALVE OR BY CONTINUATION OF A PLUGGED STUB OUT WITH AN EXISTING GATE VALVE.
2. THESE REQUIREMENTS ARE BASED ON PALM BEACH COUNTY HEALTH DEPARTMENT REQUIREMENTS.
3. WHEN A TAPPING TEE AND VALVE IS INSTALLED, A PRESSURE/LEAKAGE TEST SHALL BE PERFORMED ON THE ASSEMBLY IN THE PRESENCE OF AN AUTHORIZED SUA REPRESENTATIVE PRIOR TO PERFORMING THE ACTUAL TAP.
4. DOUBLE VALVING PERMITS PHYSICAL CONNECTION TO AN EXISTING WATER MAIN WHEN USED IN CONJUNCTION WITH A BYPASS LINE.
5. A 2" BYPASS LINE (MAXIMUM) SHALL BE INSTALLED AS SHOWN BELOW PRIOR TO CANNON FLUSHING.
6. THE 2" TEE SHALL BE USED FOR FEEDING CHLORINE SOLUTION AND FOR ATMOSPHERIC VENT DURING PRESSURE/LEAKAGE TESTS.
7. UNDER NO CIRCUMSTANCES SHALL VALVES BE OPERATED WITHOUT AN AUTHORIZED SUA REPRESENTATIVE PRESENT.
8. ALL WATER MAINS SHALL BE FILLED WITH WATER UTILIZING JUMPER METER AND THEN BE THOROUGHLY CANNON FLUSHED IN ACCORDANCE WITH SEACOAST SPECIFICATIONS PRIOR TO PRESSURE/LEAKAGE TESTING. THE PROCEDURE SHALL BE DONE ONLY IN THE PRESENCE OF AN AUTHORIZED SUA REPRESENTATIVE.
9. FOLLOWING INITIAL CANNON FLUSHING, ALL WATER FOR PRESSURE/LEAKAGE TESTING AND BACTERIOLOGICAL CLEARANCES MUST BE DRAWN FROM THE BYPASS LINE WITH METER AND REDUCED PRESSURE BACKFLOW PREVENTER IN PLACE. THE 2" INCH WATER METER SHALL BE PROVIDED BY SUA UPON APPLICATION BY EITHER THE CONTRACTOR OR DEVELOPER. ALL WATER USED FOR THE CONSTRUCTION OF THE WATER AND SEWER MAINS SHALL BE PAID FOR BY THE ABOVE PARTIES PRIOR TO ANY SERVICE BEING PROVIDED. METER, BALL VALVE, REDUCED PRESSURE BACKFLOW PREVENTER AND TEE SHALL INSTALLED AT LEAST 18" ABOVE EXISTING GRADE, SUPPORTED, AND PROTECTED FROM DAMAGE. ANY DAMAGE SHALL BE APPLICANT'S RESPONSIBILITY AND SHALL BE CHARGED ACCORDINGLY.
10. EXCEPT DURING CANNON FLUSHING VALVES SHALL NOT BE OPENED UNTIL AFTER AN APPROVED PRESSURE/ LEAKAGE TEST, BACTERIOLOGICAL CLEARANCE, CERTIFICATION BY THE ENGINEER OF RECORD, RELEASE FROM THE PALM BEACH COUNTY HEALTH DEPARTMENT AND APPROVAL BY SUA.
11. DISINFECTION AND BACTERIOLOGICAL CLEARANCES SHALL COMPLY WITH CURRENT AWWA PROCEDURES, PALM BEACH COUNTY HEALTH DEPARTMENT, AND FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS.



Tapping and Main Clearing Procedure

MAY 24, 2023 (Rev B-18)

(PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

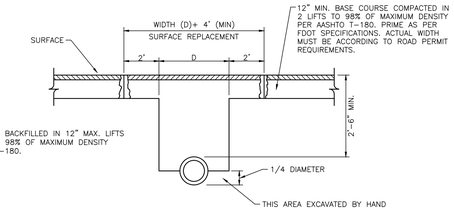


EXCAVATION SIDE SLOPE SHORING, ETC. SHALL CONFORM TO O.S.H.A. STANDARDS. COMPACT TRENCH BACKFILL TO 98% OF MAXIMUM DENSITY IN ACCORDANCE WITH AASHTO T-180. DENSITY TESTS SHALL BE TAKEN AT 12" LIFTS EVERY 100' IN PUBLIC RIGHT-OF-WAY AND 200' IN EASEMENTS

CONTRACTOR SHALL AT ALL TIMES COMPLY WITH THE REQUIREMENTS OF THE FLORIDA TRENCH SAFETY ACT.

Standard Trenching Procedure

MAY 24, 2023 (Rev C-20)



TRENCH TO BE BACKFILLED IN 12" MAX. LIFTS COMPACTED TO 98% OF MAXIMUM DENSITY PER AASHTO T-180.

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. REPLACED BASE MATERIAL OVER DITCH SHALL BE A MINIMUM OF TWICE THE THICKNESS OF THE ORIGINAL BASE.
2. BASE MATERIAL SHALL BE PLACED IN A MINIMUM OF 2 LIFTS AND THOROUGHLY ROLLED OR TAMPED TO 98% OF MAXIMUM DENSITY PER AASHTO T-180.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
4. SURFACE MATERIAL SHALL BE CONSISTENT WITH EXISTING SURFACE, WITH ASPHALT A MINIMUM OF 2" THICK.
5. A MINIMUM OF TWO DENSITY TESTS SHALL BE TAKEN FOR EACH SIX (6") INCH LIFT OF SUBGRADE AND EACH OPEN CUT CROSSING. ROAD CROSSINGS GREATER THAN 24 FEET IN WIDTH SHALL REQUIRE ONE ADDITIONAL TEST SITE FOR EACH ADDITIONAL 12 FEET OF PAVEMENT. WHEN THE SPECIFIED COMPACTED BASE IS GREATER THAN SIX AND ONE-HALF (6 1/2") INCHES, THE BASE SHALL BE CONSTRUCTED IN TWO OR MORE COURSES. PROCTORS FOR MATERIALS USED IN BACKFILLING SHALL BE OBTAINED BY A CERTIFIED LABORATORY. DENSITY TESTS SHALL BE CONDUCTED BY A CERTIFIED LABORATORY. THE PERCENTAGE OF MAXIMUM DENSITY REQUIRED SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF "THE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AT THE TIME THE PERMIT WAS ISSUED. ALL DENSITY TESTS SHALL BE COMPLETED AND ACCEPTED ON EACH LAYER PRIOR TO ADDITIONAL BACKFILLING. A COPY OF ALL COMPLETED AND ACCEPTED DENSITY TESTS SHALL BE FURNISHED TO SUA UPON REQUEST, BACKFILL COMPACTION SHALL BE 98% OF MAXIMUM DENSITY PER AASHTO T-180.
6. ANY DAMAGE TO TRAFFIC SIGNALIZATION EQUIPMENT SHALL BE REPAIRED BY THE PALM BEACH TRAFFIC DIVISION AT THE CONTRACTORS EXPENSE.
7. THESE SPECIFICATIONS MAY BE SUPERSEDED BY THE PERMITTING AGENCY.
8. TEMPORARY ASPHALT OR CONCRETE PATCH MUST BE APPLIED THE SAME DAY AS THE BACKFILL.
9. TRAFFIC AREAS OR WHERE SAFETY TO THE PUBLIC IS AT ISSUE A TEMPORARY ASPHALT OR CONCRETE PATCH MUST BE IMMEDIATELY PLACED.

Pavement Replacement

MAY 24, 2023 (Rev A-15)

LENGTH OF PIPE RESTRAINT REQUIREMENTS AT ALL PIPE JOINTS

PIPE SIZE	90° BEND	45° BEND	22½° BEND	11¼° BEND	REDUCER	VALVE	DEAD END	TEE
4"	54'	54'	36'	36'	54'	72'	72'	72'
6"	54'	54'	36'	36'	54'	72'	72'	72'
8"	54'	54'	36'	36'	54'	72'	72'	72'
10"	54'	54'	36'	36'	54'	108'	108'	108'
12"	72'	72'	54'	54'	72'	108'	108'	108'
14"	72'	72'	54'	54'	72'	108'	108'	108'
16"	72'	72'	54'	54'	72'	154'	154'	154'
18"	72'	72'	54'	54'	72'	154'	154'	154'
20"	90'	90'	54'	54'	90'	154'	154'	154'
24"	90'	90'	54'	54'	90'	172'	172'	172'
30"	90'	90'	54'	54'	90'	180'	180'	180'
36"	90'	90'	54'	54'	90'	270'	270'	270'
42"	108'	108'	54'	54'	108'	270'	270'	270'
48"	108'	108'	54'	54'	108'	270'	270'	270'
54"	108'	108'	54'	54'	108'	270'	270'	270'

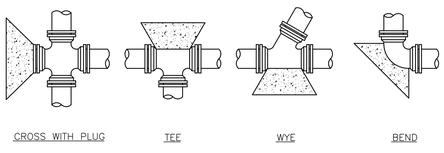
MINIMUM LENGTH OF PUSH ON JOINT PIPE WITH SPECIAL RESTRAINING GASKETS

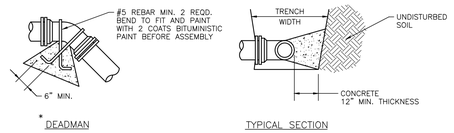
NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. ALL BURIED PRESSURE MAINS SHALL INCLUDE A RESTRAINED JOINT SYSTEM. THE CONTRACTOR SHALL USE A DUCTILE IRON RESTRAINING SYSTEM AS MANUFACTURED BY EBAA IRON, INC. (MEGALUG) OR APPROVED EQUAL FOR ALL MECHANICAL JOINT FITTINGS AND LOCKING GASKETS FOR PUSH-ON JOINT PIPE.
2. RESTRAINING LENGTHS SHOWN ARE THE MINIMUM LENGTH REQUIRED BASED ON A TEST PRESSURE OF 150 P.S.I.G.
3. THRUST BLOCKS, IN ADDITION TO THE ABOVE OUTLINED RESTRAINTS, SHALL ALSO BE REQUIRED AT ALL TIE-INS TO EXISTING LINES, ALL TAPPING TEES ON EXISTING LINES, ALL NEW HYDRANTS, ALL ABOVE-GROUND ASSEMBLIES 3" AND LARGER AND MAINS GREATER THAN 12" IN DIAMETER.
4. FOR ALL C900 PVC PIPE. ADD A SAFETY FACTOR OF 1.1 TO THE ABOVE LENGTHS

Pipe Restraint Table

MAY 24, 2023 (Rev D-23)





ALL THRUST BLOCKS SHALL BE FORMED. LAID FORMS SHALL BE INSPECTED BY SUA PRIOR TO THE POURING OF CONCRETE AND SHALL ALSO BE INSPECTED BY SUA PRIOR TO COVERING. TYPICAL LOCATIONS WHICH REQUIRE CONCRETE THRUST BLOCKS, FOR PRESSURE MAINS FOUR INCHES (4") AND GREATER CONCRETE SHALL HAVE 2500 P.S.I. MINIMUM STRENGTH AT TWENTY EIGHT (28) DAYS AND BEAR AGAINST UNDISTURBED STABLE SOILS, AREA OF CONTACT SHALL BE GOVERNED BY PIPE SIZE, MAXIMUM PRESSURE IN PIPE, AND BEARING CAPACITY OF SOIL. PROTECT FITTINGS, BOLTS, ETC. BY COVERING WITH VISQUINE OR OTHER ACCEPTABLE MATERIAL. CONCRETE SHALL BE A MINIMUM OF TWELVE INCHES (12") THICK. THRUST BLOCKS SHALL NOT BE AN ALTERNATIVE TO RESTRAINING GUARDS OR RESTRAINING GASKETS. THRUST BLOCKS MAY BE USED WHERE A SECOND FORM OF RESTRAINT IS REQUIRED AND WHEN TYING INTO EXISTING WHERE NO OTHER ALTERNATIVE EXISTS.

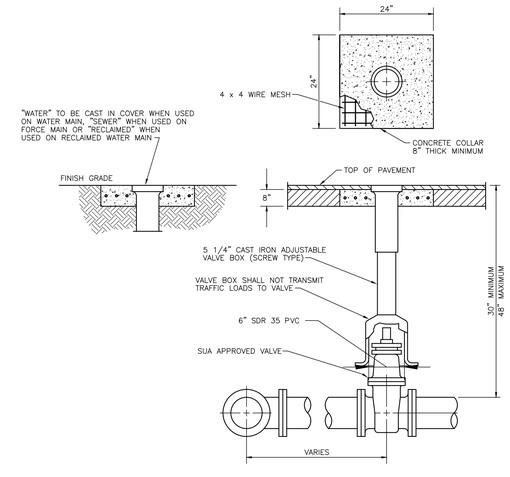
(PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

PIPE	THRUST BLOCK SOIL BEARING AREA REQUIRED	PIPE	THRUST BLOCK SOIL BEARING AREA REQUIRED	REMARKS
4"	2.0 SQ. FT.	18"	30.0 SQ. FT.	VALUES ARE FOR 90° BEND, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. PLUS 33% SAFETY FACTOR FOR OTHER SOILS AND PRESSURES.
6"	4.0 SQ. FT.	20"	37.0 SQ. FT.	
8"	6.6 SQ. FT.	24"	53.0 SQ. FT.	
10"	10.0 SQ. FT.	27"	80.0 SQ. FT.	
12"	14.0 SQ. FT.	30"	98.0 SQ. FT.	
14"	18.0 SQ. FT.	36"	127.0 SQ. FT.	
16"	24.0 SQ. FT.			

* THE ENGINEER OF RECORD SHALL CALCULATE THE SIZE OF THE DEADMAN REQUIRED AS WELL AS ANY INSTALLATION WHICH IS NOT COVERED BY THE ABOVE.

Thrust Blocks

MAY 24, 2023 (Rev B-23)

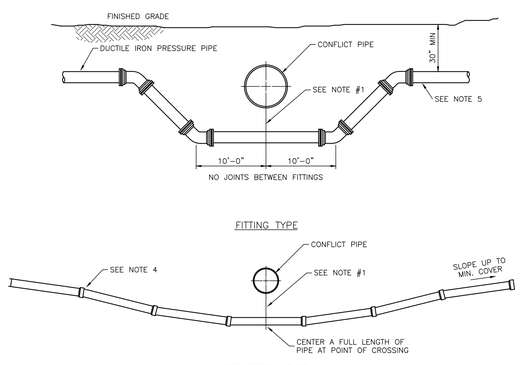


NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. CONCRETE COLLAR MAY NOT BE REQUIRED IN PAVED AREAS IF PAVEMENT SURFACE IS FINISHED PRIOR TO FINAL INSPECTION AND VALVE BOX LID IS AT FINISHED GRADE.
2. WHEN VALVE IS DEEPER THAN 48" AN EXTENSION WILL BE REQUIRED TO BRING OPERATING NUT TO 24" OF FINISHED GRADE.
3. TWO OF THE FOLLOWING FORMS OF RESTRAINT SHALL BE USED WHEN PIPE IS GREATER THAN 12".
   A.) APPROVED MECHANICAL JOINT RESTRAINT (i.e. MEGALUG)
   B.) TIE RODS AND NUTS EQUAL IN DIA. TO TEE BOLTS AND NUTS, COATED WITH KOP-COAT 300-M OR APPROVED EQUAL.

Typical Underground Valve Installation

MAY 24, 2023 (Rev B-23)



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. FOR VERTICAL SEPARATION SEE "WATER, RECLAIMED WATER AND SEWER SEPARATION STATEMENT" DRAWING #2.
2. ONE OF THE FOLLOWING FORMS OF RESTRAINT SHALL BE USED FROM FITTING TO FITTING FOR PIPE SIZES UP TO AND INCLUDING 12", FOR PIPE SIZES GREATER THAN 12" TWO FORMS OF RESTRAINT SHALL BE USED.
   A.) APPROVED MECHANICAL JOINT RESTRAINT. (i.e. MEGALUG)
   B.) TIE RODS AND NUTS EQUAL IN DIA. TO TEE BOLTS AND NUTS, COATED WITH KOP-COAT 300-M OR APPROVED EQUAL.
   C.) THRUST BLOCKS – ADVANCE APPROVAL BY SUA REQUIRED.
3. THE DEFLECTION TYPE CROSSING IS PREFERRED, BUT IN INSTANCES WHERE THE FITTING TYPE DEFLECTION IS USED, 22 1/2° BENDS ARE PREFERRED.
4. DEFLECTION SHALL NOT EXCEED 75% OF MANUFACTURERS RECOMMENDED MAXIMUM JOINT DEFLECTION.
5. PIPE SHALL BE RESTRAINED FOR EACH FITTING TYPE DEFLECTION PER "PIPE RESTRAINT TABLE" DETAIL.
6. ALL JOINTS IN DEFLECTIONS SHALL BE AS-BUILT ON THE RECORD DRAWINGS

Pressure Pipe Deflection

MAY 24, 2023 (Rev D-23)

INSTALLATION PROTOCOL

1. ALL PIPE IS TO BE LAID IN A CLEAN DRY TRENCH.
2. ALL MUCK AND UNSUITABLE MATERIALS ENCOUNTERED IN TRENCH BOTTOM SHALL BE REMOVED AND REPLACED WITH COMPACTED GRANULAR MATERIAL TO 98% OF MAXIMUM DENSITY PER AASHTO T-180. PROCTOR AND DENSITY TEST RESULTS SHALL BE SUBMITTED TO EOR WITH A COPY TO AUTHORITY.
3. ALL BACKFILL SHALL BE PLACED IN 12 INCH LIFTS AND COMPACTED BY MECHANICAL MEANS TO 98% OF MAXIMUM DENSITY PER AASHTO T-180 OR AS OTHERWISE REQUIRED BY THE PERMITTING AGENCY.
4. UTILITIES CROSSING ROAD RIGHT-OF-WAY SHALL BE INSTALLED PRIOR TO ROAD CONSTRUCTION AND BACKFILLED AND COMPACTED WITHIN RIGHT-OF-WAY LIMITS IN STRICT ACCORDANCE WITH THE DIRECTIONS OF THE EOR AND REQUIREMENTS OF ALL AGENCIES OF JURISDICTION.
5. EMBEDMENT MATERIALS BELOW PIPE SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION SYSTEM (U.S.C.S.) SOIL CLASSIFICATION CLASS I OR II AS NOTED IN ASTM D2321.
6. ALL LINES UNDER CONSTRUCTION SHALL BE PLUGGED WITH A WING PLUG, AND ALL PRESSURE PIPES ARE TO BE PLUGGED WITH A MECHANICAL PLUG OR CAP AT THE END OF THE WORKING DAY TO PREVENT GROUND WATER AND POTENTIAL CONTAMINANTS FROM ENTERING COMPLETED LINES AND LINES UNDER CONSTRUCTION.
7. ABOVE GROUND PIPING, INCLUDING BUT NOT LIMITED TO, AERIAL CROSSINGS, LIFT STATION PIPING, FIRE LINES, METER/BACKFLOW PREVENTION DEVICE ASSEMBLIES, ETC. SHALL BE FLANGED AND BE COATED IN ACCORDANCE WITH SECTION 2 OF SEACOAST UTILITY AUTHORITY CONSTRUCTION STANDARDS.
   THE FINISHED COAT OF PAINT SHALL BE GREEN IN COLOR FOR SANITARY SEWER, LAVENDER FOR RECLAIMED APPURTENANCES AND BLUE FOR POTABLE WATER APPURTENANCES.
8. ALL FLANGED PIPE SHALL BE CAULKED BETWEEN EACH FLANGE AND THREADS WITH SIKA 1 A URETHANE CAULK AFTER BLASTING AND PRIOR TO PRIMING.
9. ALL TIE RODS, BOLTS, NUTS, ETC. INSTALLED UNDERGROUND MUST BE COR TEN OR APPROVED EQUAL AND SHALL BE PAINTED WITH KOPPERS 300-M OR AN AUTHORITY APPROVED EQUAL. BRASS AND STAINLESS STEEL HARDWARE IS EXEMPT FROM THIS REQUIREMENT.
10. COATINGS AND LININGS DAMAGED DUE MISHANDLING OR OTHERWISE, MUST BE REPLACED. COATING AND LININGS DAMAGED DUE TO FIELD CUTTING SHALL BE REPAIRED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, CEMENT MORTAR AND POLYETHYLENE PIPE LININGS, PROTECTO 401, GALVANIZED COATINGS, PVC FENCE COATINGS AND OTHER TYPE COATINGS. APPROVAL MUST BE OBTAINED FROM AUTHORITY PRIOR TO PERFORMING COATING AND LINING REPAIRS. INSPECTIONS OF ALL REPAIRS ARE REQUIRED.
11. ALL STAINLESS STEEL NUTS, BOLTS AND HARDWARE REFERENCED IN THESE STANDARDS, SHALL BE SS 316 GRADE AND SHALL BE SO STAMPED BY THE MANUFACTURER TO VERIFY ALLOY. THE USE OF ANY OTHER STAINLESS STEEL ALLOY WILL REQUIRE SPECIFIC APPROVAL BY AUTHORITY. IN GENERAL, STAINLESS STEEL NUTS, BOLTS AND HARDWARE ARE REQUIRED IN AND AROUND LIFT STATIONS AND FOR FACILITIES INSTALLED OVER OR UNDER BRACKISH OR MARINE WATERS. THIS REQUIREMENT APPLIES TO FLANGE BOLTS AND NUTS ON FLANGED PIPING, MOUNTING BRACKETS, ALL THREAD ROD, ANCHOR BOLTS, WASHERS, CLAMPS AND OTHER MISCELLANEOUS HARDWARE. ANTI-GALLING COMPOUND ANTI-SEIZE LUBRICANT SHALL BE APPLIED TO THE THREADS OF ALL STAINLESS STEEL BOLTS PRIOR TO INSTALLATION.

    ANTI-SEIZE LUBRICANT SHALL BE GRAPHITE 50 ANTI-SEIZE BY LOCTITE CORPORATION, 1000 ANTI-SEIZE PASTE BY DOW CORNING OR 3M LUBE AND ANTI-SEIZE BY 3M.
12. ALL RUBBER AND SYNTHETIC ELASTOMERIC COMPONENTS OF PRODUCTS THAT COME IN CONTACT WITH POTABLE WATER SHALL BE MANUFACTURED WITH CHLORAMINE RESISTANT ELASTOMERS AND SHALL BEAR NSF APPROVAL.
13. ALL MAIN, INCLUDING FITTINGS, SHALL BE EASILY IDENTIFIABLE AS TO THEIR CONTENTS AND SHALL BE COLOR CODED OR MARKED USING THE UNIVERSAL COLOR CODE OF BLUE FOR WATER, GREEN FOR SEWER AND LAVENDER FOR RECLAIMED. PIPE STRIPED DURING MANUFACTURING OF THE PIPE SHALL HAVE CONTINUOUS STRIPES THAT RUN PARALLEL TO THE AXIS OF THE PIPE, THAT ARE LOCATED AT NO GREATER THAN 90-DEGREE INTERVALS AROUND THE PIPE, AND THAT WILL REMAIN INTACT DURING AND AFTER INSTALLATION OF THE PIPE. IF TAPE IS USED TO STRIPE PIPE DURING INSTALLATION OF THE PIPE, THE TAPE SHALL BE APPLIED IN A CONTINUOUS LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE AND THAT IS LOCATED ALONG THE TOP OF THE PIPE. FOR PIPES WITH AN INTERNAL DIAMETER OF 24 INCHES OR GREATER, TAPE SHALL BE APPLIED IN CONTINUOUS LINES ALONG EACH SIDE OF THE PIPE AS WELL AS ALONG THE TOP OF THE PIPE.

Installation Protocol

MAY 24, 2023 (Rev D-23)

REVISIONS

NO.	DATE	REMARKS	BY

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NO. 72235

OLD DIXIE SEPTIC TO SEWER
TOWN OF LAKE PARK, FL
GRAVITY AND LOW PRESSURE FORCE MAIN PLANS

UTILITY DETAILS

A Higher Standard of Excellence
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DATE	APRIL
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PROJECT ENGINEER	MK
PROJECT MANAGER	ACS
CHECKED	ACS

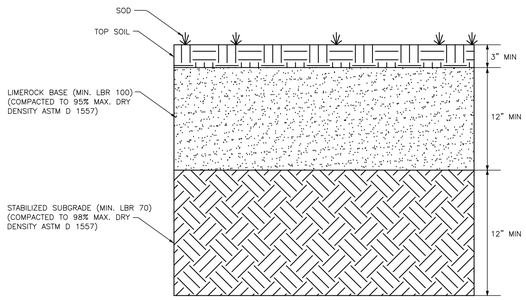
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JOB NO. 18187.27

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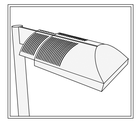
CONSTRUCTION, NOT FOR



Stabilized SUA Easement Section

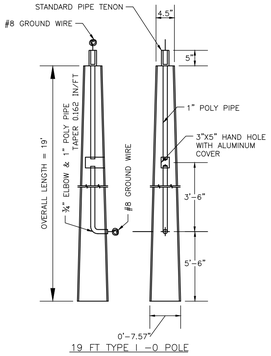
MAY 24, 2023 (Rev A-19)

SITE LIGHT



SPEC. LIGHTING FIXTURES TO BE KIM LIGHTING THE ARCHETYPE SERIES
MODEL: ARX16-3-4K-35-UV-BL-ST-A30-FGL-SVSF

CONFIGURATION: 1SA
FIXTURE: ARX16
DISTRIBUTION: 3 - TYPE III
COLOR TEMPERATURE: 4K - 4000K
DRIVE CURRENT: 35 - 350mA
VOLTAGES: UV - 120-277V
FIXTURE FINISH: BL - BLACK
ARM SUPPORT: ST - STRAIGHT
PHOTOCELL OPTIONS: A30 - 120V BUTTON PHOTOCELL
LENS OPTION: FGL - FLAT GLASS LENS
MOUNTING OPTIONS: SVSF - VERTICAL SLIPFITTER MOUNT SQUARE FOR 2" PIPE TENON, (2-3/8" O.D.)



19 FT TYPE I -0 POLE

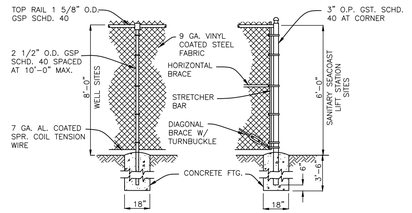
LENGTH OF POLE	19 FT			
EMBEDMENT SPECIFIED	7 FT			
HEIGHT ABOVE GROUND	12 FT			
WEIGHT	818 LBS			
WIND VELOCITY (MPH)	150	160	170	180
MAXIMUM EPA* (SQ FT)				

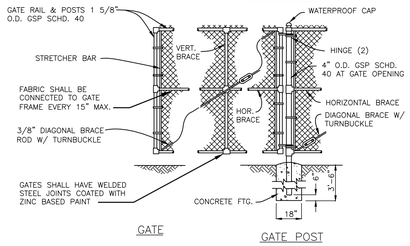
ABOVE EMBEDMENT SHOWN IN SAND. OTHER EMBEDMENT DEPTH MAY BE REQUIRED FOR OTHER SOIL CONDITION.

STANDARD PIPE TENON SIZE	
NOMINAL DIAMETER (IN)	OUTSIDE DIAMETER (IN)
2"	2 ⅜"

Lift Station Yard Light

MAY 24, 2023 (Rev C-23)





NOTES:

1. GATE TO BE SIZED PER REQUIREMENTS.
2. VINYL COATED STEEL WOVEN WIRE FABRIC TO BE STRETCHED TAUT W/ STRETCHER BARS AND STRAPS AND FASTENED TOP & BOTTOM AND AT LINE POSTS WITH GALV. PIG RING TIES.
3. GATE TO BE SECURED OPEN WITH GATE STOP SET IN CONCRETE.
4. ALL RAILS, POSTS AND HARDWARE TO BE BLACK VINYL COATED.
5. WHERE POSTS COME IN CONTACT WITH CONCRETE THEY SHALL BE COATED WITH KOPPERS 300M OR APPROVED EQUAL.
6. GA. CALL-OUTS ARE FOR WIRE BEFORE VINYL COATING.
7. VERTICAL BLACK PVC FENCE SLATS REQUIRED.

Fence Detail

MAY 24, 2023 (Rev B-23)

CONSTRUCTION, NOT FOR

PLOT: 1/29/2025 3:24:26 PM

Item 2.

REVISIONS

NO.	DATE	REMARKS	BY

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ADAM SWANEY, P.E.
NO. 72235

OLD DIXIE SEPTIC TO SEWER
TOWN OF LAKE PARK, FL
GRAVITY AND LOW PRESSURE FORCE MAIN PLANS
UTILITY DETAILS

J:\Land Projects RZ\18187.27 Lake Park Septic to Sewer\18187.27 DETAILS.dwg DATE: 12/17/2024 11:02 AM

DATE	APRIL
DRAWN	MK
PROJECT ENGINEER	MK
PROJECT MANAGER	ACS
CHECKED	ACS

SHEET NO. 29 / 30

JOB NO. 18187.27

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FORM 3605.1

CONSTRUCTION PROCEDURES

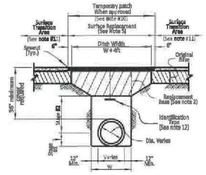
THE BACKFILL FOR THE FIRST AND SECOND STAGES SHALL BE PLACED IN 6" LAYERS COMPACTED THOROUGHLY AND SHALL BE COMPACTED TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO-T-99.

STAGE 1:

THE CONTRACTOR SHALL PROVIDE ADEQUATE COMPACTED FILL BENEATH THE HAUNCHES OF THE PIPE, USING MECHANICAL TAMPS SUITABLE FOR THIS PURPOSE. THIS COMPACTION APPLIES TO THE MATERIAL PLACED BENEATH THE HAUNCHES OF THE PIPE AND ABOVE ANY BEDDING REQUIRED.

STAGE 2:

THE CONTRACTOR SHALL OBTAIN A WELL-COMPACTED BED AND FILL ALONG THE SIDES OF THE PIPE AND TO A POINT INDICATING THE TOP OF SUB-GRADE MATERIAL.



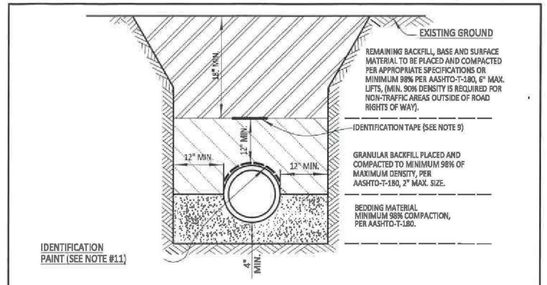
REPLACEMENT OF FLEXIBLE PAVEMENT FOR PERMITTED PAVEMENT CUT

NOTES

1) BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8" - 7/8" SIZING WITH EQUAL OR GREATER STRUCTURAL ADEQUACY AS EXISTING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.
2) REPLACED BASE MATERIAL OVER DITCH SHALL BE 18" LIMEROCK (LBR100) MINIMUM FOR THOROUGHFARE PLAN ROADS. ANY ALTERNATE BASE MATERIAL REQUESTED BY THE ENGINEER OF RECORD REQUIRES APPROVAL BY THE ROADWAY PRODUCTION DIVISION.
3) ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED AND BUTT-JOINTED.
4) BASE MATERIAL (PER ROADWAY PRODUCTION DESIGN STANDARDS) SHALL BE PLACED IN TWO OR THREE LAYERS (6" MAX. PER LAYER) AND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO THE SPECIFIED DENSITY. (MINIMUM 98% AASHTO - T-180)
5) 1" FRICTION COURSE FC-9.5 OVER 1-1/2" TYPE SP STRUCTURAL COURSE (TRAFFIC LEVEL C) WITH TACK EDAT AT 0.05 GAL/SY AND RC-70 PRIME COAT AT 0.10 GAL/SY FOR LIMEROCK BASE. FOLLOW THE LATEST FDOT SPECIFICATIONS FOR APPLICATION RATES OF PRIME AND TACK COATS. CONTRACTOR TO SUBMIT MATERIALS AND RATES TO ENGINEER FOR APPROVAL PRIOR TO BEGINNING WORK
6) PIPE SHALL BE PLACED IN A DRY TRENCH.
7) ALL ROADWAY REPAIR WORK SHALL BE PERFORMED IN CONFORMANCE WITH APPLICABLE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND COUNTY PPM# EL-0-3605.
8) DENSITY TESTS SHALL BE TAKEN IN 1 FT LIFTS ABOVE THE PIPE AT INTERVALS OF 400 FT MAXIMUM (1 SET MINIMUM) OR AS DIRECTED BY THE CONSTRUCTION COORDINATION DIVISION. RESULTS SHALL BE SUBMITTED TO CONSTRUCTION COORDINATION DIVISION AS PART OF THEIR FIELD REVIEW.
9) ENGINEER-OF-RECORD SHALL PROVIDE FULL-TIME INSPECTION DURING THE ENTIRETY OF THE OPEN-CUT OPERATION, BEGINNING WITH THE EXCAVATION AND CONTINUING THROUGH THE COMPLETION OF THE PAVING.
10) IF THE PAVEMENT IS NOT COMPLETELY RESTORED IMMEDIATELY FOLLOWING THE OPEN CUT, A SMOOTH TEMPORARY PATCH (MINIMUM 1.5" SP 12.5 STRUCTURAL COURSE ASPHALT) SHALL BE INSTALLED, PROPERLY MATCHING THE EXISTING GRADES. IF THE TEMPORARY PATCH CANNOT BE INSTALLED, PREPARE IN PLACE BUT SHALL BE MADE WITHIN A PERIOD NO LONGER THAN 45 DAYS. THE COUNTY RETAINS THE RIGHT TO USE POSTED SAFETY PLATES TO COMPLETE ANY RESTORATION WORK THAT HAS NOT BEEN COMPLETED IN THE 45 DAY PERIOD. ALTERNATIVE TEMPORARY TRENCH PROTECTION (STEEL PLATES OR OTHERS) MAY BE APPROVED BY THE CONSTRUCTION COORDINATION DIVISION .
11) FOR FINAL RESTORATION (INCLUDES THE PATCHED/SURFACE REPLACEMENT AREA OVER THE TRENCH), THE ROAD SHALL BE MILLED/RESURFACED PER NOTE 5 ABOVE FOR A FULL LANE WIDTH OF THE TRAVEL LANES ENCROACHED BY THE TRENCH AREA, INCLUDING A TRANSITION AREA OF 50 FT ON EACH SIDE MEASURED FROM TOP OF TRENCH.
12) APPROVED MAGNETIC TAPE IS REQUIRED FOR ALL MAIN PRESSURE PIPES AND CONDUIT IN THE COUNTY'S RIGHT-OF-WAY. INSTALL TAPE 24" BELOW FINISHED GRADE.
13) CONTINUOUS 4" WIDE PAINT STRIPING IS REQUIRED FOR DIP/PCCP WATER MAINS (BLUE), SANITARY MAINS (GREEN),DIP RECLAIMED WATER MAINS (PURPLE), GAS MAINS (YELLOW), OR AS REQUIRED BY THE APWA.

FILEPATH: P:/DGN/ENG_SER/LAND DEVELOPMENT STANDARDS/2.DGN

PALM BEACH COUNTY DEPARTMENT OF ENGINEERING & PUBLIC WORKS				OPEN CUT DETAIL FOR THOROUGHFARE ROADS (PAVED AREAS)	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		
K.L.	06/25/93	J.M.K.	02/01/2018	APPROVED: EFFECTIVE:	2
				COUNTY ENGINEER OR DESIGNEE	



NOTES:

1. BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8" - 7/8" SIZING WITH EQUAL OR GREATER STRUCTURAL ADEQUACY AS EXISTING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.
2. THE PIPE SHALL BE FULLY SUPPORTED FOR ITS ENTIRE LENGTH WITH APPROPRIATE COMPACTION UNDER THE PIPE HAUNCHES.
3. THE PIPE SHALL BE PLACED IN A DRY TRENCH.
4. BACKFILL SHALL BE FREE OF UNSUITABLE MATERIAL SUCH AS LARGE ROCK, MUCK AND DEBRIS.
5. DENSITY TESTS SHALL BE TAKEN IN 1 FOOT LIFTS ABOVE THE PIPE AT INTERVALS OF 400' MAXIMUM, (MINIMUM 1 SET) OR AS DIRECTED BY THE CONSTRUCTION COORDINATION DIVISION. RESULTS SHALL BE SUBMITTED TO CONSTRUCTION COORDINATION AS PART OF THEIR FIELD REVIEW.
6. THE PERMITTEE/DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH ALL TRENCH SAFETY LAWS AND REGULATIONS.
7. SEE SEPARATE DETAIL FOR PAVED AREAS (OPEN CUT FOR THOROUGHFARE AND NON-THOROUGHFARE ROADS).
8. THE AFFECTED AREA SHALL BE RESTORED TO EQUAL OR BETTER CONDITION OR AS SPECIFIED IN PERMIT/CONTRACT DOCUMENTS.
9. APPROVED MAGNETIC TAPE IS REQUIRED FOR ALL MAIN PRESSURE PIPES AND CONDUIT IN THE COUNTY'S RIGHT-OF-WAY. INSTALL TAPE 18" BELOW FINISHED GRADE.
10. ROOT BARRIER IS REQUIRED FOR APPROVED PIPE INSTALLATION CLOSER THAN 10 FEET FROM AN EXISTING TREE. SEE SEPARATE DETAIL FOR ROOT BARRIER.
11. CONTINUOUS 4" WIDE PAINT STRIPING IS REQUIRED FOR DIP/PCCP WATER MAINS (BLUE), DIP SANITARY FORCE MAINS (GREEN),DIP RECLAIMED WATER MAINS (PURPLE), GAS MAINS (YELLOW), OR AS REQUIRED BY THE APWA.
12. PERMANENT ABOVE GROUND UTILITY MARKER SHALL BE INSTALLED IF REQUIRED.

FILEPATH: P:/DGN/ENG_SER/LAND DEVELOPMENT STANDARDS/1.DGN

PALM BEACH COUNTY DEPARTMENT OF ENGINEERING & PUBLIC WORKS				TYPICAL TRENCH DETAIL (NON-PAVED AREAS)	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		
K.L.	05/23/90	J.M.K.	02/01/2018	APPROVED: EFFECTIVE:	1
				COUNTY ENGINEER OR DESIGNEE	

REVISIONS			
NO.	DATE	REMARKS	BY

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ADAM SWANEY, P.E.
NO. 72235

OLD DIXIE SEPTIC TO SEWER
TOWN OF LAKE PARK, FL
GRAVITY AND LOW PRESSURE FORCE MAIN PLANS
PALM BEACH COUNTY ROW DETAILS

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	DATE	APRIL
	DRAWN	MK
	PROJECT ENGINEER	MK
	PROJECT MANAGER	ACS
	CHECKED	ACS

SHEET NO. 24 / 24

JOB NO. 18187.27

J:\Land Projects RZ\18187.27 Lake Park Septic to Sewer\18187.27 DETAILS.dwg DATE: 12/17/2024 11:02 AM

PLOT: 1/29/2025 3:27:35 PM

CONSTRUCTION, NOT FOR

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
GRAVITY/LOW PRESSURE - TOTAL COST SUMMARY BY PROPERTY
JOB NO. 18187.27
January 2025

Property	Address	*Estimated Onsite Cost	*Estimated Offsite Cost	*Total
	SOUTH - SECTION			
1	1306 SILVER BEACH RD	$ 24,524.72	$ 72,561.75	$ 97,086.47
2	1211 SILVER BEACH RD	$ 100,750.00	$ 72,561.75	$ 173,311.75
3	1201 SILVER BEACH RD	$ 100,750.00	$ 72,561.75	$ 173,311.75
4	108 MILLER WAY	$ 24,524.72	$ 72,561.75	$ 97,086.47
5	116 MILLER WAY 1	$ 24,524.72	$ 72,561.75	$ 97,086.47
6	124 MILLER WAY 1	$ 24,524.72	$ 72,561.75	$ 97,086.47
7	132 MILLER WAY 1	$ 24,524.72	$ 72,561.75	$ 97,086.47
8	212 NEWMAN RD A	$ 24,524.72	$ 72,561.75	$ 97,086.47
9	210 NEWMAN RD A	$ 24,524.72	$ 72,561.75	$ 97,086.47
10	210 BRANT RD 1	$ 24,524.72	$ 72,561.75	$ 97,086.47
11	207 BRANT RD	$ 24,524.72	$ 72,561.75	$ 97,086.47
12	1009 NEWMAN RD	$ 24,524.72	$ 72,561.75	$ 97,086.47
13	1001 NEWMAN RD	$ 24,524.72	$ 72,561.75	$ 97,086.47
14	133 MILLER WAY A	$ 24,524.72	$ 72,561.75	$ 97,086.47
15	125 MILLER WAY 1	$ 24,524.72	$ 72,561.75	$ 97,086.47
16	117 MILLER WA	$ 24,524.72	$ 72,561.75	$ 97,086.47
17	109 MILLER WAY 1	$ 24,524.72	$ 72,561.75	$ 97,086.47
18	1137 SILVER BEACH RD	$ 24,524.72	$ 72,561.75	$ 97,086.47
19	1129 SILVER BEACH RD	$ 24,524.72	$ 72,561.75	$ 97,086.47
20	1121 SILVER BEACH RD	$ 24,524.72	$ 72,561.75	$ 97,086.47
21	116 REED RD 1	$ 24,524.72	$ 72,561.75	$ 97,086.47
22	116 REED RD 6	$ 24,524.72	$ 72,561.75	$ 97,086.47
23	1061 SILVER BEACH RD 1	$ 24,524.72	$ 72,561.75	$ 97,086.47
24	109 REED RD	$ 24,524.72	$ 72,561.75	$ 97,086.47
25	111 REED RD	$ 24,524.72	$ 72,561.75	$ 97,086.47
26	117 REED RD	$ 24,524.72	$ 72,561.75	$ 97,086.47
27	202 OLD DIXIE HWY	$ 24,524.72	$ 72,561.75	$ 97,086.47
28	1045 SILVER BEACH RD	$ 100,750.00	$ 72,561.75	$ 173,311.75
29	102 OLD DIXIE HWY	$ 100,750.00	$ 72,561.75	$ 173,311.75
	Total SOUTH - SECTION	**$ 1,016,118.00**	**$ 2,104,290.75**	**$ 3,120,408.75**

***Refer to Appendix H for Breakdown of Estimated Offsite Cost, and Appendix G for onsite costs.**

***Estimated Costs Includes Mobilization, Demobilization, MOT, Insurance, Continency, Legal, Engineering, & Administration**

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
GRAVITY/LOW PRESSURE - TOTAL COST SUMMARY BY PROPERTY
JOB NO. 18187.27
January 2025

	MID-SECTION	*Estimated Onsite Cost	*Estimated Offsite Cost	Total
1	410 OLD DIXIE HWY	$ 152,439.91	$ 29,579.00	$ 182,018.91
2	1215 INDUSTRIAL AVE	$ 152,439.91	$ 29,579.15	$ 182,019.06
3	640 OLD DIXIE HWY	$ 152,439.92	$ 29,579.15	$ 182,019.07
4	700 OLD DIXIE HWY 101	$ 152,439.92	$ 29,579.15	$ 182,019.07
5	1107 OLD DIXIE HWY A	$ 152,439.92	$ 29,579.15	$ 182,019.07
6	1101 OLD DIXIE HWY	$ 152,439.92	$ 29,579.15	$ 182,019.07
	Total MID-SECTION	$ 914,639.50	$ 177,474.75	$ 1,092,114.25

***Refer to Appendix I for Breakdown of Estimated Offsite Cost, and Appendix F for onsite cost.**

***Estimated Costs Include Mobilization, Demobilization, MOT, Insurance, Continency, Legal, Engineering, & Administration**

	NORTH-SECTION	*Estimated Onsite Cost	*Estimated Offsite Cost	Total
7	1133 OLD DIXIE HWY 1	$ 205,699.00	$ 22,622.25	$ 228,321.25
8	1145 OLD DIXIE HWY A1	$ 205,699.00	$ 22,622.25	$ 228,321.25
9	1183 OLD DIXIE HWY A1	$ 205,699.00	$ 22,622.25	$ 228,321.25
10	1173 OLD DIXIE HWY	$ 205,699.00	$ 22,622.25	$ 228,321.25
11	1169 OLD DIXIE HWY A10	$ 205,699.00	$ 22,622.25	$ 228,321.25
12	1139 OLD DIXIE HWY	$ 205,699.00	$ 22,622.25	$ 228,321.25
13	800 RAILROAD AVE	$ 205,699.00	$ 22,622.25	$ 228,321.25
	Total NORTH - SECTION	$ 1,439,893.00	$ 158,355.75	$ 1,598,248.75

***Refer to Appendix I for Breakdown of Estimated Offsite Cost, and Appendix F for onsite cost.**

***Estimated Onsite Cost Included with Mobilization, Demobilization, MOT, Insurance Continency, Legal, Engineering & Administration**

	GRAND TOTAL (ALL 3 SECTION)	$ 3,370,650.50	$ 2,440,121.25	$ 5,810,771.75

Notes: (2) Number of units are an estimate only. Costs are based on conceptual plans and unit costs at the time of this report.

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
GRAVITY SEWER SYSTEM
JOB NO. 18187.27
October 2024
Privately Owned

Section 1: Tri-City Industrial Park (South)

	Item/Description	Quantity	Unit	Unit Cost	Total Amount
Miller Way					
1	Asphalt/Concrete Driveway Restoration	333	SY	$ 75.00	$ 24,975.00
2	Cleanout & Main Line Valve	5	LS	$ 2,000.00	$ 10,000.00
3	6" PVC Gravity Service Lateral	539	LF	$ 90.00	$ 48,510.00
4	Miscellaneous Restoration	1	LS	$ 5,000.00	$ 5,000.00
	Subtotal				$ 88,485.00
Reed Road					
1	Asphalt/Concrete Driveway Restoration	110	SY	$ 75.00	$ 8,250.00
2	Sod Restoration	11	SY	$ 10.00	$ 110.00
3	Cleanout & Main Line Valve	2	LS	$ 2,000.00	$ 4,000.00
4	6" PVC Gravity Service Lateral	89	LF	$ 90.00	$ 8,010.00
5	Miscellaneous Restoration	1	LS	$ 5,000.00	$ 5,000.00
	Subtotal				$ 25,370.00
Newman Road					
1	Asphalt/Concrete Driveway Restoration	333	SY	$ 75.00	$ 24,975.00
2	Cleanout & Main Line Valve	2	LS	$ 2,000.00	$ 4,000.00
3	6" PVC Gravity Service Lateral	263	LF	$ 90.00	$ 23,670.00
4	Miscellaneous Restoration	1	LS	$ 5,000.00	$ 5,000.00
	Subtotal				$ 57,645.00

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
GRAVITY SEWER SYSTEM
JOB NO. 18187.27
October 2024
Privately Owned

Section 1: Tri-City Industrial Park (South)

Brant Road					
1	Cleanout & Main Line Valve	6	LS	$ 2,000.00	$ 12,000.00
2	6" PVC Gravity Service Lateral	296	LF	$ 90.00	$ 26,640.00
3	Miscellaneous Restoration	1	LS	$ 5,000.00	$ 5,000.00
4	Driveway/Asphalt Restoration	251	SY	$ 75.00	$ 18,825.00
5	Sod Restoration	12	SY	$ 10.00	$ 120.00
6	Electrical Service Connection	1	LS	$ 5,000.00	$ 5,000.00
7	Water connection for Hose Bib	1	LS	$ 4,000.00	$ 4,000.00
	Subtotal				$ 71,585.00

Silver Beach Road					
1	2" PVC Low Pressure Force Main	14	LF	$ 45.00	$ 630.00
2	Cleanout & Main Line Valve	4	LS	$ 2,000.00	$ 8,000.00
3	Miscellaneous Restoration	1	LS	$ 5,000.00	$ 5,000.00
4	Driveway/Asphalt Restoration	121	SY	$ 75.00	$ 9,075.00
8	Sod Restoration	27	SY	$ 10.00	$ 270.00
5	Grinder Lift Station	4	LS	$ 60,000.00	$ 240,000.00
6	Oil Interceptor	2	LS	$ 6,000.00	$ 12,000.00
7	Electrical Service Connection	4	LS	$ 5,000.00	$ 20,000.00
8	Water connection for Hose Bib	4	LS	$ 4,000.00	$ 16,000.00
	Subtotal				$ 310,975.00

Septic Tanks (Section 1 - South)					
1	Abandon Septic Tank (Assuming each building has one)	29	EA	$ 3,500.00	$ 101,500.00
	Subtotal				$ 101,500.00

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
GRAVITY SEWER SYSTEM
JOB NO. 18187.27
October 2024
Privately Owned

Section 2: Town of Lake Park Public Works (Central)

	Item/Description	Quantity	Unit	Unit Cost	Total Amount
1	2" PVC Low Pressure Force Main	1453	LF	$ 45.00	$ 65,385.00
2	Cleanout & Main Line Valve	6	LS	$ 2,000.00	$ 12,000.00
3	6" PVC Gravity Service Lateral	85	LF	$ 90.00	$ 7,650.00
4	Miscellaneous Restoration	1	LS	$ 5,000.00	$ 5,000.00
5	Sod/Dirt Road Restoration	1683	SY	$ 10.00	$ 16,830.00
6	Concrete/Asphalt Driveway/Sidewalk Restoration	483	SY	$ 75.00	$ 36,225.00
7	Grinder Lift Station	6	LS	$ 60,000.00	$ 360,000.00
8	Oil Interceptor	2	LS	$ 6,000.00	$ 12,000.00
9	Electrical Service Connection	6	LS	$ 5,000.00	$ 30,000.00
10	Water connection for Hose Bib	6	LS	$ 4,000.00	$ 24,000.00
	Subtotal				$ 569,090.00
Septic Tanks (Section 2 - Central)					
1	Abandon Septic Tank (Assuming each building has one)	6	EA	$ 3,500.00	$ 21,000.00
	Subtotal				$ 21,000.00

Section 3: Water Tower Road & North of Water Tower Road (North)

	Item/Description	Quantity	Unit	Unit Cost	Total Amount
1	2" PVC Low Pressure Force Main	1145	LF	$ 45.00	$ 51,525.00
2	Cleanout & Main Line Valve	6	LS	$ 2,000.00	$ 12,000.00
3	6" PVC Gravity Service Lateral	56	LF	$ 90.00	$ 5,040.00
4	Miscellaneous Restoration	1	LS	$ 5,000.00	$ 5,000.00
5	Sod/Dirt Road Restoration	745	SY	$ 10.00	$ 7,450.00
6	Concrete/Asphalt Driveway/Sidewalk Restoration	726	SY	$ 75.00	$ 54,450.00
7	Grinder Lift Station	7	LS	$ 100,000.00	$ 700,000.00
8	Oil Interceptor	1	LS	$ 6,000.00	$ 6,000.00
9	Electrical Service Connection	7	LS	$ 5,000.00	$ 35,000.00
10	Water connection for Hose Bib	7	LS	$ 4,000.00	$ 28,000.00
	Subtotal				$ 904,465.00
Septic Tanks (Section 3 - North)					
1	Abandon Septic Tank (Assuming each building has one)	7	EA	$ 3,500.00	$ 24,500.00
	Subtotal				$ 24,500.00

Total				$ 2,174,615.00
Mobilization, Demobilization, MOT, Bonds & Insurance (10%)	1	LS		$ 217,461.50
Contingency (25%)	1	LS		$ 543,653.75
Legal, Engineering, Administration (20%)	1	LS		$ 434,923.00
Grand Total (Private)				**$ 3,370,653.25**

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
GRAVITY SEWER SYSTEM
JOB NO. 18187.27
October 2024
Publicly Owned

Section 1: Tri-City Industrial Park (South)

	Item/Description	Quantity	Unit	Unit Cost	Total Amount
Miller Way					
1	8" PVC Gravity Sewer Main	520	LF	$ 130.00	$ 67,600.00
2	4' Diameter Sanitary Sewer Manhole	3	EA	$ 8,500.00	$ 25,500.00
3	Cleanout	9	LS	$ 2,000.00	$ 18,000.00
4	6" PVC Gravity Service Lateral	289	LF	$ 90.00	$ 26,010.00
5	Miscellaneous Restoration	1	LS	$ 5,000.00	$ 5,000.00
6	Roadway Restoration	498	SY	$ 75.00	$ 37,350.00
7	Sod Restoration	31	SY	$ 10.00	$ 310.00
8	Concrete Driveway/Sidewalk Restoration	52	SY	$ 75.00	$ 3,900.00
	Subtotal				$ 183,670.00
Reed Road					
1	3" PVC Low Pressure Force Main	501	LF	$ 60.00	$ 30,060.00
2	8" PVC Gravity Sewer Main	563	LF	$ 130.00	$ 73,190.00
3	4' Diameter Sanitary Sewer Manhole	1	EA	$ 8,500.00	$ 8,500.00
4	Cleanout	6	LS	$ 2,000.00	$ 12,000.00
5	6" PVC Gravity Service Lateral	191	LF	$ 90.00	$ 17,190.00
6	Miscellaneous Restoration	1	LS	$ 5,000.00	$ 5,000.00
7	Roadway Restoration	450	SY	$ 75.00	$ 33,750.00
8	Sod Restoration	155	SY	$ 10.00	$ 1,550.00
9	Concrete Driveway/Sidewalk Restoration	88	SY	$ 75.00	$ 6,600.00
10	Connection to Existing Force Main	1	EA	$ 2,000.00	$ 2,000.00
	Subtotal				$ 189,840.00
Newman Road					
1	3" PVC Low Pressure Force Main	57	LF	$ 60.00	$ 3,420.00
2	8" PVC Gravity Sewer Main	443	LF	$ 130.00	$ 57,590.00
3	4' Diameter Sanitary Sewer Manhole	4	EA	$ 8,500.00	$ 34,000.00
4	Cleanout	4	LS	$ 2,000.00	$ 8,000.00
5	6" PVC Gravity Service Lateral	390	LF	$ 90.00	$ 35,100.00
6	Miscellaneous Restoration	1	LS	$ 5,000.00	$ 5,000.00
7	Roadway Restoration	514	SY	$ 75.00	$ 38,550.00
8	Sod Restoration	24	SY	$ 10.00	$ 240.00
9	Concrete/Asphalt Driveway/Sidewalk Restoration	22	SY	$ 75.00	$ 1,650.00
	Subtotal				$ 183,550.00

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
GRAVITY SEWER SYSTEM
JOB NO. 18187.27
October 2024
Publicly Owned

Section 1: Tri-City Industrial Park (South)

Brant Road					
1	3" PVC Low Pressure Force Main	401	LF	$ 60.00	$ 24,060.00
2	8" PVC Gravity Sewer Main	446	LF	$ 130.00	$ 57,980.00
3	4' Diameter Sanitary Sewer Manhole	2	EA	$ 8,500.00	$ 17,000.00
4	Cleanout	9	LS	$ 2,000.00	$ 18,000.00
5	6" PVC Gravity Service Lateral	374	LF	$ 90.00	$ 33,660.00
6	Miscellaneous Restoration	1	LS	$ 5,000.00	$ 5,000.00
7	Roadway Restoration	559	SY	$ 75.00	$ 41,925.00
8	Concrete/Asphalt Driveway/Sidewalk Restoration	181	SY	$ 75.00	$ 13,575.00
9	Sod Restoration	288	SY	$ 10.00	$ 2,880.00
10	Duplex Lift Station	1	LS	$ 500,000.00	$ 500,000.00
	Subtotal				$ 714,080.00

Silver Beach Road					
1	8" PVC Gravity Sewer Main	182	LF	$ 130.00	$ 23,660.00
2	4' Diameter Sanitary Sewer Manhole	2	EA	$ 8,500.00	$ 17,000.00
3	Cleanout & Main Line Valve	3	LS	$ 2,000.00	$ 6,000.00
4	6" PVC Gravity Service Lateral	59	LF	$ 90.00	$ 5,310.00
5	Miscellaneous Restoration	1	LS	$ 5,000.00	$ 5,000.00
6	Roadway Restoration	246	SY	$ 75.00	$ 18,450.00
7	Concrete Sidewalk Restoration	40	SY	$ 75.00	$ 3,000.00
8	Sod Restoration	5	SY	$ 10.00	$ 50.00
9	Connection to Existing Force Main	4	EA	$ 2,000.00	$ 8,000.00
	Subtotal				$ 86,470.00

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
GRAVITY SEWER SYSTEM
JOB NO. 18187.27
October 2024
Publicly Owned

Section 2: Town of Lake Park Public Works (Central)

	Item/Description	Quantity	Unit	Unit Cost	Total Amount
1	2" PVC Low Pressure Force Main	1378	LF	$ 45.00	$ 62,010.00
2	Main Line Valve	5	LS	$ 2,000.00	$ 10,000.00
3	Miscellaneous Restoration	1	LS	$ 5,000.00	$ 5,000.00
4	Sod/Dirt Road Restoration	954	SY	$ 10.00	$ 9,540.00
5	Roadway Restoration	96	SY	$ 75.00	$ 7,200.00
6	Concrete Driveway/Sidewalk Restoration	250	SY	$ 75.00	$ 18,750.00
7	Connection to Existing Sewer	1	EA	$ 2,000.00	$ 2,000.00
	Subtotal				$ 114,500.00

Section 3: Water Tower Road & North of Water Tower Road (North)

	Item/Description	Quantity	Unit	Unit Cost	Total Amount
1	2" PVC Low Pressure Force Main	642	LF	$ 45.00	$ 28,890.00
2	Main Line Valve	3	LS	$ 2,000.00	$ 6,000.00
3	6" PVC Gravity Service Lateral	85	LF	$ 90.00	$ 7,650.00
4	Miscellaneous Restoration	1	LS	$ 5,000.00	$ 5,000.00
5	Sod/Dirt Road Restoration	867	SY	$ 10.00	$ 8,670.00
6	Roadway Restoration	540	SY	$ 75.00	$ 40,500.00
7	Concrete Sidewalk/Curb Restoration	46	SY	$ 75.00	$ 3,450.00
8	Connection to Existing Sewer	1	EA	$ 2,000.00	$ 2,000.00
	Subtotal				$ 102,160.00
	Total				$ 1,574,270.00
	Mobilization, Demobilization, MOT, Bonds & Insurance (10%)	1	LS		$ 157,427.00
	Contingency (25%)	1	LS		$ 393,567.50
	Legal, Engineering, Administration (20%)	1	LS		$ 314,854.00
	Grand Total (Public)				**$ 2,440,118.50**

TOWN OF LAKE PARK
ENGINEER'S OPINION OF PROBABLE COST
GRAVITY SEWER SYSTEM
JOB NO. 18187.27
October 2024
Total Estimated Cost of Project

Grand Total (Public)	$	2,440,118.50
Grand Total (Private)	$	3,370,653.25
Grand Total Estimated Cost	**$**	**5,810,771.75**

Town of Lake Park Town Commission

Agenda Request Form

Meeting Date: November 18, 2026
Originating Department: Clerk
Agenda Title: Regular Commission Meeting Minutes - November 4, 2026
Agenda Category: Consent

Approved by Town Manager: _____ **Date:** _____

Cost of Item: $0.00 **Funding Source:** _____
Account Number: _____ **Finance Signature:** _____

Advertised:
Date: NA **Newspaper:** _____

Attachments: Minutes, Exhibits A-B, Comment Cards

Please initial one:

_____ Yes I have notified everyone
LW Not applicable in this case

Recommended Motion:
I move to approve the minutes of the November 4, 2026 Regular Commission Meeting.

Lake Park Town Commission, Florida

Regular Commission Meeting Minutes

Commission Chamber, Town Hall, 535 Park Avenue, Lake Park, FL 33403
Wednesday November 04, 2026
Immediately Following the CRA Meeting

Roger Michaud	__	**Mayor**
Michael Hensley	__	**Vice Mayor**
John Linden	__	**Commissioner**
Michael O'Rourke	__	**Commissioner**
Judith Thomas	__	**Commissioner**
Richard J. Reade	__	**Town Manager**
Thomas J. Baird	__	**Town Attorney**
Vivian Mendez, MMC	__	**Town Clerk**

PLEASE TAKE NOTICE AND BE ADVISED, that if any interested person desires to appeal any decision of the Town Commission, with respect to any matter considered at this meeting, such interested person will need a record of the proceedings, and for such purpose, may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based. Persons with disabilities requiring accommodations in order to participate in the meeting should contract the Town Clerk's office by calling 881-3311 at least 48 hours in advance to request accommodations.

CALL TO ORDER/ROLL CALL

8:10 P.M.

PRESENT

Mayor Roger Michaud

Vice Mayor Michael Hensley

Commissioner Judith Thomas

Commissioner John Linden

Commissioner Michael O'Rourke

PLEDGE OF ALLEGIANCE

Conducted during the Special Call CRA Meeting.

APPROVAL OF AGENDA:

Motion to approve the agenda made by Vice Mayor Hensley, Seconded by Commissioner Linden.

Voting Yea: Mayor Michaud, Vice Mayor Hensley, Commissioner Thomas, Commissioner Linden, Commissioner O'Rourke.

PUBLIC COMMENT:

This time is provided for addressing items that do not appear on the Agenda. Please complete a comment card and provide it to the Town Clerk so speakers may be announced. Please remember comments are limited to a TOTAL of three minutes.

-Kevin Kijanka spoke about solid waste diversion, composting and donation of food scraps.

-Michael Steinhauer provided comments in writing (Exhibit A).

-Sophia Pascal spoke about concerns regarding the medians on US Highway 1 and about Pickleball lighting.

-Chief William Rowley spoke about the Fire Rescue open house on Saturday, November 7th.

CONSENT AGENDA:

All matters listed under this item are considered routine and action will be taken by one motion. There will be no separate discussion of these items unless a Commissioner or person so requests, in which event the item will be removed from the general order of business and considered in its normal sequence on the agenda. Any person wishing to speak on an agenda item is asked to complete a public comment card located on either side of the Chambers and given to the Town Clerk. Cards must be submitted before the item is discussed.

Commissioner Linden pulled items 2, 4 and 5 for discussion.

Motion to approve items 1, 3 and 6 on the Consent Agenda made by Vice Mayor Hensley, Seconded by Commissioner Thomas.

Voting Yea: Mayor Michaud, Vice Mayor Hensley, Commissioner Thomas, Commissioner Linden, Commissioner O'Rourke.

1. Regular Commission Meeting Minutes - October 7, 2026
3. Resolution 108-11-26 – Agreement (Piggyback) – Safety Supplies and Equipment – Various Department - Safety Products, Inc.

6. Resolution 110-11-26 – Amendment #2 (Renewal) – Agreement for the Provision of Janitorial Services for Town Buildings – Image Janitorial Services, Inc. – $102,603.04

The following items were pulled from Consent for discussion:

2. Resolution 107-11-26 – Amendment #1 (Renewal) - Agreement for the Provision of Medium and Heavy-Duty Truck Washing Services – FW Fleet Clean, LLC – $13,000

Commissioner Thomas asked how often the trucks are washed. Public Works Director Jaime Morales stated they are typically washed monthly. He stated that the initial contract was for a one-year term with two additional one year options at the same pricing.

Motion to approve Resolution made by Commissioner Thomas. Seconded by Commissioner O'Rourke.

Voting Yea: Mayor Michaud, Vice Mayor Hensley, Commissioner Thomas, Commissioner Linden, Commissioner O'Rourke.

4. Emergency Equipment Repair - Automated Side Loader Vehicle for Residential Sanitation Collection – Solid Waste Collection Operations - $11,700 ($10,500 per month)

Commissioner Linden raised a concern with the lack of an end date and would like for this to have a cap or limit the rental to thirty days and anything after that would need Commission approval. Public Works Director Morales stated that this would only be for one month (four weeks). Commissioner Thomas spoke about ongoing issues with the sanitation fleet and vehicles being down. Public Works Director Morales spoke about the sanitation vehicles and the needs of the Town. Commissioner Thomas stated that the level of service the Town is providing could be a problem due to limited sanitation vehicle capacity.

Motion to approve made by Commissioner Thomas. Seconded by Commissioner O'Rourke.

Voting Yea: Mayor Michaud, Vice Mayor Hensley, Commissioner Thomas, Commissioner O'Rourke.

Voting Nay: Commissioner Linden.

5. Resolution 109-11-26 – Amendment #2 (Renewal - Retroactive) – Marina Landscape Maintenance Services Agreement – Chris Wayne & Associates, Inc. – $43,810

Commissioner Linden asked why these services couldn't be done internally. Public Works Director Morales stated that they are not capable of doing this work in-house at this time because of the number of employees they currently have along with the services they already provide. Town Manager Reade stated that an analysis had been done to see if this work could be performed in-house and he will bring data forward for them to review. Commissioner Linden stated that this contract had already expired and why was this not looked at sooner. Public Works Director Morales stated that the contract expired October 1, 2026 and because there was not a second Commission meeting in October, they were not able to get it approved in time. Town Manager Reade apologized and stated that they will do a better job moving forward.

Motion to approve made by Commissioner O'Rourke. Seconded by Commissioner Thomas. Commissioner O'Rourke asked if they were going to look at ways to better evaluate contracts, then why would we enter into this agreement for such a long period. Town Manager Reade explained that it would allow the Town to get better pricing. Commissioner O'Rourke stated that he does not believe the Town could perform this work in-house for $43,810.

Voting Yea: Mayor Michaud, Vice Mayor Hensley, Commissioner Thomas, Commissioner O'Rourke.

Voting Nay: Commissioner Linden.

PUBLIC HEARING(S) - ORDINANCE ON FIRST READING:

7. Ordinance #10-2026 - Amendment - Town's Comprehensive Plan – Capital Improvements Element - Five Year Capital Improvements Schedule Update (1st Reading)

   AN ORDINANCE OF THE TOWN COMMISSION OF THE TOWN OF LAKE PARK, FLORIDA, UPDATING THE CAPITAL IMPROVEMENTS ELEMENT OF ITS COMPREHENSIVE PLAN; PROVIDING FOR AN UPDATED CAPITAL IMPROVEMENTS SCHEDULE; PROVIDING FOR THE UPDATE OF THE TEXT OF THE CAPITAL IMPROVEMENTS SCHEDULE SO AS TO BE CONSISTENT WITH THE NEW CAPITAL IMPROVEMENTS SCHEDULE; PROVIDING FOR THE REPEAL OF ALL ORDINANCES IN CONFLICT; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

Senior Town Planner Anders Viane stated that they are required to annually update the capital improvement plan.

Motion to approve Ordinance 10-2026 on first reading made by Commissioner O'Rourke, Seconded by Commissioner Thomas.

Voting Yea: Mayor Michaud, Vice Mayor Hensley, Commissioner Thomas, Commissioner Linden, Commissioner O'Rourke.

Town Attorney Brett Lashley read the Ordinance by title only.

PUBLIC HEARING(S) - ORDINANCE ON SECOND READING:

8. Ordinance 09-2026 – Amendment - Town of Lake Park Code of Ordinances – Chapter 67 – Article II - Platting, Conceptual Plan and Development Plan - Section 67-37. - Development Plan Review; General Procedures – 2nd Reading

   AN ORDINANCE OF THE TOWN COMMISSION OF THE TOWN OF LAKE PARK, FLORIDA, AMENDING CHAPTER 67, ARTICLE II OF THE CODE OF ORDINANCES OF THE TOWN OF LAKE PARK, FLORIDA REGARDING DEVELOPMENT REVIEW PROCEDURES AND TIMELINES; PROVIDING FOR CODIFICATION; PROVIDING FOR SEVERABILITY; PROVIDING FOR THE REPEAL OF LAWS IN CONFLICT; AND PROVIDING FOR AN EFFECTIVE DATE.

Senior Town Planner Viane explained that the Ordinance is to modify the Town's development processing standards to be consistent with State statute.

Motion to approve Ordinance 09-2026 on second reading made by Commissioner O'Rourke, Seconded by Commissioner Thomas.

Voting Yea: Mayor Michaud, Vice Mayor Hensley, Commissioner Thomas, Commissioner Linden, Commissioner O'Rourke.

Town Attorney Brett Lashley read the Ordinance by title only.

OLD BUSINESS:

9. Presentation, Discussion & Direction – Kelsey Park Splash Pad Project – Various Alternate Design Options

Capital Projects Manager John Wille and Kimley-Horn representative Jonathan Hague presented the item (Exhibit B).

Commissioner Linden selected option D.

Vice-Mayor Hensley stated he is not happy with the process of this project and that he makes no selection but will agree with whatever everyone else wants to do.

Commissioner O'Rourke selected B.

Commissioner Thomas stated that she does not like any of the options.

Mayor Michaud selected B.

Commissioner O'Rourke asked what the surface material would be. Mr. Hague stated that it would be concrete. Commissioner Thomas expressed concern with the fact that there is no furniture and asked if there was a way to allow for future furniture spaces within the design that could be funded at a later point. She also suggested the possibility of using a sponsorship program to fund the furniture. Capital Projects Manager Wille stated that he would like to have all of that included in the design plans and then get ala carte bid pricing so they can choose what aspects they could afford based on cost and budget.

NEW BUSINESS:

10. Presentation, Discussion & Direction – Florida Department of Transportation (FDOT) - US-1 Median Landscaping Project (Silver Beach Road North to Palmetto Drive)(FDOT FM 450677-1-52-01) Maintenance Commitment Letter and Long-Term Maintenance Responsibility

    Public Works Director Morales stated that the Florida Department of Transportation (FDOT) was not able to attend the meeting.

    This agenda item was tabled.

11. Resolution 111-11-26- Agreement (Piggyback) - Tires - Callaghan's Tire

    Motion to approve Resolution 111-11-26 made by Commissioner O'Rourke, Seconded by Commissioner Thomas.

    Voting Yea: Mayor Michaud, Vice Mayor Hensley, Commissioner Thomas, Commissioner Linden, Commissioner O'Rourke.

12. Resolution 112-11-26 - Agreement (Piggyback) - Bulk Fuel, Gasoline, Diesel, Heating and Emergency Generator and Biodiesel Fuel - Palmdale Oil Company

Motion made to approve Resolution 112-11-26 by Commissioner O'Rourke, Seconded by Vice Mayor Hensley.

Voting Yea: Mayor Michaud, Vice Mayor Hensley, Commissioner Thomas, Commissioner Linden, Commissioner O'Rourke.

13. Resolution 113-11-26 - Interlocal Agreement - Facilitate Town Marina Properties Redevelopment Plan Public Workshops - Treasure Coast Regional Planning Council (TCRPC)

    Town Attorney Brett Lashley explained that they recommend utilizing the TCRPC to help guide discussions and workshops regarding marina redevelopment.

    Motion to approve Resolution 113-11-26 made by Commissioner O'Rourke, Seconded by Commissioner Thomas.

    Voting Yea: Mayor Michaud, Vice Mayor Hensley, Commissioner Thomas, Commissioner Linden, Commissioner O'Rourke.

14. Resolution 114-11-26 – Lease-Purchase Finance Agreement – 2026 Mack TE Series Front-End Loader Sanitation Truck – TD Bank – $403,723 (4.58% Interest Rate)

    Town Manager Reade explained that the vehicle purchase was approved by the Commission in June 2026 and that this agenda item is to approve the financing of that vehicle. He added that the interest rate has since dropped to 4.48% and stated for the record that three sanitation vehicles will have been purchased this calendar year along with a stormwater vehicle and a litter vehicle. Commissioner Thomas asked when this truck would be delivered. Public Works Director Morales stated that once the financing is complete, the truck will be available for delivery. Commissioner Thomas expressed frustration with how long the process is taking to obtain this vehicle.

    Motion to approve Resolution 114-11-26 made by Commissioner O'Rourke, Seconded by Commissioner Thomas.

    Voting Yea: Mayor Michaud, Vice Mayor Hensley, Commissioner Thomas, Commissioner Linden, Commissioner O'Rourke.

15. Resolution 115-11-26 - Interlocal Agreement – Reciprocal Fuel Management Services - Palm Beach County Board of County Commissioners and Palm Beach County Sheriff’s Office (PBSO)

Town Manager Reade explained that this is a renewal of an agreement that has been in place for the last ten years and is for a fuel sharing program.

Motion to approve Resolution 115-11-26 made by Commissioner O'Rourke, Seconded by Vice Mayor Hensley.

Voting Yea: Mayor Michaud, Vice Mayor Hensley, Commissioner Thomas, Commissioner Linden, Commissioner O'Rourke.

TOWN ATTORNEY, TOWN MANAGER, COMMISSIONER COMMENTS:

-Town Attorney Brett Lashley had no comments.

-Town Manager Reade spoke about the angel tree in the Library. He announced the Holiday Celebration on December 4th from 6pm to 8pm, Holiday Decorating Contest registration open until December 8th, offices closed for Veteran's Day, and the passing of amendment 3 and what that may mean for future planning.

-Commissioner Linden spoke about election day and poll workers. He also spoke about the upcoming Veteran's Day parade and festivities.

-Commissioner O'Rourke had no comments.

-Commissioner Thomas had no comments.

-Vice Mayor Hensley thanked PBSO Captain Sanford and Special Events Director Riunite Franks for their efforts with sunset celebration.

-Mayor Michaud provided the Property Appraiser's website information for residents with questions about amendment 3. The Mayor presented Camilli's Pizza with the Business of the Month award, which is a new Town initiative.

REQUEST FOR FUTURE AGENDA ITEMS:

Vice Mayor Hensley and Mayor Michaud requested a future discussion on the issues with the Town's truck fleet.

Commissioner Thomas asked for an update on 754 Park Avenue.

ADJOURNMENT:

Motion to adjourn made by Commissioner Thomas. Seconded by Vice Mayor Hensley.

Voting Aye: All.

Meeting adjourned 9:59 P.M.

FUTURE MEETING DATE: Next Scheduled Regular Commission Meeting will be held on November 18, 2026.

_____
Mayor Roger D. Michaud

Town Seal

_____
Town Clerk, Vivian Mendez, MMC

_____
Deputy Town Clerk, Laura Weidgans

Approved on this _____ of _____, 2026

Exhibit A

Testimony for the Lake Park, FL Commission Meeting 11/4/2026

Regarding: *Ongoing Lawsuit Deliberations*

Michael Steinhauer, 435 Greenbriar Dr., Lake Park. pipestone1992@gmail.com 608-332-5547

Good evening, Mr. Mayor and Commissioners,

I am here tonight because I believe this moment tests our municipality's leadership, its commitment to transparency, and its respect for the residents it serves.

Growth and development planning is now on a brief hiatus. With two lawsuits under long court-approved stays and one under a motion to dismiss awaiting adjudication, we can reflect and carefully consider not only our legal position but also how we might move forward together in our town's decision-making process.

I recognize that the Commission has a responsibility to consult with the Town Attorney and receive confidential legal advice. However, legal strategy should not become the town's vision strategy.

A balance of coexistence is necessary between protecting the municipality's legal interests and protecting the public's right to *participate* up front in decisions that affect our future.

Residents should not be left on the sidelines while decisions are shaped behind closed doors. We deserve to understand the issues, hear the reasoning behind proposed courses of action, and have meaningful opportunities to *offer input* before decisions are finalized.

At first glance, one might appreciate the town's and the Treasure Coast Regional Planning Council's plan to create marina-related public workshops (aside from yet another consultant expense to take notes and bring donuts; you or town staff could conduct these meetings). But then what happens from these workshops, and what's the plan for moving forward? This example is what I mean by opportunities for meaningful *proactive engagement*. We get snippets of the thinking out of context, and not a full roadmap we can help achieve.

Maybe this workshop initiative is driven by some settlement intentions. We can only guess. But it should also include frequent updates to residents on your decisions.

Your residents are not adversarial. Mostly, we support your hard work. There is nothing to fear in our engagement. We seek insight behind the directions you are formulating. We are the very people who exercised our collective wisdom to elect you. Now tap that same collective wisdom to help maneuver and position us toward legal remedies and long-term visions of what our town might look like.

The town's future belongs to its residents, and their voices must be part of real-time ongoing deliberations. Thank you.

TOWN OF LAKE PARK
DEPARTMENT OF PUBLIC WORKS

Kelsey Park Splash Pad

Council Decision Update

Refined alternatives aligned to an approximately $400,000 cost target

October 7, 2026, • Resolution 102-12-25

Exhibit B



Parks • Recreation • Community Assets

Council Decision at a Glance

Six concepts were presented during public input; the Council is now considering four cost-reduction alternatives.

$590K
Current design OPC
Original Concept A development

~$400K
Cost target for alternates
Alternates A–D

$190K
Reduction required
About 32% below current OPC

4
Council alternatives
A–D at approximately $400K

What the evidence says

- Residents favored the south location near the playground (6 of 10).
- Organic footprints were strongly preferred (8 of 10).
- A mix of ground sprays and interactive features was strongly preferred (9 of 10).
- Concept A was previously advanced for design development.

Decision required

Select the preferred cost-reduction alternative to advance:

- **A** Original concept / reduced scope
- **B** New organic “amoeba” footprint
- **C** New round footprint
- **D** Playable fountain + misting posts

PROJECT STATUS

Project Journey

From project kickoff through public input, design development, and Council-directed alternatives.

DEC 2025

Kickoff

Project kickoff with Town staff

JAN 2026

Concepts

Survey received; six draft concepts prepared

MAR 2026

Public Input

Community meeting at Town Hall

MAY–JUN

Design Development

Plans, OPC, and revisions delivered

AUG 2026

Council Update

Progress presentation to the Town

TODAY

OCT 2026

Decision

Four cost-reduction alternatives presented for Council direction

PUBLIC INPUT

What Residents Told Us

The March 28 public meeting clearly indicated a preference for location, form, and play experience.

6 / 10 Preferred the south location

Next to the playground

8 / 10 Preferred an organic shape

Concepts A, B, or C

9 / 10 Preferred mixed play features

Ground + interactive

A Most preferred named concept

Concept A received the most votes

Additional public comments

- Funding concerns
- More seating
- Rubberized pad vs. concrete
- Bromine vs. chlorine
- Consider a changing area

Design implication

The strongest preferences point toward an organic, playground-adjacent splash pad with a mix of ground-level and interactive features.

Shade preferences were mixed, so no single shade solution emerged as dominant.

Site Logic: Why the South Location Advanced

The selected location balances user preferences with utility and proximity to infrastructure.



Location considerations

01 Restroom proximity
Supports family use and park operations

02 Water service
Reduces utility extension burden

03 Drainage/storm sewer
Supports flow-through discharge strategy

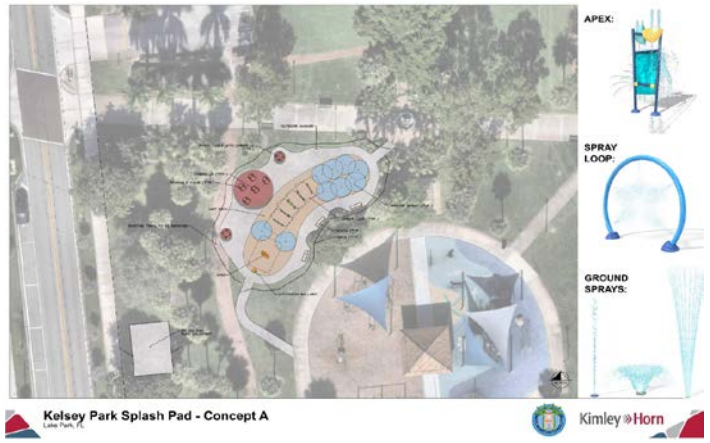
04 Electrical service
Supports equipment and operational needs

Consistent with the Kelsey Park master plan

CONCEPTS CONSIDERED

Concepts Presented at the Public Meeting

Six concepts—A, B, C, D, D2, and D3—were originally presented, reflecting two locations and multiple feature/footprint strategies.



CONCEPT A



CONCEPT B



CONCEPT C



CONCEPT D



CONCEPT D2



CONCEPT D3

Preferred Concept: Why Concept A Advanced

Concept A was selected for design development because it best combined community preference and site efficiency.



Kelsey Park Splash Pad - Concept A
Lake Park, FL

Kimley»Horn



Rendering prepared by Vortex

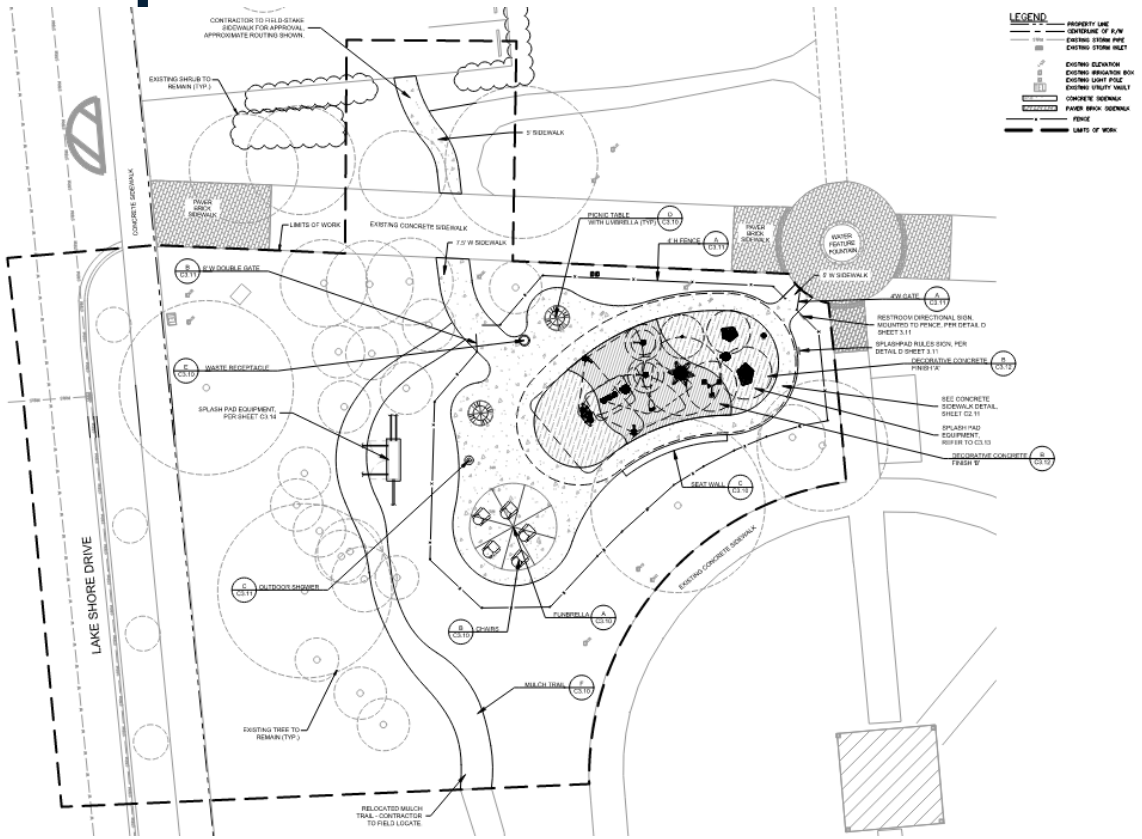
Design priorities carried forward

- Playground-adjacent location and organic footprint
- Mix of ground and above-ground interactive features
- All-ages / all-abilities play and multiple seating opportunities
- Proximity to water service and storm sewer
- Flow-through system to maximize play area and value

Developed Concept A Reference

Supporting site-plan and furnishing information from the design-development package.

Site plan



Site furnishings

FUNBRELLA:



PICNIC TABLE:



MOVEABLE CHAIR:



BENCH:



Kelsey Park Splash Pad - Site Furnishings
Lake Park, FL

The approximately $400K alternates remove fencing, furnishings, and landscaping to reduce costs.

INVESTMENT SNAPSHOT

Current Design: Opinion of Probable Cost

The developed Concept A is estimated at approximately $590,000.

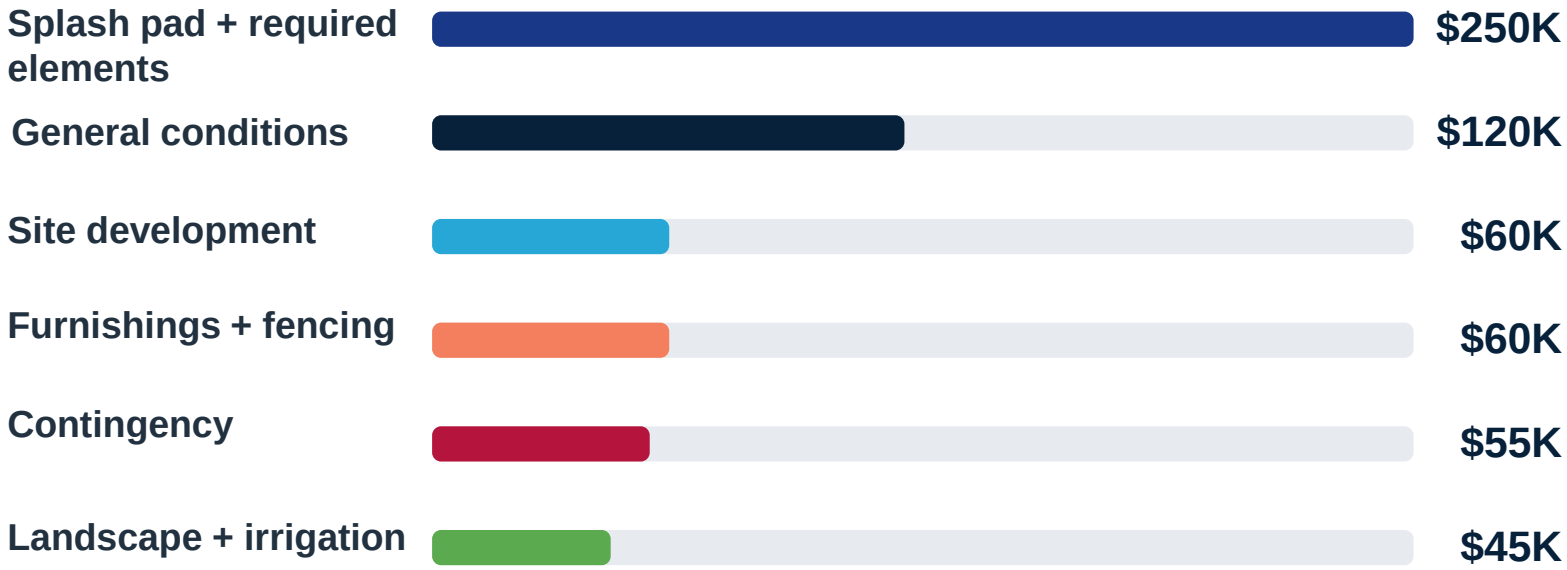
$590K

CURRENT OPC

To reach an approximately $400K target, the project must reduce roughly $190K — about 32% of the current estimate.

MATERIAL SCOPE TRADEOFF REQUIRED

Cost composition



$340K (about 58%) of the total is outside the splash pad equipment / required-elements line item.

Alternate Designs: Opinion of Probable Cost

The Alternate design solutions are estimated at approximately $400,000.

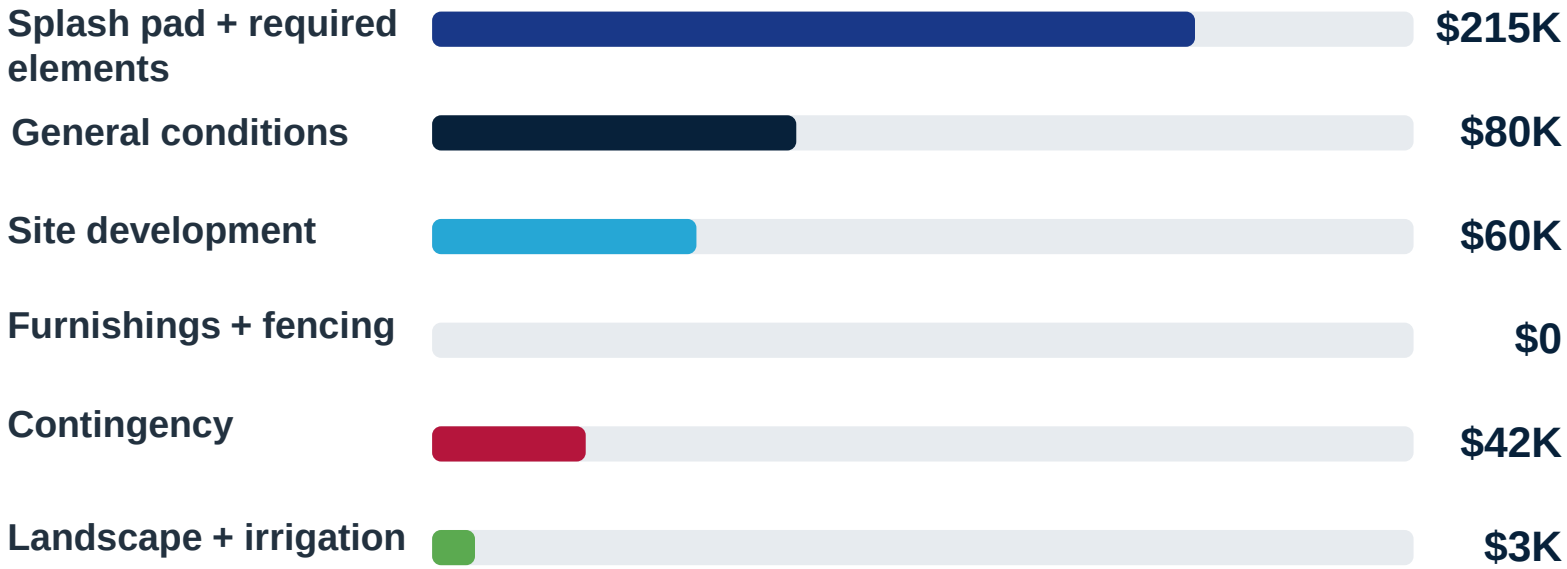
~$400K

To reach an approximately $400K target, scope tradeoff is required:

ALT DESIGN TRADEOFFS:

- Reduces wet area size
- Eliminates dry sitting space
- Eliminates furnishings
- Eliminates shade / umbrella
- Eliminates fencing
- Eliminates landscaping

Cost composition



$3K (0.75%) of the total is allocated to sodding at the splash pad perimeter

What Changes to Reach the ~$400K Cost Target

The four current cost-reduction alternatives target approximately $400,000 in savings through scope reductions, revised footprints, or changes to the water system.

$590K
CURRENT DESIGN

–$190K
≈32%
REDUCTION

~$400K
ALTERNATE TARGET

A Reduce the original concept

Keep the flow-through system and general design intent, but remove fencing, furnishings, landscape, and 1–2 spray features.

≈ $400,000

B New organic footprint

Move to a smaller recirculating design with an “amoeba” footprint; no fencing, furnishings, or landscape.

≈ $400,000

C New round footprint

Use a compact round recirculating design with lower capacity; no fencing, furnishings, or landscape.

≈ $400,000

D Playable fountain concept

Use a recirculating, playable fountain with misting posts; no fencing, furnishings, or landscaping; note night-use caveats.

≈ $400,000

Alternate A — Original Design, Reduced Scope

Maintains the previously selected Concept A design and flow-through system while removing amenities and selected features.

A Original design / reduced scope

Flow-through | Max load 45 | Comfortable 20

~$400K



Scope changes

- Eliminates fencing and furnishings
- Eliminates landscape
- Eliminates 1–2 spray features
- Maintains flow-through system
- Highest stated capacity of the four alternates

Retains most of the previously developed Concept A design.

200

Alternate B — Interactive “Amoeba” Footprint

A new organic recirculating concept with interactive features and moderate capacity.

B Interactive “amoeba” footprint

Recirculating | Max load 30 | Comfortable 15

~$400K





Key implications

- New design footprint; recirculating system
- No fencing, furnishings, or landscape
- Max bathing load 30; comfortable play for 15

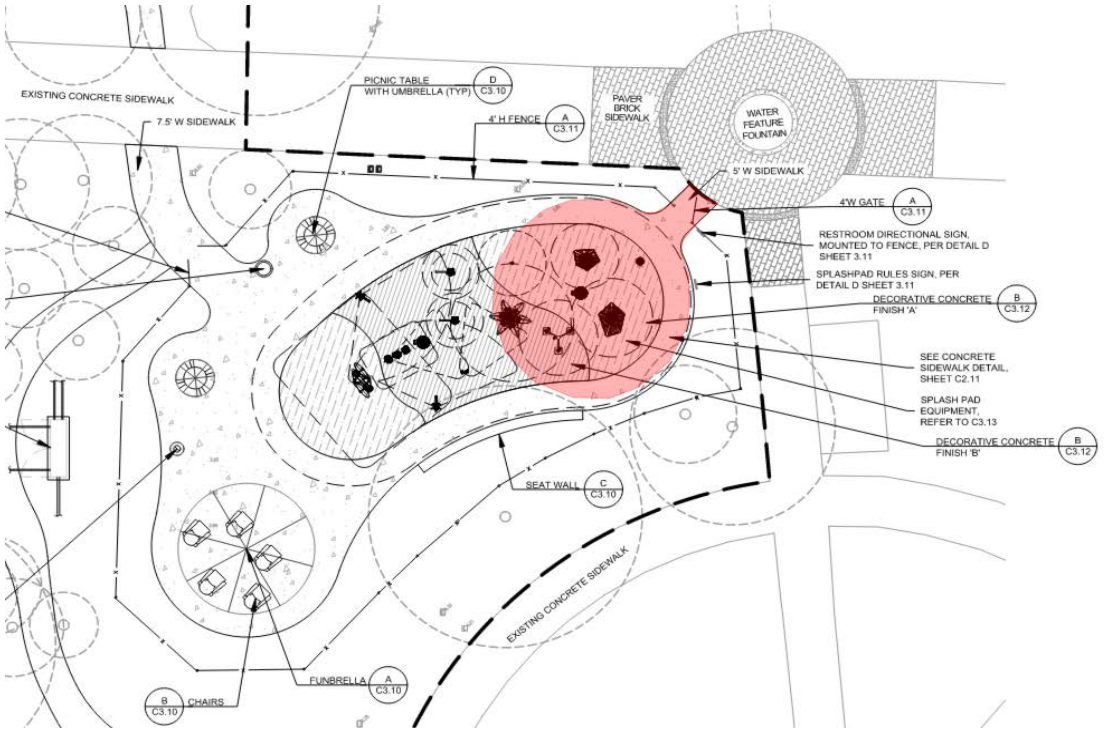
Alternate C — Interactive Round Footprint

A compact recirculating concept with the smallest stated capacity.

C Interactive round footprint

Recirculating | Max load 20 | Comfortable 10

~$400K





Key implications

- New design footprint; recirculating system
- No fencing, furnishings, or landscape
- Max bathing load 20; comfortable play for 10

Alternate D — Playable Fountain + Misting Posts

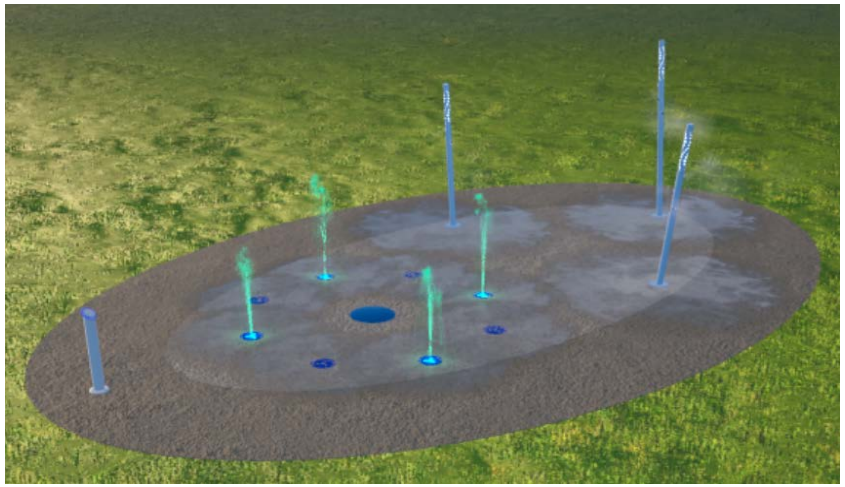
A recirculating fountain concept that changes the play experience and introduces night-use considerations.

D Playable fountain + misting posts

Recirculating | Max load 25 | Comfortable 12

~$400K





Key implications

- New design footprint; recirculating system
- No fencing, furnishings, or landscape
- Max bathing load 25; comfortable play for 12

COMPARISON

Side-by-Side Decision Matrix

The four current cost-reduction alternatives target approximately $400,000, but they make different tradeoffs in system, capacity, and continuity.

Decision factor	ALTERNATE A	ALTERNATE B	ALTERNATE C	ALTERNATE D
Design approach	Original / reduced	New organic	New round	Playable fountain
Water system	Flow-through	Recirculating	Recirculating	Recirculating
Max bathing load	45	30	20	25
Comfortable play	20	15	10	12
Landscape	Removed	Removed	Removed	Removed
Fencing / furnishings	Removed	Removed	Removed	Removed
Original footprint continuity	Retains original design / reduced scope	New “Amoeba” footprint	New round footprint	New playable-fountain concept
Noted caveat	1–2 features removed	New design	Lowest capacity	Night-use caveats

Note: capacity values and scope descriptions are those provided in the design team’s alternate concepts.

DECISION

Council Direction Requested

Select one preferred cost-reduction alternative so the design team can proceed with refinement.

Which current alternative should advance?

A

Original / reduced scope

Flow-through
• 45 max load

≈ $400K

B

Organic “amoeba”

Recirculating
• 30 max load

≈ $400K

C

Round footprint

Recirculating
• 20 max load

≈ $400K

D

Playable fountain

Recirculating
• 25 max load

≈ $400K

After Council direction

01 Refine selected alternate

02 Confirm updated cost estimate

03 Advance final design & permitting

04 Prepare for construction procurement, subject to final design, funding, permitting, and required approvals.

TOWN OF LAKE PARK

Questions & Council Discussion

Kelsey Park Splash Pad

Department of Public Works

October 7, 2026



Meeting Date 11/04/26 Comm

Cards must be submitted before the item is discussed!!
*****Three (3) minute limitation on all comments**

Name: Kevin Kijanka
Address: 705 W. Ilex

If you are interested in receiving Town information through Email, please provide your E-mail address: _____

I would like to make comments on the following ***Agenda Item*:**

_____

I would like to make comments on the following ***Non-Agenda Item(s)*:**
Solid Waste Diversion

Instructions: *Please complete this card, including your name and address; once the card has been completed, give it to the Town Clerk. The Mayor will call your name when it is time for you to speak. Comments are limited to three (3) minutes per individual.*

Meeting Date 11/4/26 Comm

Cards must be submitted before the item is discussed!!
*****Three (3) minute limitation on all comments**

Name: Michael Steinhauer
Address: 435 greenbriar Dr. L.P.

If you are interested in receiving Town information through Email, please provide your E-mail address: pipestone1992@gmail

I would like to make comments on the following ***Agenda Item*:**

_____

I would like to make comments on the following ***Non-Agenda Item(s)*:**
ongoing lawsuit deliberations"

Instructions: *Please complete this card, including your name and address; once the card has been completed, give it to the Town Clerk. The Mayor will call your name when it is time for you to speak. Comments are limited to three (3) minutes per individual.*

Exhibit A

Testimony for the Lake Park, FL Commission Meeting 11/4/2026

Regarding: *Ongoing Lawsuit Deliberations*

Michael Steinhauer, 435 Greenbriar Dr., Lake Park. pipestone1992@gmail.com 608-332-5547

Good evening, Mr. Mayor and Commissioners,

I am here tonight because I believe this moment tests our municipality's leadership, its commitment to transparency, and its respect for the residents it serves.

Growth and development planning is now on a brief hiatus. With two lawsuits under long court-approved stays and one under a motion to dismiss awaiting adjudication, we can reflect and carefully consider not only our legal position but also how we might move forward together in our town's decision-making process.

I recognize that the Commission has a responsibility to consult with the Town Attorney and receive confidential legal advice. However, legal strategy should not become the town's vision strategy.

A balance of coexistence is necessary between protecting the municipality's legal interests and protecting the public's right to *participate* up front in decisions that affect our future.

Residents should not be left on the sidelines while decisions are shaped behind closed doors. We deserve to understand the issues, hear the reasoning behind proposed courses of action, and have meaningful opportunities to *offer input* before decisions are finalized.

At first glance, one might appreciate the town's and the Treasure Coast Regional Planning Council's plan to create marina-related public workshops (aside from yet another consultant expense to take notes and bring donuts; you or town staff could conduct these meetings). But then what happens from these workshops, and what's the plan for moving forward? This example is what I mean by opportunities for meaningful *proactive engagement*. We get snippets of the thinking out of context, and not a full roadmap we can help achieve.

Maybe this workshop initiative is driven by some settlement intentions. We can only guess. But it should also include frequent updates to residents on your decisions.

Your residents are not adversarial. Mostly, we support your hard work. There is nothing to fear in our engagement. We seek insight behind the directions you are formulating. We are the very people who exercised our collective wisdom to elect you. Now tap that same collective wisdom to help maneuver and position us toward legal remedies and long-term visions of what our town might look like.

The town's future belongs to its residents, and their voices must be part of real-time ongoing deliberations. Thank you.

Meeting Date 4/4/26 Comm.

Cards must be submitted before the item is discussed!!
*****Three (3) minute limitation on all comments**

Name: Sophia Pascal
Address: 801 Lake Shore Dr 508

If you are interested in receiving Town information through Email, please provide your E-mail address: pascalsophia@gmail.com

I would like to make comments on the following ***Agenda Item*:**

I would like to make comments on the following ***Non-Agenda Item(s)*:**
U.S. 1 medians Parking Behind toyota Stucco
Pickle ball Lights + better water fountain

Instructions: *Please complete this card, including your name and address; once the card has been completed, give it to the Town Clerk. The Mayor will call your name when it is time for you to speak. Comments are limited to three (3) minutes per individual.*

Meeting Date 10/4/26 Regular Comm

Cards must be submitted before the item is discussed!!
*****Three (3) minute limitation on all comments**

Name: William Rowley
Address: 403 Pike Rd WPB

If you are interested in receiving Town information through Email, please provide your E-mail address: —

I would like to make comments on the following ***Agenda Item*:**

I would like to make comments on the following ***Non-Agenda Item(s)*:**
ST 63 Community Open House

Instructions: *Please complete this card, including your name and address; once the card has been completed, give it to the Town Clerk. The Mayor will call your name when it is time for you to speak. Comments are limited to three (3) minutes per individual.*

Town of Lake Park Town Commission

Agenda Request Form

Meeting Date: November 18, 2026

Originating Department: Community Development

Agenda Title: Ordinance #10-2026 - Amendment - Town's Comprehensive Plan - Capital Improvements Element - Five Year Capital Improvements Schedule Update (2nd Reading)

Agenda Category (i.e., Consent, New Business, etc.)**:** **Ordinance on 2nd Reading**

Approved by Town Manager: _____ **Date:** _____

Cost of Item:	To be billed	**Funding Source:**	General Fund – Legal / Legal Advertising
Account Number:	001-514-108-31100 / 500-34920	**Finance Signature:**	*Barbara Gould*
Advertised:	November 8, 2026	**Newspaper:**	Palm Beach Post

Attachments: Ordinance # 10-2026; BIE Form; Legal Ad

Please initial one:

_____ Yes I have notified everyone

AV Not applicable in this case

Summary Explanation/Background:

The Community Development Department is requesting that the Town Commission amend the Town's Comprehensive Plan to update the Capital Improvement Schedule within the Capital Improvements Element in accordance with state law.

Note: State Statute 163.3177(3)(a)(4) requires that municipalities annually update their Capital Improvements Element of their Comprehensive Plan to reflect their latest adopted Five Year (or greater) Capital Improvements Schedule.

The Town's Capital Improvement's Plan (CIP) was last adopted on September 16, 2026 as part of the FY 2027 Budget. Thus, the proposed amendment to the Town's Comprehensive Plan, if approved, would meet the requirements outlined within state law.

Note: Unlike other amendments to the Comprehensive Plan, the update of the Capital Improvements Schedule is not required to be reviewed by the State planning agency and will become effective upon 2nd reading.

Additionally, as a budget-related ordinance, per statute, a business impact estimate statement is not required.

The proposed Ordinance was approved on 1st reading during the November 4, 2026 Regular Town Commission Meeting and is being considered on 2nd and Final Reading.

The proposed Ordinance was prepared by the Principal Planner and reviewed by the Community Development Director and the Town Attorney.

Recommended Motion:
I move to approve Ordinance 10-2026 on 2nd and final reading to update the Town's Comprehensive Plan - Capital Improvements Element by updating the Town's Five Year Capital Improvements Schedule.

ORDINANCE NO. 10-2026

AN ORDINANCE OF THE TOWN COMMISSION OF THE TOWN OF LAKE PARK, FLORIDA, UPDATING THE CAPITAL IMPROVEMENTS ELEMENT OF ITS COMPREHENSIVE PLAN; PROVIDING FOR AN UPDATED CAPITAL IMPROVEMENTS SCHEDULE; PROVIDING FOR THE UPDATE OF THE TEXT OF THE CAPITAL IMPROVEMENTS SCHEDULE SO AS TO BE CONSISTENT WITH THE NEW CAPITAL IMPROVEMENTS SCHEDULE; PROVIDING FOR THE REPEAL OF ALL ORDINANCES IN CONFLICT; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the Florida Legislature originally required all local governments to annually amend their Comprehensive Plans to update the Capital Improvements Element, including the Five Year Schedule of Capital Improvements contained therein; and

WHEREAS, pursuant to House Bill 7207 the Florida Legislature repealed the requirement that local government annually amend their Comprehensive Plans to update Five Year Capital Improvements Schedules; and

WHEREAS, local governments are now only required to review their Capital Improvements Element and adopt any update thereto pursuant to an ordinance which is not subject to review by the state land planning agency; and

WHEREAS, the Town staff has prepared an ordinance which amends the schedule in the Capital Improvements Element of the Town's Comprehensive Plan; and

WHEREAS, the Town Commission of the Town of Lake Park has held the duly required public hearings to adopt this ordinance.

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COMMISSION OF THE TOWN OF LAKE PARK, FLORIDA, AS FOLLOWS:

Section 1: The whereas clauses are incorporated herein as the legislative findings of the Town Commission.

Section 2: "**Exhibit A"** which is attached hereto and incorporated herein contains the text of Policy 1.11 which is contained in the Town's Comprehensive Plan to amend Capital Improvement

Schedule by replacing the 2025/26 with the FY 2026/2027 Capital Improvements Element's Capital Improvement Schedule.

Section 3: Policy 5.56 of the Capital Improvements Element shall be amended as shown in "**Exhibit B"** to be consistent with the new Capital Improvements Schedule.

Section 4 Repeal of Laws in Conflict. All ordinances or parts of ordinances in conflict herewith are hereby repealed.

Section 5 Severability. Should any section or provision of this ordinance or any portion thereof, any paragraph, sentence or word be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the validity of the remainder of this ordinance.

Section 6. Effective Date. The ordinance shall become effective upon adoption.

#8344558 v1 26508-00002

EXHIBIT A

FY 2027 to FY 2033 YEAR CAPITAL IMPROVEMENTS PLAN

(Source: Town Budget adopted September 16, 2026 Res. # 91-09-26)

Town of Lake Park
Fiscal Year 2026/2027 Capital Improvement Plan

CIP Fund: 001 - General Fund	Description	Funding Source	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Total
Expenditures										$ -
Equipment	Trailer Replacement (2)	General Fund Revenue		$ 17,000						$ 17,000
Equipment	Utility Vehicle	General Fund Revenue		$ 22,000						$ 22,000
Equipment	Compact Lift (Streetlights) JLG ET350 (make/model)	General Fund Revenue		$ 45,000						$ 45,000
Equipment	Forklift (5,000 lb. Capacity)	General Fund Revenue		$ 65,000						$ 65,000
Equipment	PW Fuel Dispensing System Replacement	General Fund Revenue		$ 70,000						$ 70,000
Equipment	PW Diesel Fuel Tank Replacement	General Fund Revenue		$ 222,640						$ 222,640
Equipment	Computer/Laptop Replacements	General Fund Revenue		$ 106,400	$ 19,000	$ 19,000	$ 19,000	$ 19,000	$ 19,000	$ 201,400
Equipment	Channel 18 Servers - Replacement (critical; end of life)	General Fund Revenue		$ 13,015						$ 13,015
Equipment	Commission Chambers Technology Revisions	General Fund Revenue		$ 20,811						$ 20,811
Equipment	Rell Mover (Bert Bostrom turf maintenace)	General Fund Revenue			$ 80,500					$ 80,500
Building	Pro Shop Pavilion Bathrooms, Doors & Windows	Discretionary Surtax								$ -
Building	Library South Doors - ADA Compliant	Discretionary Surtax								$ -
Building	PW Gate Control System Replacement	General Fund Revenue		$ 38,000		$ 17,000				$ 55,000
Building	Townwide Park Bench Replacement	General Fund Revenue		$ 15,705						$ 15,705
Building	Town Hall Preservation Improvement Project - Commission Chambers	Discretionary Surtax/Grant Funding		$ 200,000						$ 200,000
Vehicles	Town Bus (used)	TBD		$ 100,000						$ 100,000
Improvements	Kelsey Park Master Plan Project(s) - Project(s) To Be Determined (Funding to be used as a match for grant award once project identified and approved)	Public Improvement Fund/Grant		$206,288						$ 206,288
Improvements	Kelsey Park Master Plan - Fitness Stations	Public Improvement Fund/Grant	$ 24,000							$ 24,000
Improvements	Kelsey Park Master Plan - Design - Splash Pad	Public Improvement Fund/Grant	$ -							$ -
Improvements	Kelsey Park Master Plan - Construction - Splash Pad	Public Improvement Fund/Grant								$ -
Improvements	Evergreen House Restoration	Public Improvement Fund/Grant	$ -							$ -
Improvements	Kelsey Park Master Plan - Parent's Plaza Seating	General Fund/Grant	$ -	$50,000						$ 50,000
Improvements	Kelsey Park Master Plan - Memorial Garden	General Fund/Grant		$37,000						$ 37,000
Improvements	Traffic Control Devices/Traffic Calming	Mobility Fees		$ 200,000						$ 200,000
Improvements	Park Avenue Lane Reduction	Grant Funding		$ 3,500,000						$ 3,500,000
Improvements	Road Improvements - Various Location	General Fund Revenue	$ 536,150	$ 557,799	$ 580,085	$ 905,359	$ 941,875			$ 3,521,268

Improvements	Sidewalks - Various Locations	General Fund Revenue	$ 407,166	$ 500,000	$ 500,000	$ 500,000				$ 1,907,166
Improvements	FPL Lighting - Phase III (underground)	TBD		$ 750,000						$ 750,000
Improvements	Linear Parks Between 5th & 9th and Greenbriar & Hawthorne	TBD		$ 650,000						$ 650,000
Improvements	Linear Parks Between 5th & 9th and Foresteria & Evergreen	TBD		$ 575,000						$ 575,000
Improvements	Security Gate for PBSO Building	Discretionary Surtax/Grant Funding	$ 38,000							$ 38,000
Improvements	Monument Sign	General Fund Revenue		$45,000						$ 45,000
Improvements	AV Equipment for Schuyler Room	LSTA		$10,000						$ 10,000
Improvements	Library Furniture Including Shelving, Tables & Chairs	Grants	$ 30,000	$300,000	$ 300,000	$ 300,000				$ 930,000
Improvements	Bibliotheca Double Gate	General Fund Revenue			$15,000					$ 15,000
Improvements	Laptop replacement for Kiosk	LSTA								$ -
Improvements	Flooring replacement	General Fund Revenue			$16,000					$ 16,000
Improvements	Lighting replacement	Grant Funding	$20,000							$ 20,000
										$ -
	Included in Proposed FY 2027 Budget									$ -
										$ -
Total Expenditures			**$ 1,055,316**	**$ 8,316,658**	**$ 1,510,585**	**$ 1,741,359**	**$ 960,875**	**$ 19,000**	**$ 19,000**	**$ 13,622,793**
Funding										
	General Fund Revenue		$ 943,316	$ 1,626,970	$ 1,341,585	$ 1,572,359	$ 941,875	$ -	$ -	$ 6,426,105
	Discretionary Surtax		$ 38,000	$ 100,000	$ -	$ -		$ -		$ 138,000
	Mobility Fees		$ -	$ -	$ -	$ -		$ -		$ -
	Public Improvement Fund		$ 17,000	$206,288	$ -	$ -		$ -		$ 223,288
	Special Assessment		$ 5,000	$ -	$ -	$ -		$ -		$ 5,000
	Grant Funding		$50,000	$ 305,000	$ 150,000	$ 150,000		$ -		$ 655,000
	TBD		$ 2,000	$ 2,578,400	$ 19,000	$ 19,000	$ 19,000	$ 19,000	$ 19,000	$ 2,675,400
	CRA		$ -	$ 3,500,000	$ -	$ -		$ -		$ 3,500,000
			$ -	$ -	$ -	$ -		$ -		$ -
Total Funding			**$ 1,055,316**	**$ 8,316,658**	**$ 1,510,585**	**$ 1,741,359**	**$ 960,875**	**$ 19,000**	**$ 19,000**	**$ 13,622,793**

Town of Lake Park
Fiscal Year 2026/2027 Capital Improvement Plan

CIP Fund: 402 - Stormwater	Description	Funding Source	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Total
Expenditure										
Vehicle	VAC Truck (Replace #52)	Stormwater Assessments								$ -
Vehicle	Mason Dump Truck	Stormwater Assessments		$ 95,000						$ 95,000
Vehicle	Dump Truck (Replace #59)	Stormwater Assessments	$ 175,000							$ 175,000
Vehicle	Street Sweeper (Replace #16)	Stormwater Assessments		$ 278,000						$ 278,000
Equipment	Backhoe Loader (Replace #46)	Stormwater Assessments	$ 155,000							$ 155,000
Equipment	MADVAC	Stormwater Assessments								$ -
Equipment	Quick View Camera	Stormwater Assessments								$ -
Equipment	Trailer	Stormwater Assessments								$ -
Equipment	Video Inspection Unit	Stormwater Assessments			$ 150,000					$ 150,000
Equipment	Zero turn mower	Stormwater Assessments				$ 20,000				$ 20,000
Building	Commercial Steel Building	Stormwater Assessments								$ -
Improvements	Southern Outfall - Final Phase	Grant Funding/Spec. Assmt.	$ 4,272,181							$ 4,272,181
Improvements	Pipe Rehabilitation and Replacement Program	Stormwater Assessments	$ 434,361	$ 542,951	$ 651,542	$ 781,850	$ 938,220	$ 1,172,775		$ 4,521,698
Improvements	Second Street Green Infrastructure Project	Grant Funding	$ 297,938							$ 297,938
Improvements	Ilex Court Green Infrastructure Project	Grant Funding	$ 99,373							$ 99,373
	Included in Proposed FY 2027 Budget									$ -
										$ -
Total			**$ 5,433,853**	**$ 915,951**	**$ 801,542**	**$ 801,850**	**$ 938,220**	**$ 1,172,775**		**$ 10,064,190**
Funding										
	Grant Funding		$ 4,272,181	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,272,181
	Stormwater Assessments		$ 1,161,672	$ 915,951	$ 801,542	$ 801,850	$ 938,220	$ 1,172,775		$ 5,792,009
Total			**$ 5,433,853**	**$ 915,951**	**$ 801,542**	**$ 801,850**	**$ 938,220**	**$ 1,172,775**	**$ -**	**$ 10,064,190**

Town of Lake Park
Fiscal Year 2026/2027 Capital Improvement Plan

CIP Fund: 404 - Sanitation	Description	Funding Sources	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Total
Expenditure										$ -
Vehicle	Side Loader Truck (Replace #51 - When Purchased)	Loan - Financed	$ 101,721	$ 101,721	$ 101,721	$ 50,860				$ 356,023
Vehicle	Front End Loader Truck (Replace #44 - When Purchased)	Loan - Financed	$ 107,377	$ 107,377	$ 107,377	$ 107,377				$ 429,508
Vehicle	Grapple Truck (Replace #66 - When Purchased)	Loan - Financed	$ 65,313	$ 65,313	$ 65,313	$ 65,313				$ 261,252
Vehicle	Rear Loader Truck (Replace #42 - When Purchased)	Loan - Financed		$ 308,700						$ 308,700
Vehicle	Front End Loader Truck (Replace #56 - When Purchased)	Sanitation Assessments & Investment Income Proceeds	$ 110,485	$ 110,485	$ 110,485	$ 110,485				$ 441,940
Vehicle	Side Loader Truck (Replace #58 - When Purchased)	Sanitation Assessments & Investment Income Proceeds		$ 112,077	$ 112,077	$ 112,077	$ 112,077			$ 448,308
Vehicle	Grapple Truck (Replace #67 - _____ When Purchased)	Sanitation Assessments & Investment Income Proceeds	$ 83,333	$ 83,334						$ 166,667
Vehicle	Side Loader Truck (Replace #72 - Expected FY 2032 - Estimated $472,660)	Sanitation Assessments & Investment Income Proceeds			$ 157,553	$ 157,553	$ 157,554			$ 472,660
Vehicle	Side Loader Truck (Replace #___ - Expected FY 2032 - Estimated $481,339)	Sanitation Assessments & Investment Income Proceeds			$ 160,446	$ 160,446	$ 160,447			$ 481,339
Vehicle	Front End Loader (Replace #___ - Expected FY 2032 - Estimated $550,000)	Sanitation Assessments & Investment Income Proceeds			$ 183,333	$ 183,333	$ 183,334			$ 550,000
Vehicle	Grapple Truck (Replacement of #68)	Sanitation Assessments & Investment Income Proceeds					$ 300,000			$ 300,000
	Included in Proposed FY 2027 Budget									
Total			**$ 468,229**	**$ 889,007**	**$ 998,305**	**$ 947,444**	**$ 913,412**	**$ -**	**$ -**	**$ 4,216,398**
Funding										
	Sanitation Assessments		$ -	$ -	$ 501,332	$ 501,332	$ 801,335			$ 1,803,999
	Loan - Financed		$ 384,896	$ 805,673	$ 496,973	$ 446,112	$ 112,077			$ 2,245,731
	Investment Income Proceeds		$ 83,333	$ 83,334	$ -	$ -	$ -	$ -	$ -	$ 166,667
Total			**$ 468,229**	**$ 889,007**	**$ 998,305**	**$ 947,444**	**$ 913,412**	**$ -**	**$ -**	**$ 4,216,398**

Town of Lake Park
Fiscal Year 2026/2027 Capital Improvement Plan

CIP Fund: 110 - CRA	Description	Funding Source	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Total
Expenditures										$ -
Improvements	Design & Construction - 10th Street Oval-A-Bout (PBC to provide 25% of Total Project Cost - $500,000) (Cost TBD Based Upon Public Works)	Mobility/PBC Funding Grant/CRA	$ 1,500,000	$ 700,000						$ 2,200,000
Improvements	Design & Construction - 10th Street North Streetscape (Cost TBD Based Upon Public Works)	CRA/Grants/Mobility Fees					$ 1,500,000			$ 1,500,000
Improvements	Design & Construction - 10th Street South Streetscape (Cost TBD Based Upon Public Works)	CRA/Mobility Fees	$ 250,000	$ 250,000						$ 500,000
Improvements	Design & Construction - Park Avenue Extension Streetscape (Cost TBD Based Upon Public Works)	PBC Impact Fees & CRA			$ 500,000					$ 500,000
Improvements	Road Improvements - Various Location - CRA District	CRA	$ 500,000							$ 500,000
Improvements	Sidewalks - Various Locations - CRA District	CRA	$ 200,000							$ 200,000
Improvements	Construction - Butterfly Garden (Foresteria Drive Swale Behind Parking Area Downtown)	CRA	$ 15,000							$ 15,000
Improvements	Bert Bostrom Master Plan Improvements	CRA	$ 650,000	$ 500,000						$ 1,150,000
Improvements	Bert Bostrom Master Plan Improvements - Police Athletic League (PAL) Program	CRA	$ 75,000							$ 75,000
Building	Bert Bostrom Master Plan (Comm. Center)	TBD			$15,000,000					$ 15,000,000
Building	Clock Tower Public Sound System	CRA	$ 15,000							$ 15,000
Building	Design & Construction - LED CRA Information Signs	CRA	$ 400,000							$ 400,000
Improvements	Septic to Sewer Conversion Project (Generally West of Old Dixie Highway - South of Water Tower Road to Silver Beach Road)	Grant Funding/Spec. Assmt./PBC		$ 3,014,248	$ 3,000,000					$ 6,014,248
Improvements	Park Avenue Alleyways (Cost TBD Based Upon Public Works)	Bond Funding		$ 850,000						$ 850,000
Building	Acquisition of New CRA Building	Bond Funding	$ 500,000	$ 850,000						$ 1,350,000
Total Expenditures			**$ 4,105,000**	**$ 6,164,248**	**$ 18,500,000**	**$ -**	**$ 1,500,000**	**$ -**	**$ -**	**$ 30,269,248**
	Included in Proposed FY 2027 Budget									
Funding										
		Mobility Fees	$ 100,000	$ 100,000	$ -	$ -		$ -		$ 200,000
		PBC Funding	$ 500,000	$ 400,000	$ 400,000	$ -		$ -		$ 1,300,000
		CRA	$ 3,505,000	$ 1,350,000	$ 100,000	$ -	$ 1,500,000	$ -		$ 6,455,000
		TBD		$ 3,314,248	$18,000,000	$ -		$ -		$ 21,314,248
		Grant Funding		$ 1,000,000		$ -		$ -		$ 1,000,000
Total Funding			**$ 4,105,000**	**$ 6,164,248**	**$ 18,500,000**	**$ -**	**$ 1,500,000**	**$ -**	**$ -**	**$ 30,269,248**

Town of Lake Park
Fiscal Year 2026/2027 Capital Improvement Plan

CIP Fund: 401 - Marina	Description	Funding Source	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Total
Expenditures										$ -
	Piling Replacement	Marina	$ 60,000	$ 60,000						$ 120,000
	New Dumpster Enclosure	Marina		$ 5,500						$ 5,500
	Resurfacing boat ramp	Marina	$ 40,000							$ 40,000
	Landscape Upgrades	Marina		$ 15,000						$ 15,000
	Dock Boxes	Marina	$ 25,000	$ 25,000						$ 50,000
	Wifi Upgrades	Marina	$ 10,000							$ 10,000
										$ -
Total Expenditures			**$ 135,000**	**$ 105,500**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 240,500**
Funding										
	Included in Proposed FY 2027 Budget									
		Marina Fees	$ 135,000	$ 105,500	$ -	$ -		$ -		$ 240,500
		Grants	$ -	$ -	$ -	$ -		$ -		$ -
			$ -	$ -	$ -	$ -		$ -		$ -
			$ -	$ -	$ -	$ -		$ -		$ -
Total Funding			**$ 135,000**	**$ 105,500**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 240,500**

EXHIBIT B

Policy 5.6:

The Town shall incorporate capital improvements affecting Town levels of service by referencing the Capital Improvements Schedules of Palm Beach County, state agencies, regional water supply authorities and other units of government providing services but not having regulatory authority over the use of land into its 5-Year Schedule of Capital Improvements. The Town Capital Improvement Element Schedule shall be maintained and updated annually and shall demonstrate that level of service standards will be maintained during the ~~next five year~~ ~~2025/26 through 2029/30)~~ (FY 2027 through FY 2033) planning period.

#8344558 v1 26508-00002

Town of Lake Park
Business Impact Estimate Form

This Business Impact Estimate Form is provided in accordance with ***Section 166.041(4), Florida Statutes*** *and must be* ***included in the agenda item backup for each proposed ordinance on first reading. A Business Impact Estimate Form must be prepared and posted on the Town's website*** *for each ordinance by the date that the notice of the proposed ordinance is published, regardless of whether the ordinance is exempted under Section A below. This Business Impact Estimate Form may be revised following its initial posting.*

Title of Proposed Ordinance

AN ORDINANCE OF THE TOWN COMMISSION OF THE TOWN OF LAKE PARK, FLORIDA, UPDATING THE CAPITAL IMPROVEMENTS ELEMENT OF ITS COMPREHENSIVE PLAN; PROVIDING FOR AN UPDATED CAPITAL IMPROVEMENTS SCHEDULE; PROVIDING FOR THE UPDATE OF THE TEXT OF THE CAPITAL IMPROVEMENTS SCHEDULE SO AS TO BE CONSISTENT WITH THE NEW CAPITAL IMPROVEMENTS SCHEDULE; PROVIDING FOR THE REPEAL OF ALL ORDINANCES IN CONFLICT; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

Section A

Based on a review of the proposed ordinance (choose one):

X_____ The Town has determined that the statutory exemption(s) identified below apply to the proposed ordinance and no Business Impact Estimate is required.

_____The Town has determined that the statutory exemption(s) identified below apply to the proposed ordinance; however, the Town has prepared the Business Impact Estimate as a courtesy and to avoid any procedural issues that could impact the enactment of the proposed ordinance.

____ The Town has prepared a Business Impact Estimate pursuant to section 166.041(4), Florida Statutes.

Exemptions

If one or more boxes are checked below, this means that the Town has determined that a Business Impact Estimate is not required by state law for the proposed ordinance:

- ☐ X The proposed ordinance is required for compliance with Federal or State law or regulation;
- ☐ The proposed ordinance relates to the issuance or refinancing of debt;
- ☐ The proposed ordinance relates to the adoption of budgets or budget amendments, including revenue sources necessary to fund the budget;
- ☐ The proposed ordinance is required to implement a contract or an agreement, including, but not limited to, any Federal, State, local, or private grant or other financial assistance accepted by the municipal government;
- ☐ The proposed ordinance is an emergency ordinance;
- ☐ The ordinance relates to procurement; or
- ☐ The proposed ordinance is enacted to implement one of the following:

a. Development orders and development permits, as those terms are defined in s. 163.3164, F.S., and development agreements as authorized by the Florida Local Government Development Agreement Act (ss. 163.3220-163.3243, FS);
b. Comprehensive plan amendments and land development regulation amendments initiated by an application by a private party other than the municipality.
c. Sections 190.005 and 190.046, Florida Statutes, regarding community development districts;
d. Section 553.73, Florida Statutes, relating to the Florida Building Code; Section 633.202, Florida Statutes, relating to the Florida Fire Prevention Code.

If an exemption in Section A is applicable, then only Section A needs to be completed. If there is no exemption in Section A, Section B must be completed.

Section B

This section with the business impact estimate must be completed if the proposed ordinance does not meet any of the exemptions in Section A.

1. A summary of the proposed ordinance which must include a statement of the public purpose (e.g., public health, safety, morals and welfare).

2. An estimate of the direct economic impact of the proposed ordinance on private, for- profit businesses in the Town, if any:

a) An estimate of direct compliance costs that businesses may reasonably incur.

b) Any new charge or fee on businesses subject to the proposed ordinance, or for which businesses will be financially responsible; and

3. An estimate of the Town's regulatory costs, including an estimate of revenues from any new charges or fees to cover such costs.

4. Good faith estimate of the number of businesses likely to be impacted by the proposed ordinance:

5. Additional information/methodology for preparation, if any:

Prepared by:

___Anders Viane, Town Planner_____ _____10/26/2026_____

Print name and title Date

AV

_____

Signature

Copy Uploaded to the Web on _____with packet_____ Initials____AV____

From: Vivian Mendez
To: Nadia DiTommaso; Anders Viane
Cc: Laura Weidgans
Subject: FW: Thank you for placing your order with us.
Date: Wednesday, November 4, 2026 9:05:17 PM

Please see below.

Sincerely,

Vivian Mendez, MMC
Town Clerk
Town of Lake Park, Town Clerk
535 Park Avenue
Lake Park, Florida 33403
561-881-3311
vmendez@lakeparkflorida.gov

* Please note: Florida has a very broad public records law. Written communication regarding Town business are public records available to the public upon request. Your email communications are therefore subject to public disclosure. If you do not want your email address released in response to a public records request, do not send electronic mail to this entity, instead contact this office by phone. Florida State Statute 668.6076.

From: West Palm Beach Legals <legals@pbpost.com>
Sent: Wednesday, November 4, 2026 9:04 PM
To: Town Clerk <townclerk@lakeparkflorida.gov>
Subject: Thank you for placing your order with us.

THANK YOU for your ad submission!

This is your confirmation that your order has been submitted to publish in the Public Notice/Classified section of the paper. Below are the details of your transaction. Please save this confirmation for your records.

We appreciate you using our online self-service ads portal, available 24/7. Please continue to visit Palm Beach Post's online Classifieds HERE to place your legal notices in the future.

Deadlines vary by publication, changes and/or cancellations may not be honored due to deadline restrictions.

Job Details
Order Number:LSAR0629793
Classification:
Govt Public Notices
Package:
General Package
Additional Options:
1 Affidavit $2.00
Total payment:
$205.94

Account Details
Lake Park, Town Of
535 Park AVE
Lake Park, FL 33403-2603
561-881-3300
lweidgans@lakeparkflorida.gov
Lake Park, Town Of

Schedule for ad number LSAR06297930
Sun Nov 8, 2026
Palm Beach Post
All Zones

LEGAL NOTICE OF PROPOSED ORDINANCE
TOWN OF LAKE PARK

Please take notice that on Wednesday, November 18, 2026 at 6:30 p.m. or soon thereafter the Town Commission, of the Town of Lake Park, Florida to be held at 535 Park Avenue, Lake Park, Florida 33403 will consider the following Ordinances on second reading and proposed adoption thereof:

ORDINANCE 10-2026

AN ORDINANCE OF THE TOWN COMMISSION OF THE TOWN OF LAKE PARK, FLORIDA, UPDATING THE CAPITAL IMPROVEMENTS ELEMENT OF ITS COMPREHENSIVE PLAN; PROVIDING FOR AN UPDATED CAPITAL IMPROVEMENTS SCHEDULE; PROVIDING FOR THE UPDATE OF THE TEXT OF THE CAPITAL IMPROVEMENTS SCHEDULE SO AS TO BE CONSISTENT WITH THE NEW CAPITAL IMPROVEMENTS SCHEDULE; PROVIDING FOR THE REPEAL OF ALL ORDINANCES IN CONFLICT; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE

If a person decides to appeal any decision made by the Town Commission with respect to any hearing, they will need a record of the proceedings and for such purpose may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based. The Ordinance is made a part of the Commission meeting agenda which is posted on the Town's website. Interested parties may appear at the meeting and be heard with respect to the proposed ordinance by filling out and submitting a public comment card to the Town Clerk prior to the meeting. For additional information, please contact Vivian Mendez, Town Clerk at 561-881-3311.

Vivian Mendez, MMC, Town Clerk
Town of Lake Park, Florida
PUB: November 8, 2026 - The Palm Beach Post
November 8 2026
LSAR0629793

Town of Lake Park Town Commission

Agenda Request Form

Meeting Date: November 18, 2026

Originating Department: Town Administration

Agenda Title: Discussion - Town Manager Selection Process

Approved by Town Manager: _____ **Date:** _____

Cost of Item: _____ **Funding Source:** _____

Account Number:
001-408-597 _____ **Finance Signature:** _____

Advertised:

Date: _____ **Newspaper:** _____

Attachments: Resignation Letter – Richard J. Reade

Please initial one:

_____ Yes, I have notified everyone.

DP Not applicable in this case

Summary Explanation/Background:
The Town Commission is requested to discuss and consider how to proceed following the resignation of the Town Manager, effective January 15, 2027.

Recommendation:
The Town Commission consider, discuss and provide input/direction on proceeding with the replacement of the Town Manager, effective January 15, 2027.

Office of the
Town Manager

535 Park Avenue
Lake Park, FL 33403
Phone: (561) 881-3304
Fax: (561) 881-3314

www.lakeparkflorida.gov

November 10, 2026

The Honorable Roger Michaud
Mayor
Town of Lake Park
535 Park Avenue
Lake Park, Florida 33403

Dear Mayor Michaud,

I am writing to formerly notify you, the Town Commission, our community and staff that I am providing my resignation from the Town as Town Manager effective at the end of the day on Friday, January 15, 2027.

Throughout these past few years, I have valued my time as a member of Town of Lake Park. I am so proud of the numerous professional improvements that we have made within the organization, while also working to provide a financial position within the Town that is significantly improved from when I arrived.

Further, I have always worked to serve the Town as an ambassador and advocate for the organization and community and believe that we have accomplished so many changes that has improved the livability, transparency, trust, financial management and planning for the Town as well as the overall professionalism of the organization.

As I have noted to some of the members of the Commission, I will make myself available during my remaining time with the Town to provide any support and/or information on how the Town may proceed forward with the selection of either an interim Town Manager and/or a permanent Town Manager.

I believe that this process will be critical to the future of the Town and the selection that is made will ensure that the Town continues to move forward rather than create a situation where the operations and capital projects are placed on hold until a new Manager is selected.

I appreciate the opportunity to serve the Town and wish the organization and the community nothing but the best, which is absolutely deserved.

Should you have any questions and/or require additional information my decision and/or options for the Town to proceed, please do not hesitate to contact me directly.

Have a great day.

Richard J. Reade
Town Manager
Town of Lake Park, Florida

c: The Honorable Michael Hensley, Vice-Mayor
The Honorable John Linden, Commissioner
The Honorable Judith Thomas, Commissioner
The Honorable Michael O'Rourke, Commissioner
Mr. Thomas Baird, Town Attorney
Ms. Vivian Mendez, Town Clerk

Office of the
Town Manager

535 Park Avenue
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