REGULAR MEETING OF THE FLAGLER BEACH CITY COMMISSION THURSDAY, MAY 11, 2023, AT 5:30 P.M. AND TO BE CONTINUED UNTIL ITEMS ARE COMPLETE. CITY COMMISSION CHAMBERS, 105 S. SECOND STREET, FLAGLER BEACH, FLORIDA 32136

AGENDA

1. Call the meeting to order.

2. Pledge of Allegiance followed by a moment of silence to honor our Veterans, members of the Armed Forces and First Responders.

3. Proclamations and Awards.
   a. Proclamations recognizing the City of Flagler Beach Pier Bait Shop Employees

4. Deletions and changes to the agenda.

5. Public comments regarding items not on the agenda. Citizens are encouraged to speak. However, comments should be limited to three minutes. *A thirty-minute allocation of time for public comment on items not on the agenda. Each speaker has up to three-minutes to address the Chair, and one opportunity to speak, no time can be allotted to another speaker.*

CONSENT AGENDA

6. Approve the regular meeting minutes of April 27, 2023.

7. Approve a one-year insurance renewal proposal for the pier structure - Liz Mathis, HR.

8. Award Bid FB-23-0305 Clubhouse Interior Rebuild to Paul Culver Construction in the amount not to exceed $53,508.00 – Penny Overstreet, City Clerk.

9. Discussion of approach to acquire countywide cooperation for the tourism impact on Flagler Beach – Interim City Manager Mike Abels.

GENERAL BUSINESS

10. Consider applications to appoint a citizen representative and alternate citizen representative from Flagler Beach to serve on the the River to Sea Transportation Planning Organization (TPO) Bicycle/Pedestrian Advisory Committee (BPAC) – Penny Overstreet, City Clerk.

11. Consider applications to fill three Planning and Architectural Review Board Seats that have reached their term – Penny Overstreet, City Clerk.

12. Discussion of offered lay-down yard lease – Drew Smith, City Attorney.

PUBLIC HEARINGS

13. Application SP#23-04-01: Approve a Final Site Plan to develop a multi-family apartment complex consisting of thirty-nine (39) units on 3.16 acres on Leslie Street – Applicant: ALT Homes, LLC - Larry Torino for the City of Flagler Beach.

14. Staff Reports.
    - City Attorney:
    - City Manager:

COMMISSION COMMENTS

15. Commission comments, including reports from meetings attended.

16. Public comments regarding items not on the agenda. Citizens are encouraged to speak. However, comments should be limited to three minutes. *A thirty-minute allocation of time for public comment on items not on the agenda. Each speaker has up to three-minutes to address the Chair, and one opportunity to speak, no time can be allotted to another speaker.*

17. Adjournment.

RECORD REQUIRED TO APPEAL: In accordance with Florida Statute 286.0105 if you should decide to appeal any decision the Commission makes about any matter at this meeting, you will need a record of the proceedings. You are responsible for providing this record. You may hire a court reporter to make a verbatim transcript, or you may buy a CD of the meeting for $3.00 at the City Clerk's office. Copies of CDs are only made upon request. The City is not responsible for any mechanical failure of the recording equipment. In accordance with the Americans with Disabilities Act, persons needing assistance to participate in any of these proceedings should contact the City Clerk at (386) 517-2000 ext 233 at least 72 hours prior to the meeting. The City Commission reserves the right to request that all written material be on file with the City Clerk when the agenda item is submitted.

#6

REGULAR MEETING OF THE FLAGLER BEACH CITY COMMISSION THURSDAY, APRIL 27, 2023, AT 5:30 P.M. AND TO BE CONTINUED UNTIL ITEMS ARE COMPLETE. CITY COMMISSION CHAMBERS, 105 S. SECOND STREET, FLAGLER BEACH, FLORIDA 32136

MINUTES

PRESENT: Mayor Suzie Johnston, Chair Eric Cooley, Commissioners Jane Mealy, James Sherman, and Scott Spradley, City Attorney D. Andrew Smith, III, Interim City Manager Mike Abels, and Deputy City Clerk Jeanelle Jarrah. Vice-Chair Rick Belhumeur arrived at 6:42 p.m.

ABSENT: None.

1. CALL THE MEETING TO ORDER: Chair Cooley called the meeting to order at 5:45 p.m.

2. PLEDGE OF ALLEGIANCE FOLLOWED BY A MOMENT OF SILENCE TO HONOR OUR VETERANS, MEMBERS OF THE ARMED FORCES AND FIRST RESPONDERS: Mayor Johnston led the pledge

3. PROCLAMATIONS AND AWARDS.
   A. PROCLAMATION RECOGNIZING FLAGLER BEACH ROTARY CLUB: Mayor Johnston read the proclamation into the record, and presented it to the members of the Flagler Beach Rotary present.
   B. ~~PROCLAMATIONS RECOGNIZING THE CITY OF FLAGLER BEACH PIER BAIT SHOP~~

4. DELETIONS AND CHANGES TO THE AGENDA: Commissioner Mealy requested Item 7 be postponed until the next meeting to allow for more applicants. There was a consensus to postpone this item.

5. PUBLIC COMMENTS REGARDING ITEMS NOT ON THE AGENDA. CITIZENS ARE ENCOURAGED TO SPEAK. HOWEVER, COMMENTS SHOULD BE LIMITED TO THREE MINUTES. *A THIRTY-MINUTE ALLOCATION OF TIME FOR PUBLIC COMMENT ON ITEMS NOT ON THE AGENDA. EACH SPEAKER HAS UP TO THREE-MINUTES TO ADDRESS THE CHAIR, AND ONE OPPORTUNITY TO SPEAK, NO TIME CAN BE ALLOTTED TO ANOTHER SPEAKER:* Public comments were made by Susan Price regarding the stormwater valve project. Interim City Manager Abels recommended that questions be addressed with the overall Stormwater presentation.

CONSENT AGENDA

6. APPROVE THE REGULAR MEETING MINUTES OF APRIL 13, 2023: Motion by Commissioner Mealy to approve the consent agenda. Commissioner Spradley seconded the motion. Chair Cooley opened public comments. No comments were offered. Chair Cooley closed public comments. The motion carried unanimously.

GENERAL BUSINESS

7. APPOINT A CITIZEN REPRESENTATIVE FROM FLAGLER BEACH TO SERVE ON THE THE RIVER TO SEA TRANSPORTATION PLANNING ORGANIZATION (TPO) BICYCLE/PEDESTRIAN ADVISORY COMMITTEE (BPAC): Item 7 was removed from the agenda to be placed on the next regular agenda.

8. DISCUSSION ON CURRENT STORMWATER PROJECTS – LEE RICHARDS, PROGRAM COORDINATOR OF ENGINEERING SERVICES: Interim City Manager Abels introduced the subject and explained that we are facing brand new problems that are being caused by tidal surge and sea level rise, in

addition to the storms and hurricanes that the city already faces. Lee Richards presented a PowerPoint presentation on current stormwater management system projects and showed why the current system is not working at specific points in the city. Questions and comments posed by the commission covered: needing an engineer on staff, what recourse does the city have with the valve contractor and when do they have to get the job done, what St. Augustine has done to help their stormwater issues, erosion control measures, retention and detention ponds, and how the commission promised to address issues after the last storms and instructed staff to get things completed with reserves, but that none of these jobs were started. Mr. Richards addressed questions as they were posed, and shared that ultimately the city can only pump or store the stormwater so maintenance of whatever system is in place is the most important thing the city can do, and provided the officials with solutions within his presentation. Mr. Richards addressed the valve project date and that the contractor has until July 1, 2023. Interim City Manager Abels shared his observations about staff doing an incredible job and working tirelessly to communicate with the vendor regarding the valve project. Mr. Abels then discussed addressing the need for an engineer on staff, beefing up the public works staff, and needing some form of centralized grant management for the compliance of all of the grants that the city has obtained. Chair Cooley opened public comments. Susan Price, Paul Eik, and Marshall Shupe made public comments. Chair Cooley closed public comments. Mr. Shupe mentioned Palm Circle's drainage issues and residents on the block have clogged the drainpipes, and questioned the large tank that was placed underneath the 5th street parking lot to collect water years ago and if it was still working, because he believes this has not had any maintenance. Staff will look to the maintenance needs at Palm Circle and investigate the status of the 5th Street tank.

9. APPROVE SPONSORSHIP/DONATIONS TO GROUPS SUPPORTING THE FOURTH OF JULY ACTIVITIES – PENNY OVERSTREET, CITY CLERK: Deputy Clerk Jarrah reviewed the recommendations from staff. Commissioner Mealy questioned the amount that is proposed to give towards fireworks for Palm Coast. Discussion ensued and included there being a value to working together as a community and hopes Palm Coast would use that money to add to the show. Chair Cooley opened public comments. There were no public comments. Chair Cooley closed public comments. Commissioner Mealy motioned to approve the sponsorship donations to groups listed supporting the Fourth of July. Commissioner Belhumeur seconded the motion. The motion passed unanimously.

PUBLIC HEARINGS

10. STAFF REPORTS.
   - CITY ATTORNEY: DISCUSSION OF CONCURRING OPINION IN PARRIS V. STATE OF FLORIDA: Attorney Smith explained the mediation of the golf course is still ongoing. Attorney Smith shared a portion of the opinion from Parris vs. the State of Florida, where the judge addressed elected officials and stressed the importance of following the Sunshine Law.
   - CITY MANAGER: The executive search is ongoing for the City Manager. The goal of the firm is to have top candidates submitted in July.
   - LEE RICHARDS: There will be two flood meetings on May 1, 2023 at 3:00 p.m. and 6:00 in the commission room.
   - DEPUTY CITY CLERK: Relayed that the CRA Director would like to hold a special CRA meeting at the next regular meeting. There was a majority consensus to hold the special CRA meeting at the May 11th meeting, with Chair Cooley against the meeting, stating that the CRA meetings are supposed to be held quarterly.

COMMISSION COMMENTS

11. COMMISSION COMMENTS, INCLUDING REPORTS FROM MEETINGS ATTENDED: The officials reported their attendance at meetings, gathering, and events since their last regular meeting.

Mayor Johnston announced the first Saturday beach clean-up is May 6th at 9:00 a.m. and is asking that residents join the clean-up. Commissioner Belhumeur discussed our parking lots and fixing them up, trimming street corners so that citizens can travel safely, and the farmer's market vegetable vendor has taken over the pavilion and are not following the agreement. Commissioner Spradley talked about the tiger dams that have went into the sea from Volusia and ended up at South 23rd Street and how our Sanitation Department cleaned it up immediately. Commissioner Spradley will continue to have Saturday hours for residents that would like to come and talk, but will not have Saturday hours on May 6, 2023. Chair Cooley would like to implement fines for people that still go over the dunes. Chair Cooley shared what he had learned about the new TDC Visitor Center. TDC asks that the commission as a body express to the TDC what they feel the needs of the city are. Chair Cooley is concerned that Flagler County has no line item in their budget for the beach, and tourism does not have the budget to support when things do come up. Chair Cooley is asking the officials to think about what we need during the budgeting and strategic planning processes this year. Population is growing and we only have a small number of open walkovers, and what are we going to ask tourism, the City of Palm Coast, and Flagler County during our strategic planning. Chair Cooley asked the officials to think about ideas now, to work together soon to agree on a grant to apply to the TDC for.

12. PUBLIC COMMENTS REGARDING ITEMS NOT ON THE AGENDA. CITIZENS ARE ENCOURAGED TO SPEAK. HOWEVER, COMMENTS SHOULD BE LIMITED TO THREE MINUTES. *A THIRTY-MINUTE ALLOCATION OF TIME FOR PUBLIC COMMENT ON ITEMS NOT ON THE AGENDA. EACH SPEAKER HAS UP TO THREE-MINUTES TO ADDRESS THE CHAIR, AND ONE OPPORTUNITY TO SPEAK, NO TIME CAN BE ALLOTTED TO ANOTHER SPEAKER*: Public comments were made by Charlie Morrow and Marshall Shupe.

13. ADJOURNMENT: Commissioner Belhumeur put forth a motion to adjourn the meeting at 9:28 pm. Seconded by Commissioner Sherman.

Attest:

_____
Chair Eric Cooley

_____
Jeanelle Jarrah, Deputy City Clerk

FLAGLER BEACH CITY COMMISSION #7

Meeting Date: 05/11/2022
Issue: Approve insurance proposal for Pier
From: Liz Mathis, Human Resource/ Risk Manager
Organization: City of Flagler Beach

RECOMMENDATION: Approve one-year insurance renewal proposal from Axis Insurance Company.

BACKGROUND:
Since construction on the new pier is now planned for 2024, we are recommending keeping the limit of insurance at $485,750.00. The intention is to provide coverage for the first 100 feet of the pier and debris removal, if needed. This option was reviewed by the Florida Division of Emergency Management Insurance Lead, who indicated that it complied with our current FEMA Pier Project, PW #920. Due to our upcoming FEMA Pier Project, it is necessary for the City to maintain insurance for the first 100 feet.

BUDGETARY IMPACT: The premium for this option is $83,042.00.

LEGAL CONSIDERATIONS/SIGN-OFF:

PERSONNEL:

POLICY/REQUIREMENT FOR BOARD ACTION:

IMPLEMENTATION/COORDINATION:

Attachments

CITY OF FLAGLER BEACH

INSURANCE PROPOSAL

Pier - Property
Effective: 05/17/2023 to 05/17/2024

Presented By:

Don Sciotto
CRIS, ARM, MLIS, CCIP
Senior Vice President

300 North Beach Street
Daytona Beach, FL 32114

This proposal contains only a general description of the coverage(s) and does not constitute a policy/contract. For complete policy information, including exclusions, limitations, and conditions, refer to the policy document. In the event of any differences between the policy and this summary, the policy will prevail.

TABLE OF CONTENTS

* ***All coverages, forms and limits are presented strictly for the purpose of this proposal and do not constitute an insurance policy or contract.***

CLIENT SERVICE TEAM

PRODUCER	Don Sciotto Senior Vice President CRIS, ARM, MLIS, CCIP
Email	Don.Sciotto@bbrown.com
Phone	(386) 239-
ACCOUNT MANAGER/TEAM LEADER	Ara Dresner, AAI
Email	Ara.Dresner@bbdaytona.com
Phone	(386) 239-5757
CLAIMS ANALYST	Felisha Reynolds, CPSR
Email	Felisha.Reynolds@bbrown.com
Phone	(386) 239-7209
MAIN OFFICE PHONE	(386) 252-9601
TOLL FREE OFFICE PHONE	(800) 877-2769

Axis Surplus Insurance Company

PROPOSED PROPERTY COVERAGE

Client ultimately chooses value insured

Location of Premises / Schedule of Values:	
1/1: Flagler Beach Pier: 215 South A1A; Flagler Beach, FL 32136	
Pier / Outdoor Property (100% of Values of Interest)	*$3,756,000*
1/2: Lifeguard Rescue Operations / Tower: 215 South A1A; Flagler Beach, FL 32136	
Lifeguard Tower (100% of Values of Interest)	*$130,000*
Total Values of Interest	***$3,886,000***

Description of Property Insurance Purchased:	Limits of Coverage:
Limits Purchased (1/8th of Total Values of Interest)	$489,375
Sub-limits: part of the total limit purchased; Not in addition to	
Flood Each Occurrence & Annual Aggregate	$489,375
Earthquake Each Occurrence & Annual Aggregate	$489,375
Pollutant Cleanup & Removal Each Occurrence & Annual Aggregate	$10,000

Deductibles:	
Named Windstorm per Occurrence	$388,600
All Other Windstorm per Occurrence	$388,600
Flood per Occurrence	$388,600
Earthquake per Occurrence	$388,600
All Other Perils per Occurrence	$10,000

Coinsurance & Valuation:
Coinsurance – Not Applicable
Replacement Cost Valuation Coverage
Agreed Value Coverage
Actual Cash Value on Roofs 10 Years or Older

NOTE:

Detached walls, fences, free-standing property improvements such as athletic equipment, windscreens, light poles, or signs are not covered unless specifically scheduled on the policy.

Axis Surplus Insurance Company

PROPOSED PROPERTY COVERAGE (*Continued*)

Client ultimately chooses value insured

Description of Coverage Forms, Endorsements & Exclusions include (but are not limited to):
Standard Policy Forms, Endorsements & Exclusions as issued by ISO or Carrier
Notice to Policyholder
Policyholder Notice -Florida
Common Policy Conditions
Commercial Property Conditions
Building and Personal Property Coverage Form
Causes of Loss - Special Form
Exclusion of Loss Due to Virus or Bacteria
Earthquake Endorsement
Flood Endorsement
Minimum Earned Premium Clause – Percentage – Endorsement: 35% Except subject to Hurricane Minimum Earned Premium, whichever is greater.
Commercial Property Exclusion Endorsement
Total Exclusion - Electronic Property and Virus – Endorsement
Mold, Fungi, Wet or Dry Rot, and Bacteria Exclusion Endorsement
Nuclear, Chemical and Biological Exclusion Endorsement
Terrorism Exclusion Endorsement
Service of Suit Clause - Endorsement
Cancellation and Nonrenewal – Florida: Forty-five (45) days notice of cancellation / non-renewal, except ten (10) days for non-payment of premium
AXIS Surplus Signature Page
Claim Notice
Exclusion: Asbestos, Mold/Fungus, Terrorism, Cyber, Pollution, Nuclear, Biological, Chemical, Communicable Disease
Exclusion: Cosmetic Roof Damage

AGREED VALUE ENDORSEMENT
(IF APPLICABLE)

Coverages Provided: The insurance company agrees to waive the Co-insurance Clause, thus eliminating your potential penalty for buying an inadequate amount of insurance to meet the co-insurance requirement.

CO-INSURANCE EXAMPLES
(IF APPLICABLE)

The co-insurance clause is found in almost every property policy. It states that the insurance company will not pay the full amount of any loss if the covered property is, for whatever reason, covered for less than the required insurable value at the time of loss. Required insurable value equals the value of the covered property at the time of loss multiplied by the co-insurance amount.

Examples of Co-Insurance at 80%

Building Value	Insurance Carried	Loss	Insurance Pays
1) $100,000	$100,000	$60,000	$60,000
2) $100,000	$ 80,000	$60,000	$60,000
3) $100,000	$ 70,000	$60,000	$52,500 *

* $\frac{\text{Did } (70{,}000)}{\text{Should } (80{,}000)} \times \text{Loss} = \frac{7}{8}$ Paid

OR

Examples of Co-Insurance at 90%

Building Value	Insurance Carried	Loss	Insurance Pays
1) $100,000	$100,000	$60,000	$60,000
2) $100,000	$ 90,000	$60,000	$60,000
3) $100,000	$ 80,000	$60,000	$53,333 *

* $\frac{\text{Did } (80{,}000)}{\text{Should } (90{,}000)} \times \text{Loss} = \frac{8}{9}$ Paid

OR

Examples of Co-Insurance at 100%

Building Value	Insurance Carried	Loss	Insurance Pays
1) $100,000	$100,000	$60,000	$60,000
2) $100,000	$ 70,000	$60,000	$42,000 *

* $\frac{\text{Did } (70{,}000)}{\text{Should } (100{,}000)} \times \text{Loss} = \frac{7}{10}$ Paid

SUMMARY OF PROPOSED PREMIUMS AND RELATED INFORMATION

Property: Pier and Lifeguard Tower	$	54,450.00	$	82,284.00
Fees / Surcharges / Taxes	$	1,004.00	$	758.00
Total Premium	**$**	**55,454.00**	**$**	**83,042.00**

Options: Premiums include any applicable fees / surcharges / taxes		
Terrorism Premium Additional Premium	$	8,228.00

PAYMENT PLAN OPTIONS

Line of Coverage:	Carrier:	Direct Bill / Agency Bill:	Payment Option:
Property	Axis	Agency Bill	• Annual premium is due in full.

BINDING SUBJECTIVITIES

Line of Coverage:	Carrier:	Items Needed to Bind Coverage:
Property	Axis	• Signed Acord application by insured and agent • Signed Terrorism election / rejection form • Signed Non admitted carrier disclosure form

Please refer to the individual proposed coverage parts for terms and conditions that this proposal may be subject to. This proposal is based upon the exposures to loss made known to the Agency. Any changes in these exposures (i.e., new operations, new products, additional states of hire, etc.) need to be promptly reported to us in order that proper coverage(s) may be put into place.

Payment is due within 10 days of binding.

As a course of business, Brown & Brown of Florida, Inc is required to pay premiums to insurers on a monthly basis. In return, we appreciate timely payments by our clients. Outstanding balances over 30 days may be subject to cancellation.

A.M. BEST FINANCIAL RATING

The insurance company providing coverage has the following A. M. Best* Financial rating:

*** Rating Guide:** A++ to C- = Highest to lowest rating
XV to I = Largest to smallest rating

	Line of Coverage:	Carrier:	Rating for Stability:	Rating for Assets / Surplus:
**	Property	Axis Surplus Insurance Company	A	XV

***** Denotes excess & surplus lines insurance company. See attached Statement Acknowledging that Coverage has been placed with a Non-Admitted Carrier. Please review and return to Brown & Brown. Brown & Brown does not have direct binding authority with this excess and surplus lines market.***

A.M. BEST FINANCIAL RATING *(Continued)*

A Best's Financial Strength Rating is an independent opinion of an insurer's financial strength and ability to meet its ongoing insurance policy and contract obligations. It is based on a comprehensive quantitative and qualitative evaluation of a company's balance sheet strength, operating performance and business profile.

Financial Strength Rating Guide	
Secure	*Vulnerable*
A++, A+ (Superior)	**B, B-** (Fair)
A, A- (Excellent)	**C++, C+** (Marginal)
B++, B+ (Good)	**C, C-** (Weak)
	D (Poor)
	E (Under Regulatory Supervision)
	F (In Liquidation)
	S (Suspended)

Financial Size Category Guide			
Class	*Adj. PHS ($ Millions)*	*Class*	*Adj. PHS ($ Millions)*
I	Less than 1	**IX**	250 to 500
II	1 to 2	**X**	500 to 750
III	2 to 5	**XI**	750 to 1,000
IV	5 to 10	**XII**	1,000 to 1,250
V	10 to 25	**XIII**	1,250 to 1,500
VI	25 to 50	**XIV**	1,500 to 2,000
VII	50 to 100	**XV**	2,000 or greater
VIII	100 to 250		

NON-ADMITTED CARRIER DISCLAIMER
STATEMENT ACKNOWLEDGING THAT COVERAGE HAS BEEN PLACED WITH A NON-ADMITTED CARRIER

Per Florida Statute, the insured is required to sign the following E&S disclosure:

The undersigned hereby agrees to place insurance coverage in the surplus lines market and understands that superior coverage may be available in the admitted market and at a lesser cost. Persons insured by surplus lines carriers are not protected by the Florida Insurance Guaranty Association with respect to any right of recovery for the obligation of an insolvent unlicensed insurer.

City of Flagler Beach
Named Insured

Signature of Insured's Authorized Representative — Date

Axis Surplus Insurance Company
Name of Excess and Surplus Lines Carrier

Commercial Property for Pier and Lifeguard Tower
Type of Insurance

5/17/2023
Effective Date of Coverage

Don Sciotto, CRIS, ARM, MLIS, CCIP
Senior Vice President — W088665
Producing Agent Name — License Number

APPENDIX

Brown & Brown INSURANCE®

INSURANCE COVERAGE REVIEW

Insured:

Policy Term Date:

Please advise if quotations for increased limits of liability or for any coverage listed below are requested:
E = Exposure; C = Coverage through Brown & Brown (if indicated with an "L", such coverage is being provided on a limited basis through an extension or enhanced endorsement and not by a stand-alone coverage form); Q = Quote for Limited or Uncovered
If coverage placed through another agent or broker and/or insured declines to discuss, mark section **CLIENT DECLINED QUOTE**

	E Y/N	C Y/L/N	Q Y/N
PROPERTY			
Buildings			
Business Personal Property			
Personal Property of Others			
Tenants Improvements & Betterments			
Business Income/Rental Income			
Extra Expense			
Leaseholder's Interests			
Boiler & Machinery (Equipment Breakdown)			
Building Ordinance or Law			
A. Loss to Undamaged Portion of Bldg			
B. Demolition Cost			
C. Increased Cost of Construction			
Earthquake			
Difference in Conditions			
Flood (Primary)			
Flood (Excess)			
Wind			
Off Premises Power Interruption			
Overhead Transmission Lines			
Glass			
Spoilage			
Mold / Fungi			
EIFS			
AUTOMOBILE			
Auto Liability			
Auto Physical Damage			
Drive Other Car Liability			
Drive Other Car Physical Damage			
Hired & Non Owned Liability			
Hired Car Physical Damage			
PIP: Ext Additional, Broad			
Rental Reimbursement (Private Passenger)			
Rental Reimbursement (Commercial Vehicles)			
Uninsured/Underinsured Motorist (Primary)			
Garage Liability			
Garage Keepers Liability			
Garage Keepers Physical Damage			
Trucker's Liability			
Unladen Liability			
Trucker's Physical Damage			
Trailer Interchange			

	E Y/N	C Y/L/N	Q Y/N
CRIME			
Employee Dishonesty (1st Party)			
Employee Dishonesty (3rd Party)			
Computer Fraud/Funds Transfer			
Forgery or Alteration			
Social Engineering			
Money & Securities			
ERISA Bond			

	E Y/N	C Y/L/N	Q Y/N
LIABILITY			
General Liability			
Liquor Liability			
Employee Benefits Liability			
Errors & Omissions Liability/Professional			
Cyber Liability (1st Party)			
Cyber Liability (3rd Party)			
Intellectual Property			
Directors & Officers Liability			
Fiduciary Liability			
Employment Related Practices Liability			
Third Party Discrimination			
Owners/Contractors Protective Liability			
Pollution Liability (1st Party)			
Pollution Liability (3rd Party)			
Products Liability			
Product Recall			
Warehouse (or Bailee's) Legal Liability			
Watercraft Liability (Hull & P +I)			
Mold / Fungi			
Umbrella / Excess Liability			
EIFS			
INLAND MARINE			
Accounts Receivable			
Valuable Papers			
Bailee Coverage			
Computer/EDP			
Contractor's / Mobile Equipment			
Signs			
Installation Floater			
Rented / Leased Equipment			
Motor Truck Cargo			
Ocean Cargo			
Transit / Transportation			
Builders Risk / Course of Construction			
WORKERS' COMPENSATION			
Workers' Compensation			
Other States			
USL&H / Jones Act			
Stop Gap Liability			
Excess Employers Liability			
AIRCRAFT			
Aviation – Owned			
Aviation - Non-Owned			

	E Y/N	C Y/L/N	Q Y/N
MISCELLANEOUS			
International / Foreign Exposures			
Kidnap & Ransom			
Travel Accident			
Credit Insurance			
Terrorism			
Subsidence/Sinkhole			

This list of insurance coverage is for information purposes only and is not meant to be a complete list for all your insurance needs. The above analysis is based solely on information provided by the client. Coverage indicated by an "L" reflects coverage provided on a limited basis which may not be as broad as coverage purchased on a stand-alone coverage form, and may include lower limits, sub-limits, or few covered perils.

Insured Representative's Name / Title

Date, Time & Location Process Was Completed With Insured

Brown & Brown Representative Signature

RELATED INFORMATION

Compensation: In addition to the commissions or fees received by us for assistance with the placement, servicing, claims handling, or renewal of your insurance coverages, other parties, such as excess and surplus lines brokers, wholesale brokers, reinsurance intermediaries, underwriting managers and similar parties, some of which may be owned in whole or in part by Brown & Brown, Inc., may also receive compensation for their role in providing insurance products or services to you pursuant to their separate contracts with insurance or reinsurance carriers. That compensation is derived from your premium payments. Additionally, it is possible that we, or our corporate parents or affiliates, may receive contingent payments or allowances from insurers based on factors which are not client-specific, such as the performance and/or size of an overall book of business produced with an insurer. We generally do not know if such a contingent payment will be made by a particular insurer, or the amount of any such contingent payments, until the underwriting year is closed. That compensation is partially derived from your premium dollars, after being combined (or "pooled") with the premium dollars of other insureds that have purchased similar types of coverage. We may also receive invitations to programs sponsored and paid for by insurance carriers to inform brokers regarding their products & services, including possible participation in company-sponsored events such as trips, seminars, and advisory council meetings, based on the total volume of business placed with the carrier you select. We may, on occasion, receive loans or credit form insurance companies. Additionally, in the ordinary course of our business, we may receive and retain interest on premiums you pay from the date we receive them until the date the premiums are remitted to the insurance company or intermediary. In the event we assist with placement and other details of arranging for the financing of your insurance premium, we may also receive a fee from the premium finance company.

Wholesale Broker/Managing General Agent: *MacDuff Underwriters*
This intermediary is owned in whole or in part by Brown & Brown, Inc., the parent company of Brown & Brown of Florida, Inc.

Brown & Brown entities operate independently and are not required to utilize other companies owned by Brown & Brown, Inc., but routinely do so. In addition to providing access to the insurance company, the Wholesale Insurance Broker/Managing General Agent may provide additional services including, but not limited to, underwriting; loss control; risk placement; coverage review; claims coordination with the insurance company and policy issuance. Compensation paid for these services may be up to 15% of the premium you pay for coverage, and any compensation paid for those services is derived from your premium payment. The fee, if any, for the Wholesale Insurance Broker's/Managing General Agent's services above is $0.

Questions and Information Requests: Should you have any questions, or require additional information, please contact this office at 1-800-877-2769 or, if you prefer, submit your question or request online at:
http://www.bbinsurance.com/customerinquiry.shtml.

SURETY BONDS

Brown & Brown has the capability to handle surety bonds. Our experienced professionals are proficient in Construction and Commercial Bonds. Construction bonds typically include Bid, Performance, Payment, Maintenance and Warranty bonds. Commercial bonds cover obligations typically required by law, statute or regulation. The following are just a few of the industry types that we can service:

- Condominium Associations
- Developers
- General Contractors
- Financial Services Industry
- Hazardous Materials and Waste
- Healthcare
- Manufacturing
- Oil & Gas
- Property Managers
- Restaurants
- Retail Industry
- Service Contractors
- Subcontractors
- Wholesalers/Suppliers/Distributors

Types of Commercial Bonds commonly written by Brown & Brown include:

Agricultural Dealers Bond	Medicare/Medicaid Bonds	Release of Lien Bonds
Appeal Bonds	Miscellaneous Bonds	Replevin Bonds
Citrus Dealer Bonds	Mobile Home Dealer Bonds	Right-of-Way Bonds
Court Bonds	Mortgage Broker Bonds	Seller of Travel Bonds
Customs Bonds	Motor Vehicle Dealer Bonds	Supply Bonds
Employee Dishonesty Bonds	Notary Public Bonds	Tax Bonds
Fidelity Bonds	Patient Trust Bonds	Title Agents Bonds
Franchise Dealer Bonds	Professional Solicitors Bonds	Utility Deposit/Payment Bonds
Fuel Tax Bonds	Public Official Bonds	Warehouse Bonds
Garnishment Bonds	Reclamation Bonds	Workers' Compensation Bonds
License & Permit Bonds	Recreational Vehicle Dealer Bonds	Yacht Broker/Salesman Bonds

For more information or questions, please contact our Bond Manager, Tyler Debord at 386-239-5703 or email at TDebord@bbdaytona.com.

EMPLOYEE BENEFITS

Brown & Brown is an insurance intermediary for Employee Benefits insurance. We are experts in analyzing plan design information and claim experience in order to make sure our clients have the best employee benefits package for their employee's at the most competitive cost. We broker the following products:

- Medical Insurance – Fully Insured / Self Insured / Dividend Plans
- Consumer Driven Health Plans – H.S.A's / HRA's
- Dental Insurance
- Basic and Voluntary Life Insurance
- Short and Long Term Disability
- Vision Insurance
- Flex Spending Accounts
- Employee Assistance Plan
- COBRA Administration
- Voluntary Products
- Legal Plans

We also realize the service intensive nature of Employee Benefits packages. Therefore, we have experienced Account Executives and Account Managers to assist our clients with all aspects of employee benefit plans including:

- Guarantee Renewals 45-60 days in advance
- Billing, Claims, Eligibility issues
- Electronic Enrollment
- Open Enrollment Assistance
- Benefits at a Glance / Benefit Business Cards
- Compensation Statements
- HR/ Benefits Website
- Employee Surveys

For more information or questions, please contact our Employee Benefits Manager, Dustin Smurdon at 386-239-8889 or email at DSmurdon@bbdaytona.com

Clubhouse Interior Repairs
Bid No FB-23-0305
Open date: May 3, 2023 at 12:00 p.m. (noon)

Supplier Name	Bid Amount	Full Name	Email	Phone
Paul Culver Construction	$53,508	Paul Culver	paul@paulculversonstruction.com	386-763-4190

#8

COPY

INVITATION TO BID

City of Flagler Beach

(386) 517 – 2000 ext. 233

TITLE: **Clubhouse Interior Repairs** BID NUMBER: **FB-23-0305**

PRE-BID MEETING	**WEDNESDAY,**	**APRIL 19, 2023 1:00 PM**
PRE-BID QUESTIONS DUE BEFORE:	**THURSDAY,**	**APRIL 20, 2023 5:00 PM**
BIDS DUE:	**WEDNESDAY,**	**MAY 03, 2023 12:00 PM/NOON**
BIDS OPEN:	**WEDNESDAY,**	**MAY 03, 2023 12:00 PM/NOON**

BIDS RECEIVED AFTER THE ABOVE DATE AND TIME WILL NOT BE ACCEPTED.

BIDDER NAME: Paul Culver Construction, Inc.

MAILING ADDRESS: 201 Osceola Ave.

CITY: Daytona Beach STATE: Florida ZIP: 32114

TELEPHONE: (386) 763-4190

FAX: (386) 322-0007

E-MAIL: paul@paulculverconstruction.com

pm@paulculverconstruction.com

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a bid for the same materials, supplies, or equipment, and is in all respects fair and without collusion or fraud. I agree to abide by all conditions of this bid and certify that I am authorized to sign this bid for the bidder. In submitting a bid to the City of Flagler Beach, the bidder offers and agrees that the bidder assigns and transfers to the City of Flagler Beach all rights and interest in, and to all causes for action it may now or hereafter acquire under the Anti-trust laws of the United States and the State of Florida for price fixing relating to the particular commodities or services purchased or acquired by the City of Flagler Beach.

AUTHORIZED SIGNATURE

President
TITLE

Paul K. Culver
PRINT NAME

May 3, 2023
DATE

$ 53,508.00
BID AMOUNT

FIFTY THREE THOUSAND FIVE HUNDRED EIGHT DOLLARS AND NO/100

SUBMIT THE BID IN A SEALED ENVELOPE CLEARLY MARKED TO THE **ATTENTION OF THE CITY CLERK.**

INCLUDE THE **BID NUMBER, TITLE, AND OPENING DATE.**

MAIL
CITY OF FLAGLER BEACH
105 S. 2ND STREET
FLAGLER BEACH, FL 32136

HAND DELIVERY
CITY HALL
105 SOUTH SECOND STREET
FLAGLER BEACH, FL 32136

THE CITY OF FLAGLER BEACH IS AN EQUAL OPPORTUNITY EMPLOYER

DRUG FREE / TIE PREFERENCE STATEMENT

In the event of a tie bid, preference is given to vendors submitting with their bid, certification that they have a drug-free workplace in accordance with Section 287.087, Florida Statutes. This requirement affects all public entities of the State and became effective January 1, 1991. The Special Conditions follow:

Identical Tie Bids. Preference shall be given to businesses with drug-free workplace programs. Whenever two or more bids which are equal with respect to price, quality, and service are received by the State or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program.

In order to have a drug-free workplace program, a business shall:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.

3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection 1.

4. In the statement specified in subsection 1, notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction, or plea of guilty, or nolo contenere, to any violation of chapter 893 or of any controlled substance law of the Unites States or any state, for a violation occurring in the workplace, no later than five (5) days after such conviction.

5. Impose a sanction on, or require the satisfactory completion of participation in a drug abuse assistance or rehabilitation program, if such is available in the employee's community, by any employee who is so convicted.

6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign this statement, I certify that this firm complies fully with the above requirements.

VENDOR'S SIGNATURE **Paul K. Culver, President**

May 3, 2023
DATE

INSURANCE REQUIREMENTS

- Proof of Insurance MUST be submitted with your bid. The successful bidder MUST provide the City of Flagler Beach Purchasing with the attached insurance document prior to of purchase order

CITY OF FLAGLER BEACH, FLORIDA INSURANCE REQUIREMENTS CHECKLIST

CITY OF FLAGLER BEACH, FLAGLER COUNTY, FLORIDA

Item marked "X" must be provided

		Minimum Limits Required	
X	General Liability		
X	Commercial General Liability	$ 2,000,000	General Aggregate
X	Occurrence Form	$1,000,000	Product/Completed Operations Agg.
	_____	$1,000,000	Personal & Advertising Injury
	_____	$1,000,000	Each Occurrence
	_____	$ 100,000	Fire Damage
X	Automobile Liability		
	Owned, Hired & Non-Owned	$1,000,000	Combined Single Limit per Occurrence
X	Worker's Compensation and Employer's Liability	Statutory	
		$ 100,000	Each Accident
		$ 500,000	Disease – Policy Limit
		$ 100,000	Disease – Each Employee
____	Professional Liability – Errors & Omissions		
	(*To be completed by Bidder)		
	*Deductible: $_____	$ _____	Aggregate
	*Claims Made (Y/N): _____	$ _____	Each Claim
	*Occurrence (Y/N):		
	*Defense Included in Limits (Y/N):		
X	Builder's Risk/Installation Floater		
	(*To be completed by Bidder)		
	*Flood included: $_____Limit	$ _____	100% of Completed of Installed Value,
	*Transportation included: $_____Limit		All-Risk Form
	*Storage included $_____Limit City must be a named insured.		
	Copy of policy will be required.		
__	Other (if required)		
	Longshore and Harbor Workers' Compensation Act	$_____	
	Jones Act	$_____	

X The Certificate of Insurance must show "The City of Flagler Beach, elected officials and employees" as an additional insured.

X Certificates must give to the City of Flagler Beach 30 days' prior written notice of cancellation, non-renewal, or adverse change.

X Certificates must identify bid number and bid title.

X A waiver of Subrogation shall be provided to the City.

Statement of Bidder: We understand the requirements requested and agree to comply fully.

Bidder – Authorized Signature: A complete copy of this form with **original** signature must accompany bid.

Signature

Paul K. Culver, President

Paul Culver Construction, Inc.

Company

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 02/08/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Laura Bell
Brown and Brown of Florida, Inc. PO Box 2412 Daytona Beach FL 32115	PHONE (A/C, No, Ext): (386) 333-6137 FAX (A/C, No): (386) 323-9117 E-MAIL ADDRESS: laura.bell@bbrown.com
INSURED Paul Culver Construction, Inc. 201 Osceola Ave Daytona Beach FL 32114	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : Southern Owners Insurance Company — 10190 INSURER B : Progressive Express Insurance Company — 10193 INSURER C : American Builders Insurance Co. — 11240 INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** 23-24 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	[X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR [X] XCU Included [ ] GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [X] PRO-JECT [X] LOC [ ] OTHER:			152382-72295734	02/10/2023	02/10/2024	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG [ ]	$ 2,000,000 $ 50,000 $ 5,000 $ 2,000,000 $ 4,000,000 $ 4,000,000 $
B	AUTOMOBILE LIABILITY [X] ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS [ ] HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY			965981383	02/10/2023	02/10/2024	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) PIP	$ 1,000,000 $ $ $ $ 10,000
A	[X] UMBRELLA LIAB [X] OCCUR [ ] EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [X] RETENTION $ 10,000			50-322-862-02	02/10/2023	02/10/2024	EACH OCCURRENCE AGGREGATE Prods & Completed Ops	$ 1,000,000 $ 1,000,000 $ 1,000,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [N] If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		WCV 0310621 02	02/10/2023	02/10/2024	[X] PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

SEE NOTES FOR POLICY COVERAGE FORMS
** (CERT HOLDER CONT'D) ITS ELECTED OFFICIALS & EMPLOYEES
PROJECT: BID NUMBER FB2017-02-13, WWTF
CITY OF FLAGLER BEACH IS ADDITIONAL INSURED AND WAIVER OF SUBROGATION APPLIES AS REQUIRED BY WRITTEN CONTRACT AND IF APPLICABLE, PER THE FORMS LISTED ON THE ATTACHED ADDITIONAL REMARKS SCHEDULE.
A WAIVER OF SUBROGATION APPLIES IN FAVOR OF THE CERTIFICATE HOLDER ON THE GENERAL LIABILITY PER FORM CG2404 0509.

CERTIFICATE HOLDER

CITY OF FLAGLER BEACH **
105 S 2ND STREET
PO BOX 70
FLAGLER BEACH FL 32136

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Work Write – Up / Bid Form

Clubhouse Interior Repairs
Bid No. FB-23-0305

The work write-up / bid form is a general outline of the work to be performed including identification of alternate pricing. The base price of this project shall include:

DATE: 05-3-2023

TOTAL BASE BID: $ 53,508.00

DATE CONTRACTOR CAN BEGIN WORK: After Receipt of Building Permit

TIME NEEDED TO COMPLETE PROJECT: 10 Days after receipt of doors

All work to be performed in a professional manner, in accordance with the project drawings, specifications, local codes, and manufacturer's specifications. The contractor shall be responsible for the repairs and/or reinstallation of materials, equipment, and fixtures which damaged or removed during the course of construction. All items must be cost itemized in the space provided or the bid will be rejected.

I hereby certify that I am licensed by the State of Florida, Department of Business and Professional Regulation.

CONTRACTOR'S SIGNATURE: _____

CONTRACTOR'S PRINTED NAME: Paul K. Culver, President

CONTRACTOR'S BUSINESS ADDRESS: 201 Osceola Ave, Daytona Beach, FL 32114

CONTRACTOR'S PHONE NUMBER: (386) 763-4190

THIS PAGE MUST BE INCLUDED WITH THE BID FOR IT TO BE VALID.

SIGNATURE PAGE

The undersigned hereby discloses he /she has carefully examined the specifications to furnish goods/services as described herein:

I certify that all prices, terms and conditions as stated in WORK WRITE-UP / BID FORM are correct.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a bid for the same materials, supplies, or equipment, and is in all respects fair and without collusion or fraud. I agree to abide by all conditions of this bid and certify that I am authorized to sign this bid for the bidder and that the bidder is in compliance with all requirements of the Invitation to Bid.

BID NO: FB-23-0305

BUSINESS NAME IN FULL: **Paul K. Culver Construction, Inc.**

ADDRESS: **201 Osceola Ave.**

CITY: **Daytona Beach** STATE **FL** ZIP CODE **32114**

TELEPHONE: **(386) 763-4190** FAX: **(386) 322-0007**

E-MAIL: **paul@paulculverconstruction.com**

AUTHORIZED SIGNATURE: 

PRINTED SIGNATURE: **Paul K. Culver**

TITLE: **President**

DATE: **05-03-2023**

The City Commission of the City of Flagler Beach reserves the right
to reject any or all bid/proposals, to waive informalities,
and to accept all or any part of any bid
as may be deemed to be in the best interest of the City.

CONTRACTOR'S STATEMENT OF EXPERIENCE

Paul Culver Construction, Inc.
True and complete name of Bidder:

Business Address: 201 Osceola Ave., Daytona Beach, FL 32114

Length of time in business: 18 Years At current address: One Year

Principals: Paul K. Culver Title President / Vice Pres

Paul K. Culver Title Secretary

Paul K. Culver Title Treasurer

Type of work typically performed:

Commercial / Residential Ground Up, Interior renovations

Projects of this type previously completed:

1. Island Doctors past 18 years Interior Buildouts, etc. Amount $ 20M +
2. City of Ormond Beach Facility Hardening Amount $ 1,003,867
3. City of Daytona Beach Various Projects Amount $ 1.5M+

References for Projects listed above.

1. Dr. Roy Hinman - David Culver Telephone (386) 866-9863
2. City of Ormond Beach Engineering - April Martti Telephone (386) 615-7078
3. Brent Cohen - Public Works Telephone (386) 671-6810

Financial Status: Bonding Single $17 M - Aggregate $25 M

Equipment: Office Equiptment - Rolling Stock

Number of Personnel Currently Employed: 25

Number of Personnel Available for Project: 3 + as required

Other Pertinent Information:

NOTE: Proposer may submit separate statement of experience with additional information (attach to this page).

SUBCONTRACTOR LIST

Bidders using their own workforce for all schedules may skip this section.

The Bidder acknowledges that each subcontractor has been fully investigated and has evidence each subcontractor has engaged successfully in his line of work for a reasonable period of time, and that the subcontractor maintains a fully equipped organization that is technically and financially capable of performing the work required.

Prestige Carpet

List subcontractors below.

Subcontract Work	Company Name	Address	$ Amount
Glass & Glazing	Alpha Omega Glass and Mirror, LLC	151 Carswell Ave., 32117	8,000.00
Interior Finishes	A & W Construction, Inc.	810 Fentress Ct., DB. 32117	4,000.00
Flooring	Prestige Carpet	2150 S. Nove Rd., SD. 32119	12,200.00

AUTHORIZED SIGNATURE

May 3, 2023
DATE

Paul K. Culver, President

ADDENDUM ACKNOWLEDGEMENT

The undersigned acknowledges receipt of the following addenda to the Invitation to Bid (Indicate number and date of each):

Addendum No. 1	Date: 04-19-2023
Addendum No. _____	Date: _____
Addendum No. _____	Date: _____
Addendum No. _____	Date: _____

AUTHORIZED SIGNATURE

Paul K. Culver, President

May 3, 2023

DATE

Failure to submit acknowledgement of any addendum that affects the pricing and / or scope is considered a major irregularity and may be cause for rejection of a bid.

AFFIDAVIT OF NON-COLLUSION

Paul K. Culver*, being first duly sworn, deposes and says that he (it) is the bidder in Bid No. FB-23-0305, Clubhouse Interior Repairs, that the only person or persons interested in said bid are named therein, that no officer, employee or agent of the City of Flagler Beach, or of any other bidder, is interested in said bid; and that affiant makes the above bid with no past or present collusion with any other person, firm or corporation.

Affiant: _____ Title: President
Paul K. Culver

STATE OF FLORIDA
COUNTY OF Volusia
Sworn to (or affirmed) and subscribed before me, by means of ☑ physical presence or ☐ online notarization, by Paul K. Culver,
who is personally known to me, or has produced as identification the following:

Personally Known, this Third day of May 2023.

Reta Moore
Notary Public - State of Florida

(Notary Seal)

09-12-2026
(My Commission Expires)

Reta Moore
(Printed ~~or typed, commissioned name~~ of notary public)

RETA MOORE
Notary Public - State of Florida
Commission # HH 298033
My Comm. Expires Sep 12, 2026

* State name of Bidder, followed by name of authorized individual and title, who is signing as Affiant. If Bidder is an individual, state name of Bidder only.

SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(a), FLORIDA STATUTE ON ENTITY CRIMES

1. This sworn statement is submitted with Bid No. FB-23-0305 to the City of Flagler Beach,

2. by: Paul Culver Construction, Inc. (Business Name) at: 201 Osceola Ave., Daytona Beach, FL 32114 (Business Address)

whose Federal Employer Identification Number (FEIN) is 20-2380437.

(If entity has no FEIN, provide the SSN of the individual signing this sworn statement.)

3. My name is Paul K. Culver and my relationship to the entity named above is President.

4. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), **Florida Statutes**, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or of the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision or any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

5. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1) (b), **Florida Statutes**, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of jury verdict, non jury trial, or entry of a plea of guilty or nolo contender.

6. I understand that an "affiliate" as defined in Paragraph 287.133(1) (a), **Florida Statutes**, means:

   a. A predecessor or successor of a person convicted of a public entity crime; or
   b. An entity under the control any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

7. I understand that a "person" as defined in Paragraph 287.133(1) (e), **Florida Statutes**, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors,

executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

8. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. (Indicate which statement applies.)

✓ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____ the entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____ the entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. (Attach a copy of the final order.)

_____ May 3, 2023

(Signature) (Date)

Paul K. Culver, President

STATE OF FLORIDA
COUNTY OF **Volusia**

Sworn to (or affirmed) and subscribed before me, by means of ☑ physical presence or ☐ online notarization, by **Paul K. Culver**,
who is personally known to me, or has produced as identification the following:

NA, this **3rd** day of **May** 20**23**.

Reta Moore

Notary Public - State of Florida

(Notary Seal)

09-12-2026

(My Commission Expires)

Reta Moore

(Printed or typed, commissioned name of notary public)

RETA MOORE
Notary Public - State of Florida
Commission # HH 298033
My Comm. Expires Sep 12, 2026

executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

8. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. (Indicate which statement applies.)

✓ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____ the entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

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_____ May 3, 2023

(Signature) (Date)

Paul K. Culver, President

STATE OF FLORIDA
COUNTY OF **Volusia**

Sworn to (or affirmed) and subscribed before me, by means of ☑ physical presence or ☐ online notarization, by **Paul K. Culver**,
who is personally known to me, or has produced as identification the following:

NA, this **3rd** day of **May** 20**23**.

Reta Moore

Notary Public - State of Florida

(Notary Seal)

09-12-2026

(My Commission Expires)

Reta Moore

(Printed or typed, commissioned name of notary public)

RETA MOORE
Notary Public - State of Florida
Commission # HH 298033
My Comm. Expires Sep 12, 2026

#10

Penny Overstreet

From: Penny Overstreet
Sent: Monday, April 17, 2023 11:08 AM
To: Elected Officials
Cc: Dstewart@r2ctpo.org; Michael Abels; Jeanelle Jarrah
Subject: Paul eik resignation as Citizen Rep. to the TPO's Bicycle Pedestrian Advisory Committee
Attachments: doc01724920230417105239.pdf

Hello,

Please see the attached resignation letter from Paul. I am reaching out to the Alternate Charlie Marrow, to see if he wants to remain an alternate or be considered for the Primary. I am awaiting his response . I will ask Jeanelle to post a notice of vacancy but will not list if Alternate or Primary until Charlie responds. This provides you the opportunity to appoint as you see fit for both positions at your April 27th meeting.

Sincerely,

Penny Overstreet, CMC
City Clerk
City of Flagler Beach
105 S. 2nd Street
Flagler Beach, FL 32136
www.cityofflaglerbeach.com
☎386-517-2000 ext. 233
386-517-2008

4/17/2023

To: Eric Cooley, Flagler Beach Commission Chairman

CC: Penny Overstreet, City Clerk, Flagler Beach

Re: R2CTPO – Bike/Ped subcommittee

From: Paul Eik

Chairman Cooley,

Due to a desire to spend more time with my family and my inability to make myself available as the city's representative on the TPO's Bike/Ped subcommittee, I have come to the conclusion that I must submit my resignation from the TPO's BPAC.

I have thoroughly enjoyed my time with the BPAC and have certainly learned much during my tenure. I am grateful to the City Commission for the opportunity to serve my home town. I hope to be able to serve in some other capacity in the future.

Although I would like to allow the Commission adequate time to determine a new BPAC representative, I find it necessary to make my resignation effective immediately. The next BPAC meeting is scheduled for Wednesday May 10th, 2023 at 2:00pm.

Sincerely,

Paul R. Eik

Penny Overstreet

From: Penny Overstreet
Sent: Monday, April 17, 2023 12:14 PM
To: Charles Morrow
Subject: RE: Alternate position TPO BPAC Committee

Thats okay Charlie. Thank you for letting me know.
Penny

From: Charles Morrow <c.morrow5@hotmail.com>
Sent: Monday, April 17, 2023 12:12 PM
To: Penny Overstreet <POverstreet@CityofFlaglerBeach.com>
Subject: Re: Alternate position TPO BPAC Committee

Thanks but not interested and actually someone could take my place if cared to☺

Sent from my iPhone

On Apr 17, 2023, at 11:21 AM, Penny Overstreet <POverstreet@cityofflaglerbeach.com> wrote:

Hello Charlie,
Paul Eik has resigned from the Citizen Representative position on the River to Sea Transportation Planning Organizations Bicycle/ Pedestrian Advisory Committee (BPAC). You serve as the Alternate. I will be asking the Commission to consider applications at the April 27th meeting. I need to know from you do you wish to be considered for the primary representative or remain as the alternate? Please advise before Wednesday at noon, so Jeanelle can place the correct information on the agenda. FYI The next BPA meeting is May 10th and Paul's resignation was effective today, so if you could please plan to attend the 2:00 pm. May meeting.

All TPO Board, BPAC, CAC, and TCC meetings will be held in the
Daytona Beach International Airport Airline Room located at:
700 Catalina Drive
Daytona Beach, FL 32114
Parking will be validated
(386) 226-0422

Have a great day,

Penny Overstreet, CMC
City Clerk
City of Flagler Beach
105 S. 2nd Street
Flagler Beach, FL 32136
www.cityofflaglerbeach.com
☎386-517-2000 ext. 233
🖷 386-517-2008

#7

CITY OF FLAGLER BEACH
ADVISORY BOARD AND COMMITTEE APPLICATION FORM
(Please fill out form completely)

Name: Jauxniece Palmer **Date:** 4/24/23

Physical address: 1506 N. Daytona Ave

Mailing address: ↑ Flagler Beach FL 32136

Home phone: 4706932505 **Daytime phone:** —

Fax: — **E-Mail:** jauxniece@gmail.com

Occupation: Self-Employed

Number of years of City residence: 1 **Own:** ____ **Rent:** ✓

Are you registered to vote in Flagler County? Yes ____ **No** ✓ (BUT can be!)

Identify the board(s) or committee(s) to which you request appointment:

(1) River to Sea TPO (and/or (2) BPAC)
"Community Redevelopment Agency Committees"

Please describe your professional and/or volunteer experience or background which best qualifies you for selection to the board(s) or committee(s):

Small Business Owner, Social marketing Specialist, Advisory Board of marineF.org and The Council of the Eagle + Condor, Costa Rica To KYOTE

How many City Commission/board meetings have you attended in the last 2 years? Ø here

Have you ever served on a City advisory board or committee in the past?
Yes ✗ **No** X

If yes, please describe: City of Suwanee, Georgia 1998 - 2004 Volunteered various social community endeavors. Served on advisory committee for 20-year Master Plan

[signature]

Signature

Please return this application to the City Clerk, P.O. Box 70, 105 S. 2nd Street, Flagler Beach, Florida 32136

#7

Jeanelle Jarrah

From: noreply@civicplus.com
Sent: Wednesday, April 26, 2023 6:08 PM
To: Jeanelle Jarrah; Penny Overstreet
Subject: Online Form Submittal: Advisory Board and Committee Application Form

Advisory Board and Committee Application Form

First Name	candice
Last Name	cornelssen
Street Number	126
Street Name	Oak
Street Type	Lane
P.O. Box	*Field not completed.*
City	Flagler Beach
State	FL
Zip	32136
Phone Number	678.469.9792
Cell Phone	*Field not completed.*
Email Address	candice9792@gmail.com
Occupation	retired teacher
Number of Years as a Resident	1.5
Are you registered to vote in Flagler County	Yes
Please describe your professional and/or volunteer experience which best qualifies you for your selection to the board(s) or committee(s).	My relevant experience to this position is that I am a bike rider in Flagler Beach. I ride daily. I have ridden my bike alongside A1A and also on the other side of the bridge; in the Lambert Ave. area. Safety and communication help bike riders, walkers, and drivers to get along.

Please check all boxes of the Committees you would like to serve.

Boards and Committees	Planning and Architectural Review Board
Have you served on a City Board or Committee in the past?	No

Planning & Architectural Review Board

#11

Members

Seat One Term 02/26/22 - 02/25/25
Scott Chappuis
343 N. 11th St.
Flagler Beach, Florida 32136
386-295-0705
scottc@grandlivingrealty.net

Seat Two Term 02/26/22 - 02/25/25
Marshall Shupe
148 Palm Cir.
Flagler Beach, FL 32136
315-436-0322
mshupe43@yahoo.com

Seat Three Term 02/26/22- 02/25/25
Brenda Wotherspoon
1102 S. Central Ave.
Flagler Beach, FL 32136
561-716-7397
bwotherspoon@bellsouth.net

Seat Four Term 05/10/20 - 05/09/23
Catherine Feind
P.O. Box 664
Flagler Beach, FL 32136
386-439-4863 or 386-986-9484 (John)
jonkat@aol.com

Seat Five Term 05/10/20 - 05/09/23
Joseph Pozzuoli
2204 S. Daytona Avenue
Flagler Beach, FL 32136
H: 386-439-5650
joseph@jpaflorida.com

Seat 6 Term 05/10/20 - 05/09/23
Paul Chestnut
108 Lantana Avenue
Flagler Beach, FL 32136
407-697-4051 or 386-439-0098 (work)
pdchestnut@gmail.com

Seat Seven Term 05/26/21 - 05/25/24
Joann Soman
1313 N. Oceanshore Blvd.
Flagler Beach, FL 32136
305-778-2885
joann@raiseyoursales.com

CITY OF FLAGLER BEACH
ADVISORY BOARD AND COMMITTEE APPLICATION FORM

(Please fill out form completely)

Name: Joseph D. Pozzuoli Date: 4.21.2023

Physical address: 314 Moody Blvd (work) 313 N. 8th St. F.B.

Mailing address: 313 N. 8th St. F.B. 32136

Home phone: 954-448-2609 Daytime phone: 386-439-5650

Fax: N/A E-Mail: Joseph@JPAFlorida.com

Occupation: ARCHITECT & I.D.

Number of years of City residence: 20 Own: X Rent: _____

Are you registered to vote in Flagler County? Yes X No _____

Identify the board(s) or committee(s) to which you request appointment:

PARB

Please describe your professional and/or volunteer experience or background which best qualifies you for selection to the board(s) or committee(s):

ARCHITECT FOR OVER 40 YEARS

How many City Commission/board meetings have you attended in the last 2 years? ± 30

Have you ever served on a City advisory board or committee in the past? Yes X No _____

If yes, please describe: PARB - Chair, SDTF - Chair,

Signature

Please return this application to the City Clerk, P.O. Box 70, 105 S. 2nd Street, Flagler Beach, Florida 32136

Penny Overstreet

From: noreply@civicplus.com
Sent: Monday, April 17, 2023 12:37 PM
To: Jeanelle Jarrah; Penny Overstreet
Subject: Online Form Submittal: Advisory Board and Committee Application Form

Advisory Board and Committee Application Form

First Name	Scott
Last Name	Crone
Street Number	2730
Street Name	S Daytona
Street Type	Ave
P.O. Box	*Field not completed.*
City	Flagler Besch
State	FL
Zip	32136
Phone Number	9518050487
Cell Phone	*Field not completed.*
Email Address	scottcrone@hotmail.com
Occupation	Retired
Number of Years as a Resident	3
Are you registered to vote in Flagler County	Yes
Please describe your professional and/or volunteer experience which best qualifies you for your selection to the board(s) or committee(s).	Project Manager for Residential and Commercial Construction, Retired General Contractor / Developer, Real Estate Investment

Please check all boxes of the Committees you would like to serve.

Boards and Committees	Planning and Architectural Review Board
Have you served on a City Board or Committee in the past?	Yes
If yes, please describe.	Ad Hoc committee for City or Costa Mesa CA Redevelopment Area

Penny Overstreet

From: noreply@civicplus.com
Sent: Monday, April 17, 2023 2:19 PM
To: Jeanelle Jarrah; Penny Overstreet
Subject: Online Form Submittal: Advisory Board and Committee Application Form

Advisory Board and Committee Application Form

First Name	Lisa
Last Name	Smith
Street Number	1640
Street Name	Lambert
Street Type	Ave
P.O. Box	*Field not completed.*
City	Flagler Beach
State	FL
Zip	32136
Phone Number	3869311903
Cell Phone	*Field not completed.*
Email Address	lisa@lisapsmith.com
Occupation	Real Estate Broker, Accounting and Permitting General Contractor
Number of Years as a Resident	22
Are you registered to vote in Flagler County	Yes
Please describe your professional and/or volunteer experience which best qualifies you for your selection to the board(s) or committee(s).	I have been involved with Real Estate and Construction/Land Developing for over 30 years. I have extensive knowledge of Flagler Beach permitting , land development code, Florida Condo and HOA Associations. I am a licensed Florida Real Estate Broker and Licensed Financially Responsible Officer for a Construction Company, both licenses through Florida DBPR.

	My volunteer experience is Flagler Schools Volunteer, PTA President and Treasurer, Flagler Assoc of Realtors Board Member and Treasurer , President of Flagler Housing Partnership and Evaluator for Florida Future Problem Solving Competitions.
Please check all boxes of the Committees you would like to serve.	
Boards and Committees	Planning and Architectural Review Board
Have you served on a City Board or Committee in the past?	No

Penny Overstreet

From: noreply@civicplus.com
Sent: Friday, April 21, 2023 5:08 PM
To: Jeanelle Jarrah; Penny Overstreet
Subject: Online Form Submittal: Advisory Board and Committee Application Form

Advisory Board and Committee Application Form

First Name	Tim
Last Name	Bennett
Street Number	1228
Street Name	South Central
Street Type	Ave
P.O. Box	*Field not completed.*
City	Flagler Beach
State	FL
Zip	32136
Phone Number	757-323-5215
Cell Phone	757-323-5215
Email Address	tbennett@bailiwick.com
Occupation	Director, Digital and Emerging Technology
Number of Years as a Resident	2
Are you registered to vote in Flagler County	Yes
Please describe your professional and/or volunteer experience which best qualifies you for your selection to the board(s) or committee(s).	Dear Members of the Flagler Beach Planning and Architectural Review Board, I am excited to apply for a position on the Planning and Architectural Review Board for Flagler Beach, FL. With my extensive experience in store design, development, construction, procurement, strategic sourcing, digital

transformation, and executive leadership, I believe I am well-suited to contribute to the Board.

As the former Vice President of Store Design & Construction at Dollar Tree Stores, I managed a $500 million capital expenditure budget and executed over 1,600 construction, renovation, and capital projects annually. This role enabled me to develop expertise in managing large-scale projects while ensuring architectural excellence. I was responsible for selecting architecture and engineering firms and approving all site plans for development.

In my role as Director of Strategic Sourcing and Procurement at Dollar Tree Stores, I oversaw $1 billion in annual indirect procurement spend. This experience provided me with a deep understanding of materials sourcing and contract management with suppliers, skills that would be beneficial in reviewing building permit requests and ensuring the quality of construction materials in Flagler Beach.

As the current Director of Digital & Emerging Technology at Bailiwick, I have successfully led the execution of multi-site IT initiatives, such as digital signage transformation, integrated intelligence/AI camera systems, and large-scale electric vehicle charging systems for Fortune 500 clients. My experience in blending technology and architectural design in large-scale projects would contribute to the creation of a modern, technologically advanced cityscape for Flagler Beach.

Throughout my career, I have effectively collaborated with and managed diverse teams comprising sales executives, engineers, project managers, and technicians. This skill would be invaluable when working with various stakeholders involved in the Planning and Architectural Review Board.

Furthermore, my educational background in Business Administration, Marketing, and Supply Chain Management from Butler University and D'Amore-McKim School of Business at Northeastern University equips me with the knowledge and expertise required to make informed decisions on land use planning and community development.

In conclusion, my professional experience and educational background make me a strong candidate for the Flagler Beach Planning and Architectural Review Board. I am eager to contribute to the growth and development of our beautiful city. Thank you for considering my application.

Sincerely,

Tim Bennett

https://www.linkedin.com/in/tim-bennett-a18839/

Please check all boxes of the Committees you would like to serve.

Boards and Committees	Planning and Architectural Review Board
Have you served on a City Board or Committee in the past?	No

Email not displaying correctly? View it in your browser.

Penny Overstreet

From: Tim Bennett <tbennett@bailiwick.com>
Sent: Wednesday, May 3, 2023 5:09 PM
To: Penny Overstreet
Cc: Tim Bennett
Subject: FW: Planning & Architectural Review Board

Hi Penny,

I had submitted the application for the Planning and Architectural Review Board opening on 4/21/23 as we had discussed previously. I believe you had mentioned there was to be a Commission Meeting on May 11th and if there is interest in my application I will not be able to attend that day due to business travel. Please let me know if there is an alternate time to meet with the Commission should they be interested in the application.

Thanks,

Tim

Tim Bennett
Director of Digital and Emerging Technology
Direct: 952.556.3871 | Mobile: 757.323.5215

Bailiwick, Indispensable IT
4260 Norex Drive, Chaska MN 55318
Toll Free: 800.935.8840
Follow Us | Like Us | Connect with Us | www.bailiwick.com

From: Tim Bennett <tbennett55@gmail.com>
Sent: Friday, April 21, 2023 2:26 PM
To: Tim Bennett <tbennett@bailiwick.com>
Subject: Fwd: Planning & Architectural Review Board

Sent from my iPad

Begin forwarded message:

> **From:** Penny Overstreet <POverstreet@cityofflaglerbeach.com>
> **Date:** April 21, 2023 at 2:17:29 PM EDT
> **To:** tbennett55@gmail.com
> **Subject: Planning & Architectural Review Board**
>
> Hello Mr. Bennett,

Thank you for interest in serving on a City board. The links to the information discussed is below.

Link to PARB Duties
https://www.cityofflaglerbeach.com/DocumentCenter/View/2885/LARGE-AD-FOR-VOLUNTEERS-?bidId=

Link to application , once on the page click the link complete an "Advisory Board and Committee application form"
https://www.cityofflaglerbeach.com/142/Boards-Committees

Sincerely,

Penny Overstreet, CMC
City Clerk
City of Flagler Beach
105 S. 2nd Street
Flagler Beach, FL 32136
www.cityofflaglerbeach.com
☎386-517-2000 ext. 233
🖷 386-517-2008

Jeanelle Jarrah

From: noreply@civicplus.com
Sent: Tuesday, May 2, 2023 3:30 PM
To: Jeanelle Jarrah; Penny Overstreet
Subject: Online Form Submittal: Advisory Board and Committee Application Form

Advisory Board and Committee Application Form

First Name	Bob
Last Name	Cunningham
Street Number	557
Street Name	N 10th
Street Type	St
P.O. Box	*Field not completed.*
City	FLAGLER BEACH
State	FL
Zip	32136
Phone Number	3865030882
Cell Phone	3865030882
Email Address	bob.cunningham1@yahoo.com
Occupation	Retired
Number of Years as a Resident	8
Are you registered to vote in Flagler County	Yes
Please describe your professional and/or volunteer experience which best qualifies you for your selection to the board(s) or committee(s).	30 + years in the technology industry both federal government and private industry holding various managerial positions. Owned and managed a lawn maintenance and landscape company where we provided design, implementation and maintenance.

Please check all boxes of the Committees you would like to serve.

Boards and Committees	Planning and Architectural Review Board
Have you served on a City Board or Committee in the past?	Yes
If yes, please describe.	Personnel Advisory Committee

CITY OF FLAGLER BEACH
ADVISORY BOARD AND COMMITTEE APPLICATION FORM

(Please fill out form completely)

Name: PAUL CHESTNUT **Date:** 5-2-2023

Physical address: 1115 N CETRAL AVE FB, FL 32136

Mailing address: 608 S. OCEANSHORE BLVD FB, FL 32136

Home phone: 386 405 1333 **Daytime phone:** SAME

Fax: _____ **E-Mail:** PPCHESTNUT@GMAIL.COM

Occupation: HOSPITALITY

Number of years of City residence: 1 **Own:** _____ **Rent:** ✓

Are you registered to vote in Flagler County? Yes ✓ **No** _____

Identify the board(s) or committee(s) to which you request appointment:

PARB

Please describe your professional and/or volunteer experience or background which best qualifies you for selection to the board(s) or committee(s):

SIX YEARS TWICE ELECTED TO PARB

VICE PRESIDENT FLAGLER STRONG

How many City Commission/board meetings have you attended in the last 2 years? 40

Have you ever served on a City advisory board or committee in the past?
Yes ✓ **No** _____

If yes, please describe:

SIX YEARS PARB Flagler Beach

P. Chestnut

Signature

Please return this application to the City Clerk, P.O. Box 70, 105 S. 2nd Street, Flagler Beach, Florida 32136

#12

LEASE AGREEMENT

THIS LEASE AGREEMENT is made this _____ day of _____, 2023, by and between **THE U.S. 1 HIGHWAY CORPORATION OF BUNNELL**, whose address is PO Box 280, Flagler Beach, Florida 32136, (hereinafter "Lessor") and the **CITY OF FLAGLER BEACH, FLORIDA**, whose address is PO Box 70, Flagler Beach, Florida 32136 (hereinafter "City").

WITNESSETH:

WHEREAS, Lessor owns fee simple title to certain real property located at 808 Moody Lane, Flagler Beach, Florida with Flagler County Tax Parcel ID 12-12-31-2425-00850-0040 which is generally depicted in the attached **EXHIBIT "A"** and more particularly described as:

> THE EAST ½ of LOT 4 AND LOTS 5 AND 6, BLOCK 85, FLAGLER HARBOR, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 3, PAGES 37 AND 38, PUBLIC RECORDS OF FLAGLER COUNTY, FLORIDA

(the "Subject Property") and

WHEREAS, from time to time during the term of this Lease, City expects to have a need for a lay down yard for construction materials for public and private construction and public works projects occurring within the City of Flagler Beach; and

WHEREAS, Lessor has offered the use of the Subject Property for use by the City and its assigns as a lay down yard for construction materials during the term of this Lease; and

NOW THEREFORE, in consideration of the payments and covenants provided for herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1) Lease of Subject Property. Lessor hereby grants unto the City the right to utilize the Subject Property as a lay down yard for construction materials for public and private construction projects occurring within the City of Flagler Beach. In its use of the Subject Property, City, or any of its assignees, as provided herein, shall not violate any applicable law, statute, ordinance, rule, regulation, order or determination of any governmental authority or any board of fire underwriters.

2) Hazardous Use. No hazard may be created or allowed to continue on the Subject Property that will increase the insurance rate of Lessor. City's occupancy, operation and use of the Subject Property shall not violate any applicable city, state or federal laws or regulations pertaining to the storage, disposal, use or release of environmentally hazardous substances ("Hazardous Materials") or solid wastes ("Solid Waste"). City must clean up, remove, remediate and repair any soil or ground water contamination and damage caused by the presence or release of any Hazardous Materials or Solid Wastes in, on, under, or about the Subject Property during occupancy of the Subject Property in conformance with the requirements of applicable law, to the extent such presence or release is caused by the breach of any provision of this Agreement or the acts or omissions of City or any of its assignees, agents, representatives, employees, contractors, consultants, or invitees. In the

event of a release of any Hazardous Material or Solid Waste, then City must take all necessary steps to prohibit further releases of such Hazardous Material or Solid Waste, submit all required reporting to the proper governmental authorities and copy Lessor on such communications. City agrees to promptly furnish Lessor with copies of all final documents, reports, orders, notices, or correspondence received or generated by City and its assignees, agents, representatives, employees, contractors, or consultants relating to any release described in this paragraph, including, but not limited to any citation, notice of violation, notice of enforcement, enforcement action or penalty regarding the Subject Property. If the time to complete any cleanup or remediation on the Subject Property, as provided for herein, will exceed the term of this Agreement then the term of this Agreement shall be automatically extended for a period of time necessary for the City to complete the cleanup or remediation and City shall continue to pay rent for the extended term, as provided for below, including any annual rent increases that may occur during the extension of the term of this Agreement. The obligations of City as provided in this Section 2 shall survive the expiration or earlier termination, for any reason, of this Agreement.

3) Rent. City shall pay to Lessor for the first twelve (12) months of the term of this Agreement the sum of $5,000.00 per month ($60,000.00 annually) as rent for the use of the Subject Property. Rent for City's use of the Subject Property shall adjust on each anniversary of this Agreement in an amount equal to a three percent (3%) increase of the rent amount for the foregoing year. For the second twelve (12) months of the term of this Agreement, City shall pay to Lessor the sum of $5,150.00 per month ($61,800.00 annually) as rent for use of the Subject Property. For the third twelve (12) months of the term of this Agreement, City shall pay to Lessor the sum of $5,304.50 per month ($63,654.00 annually) as rent for use of the Subject Property. In addition to the foregoing rent, City shall be responsible for all insurance, taxes, and utilities for the Subject Property; it being the intention of the parties that the leasehold created by this Agreement will be on a "triple-net" basis. Lessor shall not be required to make any expenditure, incur any obligation, or incur any liability of any kind whatsoever in connection with this Agreement. Rent shall be due on or before the tenth calendar day of each month.

4) Term. The duration of this Agreement shall be for a period of thirty-six (36) months beginning on May 1, 2023. This Agreement shall be extended once for a period of twelve (12) months if at least one hundred eighty (180) days prior to the expiration of the initial thirty-six (36) month term City notifies Lessor in writing of its intent to exercise this extension. In the event the extension is exercised, City shall pay to Lessor the sum of $5,463.64 per month ($65,563.68 annually) as rent for use of the Subject Property during the extension term.

5) Holding Over. In the event of any holding over by City beyond the term of this Agreement, as may be extended in writing by Lessor and City, without the written consent of Lessor, City shall be deemed to be occupying on the Subject Property as tenant at sufferance. During any holdover period, City shall pay as monthly rent 2 times the monthly rent being charged City in the month prior to the commencement of City's holding over, and City will

be subject to all other terms of this Agreement insofar as same are applicable to a tenant at sufferance. Nothing in this Section shall be construed to give City the right to holdover after the termination of this Agreement.

6) Assignment. City may assign the rights granted herein to private developers for use of the Subject Property as a lay down yard for construction materials during the term of this Lease provided that City shall not be released from liability from the terms of this Agreement and shall remain responsible for removal of any property of any tenant assignees and restoration of the Subject Property at the end of the term of this Agreement as provided herein.

7) Indemnification. City shall defend, indemnify, and hold harmless Lessor, its employees, officers, contractors, and agents from and against all claims, losses, damages, personal injuries, or liability to any person or property directly arising from the use of the Subject Property as contemplated herein, except liability for personal injuries or property damage caused by the negligence or wrongdoing of Lessor.

8) Subject Property Accepted "AS-IS". The parties acknowledge that the Subject Property is offered in "as is" condition and the Lessor is under no obligation to place the Subject Property in any particular condition. City has inspected the Subject Property, including all improvements, fixtures, equipment, and personal property situated on the Subject Property and accepts the Subject Property AS-IS, WHERE-IS, and in the condition it exists on the effective date of this Agreement as reasonably suited and fit for City's intended uses of the Subject Property. City acknowledges that Lessor has made no express warranties with regard to the Subject Property and to the maximum extent permitted by applicable law, Lessor hereby disclaims, and City waives the benefit of, any and all implied warranties, including implied warranties of habitability, or fitness or suitability for City's purposes. Nothing provided herein shall be interpreted to prohibit the City from making temporary alterations to the Subject Property subject to the duty to restore provided below.

9) Restoration Upon Termination. Upon the expiration or termination of this Lease, City shall return the Subject Property to the condition in which it existed at the commencement of this Lease.

10) Default.

a. City's Default. If for ten (10) calendar days after service by mail or otherwise to City by Lessor of written notice of a breach or default by City under any provision of this Agreement, the City does not or shall neglect or fail to comply with or remedy such breach or default, or if the said breach or default complained of shall be of such a nature that the same cannot be completely remedied or cured within such ten (10) business day period, then such breach or default shall not be an enforceable breach or default against City if City shall have commenced curing such breach or default within such ten (10) day period, and shall with reasonable diligence and in good faith, proceed to remedy the default complained of; then any of said cases or in any similar case which, in the sole judgment of Lessor, evidences

City's intention to default or breach any provision of this Agreement, Lessor shall have the rights and remedies that may be provided at law or in equity along with the following options:

i. Relet for the account of, or as agent for, City the Subject Property or any part thereof, to a tenant acceptable to Lessor, without terminating this Agreement or forfeiting the right to collect the rent to be paid by City, and after receiving the rent from such reletting apply the same, first to the payment of all expenses the Lessor may be put to in recovering possession of the Subject Property and in reletting same, including but not limited to the costs of renovating, altering, and repairing for a new tenant and attorneys' and brokers' fees, and then to the payment of the rent and additional rent payable under this Agreement and fulfillment of City's covenants hereunder. City shall be entitled to any balance remaining after subtracting such costs and debts. Lessor may at any time after reletting terminate this Agreement for the breach or default on account of which it reentered and relet.

ii. Accelerate the future rent and additional rent due under this Agreement and seek recovery of such rent and additional rent and any other damages provided for in this Agreement, at law or in equity. Lessor is entitled to recover future rent and additional rent from City upon the present value of the rent and additional rent discounted to present value at the rate of 3% per annual for the remainder of the term of the lease reduced by the fair market rental value of the Subject Property during that period.

iii. Terminate this Agreement and recover possession of the Subject Property.

b. Lessor's Default. In the event of Lessor's breach of this Agreement City shall be entitled to terminate this Agreement and shall have the rights and remedies that may be provided at law or in equity, except as provided herein. Lessor shall in no event be charged with default in the performance of any of its obligations hereunder, unless and until Lessor shall have failed to perform such obligations within thirty (30) days (or such additional time as is reasonably required to correct any such default) after written notice by City to Lessor, properly specifying wherein Lessor has failed to perform any such obligation. Notwithstanding anything in this Agreement herein to the contrary, Lessor shall in no event be charged with or liable for any consequential damages suffered by City as a result of Lessor's breach of this Agreement or failure to perform any of its obligations under this Agreement.

11) General Provisions.

a. No Waiver. The waiver of any breach of any term or condition of this Agreement does not waive any other breach of that term or condition or of any other term or condition.

b. Notice. All payments, notices, demands, or requests from City to Lessor shall be given to Lessor, Attention: Howard Sklar, P.O. Box 280, Flagler Beach, FL 32136, or at such other address as Lessor shall specify to City in writing. All notices, demands, or requests from Lessor to City shall be given to City, Attention: City Manager, P.O. Box 70, Flagler Beach, FL 32136.

c. Binding Agreement. This Agreement binds and inures to the benefit of the parties and their respective legal representatives, heirs, distributes, successors and assigns where assignment is permitted by this Agreement.

d. Applicable Law. This Agreement shall be construed, and its performance enforced under the laws of the State of Florida. Venue for any action arising out of this Agreement shall be in Flagler County, Florida.

e. Construction. In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision thereof, and this Agreement shall be construed as if such invalid, illegal, or unenforceable provisions had never been contained herein.

f. Amendment. This Agreement, including any exhibits, constitutes the parties' final and mutual agreement. There are no written or oral representations or understandings that are not fully expressed in this Agreement. No change, waiver or discharge is valid unless in writing that is signed by the party against whom it is sought to be enforced.

g. Attorney's Fees. In the event Lessor or City breaches any of the terms of this Agreement whereby the party not in default employs attorneys to protect or enforce its rights hereunder and substantially prevails, then the defaulting party agrees to pay the other party's reasonable attorney's fees and litigation costs so incurred by such other party.

h. No Third-Party Rights. Nothing contained in this Agreement shall create a contractual relationship with or cause of action in favor of a third party against Lessor.

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals this ____ day of _____, 2023. Signed, sealed and delivered in the presence of:

Signed, sealed and delivered
in the presence of:

CITY OF FLAGLER BEACH, FLORIDA

By:

_____
Suzie Johnston, Mayor

Attest:

_____
Penny Overstreet, City Clerk

Date: _____

THE US 1 HIGHWAY CORPORATION OF BUNNELL

_____
Witness:

By: _____
Howard Sklar, President

_____
Witness:

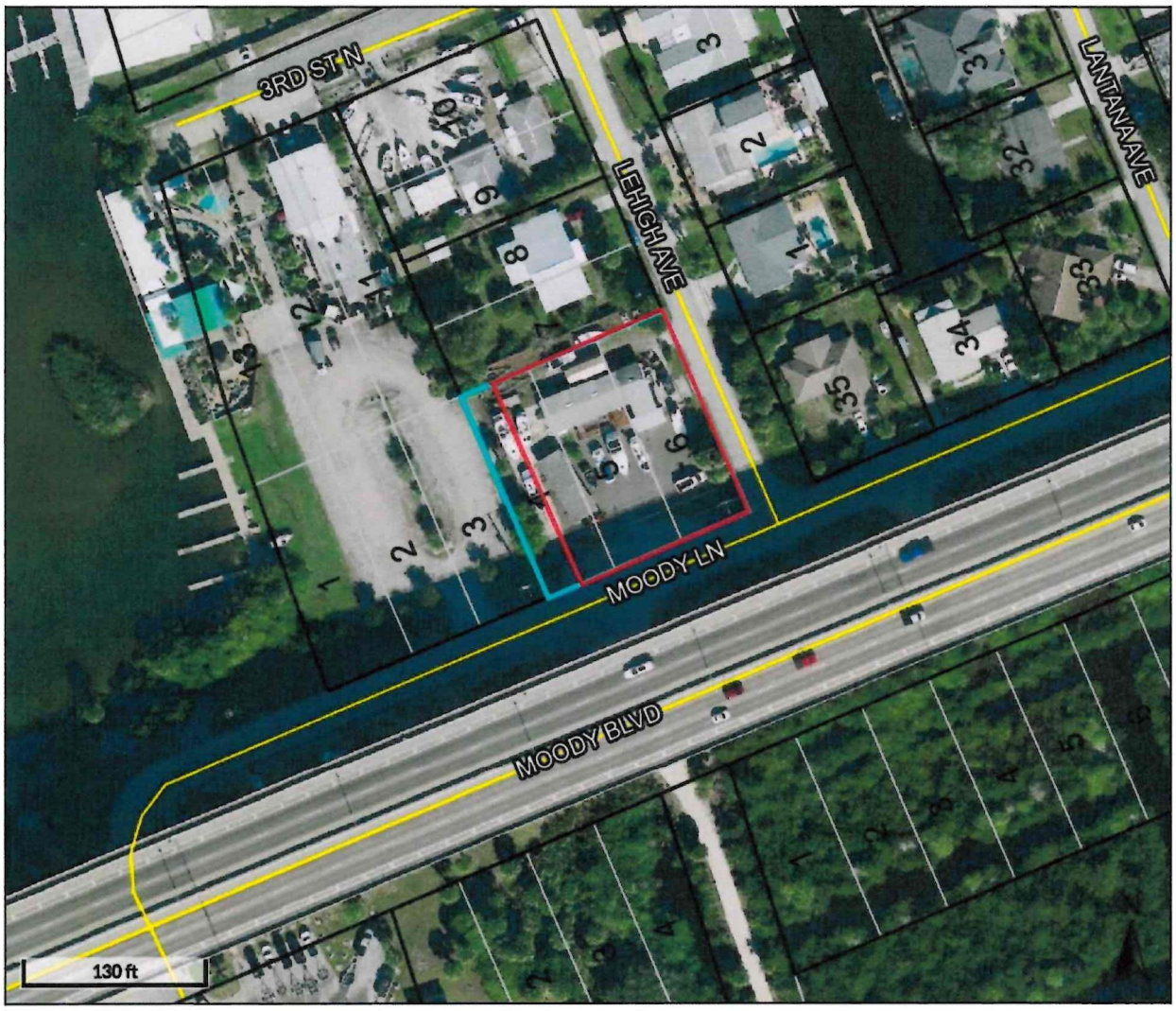
Sworn to and subscribed to before me this _____ day of _____, 2023, by means of ____ physical presence or ____ online notarization Howard Sklar as President of The US 1 HIGHWAY CORPORATION OF BUNNELL, who is ____ personally known to me or ____ has produced _____ as identification.

_____
NOTARY PUBLIC

My Commission Expires:

_____
Type or Print Name

EXHIBIT "A"



ITEM

#13

Final Site Plan Approval

Application #SP 23-04-01

Legacy Pointe Apartments

#13
updated

City of Flagler Beach

Date: ..... April 26, 2023 *(May 5, 2023)*

To: ..... Joseph Pozzuoli, Chairman Planning and Architectural Review Board
Board Members

From: ..... Larry Torino (behalf of City of Flagler Beach)

Subject: ..... Final Site Plan Approval: Application ***#SP23-04-01;*** Legacy Pointe Apts.

PARB HEARING UPDATE TO CITY COMMISSION

The Planning and Architectural Review Board at the meeting of May 2nd voted 6-1 to recommend approval to the City Commission. All outstanding comments previously provided to the applicant were addressed. New comments included the following:

1. Stop sign - entering west onto Leslie Street; work with the City to place a sign for safety purposes.
2. Joyce St – consensus street should be paved from apartment property line to John Anderson.
3. Fire hydrant – relocate to improve emergency equipment internal circulation.
4. Dumpster – incorporate a 4' side door into enclosure for ease of access.
5. Sidewalk – need of sidewalk on Leslie St. to accommodate adjoining senior living complex.
6. Civil plans – to be approved by city prior to issuance of building permit.

See attached May2nd meeting minutes for more detail.

UPDATED SUMMARY:

The subject application was initially scheduled to be presented at the April 2023 Planning and Architectural Review Board (PARB) meeting. The applicant elected to postpone the item to address the concerns and non-compliant items cited in the departmental checklist review report (See Checklist and Applicant response summary attached to this document). The applicant met with City staff soon after the scheduled hearing date to identify, clarify and speak to the city review comments.

The applicant resubmitted the enclosed updated plan set in a timely fashion, reviewed for compliance, and deemed sufficient to be heard at the May meeting date. Each review comment was addressed and determined to meet or exceed the requirements of the Land Development Regulations.

***NOTE**: The following text and content as prepared for the April PARB meeting.*

A. SUMMARY IN BRIEF:

Purpose

The applicant has submitted Application **SP#23-04-01** to appear before the Planning and Architectural Review Board (PARB) the purpose of which is to obtain a recommendation of approval as it relates to a forty-two (42) unit multi-family housing complex with associated amenities.

Location:
Terminus of Joyce Street (north)
Leslie Street (south)
(**See Attachment #1 Location Map**).

Zoning, Future Land Use and Current Use

Zoning District	Future Land Use Map	Current Land Use
General Commercial **(See Attachment 2)**	Medium Density **(See Attachment 3)**	Vacant

Description:

3.16 AC BUNNELL DEV CO SUBD BLOCK D PARCEL 350 FT ALONG NORTH PROJECTION OF JOYCE STREET, 267.29 FT DEEP ON WEST,331.10 FT ON SOUTH BEING ALONG NORTH BDRY OF ACCESS ESMT, 320 FT ON EAST ALONG WEST BDROF HILLCREST SUBD & INC ACCESS ESMTOR 637 PG 899 OR 646 PG 508 OR 676 PG 1394 OR 993/550 OR 1814/1479

Existing Conditions

a. Moderately sloping
b. Tree and vegetation (moderately heavy)
c. pond

B. Land Development Regulations Compatibility

SEE BELOW: CHECKLIST: MULTI-FAMILY & NON-RESIDENTIAL SITE DESIGN STANDARDS & MULTI-FAMILY & NON-RESIDENTIAL ARCHITECTURAL DESIGN STANDARDS

Proposed Development

A multi-family residential development consisting of the following primary elements:

1. Thirty-nine (39) apartment units comprised of two (2) buildings; the larger building twenty-seven (27) units, the second building – twelve (12) units.
2. Vehicular parking totaling seventy-eight (78) parking spaces, including five (5) handicap spaces.
3. Pond overlook.
4. Perimeter pond retaining wall/42" tall decorative rail.
5. Perimeter PVC fence screen from adjacent single-family residential

Section 2.04.02.8. *Zoning Schedule One Land Use of the* current adopted Land Development Regulations, *Controls allows as a* Principal Unrestricted Use *in the* General Commercial District, all principal uses in the Medium Density Residential District. The proposed development is consistent with this standard.

Schedule Two of the Land Development Regulations requires minimum lot, yard and bulk regulations for multi-family structures within the Commercial District as follows:

Schedule Two: Zoning Schedule of Lot, Yard & Bulk Regulations

District/Commercial/ Category Multi-family	Lot Area Sq. ft.	Lot Width Ft.	Lot Depth	Unit Density 1 unit/ 2,420 ft2	Front Yard Ft.	Side Yard Ft.	Rear Yard Ft.	Height Ft.	Max. Impervious Surface Ratio
Multi-family	9,000	100	90	14.5	25	10% Lot Width/Min 10ft.	25'	35'	65%

Proposed Development

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Multi-family	137,663+/-	330+/- ave.	370+/-	12.3/ac	84+/-	20'	N/A	37.71/2'	38%

Reviewer Recommendation: Recommend Planning and Architectural Review Board recommend denial of Final Site Plan application ***SP#23-04-01*** to the City Commission based upon the following findings of fact.

SITE DESIGN

1. Designated active/passive recreation amenities insufficient.
2. Common Space - Insufficient per Sec. Section 2.06.06.07. Multifamily and non-residential buildings supplemental standards.
3. Distance between buildings and driveways - Insufficient separation (entrances)
4. Recreation space - data not provided.
5. Active/Passive recreation - Not delineated/summarized.
6. Mechanical equipment Bldg. Type 1- a/c units located in front of bldg. line.
7. Common open space - 9,750sf minimum required (none shown).
8. Trash receptacles – Slats not permitted/chain link fencing.
9. Pedestrian circulation - Vehicular overhang 2ft reducing walkway to 3ft clearance.
10. Handicap parking – Appear remote from nearest point of entry. Staff recommends an additional two (2) spaces.

ARCHITECTURAL DESIGN STANDARDS

1. Mean Building Height - Bldg. Type-1 & 2 shown at 37' 71/2"
2. *Fenestration* ratio - Bldg. type – 2 R & L elevations do not appear to meet minimum ratio standard.
3. Bldg. type – 2 R & L – Window area not in proportion with scale of structure.
4. Provide building dimensions on all elevations

SITE DESIGN : MULTI-FAMILY & NON-RESIDENTIAL STANDARDS			
Section 2.06.06.06. *Site planning design principles.*	**COMPLIANT**	**NOT COMPLIANT**	**COMMENT**
Building arrangement/orientation.			
Arrange buildings to provide functional public and private open spaces.	X		
Provide adequate walkways and pedestrian orientation in allocation of space, building size and placement.	X		
Encourage appropriate on-site amenities to serve residents and guests.		X	Designated active/passive recreation amenities insufficient
Provide active common open spaces that encourage gatherings.		X	Insufficient per Sec. Section 2.06.06.07. Multifamily and non-residential buildings supplemental standards.
Multifamily buildings, where applicable, should be oriented to the adjacent public street and create visual interest by providing large windows, balconies, etc.			N/A
Building ends should contain windows and active spaces for security and visual interest.	X		
Develop buildings that face on alleys to enhance livability, visual quality, and safety of the alley.			N/A
Develop setbacks based on context relative to urban or suburban locations.	X		
Distance between buildings.			
The front or rear of any building shall be no closer than thirty (30) feet to the front or rear of any other building.			N/A
The side of any building shall be no closer than ten (10) feet to the side, front or rear of any other building.	X		
Distance between buildings and driveways.			
No driveway or parking lot should be closer than ten (10) feet to the front of any building or less than five (5) feet to the side or rear of any building.		X	Insufficient separation (entrances)
Recreation space.			
There shall be provided on the site of a multi-family development an area or other areas, either enclosed or unenclosed, devoted to the joint recreational use of the residents thereof.	X		
Such recreation space shall consist of not less than two hundred (200) square feet of space per dwelling unit.		X	7,800sf minimum (data not provided)
Each such recreation space shall be developed with passive and active recreation facilities.		X	Not delineated/summarized
Off-street parking spaces.			
The number and their provision shall be provided for as required by section 2.06.02.1.	X		
Service, utility, display, and storage areas.			
Loading areas or docks, outdoor storage, waste disposal, mechanical equipment, satellite dishes, truck parking, and other service support equipment shall be located behind the building line and shall be fully screened from the view of adjacent properties by walls made of masonry, brick, or durable fabricated materials.		X	a/c units located in front of bldg.line/northerly bldg..
Utility boxes must be totally screened from			*Clarify ....Backflow preventer??*

view of **principal streets, as well** as pedestrian areas and walkways. Backflow preventers shall be landscaped.			
Areas for outdoor storage, trash collection, and loading shall be incorporated into the primary building design, and construction materials for these areas shall be of comparable quality and appearance as that of the primary building.			
Shopping cart storage shall be located inside the building. Cart corrals, if used by patrons shall be screened by a solid landscaping hedge or wall consistent with the building architecture and materials.			N/A
Section 2.06.06.07. *Multifamily and non-residential buildings supplemental standards.*			
Corporate trademark design. Exceptions to the requirements contained within this chapter shall not be made for corporate franchises.			N/A
Common open space.			
In all developments with more than twenty (20) units, a minimum area of fifteen (15) percent of the total site area (inclusive of required setback areas) shall be designated, and permanently reserved, as usable common open space.	X		
The development shall designate, within the common open space, a minimum of two hundred fifty (250) square feet of active recreation area (e.g., children's play areas, play fields, swim pool, sports courts, etc.) for every twenty (20) units or increments thereof.		X	9,750sf minimum required (none shown)
Private open space.			
All upper floor dwelling units shall have balconies or porches measuring at least thirty-six (36) square feet with no dimension less than four (4) feet.	X		
All private open space shall have direct access from the dwelling unit by way of a door;	X		
Any excess private open space (above what is required) may be counted toward fulfilling the common open space requirement;			*To be determined per open space assessment*
Building masses and screening such as low hedges, fences, walls, arbors, or trellises shall be used to help delineate private outdoor spaces. The screening element must be a minimum of three (3) feet in height.			N/A as designed
Vehicular circulation.			
Where possible, driveways or private streets shall connect to local or collector streets rather than directly onto arterial streets.			N/A
Multifamily developments four (4) acres or larger shall be developed as a series of complete blocks bounded by a connecting network of public streets with sidewalks and street trees to break the development into numerous smaller blocks			N/A
Parking.			
1. Off-street vehicle parking spaces and bicycle parking shall be provided as specified section 2.06.02.1, off-street parking. SCHEDULE OF OFF-STREET PARKING REQUIREMENTS.	X		
2. Parking lots shall be placed to the side or rear of buildings where possible.			N/A

3. Parking lots shall be connected to all building entrances by means of internal pedestrian walkways.	X		
Trash receptacles.			
Trash receptacles shall be screened on all sides with a hedge or solid fence or wall of not less than six (6) feet in height.		X	Dumpster enclosure – Section 2.05.04.01 *Residential uses. (2) Prohibited fences and walls.* *(a) Slatting of plastic or other material cannot be inserted into chain link fencing.*
No trash receptacle shall be in any front yard setback, or within twenty-five (25) feet of property lines abutting other residential zones.	X		
Utilities.			
All utilities on the development site shall be placed underground.	X		
Ground-mounted equipment such as transformers, utility pads, cable television and telephone boxes, cell tower equipment boxes, and similar utility services shall be placed underground whenever practicable	X		
Where undergrounding of ground-mounted equipment is not feasible, equipment shall be screened from view with a hedge or solid fence or wall a minimum of four (4) feet in height and must be sited to comply with the site vision clearance standards.			N/A
Pedestrian circulation.			
Pathway system(s) shall extend throughout the development site, and connect to all future phases of development within the development and shall provide safe, reasonably direct connections between dwelling units and parking areas, recreational facilities, storage areas, and common areas;	X		
Where pathways are parallel and adjacent to a driveway or street (public or private), they shall be raised six (6) inches and curbed or separated from the driveway/street by a minimum five (5) foot strip with bollards, landscaping, or other physical barrier;	X		
a minimum corridor five (5) feet in width shall be provided In those instances where sidewalks or pathways abut vehicular parking.		X	Vehicular overhang 2ft reducing walkway to 3ft clearance
Pedestrian pathways shall be separated a minimum of six (6) feet from all building facades with residential living areas on the ground floor, except at building entrances;	X		
Where pathways cross a parking area, driveway, or street ("crosswalk"), they shall be clearly marked with contrasting paving materials, humps/raised crossings, or painted striping;			N/A
Pathway surface shall be concrete, asphalt, brick/masonry pavers, or other durable firm surface, at least five (5) feet wide, and shall conform to federal Americans with Disabilities Act (ADA) requirements.	X		
Landscaping			
Perimeter screening – 1. parking areas shall be screened from all abutting properties and/or rights-of-way with a wall, fence, hedge or other durable landscape barrier.	X		
2. Any living barrier shall be established in a two-foot minimum wide planting strip.	X		
3. except for ground cover. all vegetation shall be at least thirty (30) inches high at the time of planting		X	Height not provided in Key Legend Summary
Trees -			

one (1) tree in each forty (40) linear feet or fraction thereof shall be provided in the perimeter landscape planting area.	X		
Trash receptacles –			
shall be screened on all sides with a hedge or solid fence or wall of not less than six (6) feet in height. .	X		
Miscellaneous			
SHT -17, 18			Refers to Sunset View Apts – Title Block
Pond			perimeter non-climbable safety fence.
signage			Proposed location/style

ARCHITECTURAL DESIGN STANDARDS: MULTI-FAMILY & NON-RESIDENTIAL USES			
Section 2.06.06.03. *Architectural styles.*	COMPLIANT	NOT COMPLIANT	COMMENT
Classic Revival			
Key West Caribbean			
St. Augustine/Anglo, Caribbean			
Florida Vernacular,	X		
Spanish Mission,			
Mediterranean			
Section 2.06.06.05. *Building design.*			
Maximum building length.			
Barrier Island *– 150'*			
Mainland—With the exception of a shopping center, bowling alley or industrial building or similar uses,-200'	X		
Building Height			
Section 2.05.06.2 Building height measurement. Measured as the vertical distance from the finished grade at the center of the front of the building to: *1. The highest point of the roof surface for a flat roof.* *2. To the deck line of a mansard roof.* *3. To the mean height level between eaves and ridge for gable, hip and gambrel roofs.*		X	Bldg. height - – Bldg Type-1 & 2 shown at 37' 71/2"
Building volume. Overall length, width, and depth included between the surface of the outer walls measured from the level of the lowest story to the roof of the building of multi-family and non-residential buildings shall be divided into smaller segments to avoid a massive appearance and to enhance exposure to air and vistas. Facades shall not extend for more than 100 horizontal feet without a major volume shift or a substantial break in volume	X		
Building massing. Massing represents the two-dimensional shape or three-dimensional volume of a building.			
Massing requirements			

At least one (1) massing treatment, in addition to the articulation requirement, shall be included for each fifty (50) linear feet of wall that exceeds 50 feet in length.		X		
Massing techniques. The use of the following building features, when more than three (3) feet in depth or height, shall qualify as techniques that improve building massing.				
Balconies. Building wall offsets. Colonnades. Cupolas. Towers. Pavilions. Arcades.	Porticos. Projections and in the height of recessed sections. Clock or bell towers. Variations the roof line. Verandas. Overhangs.	X		
Building articulation. Articulation refers to the separation of a structure and surface to break large uninteresting or oppressive mass into proportionate spaces in relation to human size components.		X		
Articulation requirements.				
at least one (1) articulation from the list below on each façade. Facades extending for more than fifty (50) horizontal or vertical feet shall provide at least two (2) exterior treatments.				
Prohibited articulation techniques. Professional scoring or etching of a stucco wall to give the appearance of shutters, doors, or windows shall be prohibited.				
Articulation techniques.				
Base course or plinth course Portals Windows Transoms Show cases Bay windows and oriels Lintels String courses and moldings. Fascia	Cornice Piers Arches Bays Balconies Brackets Wings Porches Stoops	X		
Fenestration.				
For multistory commercial uses, fifty (50) percent of the wall façade on the first-floor story shall have windows. The windows shall be placed between three (3) feet and seven (7) feet from the ground.				N/A
For office and multifamily uses, fifteen (15) percent of the wall façade per story shall have windows.			X	Bldg type - 2 R & L elevations do not appear to meet minimum standard
Windows shall be in harmony with and proportionate to the rest of the structure.			X	Bldg type - 2 R & L elevations do not appear to meet minimum standard
The use of darkly tinted or reflective glass on the first floor of commercial structures is prohibited.				
Reflective glass will be defined as having a visible light reflectance rating of fifteen (15) percent or greater and darkly tinted glass windows include glass with a visible light transmittance rating of thirty-five (35) or less.				N/A
Uses such as movie theaters, bowling alleys, skating rinks, industrial facilities, warehouses, and similar uses are exempt from the fenestration requirements.				N/A
Awnings and canopies.				
No awning shall extend more than the width of the sidewalk or eight (8) feet, whichever is less.				N/A
Awnings must be self-supporting from the wall.				N/A
In no case shall any awning extend beyond the street curb or interfere with street trees or public utilities.				N/A
Roofs. The following types of roofs are permitted:				

Pitched roofs. shall have a minimum slope of four-to-twelve (4:12) (four (4) inch vertical rise for every twelve (12) inch horizontal run). Dormers and similar architectural elements are excepted from this requirement. Shall be enhanced by the addition of dormers, belvederes, chimneys, cupolas, clock towers and similar elements. Enhancements shall be consistent with the main elements of the building.	X		
Mansard style roof. False mansards are prohibited.			
Flat roofs. Buildings that have a flat roof shall be hidden from public view by a parapet and decorated in a manner that is compatible with the building design theme. a. *Parapet.* The highest point of a parapet shall not at any point exceed fifteen (15) percent of the height of the supporting wall. b. *Canopy roofs.* Canopy roofs for gas stations, drive-through restaurants, and banks are exempt from the pitched roof requirements.			N/A
Soffits. The maximum depth of overhangs shall be as follows: a. Barrier island—Eighteen (18) inches. b. Mainland—Twenty-four (24) inches.			N/A
Building entrances.			
Entrance placement. The main building entrance shall face the public right-of-way unless it is determined by the City Manager or designee that such configuration is not practicable.			N/A
Entrance articulation. All buildings shall have a minimum of one (1) of the following architectural treatments, separate from the massing and articulation requirements, for each main building entrance: lintels, pediments, pilasters, columns, porticos, porches, overhangs, railings, balustrades, and features	X		
Stairways			
Stairways shall be incorporated inside the building where possible to minimize visual impact.	X		
Mechanical equipment screening			
The screening of mechanical equipment for multi-family residential and all nonresidential land uses is required at the time of new installation or replacement, whether installed on the ground, walls, or roof.	X		
Mechanical equipment (e.g., air conditioning, heating, ventilation ducts and exhaust vents, swimming pool and spa pumps and filters, transformers and generators, and similar equipment, excluding solar collector panels) shall be screened from public view and adjacent residential zones.	X		
Roof-mounted mechanical equipment.			
Building parapets or other architectural elements in a structure's architecture style shall screen roof-mounted equipment.			N/A
Roof-mounted mechanical equipment shall be set back at least fifteen (15) feet from all roof edges that are parallel to street lot lines.			N/A
Roof-mounted mechanical equipment and screening shall be subject to the height limit exceptions in section 2.05.06.5, permitted exception to height regulations.			N/A
Ground-mounted and wall-mounted equipment.			

Screening devices shall be as high as the highest point of the equipment being screened.			N/A
Screening shall be architecturally compatible with the facility in design style, materials, and colors.			
Utility meters shall be screened from view from public rights-of-way.			N/A
Electrical transformers in a required front or street side setback area shall be screened from view.	X		
Water backflow prevention devices shall not be located in the front setback area and shall be screened from view			Provide location clarification, if proposed
Miscellaneous			
Bldg. elevations			Provide length/width dimensions

ATTACHMENTS:

Attachment #1 – General Application
Attachment #2 – Final Site Plan Application
Attachment #3 – Location Map
Attachment #4 – Zoning Map
Attachment#5 – Future Land Use Map
Attachment#6 – Geotechnical Report
Attachment #7 – Stormwater Report
Attachment #8 – Trip Generation Report
Attachment #9 – Plan Set (Newkirk Engineering INC.)

City of Flagler Beach

Date: ..... April 26, 2023

To: ..... Joseph Pozzuoli, Chairman Planning and Architectural Review Board
Board Members

From: ..... Larry Torino (behalf of City of Flagler Beach)

Subject: ..... Final Site Plan Approval: Application ***#SP23-04-01;*** Legacy Pointe Apts.

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Develop setbacks based on context relative to urban or suburban locations.	X		
Distance between buildings.			
The front or rear of any building shall be no closer than thirty (30) feet to the front or rear of any other building.			N/A
The side of any building shall be no closer than ten (10) feet to the side, front or rear of any other building.	X		
Distance between buildings and driveways.			
No driveway or parking lot should be closer than ten (10) feet to the front of any building or less than five (5) feet to the side or rear of any building.		X	Insufficient separation (entrances)
Recreation space.			
There shall be provided on the site of a multi-family development an area or other areas, either enclosed or unenclosed, devoted to the joint recreational use of the residents thereof.	X		
Such recreation space shall consist of not less than two hundred (200) square feet of space per dwelling unit.		X	7,800sf minimum (data not provided)
Each such recreation space shall be developed with passive and active recreation facilities.		X	Not delineated/summarized
Off-street parking spaces.			
The number and their provision shall be provided for as required by section 2.06.02.1.	X		
Service, utility, display, and storage areas.			
Loading areas or docks, outdoor storage, waste disposal, mechanical equipment, satellite dishes, truck parking, and other service support equipment shall be located behind the building line and shall be fully screened from the view of adjacent properties by walls made of masonry, brick, or durable fabricated materials.		X	a/c units located in front of bldg.line/northerly bldg..
Utility boxes must be totally screened from			*Clarify ....Backflow preventer??*

view of principal streets, as well as pedestrian areas and walkways. Backflow preventers shall be landscaped.			
Areas for outdoor storage, trash collection, and loading shall be incorporated into the primary building design, and construction materials for these areas shall be of comparable quality and appearance as that of the primary building.			
Shopping cart storage shall be located inside the building. Cart corrals, if used by patrons shall be screened by a solid landscaping hedge or wall consistent with the building architecture and materials.			N/A
Section 2.06.06.07. *Multifamily and non-residential buildings supplemental standards.*			
Corporate trademark design. Exceptions to the requirements contained within this chapter shall not be made for corporate franchises.			N/A
Common open space.			
In all developments with more than twenty (20) units, a minimum area of fifteen (15) percent of the total site area (inclusive of required setback areas) shall be designated, and permanently reserved, as usable common open space.	X		
The development shall designate, within the common open space, a minimum of two hundred fifty (250) square feet of active recreation area (e.g., children's play areas, play fields, swim pool, sports courts, etc.) for every twenty (20) units or increments thereof.		X	9,750sf minimum required (none shown)
Private open space.			
All upper floor dwelling units shall have balconies or porches measuring at least thirty-six (36) square feet with no dimension less than four (4) feet.	X		
All private open space shall have direct access from the dwelling unit by way of a door;	X		
Any excess private open space (above what is required) may be counted toward fulfilling the common open space requirement;			*To be determined per open space assessment*
Building masses and screening such as low hedges, fences, walls, arbors, or trellises shall be used to help delineate private outdoor spaces. The screening element must be a minimum of three (3) feet in height.			N/A as designed
Vehicular circulation.			
Where possible, driveways or private streets shall connect to local or collector streets rather than directly onto arterial streets.			N/A
Multifamily developments four (4) acres or larger shall be developed as a series of complete blocks bounded by a connecting network of public streets with sidewalks and street trees to break the development into numerous smaller blocks			N/A
Parking.			
1. Off-street vehicle parking spaces and bicycle parking shall be provided as specified section 2.06.02.1, off-street parking. SCHEDULE OF OFF-STREET PARKING REQUIREMENTS.	X		
2. Parking lots shall be placed to the side or rear of buildings where possible.			N/A

3. Parking lots shall be connected to all building entrances by means of internal pedestrian walkways.	X		
Trash receptacles.			
Trash receptacles shall be screened on all sides with a hedge or solid fence or wall of not less than six (6) feet in height.		X	Dumpster enclosure – Section 2.05.04.01 *Residential uses. (2) Prohibited fences and walls.* *(a) Slatting of plastic or other material cannot be inserted into chain link fencing.*
No trash receptacle shall be in any front yard setback, or within twenty-five (25) feet of property lines abutting other residential zones.	X		
Utilities.			
All utilities on the development site shall be placed underground.	X		
Ground-mounted equipment such as transformers, utility pads, cable television and telephone boxes, cell tower equipment boxes, and similar utility services shall be placed underground whenever practicable	X		
Where undergrounding of ground-mounted equipment is not feasible, equipment shall be screened from view with a hedge or solid fence or wall a minimum of four (4) feet in height and must be sited to comply with the site vision clearance standards.			N/A
Pedestrian circulation.			
Pathway system(s) shall extend throughout the development site, and connect to all future phases of development within the development and shall provide safe, reasonably direct connections between dwelling units and parking areas, recreational facilities, storage areas, and common areas;	X		
Where pathways are parallel and adjacent to a driveway or street (public or private), they shall be raised six (6) inches and curbed or separated from the driveway/street by a minimum five (5) foot strip with bollards, landscaping, or other physical barrier;	X		
a minimum corridor five (5) feet in width shall be provided In those instances where sidewalks or pathways abut vehicular parking.		X	Vehicular overhang 2ft reducing walkway to 3ft clearance
Pedestrian pathways shall be separated a minimum of six (6) feet from all building facades with residential living areas on the ground floor, except at building entrances;	X		
Where pathways cross a parking area, driveway, or street ("crosswalk"), they shall be clearly marked with contrasting paving materials, humps/raised crossings, or painted striping;			N/A
Pathway surface shall be concrete, asphalt, brick/masonry pavers, or other durable firm surface, at least five (5) feet wide, and shall conform to federal Americans with Disabilities Act (ADA) requirements.	X		
Landscaping			
Perimeter screening – 1. parking areas shall be screened from all abutting properties and/or rights-of-way with a wall, fence, hedge or other durable landscape barrier.	X		
2. Any living barrier shall be established in a two-foot minimum wide planting strip.	X		
3. except for ground cover, all vegetation shall be at least thirty (30) inches high at the time of planting		X	Height not provided in Key Legend Summary
Trees -			

one (1) tree in each forty (40) linear feet or fraction thereof shall be provided in the perimeter landscape planting area.	X		
Trash receptacles –			
shall be screened on all sides with a hedge or solid fence or wall of not less than six (6) feet in height. .	X		
Miscellaneous			
SHT -17, 18			Refers to Sunset View Apts – Title Block
Pond			perimeter non-climbable safety fence.
signage			Proposed location/style

ARCHITECTURAL DESIGN STANDARDS: MULTI-FAMILY & NON-RESIDENTIAL USES			
Section 2.06.06.03. *Architectural styles.*	**COMPLIANT**	**NOT COMPLIANT**	**COMMENT**
Classic Revival			
Key West Caribbean			
St. Augustine/Anglo, Caribbean			
Florida Vernacular,	X		
Spanish Mission,			
Mediterranean			
Section 2.06.06.05. *Building design.*			
Maximum building length.			
Barrier Island – 150'			
Mainland—With the exception of a shopping center, bowling alley or industrial building or similar uses,-200'	X		
Building Height			
Section 2.05.06.2 Building height measurement. Measured as the vertical distance from the finished grade at the center of the front of the building to: *1. The highest point of the roof surface for a flat roof.* *2. To the deck line of a mansard roof.* *3. To the mean height level between eaves and ridge for gable, hip and gambrel roofs.*		X	Bldg. height - – Bldg Type-1 & 2 shown at 37' 71/2"
Building volume. Overall length, width, and depth included between the surface of the outer walls measured from the level of the lowest story to the roof of the building of multi-family and non-residential buildings shall be divided into smaller segments to avoid a massive appearance and to enhance exposure to air and vistas. Facades shall not extend for more than 100 horizontal feet without a major volume shift or a substantial break in volume	X		
Building massing. Massing represents the two-dimensional shape or three-dimensional volume of a building.			
Massing requirements			

At least one (1) massing treatment, in addition to the articulation requirement, shall be included for each fifty (50) linear feet of wall that exceeds 50 feet in length.		X		
Massing techniques. The use of the following building features, when more than three (3) feet in depth or height, shall qualify as techniques that improve building massing.				
Balconies. Building wall offsets. Colonnades. Cupolas. Towers. Pavilions. Arcades.	Porticos. Projections and In the height of recessed sections. Clock or bell towers. Variations the roof line. Verandas. Overhangs.	X		
Building articulation. Articulation refers to the separation of a structure and surface to break large uninteresting or oppressive mass into proportionate spaces in relation to human size components.		X		
Articulation requirements.				
at least one (1) articulation from the list below on each façade. Facades extending for more than fifty (50) horizontal or vertical feet shall provide at least two (2) exterior treatments.				
Prohibited articulation techniques. Professional scoring or etching of a stucco wall to give the appearance of shutters, doors, or windows shall be prohibited.				
Articulation techniques.				
Base course or plinth course Portals Windows Transoms Show cases Bay windows and oriels Lintels String courses and moldings. Fascia	Cornice Piers Arches Bays Balconies Brackets Wings Porches Stoops	X		
Fenestration.				
For multistory commercial uses, fifty (50) percent of the wall façade on the first-floor story shall have windows. The windows shall be placed between three (3) feet and seven (7) feet from the ground.				N/A
For office and multifamily uses, fifteen (15) percent of the wall façade per story shall have windows.			X	Bldg type - 2 R & L elevations do not appear to meet minimum standard
Windows shall be in harmony with and proportionate to the rest of the structure.			X	Bldg type - 2 R & L elevations do not appear to meet minimum standard
The use of darkly tinted or reflective glass on the first floor of commercial structures is prohibited.				
Reflective glass will be defined as having a visible light reflectance rating of fifteen (15) percent or greater and darkly tinted glass windows include glass with a visible light transmittance rating of thirty-five (35) or less.				N/A
Uses such as movie theaters, bowling alleys, skating rinks, industrial facilities, warehouses, and similar uses are exempt from the fenestration requirements.				N/A
Awnings and canopies.				
No awning shall extend more than the width of the sidewalk or eight (8) feet, whichever is less.				N/A
Awnings must be self-supporting from the wall.				N/A
In no case shall any awning extend beyond the street curb or interfere with street trees or public utilities.				N/A
Roofs. The following types of roofs are permitted:				

Pitched roofs. shall have a minimum slope of four-to-twelve (4:12) (four (4) inch vertical rise for every twelve (12) inch horizontal run). Dormers and similar architectural elements are excepted from this requirement. Shall be enhanced by the addition of dormers, belvederes, chimneys, cupolas, clock towers and similar elements. Enhancements shall be consistent with the main elements of the building.	X		
Mansard style roof. False mansards are prohibited.			
Flat roofs. Buildings that have a flat roof shall be hidden from public view by a parapet and decorated in a manner that is compatible with the building design theme. a. *Parapet.* The highest point of a parapet shall not at any point exceed fifteen (15) percent of the height of the supporting wall. b. *Canopy roofs.* Canopy roofs for gas stations, drive-through restaurants, and banks are exempt from the pitched roof requirements.			N/A
Soffits. The maximum depth of overhangs shall be as follows: a. Barrier island—Eighteen (18) inches. b. Mainland—Twenty-four (24) inches.			N/A
Building entrances.			
Entrance placement. The main building entrance shall face the public right-of-way unless it is determined by the City Manager or designee that such configuration is not practicable.			N/A
Entrance articulation. All buildings shall have a minimum of one (1) of the following architectural treatments, separate from the massing and articulation requirements, for each main building entrance: lintels, pediments, pilasters, columns, porticos, porches, overhangs, railings, balustrades, and features	X		
Stairways			
Stairways shall be incorporated inside the building where possible to minimize visual impact.	X		
Mechanical equipment screening			
The screening of mechanical equipment for multi-family residential and all nonresidential land uses is required at the time of new installation or replacement, whether installed on the ground, walls, or roof.	X		
Mechanical equipment (e.g., air conditioning, heating, ventilation ducts and exhaust vents, swimming pool and spa pumps and filters, transformers and generators, and similar equipment, excluding solar collector panels) shall be screened from public view and adjacent residential zones.	X		
Roof-mounted mechanical equipment.			
Building parapets or other architectural elements in a structure's architecture style shall screen roof-mounted equipment.			N/A
Roof-mounted mechanical equipment shall be set back at least fifteen (15) feet from all roof edges that are parallel to street lot lines.			N/A
Roof-mounted mechanical equipment and screening shall be subject to the height limit exceptions in section 2.05.06.5, permitted exception to height regulations.			N/A
Ground-mounted and wall-mounted equipment.			

Screening devices shall be as high as the highest point of the equipment being screened.			N/A
Screening shall be architecturally compatible with the facility in design style, materials, and colors.			
Utility meters shall be screened from view from public rights-of-way.			N/A
Electrical transformers in a required front or street side setback area shall be screened from view.	X		
Water backflow prevention devices shall not be located in the front setback area and shall be screened from view			Provide location clarification, if proposed
Miscellaneous			
Bldg. elevations			Provide length/width dimensions

ATTACHMENTS:
Attachment #1 – General Application
Attachment #2 – Final Site Plan Application
Attachment #3 – Location Map
Attachment #4 – Zoning Map
Attachment#5 – Future Land Use Map
Attachment#6 – Geotechnical Report
Attachment #7 – Stormwater Report
Attachment #8 – Trip Generation Report
Attachment #9 – Plan Set (Newkirk Engineering INC.)

NEWKIRK ENGINEERING, INC.

CIVIL ENGINEERING - TRANSPORTATION - CEI - LANDSCAPE ARCHITECTURE

1230 N US HWY 1, SUITE 3, ORMOND BEACH, FLORIDA 32174 386-872-7794

April 25, 2023

Larry Torino, City Planner
Growth Management
Flagler Beach
800 S. Daytona Avenue
Flagler Beach, FL 32136
(386) 517-2000

Re: Legacy Pointe Apartments
Site Plan Submittal

Dear Mr. Torino

Please find enclosed a Site Plan Review Application for the above referenced project:

- (1) Set of Site Plan Drawings with Landscape and Architectural – 24x36
- (12) Sets of Site Plan Drawings with Landscape and Architectural – 11x17
- (1) Environmental Report
- (1) Trip Generation Report
- (1) CD-rom

The following comments are in response to your letter dated March 28, 2023:

City Comments

1. Encourage appropriate on-site amenities to serve the residents and guests. Designated active/passive recreation amenities insufficient. **Response: The site plan was revised to provide active and passive recreation. Active recreation consists of canoe and paddle boards for use within existing borrow pit pond and sidewalk around the rear of building. Total active recreation is 46,991 sf.**
2. Provide active common open space that encourages gatherings. Insufficient per Section 2.06.06.07. Multifamily and non-residential buildings supplemental standards. **Response:**
3. No driveway or parking lot should be closer than 10 feet for the front of any building or less than 5 feet to the side or rear of any building. Insufficient separation (entrances). **Response: All buildings adjusted to provide a minimum of 10-feet from building to the parking space 2-feet vehicle overhang. See revised site plan.**
4. Such recreation space shall consist of not less than 200 square feet of space per dwelling unit. 7,800 sf minimum (data not provided). **Response: Recreation space required is 7,800 sf and 47,562 sf is provided. Calculations provided on Sheet 3 and labeled on the site plan, Sheet**
5. Each such space recreation space shall be developed with passive and active recreation facilities. **Response: Active recreation consists of canoe and paddle boards for use**

within existing borrow pit pond and sidewalk around the rear of building. Total active recreation is 46,991 sf. Passive recreation consists of benches for viewing nature across the borrow pit pond and timber dock. Total recreation area is 47,562 sf. See calculation on Sheet 3 and site plan, Sheet 7.

6. Loading areas or docks, outdoor storage, waste disposal, mechanical equipment, satellite dishes, truck parking and other service support equipment shall be located behind the building line and shall be fully screened from the view of adjacent properties by walls made of masonry, brick or durable fabricated materials. A/C units located in front of building line/northerly building. Response: A/C units located in the front were relocated to the sides and rear of building.
7. Utility boxes must be totally screened from view of principal streets as well as pedestrian areas and walkways. Backflow preventers shall be landscaped. Clarify backflow preventer. Response: Backflow preventers are located 3.5 feet from sidewalk and will be screened by shrubs. Backflow preventers are not located within the 10-feet required front landscape buffer from residential property. See revised site plan and landscape plans.
8. The development shall designate, within the common open space, a minimum of 250 sf of active recreation area (e.g. children play areas, play fields, swim pools, sports courts, etc) for every 20 units or increments thereof. 9,750 sf minimum required (none shown). Response: Common open space calculations provided on Sheet 3. Required 9,750 sf and 48,648 sf provided. Provided common open space consists of all active and passive recreation and sidewalks.
9. Any excess private open space (above what is required) may be counted toward fulfilling the common open space requirement. To be determined per open space assessment. Response: No excess private open space required to meet the common open space requirement. See Sheet 3 for calculations.
10. Trash receptacles shall be screened on all sides with a hedge or solid fence or wall of not less than 6 feet in height. Slatting of plastic or other material cannot be inserted into chaing link fencing. Response: The dumpster gates were revised to metal gates.
11. A minimum corridor 5 feet in width shall be provided in those instances where sidewalks or pathways about vehicular parking. Vehicular overhang 2 feet reducing walkway to 3 feet clearance. Response: Sidewalks revised to 7 feet wide and shows the 2-feet vehicle overhang, which leaves an effective 5-feet wide sidewalk.
12. Except for ground cover all vegetation shall be at least 30 inches high at the time of planting. Height not provided in Key Legend Summary. Response: Landscaping revised to 30-inches. See revised landscape plans.
13. Sheet 17-18 refers to Sunset View Apartments – Title Block. Response: Title block revised to Legacy Pointe Apartments.
14. Site Development Usage Table – Unit density and parking summary inconsistent as proposed. Response: Density revised to be based from 39 units. Parking revised to 39 units and all calculations updated.
15. Trip Generation Report indicates no level of service implications to local roadways. Response: See revised report.
16. Building height – Building Type 1 & 2 shown at 37' 7.5". Response: Building Type 1 = 34'-7 1/2" and Building Type 2 = 35 feet.

17. Building type -2. R & L elevations do not appear to meet minimum standards. **Response: Building elevations revised to add more windows on the sides to meet minimum standards. See revised architectural plans.**
18. Water backflow prevention devices shall not be located in the front setback area and shall be screened from view. Provide location clarification, if proposed. **Response: Backflow preventers are located 3.5 feet from sidewalk and will be screened by shrubs. Backflow preventers are not located within the 10-feet required front landscape buffer from residential property. See revised site plan and landscape plans.**
19. Provide length/width dimensions; all sides. **Response: Dimensions added to all revised building elevations by Architect.**

Meed & Hunt Comments

1. The pervious pavers parking spaces are shown as 10'x18'. Per Section 2.06.02 of the City's LDC, the parking spaces must be a minimum of 10'x20'. **Response: Parking spaces are 10'x18' with 2' vehicle overhang for an effective 20-feet parking space. Site plan revised to show overhang and provided parking space typical details.**
2. There are multiple notes within the plan set that reference the City of Ormond Beach and City of New Smyrna Beach. Revise to City of Flagler Beach. **Response: Notes revised to Flagler Beach.**
3. Defer to City staff on zoning requirements and number of parking spaces. **Response: Parking calculations are per City LDC.**
4. The length called out on the sanitary sewer plan/profiles do not match the scale provided. **Response: Scale revised to 1 inch = 20 feet. See revised plans.**
5. Applicant should address how construction and maintenance access to SW retention pond will be accomplished. Also, how west side of existing pond will be maintained. **Response: A timber dock is provided to provide access to dry retention pond.**
6. Suggest proposed water main be connected to existing water main on Joyce Street so to eliminate Joyce Street dead end conditions. **Response: The 6-inch water main is extended to connect to the existing 2-inch water main. See Utility Plan Sheet 18.**
7. Proposed grading for NW stormwater retention pond appears to impact expected root ball area of trees to remain. **Response: Root pruning notes are provided on Sheets 4 and 11. Tree protection and root pruning specifications and details provided on Sheet 31.**
8. Defer to City staff on tree protection/replacement calculations. **Response: Tree replacement calculations provided on Sheet 32. See revised landscape plan for mitigation trees locations.**
9. Existing City lift station electrical/control panel rack on south side of existing entry to Pinecreek Place Apartments should be shown on plans and noted to remain. **Response: Existing electric/control panel rack is shown on Sheets 4, 7 and 16 to remain.**
10. City may wish to require paving of Joyce Street which is currently unpaved as it will serve this development. **Response: The project access is from the existing paved road, Leslie Street and Joyce Street is used for an secondary emergency access drive. The Applicant does not wish to pave this road.**
11. The 0.25 feet of freeboard between overflow structure and top of berm in the SW retention pond may be insufficient to prevent berm overflow. **Response: Berm revised to EL 11.30 to provide 6-inches of freeboard. See revised grading, drainage and section plans.**

12. Defer to City for requirements for wall/fencing/screening between development and residential properties to east. **Response: Site plan revised to provide 6-feet vinyl fence along east property line to screen residential houses. A 42-inch decorative rail fence is provided along the existing borrow pit pond/lake. See revised site plan and details on Sheet**
13. Applicant should provide copies of required permits including:
    a. SJRWMD ERP **Response: Permit will be provided once issued.**
    b. FDEP Water System Construction permit **Response: Applicant will provide permit applications for the City to complete. Prior to construction this permit will be provided to the City.**
    c. FDEP Wastewater Construction permit **Response: Applicant will provide permit applications for the City to complete. Prior to construction this permit will be provided to the City**
    d. NPDES Construction permit **Response: Permit will be provided once issued.**
14. Applicant should provide an environmental report addressing threatened/endangered species and wetlands. **Response: See attached environmental report.**

If you have any questions or need additional information, please feel free to call or email me at Harry@Newkirk-Engineering.com.

Sincerely,

NEWKIRK ENGINEERING, INC.

Harry Newkirk, PE # 62971
President/CEO of Newkirk Engineering, Inc.

Ecological Consulting Solutions, Inc.

April 21, 2023

T.J. McNitt
Verdego Landscape
3335 North State Street, PO Box 789
Bunnell, FL 32110

Re: Leslie Street Parcel
Flagler County, FL
Listed Species Report
ECS Project No. 844.06.23

Dear T.J.:

On April 21, 2023, a listed species survey was conducted on the Leslie Street Parcel project site. The property is located immediately north of Leslie Street, west of Joyce Street, south of Moody Boulevard., and east of Badcock Home Furniture & More store in Flagler Beach, Florida. More specifically, the property is located within Sections 11 Township 12 South and Range 31 East of Flagler County, Florida.

The project site consists of upland hardwood forests, a burrow pit, and a ditch system.

A survey of the project boundaries was conducted to assess the potential occurrence of flora and fauna listed as threatened or endangered by the United States Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC), and the Florida Department of Agriculture (FDA). Tables 1 and 2 provide a listing of the species known to occur within Flagler County and their expected occurrence of the project site. The findings and conclusions of the survey are reported in this letter.

The survey was conducted by Ecological Consulting Solutions Inc (ECS) for the purpose of evaluating the site for the presence or absence of wetland habitat and protected flora and fauna or their habitat. The survey was conducted by means of pedestrian transects in the early morning to assure the potential of observing listed fauna as recommended by the FWC and the USFWS.

Longwood Office
410 North Street, #130
Longwood, FL 32750
Phone: (407) 869-9434
Fax: (407) 869-9436

Tampa Office
419 W. Platt St., Suite 103
Tampa, FL 33606
Phone: (813) 254-5959

The following resources were used for supporting information during the site assessment and letter preparation:

- Color aerial photographs (1" = 300), 2022, Google Earth, Flagler County, Florida.
- National Wetlands Inventory – U.S. Fish and Wildlife Service.
- United States Geological Survey (USGS) 7.5-minute quadrangle map, Flagler County, Florida, (ArcGIS).
- Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida (USFWS and FWC).

Pedestrian and vehicular surveys of the project site were conducted to qualitatively document the existing vegetation and to assess the present land use patterns according to the Florida Land Use, Cover and Forms Classification System, Department of Transportation (FLUCFCS; DOT 1999). Four (04) land use types are present (Figure 2). A brief description of each FLUCFCS community is provided below.

420– Upland Hardwood Forest

Found in the eastern and southern portion of the project site. This upland habitat is dominated by mature live oak (*Quercus virginiana*), red cedar (*Juniperus virginiana*), laurel oak (*Quercus laurifolia)*, sugar hackberry (*Celtis laevigata),* cabbage palms (*Sabal palmetto*), slash pine (*Pinus elliottii*), Chinese tallow (*Triadica sebifera)*, and water oak (*Quercus nigra*). Brazilian pepper (*Schinus terebinthifolia*), wax myrtle (*Myrica cerifera*), Hercules club (*Zanthoxylum clava-herculis*), and American beautyberry (*Callicarpa americana*) are present in the shrub layer. Groundcover vegetation consisted of bracken fern (*Pteridium aquilinum*), coontie (*Zamia integrigolia*), greenbrier (*Smilax rotundifolia*), and grapevine (*Vitis spp.)*, bahia grass (*Paspalum notatum*), dog fennel (*Eupatorium capillifolium*), St. Augustine grass (*Stenotaphrum secundatum*), common beggars ticks (*Bidens alba*), and lantana (*Lantana camara*).

742 – Borrow Areas

It is the opinion of ECS biologists that along the northwestern portion of the project site is a borrow pit that predates 1995 aerial imagery. ECS performed a permit search of St. Johns River Water Management District (SJRWMD) and found no existing permits for this surface water system. The burrow pit contains an open water center covered with common duckweed (*Lemna minor*) and water hyacinth (*Pontederia crassipes*). Vegetation along the top of the bank consists of red maple (*Acer rubrum*), wax myrtle, dahoon holly (*Ilex cassine*), water oak, red bay (*Persea borbonia*), marsh pennywort (*Hydrocotyle umbellata*), cinnamon fern (*Osmundastrum cinnamomeum*), grape vine, and greenbrier.

513 – Ditch

There is a ditch system located near the eastern boundary and runs offsite on both the northern and southern border of the property site, appears manmade and has steep sided slopes. Vegetation along the top of the bank consists of cabbage palm, dahoon holly, laurel oak, scattered cinnamon fern, green briar, with dense leaf litter as ground cover and human litter within the ditch. At the time of the site visit, there was flowing water in the ditch system.

814 – Roads and Highways

On the southeastern corner of the project boundary is Leslie Street. There is a culvert system that runs under Leslie Street that allows the surface water in the manmade ditch to continue south offsite.

Listed Species Survey

A survey was conducted using pedestrian transects throughout the site to assess the occurrence, or potential for occurrence, of flora and fauna listed as threatened, endangered, or as species of special concern (SSC) by the Florida Fish and Wildlife Conservation Commission (FWC), United States Fish and Wildlife Service (USFWS), and Florida Department of Agriculture (FDA). In addition, the presence of designated critical habitat and/or vegetative communities and land uses with the potential to support listed species was evaluated prior to any field surveys.

On January 11, 2017, the FWC State listing status changes, originally proposed back in 2010, became official after the approval of Florida's Imperiled Species Management Plan by FWC Commissioners.

• 15 species were removed from Florida's Endangered and Threatened Species List: Eastern chipmunk, Florida mouse, brown pelican, limpkin, snowy egret, white ibis, peninsula ribbon snake (Lower Keys population), red rat snake Lower Keys population), striped mud turtle (Lower Keys population), Suwannee cooter, gopher frog, Pine Barrens tree frog, Lake Eustis pupfish, mangrove rivulus, and Florida tree snail.

• 23 species changed from State-designated Species of Special Concern to State-designated Threatened species: Sherman's short-tailed shrew, Sanibel rice rat, little blue heron, tricolored heron, reddish egret, roseate spoonbill, American oystercatcher, black skimmer, Florida burrowing owl, Marian's marsh wren, Worthington's Marsh wren, Scott's seaside sparrow, Wakulla seaside sparrow, Barbour's map turtle, Florida Keys mole skink, Florida pine snake, Georgia blind salamander, Florida bog frog, bluenose shiner, saltmarsh top minnow, Southern tessellated darter, Santa Fe crayfish, and Black Creek crayfish.

• 14 species keep their State-designated Threatened status: Everglade's mink, Big Cypress fox squirrel, Florida sandhill crane, snowy plover, least tern, white-crowned pigeon, Southeastern American kestrel, Florida brown snake (Lower Keys population), Key ringneck snake, short-tailed snake, rim rock crowned snake, Key silverside, blackmouth shiner, and crystal darter.

• Five species listed as State-designated Species of Special Concern: (list species): Homosassa shrew, Sherman's fox squirrel, osprey (Monroe County population), alligator snapping turtle, and harlequin darter.

On December 23, 2018, the State listing status changes that were proposed in 2011 as part of the newly implemented imperiled species management system became official after the approval of Florida's Imperiled Species Management Plan by FWC Commissioners.

• Four species were removed from Florida's Endangered and Threatened Species List as State Species of Special Concern: Harlequin darter, Osprey (Monroe County population), Homosassa shrew, and Sherman's fox squirrel.

• The Alligator snapping turtle was taxonomically reclassified into three subspecies. The Suwannee alligator snapping turtle was listed as a State-designated Threatened species.

• Two species were listed as Federally designated Threatened species: Giant manta ray and Nassau grouper.

• Four species had changes in their scientific names: Short tailed snake, Bluetail mole skink, Florida Keys mole skink, and sand skink.

Birds

Approximately 35 species (and sub-species) of birds found in Florida are protected by the FWC and/or the USFWS. For Flagler County, the USFWS federally lists three bird species. No listed birds were observed at this site (Table 1).

Florida scrub jays (*Aphelocoma c. coerulescens)* were not observed on the project site. This species is listed as threatened at the state and federal levels. The property does not contain scrub habitat. The guidelines outlined in the *Ecology & Development-Related Habitat Requirements of the Florida Scrub Jay (April 1991)* were reviewed prior to the site visit. No scrub jays were observed, or vocalizations heard.

Red-cockaded woodpeckers (*Picoides borealis*) are endangered (USFWS) and endangered (FWC). No red-cockaded woodpeckers were observed, and the upland habitat type is not suitable. There were no open pine flatwoods with old-growth pines that characterize RCW nesting and foraging habitat.

Listed wading birds such as limpkin (*Aramus guarauna),* snowy egret (*Egretta thula),* tricolored heron (*Egretta tricolor)* white ibis (*Eudocimus albus)* and the wood stork *(Mycteria americana)* were not observed. The onsite surface waters contain marginal habitat for wading birds, no nests or birds were observed onsite.

Bald eagles (*Haliaeetus leucocephalus*) or their nests were not observed on the site. Bald eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The USFWS has established a 660-foot protection zone around a bald eagle nest.

ECS searched the FWC website, as well as the Audubon Society Eagle Watch website, to determine if any documented bald eagle nests are within 660 feet of the site. There are no bald eagle nests near the proposed project site. Therefore, the project site is well outside of the 660-foot eagle nest protection zone and the development will not affect any bald eagle nests.

No other listed raptors such as Southeastern American kestrels (*Falco sparverius paulus*) or Arctic peregrine falcons (*Falco peregrinus tundrius*) were observed on or around the site. There is no foraging habitat for kestrels. No birds were observed on or offsite at the time of the survey.

Florida sandhill cranes (*Grus canadensis pratensis*), a Threatened Species, were not observed within the project boundaries.

Amphibians and Reptiles

About thirty (30) species of Florida's amphibians and reptiles are protected. For Flagler County, the USFWS federally lists four (4) reptile species. No listed reptile or amphibian species were observed within the project boundaries.

The sand skink (*Neoseps reynoldsi*) is listed as threatened by both FWS and FWC. The sand skink is primarily found in rosemary scrub, sand pine and oak scrub.

The known range of the sand skink now includes Highlands, Lake, Marion, Orange, Osceola, Polk, and Putnam Counties with principal populations along the Lake Wales Ridge, the Winter Haven Ridge, and the Mount Dora Ridge.

The subject property is outside of the known limits of the sand skink.

Gopher Tortoise

A cursory survey was conducted throughout the property for gopher tortoises (*Gopherus polyphemus)*, a species listed by the FWC as a Threatened. No gopher tortoise burrows were observed throughout the property.

Several commensal species associated with gopher tortoise burrows, including the gopher frog (*Rana areolata aesopus)* and eastern indigo snake (*Drymarchon corais couperi)* also receive protection, but were not observed.

Eastern Indigo Snake

Concerning the eastern indigo snake, ECS conducted survey transects to identify potential aboveground and underground refugia, which eastern indigo snakes may inhabit. Underground refugia includes active or inactive gopher tortoise burrows, mammal burrows, hollows at the base of trees and other similar formations. Above ground refugia includes thick shrub formations, stumps, the base of thick palmetto, ground litter, brush piles, trash piles, and abandoned structures, and crevices of rock-lined ditch walls and other similar refugia.

Surveys for eastern indigo snakes are recommended by the USFWS during the time of October 1st through April 30th. There was little suitable refugia for the eastern indigo snake onsite. No eastern indigo snakes were observed.

The USFWS has established a new programmatic effect determination key (Key) as part of the eastern indigo snake management. The Key allows the USFWS to require mitigation for eastern indigo snake habitat if 25 or more acres of suitable habitat will be impacted for development.

The USFWS has established a fund that a developer can pay for mitigation.

A developer can pay up front and then no surveys for the eastern indigo snakes are required. The survey is a minimum 5-day survey. To save time and monies associated with the surveys, the developer can pay a fee and expedite the permitting process.

To determine if the site has an eastern indigo snake habitat will be up to the USFWS reviewer assigned to the project.

The USFWS requires the developer to notify the local field office via email at least **30 days prior** to any clearing/land alteration activities.

The notification has to include an eastern indigo snake protection/education plan. This notification can occur via email with the protection/education plan attached.

As long as the signatory of the e-mail certifies compliance with the protection/education plan (including use of the USFWS informational poster and brochure), no further written confirmation or "approval" from the USFWS is needed and the applicant may move forward with the project.

Mammals

Thirty-three (33) mammals are currently protected in Florida. For Flagler County, the USFWS federally lists one mammal species. None were observed on this site.

We focused our search on fox squirrels (*Sciurus niger niger)* and the Florida mouse (*Podomys floridanus)* and their possible den or nest sites. We did not observe any listed mammals or their potential den sites.

Listed Plants

There was one protected plant species, coontie (*Zamia integrigolia*), found on the project site (Table 2). *Zamia* species. belongs to the order of cycads and are native to Florida, they are classified as state threatened. No other protected plants are expected to occur on the project sites due to historical site disturbance and due to competition with exotic plant species. Currently, there are no technical reports available by the state or federal agencies mentioned in this letter report for the survey of the nearly 400 protected plant species. None of the agencies require relocation or mitigation for protected plant species.

The Department of Agriculture and Consumer Services (DACS) designates and regulates plants listed as "endangered", "commercially exploited" and "threatened". There is no statutory prohibition against a landowner from harvesting an endangered or threatened plant from his property.

However, it is unlawful for an individual to harvest an endangered or threatened species from the private land of another or any public land without first obtaining written permission of that landowner and a permit from DACS. Additionally, harvesting three or more commercially exploited plants from the private land of another or any public land will also require a DACS permit.

Summary

In summary, one listed species, the coontie (*Zamia* spp.), was observed within the property boundaries. There is no statutory prohibition against a landowner from harvesting an endangered or threatened plant from his/her property.

There is a burrow pit and ditch system present onsite. Both the burrow pit and ditch have extensions that lead offsite and connect to larger wetland systems.

The USFWS must be notified at least 30 days prior to any land clearing with a protection/education plan concerning eastern indigo snakes.

Ecological Consulting Solutions Inc. appreciates the opportunity to provide you with our services. Should you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

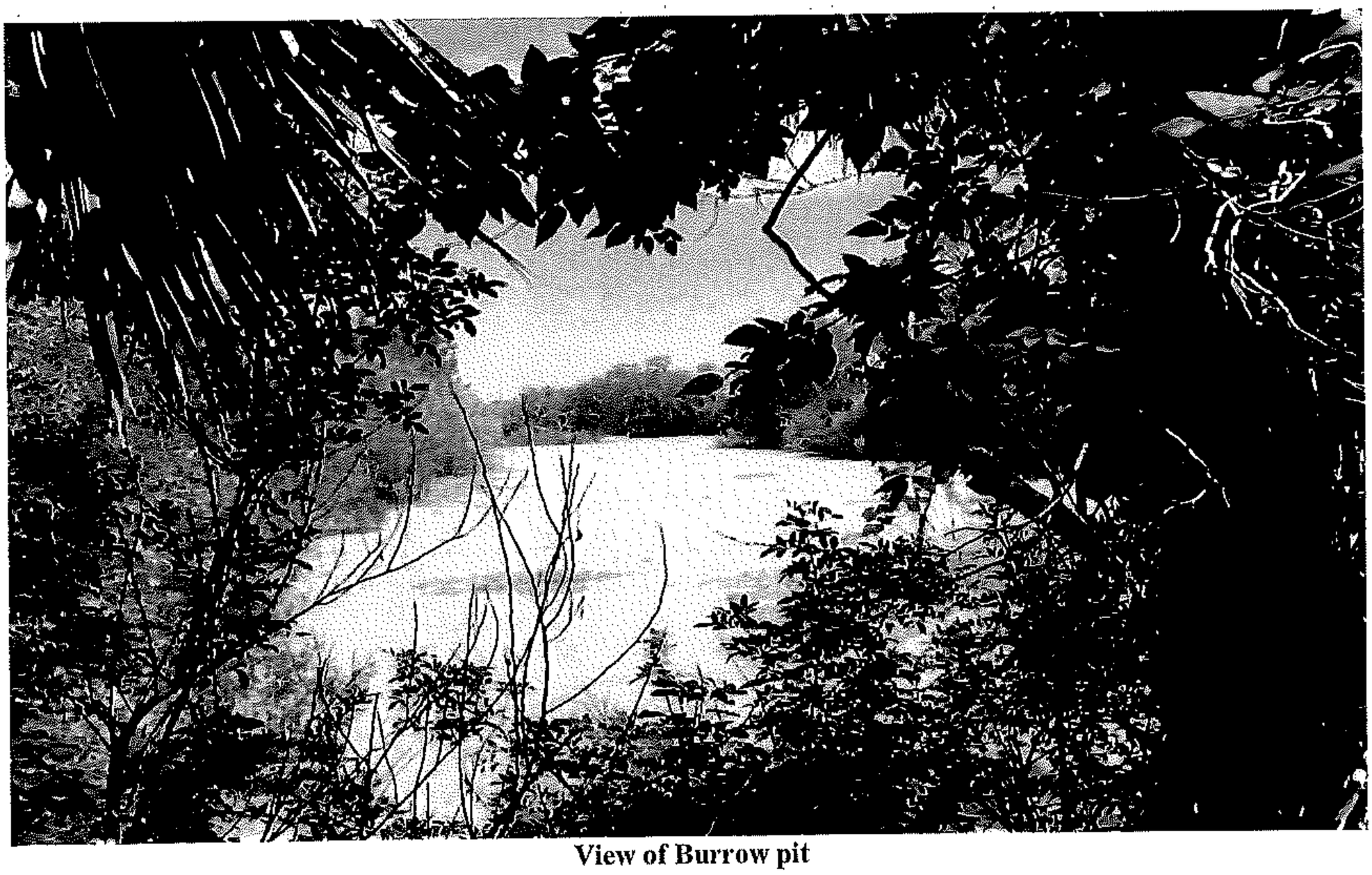
ECOLOGICAL CONSULTING SOLUTIONS INC

Crissy Seckinger

Attachments

Pictures

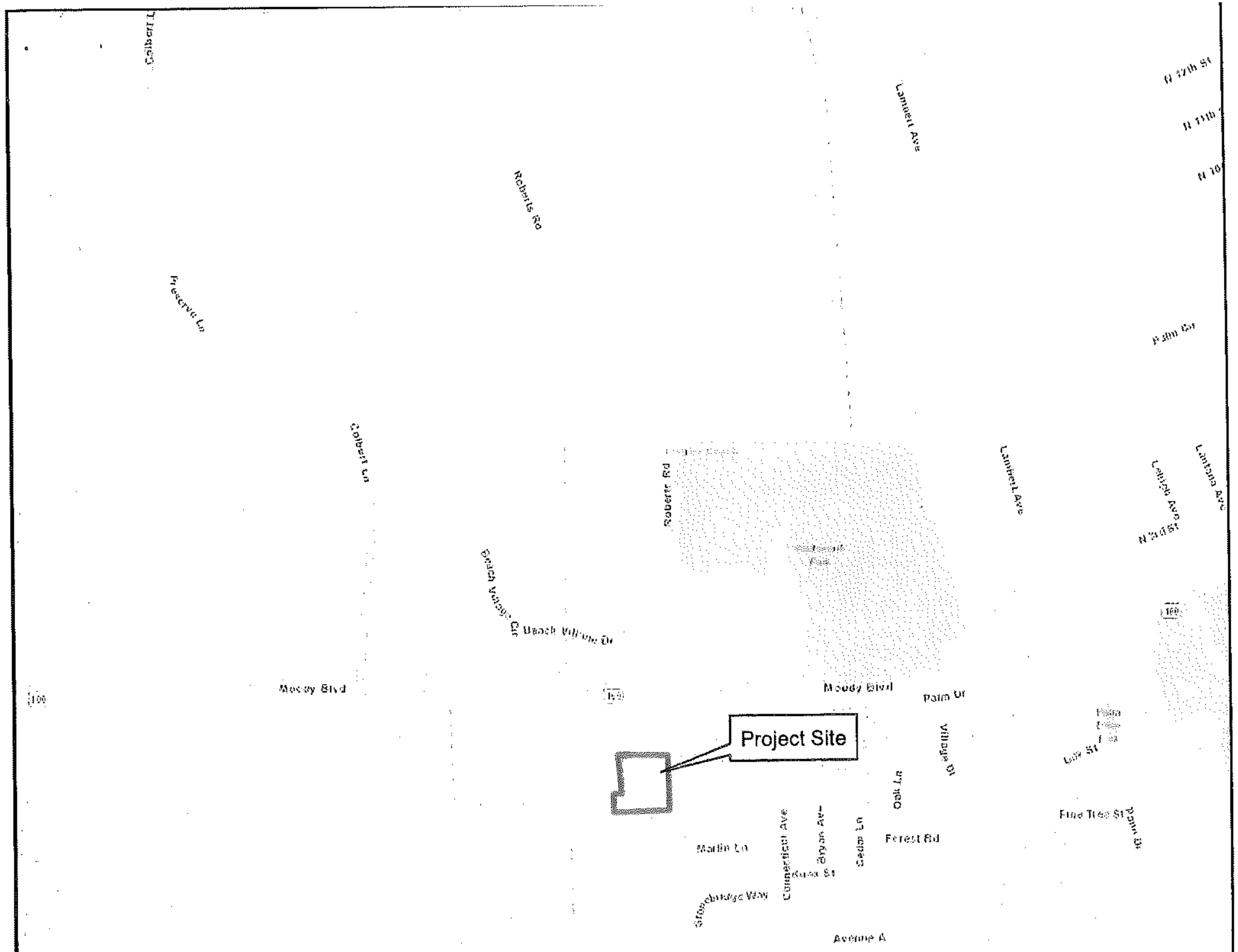
Typical view of upland hardwood forest



View of Burrow pit

View of manmade ditch system

FIGURES



LEGEND

Project Boundary
(± 3.16 Acres)

www.ecologicalcs.com

Ecological Consulting Solutions, Inc.

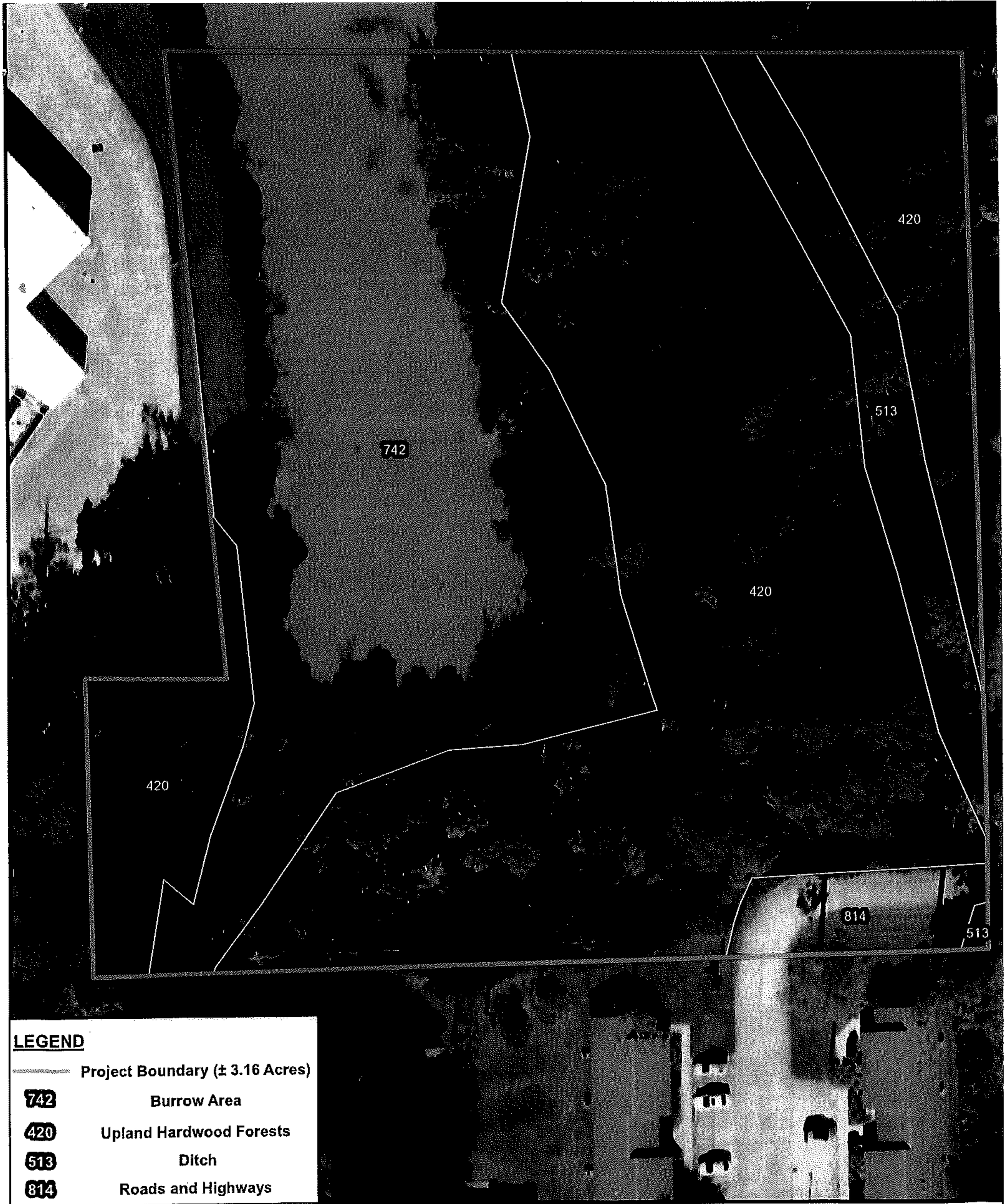
LESLIE STREET PARCEL
FLAGLER COUNTY, FL
LOCATION MAP

PROJECT #: 844.06.23 DATE: 4/20/23 FIGURE #: 1

0 512.5 1,025 2,050 Feet

N

410 North Street #130
Longwood, Florida 32750
Office: (407) 869-9434 Fax: (407) 869-9436
CSeckinger@ecsfl.cc



LEGEND

Project Boundary (± 3.16 Acres)	
742	Burrow Area
420	Upland Hardwood Forests
513	Ditch
814	Roads and Highways

www.ecologicalcs.com

Ecological Consulting Solutions, Inc.

LESLIE STREET PARCEL
FLAGLER COUNTY, FL
FLUCFCS MAP

PROJECT #: 844.06.23 DATE: 4/24/23 FIGURE #: 2

0 32.5 65 130 Feet

N

410 North Street #130
Longwood, Florida 32750
Office: (407) 869-9434 Fax: (407) 869-9436
CSeckinger@ecsfl.cc

TABLES

TABLE 1: PROTECTED FAUNA FOUND IN FLAGLER COUNTY, FLORIDA AND THEIR EXPECTED OCCURRENCE ON THE LESLIE STREET PARCEL PROPERTY.

SPECIES	FWC STATUS (1)	USFWS STATUS (2)	PREFERRED HABITAT (3)	PROBABILITY OF OCCURRENCE (4)
REPTILES				
Drymarchon corais couperi Eastern indigo snake	T	T	Dry habitats bordered by water; often occupy *G. polyphemus* burrows	Low: limited habitat available, none observed
Gopherus polyphemus Gopher tortoise	SSC	_	Well drained soil; xeric pine-oak hammocks and scrub; pine flatwoods	Low: habitat unavailable, dense vegetation, no burrows observed
Neoseps reynoldsii Sand Skink	T	T	Well drained sandy soil, open areas, sand pine-rosemary scrub	Low: habitat not available, none sighted, outside of known range
Pituophis melanoleucus mugitus Florida pine snake	SSC	_	Dry, sandy barrens in xeric oak and pine-wooded sandhills	Low: habitat not present, none observed
Stilosoma extenuatum Short-tailed snake	T	_	Sandy upland ridges; xeric oak pine woods; xeric oak hammocks	Low: habitat not present, none sighted
AMPHIBIANS				
Rana areolata aesopus Florida gopher frog	SSC	-	Dry, xeric habitats with wetlands such as isolated permanent ponds and cypress domes	Low: limited habitat available, no gopher tortoise burrows observed
BIRDS				
Aphelocoma coerulescens Florida scrub jay	T	T	Level, sterile, white sand with low, xeric oak scrub	Low: scrub not available on site, none sighted
Aramus guarauna Limpkin	SSC	_	Densely vegetated swamps, lakeshores and slow streams	Low: open water habitat available on site, none sighted
Egretta caerulea Little blue heron	SSC	_	Lake littorus; shallow ponds and marshes	Low: foraging habitat available, no birds sighted
Egretta thula Snowy egret	SSC	_	Lake littorus; shallow ponds and marshes	Low: foraging habitat available, no birds sighted

TABLE 1: PROTECTED FAUNA FOUND IN FLAGLER COUNTY, FLORIDA AND THEIR EXPECTED OCCURRENCE ON THE LESLIE STREET PARCEL PROPERTY.

SPECIES	FWC STATUS (1)	USFWS STATUS (2)	PREFERRED HABITAT (3)	PROBABILITY OF OCCURRENCE (4)
BIRDS (cont..)				
Egretta tricolor Tricolored heron	SSC	–	Lake littorus; shallow ponds and marshes	Low: foraging habitat available, none sighted
Eudocimus albus White ibis	SSC	-	Beaches, mudflats, wet fields and prairies, forested wetlands and marshes	Low: limited habitat available, none sighted
Falco peregrinus tundrius Peregrine falcon	E	–	Coastal beaches, prairies, and marshes	Low: no habitat available, none sighted.
Falco sparverius paulus Southeastern American kestrel	T	–	Forest edges, and clearings; nests in mature pines	Low: habitat unavailable, none sighted
Grus canadensis pratensis Florida sandhill crane	T	–	Marshes, wet prairies, pastures, and open herbaceous rangeland	Low: limited habitat available, no birds sighted
Haliaeetus leucocephalus Bald eagle	T	T	Open (<60% canopy cover), mature pine forests < 2 km from expansive open waters	Low: limited habitat available, no nests or birds sighted
Mycteria americana Wood stork	E	E	Nests is cypress swamps; forage sites range from shallow marshes to roadway borrow pits	Low: foraging habitat available, none sighted
Picoides borealis Red-cockaded Woodpecker	E	E	Old-growth pine flatwoods with regular fire occurrence are required for nesting	Low: habitat not available, none sighted
MAMMALS				
Podomys floridanus Florida mouse	SSC	–	Sand pine scrub; xeric oak-pine flatwoods; often associated with *G. polyphemus* burrows	Low: habitat not present, none sighted
Sciurus niger niger Southern fox squirrel	-	–	Mature flatwoods of sandhills; occasional in tall cypress-bay forests	Low: no habitat not available, none sighted
Ursus americanus floridanus Florida black bear	T	–	Nearly-impenetrable wooded thickets and swamps	Low: limited habitat available, none sighted

Footnotes to Table 1

1 FWC - Florida Fish and Wildlife Conservation Commission, formerly the Florida Game and Fresh Water Fish Commission; Official Lists of Florida's Endangered Species, Threatened Species and Species of Special Concern, published August 1997.

2 USFWS – United States Fish and Wildlife Service; List obtained from FWC's Florida's Endangered Species, Threatened Species and Species of Special Concern, published August 1997.

(E-endangered, T-threatened, SSC-species of special concern, CE-commercially exploited). C1 (candidate for federal listing, with enough substantial information on biological vulnerability and threats to support proposals for listing) and C2 (candidate for listing, with some evidence of vulnerability, but for which not enough data exists to support listing) are no longer official categories.

3 Habitats described by:

Ashton, R.E. and P.S. Ashton. 1985 Handbook of Reptiles and Amphibians of Florida (3 vols.). Windward Publ. Inc. Miami.
Conant, R. 1975 A Field Guide to Reptiles and Amphibians of Eastern/Central North America (2nd ed.). Houghton Mifflin Co. Boston 430 pp.
Kale, H.W. 1978. Volume Two; Birds. In P.C.H. Pritchard (ed.), Rare and Endangered Biota of Florida. University Presses of Florida. Gainesville. 121 pp.
Kale, H.W. and D.S. Maehr. 1990. Florida's Birds: A Handbook and Reference. Pineapple Press. Sarasota. 288 pp.
Layne, L.N. 1978 Volume One: Mammals. In P.C.H. Pritchard (ed.), Rare and Endangered Biota of Florida. University Presses of Florida. Gainesville, 52 pp.
McLane, W.M. 1985. The Fishes of the St. Johns River, Florida. Ph.D. diss. University of Florida, Gainesville. 361 pp.
Peterson, R.T. 1980. A Field Guide to the Birds of East of the Rockies (4th ed.). Houghton Mifflin Co. Boston. 384 pp.

4 Likelihood of occurrence: Low, Moderate or High, based on the best available data and selective field observations.

TABLE 2: PROTECTED FLORA FOUND IN FLAGLER COUNTY, FLORIDA AND THEIR EXPECTED OCCURRENCE ON THE LESLIE STREET PARCEL PROPERTY.

SPECIES	FDA STATUS (1)	USFWS STATUS (2)	PREFERRED HABITAT (3)	PROBABILITY OF OCCURRENCE (4)
Calopogon barbatus Bearded grass pink	T	–	Damp pinelands	Low: habitat not present, none found
Calopogon multiflorus Many-flowed grass pink	E	–	Open, damp, occasionally recently burned pinelands and meadows	Low: habitat not available, none found
Deerinfothamnus rugelii Rugel's pawpaw	E	E	Mesic flatwoods	Low: habitat not available, none found
Encyclia tampensis Butterfly orchid	CE	–	Cypress swamps, hardwood swamps and hammocks	Low: habitat not available, none found
Epidendrum conopseum Greenfly orchid	CE	–	Cypress swamps, hardwood swamps and hammocks	Low: habitat not available, none found
Hartwrightia floridiana Florida Hartwrightia	T	–	Wet, open areas, moist grasslands, and sphagnum bogs	Low: no habitat available, none found
Lilium catesbaei Southern red lily	T	–	Mesic flatwoods, wet prairies, usually in graminoid systems	Low: no habitat available, none found
Listera australis Southern tway blade	T	–	Hammocks, low moist woods in deep humus, ravines, shady stream banks, sphagnum	Low: habitat not available, none found
Nemastylis floridana Fall-flowering ixia	E	–	Marshes; grassy openings of wet hammocks moist flatwoods	Low: no habitat available, none found
Platanthera blephariglottis Large white fringed orchid	T	–	Inhabits sphagnum bogs, meadows, damp fields and woods	Low: no habitat available, none found
Platanthera cristata Golden fringed orchid	T	–	Low moist meadows and damp pine woods	Low: habitat not available, none found
Platanthera flava Southern tubercled orchid	T	–	Very wet habitats such as swamps, bogs and wet forests with thick, black mud	Low: limited not available, none found

TABLE 2: PROTECTED FLORA FOUND IN FLAGLER COUNTY, FLORIDA AND THEIR EXPECTED OCCURRENCE ON THE LESLIE STREET PARCEL PROPERTY.

SPECIES	FDA STATUS (1)	USFWS STATUS (2)	PREFERRED HABITAT (3)	PROBABILITY OF OCCURRENCE (4)
Platanthera integra Southern yellow fringeless orchid	E		Marshes and wet pine flatwoods	Low: habitat not available, none found
Platanthera nivea Snowy orchid	T	_	Open bogs and sunny, wet meadows	Low: habitat not available, none found
Pogonia ophioglossoides Rose pogonia	T	_	Open, wet meadows and sphagnum bogs, poorly drained roadside ditches	Low: habitat available, none found
Polygala lewtonii Scrub (Lewton's) milkwort	E	E	Dry oak woodlands and scrub	Low: habitat available, none found.
Rhapidophyluum hystrix Needle palm	CE	_	Wet to mesic woods and hammocks; spring fed stream bottoms	Low: habitat not available, none found
Spiranthes brevilabris floridana Florida Ladies' tresses	E	_	Open meadows and damp pinelands, road shoulders, ditches	Low: habitat available, none found
Spiranthes laciniata Lace-tip ladies' tresses	T	_	Marshes and cypress swamps; road banks and ditches	Low: habitat available, none found
Spiranthes longilabris Long-tip ladies' tresses	T	_	Marshes and wet prairies	Low: habitat not available, none found
Stenorrhynchos lanceolatus var. lanceolatus Leafless beaked orchid	T	_	Vacant lots, open pastures, pine flatwoods and mowed roadsides	Low: habitat unavailable, none found
Tillandsia fasciculata Common wild pine	E	_	Cypress swamps and hammocks	Low: habitat not available, none found
Tillandsia utriculata Giant wild pine	E	_	Hammocks and cypress swamps	Low: habitat not available, none found
Zamia spp. Coontie	-	T	Dry, well drained soils	High: habitat available, sighted onsite
Zephyranthes simpsonii Simpson zephyr lily	T	_	Dome swamps, wet flatwoods, ditches, wet pastures, often burned-over areas	Low: habitat not available, none found

Table 2 Footnotes

1 FDA – Florida Department of Agriculture and Consumer Services; List obtained from FWC's Florida's Endangered Species, Threatened Species and Species of Special Concern, published August 1997. Supporting information from FNAI - Florida Natural Inventory; Matrix of habitats and distribution by county of rare/endangered fauna and flora in Florida, published April 1990.

2 USFWS – United States Fish and Wildlife Service; List obtained from FWC's Florida's Endangered Species, Threatened Species and Species of Special Concern, published August 1997.

[E-endangered, T-threatened, SSC- species of special concern, CE-commercially exploited.] C1 (candidate for federal listing, with enough substantial information on biological vulnerability and threats to support for listing) and C2 (candidate for listing with some evidence of vulnerability, but for which not enough data exist to support listing) are no longer official categories.

3 Habitats described by:

Bell, C.R. and B.J. Taylor. 1982. Florida Wild Flowers and Roadside Plants. Laurel Hill Press, Chapel Hill, NC 308pp.
FNAI - Florida Natural Inventory; Matrix of Habitats and Distribution by County of Rare/Endangered Species in Florida, published April 1990.
Godfrey, R.K. 1988. Trees, Shrubs, and Woody Vines of Northern Florida, and Adjacent Georgia and Alabama. University Georgia Press. Athens, GA 734 pp.
Ward, D.B. (publ. date not listed). Volume Five,. Plants, in P.C.H. Pritchard (ed.), Rare and Endangered Biota of Florida. University Presses of Florida, Gainesville. 175 pp.
Wunderlin, R.P. 1982. Guide to Vascular Plants of Florida. University Presses of Florida, Gainesville, FL. 472 pp.

4 Likelihood of occurrence: Low, Moderate, or High, based on the best available data and selective field observations.

CITY OF FLAGLER BEACH
BUILDING AND PLANNING DEPARTMENT

ATTACHMENT #1

GENERAL APPLICATION

RECEIVED
FEB 28 2023
City of Flagler Beach
Building Department

☐	*Final Site Plan*	☐	*Preliminary Plat*
☐	*Master Site Plan*	☐	*Final Plat*
☒	*Site Development Plan(s)*	☐	*Plat Vacating*
☐	*Rezoning*	☐	*Subdivision Master Plan*
☐	*Comprehensive Plan Amendment*	☐	*Non-statutory Land Division/Parcel Reconfiguration*
☐	*Future Land Use Map Amendment*	☐	*Site Plan Modification (Post approval)*
☐	*Special Exception*	☐	*Development Order Modification*
☐	*Variance*	☐	*Wireless Communication Facility (new structure)*

Application Submittal Date:_____

Fee Paid: $_____. Date Received:_____

Employee Accepting Application (print name):_____

Rejected Date: _____. Rejected by:_____

Reason for Rejection:_____

A. PROJECT NAME: Legacy Pointe

B. LOCATION OF SUBJECT PROPERTY (PHYSICAL ADDRESS): LESLIE ST FLAGLER BEACH, FL 32136

C. PROPERTY APPRAISER'S PARCEL ID NUMBER(s): 11-12-31-0650-000D0-0050

D. LEGAL DESCRIPTION: _____ Subdivision Name;_____

3.16 AC BUNNELL DEV CO SUBD BLOCK D PARCEL 350 FT ALONG NORTH PROJECTION OF JOYCE STREET, 267.29 FT DEEP ON WEST,331.10 FT ON SOUTH BEING ALONG NORTH BDRY OF ACCESS ESMT, 320 FT ON EAST ALONG WEST BDRY OF HILLCREST SUBD & INC ACCESS ESMT OR 637 PG 899 OR 646 PG 508 OR 676 PG 1394 OR 993/550 OR 1814/1479 OR 2328/1146

Section; 11 Block(s); 00D0 Lot(s); 0050

E. SUBJECT PROPERTY ACRES / SQUARE FOOTAGE: 3.163ACRES/ 137,812.959 GIS SF

F. FUTURE LAND USE MAP DESIGNATION: MEDIUM DENISTY EXISTING ZONING DISTRICT: GC

OVERLAY DISTRICT:_____

G. FLOOD ZONE X MIN. HAZARD FEMA COMMUNITY PANEL NUMBER: 120087D DATE: 01/11/2323

H. CURRENT USE OF PROPERTY: VACANT LAND

I. DESCRIPTION OF REQUEST/PROPOSED DEVELOPMENT (ATTACH ADDITIONAL SHEETS)

BUID MULTI-FAMILY APARTMENT COMPLEX CONSISTING OF 39 UNITS: THREE 1-BEDROOMS; TWENTY-FOUR 2-BEDROOMS; TWELVE 3-BEDROOMS

J. PROPOSED NUMBER OF LOTS (If Applicable):_____ Development Phasing: *Yes* ☐ *No* ☒

CITY OF FLAGLER BEACH
BUILDING AND PLANNING DEPARTMENT

K. LIST BELOW ANY APPLICATIONS CURRENTLY UNDER REVIEW OR RECENTLY APPROVED ASSOCIATED WITH THIS APPLICATION:

L. WATER/SEWER PROVIDER: CITY OF FLAGLER BEACH

M. EXISTING MORTGAGE? Yes ☐ No ☒

OWNER:	*APPLICANT/AGENT:*
Name: ALT HOMES, LLC: TERRY M MCNITT, JR OWNER/PRESIDENT	Name: ALT HOMES, LLC: KATIE CROOKE
Mailing Address: PO BOX 503 BUNNELL, FL 32110	Mailing Address: PO BOX 503 BUNNELL, FL 32110
Phone Number: 386.931.6018	Phone Number: 904.710.2397
E-mail Address: ALTHOMESLLC@GMAIL.COM	E-mail Address: KATIE@THETRILEGACYGROUP.COM

MORTGAGE HOLDER:	*ENGINEER OR PROFESSIONAL:*
Name:	Name: NEWKIRK ENGINEERING
Mailing Address:	Mailing Address: 1230 US -1 STE #3 ORMOND BEACH, FL 32174
Phone Number:	Phone Number: 386.872.7794
E-mail Address:	E-mail Address: harry@newkirk-engineering.com

SURVEYOR:	*LANDSCAPE ARCHITECT:*
Name: CHP, Inc.	Name: VERDEGO LANDSCAPE
Mailing Address: 520 Palm Coast Parkway SW, Palm Coast, FL	Mailing Address: 3335 N STATE ST BUNNELL, FL 32110
Phone Number: 386-445-6569	Phone Number: 386.437.3122
E-mail Address:	E-mail Address: BPatenaude@verdogo.com

PLANNER:	*TRAFFIC ENGINEER:*
Name:	Name: NEWKIRK ENGINEERING, INC.
Mailing Address:	Mailing Address: 1230 US-1, STE #3, ORMOND BEACH, FL 32174
Phone Number:	Phone Number: 386-872-7794
E-mail Address:	E-mail Address: harry@newkirk-engineering.com

ATTORNEY OF RECORD:	*DEVELOPER:*
Name:	Name:
Mailing Address:	Mailing Address:
Phone Number:	Phone Number:
E-mail Address:	E-mail Address:

I HEREBY CERTIFY THAT ALL INFORMATION ON THIS APPLICATION IS CORRECT:

Signature of owner OR person authorized to represent this application:

Signature(s): _____

Printed or typed name(s): Terry M. McNitt Sr.

The foregoing instrument was acknowledged before me by means of ✓ physical presence or __ online notarization this 27 day of, February 2023 by Terry McNitt individual submitted by ✓ Personal Knowledge ___ Satisfactory Evidence: Type _____

Denise Tanguilig
Signature of Notary Public, State of Florida

(SEAL)

DENISE TANGUILIG
Notary Public - State of Florida
Commission # HH 318779
My Comm. Expires Nov 9, 2026
Bonded through National Notary Assn.

City of Flagler Beach
PO Box 70 - 105 South 2nd Street
Flagler Beach, Florida 32136
Phone (386) 517-2000 Fax (386) 517-2016

FINAL SITE PLAN

APPLICATION

TABLE OF CONTENTS

SITE PLAN REVIEW SUBMITTAL REQUIREMENTS

Note:

- *A Pre-submittal meeting is required ith City Staff.*
- Application for Site Plan requires appointment with Planning and Zoning Director prior to meeting cut off date. Please call (386) 517-2000 ext. 230
- Application will **not** be accepted unless all required documents are completed.

Required Documents:

- Twelve (12) sets of all required documents.
- Site Plan Application
- Application Fee (payable to the City of Flagler Beach)
- Warranty Deed
- Survey
- Surrounding Land Use
- Location Map
- Site Plan
- Building Elevations
- Landscape Plan
- Lighting Plan
- Water, Sewer, Paving and Drainage Plan

SPR#: _____ DATE FILED: _____

FINAL SITE PLAN APPLICATION

PROJECT TITLE: Legacy Pointe Apartments

PROJECT ADDRESS: Leslie St Flagler Beach, Fl 32136

Subdivision: _____ Block: 000D0 Lot(s): 0050

TAX MAP NUMBER: _____ **ZONING DISTRICT:** 21

OWNERS INFORMATION:

OWNERS NAME: ALT HOMES LLC: TERRY M MCNITT, JR
ADDRESS: PO BOX 503 BUNNELL, FL 32110
PHONE NUMBER: 386.931.6018 FAX NUMBER: _____

SIGNATURE OF OWNER: _____

APPLICANTS INFORMATION:

APPLICANTS NAME (IF OTHER THAN OWNER): _____
ADDRESS: _____
PHONE NUMBER: _____ FAX NUMBER: _____

SIGNATURE OF APPLICANT: _____

REPRESENTATIVE:

NAME: _____
ADDRESS: _____
PHONE NUMBER: _____ FAX NUMBER: _____

SIGNATURE OF REPRESENTATIVE: _____

PROPERTY OWNER AUTHORIZATION

FOR USE WHEN APPLICANT IS NOT THE OWNER OF SUBJECT PROPERTY:

Property Address: _____
_____

Parcel ID: _____

This is to certify that I am the owner of the subject property described above and that I authorize; (PRINT NAME) _____ to make and file the aforesaid application for site plan review.

OWNER'S SIGNATURE: _____
PRINT OWNER'S NAME: _____

Sworn to and subscribed before me this _____day of _____, 20_____.
Personally known to me or produced identification: _____(type)
Notary Public: _____My commission expires: _____

Notary Seal

FINAL SITE PLAN

General Information

A. Pre-Submittal Meeting:

It is recommended that the applicant meet with City Staff once it has been determined that Final Site Plan Application is required. Staff will meet with the applicant to discuss any questions regarding plan proposals, City processes, deposits, fees, and requirements listed on the Final Site Plan Application Checklist.

B. Site Plan Submittal:

Once the application is submitted, City Staff will review the application for completeness. Unless otherwise determined, all items on the checklist must be completed prior to scheduling for a formal hearing date.

C. Site Plan Processing and Review:

City Staff may forward your plans to other review agencies as deemed necessary. The timeframe for other agency review may require approximately three weeks to complete. Upon receipt of other agency review, City Staff will contact the applicant to resolve any outstanding issues. A document will be prepared and forwarded to the applicant indicating the requirements and conditions of approval for the project. The correspondence will include comments from the respective agency involved in the review of the project plans.

D. Receipt/Review of Comments by Applicant:

It is recommended the applicant and/or his representative(s), contact city Staff to discuss any issues requiring modification or meeting code compliance standards. City Staff can facilitate a meeting(s) between the applicant(s) and participating agencies to clarify outstanding issues.

E. Application Hearing Process

Once all Final Site Plan application issues have been resolved and the application is deemed acceptable by City Staff, the application will be scheduled for the next timetabled Planning and Architectural Review Board (PARB) hearing.

The PARB is an advisory board that reports directly to the City Commission. The Board is comprised of City of Flagler Beach residents appointed by the City Commission. The Board's responsibility upon hearing all facts is to provide to the City Commission a recommendation of approval, denial, or an approval with conditions. The Board may also table an application an application for just cause.

FINAL SITE PLAN

PROJECT DESCRIPTION

PRINT OR TYPE INFORMATION

A. Provide a detailed description of the proposed project:

Legacy Pointe is a multi-family apartment complex consisting of 39 units.There are a combination of 1, 2 and 3 bedroom units in Building 1 and all 2 bedroom units in Building 2.

B. Provide the lot size (parcel) and square footage of all building(s):

Lot size it 3.16 total acres.
Building 1 Total Under Roof:41,397 SF
Building 2 Total Under Roof: 17,095SF

C. Provide the size, height and proposed use of each building:

Building 1: Length 169'10.5" ft Width 113' 8.5"ft Ridge Height 41'11.5"ft
Building 2: Length - 86' 2"ft Width - 95'2.5"ft Ridge Height -41'10.5"ft
Each building will serve as residential apartments.

D. Provide a detailed description of the following:

Exterior finish and color: Vertical and Horizontal Hardi Planks consisting of light colors of white/greige/light blue (or similar)
Roof material and color: Shingles; Cobblestone grey or similar

E. Indicate the project floor area ratio or lot coverage (if applicable):

Lot Coverage is: Building 14.3%; Asphalt Pavement 20.6%; Concrete/sidewalks 3.2%

F. Provide the total number of:

Required on-site parking spaces: 78
Proposed on-site parking spaces: 79
Required on-site Handicapped parking spaces: 4
Proposed on-site Handicapped Parking spaces: 5

G. Any off-site parking spaces proposed? If yes, describe number, location, and distance from proposed project location:

No

H. Will project be accomplished in phases? If Yes, describe phasing plans and timeframe:

No

I. Describe the nature of any tree and native vegetation removal, if applicable:

THE SITE SHALL BE CLEARED AND GRUBBED OF ALL VEGETATION AND DEBRIS WITHIN THE APPROXIMATE LIMITS OF CLEARING AS INDICATED ON THE DRAWING. ALL REMOVED MATERIAL SHALL BE HAULED OFF-SITE TO AN APPROVED LANDFILL. TREES MAY BE LOGGED OR MULCHED FOR OFF-SITE DISPOSAL.

J. If a Commercial use, describe the operational characteristics of the development (proposed hours of operation, any unique characteristics of the proposed use.

NA

K. Provide other pertinent information regarding the proposed development:

Site Plan Review

EXISTING CONDITIONS

A. Describe all previous uses or activities on the site:

VACANT LAND

B. Describe all existing structures on the site in terms of their use, construction type, height, density, and size:

NA

C. Describe the project site as it presently exists before the project in terms of:

- Site topography:

- Plant life (existing trees, vegetative cover):

Currently on recorded on site are approximately 82 trees consisting of cedar, cherry, elm, hackberry, magnolia, maple, oak, and sweet gum.

- Soil conditions:

The site consists of (11) MYAKKA-MYAKKA, wet, fine sands, 0 to 2 percent slopes

- Historic or cultural resources (if applicable):

If any artifacts or remains are encountered, the permitted project should cease all activities. Contact should be made to the Florida Department of Historical Resources for their review. Project will resume only when given authorization from the Department of Historical Resources.

D. Describe the land use and zoning of surrounding properties within 200 feet of project location:

North:

Zoned General Commercial - consisting of vacant land and businesses (Walgreens, Shermin Williams)

South:

Zoned Medium Density Residential - Flagler Beach Villas

East:

Zoned Single Family Residential - single family homes

West:

Zoned Highway Commercial - store fronts and gas station

FINAL SITE PLAN APPLICATION CHECKLIST

Note: All plans submitted with the application must be folded and stapled to standard notebook size.

1. **SURVEY**
The survey shall be based on current title work and shall be reflected as such on the survey. The following information is required:

- ☐ Angles and bearings, including utility poles catch basins, manholes, fire hydrants and water, sewer lines.
- ☐ Natural features (topography: existing and proposed contours and/or spot grades).
- ☐ The location of buildings, including the location & size of berms & walls.
- ☐ Location of light poles & fire hydrants.
- ☐ Location of underground facilities.
- ☐ Location of intersections, sidewalks, driveway, curbs and streets.
- ☐ Abutting and internal streets and their widths
- ☐ Easements and/or dedications with O.R. Books and Page Number provided.
- ☐ If site has wetlands, provide applicable permits from outside permitting agencies. Indicate wetlands jurisdiction line and required buffer.
- ☐ Provide a tree survey showing location of existing trees. Overlay all existing trees on the site plan.

2. **SURROUNDING LAND USE**
The following information is required on an aerial photograph of property within 200 ft. of the subject property.

- ☐ Identification of land use and zoning.

3. **LOCATION MAP**
Provide on the cover sheet.

4. **SITE PLAN**
The following information is required on the site plan:

Note: Drawn to a regular engineering scale (i.e. 1 inch = 10 feet, 1 inch = 20 feet, but no larger than 1 inch = 40 feet) and plotted on a sheet no larger than 24 by 36 inches in size.

- ☐ Parcel boundaries and dimensions.
- ☐ Title Block:
  1. Development's name
  2. Site address
  3. Scale
  4. North arrow
  5. Legend
  6. Site Acreage
  7. Name and address of the Developer and the designer of the plans.
  8. Date
  9. Legal Description of subject property.

Building footprints.
Dimensions for **all** proposed improvements.

- ☐ Street improvements (curb, lane striping, sidewalks, fire hydrants, street lights, etc.).
- ☐ Dedicated rights of ways and street names.
- ☐ Pedestrian Facilities.
- ☐ Points of access in driveways.
- ☐ Parking lots, including circulation patterns.
- ☐ Walls, fences and retaining walls, including height and materials (on and adjacent to site).
- ☐ Dumpster enclosures, including height and screening materials.
- ☐ Drainage facilities (on an adjacent to site).
- ☐ Minimum setback lines.
- ☐ Dimensions between building(s) and all perimeter uses.
- ☐ Open space and parks (if applicable).
- ☐ Phase lines if the development will be built in stages.
- ☐ Site Plan Summary to include:
  - Total site area
  - Indicate pervious/impervious land coverage
  - Required vs. proposed parking spaces

5. BUILDING ELEVATIONS

Building elevations must be drawn for all sides of the building to an architectural scale (1/4 inch = 1 foot is preferred).

- ☐ The height of the building is measured from grade to the top of the roof for a flat roof, or from grade to the mean height between the eave and the ridge for pitched roofs.
- ☐ Elevations for all sides of all structures as they will appear upon completion.
- ☐ Building materials and finishes for all exterior surfaces, including roofs.
- ☐ Color of all exterior surfaces, including roofs.

6. **WATER, SEWER, PAVING AND DRAINAGE PLANS**
Water, sewer, paving and drainage plans and calculations for all parking lots, driveways, and other large paved and unpaved area, and the direction of drainage.

- ☐ On-site drainage provisions.
- ☐ Delineate retention facilities and disposition of storm water.
- ☐ Delineate the direction of drainage flow.
- ☐ Location and finished elevation of swales.
- ☐ Location of manholes, swales and catch basins.
- ☐ Provide written approval from the St. Johns Water Management District (if applicable).
- ☐ Water and sewer availability (application form provided).

7. **LANDSCAPE PLAN**
Landscape plans must be drawn to the same scale as the site plan. For simple site plans, the landscape plan can be made part of the site plan. All landscape plans must include or show the following information:

- ☐ Signed and sealed landscape plans, including detail and specifications on plant material.
- ☐ The location, size and species of all proposed plantings.
- ☐ Existing trees which are being used to offset landscape requirements.
- ☐ Groundcover for all landscaped or disturbed areas.
- ☐ Landscaping calculations for parking areas per code.
- ☐ Irrigation system, including lines.
- ☐ If applicable, retaining walls with landscape treatment.
- ☐ Buffer areas and specific landscape treatment.
- ☐ Indicate any overhead power lines.
- ☐ Lift stations, dumpsters, and transformer vaults with landscape treatments.

8. **SITE LIGHTING PLAN**
All lighting plans must include or show the following information:

- ☐ The location of all existing and proposed exterior light fixtures (can be included on the landscape plan).

9. **PRELIMINARY SIGNAGE PLAN**
All preliminary signage plans must include or show the following information:

- ☐ The location of all existing and proposed signage (can be included on the site plan and/or landscape plan).

☐ Drawings showing the size, copy, materials, illumination, and general design/layout of all proposed signs.

10. OTHER DESIGN FEATURES (IF APPLICABLE)

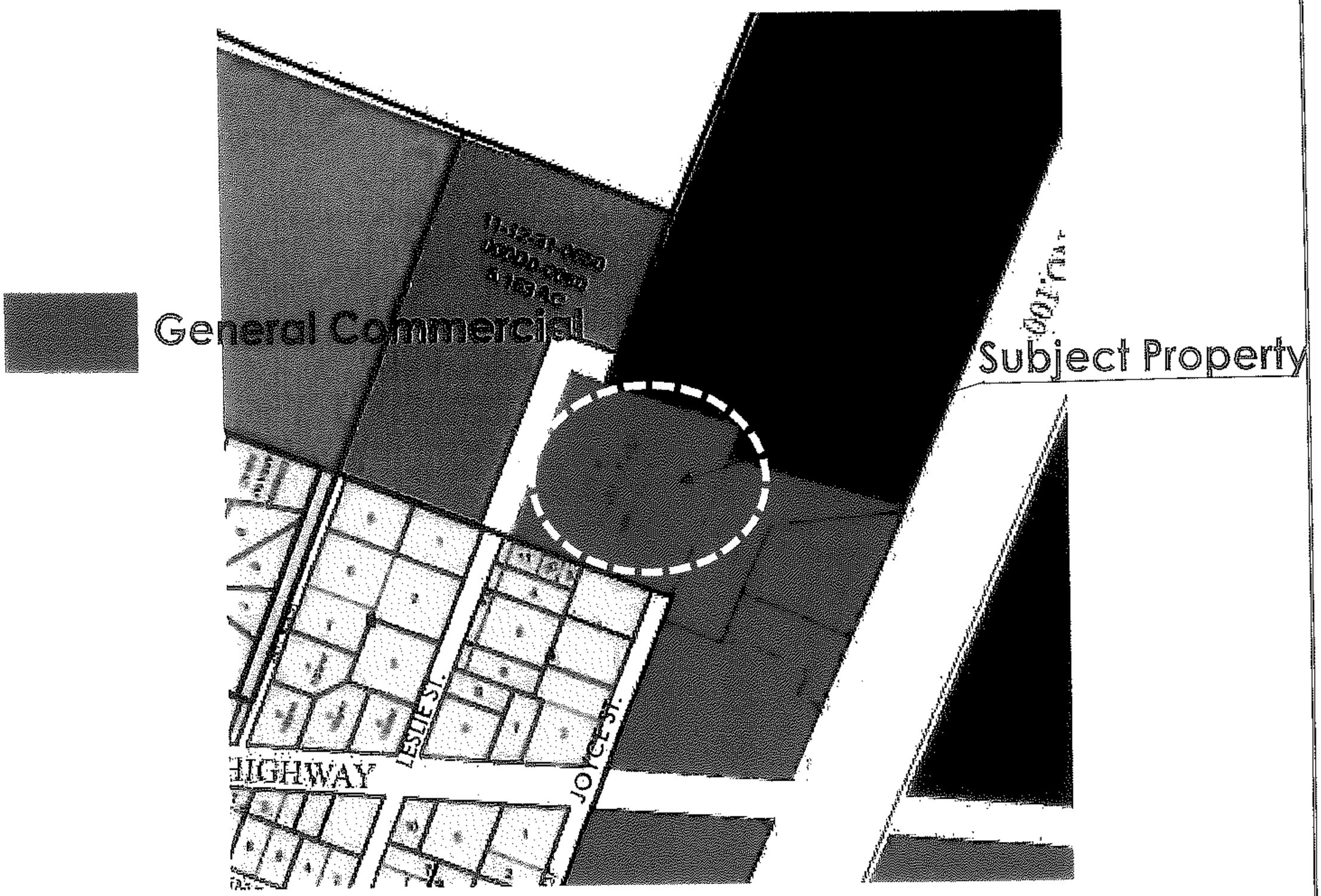
☐ Awnings (material, design and color).
☐ Address, directory signs.
☐ Walkway treatment or pavers.
☐ Other _____

LOCATION MAP

ATTACHMENT #3

ZONING MAP

ATTACHMENT #4



Zoning Authority: Appendix "A" Land Development Regulations

Section 2.04.02.8. Zoning Schedule One Land Use Controls.

GENERAL COMMERCIAL: UNRESTRICTED USES

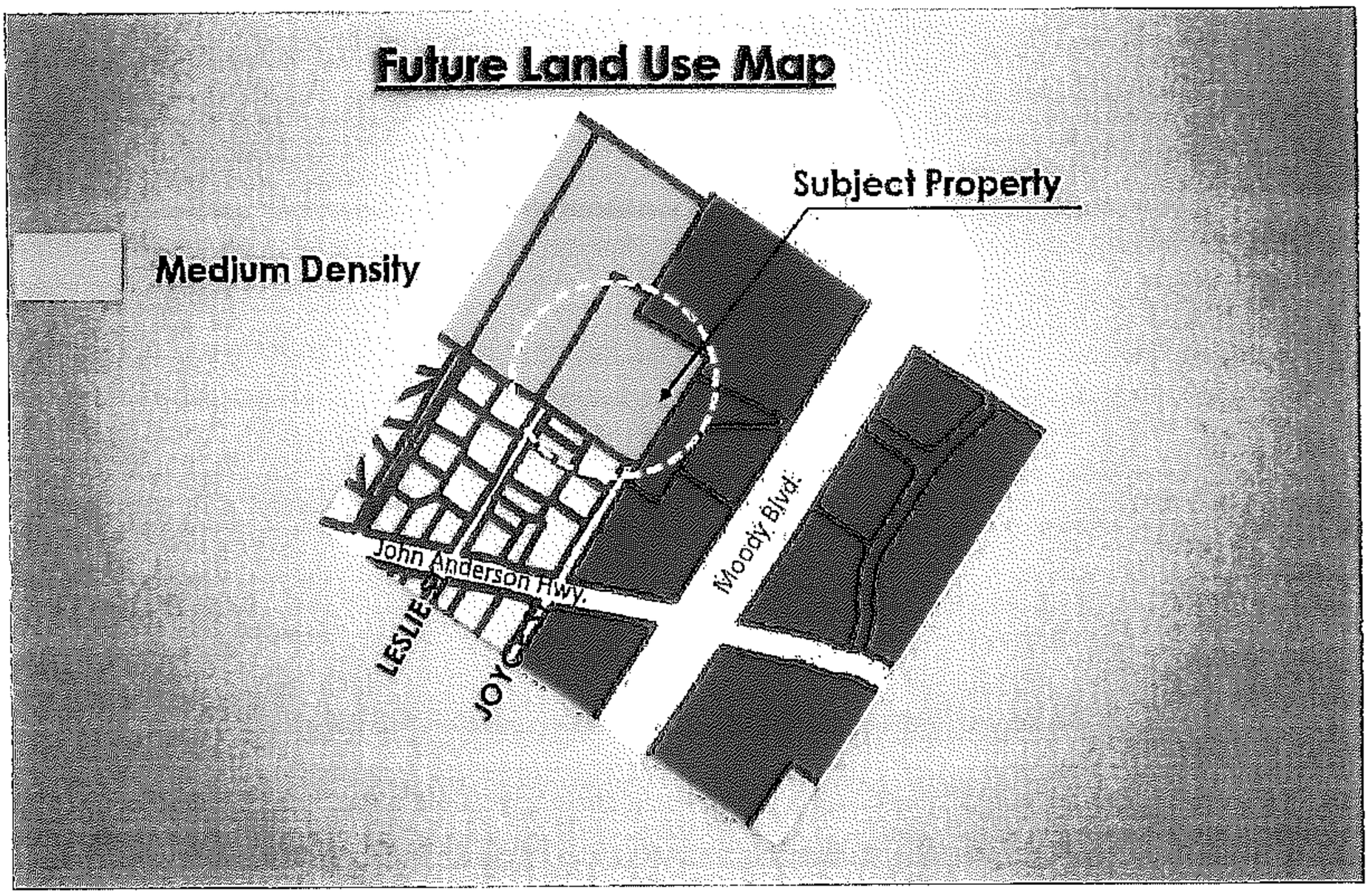
PRINCIPAL:

14. All principal uses permitted in the MDR District.

4. Multi-family dwellings

FUTURE LAND USE MAP

ATTACHMENT #5



ATTACHMENT #6

UNIVERSAL
ENGINEERING SCIENCES

GEOTECHNICAL EVALUATION

Proposed Sunset Lake Apartments
Flagler Beach, Florida

UES Project No. 0430.1800287.0000
UES Report No. 134233

January 14, 2019

Prepared for:

Mr. Sami El-Behiri
Urban Comfort, PLC
1862 Arlington Court
Longwood, FL 32779

Prepared by:

UNIVERSAL ENGINEERING SCIENCES
911 Beville Road, Suite 3
South Daytona, Florida 32119

UNIVERSAL
ENGINEERING SCIENCES
Consultants In: Geotechnical Engineering • Environmental Sciences
Geophysical Services • Construction Materials Testing • Threshold Inspection
Building Inspection • Plan Review • Building Code Administration

LOCATIONS:
- Atlanta
- Daytona Beach
- Fort Myers
- Fort Pierce
- Gainesville
- Jacksonville
- Kissimmee
- Leesburg
- Miami
- Ocala
- Orlando (Headquarters)
- Palm Coast
- Panama City
- Pensacola
- Rockledge
- Sarasota
- Tampa
- West Palm Beach

January 14, 2019

Mr. Sami El-Behiri
Urban Comfort, PLC
1862 Arlington Court
Longwood, FL 32779

Reference: **GEOTECHNICAL EVALUATION**
Proposed Sunset Lake Apartments
Flagler Beach, Florida
UES Project No. 0430.1800287.0000 and UES Report No. 134233

Dear Mr. Speaks:

Universal Engineering Sciences, Inc. has completed the geotechnical evaluation for the subject project. This report contains the results of our evaluation, an engineering interpretation of these with respect to the project characteristics described to us, and recommendations for foundation, pavement support, stormwater management design and site preparation

We appreciate the opportunity to have worked with you on this project and look forward to a continued association. Please do not hesitate to contact us if you should have any questions, or if we may further assist you as your plans proceed.

Respectfully submitted,

UNIVERSAL ENGINEERING SCIENCES

Michael Mohney
Project Engineer

Brian C. Pohl, P.E.
Branch Manager
P.E. Number 60216

BRIAN C. POHL
LICENSE
NO. 60216
STATE OF FLORIDA
PROFESSIONAL ENGINEER

Cc: Mr. Jack Speaks
Mr. Brett Markovitz – CPH, Inc.

Attachments

PC/BCP/cme

1.0 INTRODUCTION

1.1 GENERAL

In this report we present the results of the subsurface evaluation for the proposed construction in Flagler Beach, Florida. We have divided this report into the following sections:

- SECTION 2.0 - SCOPE OF SERVICES
- SECTION 3.0 - FINDINGS
- SECTION 4.0 - FOUNDATION AREA RECOMMENDATIONS
- SECTION 5.0 - PAVEMENT AREA RECOMMENDATIONS
- SECTION 6.0 - STORMWATER DESIGN RECOMMENDATIONS
- SECTION 7.0 - CONSTRUCTION RELATED SERVICE
- SECTION 8.0 - LIMITATIONS

2.0 SCOPE OF SERVICES

2.1 PROJECT DESCRIPTION

Project information has been provided to us by Mr. Brett Markovitz with CPH, Inc. We understand that the proposed project will consist of constructing two (2) three-story apartment buildings with associated stormwater management facilities and flexible asphalt pavement areas. We assume the column and wall loads will not exceed 75 kips and 8 kips/foot, respectively. We anticipate that approximately no greater than one to three feet of fill be placed within the roadway and building areas

Our recommendations are based upon the above considerations. If any of this information is incorrect, or if you anticipate any changes, inform Universal Engineering Sciences so that we may review our recommendations.

2.2 PURPOSE

The purposes of this investigation were:

- to investigate the general subsurface conditions at the site;
- to interpret and review the subsurface conditions with respect to the proposed construction;
- to provide geotechnical engineering recommendations for site preparation, pavement and foundation support; and
- to provide recommendations for stormwater facility design.

This report presents an evaluation of site conditions on the basis of traditional geotechnical procedures for site characterization. The recovered samples were not examined, either visually or analytically, for chemical composition or environmental hazards. Universal Engineering Sciences would be pleased to perform these services, at your request.

Our investigation was confined to the zone of soil likely to be influenced by the proposed construction. Our work did not address the potential for surface expression of deep geological conditions, such as sinkhole development related to karst activity. A deep geological evaluation requires a more extensive range of field services than performed in this study.

2.3 FIELD INVESTIGATION

2.3.1 Borings

Due to the presence of several deep intersecting canals/ditches, we were unable to traverse to all the proposed boring locations with our all terrain vehicle (ATV) drilling equipment. Instead, hand auger borings (designated B-2, B-3, B-4, and P-2) were performed in-place of these borings. It should be noted that the hand auger borings could not be drilled past 6 feet below existing grade due to the presence of dense soil conditions.

The subsurface conditions within the proposed structure areas were investigated with one (1) Standard Penetration Test (SPT) borings (designated B-1) advanced to a depth of approximately 25 feet below existing grade and three (3) auger borings (designated B-2 through B-4) advanced to a depth of approximately 5 feet below existing grade. In addition, one (1) Dynamic Cone Penetration (DCP) test was performed at boring location B-4. In the proposed stormwater area, we performed two (2) auger borings (designated P-1 and P-2) advanced to approximately 20 and 6 feet below existing grade. In the proposed pavement areas, we performed two (2) SPT borings (designated B-5 and B-6) advanced to approximately 10 feet each below existing grade. We performed the Standard Penetration Tests and auger borings according to the procedures of ASTM D-1586 and ASTM D-1452, respectively

The borings were located by our field personnel using taped measurements, and should be considered accurate only to the degree implied by the method of measurement used. The approximate locations and elevations of the borings are presented on the attached Boring Location Plan and Subsurface Profiles in Appendix A.

Samples obtained from the borings were transported to our laboratory for further evaluation. Samples of the soils encountered will be held in our laboratory for your inspection for 60 days unless we are notified otherwise.

2.4 LABORATORY INVESTIGATION

2.4.1 Index Testing

The soil samples recovered from the soil borings were returned to our laboratory and then a UES Engineer visually examined and reviewed the field descriptions. The soils were classified in accordance with the Unified Soil Classification System (USCS). Tests consisting of percent passing a No. 200 sieve and natural moisture content determinations were performed to aide in classification of the soils.

3.0 FINDINGS

3.1 SUBSURFACE CONDITIONS

The boring locations and detailed subsurface conditions are illustrated in Appendix A: Boring Location Plan and Subsurface Profiles. The classifications and descriptions shown on the profiles are based upon visual characterizations of the recovered soil samples. Also, see Appendix A: Key to Boring Log, for further explanation of the symbols and placement of data on the Subsurface Profiles. The following discussion summarizes the soil conditions encountered.

The results of the SPT borings generally indicate the presence of intermittent layers of very loose to very dense fine sand (SP), fine sand with silt (SP-SM) and sandy shell to the deepest borings' termination depth of approximately 25 feet below existing grade. As an exception loose to medium dense silty fine sand (SM) was encountered from approximately 3 to 6 feet below existing grade at boring location B-1 and very dense sandy shell with some pieces of cemented shell (COQUINA) was encountered from approximately 6 to 8 feet below existing grade at boring location B-5.

The results of the auger borings generally indicated the presence of fine sand (SP) and fine sand with silt (SP-SM) to the deepest borings' termination depth of approximately 20 feet below existing grade.

3.2 GROUNDWATER

We recorded groundwater subsequent to drilling, at depths varying between 4.0 and 7.5 feet below the ground surface. Based on available published literature, existing site features, and the results of the borings, we estimate the normal seasonal high groundwater level to be approximately one feet above the measured levels. It should be noted that the water table is being drawdown at some boring locations due to multiple adjacent wet retention ponds and drainage canals. Our estimated seasonal high water level does not provide any assurance groundwater level will not exceed these estimated levels during any given year in the future. Should impediments to surface water drainage be present, or should rainfall intensity and duration, or total rainfall quantities, exceed the normally anticipated rainfall quantities, groundwater levels might once again exceed our seasonal high estimates. The depths of the groundwater levels encountered at the boring locations are presented on the Subsurface Profiles.

We recommend positive drainage be established and maintained on the site during construction. We further recommend permanent measures be constructed to maintain positive drainage from the site throughout the life of the project.

4.0 FOUNDATION AREA RECOMMENDATIONS

4.1 GENERAL

The following recommendations are made based upon a review of the attached soil test data, our understanding of the proposed construction, and experience with similar projects and subsurface conditions. If the structural loadings, construction locations, or grading information changes from those discussed previously, we request the opportunity to review and possibly amend our recommendations with respect to those changes.

Additionally, if subsurface conditions are encountered during construction which was not encountered in the borings, report those conditions immediately to us for observation and recommendations.

Based on the results of our exploration, and the understood fill heights, it is our opinion that the subsurface conditions at the project site are acceptable for support of the proposed structures on a properly designed and constructed conventional shallow foundation system, provided the site preparation and earthwork construction recommendations outlined in Section 4.3 of this report are performed. Provided the improvements and specific site preparation procedures are carefully followed, the parameters outlined below may be used for foundation design.

4.2 STRUCTURE FOUNDATIONS

4.2.1 Bearing Pressure

The maximum allowable net soil bearing pressure for shallow foundations should not exceed 3,000 pounds per square foot (psf). Net bearing pressure is defined as the soil bearing pressure at the base of the foundation in excess of the natural overburden pressure. The foundations should be designed based upon the maximum load that could be imposed by all loading conditions.

4.2.2 Foundation Size

The minimum widths recommended for any isolated column footing and continuous wall footings are 24 inches and 18 inches, respectively. Even though the maximum allowable soil bearing pressure may not be achieved, these width recommendations should control the size of the foundations.

4.2.3 Bearing Depth

The exterior foundations should bear at a depth of at least 12 inches below the exterior final grades and the interior footings should bear at a depth of at least 12 inches below the finish floor elevation to provide confinement to the bearing level soils. We recommend stormwater and surface water be diverted away from the building exterior, both during and after construction, to reduce the possibility of erosion beneath the exterior footings.

4.2.4 Bearing Material

The foundations may bear on either the compacted suitable natural soils or compacted structural fill. The bearing level soils, after compaction, should exhibit densities of at least 95 percent of the maximum dry density of the bearing soils as determined by ASTM D-1557 (Modified Proctor), to the depth described subsequently in the Site Preparation section of the report. In addition to compaction, the bearing soils must exhibit stability and be free of "pumping" conditions.

4.2.5 Settlement Estimates

Post-construction settlement of the structures will be influenced by several interrelated factors, such as (1) subsurface stratification and strength/compressibility characteristics of the bearing soils; (2) footing size, bearing level, applied loads, and resulting bearing pressures beneath the foundations; (3) site preparation and earthwork construction techniques used by the contractor, and (4) external factors, including but not limited to

vibration from offsite sources and groundwater fluctuations beyond those normally anticipated for the naturally-occurring site and soil conditions which are present.

Our settlement estimates for the structures are based upon the use of successful adherence to the site preparation recommendations presented later in this report. Any deviation from these recommendations could result in an increase in the estimated post-construction settlement of the structures.

Due to the nature of the surficial soils, following the compaction operations, we expect a significant portion of settlement to be elastic in nature. This settlement is expected to occur relatively quickly, upon application of the loads, during and immediately following construction. Using the recommended maximum bearing pressure, the assumed maximum structural loads, and the field test data which we have correlated to the strength and compressibility characteristics of the subsurface soils, we estimate the total settlements of the structures to be less than one inch.

Differential settlement results from differences in applied bearing pressures and the variations in the compressibility characteristics of the subsurface soils. Based on the subsurface conditions as determined by our borings, it is anticipated that differential settlements will be within tolerable limits.

4.3 SITE PREPARATION FOR SHALLOW FOUNDATIONS

We recommend the following site preparation procedures for the structure areas:

1. Prior to construction, the location of existing underground utility lines within the construction area should be established. Provisions should then be made to relocate interfering utilities to appropriate locations. It should be noted that if underground pipes are not properly removed or plugged, they may serve as conduits for subsurface erosion which may subsequently lead to excessive settlement of the overlying structures.

2. Strip the proposed construction limits of all grass, roots, topsoil, and other deleterious materials within and 5 feet beyond the perimeter of the proposed structures. Expect initial clearing and grubbing to depths of approximately 6 to 12 inches. In addition, we recommend any necessary excavation of cemented shell (COQUINA) to maintain an approximate 1 foot separation from the proposed building foundation bearing level and the tops of coquina. We recommend replacing any excavated soils with fill consisting of "clean", fine sand with less than 5 percent soil fines to achieve this separation. Likely this separation will be achieved with the addition of fill soils.

3. Based on the ground water levels and anticipated fill, dewatering for foundation excavation and compaction may be required. We recommend implementing temporary groundwater control measures if the groundwater is within two feet of the required depth of excavation at the time of construction. Dewatering measures should be the responsibility of the contractor. We recommend the groundwater control measures remain in-place until compaction of the existing soils is completed and backfilling has reached a height of 2 feet above the groundwater level at the time of construction. The site should be graded to direct surface water runoff from the construction area.

4. Compact the exposed surface using tracked dozer or vibratory equipment. We recommend that vibratory equipment be operated in static mode within 75 feet of any existing structures. The upper two feet of soils below the exposed surface within the building area should be improved to achieve a minimum compaction requirement of 95% of the Modified Proctor Test (ASTM D-1557). We recommend the compacted soils exhibit moisture content within 2 percent of the soils optimum moisture content as determined by the Modified Proctor Test (ASTM D-1557). Should the soils experience pumping and soil strength loss during the compaction operations, compaction work should be immediately terminated and (1) the disturbed soils removed and backfilled with dry structural fill soils which are then compacted, or (2) the excess moisture content within the disturbed soils allowed to dissipate before recompacting.

5. Test the compacted surface for compliance at a minimum of one location per 2,500 square feet within the building area, or at a minimum of four locations per building area.

6. Place fill material, as required. The fill should consist of "clean," fine sand with less than 5 percent soil fines. You may use fill materials with soil fines between 5 percent and 10 percent, but strict moisture control may be required. Place fill in uniform 8 to 12-inch loose lifts and compact each lift to a minimum density of 95 percent of the Modified Proctor maximum dry density. We recommend the compacted soils exhibit moisture content within 2 percent of the soils optimum moisture content as determined by the Modified Proctor Test (ASTM D-1557). If light compaction equipment is used, we recommend the lift thickness be reduced to 8 inch thick lifts.

7. Perform compliance tests within the backfill and fill soils at a minimum of one location per 2,500 square feet per lift (minimum four locations per building area).

8. Compact and test footing cuts for compaction to a depth of one foot below bearing level. We recommend that you test one out of every four (25 percent) column footings and perform one test per every 50 linear feet of wall footing. Compaction operations in confined areas, such as footing excavations, can best be performed with a lightweight vibratory sled or other hand-held compaction equipment.

5.0 PAVEMENT AREA RECOMMENDATIONS

5.1 GENERAL

As discussed, it is anticipated a flexible asphaltic pavement section may be utilized for the subject project.

5.2 FLEXIBLE ASPHALTIC PAVEMENT

Because traffic loadings are commonly unavailable, we have generalized our pavement design into two groups. The group descriptions and the recommended component thicknesses are presented in Table 1 below.

Table 1: Pavement Component Recommendations			
Traffic Group	Component Thickness (Inches)		
	Stabilized Subgrade	Base Course	Surface Course
Roadway - light duty	12	6	1.5
Roadway - heavy duty	12	8	2.0

5.3 STABILIZED SUBGRADE

We recommend that subgrade materials be compacted in place according to the requirements in the "Site Preparation" section of this report. Further, stabilize the subgrade materials to a minimum Limerock Bearing Ratio (LBR) of 40 percent as specified by Florida Department of Transportation (FDOT) requirements for Type B Stabilized Subgrade.

Further, the stabilized subgrade can be imported material or a blend of on-site soils and imported materials. If a blend is proposed, we recommend that the contractor perform a mix design to find the optimum mix proportions.

The primary function of stabilized subgrade beneath the base course is to provide a stable and firm subgrade so that the base course can be properly placed and compacted. Depending upon the soil type, the subgrade material may have sufficient stability to provide the needed support without additional stabilizing material. Generally speaking, sands with silt or clay typically have sufficient stability and may not require additional stabilizing material. Conversely, relatively "clean" sands may not provide sufficient stability in order to adequately construct the base course.

5.4 BASE COURSE

We recommend that the base course consist of either limerock or graded crushed aggregate (crushed concrete).

5.4.1 Limerock

Limerock should have a minimum LBR of 100 percent and should be mined from an FDOT approved source. Place limerock in maximum 6-inch lifts and compact each lift to a minimum density of 98 percent of the Modified Proctor maximum dry density.

5.4.2 Crushed Concrete Base

Crushed concrete should be supplied by an approved plant with quality control procedures. The crushed concrete stockpiled should be free of sandy pockets, foreign materials, and uncrushed particles. We recommend the following specifications be enforced.

a) Crushed concrete shall not contain lumps, balls or pockets of sand or clay sized material in sufficient quantity as to be detrimental to the proper binding, finishing or strength of the crushed concrete base.

b) Samples of base course materials shall be supplied to the engineer prior to use in the work. Additional samples shall be furnished during construction, as necessary.

c) At least 97 percent (by weight) of the material shall pass a 3-1/2 inch sieve and the material shall be graded uniformly down to dust. The fine material shall consist entirely of dust or fracture. All crushing or breaking-up which might be necessary in order to meet such size requirements shall be done before the material is placed on the road.

d) The base shall be bladed and shaped to conform to the typical sections as shown on the plans. Then the base shall be compacted by rolling with a combination of steel wheel and rubber tired rollers until an average density of 98 percent of the maximum density obtainable under AASHTO Method T-180 is reached. The base shall have an average LBR of not less than 130. The LBR value of material produced at a particular source shall be determined in accordance with an approved quality control procedure.

Testing shall be performed at the following frequency:

1) Perform in-place density tests on crushed concrete base at a frequency of 2 tests per pavement area or 1 test per 300 linear feet whichever is greater

2) Perform Limerock Bearing Ratio tests at a frequency of 1 test per visual change in material and a minimum of 1 test per pavement area or every 15,000 square feet whichever is greater.

3) Engineer should perform a final visual base inspection prior to placement of prime or tack coat and paving.

5.5 SURFACE COURSE

In light duty areas where there is occasional truck traffic, but primarily passenger cars, we recommend using an asphaltic concrete, FDOT Type SP 9.5. In heavy duty areas where truck traffic is predominant, we recommend using an asphaltic concrete, FDOT Type SP 12.5.

It should be noted if a more aesthetically pleasing asphalt surface (finer aggregate) is required a layer of FC-9.5 or FC-12.5 asphalt can be placed. A ½ inch of FC asphalt can be placed above the SP asphaltic concrete. However this may result in increased costs.

Asphaltic concrete mixes should be a current FDOT approved design of the materials actually used. Samples of the materials delivered to the project should be tested to verify that the aggregate gradation and asphalt content satisfies the mix design requirements. Compact the asphalt to a minimum of 90 percent of the Gmm (maximum voidless specific gravity).

After placement and field compaction, core the wearing surface to evaluate material thickness and to perform laboratory densities. Obtain cores at frequencies of at least one core per 3,000 square feet of placed pavement or a minimum of two cores per day's production.

In parking lots, for extended life expectancy of the surface course, we recommend applying a coal tar emulsion sealer at least six months after placement of the surface course. The seal coat will help to patch cracks and voids, and protect the surface from damaging ultraviolet light and automobile liquid spillage. Please note that applying the seal coat prior to six

months after placement may hinder the "curing" of the surface course, leading to its early deterioration.

5.6 CURBING

We recommend that curbing around landscaped sections adjacent to the parking lots and driveways be constructed with full-depth curb sections. Using extruded curb sections which lie directly on top of the final asphalt level, or eliminating the curbing entirely, may not significantly impede the migration of irrigation water from the landscape areas to the interface between the asphalt and the base. This migration often causes separation of the wearing surface from the base and subsequent rippling and pavement deterioration. It is recommended that the subgrade below the curbing be stabilized to a minimum LBR of 40.

5.7 CONSTRUCTION TRAFFIC

Light duty roadways and incomplete pavement sections will not perform satisfactorily under construction traffic loadings. We recommend that construction traffic (construction equipment, concrete trucks, sod trucks, garbage trucks, dump trucks, etc.) be re-routed away from these roadways or that the pavement section be designed for these loadings.

5.8 EFFECTS OF GROUNDWATER

We recommend that all pavement sections analyses incorporate the seasonal high groundwater conditions. We recommend that the groundwater table be maintained, by permanent dewatering means if necessary, below the bottom of the base course of any pavement construction per the following table:

Table 2
Recommended Minimum Clearance Between Pavement Base and Wet Season Water Table

Type of Base	Separation (inches)
Limerock	18
Crushed Concrete	12

One of the most critical influences on the pavement performance in Central Florida is the relationship between the pavement subgrade and the seasonal high groundwater level. Many roadways and parking areas have been destroyed as a result of deterioration of the base and the base/surface course bond resulting from a high water table. **Regardless of the type of base selected, we recommend that the seasonal high groundwater and the bottom of the base course be separated by at least the amount presented in Table 2 above.**

5.9 SITE PREPARATION FOR PAVEMENTS

We recommend the following site preparation procedures:

1. Strip the proposed construction limits of all grass, roots, topsoil and other deleterious materials within, and 3 feet beyond, the proposed pavement limits. Expect initial clearing and grubbing to depths of approximately 6 to12-inches.

2. Proof-compact the exposed surface with the light to medium roller until you maintain density of at least 95 percent of the Modified Proctor maximum dry density (ASTM D-1557) to a depth of two feet below the exposed surface, with the exception that

densities of at least 98 percent should be obtained in the upper 12 inches below base course. We recommend the compacted soils exhibit moisture content within 2 percent of the soils optimum moisture content as determined by the Modified Proctor Test (ASTM D-1557). In addition, we recommend any necessary excavation of surficial sands containing cemented coquina (COQUINA) to maintain an approximate 2 feet separation from the proposed roadway foundation and the tops of these soil layers. We recommend replacing any excavated soils with fill consisting of "clean", fine sand with less than 5 percent soil fines to achieve this separation. **Vibratory equipment should be operated in static mode within 100 feet of adjacent structures.**

3. Should the soils experience pumping and soil strength loss during the compaction operations, compaction work should be immediately terminated and (1) the disturbed soils removed and backfilled with dry structural fill soils which are then compacted, or (2) the excess moisture content within the disturbed soils allowed to dissipate before recompacting.

4. Test the compacted surface for density at a frequency of not less than one test per 300 linear feet of roadway area (minimum three locations per pavement area).

5. Place and compact backfill and fill material, as required. The fill should consist of "clean," fine sand with less than 5 percent soil fines. You may use fill materials with soil fines between 5 percent and 10 percent, but strict moisture control may be required. Place fill in uniform 10 to 12-inch loose lifts and compact each lift to a minimum density of 95 percent of the Modified Proctor maximum dry density with the exception that densities of at least 98 percent should be obtained within the upper one foot below base course. We recommend the compacted soils exhibit moisture content within 2 percent of the soils optimum moisture content as determined by the Modified Proctor Test (ASTM D-1557).

6. Perform compliance tests within each lift of fill at a frequency of not less than one test per 300 linear feet of roadway area.

6.0 STORMWATER DESIGN RECOMMENDATIONS

6.1 GENERAL

For a dry bottom retention facility, performance will be significantly influenced by the soil permeability and the vertical separation between the bottom and the seasonal high groundwater level. A wet retention facility should be excavated to a depth necessary to obtain a sufficient water depth to limit growth of aquatic vegetation.

If requested, UES can assist in evaluating the facility design exfiltration rates, underdrains and/or groundwater baseflow as pond geometry and stormwater volume requirements become available.

6.2 SOIL PERMABILITY

Three (3) Laboratory Falling-head Saturated Vertical Permeability Test were performed on a relatively undisturbed soil sample. The samples were obtained using thin-walled tube sampling techniques (Shelby Tube). The results of the tests, in feet per day, describe the coefficient of hydraulic conductivity (Permeability) of the soils and are presented on the

attached Subsurface Profiles. The measured permeability rates should not be construed to represent the actual pond exfiltration rates.

Upon evaluation of regional and local geology, we have evaluated that the characteristics of the soils within the vicinity of this project are comprised of sedimentary soils which often exhibit thin, alternating layers. Generally, in relatively homogeneous natural deposits where stratification may result from particle orientation, the Permeability in the Horizontal direction can be somewhat greater than that in the Vertical direction. Based on our experience, the estimated coefficient of Horizontal Permeability typically is on the order of 1.5 and 2 times greater than the Vertical Permeability for SP-SM and SP soil types, respectively. The results of the permeability test are located in Appendix A.

6.3 BORROW SUITABILITY

The stromwater borings were performed, in part, to provide an indication of the suitability of excavated soils from the proposed borrow areas for use as structural fill soil. Based on the boring results and classification of the soil samples, the fine sand (SP) and the fine sand with silt (SP-SM) as encountered at the boring locations, are suitable for use as structural fill soil. Because the fine sand with silt (SP-SM) significantly retains moisture, strict moisture control may be required during placement and compaction operations to avoid moisture related instability

It should be anticipated the soils in the proposed borrow pit area that are below the groundwater level will have moisture contents in excess of the Modified Proctor optimum moisture content and will require stockpiling or spreading to bring the moisture content within 2 percent of the soil's optimum moisture content corresponding to the required degree of compaction.

7.0 CONSTRUCTION RELATED SERVICES

We recommend the owner retain Universal Engineering Sciences to perform construction materials tests and observations on this project. Field tests and observations include verification of foundation subgrades by monitoring filling operations and performing quality assurance tests on the placement of compacted natural soils and structural fill. We can also perform concrete testing, pavement section testing, structural steel testing and other construction materials testing services.

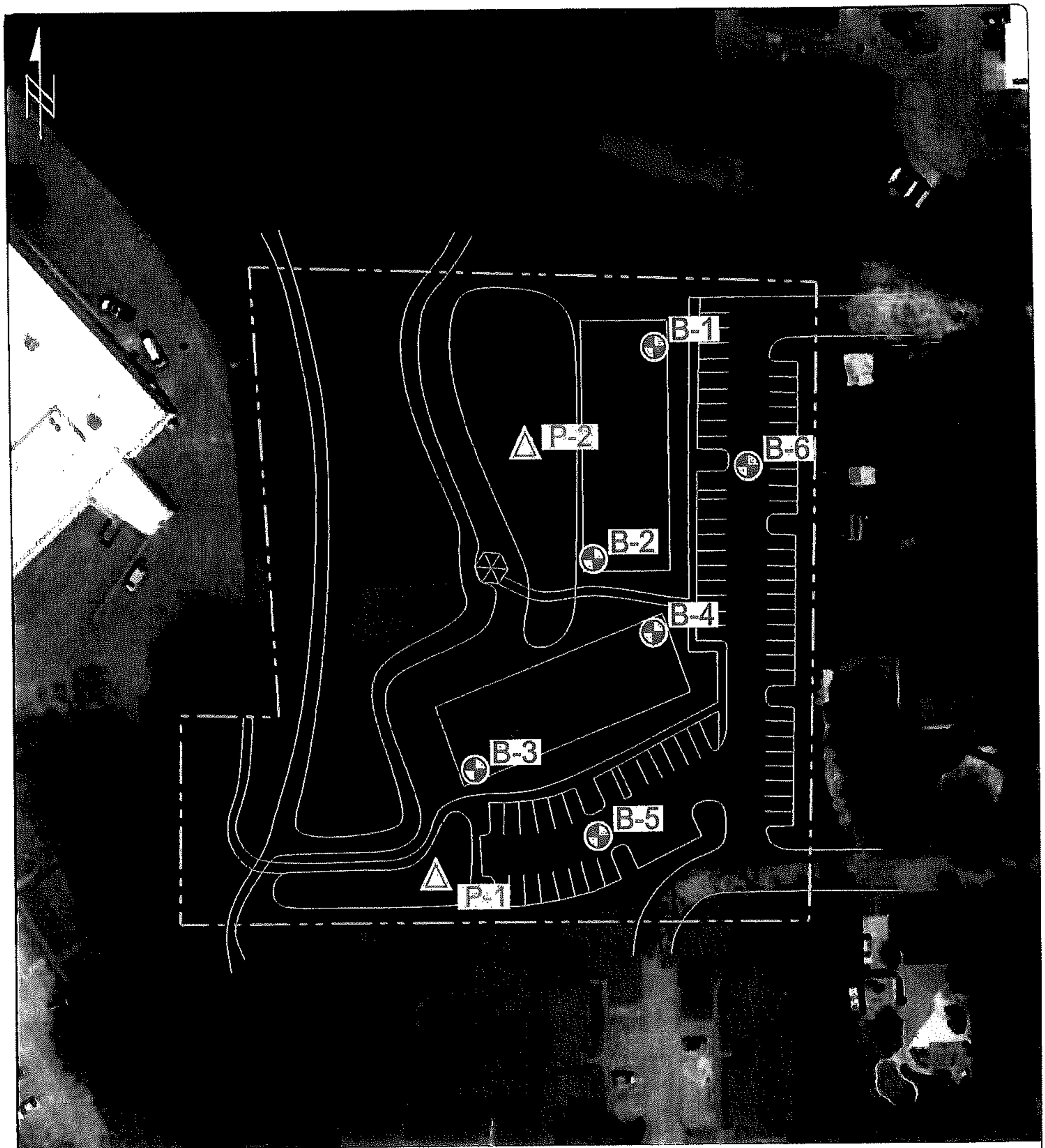
The geotechnical engineering design does not end with the advertisement of the construction documents. The design is an on-going process throughout construction. Because of our familiarity with the site conditions and the intent of the engineering design, we are most qualified to address problems that might arise during construction in a timely and cost-effective manner.

8.0 LIMITATIONS

During the early stages of most construction projects, geotechnical issues not addressed in this report may arise. Because of the natural limitations inherent in working with the subsurface, it is not possible for a geotechnical engineer to predict and address all possible problems. An Association of Engineering Firms Practicing in the Geosciences (ASFE) publication, "Important Information about Your Geotechnical Engineering Report" appears in Appendix C, and will help explain the nature of geotechnical issues. Further, we present documents in Appendix C: Constraints and Restrictions, to bring to your attention the potential concerns and the basic limitations of a typical geotechnical report.

APPENDIX A

BORING LOCATION PLAN
SUBSURFACE PROFILES
SOILS CLASSIFICATION CHART



LEGEND

△ APPROXIMATE LOCATION OF AUGER BORING

⊕ APPROXIMATE LOCATION OF STANDARD PENETRATION TEST (SPT) BORING

GRAPHIC SCALE
0 40 80
(IN FEET)
1 INCH ≈ 80 ft.

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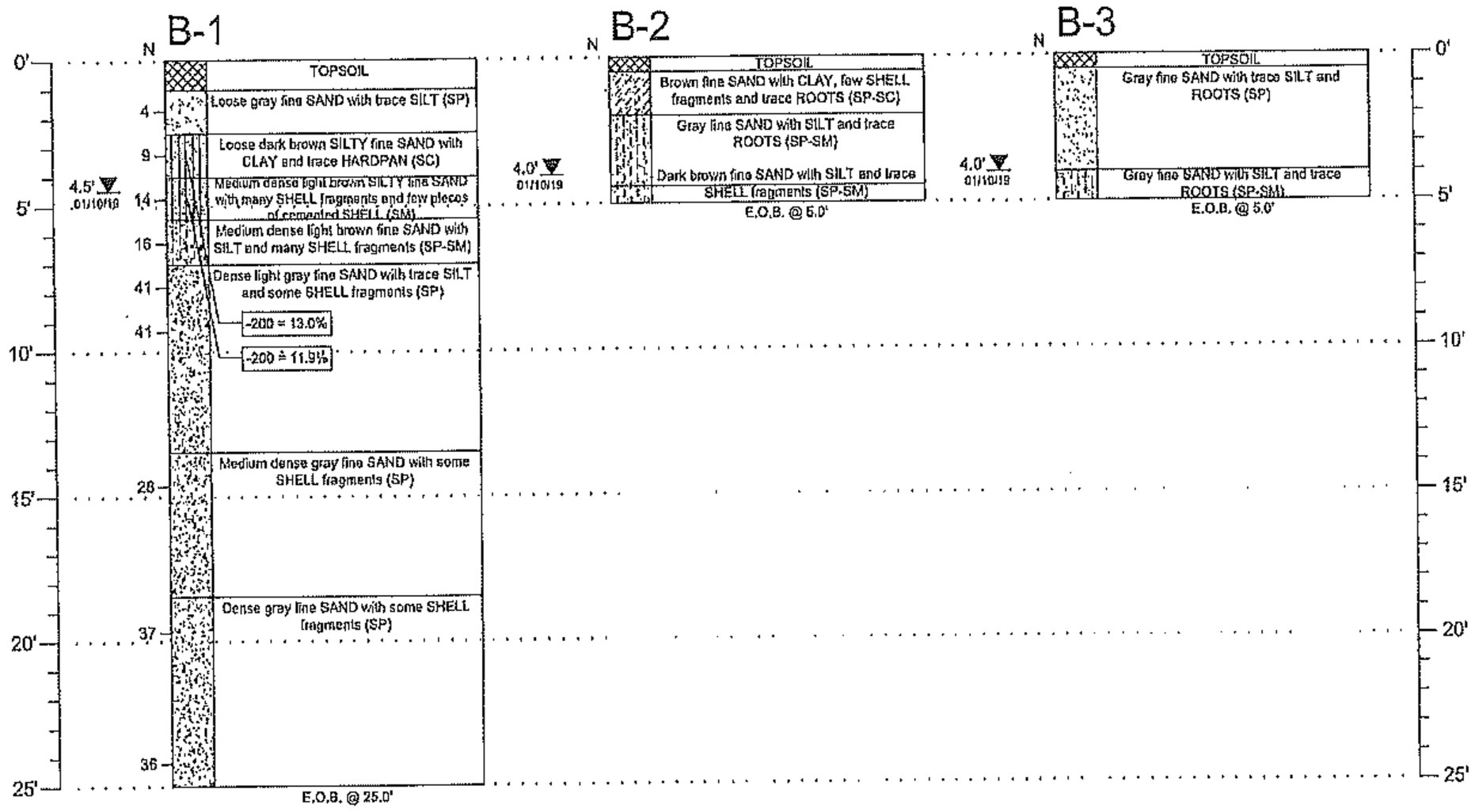
TITLE: BORING LOCATION PLAN			SCALE: 1" ≈ 80'
PROJECT: GEOTECHNICAL EVALUATION SUNSET LAKES FLAGLER BEACH, FLORIDA			PAGE/FIG. NO.: A-1
DRAWN BY: MKL	DATE: 01/12/19	PROJECT NO.: 0430.1800287.0000	
CHECKED BY: BP	DATE: 01/12/19	REPORT NO.: 134233	



Fine SAND (SP)

Fine SAND with some to many SHELL fragments (SP)

SHELL

Fine SAND with SILT (SP-SM)

SILTY fine SAND (SM)

Fine SAND with CLAY (SP-SC)

CLAYEY fine SAND (SC)

CLAY (CH)

TOPSOIL

NOTES:

▼	Measured Groundwater Level 24 (+) Hours Subsequent to Time of Drilling
(SP)	Unified Soil Classification System
EOB	End of Boring
N	Penetr. Resistance, Blows/ft.
-200	% Passing No. 200 Sieve

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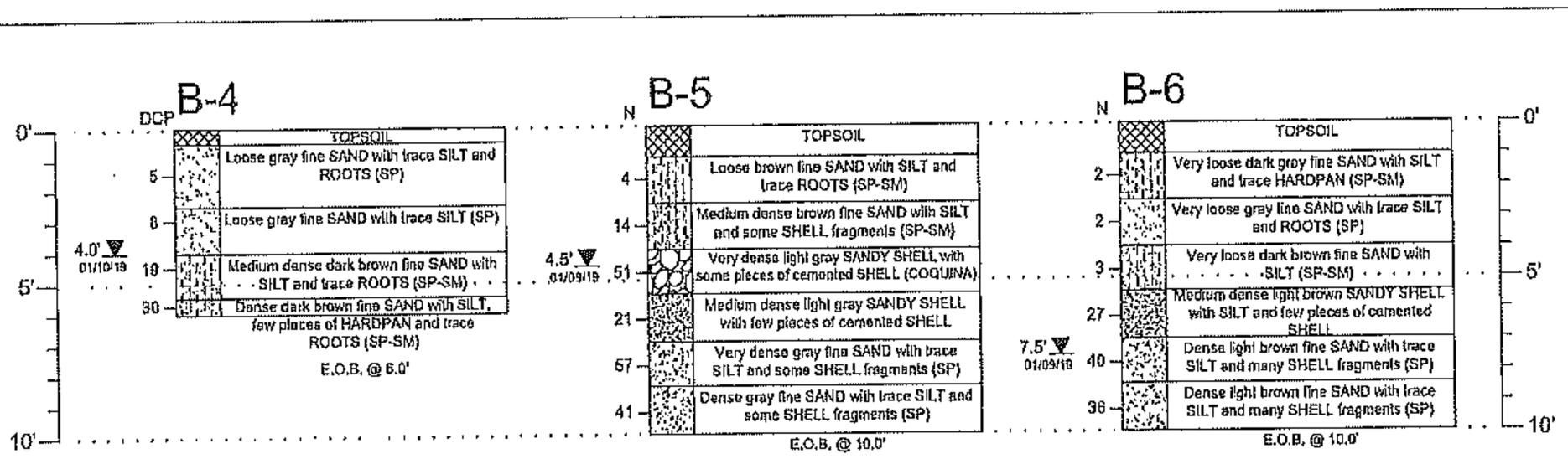
PROJECT:
GEOTECHNICAL EVALUATION
SUNSET LAKES
FLAGLER BEACH, FLORIDA

TITLE
SUBSURFACE PROFILES

DRAWN BY: MKL	DATE: 01/14/19	PROJECT NO.: 0430.1800287.0000	SCALE: NA (in feet)	PAGE/FIG. NO.: A-2
CHECKED BY: BP	DATE: 01/14/19	REPORT NO.: 134233		



Fine SAND (SP)

Fine SAND with some to many SHELL fragments (SP)

SHELL

Fine SAND with SILT (SP-SM)

SILTY fine SAND (SM)

Fine SAND with CLAY (SP-SC)

CLAYEY fine SAND (SC)

CLAY (CH)

TOPSOIL

COQUINA

NOTES:

▼	Measured Groundwater Level 24 (+) Hours Subsequent to Time of Drilling
(SP)	Unified Soil Classification System
EOB	End of Boring
N	Penetr. Resistance, Blows/ft.
DCP	Dynamic Cone Penetrometer
-200	% Passing No. 200 Sieve

UNIVERSAL ENGINEERING SCIENCES

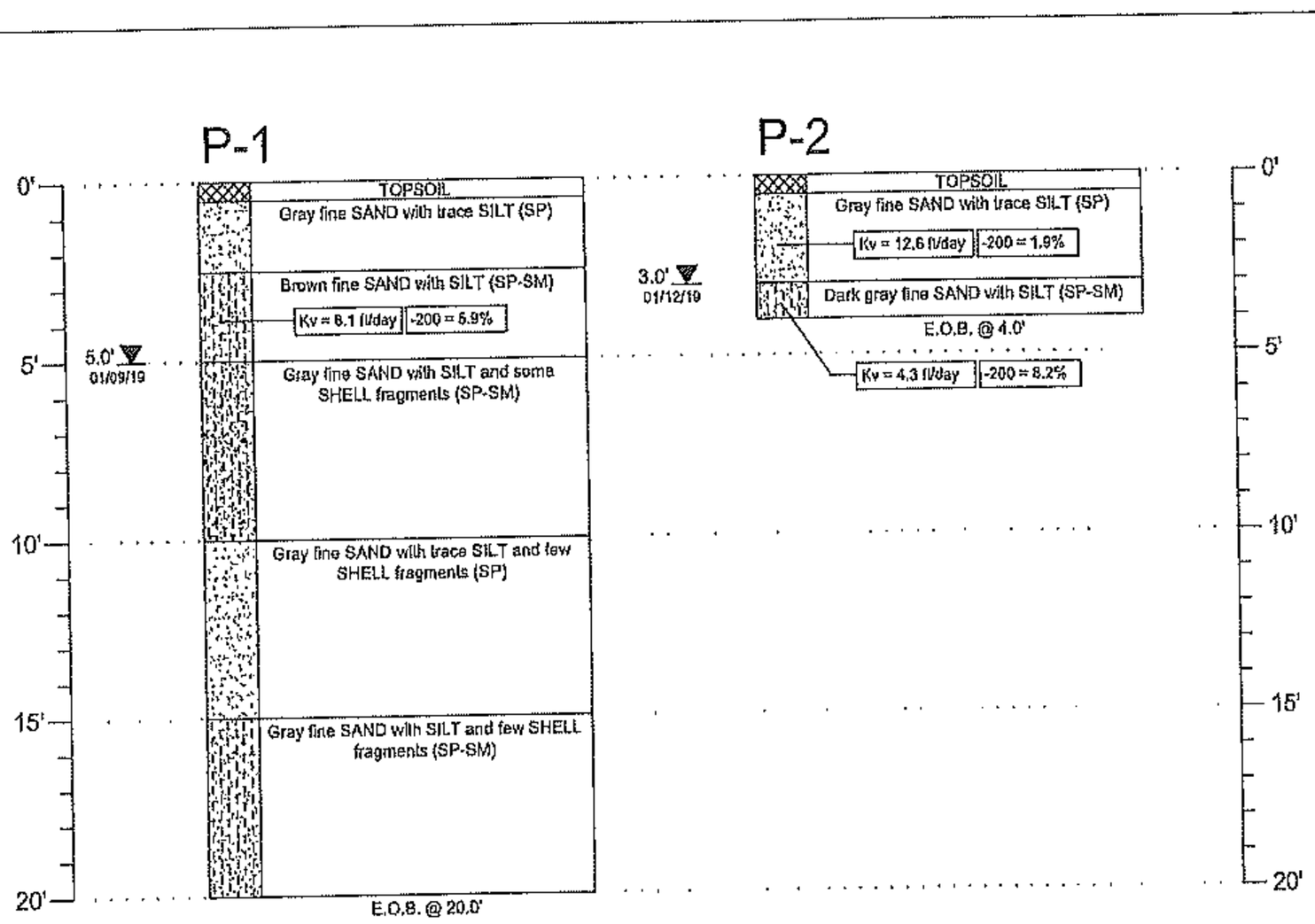
PROJECT:
GEOTECHNICAL EVALUATION
SUNSET LAKES
FLAGLER BEACH, FLORIDA

TITLE:
SUBSURFACE PROFILES

DRAWN BY:	MKL	DATE:	01/14/19	PROJECT NO.:	0430.1800267.0000
CHECKED BY:	BP	DATE:	01/14/19	REPORT NO.:	134233

SCALE: NA (in feet)

PAGE/FIG. NO.: A-3



Fine SAND (SP)

Fine SAND with some to many SHELL fragments (SP)

Fine SAND with SILT (SP-SM)

TOPSOIL

NOTES:

▼	Measured Groundwater Level 24 (+) Hours Subsequent to Time of Drilling
(SP)	Unified Soil Classification System
EOB	End of Boring
N	Penetr. Resistance, Blows/ft.
Kv	Coefficient of Permeability, (fl/day)
-200	% Passing No. 200 Sieve

UNIVERSAL ENGINEERING SCIENCES

PROJECT:
GEOTECHNICAL EVALUATION
SUNSET LAKES
FLAGLER BEACH, FLORIDA

TITLE:
SUBSURFACE PROFILES

DRAWN BY:	MKL	DATE:	01/14/19	PROJECT NO.:	0430.18002B7.0000
CHECKED BY:	BP	DATE:	01/14/19	REPORT NO.:	134233

SCALE: NA (in feet)

PAGE/FIG. NO.: A-4

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KEY TO BORING LOGS

SYMBOLS

SYMBOL	DESCRIPTION
N	No. of blows of a 140-lb weight falling 30 inches required to drive standard spoon 1 foot.
WOR	Weight of Drill Rods
WOH	Weight of Drill Rods and Hammer
% REC	Percent Core Recovery from Rock Core Drilling
RQD	Rock Quality Designation
EOB	End Of Boring
BT	Boring Terminated
-200	Fines Content or % Passing N0. 200 Sieve
MC	Molsture Content
LL	Liquid Limit
PI	Plasticity Index
K	Coefficient of Permeability
O.C.	Organic Content
▽	Estimated seasonal high groundwater level
▼	Measured groundwater level at time of drilling

UNIFIED CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE-GRAINED SOILS More than 50% retained on No. 200 sieve*	GRAVELS 50% or more of coarse fraction retained on No. 4 sieve	CLEAN GRAVELS	GW	Well-graded gravels and gravel-sand mixtures, little or no fines
			GP	Well-graded gravels and gravel-sand mixtures, little or no fines
		GRAVELS WITH FINES	GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS More than 50% of coarse fraction passes No. 4 sieve	CLEAN SANDS	SW**	Well-graded sands and gravelly sands, little or no fines
			SP**	Well-graded sands and gravelly sands, little or no fines
		SANDS WITH FINES	SM**	Silty sands, sand-silt mixtures
			SC**	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS 50% or more passes No. 200 sieve*	SILTS AND CLAYS Liquid limit 50% or less		ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS Liquid limit greater than 50%		MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts
			CH	Organic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity
			PT	Peat, muck and other highly organic soils

* Based on the material passing the 3-in. (75 mm) sieve.

** Use dual symbol (such as, SP-SM and SP-SC) for soil with more than 5% but less than 12% passing through No. 200 sieve.

RELATIVE DENSITY
(sand-silt)

Very Loose - Less Than 4 Blows/Ft.
Loose - 4 to 10 Blows/Ft.
Medium - 11 to 30 Blows/Ft.
Dense - 31 to 50 Blows/Ft.
Very Dense - More Than 50 Blows/Ft.

CONSISTENCY
(clay)

Very Soft - Less than 2 Blows/Ft.
Soft - 2 to 4 Blows/Ft.
Medium - 5 to 8 Blows/Ft.
Stiff - 9 to 15 Blows/Ft.
Very Stiff - 16 to 30 Blows/Ft.
Hard - More Than 30 Blows/Ft.

RELATIVE HARDNESS
(Limestone)

Soft - 100 Blows for more than 2"
Hard - 100 Blows for less than 2"

MODIFIERS

These modifiers provide our estimate of the amount of minor constituents (SILT or CLAY sized particles) in the soil sample.
Trace - 5% or less
With SILT or with CLAY - 6% to 11%
SILTY or CLAYEY - 12% to 30%
Very SILTY or Very CLAYEY - 31% to 50%

These modifiers provide our estimate of the amount of organic components in the soil sample.
Trace - 1% to 2%
Few - 3% to 4%
Some - 5% to 8%
Many - Greater than 8%

These modifiers provide our estimate of the amount of other components (Shell, Gravel, Etc.) in the soil sample
Trace - 5% or less
Few - 6% to 12%
Some - 13% to 30%
Many - 31% to 50%

APPENDIX B

LABORATORY TESTING PROCEDURES

DESCRIPTION OF LABORATORY TESTING PROCEDURES

LABORATORY PERMEABILITY TEST

The laboratory permeability test is a Falling Head Test that is performed on soil samples recovered from this site. The data recovered from this test are used to calculate Darcy's Coefficient of Permeability (k) of the soil.

WASH 200 TEST

The Wash 200 test is performed by passing a representative soil sample over a No. 200 sieve and rinsing with water. The percentage of the soil grains passing this sieve is then calculated.

ORGANIC CONTENT TESTS

The organic content test is performed by weighing a sample before and after placing in a high temperature oven which burns the organic material in the sample. The percent of organic material by weight is then calculated.

MOISTURE CONTENT DETERMINATION ASTM D-2216

Moisture content is the ratio of the weight of water to the dry weight of soil. Moisture content is measured by drying a sample at 105 degrees Celsius. The moisture content is expressed as a percent of the oven dried soil mass.

ATTERBERG LIMITS

The Atterberg Limits consist of the Liquid Limit (LL) and the Plastic Limit (PL). The LL and PL were determined in general accordance with the latest revision of ASTM D-4318. The LL is the water content of the material denoting the boundary between the liquid and plastic states. The PL is the water content denoting the boundary between the plastic and semi-solid states. The Plasticity Index (PI) is the range of water content over which a soil behaves plastically and is denoted numerically by as the difference between the LL and the PL. The water content of the sample tested was determined in general accordance with the latest revision of ASTM D-2216. The water content is defined as the ratio of "pore" or "free" water in a given mass of material to the mass of solid material particles.

CONSOLIDATION TESTING

A single selected portion of the undisturbed sample was extruded from the 3-inch diameter sample tube for consolidation testing. The selected sample was trimmed and confined into a stainless steel disc having a diameter of 2.5 inches and a height of 1 inch. The disc was then "sandwiched" between 2 porous stones, saturated and subjected to incrementally increasing loads. The resulting deformation of the sample within the steel disc was measured using a micrometer gauge.

APPENDIX C

GENERAL CONDITIONS
CONSTRAINTS AND RESTRICTIONS AND
IMPORTANT INFORMATION ABOUT YOUR
GEOTECHNICAL ENGINEERING REPORT

Universal Engineering Sciences, Inc.
GENERAL CONDITIONS

SECTION 1: RESPONSIBILITIES

1.1 *Universal Engineering Sciences, Inc.*, ("UES"), has the responsibility for providing the services described under the Scope of Services section. The work is to be performed according to accepted standards of care and is to be completed in a timely manner. The term "UES" as used herein includes all of *Universal Engineering Sciences, Inc's* agents, employees, professional staff, and subcontractors.

1.2 The Client or a duly authorized representative is responsible for providing UES with a clear understanding of the project nature and scope. The Client shall supply UES with sufficient and adequate information, including, but not limited to, maps, site plans, reports, surveys and designs, to allow UES to properly complete the specified services. The Client shall also communicate changes in the nature and scope of the project as soon as possible during performance of the work so that the changes can be incorporated into the work product.

1.3 The Client acknowledges that UES's responsibilities in providing the services described under the Scope of Services section is limited to those services described therein, and the Client hereby assumes any collateral or affiliated duties necessitated by or for those services. Such duties may include, but are not limited to, reporting requirements imposed by any third party such as federal, state, or local entities, the provision of any required notices to any third party, or the securing of necessary permits or permissions from any third parties required for UES's provision of the services so described, unless otherwise agreed upon by both parties.

1.4 Universal will not be responsible for scheduling our services and will not be responsible for tests or inspections that are not performed due to a failure to schedule our services on the project or any resulting damages.

1.5 **PURSUANT TO FLORIDA STATUTES §558.0035, ANY INDIVIDUAL EMPLOYEE OR AGENT OF UES MAY NOT BE HELD INDIVIDUALLY LIABLE FOR NEGLIGENCE.**

SECTION 2: STANDARD OF CARE

2.1 Services performed by UES under this Agreement will be conducted in a manner consistent with the level of care and skill ordinarily exercised by members of UES's profession practicing contemporaneously under similar conditions in the locality of the project. No other warranty, express or implied, is made.

2.2 The Client recognizes that subsurface conditions may vary from those observed at locations where borings, surveys, or other explorations are made, and that site conditions may change with time. Data, interpretations, and recommendations by UES will be based solely on information available to UES at the time of service. UES is responsible for those data, interpretations, and recommendations, but will not be responsible for other parties' interpretations or use of the information developed.

2.3 Execution of this document by UES is not a representation that UES has visited the site, become generally familiar with local conditions under which the services are to be performed, or correlated personal observations with the requirements of the Scope of Services. It is the Client's responsibility to provide UES with all information necessary for UES to provide the services described under the Scope of Services, and the Client assumes all liability for information not provided to UES that may affect the quality or sufficiency of the services so described.

2.4 Should UES be retained to provide threshold inspection services under Florida Statutes §553.79, Client acknowledges that UES's services thereunder do not constitute a guarantee that the construction in question has been properly designed or constructed, and UES's services do not replace any of the obligations or liabilities associated with any architect, contractor, or structural engineer. Therefore it is explicitly agreed that the Client will not hold UES responsible for the proper performance of service by any architect, contractor, structural engineer or any other entity associated with the project.

SECTION 3: SITE ACCESS AND SITE CONDITIONS

3.1 Client will grant or obtain free access to the site for all equipment and personnel necessary for UES to perform the work set forth in this Agreement. The Client will notify any and all possessors of the project site that Client has granted UES free access to the site. UES will take reasonable precautions to minimize damage to the site, but it is understood by Client that, in the normal course of work, some damage may occur, and the correction of such damage is not part of this Agreement unless so specified in the Proposal.

3.2 The Client is responsible for the accuracy of locations for all subterranean structures and utilities. UES will take reasonable precautions to avoid known subterranean structures, and the Client waives any claim against UES, and agrees to defend, indemnify, and hold UES harmless from any claim or liability for injury or loss, including costs of defense, arising from damage done to subterranean structures and utilities not identified or accurately located. In addition, Client agrees to compensate UES for any time spent or expenses incurred by UES in defense of any such claim with compensation to be based upon UES's prevailing fee schedule and expense reimbursement policy.

SECTION 4: SAMPLE OWNERSHIP AND DISPOSAL

4.1 Soil or water samples obtained from the project during performance of the work shall remain the property of the Client.

4.2 UES will dispose of or return to Client all remaining soils and rock samples 60 days after submission of report covering those samples. Further storage or transfer of samples can be made at Client's expense upon Client's prior written request.

4.3 Samples which are contaminated by petroleum products or other chemical waste will be returned to Client for treatment or disposal, consistent with all appropriate federal, state, or local regulations.

SECTION 5: BILLING AND PAYMENT

5.1 UES will submit invoices to Client monthly or upon completion of services. Invoices will show charges for different personnel and expense classifications.

5.2 Payment is due 30 days after presentation of invoice and is past due 31 days from invoice date. Client agrees to pay a finance charge of one and one-half percent (1 ½ %) per month, or the maximum rate allowed by law, on past due accounts.

5.3 If UES incurs any expenses to collect overdue billings on invoices, the sums paid by UES for reasonable attorneys' fees, court costs, UES's time, UES's expenses, and interest will be due and owing by the Client.

SECTION 6: OWNERSHIP AND USE OF DOCUMENTS

6.1 All reports, boring logs, field data, field notes, laboratory test data, calculations, estimates, and other documents prepared by UES, as instruments of service, shall remain the property of UES.

6.2 Client agrees that all reports and other work furnished to the Client or his agents, which are not paid for, will be returned upon demand and will not be used by the Client for any purpose.

6.3 UES will retain all pertinent records relating to the services performed for a period of five years following submission of the report, during which period the records will be made available to the Client at all reasonable times.

6.4 All reports, boring logs, field data, field notes, laboratory test data, calculations, estimates, and other documents prepared by UES, are prepared for the sole and exclusive use of Client, and may not be given to any other party or used or relied upon by any such party without the express written consent of UES.

SECTION 7: DISCOVERY OF UNANTICIPATED HAZARDOUS MATERIALS

7.1 Client warrants that a reasonable effort has been made to inform UES of known or suspected hazardous materials on or near the project site.

7.2 Under this agreement, the term hazardous materials include hazardous materials (40 CFR 172.01), hazardous wastes (40 CFR 261.2), hazardous substances (40 CFR 300.6), petroleum products, polychlorinated biphenyls, and asbestos.

7.3 Hazardous materials may exist at a site where there is no reason to believe they could or should be present. UES and Client agree that the discovery of unanticipated hazardous materials constitutes a changed condition mandating a renegotiation of the scope of work. UES and Client also agree that the discovery of unanticipated hazardous materials may make it necessary for UES to take immediate measures to protect health and safety. Client agrees to compensate UES for any equipment decontamination or other costs incident to the discovery of unanticipated hazardous waste.

7.4 UES agrees to notify Client when unanticipated hazardous materials or suspected hazardous materials are encountered. Client agrees to make any disclosures required by law to the appropriate governing agencies. Client also agrees to hold UES harmless for any and all consequences of disclosures made by UES which are required by governing law. In the event the project site is not owned by Client, Client recognizes that it is the Client's responsibility to inform the property owner of the discovery of unanticipated hazardous materials or suspected hazardous materials.

7.5 Notwithstanding any other provision of the Agreement, Client waives any claim against UES, and to the maximum extent permitted by law, agrees to defend, indemnify, and save UES harmless from any claim, liability, and/or defense costs for injury or loss arising from UES's discovery of unanticipated hazardous materials or suspected hazardous materials including any costs created by delay of the project and any cost associated with possible reduction of the property's value. Client will be responsible for ultimate disposal of any samples secured by UES which are found to be contaminated.

SECTION 8: RISK ALLOCATION

8.1 Client agrees that UES's liability for any damage on account of any breach of contract, error, omission or other professional negligence will be limited to a sum not to exceed $50,000 or UES's fee, whichever is greater. If Client prefers to have higher limits on contractual or professional liability, UES agrees to increase the limits up to a maximum of $1,000,000.00 upon Client's written request at the time of accepting our proposal provided that Client agrees to pay an additional consideration of four percent of the total fee, or $400.00, whichever is greater. The additional charge for the higher liability limits is because of the greater risk assumed and is not strictly a charge for additional professional liability insurance.

SECTION 9: INSURANCE

9.1 UES represents and warrants that it and its agents, staff and consultants employed by it, is and are protected by worker's compensation insurance and that UES has such coverage under public liability and property damage insurance policies which UES deems to be adequate. Certificates for all such policies of insurance shall be provided to Client upon request in writing. Within the limits and conditions of such insurance, UES agrees to indemnify and save Client harmless from and against loss, damage, or liability arising from negligent acts by UES, its agents, staff, and consultants employed by it. UES shall not be responsible for any loss, damage or liability beyond the amounts, limits, and conditions of such insurance or the limits described in Section 8, whichever is less. The Client agrees to defend, indemnify and save UES harmless for loss, damage or liability arising from acts by Client, Client's agent, staff, and other UESs employed by Client.

SECTION 10: DISPUTE RESOLUTION

10.1 All claims, disputes, and other matters in controversy between UES and Client arising out of or in any way related to this Agreement will be submitted to alternative dispute resolution (ADR) such as mediation or arbitration, before and as a condition precedent to other remedies provided by law, including the commencement of litigation.

10.2 If a dispute arises related to the services provided under this Agreement and that dispute requires litigation instead of ADR as provided above, then:

(a) the claim will be brought and tried in judicial jurisdiction of the court of the county where UES's principal place of business is located and Client waives the right to remove the action to any other county or judicial jurisdiction, and

(b) The prevailing party will be entitled to recovery of all reasonable costs incurred, including staff time, court costs, attorneys' fees, and other claim related expenses.

SECTION 11: TERMINATION

11.1 This agreement may be terminated by either party upon seven (7) days written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof. Such termination shall not be effective if that substantial failure has been remedied before expiration of the period specified in the written notice. In the event of termination, UES shall be paid for services performed to the termination notice date plus reasonable termination expenses.

11.2 In the event of termination, or suspension for more than three (3) months, prior to completion of all reports contemplated by the Agreement, UES may complete such analyses and records as are necessary to complete its files and may also complete a report on the services performed to the date of notice of termination or suspension. The expense of termination or suspension shall include all direct costs of UES in completing such analyses, records and reports.

SECTION 12: ASSIGNS

12.1 Neither the Client nor UES may delegate, assign, sublet or transfer their duties or interest in this Agreement without the written consent of the other party.

SECTION 13. GOVERNING LAW AND SURVIVAL

13.1 The laws of the State of Florida will govern the validity of these Terms, their interpretation and performance.

13.2 If any of the provisions contained in this Agreement are held illegal, invalid, or unenforceable, the enforceability of the remaining provisions will not be impaired. Limitations of liability and indemnities will survive termination of this Agreement for any cause.

SECTION 14. INTEGRATION CLAUSE

14.1 This Agreement represents and contains the entire and only agreement and understanding among the parties with respect to the subject matter of this Agreement, and supersedes any and all prior and contemporaneous oral and written agreements, understandings, representations, inducements, promises, warranties, and conditions among the parties. No agreement, understanding, representation, inducement, promise, warranty, or condition of any kind with respect to the subject matter of this Agreement shall be relied upon by the parties unless expressly incorporated herein.

14.2 This Agreement may not be amended or modified except by an agreement in writing signed by the party against whom the enforcement of any modification or amendment is sought.

CONSTRAINTS AND RESTRICTIONS

WARRANTY
Universal Engineering Sciences has prepared this report for our client for his exclusive use, in accordance with generally accepted soil and foundation engineering practices, and makes no other warranty either expressed or implied as to the professional advice provided in the report.

UNANTICIPATED SOIL CONDITIONS
The analysis and recommendations submitted in this report are based upon the data obtained from soil borings performed at the locations indicated on the Boring Location Plan. This report does not reflect any variations which may occur between these borings.

The nature and extent of variations between borings may not become known until excavation begins. If variations appear, we may have to re-evaluate our recommendations after performing on-site observations and noting the characteristics of any variations.

CHANGED CONDITIONS
We recommend that the specifications for the project require that the contractor immediately notify Universal Engineering Sciences, as well as the owner, when subsurface conditions are encountered that are different from those present in this report.

No claim by the contractor for any conditions differing from those anticipated in the plans, specifications, and those found in this report, should be allowed unless the contractor notifies the owner and Universal Engineering Sciences of such changed conditions. Further, we recommend that all foundation work and site improvements be observed by a representative of Universal Engineering Sciences to monitor field conditions and changes, to verify design assumptions and to evaluate and recommend any appropriate modifications to this report.

MISINTERPRETATION OF SOIL ENGINEERING REPORT
Universal Engineering Sciences is responsible for the conclusions and opinions contained within this report based upon the data relating only to the specific project and location discussed herein. If the conclusions or recommendations based upon the data presented are made by others, those conclusions or recommendations are not the responsibility of Universal Engineering Sciences.

CHANGED STRUCTURE OR LOCATION
This report was prepared in order to aid in the evaluation of this project and to assist the architect or engineer in the design of this project. If any changes in the design or location of the structure as outlined in this report are planned, or if any structures are included or added that are not discussed in the report, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions modified or approved by Universal Engineering Sciences.

USE OF REPORT BY BIDDERS
Bidders who are examining the report prior to submission of a bid are cautioned that this report was prepared as an aid to the designers of the project and it may affect actual construction operations.

Bidders are urged to make their own soil borings, test pits, test caissons or other investigations to determine those conditions that may affect construction operations. Universal Engineering Sciences cannot be responsible for any interpretations made from this report or the attached boring logs with regard to their adequacy in reflecting subsurface conditions which will affect construction operations.

STRATA CHANGES
Strata changes are indicated by a definite line on the boring logs which accompany this report. However, the actual change in the ground may be more gradual. Where changes occur between soil samples, the location of the change must necessarily be estimated using all available information and may not be shown at the exact depth.

OBSERVATIONS DURING DRILLING
Attempts are made to detect and/or identify occurrences during drilling and sampling, such as: water level, boulders, zones of lost circulation, relative ease or resistance to drilling progress, unusual sample recovery, variation of driving resistance, obstructions, etc.; however, lack of mention does not preclude their presence.

WATER LEVELS
Water level readings have been made in the drill holes during drilling and they indicate normally occurring conditions. Water levels may not have been stabilized at the last reading. This data has been reviewed and interpretations made in this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, temperature, tides, and other factors not evident at the time measurements were made and reported. Since the probability of such variations is anticipated, design drawings and specifications should accommodate such possibilities and construction planning should be based upon such assumptions of variations.

LOCATION OF BURIED OBJECTS
All users of this report are cautioned that there was no requirement for Universal Engineering Sciences to attempt to locate any man-made buried objects during the course of this exploration and that no attempt was made by Universal Engineering Sciences to locate any such buried objects. Universal Engineering Sciences cannot be responsible for any buried man-made objects which are subsequently encountered during construction that are not discussed within the text of this report.

TIME
This report reflects the soil conditions at the time of investigation. If the report is not used in a reasonable amount of time, significant changes to the site may occur and additional reviews may be required.

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a civil engineer may not fulfill the needs of a constructor — a construction contractor — or even another civil engineer. Because each geotechnical- engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. No one except you should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply this report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical-engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

Geotechnical Engineers Base Each Report on a Unique Set of Project-Specific Factors

Geotechnical engineers consider many unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk-management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical-engineering report that was:

- not prepared for you;
- not prepared for your project;
- not prepared for the specific site explored; or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical-engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical-engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical-engineering report whose adequacy may have been affected by*: the passage of time; man-made events, such as construction on or adjacent to the site; or natural events, such as floods, droughts, earthquakes, or groundwater fluctuations. *Contact the geotechnical engineer before applying this report to determine if it is still reliable.* A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ — sometimes significantly — from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide geotechnical-construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are Not Final

Do not overrely on the confirmation-dependent recommendations included in your report. *Confirmation-dependent recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's confirmation-dependent recommendations if that engineer does not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A Geotechnical-Engineering Report Is Subject to Misinterpretation

Other design-team members' misinterpretation of geotechnical-engineering reports has resulted in costly

problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical-engineering report. Confront that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical-engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical-engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/ or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and constructors fail to recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Environmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold-prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold- prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical- engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

Rely, on Your GBC-Member Geotechnical Engineer for Additional Assistance

Membership in the Geotechnical Business Council of the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you GBC-Member geotechnical engineer for more information.

GEOTECHNICAL BUSINESS COUNCIL
of the Geoprofessional Business Association

8811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733 Facsimile: 301/589-2017
e-mail: info@geoprofessional.org www.geoprofessional.org

ATTACHMENT #7

STORMWATER REPORT

SUNSET LAKEVIEW

LESLIE STREET,
FLAGLER BEACH, FL 32174

FEBRUARY 2023

NEWKIRK
ENGINEERING INC.

Civil Engineering—Transportation—CEI
1230 North US Highway 1, Suite 3
Ormond Beach, FL 32174
(386) 872-7794
www.Newkirk-Engineering.com

PROFESSIONAL ENGINEER CERTIFICATE

I hereby certify that I am a registered professional engineer in the State of Florida practicing with Newkirk Engineering Inc., a corporation authorized as an engineering business, Certificate of Authorization No. 30209, by the State of Florida, Department of Professional Regulation and Board of Professional Engineers. I have reviewed or approved the evaluation, findings, opinions, and conclusions as reported for:

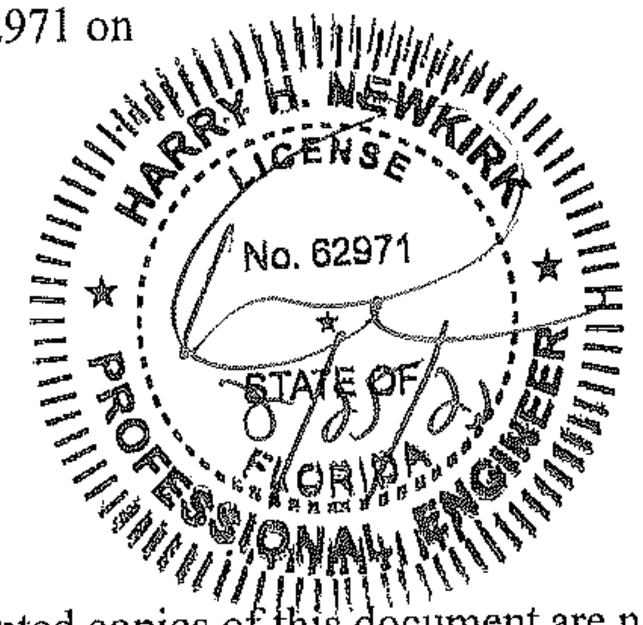
Project: **"SUNSET LAKEVIEW"**

Location: **LESLIE STREET,**
FLAGLER BEACH, FL 32174

Client: **ALT HOMES LLC**

I acknowledge that the procedures and references used to develop the results are standard to the professional practice of civil engineering as applied through design standards and criteria set forth by the federal, state and local regulatory agencies as well as professional judgment and experience.

This report has been digitally signed and sealed by Harry Newkirk, PE #62971 on



Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Name: Harry Newkirk,
PE License No: 62971
Address: 1230 North US Highway 1
Suite 3
Ormond Beach, FL 32174

TABLE OF CONTENTS

INTRODUCTION

The site consists of a vacant wooded parcel on an existing pond in Flagler Beach, Florida, Section 11, Township 12 S, Range 31 E. The project is located at the termination of Leslie Street and Joyce Street on the west side of John Anderson Highway. See **Appendix A** for site location and aerial map.

Propose the development of two (2) multifamily units with an associated stormwater management facility. Stormwater management is provided by interconnected exfiltration areas as well as a series of dry retention areas that provide treatment and attenuation for the site. Stormwater calculations are designed for two drainage basins which both have positive outfall to the existing pond on site.

PROJECT SITE DESCRIPTION

Land Coverage

The current land coverage of the site consists of a wooded site with a small portion of paved roadway. BMP analysis was conducted using the pre-development land coverage of mesic flatwoods and post development land coverage of multi-family residential.

Topography

Elevations undulate between EL 6.2 and EL 19.4 across the site. Site runoff drains to the pond on site which is a former borrow pit.

Flood Zone

The property is located within Zone "X", per FEMA Map Panel No. 12035C0232 E dated June 6th, 2018. See FEMA FIRM map in Appendix A.

Soils

The predominant soil on the project site is (11) Myakka Myakka, wet, fine sands – 0 to 2% slopes. Pre and Post-development flood routing was calculated with a Hydrologic Soil Group rating of C and B respectively. See **Appendix A** for soils map. Seasonal High Groundwater Table was estimated to be at elevation 7.0 based on the Geotechnical Report provided by Universal Engineering Sciences dated 1/14/19.

EXISTING SITE CONDITIONS

The pre-development conditions are broken into two drainage basins based on existing flow patterns from the east and west of the existing pond. The PRE-1 basin drains from the east side of the existing pond and consists of a 2.054-acre drainage basin with 0.060 acres impervious surface, and Time of Concentration of 22.0 minutes. The PRE-2 drainage basin consists of the 0.153-acre portion of the site that drains to the existing pond from the west. The existing site naturally drains to the existing pond where it is then discharged towards the south through a drainage ditch. Runoff flows to the existing pond by a combination of sheet flow and overland flow.

PROPOSED STORMWATER SYSTEM

The subject site is a 3.159-acre parcel that proposes two (2) multi-family buildings as well as paving, site grading, and utilities. The stormwater system provides water quality (treatment volume) for two drainage basins with a total area of 2.207 acres and 1.144 acres of impervious surface. The system is designed to pre-treat the stormwater with dry retention before discharging to the wet detention area. The first flush of stormwater will be captured by a pervious paver system to provide additional treatment before discharge. The required treatment volume for the dry retention and exfiltration system is 0.211 Ac-Ft and 0.267 Ac-Ft is provided. All stormwater runoff passes over the permeable pavers where it is captured by inlets and delivered to the exfiltration system. The runoff from the exfiltration system is then delivered to a series of dry retention areas with positive outfall to the existing pond. When the stormwater levels in the dry retention areas stage to the elevation of 10.13, the runoff will overtop a 4.5-foot rectangular slot weir and discharge into the existing pond (OFF) to maintain positive outfall.

POSITIVE OUTFALL

Discharge from the stormwater treatment system flows to existing pond on site which was used as a former borrow pit. The runoff then flows south through the drainage ditch and is piped under the adjacent existing apartment complex. The stormwater then flows to the south where it reaches the headwaters of Bulow Creek and discharges to the Halifax River, and eventually the Atlantic Ocean.

ICPR 4 MODEL & OVERALL SYSTEM SUMMARY

The pre-development site conditions consist of two drainage basins, PRE-1 & PRE-2, which both have positive outfall to the existing pond (OFF). The pre-development drainage basins are modeled as a hydrographs and discharge offsite via sheet and overland flows. The PRE-1 drainage basin consists of 2.054 acres with an impervious percentage of 2.9% and a time of concentration of 22.0 minutes and drains to the existing pond and discharges at Node (OFF). The PRE-2 basin consists of 0.153 acres with no impervious surface and is modeled as a hydrograph with a minimum time of concentration of 10.0 minutes discharging to the existing pond.

The post-development flood routing model is comprised of two drainage basins POST-1 and POST-2. The POST-1 basin represents the eastern portion of the site where the impervious improvements will take place. The POST-1 basin is broken down to the POST-1 (RET) and POST-1 (EXFIL) basin on the proposed drainage patterns of the site. The POST-1 (RET) basin is modeled as a hydrograph linked directly to the dry retention system (RET-EAST) The POST-1 (EXFIL) represents the portion of the site which flows directly into the exfiltration system and is modeled as a hydrograph linked to the EXFIL node. The POST-2 drainage basin consists of 0.153 acres that discharges directly to the western retention area RET-WEST. The system maintains positive outfall through a drop structure link (CS-01) with all discharge flowing to the existing pond (OFF).

The design storms are the Mean Annual and 25-year 24-hour storm events utilizing SCSIII-24 FLMOD rainfall distribution. During the design storms the post-development peak discharge rate cannot exceed the pre-development peak discharge rate. The system shall be designed to provide for the appropriate treatment volume of stormwater runoff within 72 hours following a storm event assuming average antecedent moisture conditions with a safety factor of 2.

WATER QUALITY

Water Quality Treatment volume is provided for the post-development basin using dry retention as pre-treatment and exfiltration pursuant to the requirements of SJRWMD as outlined in Chapter 40C-4 and pursuant to the City of Flagler Beach requirements. BMP analysis was accounted for in the pre and post development to show that the site improvements increase the net removal efficiency. Treatment volume for the site was governed by on-line requirements and an additional 0.5-inch of the required treatment volume was accounted for. The project meets the treatment requirements for discharge to an impaired waterbody and the system is designed to improve water quality before discharge. Appendix C of this report provides the Post-Development Basin Map and the Post-Development stormwater calculations.

EROSION AND SEDIMENT CONTROL PLANS

All pervious surfaces will be planted with trees, shrubs and sodded solid to prevent erosion. All pond slopes and other pervious areas of the property will be sodded solid or seeded and mulched to prevent erosion. A temporary gravel construction entrance will be provided to prevent fines and sands from leaving the site and contaminating adjacent roadways. Silt fence will be installed around the entire site and around inlets during construction to retain sediment on-site and assure that any discharges from the site do not cause or contribute to a violation of state water quality standards.

MAINTENANCE AND OPERATION

Alt Homes LLC will operate and maintain the entire stormwater management system. All roads, drainage, stormwater and utilities located on-site are private ownership and will be maintained and operated by Alt Homes LLC. Stormwater maintenance will include routine mowing of sod within retention ponds and pond side slopes and removal of sediment and debris from inlets and control structures.

ASSUMPTIONS AND REFERENCES USED

A. S.C.S. Unit Hydrograph Method
B. SCS III Rainfall Distribution
C. Universal Engineering Sciences Geotechnical Report
D. AutoCAD Civil 3D
E. ICPR 4.07.08
F. BMP Trains 2020 4.3.2
G. Other references and assumptions listed in the drainage calculations.

SUMMARY OF RESULTS

Calculations indicate that the proposed stormwater treatment system meets the requirements for pollution abatement volume per St. Johns River Water Management, Florida Department of Environmental Protection and City of Flagler Beach Land Development Code. All stormwater runoff is directed into the stormwater treatment system by the conveyance of pavement grades and collection pipe system. The dry retention area treatment volume recovery (EL 10.13) occurs in 47 hours. The post development hydrograph shows that the site discharges less runoff than the pre-development conditions during the mean annual and 25-year, 24-hour storm events. The reduction in stormwater discharge rate and volume ensures that there will be no adverse impacts to surrounding areas. The following conclusions can be made based on the results:

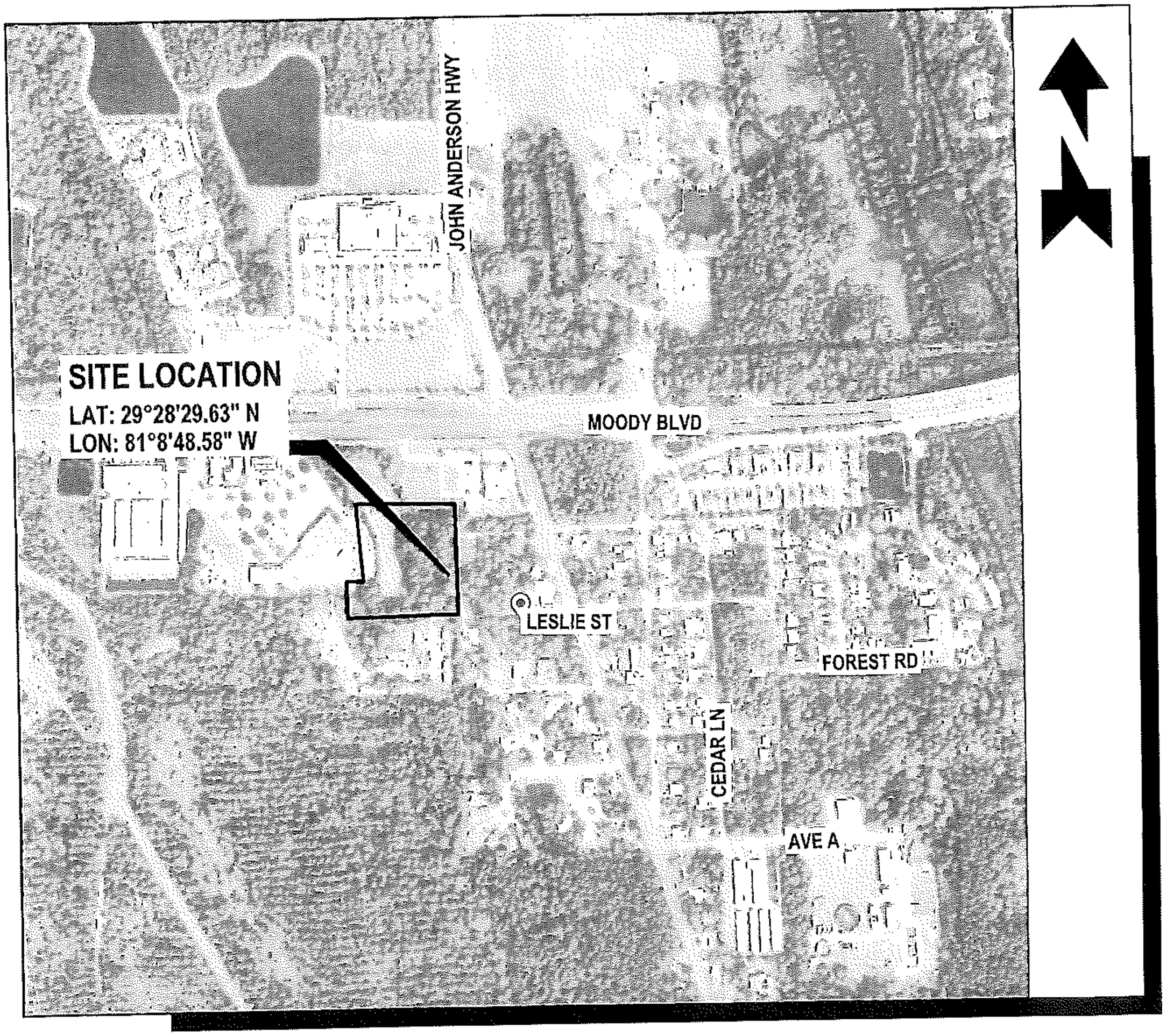
- The Stormwater System is designed to provide a Net Improvement for Nutrient Removal of TN and TP.
- Net decreases in discharge rates and volumes are seen for each storm event.
- The calculations indicate that the proposed stormwater treatment system meets the requirements for pollution abatement volume per St. Johns River Water Management, Florida Department of Environmental Protection and City of Flagler Beach Land Development Code.

PERMITTED RUNOFF			PRE	
Design Storm		Rainfall (inches)	Charge Rate (cfs)	Inflow Volume (ft^3)
Mean Annual, 24-Hour	PRE	4.50	2.53	16,223
25 Year, 24-Hour	PRE	8.85	7.07	44,888

PROPOSED - DISCHARGE			POST		STAGE		
Design Storm		Rainfall (inches)	Inflow Rate (cfs)	Inflow Volume (ft^3)	DRY RET WEST	DRY RET EAST	EXFIL
Mean Annual, 24-Hour	POST	4.50	0.27	5,805	10.20	10.20	10.20
25 Year, 24-Hour	POST	8.85	6.98	36,275	10.75	10.80	10.84
				TOB	**11.00**	**11.00**	**11.00**

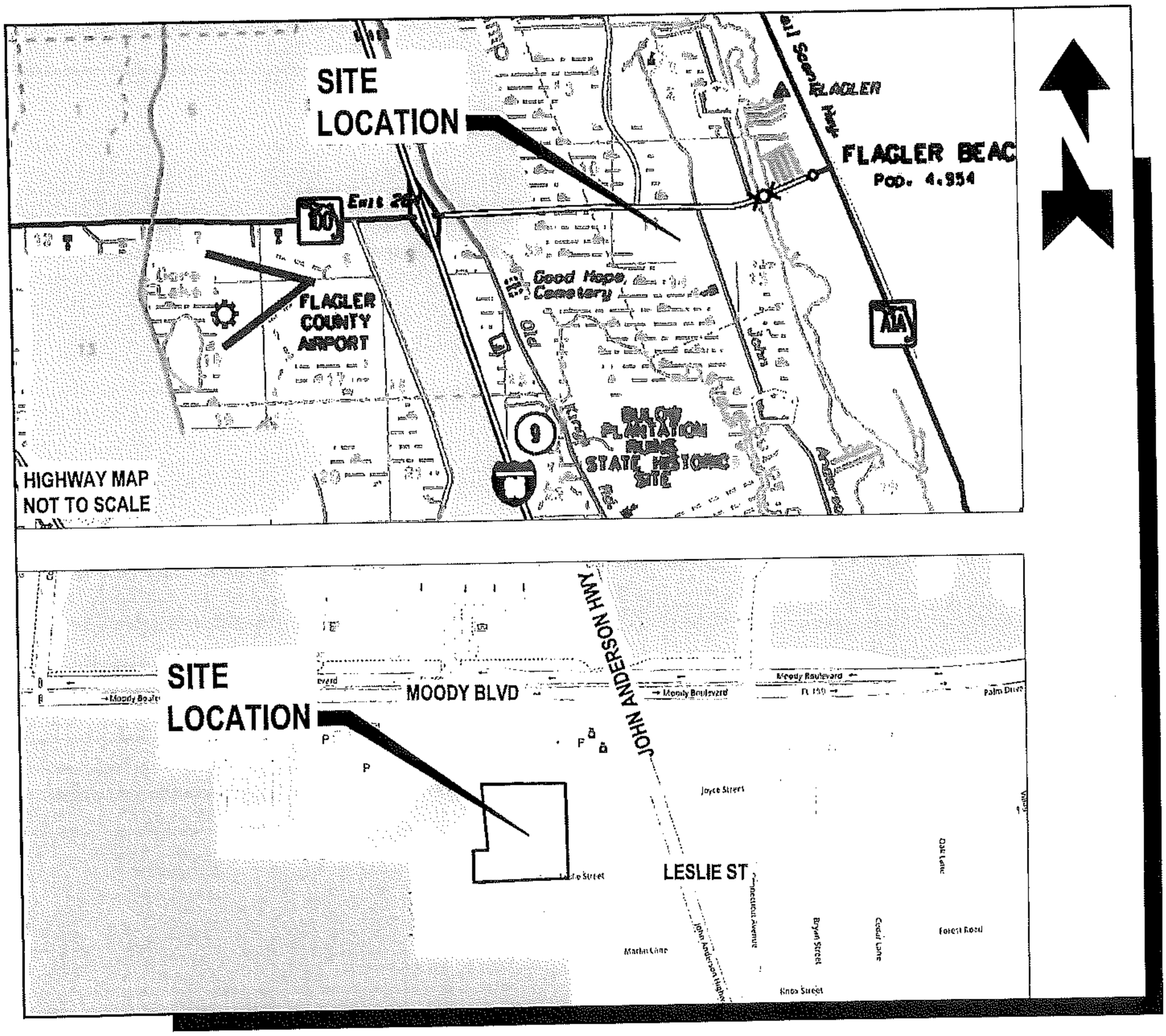
APPENDIX A

MAPS



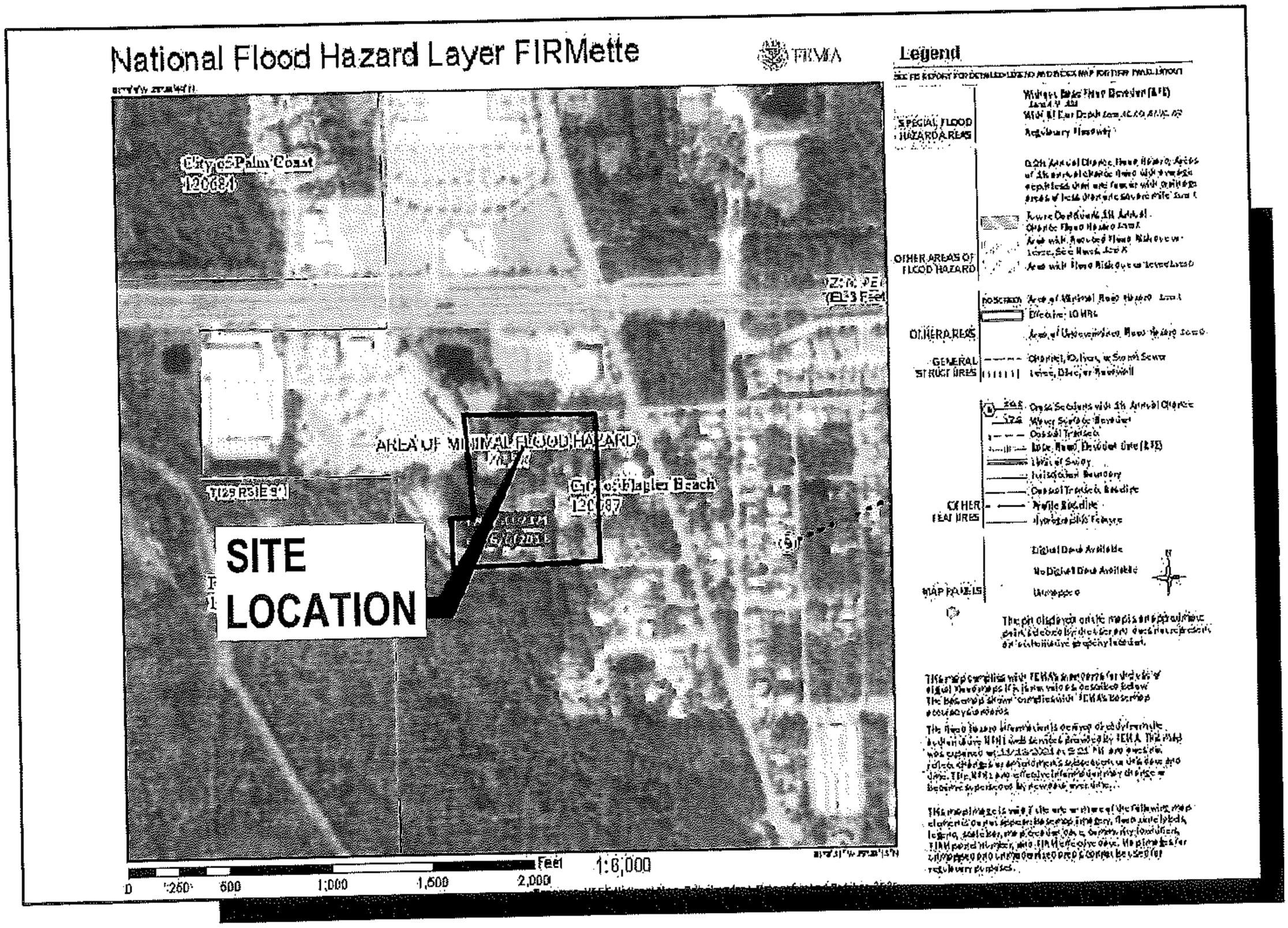
AERIAL MAP

SCALE: 1" = 600'



LOCATION MAP

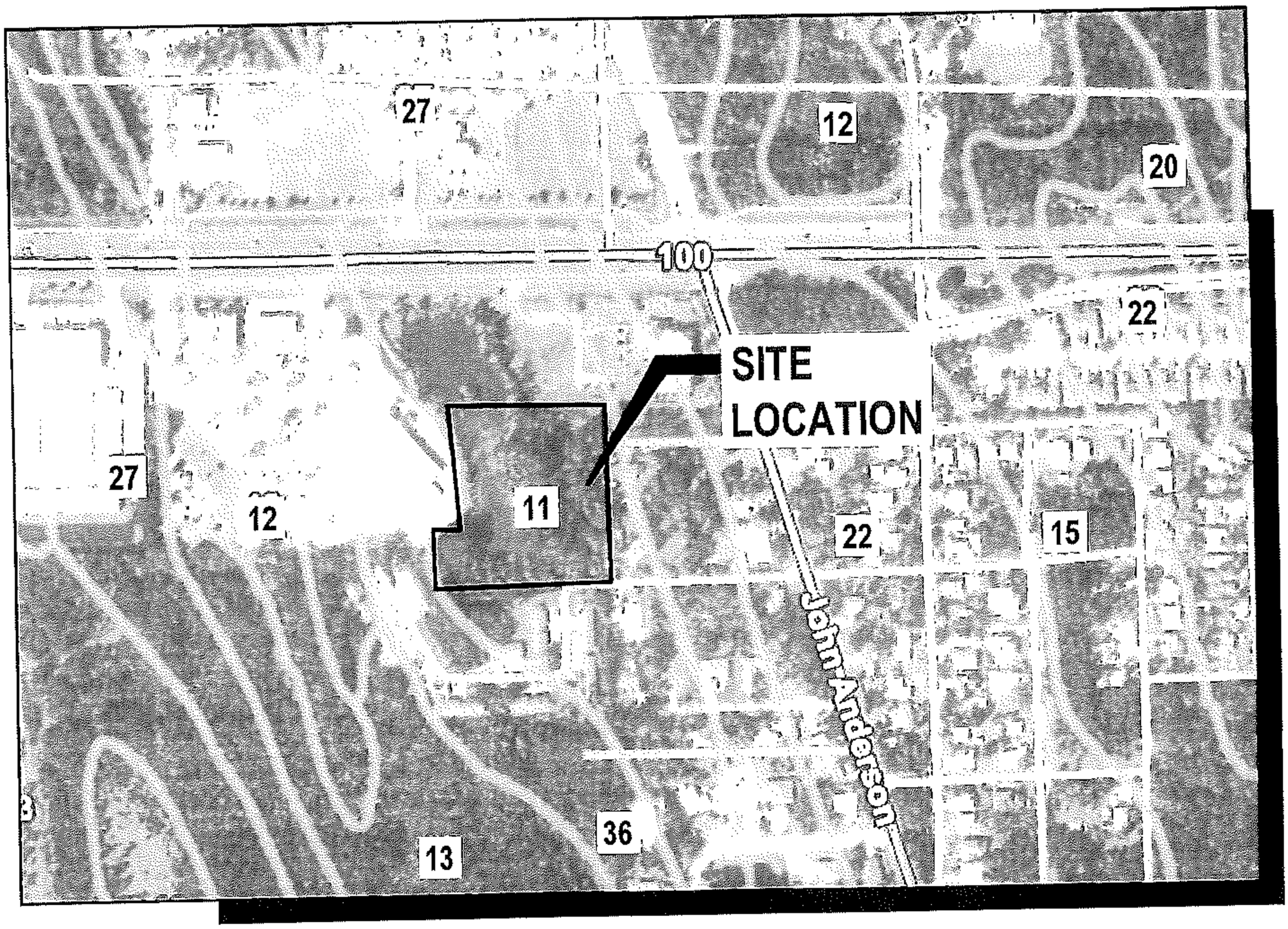
SCALE: 1" = 700'



FLOOD ZONE MAP

PANEL NO. 12035C0232 E
FLOOD ZONE "X"

SCALE: 1" = 600'



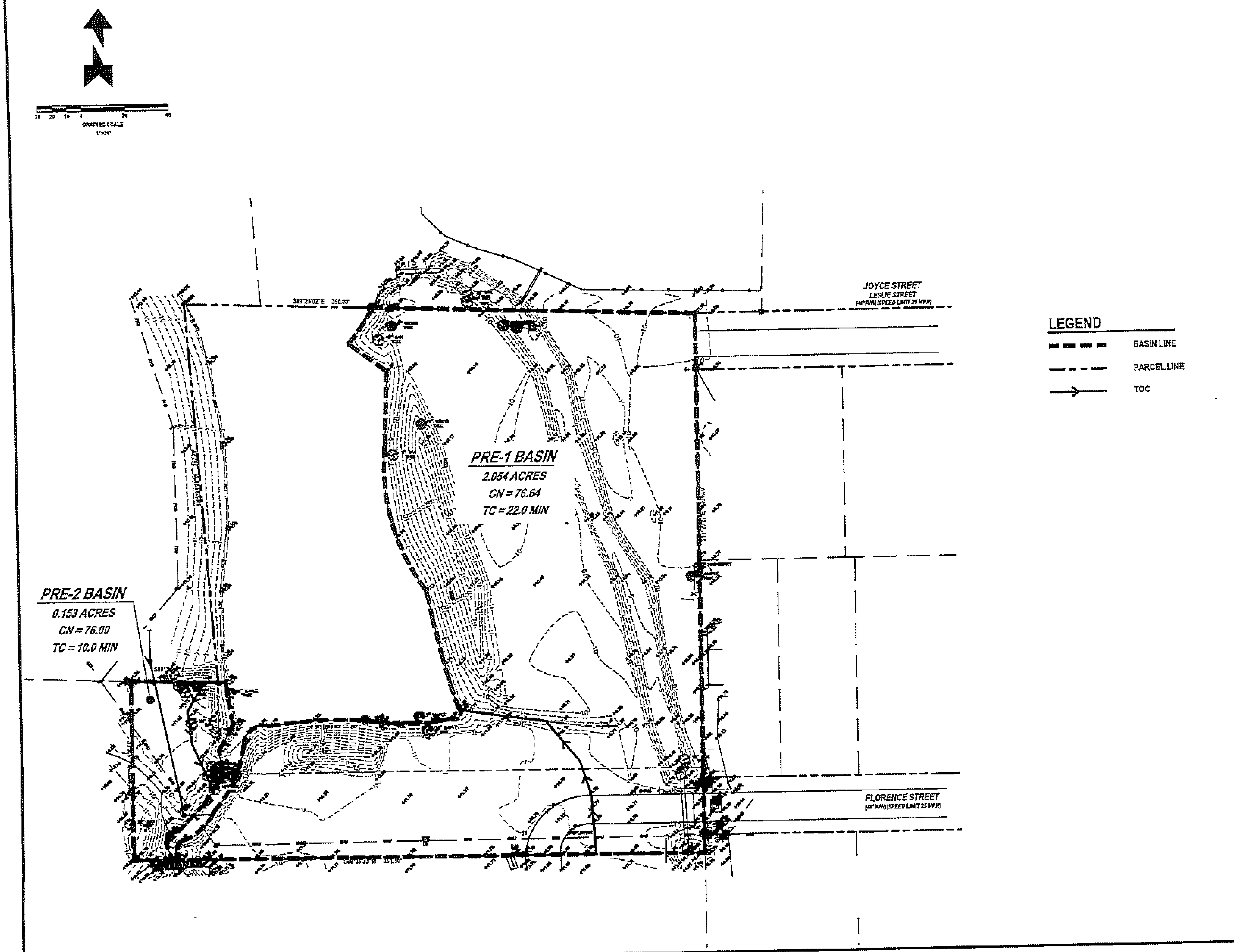
SOILS MAP

SOIL TYPES: (11)MYAKKA-MYAKKA, WET, FINE SANDS, 0 TO 2 PERCENT SLOPES

SCALE: 1" = 500'

APPENDIX B

PRE-DEVELOPMENT CALCULATIONS



REVISIONS

DATE	DESCRIPTION

NEWKIRK ENGINEERING INC.

Civil Engineering
Transportation, CEI &
Landscape Architecture

PRE DEVELOPMENT BASIN MAP

SUNSET LAKEVIEW
LESLIE STREET
FLAGLER BEACH, FL 32136

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY HARRY NEWKIRK, P.E. # 62971 ON

HARRY NEWKIRK LICENSE NO. 62971 STATE OF FLORIDA PROFESSIONAL ENGINEER

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

PROJECT No:	2022-XX
DATE:	OCTOBER 2022
DESIGN BY:	HHN
DRAWN BY:	NWS
CHECKED BY:	HHN
SCALE:	1" = 30'

DRAWING NUMBER

PRE

NEWKIRK ENGINEERING, INC.
CIVIL ENGINEERING - TRANSPORTATION - CEI - LANDSCAPE ARCHITECTURE
1230 N US HWY 1, SUITE 3, ORMOND BEACH, FLORIDA 32174 386-872-7794

PRE-DEVELOPMENT

TIME OF CONCENTRATION CALCULATIONS

BASIN: PRE-1

Sheet Flow

Tt = Travel time (min)				
s = slope	s =	0.00980	ft/ft	$s = \frac{EL_2 - EL_1}{L}$
L = Flow length (ft)	L =	100	ft	
n = Manning's Roughness Coefficien	n =	0.4	Woods (Light Underbrush)	
P2 = 2-year/24-hour rainfall (in)	P2 =	5.5	in	
	EL 2 =	11.04	Upsteam Invert	
	EL 1 =	10.06	Downstream Invert	
	Tt =	**21.8**	**min**	$Tt = \frac{(.0007(nL)^{0.8}(60))}{(\sqrt{P2} * s^{0.4})}$

Overland Flow

Tt = Travel time (min)				
s = slope	s =	0.07190	ft/ft	$V_{Paved} = 20.3282s^{.5}$
L = Flow length (ft)	L =	63	ft	
V = Velocity (ft/s)	V =	4.33	ft/s	Unpaved
	EL 2 =	10.06	Upsteam Invert	
	EL 1 =	5.53	Downstream Invert	
	Tt =	**0.2**	**min**	$Tt = \frac{L}{60V}$

Open Channel Flow

Tt = Travel time (min)				
s = slope (ft/ft)	s =		ft/ft	
L = Flow length (ft)	L =	0	ft	
n = Manning's Roughness Coefficien	n =	0	0	
a = Area	a =	0	sf	
p = Wetted perimeter	p =	0	ft	
R = Hydraulic radius (a/p)	R =	0.00	ft	$V = \frac{1.486\, R^{\frac{2}{3}} s^{.5}}{n}$
V = Velocity (ft/s)	V =	0.00	ft/s	
	EL 2 =	0.0	Upsteam Invert	
	EL 1 =	0.0	Downstream Invert	
	Tt =	**0.0**	**min**	$Tt = \frac{L}{60V}$
	Tc =	**22.0**	**min**	

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BASIN: PRE-2

Sheet Flow

Tt = Travel time (min)
s = slope
L = Flow length (ft)
n = Manning's Roughness Coefficient
P2 = 2-year/24-hour rainfall (in)

s =	0.15562	ft/ft
L =	73	ft
n =	0.40	Woods (Light Underbrush)
P2 =	5.5	in
EL 2 =	16.32	Upsteam Invert
EL 1 =	4.96	Downstream Invert
Tt =	**5.6**	**min**

$$s = \frac{EL_2 - EL_1}{L}$$

$$Tt = \frac{(.0007(nL)^{0.8}(60))}{(\sqrt{P2} * s^{0.4})}$$

Overland Flow

Tt = Travel time (min)
s = slope
L = Flow length (ft)
V = Velocity (ft/s)

s =		ft/ft
L =	0	ft
V =	0.00	ft/s
		Unpaved
EL 2 =	0.00	Upsteam Invert
EL 1 =	0.00	Downstream Invert
Tt =	**0.0**	**min**

$$V_{Paved} = 20.3282s^{.5}$$
$$V_{Unpaved} = 16.1345s^{.5}$$

$$Tt = \frac{L}{60V}$$

Open Channel Flow

Tt = Travel time (min)
s = slope (ft/ft)
L = Flow length (ft)
n = Manning's Roughness Coefficient
a = Area
p = Wetted perimeter
R = Hydraulic radius (a/p)

V = Velocity (ft/s)

s =		ft/ft
L =	0	ft
n =	0 0	
a =	0	sf
p =	0	ft
R =		ft
V =	0.00	ft/s
EL 2 =	0.0	Upsteam Invert
EL 1 =	0.0	Downstream Invert
Tt =	**0.0**	**min**
Tc =	**5.6**	**min**

$$V = \frac{1.486\, R^{\frac{2}{3}} s^{.5}}{n}$$

$$Tt = \frac{L}{60V}$$

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PRE-DEVELOPMENT HYDROGRAPH WORKSHEET

BASIN NAME	BASIN ACRES	PERVIOUS		DCIA IMPERVIOUS		NON DCIA IMPERVIOUS		WET POND NWL		WETLAND		COMPOSITE CN	NON DCIA CN
		ACRES	CN	ACRES	CN	ACRES	CN	ACRES	CN	ACRES	CN		
PRE-1	2.054	1.994	76.00		98.0	0.060	98.0		100.0		93.0	76.64	76.64
PRE-2	0.153	0.153	76.00		98.0		98.0		100.0		93.0	76.00	76.00
TOTAL	2.207	2.147	76.00		98.0	0.060	98.0		100.0		93.0	76.60	76.60

PRE-DEVELOPMENT						
BASIN NAME	SOIL TYPE	DESCRIPTION	CONDITION	HYDRAULIC GROUP	AREA (AC)	CN
PRE-1	11 MYAKKA-MYAKKA, WET, FINE SANDS, 0	WOODS-GRASS	FAIR	C	2.054	76
	11 MYAKKA-MYAKKA, WET, FINE SANDS, 0	WOODS-GRASS	FAIR	C	0.153	76
				TOTAL	2.207	76.00

SOURCES: SCS SOILS SURVEY FOR FLAGLER COUNTY, FLORIDA
SCS TR 55, Agricultural Lands, Woods

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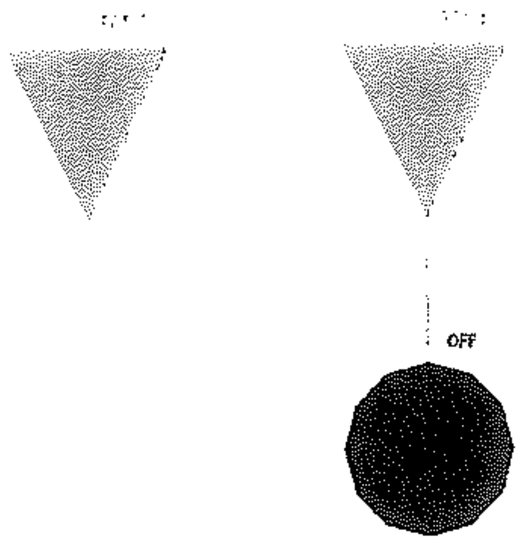
POND BORING ANALYSIS

Boring	Boring Top Elevation (ft)	Depth to Water (ft)	Seasonal High Water Elevation (ft)
B-1	10.6	4.5	7.1
B-2	10.1	4.0	7.1
B-3	10.2	4.0	7.2
B-4	10.0	4.0	7.0
B-5	10.7	4.5	7.2
B-6	12.5	7.5	6.0
P-1	11.2	5.0	7.2
P-2	9.5	3.0	7.5
Average			7.0

Background Image: PRE



Simple Basin: PRE-1

Scenario:	Scenario1
Node:	OFF
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	22.0000 min
Max Allowable Q:	0.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	2.0540 ac
Curve Number:	76.0
% Impervious:	2.90
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin Runoff Summary [Scenario1]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Impery	% DCIA
PRE-1	01_MA_24H	2.51	12.1833	4.50	2.16	2.0540	76.5	2.90	0.00
PRE-1	02_25Y_24H	7.01	12.1667	8.85	5.98	2.0540	76.5	2.90	0.00

Simple Basin Mass Balance Summary [Scenario1]

Basin Name	Sim Name	Total Rainfall	Total Irrigation	Total Runoff	Total ET	Total Initial Abst	Total Recharge	Change Soil Storage
PRE-1 [in]	01_MA_24H	4.50	0.00	2.16	0.00	0.00	0.00	2.34
PRE-1 [ft3]	01_MA_24H	33552	0	16109	0	0	0	17443
PRE-1 [ac-ft]	01_MA_24H	0.77	0.00	0.37	0.00	0.00	0.00	0.40
PRE-1 [in]	02_25Y_24H	8.85	0.00	5.98	0.00	0.00	0.00	2.87
PRE-1 [ft3]	02_25Y_24H	65986	0	44568	0	0	0	21418
PRE-1 [ac-ft]	02_25Y_24H	1.51	0.00	1.02	0.00	0.00	0.00	0.49

Simple Basin: PRE-2

Scenario:	Scenario1
Node:	OFF
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	0.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	0.0153 ac
Curve Number:	76.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin Runoff Summary [Scenario1]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Impery	% DCIA
PRE-2	01_MA_24H	0.03	12.0500	4.50	2.13	0.0153	76.0	0.00	0.00
PRE-2	02_25Y_24H	0.07	12.0333	8.85	5.93	0.0153	76.0	0.00	0.00

Simple Basin Mass Balance Summary [Scenario1]

Basin Name	Sim Name	Total Rainfall	Total Irrigation	Total Runoff	Total ET	Total Initial Abst	Total Recharge	Change Soil Storage
PRE-2 [in]	01_MA_24H	4.50	0.00	2.13	0.00	0.00	0.00	2.37
PRE-2 [ft3]	01_MA_24H	250	0	118	0	0	0	132
PRE-2 [ac-ft]	01_MA_24H	0.01	0.00	0.00	0.00	0.00	0.00	0.00
PRE-2 [in]	02_25Y_24H	8.85	0.00	5.93	0.00	0.00	0.00	2.92
PRE-2 [ft3]	02_25Y_24H	492	0	330	0	0	0	162
PRE-2 [ac-ft]	02_25Y_24H	0.01	0.00	0.01	0.00	0.00	0.00	0.00

Node: OFF

Scenario: Scenario1
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 6.20 ft
Warning Stage: 0.00 ft
Boundary Stage:

Comment:

Node Max Conditions [Scenario1]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
OFF	01_MA_24H	0.00	6.20	0.0000	2.53	0.00	0
OFF	02_25Y_24H	0.00	6.20	0.0000	7.07	0.00	0

Node Mass Balance Condensed [Scenario1]

Node Name	Sim Name	Total Inflow [ft3]	Total Outflow [ft3]	Stored Volume (Flow Based) [ft3]
OFF	01_MA_24H	16223	0	16223
OFF	02_25Y_24H	44888	0	44888

Simulation: 01_MA_24H

Scenario: Scenario1
Run Date/Time: 2/1/2023 1:18:14 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain: Global

		Opt:	
Max dZ:	1.0000 ft		
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	4.50 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: 02_25Y_24H

Scenario: Scenario1
Run Date/Time: 2/1/2023 1:18:19 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft

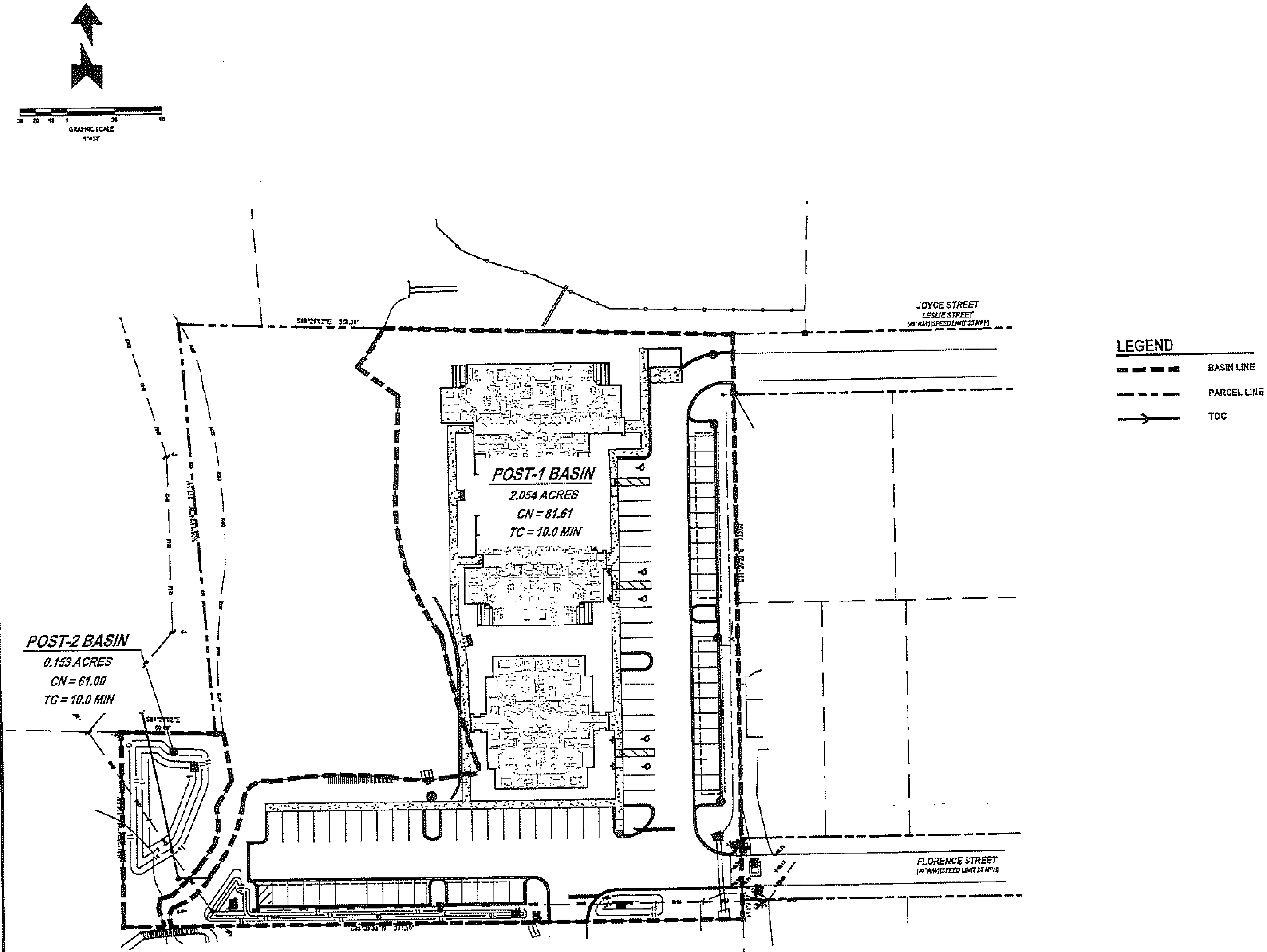
IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain: Global

Max dZ:	1.0000 ft	Opt:	
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	8.85 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

APPENDIX C

POST-DEVELOPMENT CALCULATIONS



REVISIONS

DATE	DESCRIPTION

NEWKIRK ENGINEERING INC.

Civil Engineering, Transportation, CEI & Landscape Architecture

POST DEVELOPMENT BASIN MAP

SUNSET LAKEVIEW

LESLIE STREET

FLAGLER BEACH, FL 32136

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY HARRY NEWKIRK, PE # 62971 ON

HARRY NEWKIRK LICENSE NO. 62971 STATE OF FLORIDA PROFESSIONAL ENGINEER

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PROJECT No:	2022-XX
DATE:	OCTOBER 2022
DESIGN BY:	HHN
DRAWN BY:	NMS
CHECKED BY:	HHN
SCALE:	1" = 30'

DRAWING NUMBER

POST

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POST-DEVELOPMENT CALCULATIONS

BASIN	BASIN ACRES	PERVIOUS		DCIA IMPERVIOUS		NON DCIA IMPERVIOUS		WET POND NWL / WETLAND		COMPOSITE CN	NON DCIA CN
		ACRES	CN	ACRES	CN	ACRES	CN	ACRES	CN		
POST-1	2.054	0.910	61.00		98.00	1.144	98.00		100.00	81.61	81.61
POST-2	0.153	0.153	61.00		98.00		98.00		100.00	61.00	61.00
TOTAL	2.207	0.910	61.00		98.00	1.144	98.00		100.00	75.95	75.95

POST-DEVELOPMENT						
BASIN NAME	SOIL TYPE	DESCRIPTION	CONDITION	HYDRAULIC GROUP	AREA (AC)	CN
POST	11 MYAKKA-MYAKKA, WET, F	URBAN OPEN	GOOD	B	2.054	61.00
	11 MYAKKA-MYAKKA, WET, F	URBAN OPEN	GOOD	B	0.153	61.00
				TOTAL	2.207	61.00

DCIA IMP	DIRECT	IMP
%	%	%
		55.7%

*The system does not have any directly connected impervious area since the first flush of runoff must pass over the permeable paver treatment area before entering the stormwater system.

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Treatment Volume Calculations: Dry Retention				
SJRWMD Dry Retention Pond				
A. 0.5"	of runoff over drainage basin		**0.092 Ac-Ft**	
B. Impervious area x	1.25"	(excluding pond)	**0.119 Ac-Ft**	
C. + Additional 0.5" for online system (Max of A or B + A)			**0.211 Ac-Ft**	
E. Total Required Treatment Volume for SJRWMD			**0.211 Ac-Ft**	Governs
F. Total Required Treatment Volume for BMP			**0.178 Ac-Ft**	
G. Total Provided Treatment Volume			**0.267 Ac-Ft**	

Post Dry Retention Pond - CUMULATIVE

Stage (MSL)	Area (SF)	Area (Ac)	Volume Ac-Ft	Volume Above EL 8.00	Treatment Depth = Treatment Volume / Basin Area
					Treament Depth (in) = 0.562
8.00	1,029	0.024	0.000	0.000	Bottom of Pond
9.00	1,740	0.040	0.032	0.032	
10.00	3,333	0.077	0.090	0.090	
11.00	5,560	0.128	0.192	0.192	Top of Bank

Treatment Vol Elevation (Ft)	Treatment Vol (Ac-Ft)
10.13	0.103

Post Dry Retention Pond - WEST

Stage (MSL)	Area (SF)	Area (Ac)	Volume Ac-Ft	Volume Above EL 8.00	Treatment Depth = Treatment Volume / Basin Area
					Treament Depth (in) = 0.485
8.00	1,029	0.024	0.000	0.000	Bottom of Pond
9.00	1,712	0.039	0.031	0.031	
10.00	2,537	0.058	0.080	0.080	
11.00	3,479	0.080	0.149	0.149	Top of Bank

Treatment Vol Elevation (Ft)	Treatment Vol (Ac-Ft)
10.13	0.089

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Post Dry Retention Pond - EAST

Stage (MSL)	Area (SF)	Area (Ac)	Volume Ac-Ft	Volume Above EL 9.00	Treatment Depth = Treatment Volume / Basin Area
					Treament Depth (in) = 0.075
9.00	28	0.001	0.00	0.00	Bottom of Pond
10.00	796	0.018	0.009	0.009	
11.00	2,081	0.048	0.042	0.042	
					Top of Bank

Treatment Vol Elevation (Ft)
10.13
Treatment Vol (Ac-Ft)
0.014

Permeable Pavers

Total Paver Area	=	6292.0	sf
Depth of Aggregate	=	1.0	ft
Void Ratio	=	0.4	
Treatment Volume	=	2516.8	ft^3
	=	**0.058**	**ac-ft**

Treatment Vol (Ac-Ft)
0.058

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EXFILTRATION - CONTACTOR 100HD			
HEIGHT OF SYSTEM (in)	STAGE (ft)	VOLUME (ac-ft)	VOLUME (ft^3)
24.50	10.54	0.196	8546.143
23.50	10.46	0.190	8265.923
22.50	10.38	0.183	7985.703
21.50	10.29	0.177	7705.484
20.50	10.21	0.170	7425.264
19.50	10.13	0.164	7145.045
18.50	10.04	0.158	6864.825
18.00	10.00	0.154	6724.626
17.00	9.92	0.147	6422.962
16.00	9.83	0.140	6082.878
15.00	9.75	0.131	5704.374
14.00	9.67	0.122	5299.958
13.00	9.58	0.112	4877.672
12.00	9.50	0.102	4441.983
11.00	9.42	0.092	3997.359
10.00	9.33	0.081	3545.588
9.00	9.25	0.071	3083.988
8.00	9.17	0.060	2622.388
7.00	9.08	0.050	2160.788
6.00	9.00	0.039	1681.318
5.00	8.92	0.032	1401.098
4.00	8.83	0.026	1120.878
3.00	8.75	0.019	840.659
2.00	8.67	0.013	560.439
1.00	8.58	0.006	280.220
0.00	8.50	0.000	0.000

Treatment Vol Elevation (Ft)
10.13
Treatment Vol (Ac-Ft)
0.164

CULTEC, Inc.
P.O. Box 280
Brookfield, CT 06804

Phone: 203-775-4416
Fax: 203-775-1462
www.cultec.com
custservice@cultec.com

CULTEC

Project Information: **Date:**

Number of Rows-	4	units
Total number of chambers -	238	units
HVLV SFCx2 Feed Connectors -	0	units
Stone Void -	50	%
Stone Base -	6	inches
Stone Above Units -	6	inches
Area -	6725.27	ft^2
Base of Stone Elevation-	8.50	ft

Click for Metric

6725.27 Min. Area Required

Note: Min. Area required is based on 12" around the system and typ. spacing

CULTEC Contactor 100HD Incremental Storage Volumes

Height of System	Chamber Volume	HVLV SFCx2 Feed Connector Volume	Stone Volume	Cumulative Storage Volume	Total Cumulative Storage Volume	Elevation
in	ft^3	ft^3	ft^3	ft^3	ft^3	ft
24.5	0.000	0.000	280.22	280.22	8546.14	10.54
23.5	0.000	0.000	280.22	280.22	8265.92	10.46
22.5	0.000	0.000	280.22	280.22	7985.70	10.38
21.5	0.000	0.000	280.22	280.22	7705.48	10.29
20.5	0.000	0.000	280.22	280.22	7425.26	10.21
19.5	0.000	0.000	280.22	280.22	7145.04	10.13
18.5	0.179	0.000	140.02	140.20	6864.83	10.04
18	42.888	0.000	258.78	301.66	6724.63	10.00
17	119.729	0.000	220.36	340.08	6422.96	9.92
16	196.570	0.000	181.93	378.50	6082.88	9.83
15	248.393	0.000	156.02	404.42	5704.37	9.75
14	284.133	0.000	138.15	422.29	5299.96	9.67
13	310.938	0.000	124.75	435.69	4877.67	9.58
12	328.808	0.000	115.82	444.62	4441.98	9.50
11	343.104	0.000	108.67	451.77	3997.36	9.42
10	362.761	0.000	98.84	461.60	3545.59	9.33
9	362.761	0.000	98.84	461.60	3083.99	9.25
8	362.761	0.000	98.84	461.60	2622.39	9.17
7	398.501	0.000	80.97	479.47	2160.79	9.08
6	0.000	0.000	280.22	280.22	1681.32	9.00
5	0.000	0.000	280.22	280.22	1401.10	8.92
4	0.000	0.000	280.22	280.22	1120.88	8.83
3	0.000	0.000	280.22	280.22	840.66	8.75
2	0.000	0.000	280.22	280.22	560.44	8.67
1	0.000	0.000	280.22	280.22	280.22	8.58

Created on: 2/2/2023

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POND BORING ANALYSIS

Boring	Boring Top Elevation (ft)	Depth to Water (ft)	Seasonal High Water Elevation (ft)
B-1	10.6	4.5	7.1
B-2	10.1	4.0	7.1
B-3	10.2	4.0	7.2
B-4	10.0	4.0	7.0
B-5	10.7	4.5	7.2
B-6	12.5	7.5	6.0
P-1	11.2	5.0	7.2
P-2	9.5	3.0	7.5
Average			7.0

NEWKIRK ENGINEERING, INC.

CIVIL ENGINEERING - TRANSPORTATION - CEI - LANDSCAPE ARCHITECTURE
1230 N US HWY 1, SUITE 3, ORMOND BEACH, FLORIDA 32174 386-872-7794

Test Location	Vertical Percolation (ft/day)	Horizontal Percolation (ft/day)	Aquifer Base (EL)
P-1	8.10	13.97	-4.4
P-2	12.60	13.58	-4.9
Average	10.35	13.78	-4.7
FOS = 2	5.18	6.89	
Soil Porosity	25%		

Weighted Vertical Percolation Calculations

$$\text{P-1} = \frac{\text{2.0 ft (8.1 fpd)}}{\text{2.0 ft}} = 8.1 \text{ fpd}$$

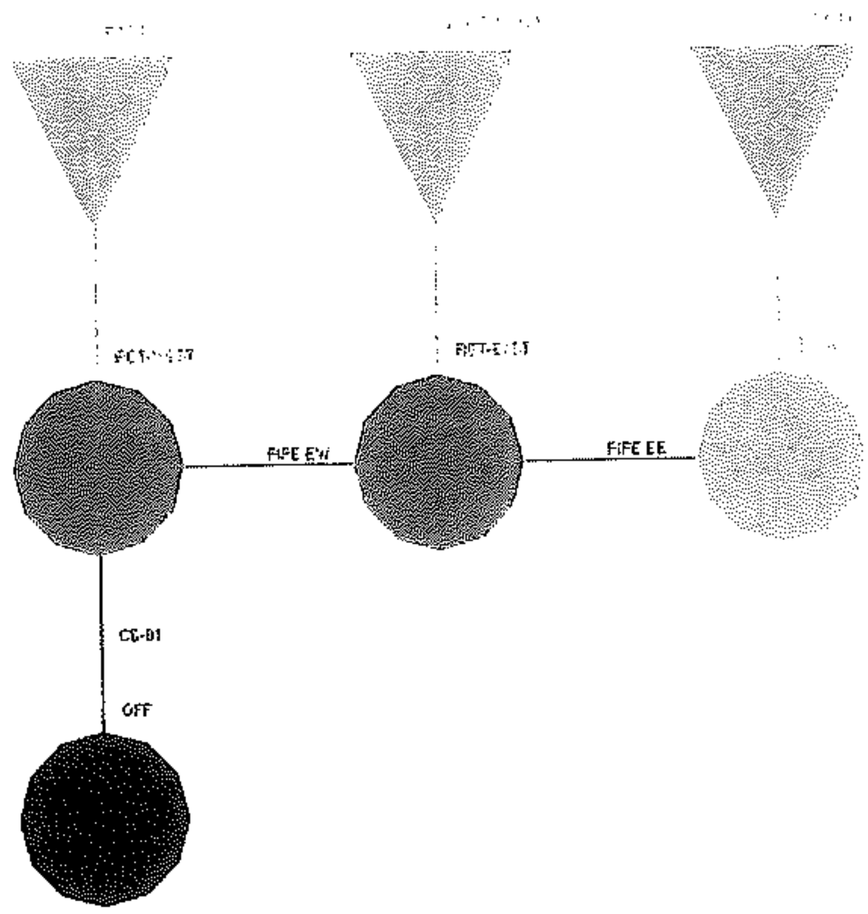
$$\text{P-2} = \frac{\text{2.0 ft (12.6 fpd)}}{\text{2.0 ft}} = 12.6 \text{ fpd}$$

Weighted Horizontal Percolation Calculations

$$\text{P-1} = \frac{\text{3.72ft (18.45 fpd)} + \text{11.0 ft (12.45 fpd)}}{\text{14.72 ft}} = 13.97 \text{ fpd}$$

$$\text{P-2} = \frac{\begin{array}{c}\text{1.43 ft (25.2 fpd)} + \text{2.5 ft (12.15 fpd)} + \\ \text{5.0 ft (6.45 fpd)} + \text{5.0 ft (25.2 fpd)} + \\ \text{5.0 ft (6.45 fpd)}\end{array}}{\text{18.93 ft}} = 13.58 \text{ fpd}$$

Background Image: POST



Single Basin: POST 1 (EXFIL)

Scenario:	Scenario1
Node:	EXFIL
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	0.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	1.0270 ac
Curve Number:	61.0
% Impervious:	55.70
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin Runoff Summary [Scenario1]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
POST-1 (EXFIL)	01_MA_24H	1.58	12.1000	4.50	2.28	1.0270	77.9	55.70	0.00
POST-1 (EXFIL)	02_25Y_24H	4.25	12.0833	8.85	6.16	1.0270	77.9	55.70	0.00

Simple Basin Mass Balance Summary [Scenario1]

Basin Name	Sim Name	Total Rainfall	Total Irrigation	Total Runoff	Total ET	Total Initial Abst	Total Recharge	Change Soil Storage
POST-1 (EXFIL) [in]	01_MA_24H	4.50	0.00	2.28	0.00	0.00	0.00	2.22
POST-1 (EXFIL) [ft3]	01_MA_24H	16776	0	8504	0	0	0	8272
POST-1 (EXFIL) [ac-ft]	01_MA_24H	0.39	0.00	0.20	0.00	0.00	0.00	0.19
POST-1 (EXFIL) [in]	02_25Y_24H	8.85	0.00	6.16	0.00	0.00	0.00	2.69
POST-1 (EXFIL) [ft3]	02_25Y_24H	32993	0	22975	0	0	0	10018
POST-1 (EXFIL) [ac-ft]	02_25Y_24H	0.76	0.00	0.53	0.00	0.00	0.00	0.23

Simple Basin: POST-1 (RET)

Scenario:	Scenario1
Node:	RET-EAST
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	0.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0

Area:	1.0270 ac
Curve Number:	61.0
% Impervious:	55.70
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin Runoff Summary [Scenario1]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
POST-1 (RET)	01_MA_24H	1.83	12.0500	4.50	2.28	1.0270	77.9	55.70	0.00
POST-1 (RET)	02_25Y_24H	4.87	12.0333	8.85	6.17	1.0270	77.9	55.70	0.00

Simple Basin Mass Balance Summary [Scenario1]

Basin Name	Sim Name	Total Rainfall	Total Irrigation	Total Runoff	Total ET	Total Initial Abst	Total Recharge	Change Soil Storage
POST-1 (RET) [in]	01_MA_24H	4.50	0.00	2.28	0.00	0.00	0.00	2.22
POST-1 (RET) [ft3]	01_MA_24H	16776	0	8517	0	0	0	8259
POST-1 (RET) [ac-ft]	01_MA_24H	0.39	0.00	0.20	0.00	0.00	0.00	0.19
POST-1 (RET) [in]	02_25Y_24H	8.85	0.00	6.17	0.00	0.00	0.00	2.68
POST-1 (RET) [ft3]	02_25Y_24H	32993	0	23003	0	0	0	9990
POST-1 (RET) [ac-ft]	02_25Y_24H	0.76	0.00	0.53	0.00	0.00	0.00	0.23

Simple Basin: POST-2

Scenario:	Scenario1
Node:	RET-WEST
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min

Max Allowable Q:	0.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	0.1530 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin Runoff Summary [Scenario1]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
POST-2	01_MA_24H	0.11	12.0667	4.50	1.08	0.1530	61.0	0.00	0.00
POST-2	02_25Y_24H	0.49	12.0500	8.85	4.10	0.1530	61.0	0.00	0.00

Simple Basin Mass Balance Summary [Scenario1]

Basin Name	Sim Name	Total Rainfall	Total Irrigation	Total Runoff	Total ET	Total Initial Abst	Total Recharge	Change Soil Storage
POST-2 [in]	01_MA_24H	4.50	0.00	1.08	0.00	0.00	0.00	3.42
POST-2 [ft3]	01_MA_24H	2499	0	598	0	0	0	1901
POST-2 [ac-ft]	01_MA_24H	0.06	0.00	0.01	0.00	0.00	0.00	0.04
POST-2 [in]	02_25Y_24H	8.85	0.00	4.10	0.00	0.00	0.00	4.75
POST-2 [ft3]	02_25Y_24H	4915	0	2277	0	0	0	2638
POST-2 [ac-ft]	02_25Y_24H	0.11	0.00	0.05	0.00	0.00	0.00	0.06

Node: EXFIL

Scenario:	Scenario1
Type:	Stage/Volume
Base Flow:	0.00 cfs
Initial Stage:	8.50 ft

Warning Stage: 11.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
10.54	0.20	8538
10.46	0.19	8276
10.38	0.18	7971
10.29	0.18	7710
10.21	0.17	7405
10.13	0.16	7144
10.04	0.16	6882
10.00	0.15	6708
9.92	0.15	6403
9.83	0.14	6098
9.75	0.13	5706
9.67	0.12	5314
9.58	0.11	4879
9.50	0.10	4443
9.42	0.09	4008
9.33	0.08	3528
9.25	0.07	3093
9.17	0.06	2614
9.08	0.05	2178
9.00	0.04	1699
8.92	0.03	1394
8.83	0.03	1133
8.75	0.02	828
8.67	0.01	566
8.58	0.01	261
8.50	0.00	0

Comment:

Node Max Conditions [Scenario1]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
EXFIL	01_MA_24H	11.00	10.20	0.0010	3.12	0.42	5735
EXFIL	02_25Y_24H	11.00	10.84	0.0010	4.25	3.44	5734

Node Mass Balance Condensed [Scenario1]

Node Name	Sim Name	Total Inflow [ft3]	Total Outflow [ft3]	Stored Volume (Flow Based) [ft3]
EXFIL	01_MA_24H	10145	2877	7269
EXFIL	02_25Y_24H	25118	17853	7265

Node: OFF

Scenario: Scenario1
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 6.20 ft
Warning Stage: 0.00 ft
Boundary Stage:

Comment:

Node Max Conditions [Scenario1]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
OFF	01_MA_24H	0.00	6.20	0.0000	0.27	0.00	0
OFF	02_25Y_24H	0.00	6.20	0.0000	6.98	0.00	0

Node Mass Balance Condensed [Scenario1]

Node Name	Sim Name	Total Inflow [ft3]	Total Outflow [ft3]	Stored Volume (Flow Based) [ft3]
OFF	01_MA_24H	5805	0	5805
OFF	02_25Y_24H	36275	0	36275

Node: RET EAST

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 9.00 ft
Warning Stage: 11.00 ft

Stage [ft]	Area [ac]	Area [ft2]
9.00	0.0010	44
10.00	0.0180	784
11.00	0.0480	2091

Comment:

Node Max Conditions [Scenario1]

Node Name	Sim Name	Warning	Max Stage	Min/Max	Max Total	Max Total	Max Surface

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
RET-EAST	01_MA_24H	11.00	10.20	-0.0287	1.83	28.77	1051
RET-EAST	02_25Y_24H	11.00	10.80	-0.0287	7.14	28.77	1832

Node Mass Balance Condensed [Scenario1]

Node Name	Sim Name	Total Inflow [ft3]	Total Outflow [ft3]	Stored Volume (Flow Based) [ft3]
RET-EAST	01_MA_24H	11420	10911	509
RET-EAST	02_25Y_24H	40855	40213	642

Node: RET-WEST

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 8.00 ft
Warning Stage: 11.00 ft

Stage [ft]	Area [ac]	Area [ft2]
8.00	0.0240	1045
9.00	0.0390	1699
10.00	0.0580	2526
11.00	0.0800	3485

Comment:

Node Max Conditions [Scenario1]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
RET-WEST	01_MA_24H	11.00	10.20	0.0027	28.77	0.27	2720
RET-WEST	02_25Y_24H	11.00	10.75	0.0027	28.77	6.99	3244

Node Mass Balance Condensed [Scenario1]

Node Name	Sim Name	Total Inflow [ft3]	Total Outflow [ft3]	Stored Volume (Flow Based) [ft3]
RET-WEST	01_MA_24H	9866	5830	4035
RET-WEST	02_25Y_24H	40341	36263	4079

Pipe Link: PIPE EE		Upstream		Downstream	
Scenario:	Scenario1	Invert:	9.00 ft	Invert:	9.00 ft
From Node:	RET-EAST	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	EXFIL	Geometry: Circular		Geometry: Circular	
Link Count:	3	Max Depth:	0.83 ft	Max Depth:	0.83 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	15.00 ft	Op Table:		Op Table:	
FHWA Code:	0	Ref Node:		Ref Node:	
Entr Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: PIPE EW		Upstream		Downstream	
Scenario:	Scenario1	Invert:	3.30 ft	Invert:	3.15 ft
From Node:	RET-EAST	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	RET-WEST	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	72.00 ft	Op Table:		Op Table:	
FHWA Code:	0	Ref Node:		Ref Node:	
Entr Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Drop Structure Link: CS-01		Upstream Pipe		Downstream Pipe	
Scenario:	Scenario1	Invert:	4.50 ft	Invert:	4.00 ft
From Node:	RET-WEST	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	OFF	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	0	Op Table:		Op Table:	
Pipe Count:	1	Ref Node:		Ref Node:	
Damping:	0.0000 ft	Manning's N:	0.0000	Manning's N:	0.0000
Length:	25.00 ft	Top Clip			

FHWA Code:	0	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.00	Op Table:		Op Table:	
Exit Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Pipe Comment:

Weir Component

Weir:	1
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Rectangular
Invert:	10.13 ft
Control Elevation:	10.13 ft
Max Depth:	0.87 ft
Max Width:	4.50 ft
Fillet:	0.00 ft

Bottom Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients

Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Weir Comment: SLOT WEIR

Drop Structure Comment:

Simulation: 01_MA_24H

Scenario: Scenario1
Run Date/Time: 2/6/2023 11:47:41 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain: Global

Max dZ:	1.0000 ft
Link Optimizer Tol:	0.0001 ft
Edge Length Option:	Automatic

Opt:

Rainfall Name:	~FLMOD
Rainfall Amount:	4.50 in
Storm Duration:	24.0000 hr
Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (1D):	100 ft2
Energy Switch (1D):	Energy

Comment:

Simulation: 02_25Y_24H

Scenario: Scenario1
Run Date/Time: 2/6/2023 11:47:45 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain: Global

Max dZ:	1.0000 ft
Link Optimizer Tol:	0.0001 ft
Edge Length Option:	Automatic

Opt:

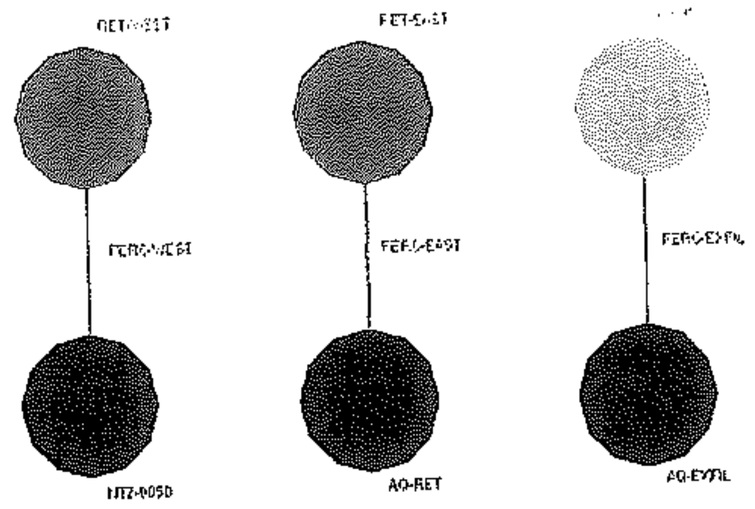
Rainfall Name:	~FLMOD
Rainfall Amount:	8.85 in
Storm Duration:	24.0000 hr
Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (1D):	100 ft2
Energy Switch (1D):	Energy

Comment:

APPENDIX D

RECOVERY

Background Image: REC



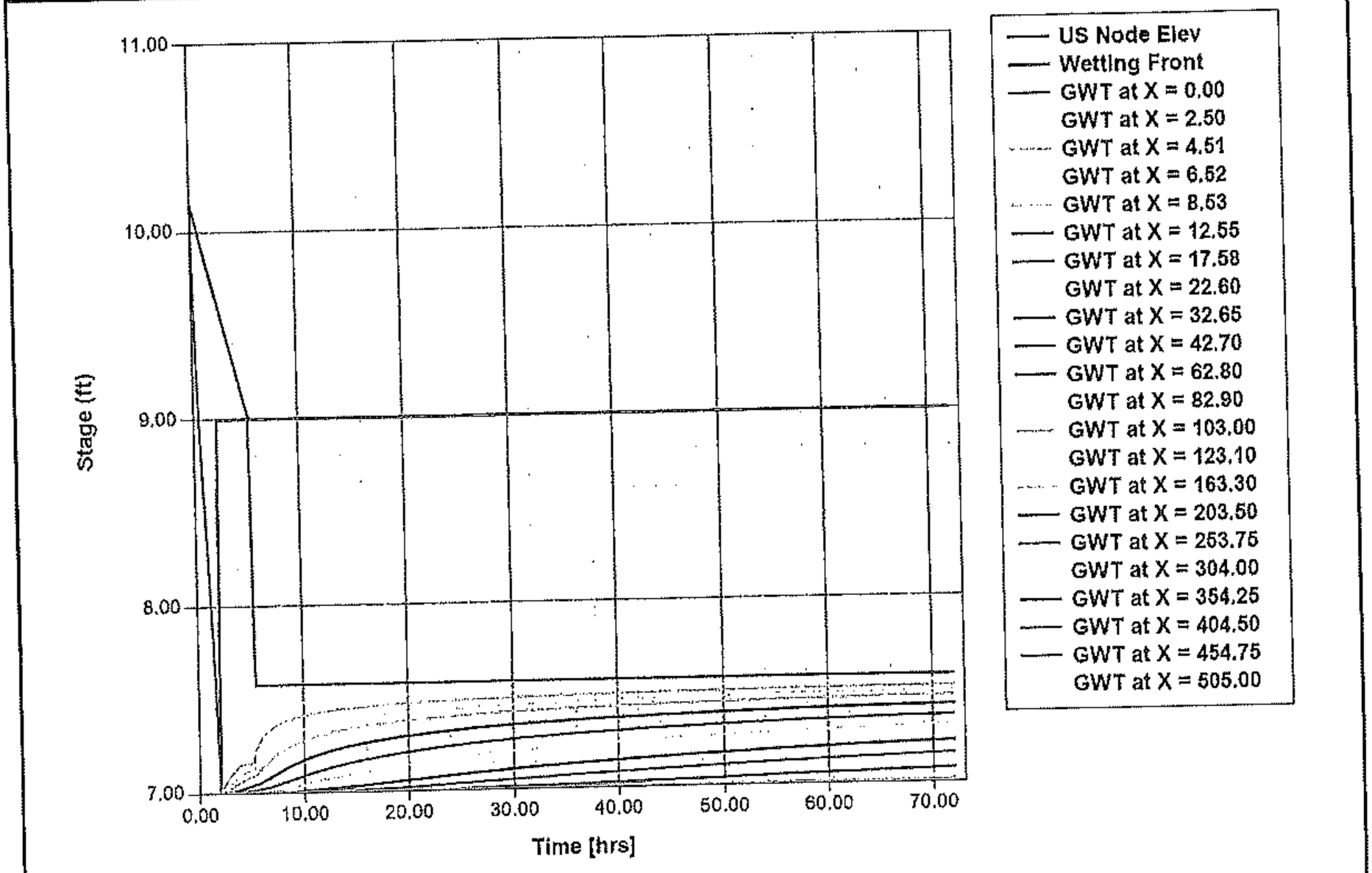
Percolation Link: PERC-EAST

Scenario:	Scenario1
From Node:	RET-EAST
To Node:	AQ-EAST
Link Count:	1
Flow Direction:	Both
Aquifer Base Elevation:	-4.70 ft
Water Table Elevation:	7.00 ft
Annual Recharge Rate:	0 ipy
Horizontal Conductivity:	6.890 fpd
Vertical Conductivity:	5.180 fpd
Fillable Porosity:	0.250
Layer Thickness:	2.00 ft

Surface Area Option:	Vary Based on Stage/Area Table
Vertical Flow Termination:	Horizontal Flow Algorithm
Perimeter 1:	442.00 ft
Perimeter 2:	745.00 ft
Perimeter 3:	3567.00 ft
Distance P1 to P2:	50.00 ft
Distance P2 to P3:	450.00 ft
# of Cells P1 to P2:	10
# of Cells P2 to P3:	45

Comment:

Perc Link: PERC_EAST (Sim: 04_72H_REC) [PERC_EAST]



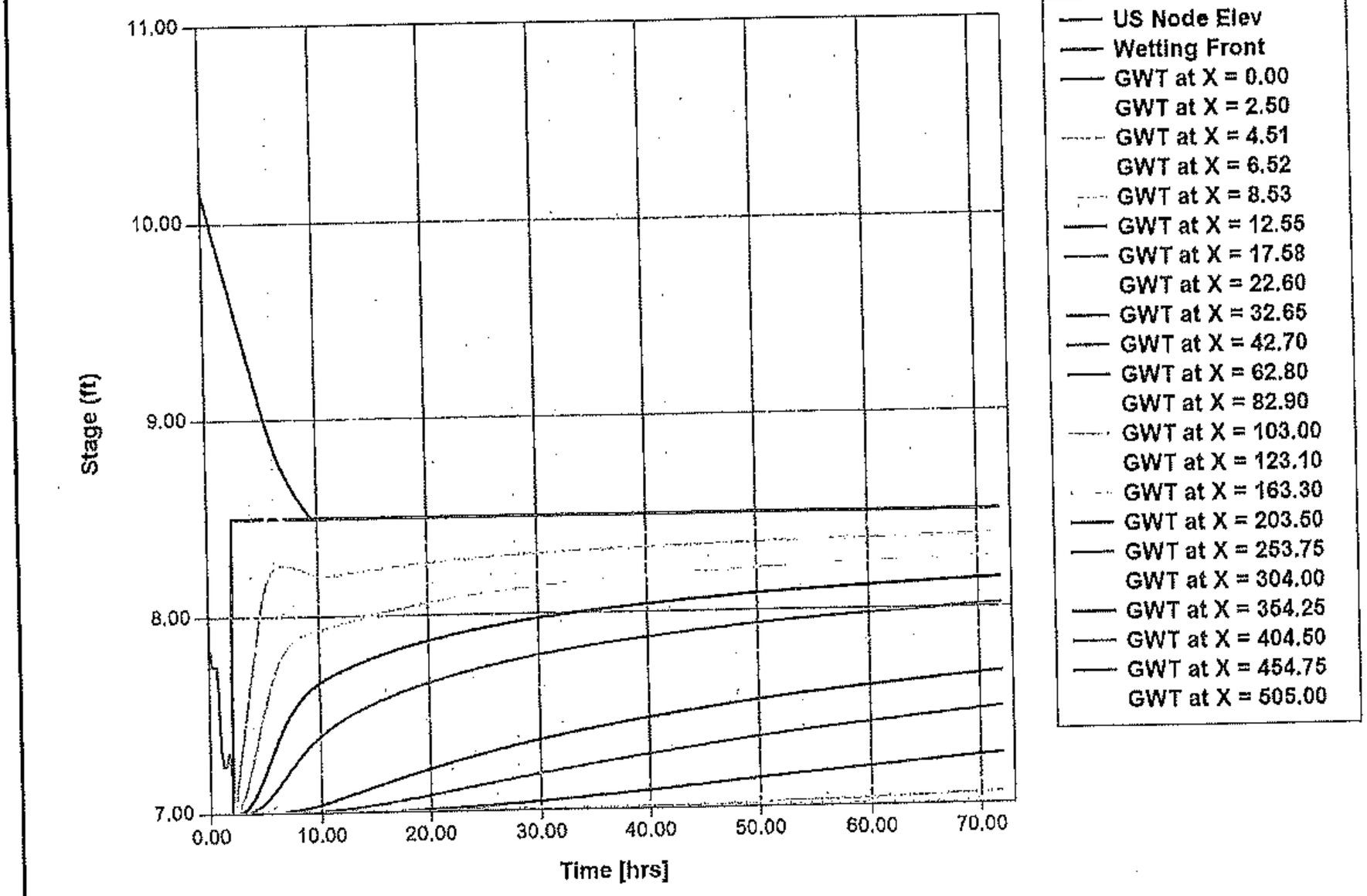
Percolation Link: PERC-EXFIL

Scenario:	Scenario1
From Node:	EXFIL
To Node:	AQ-EXFIL
Link Count:	1
Flow Direction:	Both
Aquifer Base Elevation:	-4.70 ft
Water Table Elevation:	7.00 ft
Annual Recharge Rate:	0 ipy
Horizontal Conductivity:	6.890 fpd
Vertical Conductivity:	5.180 fpd
Fillable Porosity:	0.250
Layer Thickness:	2.00 ft

Surface Area Option:	Vary Based on Stage/Area Table
Vertical Flow Termination:	Horizontal Flow Algorithm
Perimeter 1:	1103.00 ft
Perimeter 2:	1398.00 ft
Perimeter 3:	4273.00 ft
Distance P1 to P2:	50.00 ft
Distance P2 to P3:	450.00 ft
# of Cells P1 to P2:	10
# of Cells P2 to P3:	45

Comment:

Perc Link: PERC-EXFIL (5in; 0% 72h_REC) [PERC-EXFIL]

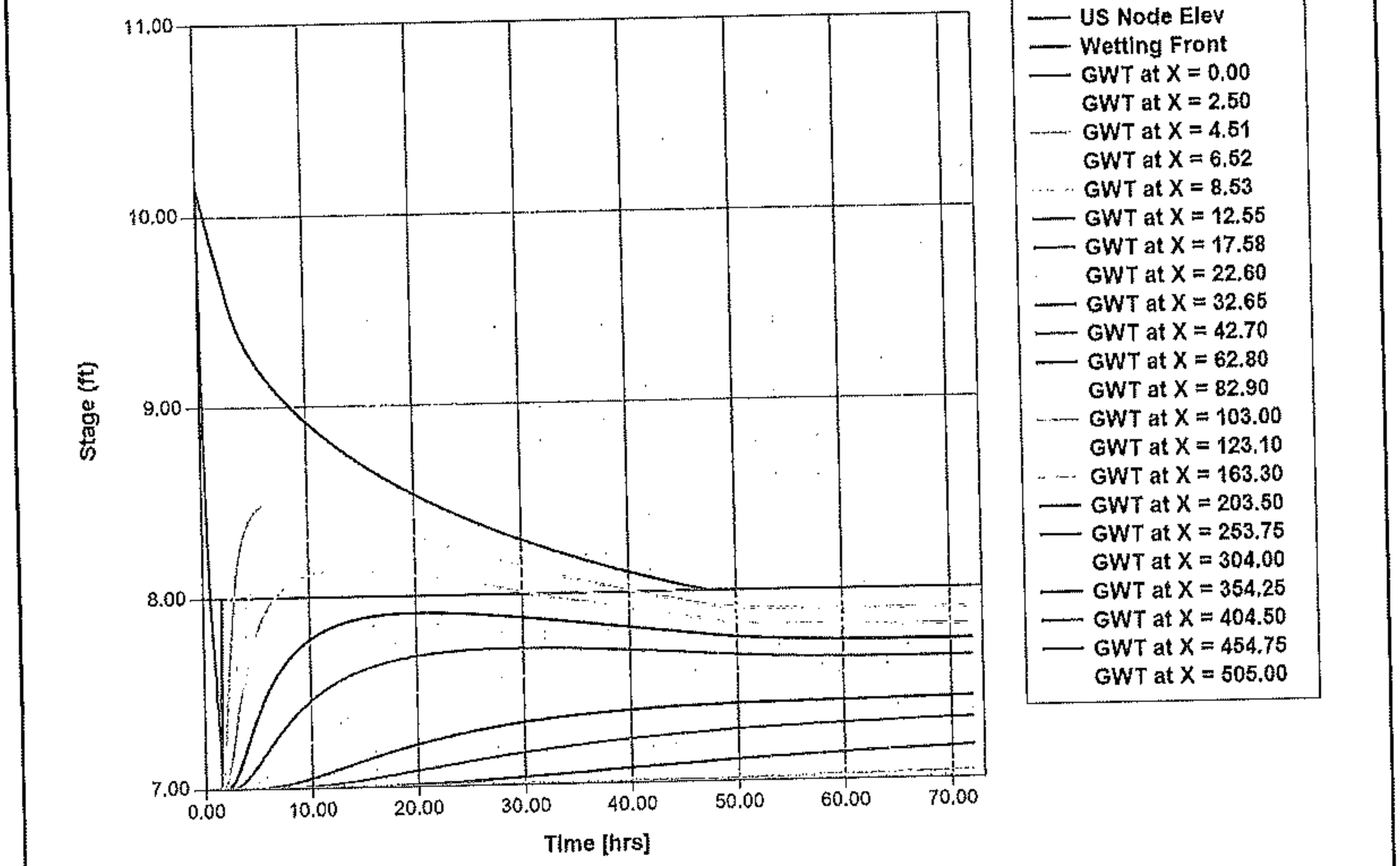


Percolation Link: PERC-WEST

Scenario:	Scenario1	Surface Area Option:	Vary Based on Stage/Area Table
From Node:	RET-WEST	Vertical Flow Termination:	Horizontal Flow Algorithm
To Node:	AQ-WEST	Perimeter 1:	237.00 ft
Link Count:	1	Perimeter 2:	585.00 ft
Flow Direction:	Both	Perimeter 3:	3483.00 ft
Aquifer Base Elevation:	-4.70 ft	Distance P1 to P2:	50.00 ft
Water Table Elevation:	7.00 ft	Distance P2 to P3:	450.00 ft
Annual Recharge Rate:	0 ipy	# of Cells P1 to P2:	10
Horizontal Conductivity:	6.890 fpd	# of Cells P2 to P3:	45
Vertical Conductivity:	5.180 fpd		
Fillable Porosity:	0.250		
Layer Thickness:	1.00 ft		

Comment:

Pond Link PERC WEST (Sim: 04_72h_REC) [PERC WEST]



Node: EXFIL

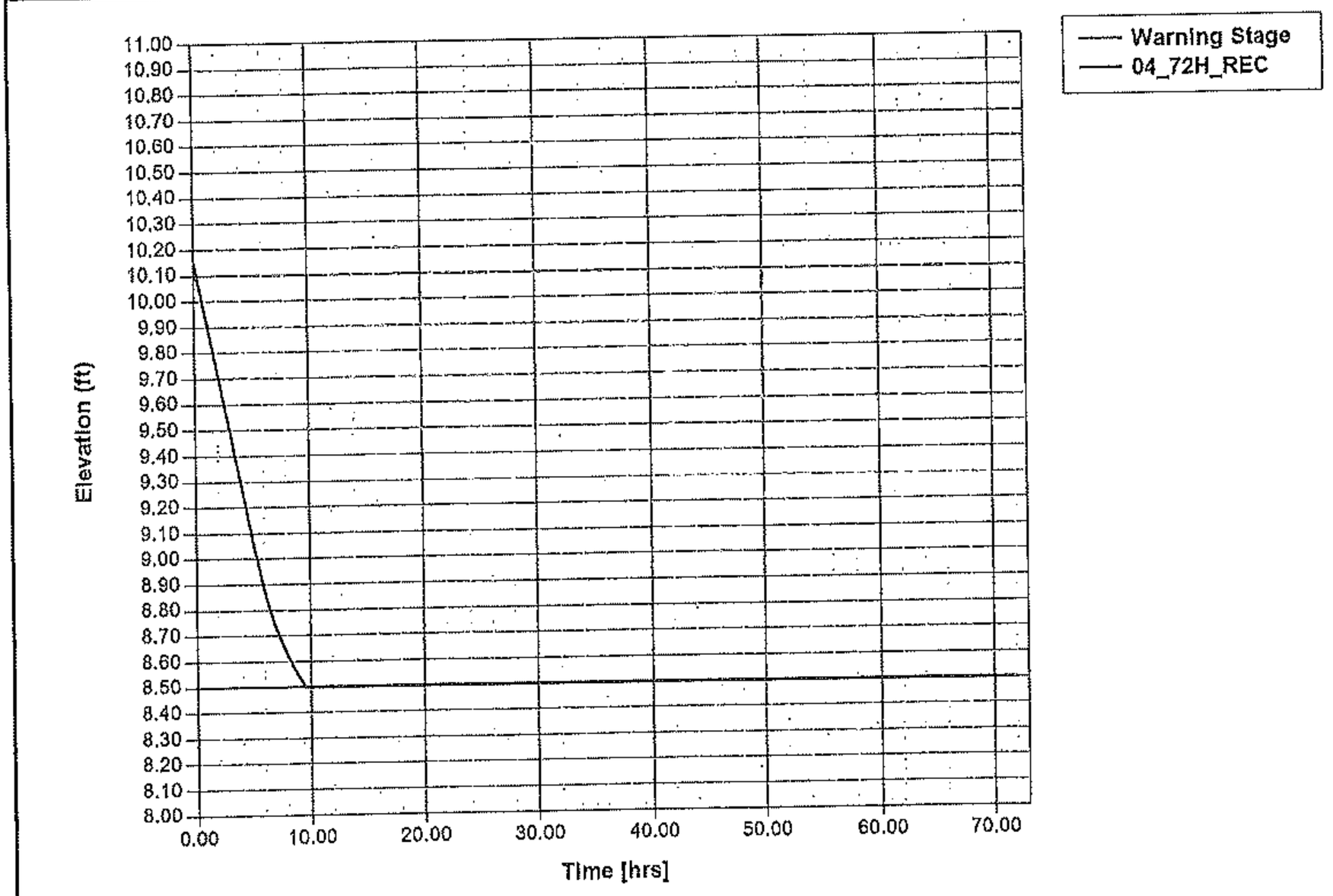
Scenario: Scenario1
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 10.15 ft
Warning Stage: 8.50 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
10.54	0.20	8538
10.46	0.19	8276
10.38	0.18	7971
10.29	0.18	7710
10.21	0.17	7405
10.13	0.16	7144
10.04	0.16	6882
10.00	0.15	6708
9.92	0.15	6403
9.83	0.14	6098
9.75	0.13	5706

Stage [ft]	Volume [ac-ft]	Volume [ft3]
9.67	0.12	5314
9.58	0.11	4879
9.50	0.10	4443
9.42	0.09	4008
9.33	0.08	3528
9.25	0.07	3093
9.17	0.06	2614
9.08	0.05	2178
9.00	0.04	1699
8.92	0.03	1394
8.83	0.03	1133
8.75	0.02	828
8.67	0.01	566
8.58	0.01	261
8.50	0.00	0

Comment:

Node Stage w/Warning Stage, EXFIL [Scenario1]



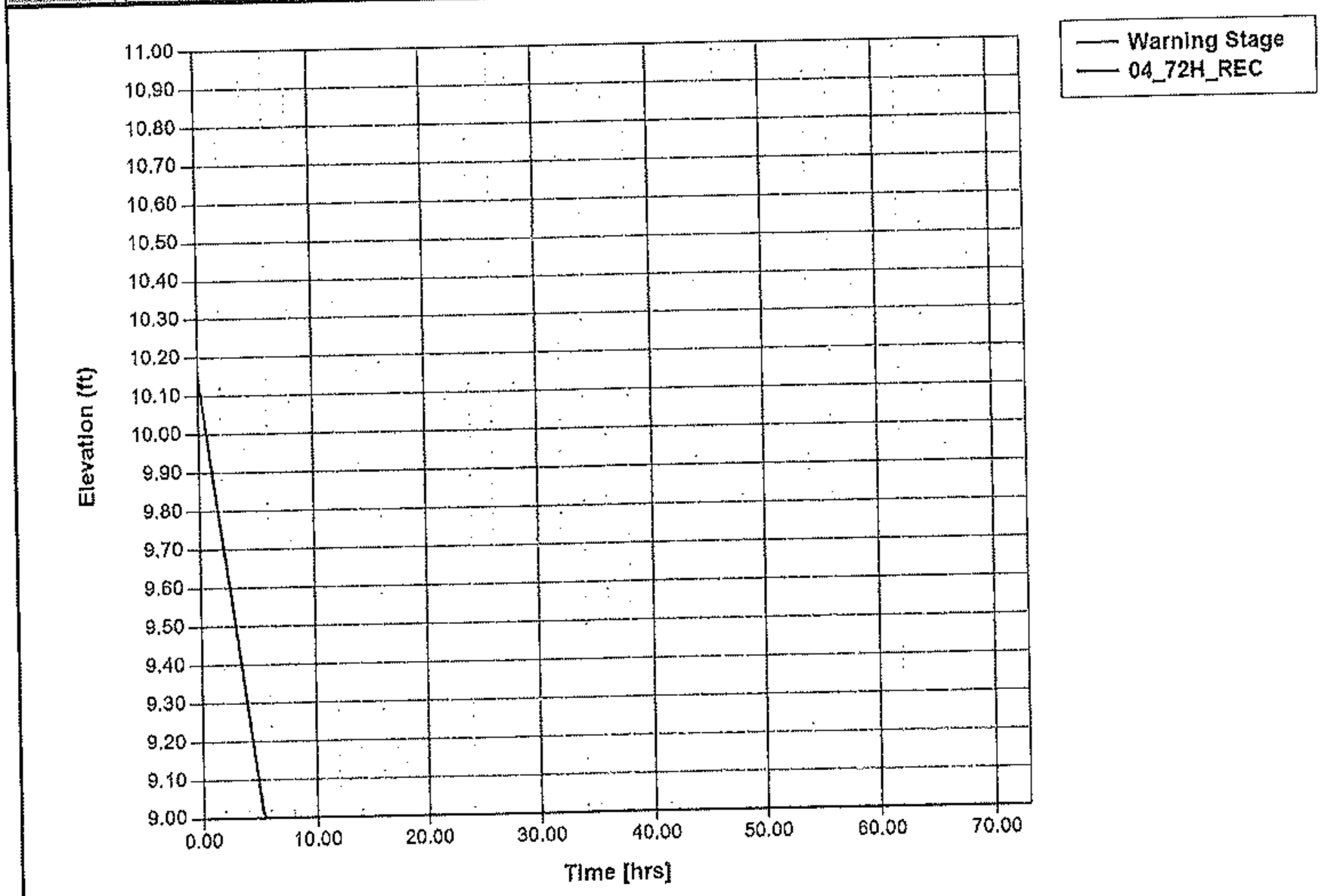
Node: RET-EAST

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 10.15 ft
Warning Stage: 9.00 ft

Stage [ft]	Area [ac]	Area [ft2]
9.00	0.0010	44
10.00	0.0180	784
11.00	0.0480	2091

Comment:

Node Stage w/Warning Stage: RET-EAST [Scenario1]



Node: RET-WEST

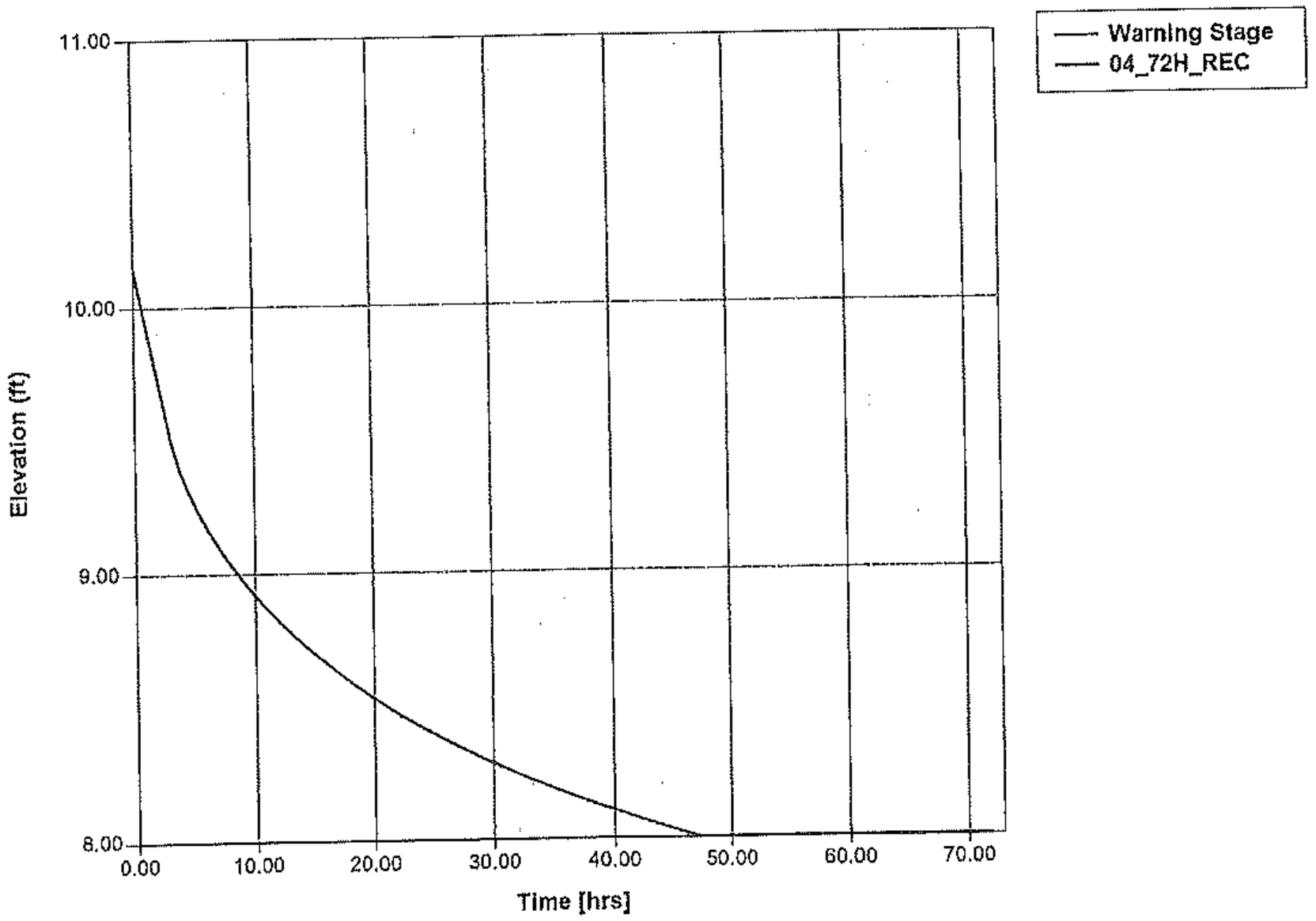
Scenario: Scenario1
Type: Stage/Area

Base Flow: 0.00 cfs
Initial Stage: 10.15 ft
Warning Stage: 8.00 ft

Stage [ft]	Area [ac]	Area [ft2]
8.00	0.0240	1045
9.00	0.0390	1699
10.00	0.0580	2526
11.00	0.0800	3485

Comment:

Node Stage w/Warning Stage, RET-WEST [Scenario1]



Node: AQ EAST

Scenario: Scenario1
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft

Warning Stage: 0.00 ft
Boundary Stage:

Comment:

Node: AO_EXFIL

Scenario: Scenario1
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft
Boundary Stage:

Comment:

Node: AO_WEST

Scenario: Scenario1
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 7.00 ft
Warning Stage: 0.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	7.00
0	0	0	72.0000	7.00

Comment:

Simulation: 0H_72H_REC

Scenario: Scenario1
Run Date/Time: 2/2/2023 12:50:57 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:

Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft

Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft

Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr

Smp/Man Basin Rain Opt: Global

Rainfall Name:
Rainfall Amount: 0.00 in
Storm Duration: 72.0000 hr

Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

APPENDIX E

BMP ANALYSIS

Nitrogen EMC (mg/l)	2.320
Phosphorus EMC (mg/l)	0.520
Runoff Volume (ac-ft/yr)	1.083
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	3.098
Phosphorus Loading (kg/yr)	0.694

Catchment Number: 1 Name: POST-1

Project: Sunset Lakeview
Date: 2/2/2023

Retention Design

Retention Depth (in)	1.040
Retention Volume (ac-ft)	0.178

Watershed Characteristics

Catchment Area (acres)	2.05
Contributing Area (acres)	2.050
Non-DCIA Curve Number	81.61
DCIA Percent	0.00
Rainfall Zone	Florida Zone 2
Rainfall (in)	50.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	51
Provided TN Treatment Efficiency (%)	79
Required TP Treatment Efficiency (%)	79
Provided TP Treatment Efficiency (%)	79

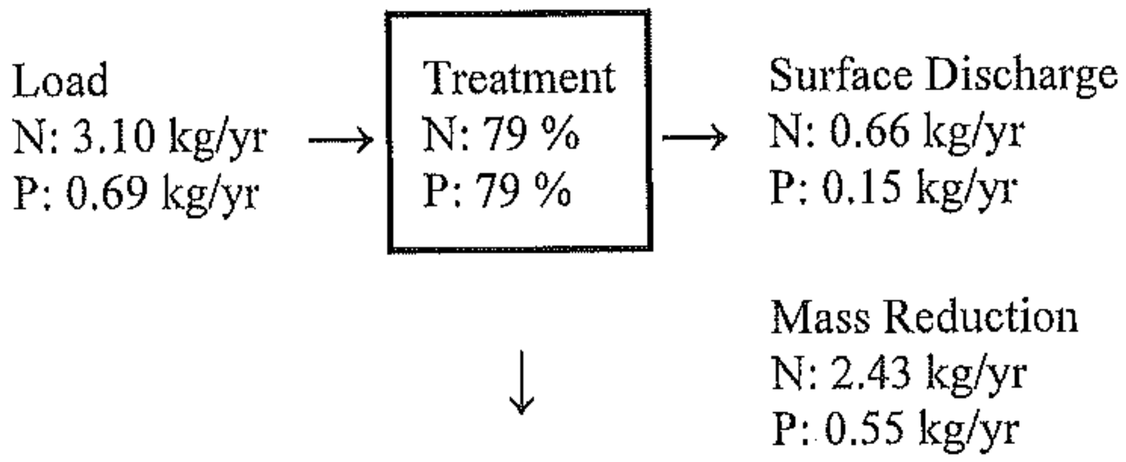
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

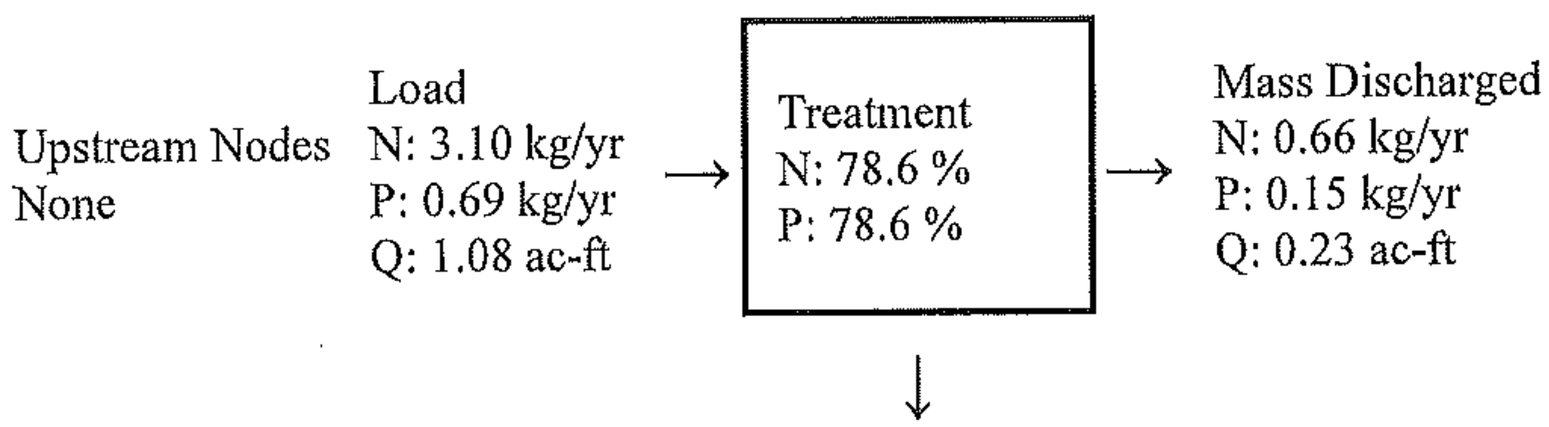
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	2.435
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.546
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Summary Treatment Report Version: 4.3.2

Project: Sunset Lakeview

Date:2/2/2023

Analysis Type: Net

Routing Summary
Catchment 1 Routed to Outlet

Improvement

BMP Types:

Catchment 1 - (POST-1)

Retention

Based on % removal values to the nearest percent

Total nitrogen target removal met? Yes

Total phosphorus target removal met? Yes

Summary Report

Nitrogen

Surface Water Discharge		
Total N pre load	1.5 kg/yr	
Total N post load	3.1 kg/yr	
Target N load reduction	51 %	
Target N discharge load	1.5 kg/yr	
Percent N load reduction	79 %	
Provided N discharge load	.66 kg/yr	1.46 lb/yr
Provided N load removed	2.43 kg/yr	5.37 lb/yr

Phosphorus

Surface Water Discharge		
Total P pre load	.147 kg/yr	
Total P post load	.694 kg/yr	
Target P load reduction	79 %	
Target P discharge load	.147 kg/yr	
Percent P load reduction	79 %	
Provided P discharge load	.149 kg/yr	.33 lb/yr
Provided P load removed	.546 kg/yr	1.203 lb/yr

NEWKIRK ENGINEERING, INC.

CIVIL ENGINEERING - TRANSPORTATION - CEI - LANDSCAPE ARCHITECTURE

1230 N US HWY 1, SUITE 3, ORMOND BEACH, FLORIDA 32174 386-872-7794

ATTACHMENT #8

April 25, 2023

Larry Torino, City Planner
Growth Management
Flagler Beach
800 S. Daytona Avenue
Flagler Beach, FL 32136
(386) 517-2000

Re: Legacy Pointe Apartments
Traffic Impact Statement

Dear Mr. Torino:

The proposed Legacy Pointe Apartments project consists of 39 units. Site access is provided by existing paved road on Leslie Street connected to John Anderson Highway. A secondary stabilized emergency access is provided on Joyce Street connected to John Anderson Highway.

The trip generation calculations shows that the total project generated trip to external roadway network is 259 Daily Trips, 20 AM (4 In, 16 Out and 0 Pass-By) and 24 PM Peak Hour (16 In, 8 Out and 0 Pass-By). The Daily Traffic Trips does not exceed 500 Daily Trips and is considered minimal traffic impact to John Anderson Highway, State Road 100, A1A and surrounding local road network. Florida Department of Transportation does not require full traffic studies for projects generating less than 500 Daily Trips as this traffic as these projects are considered minimal impact.

The 20 AM (4 In, 16 Out and 0 Pass-By) Peak Hour (7:00 AM – 9:00 AM) trips will not impact the adopted level of service of John Anderson Highway, State Road 100, A1A and surrounding local road network as maximum trips in any direction is less than 20. Trip distribution is as follows:

- SR 100 (In Bound): 2 east bound and 2 west bound to John Anderson Drive (minimal impact)
- SR 100 (Out Bound): 8 east bound and 8 west bound from John Anderson Drive (minimal impact)

The 24 PM (16 In, 8 Out and 0 Pass-By) Peak Hour (4:00 PM – 6:00 PM) trips will not impact the adopted level of service of John Anderson Highway, State Road 100, A1A and surrounding local road network as maximum trips in any direction is less than 20. Trip distribution is as follows:

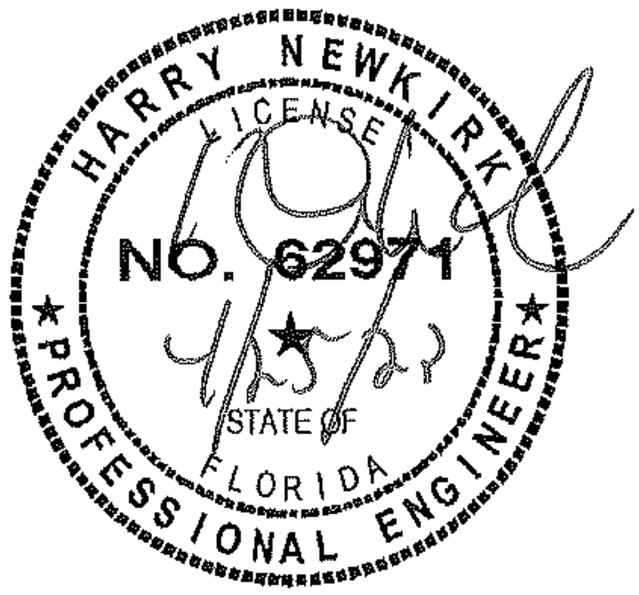
- SR 100 (In Bound): 8 east bound and 8 west bound to John Anderson Drive (minimal impact)
- SR 100 (Out Bound): 4 east bound and 4 west bound from John Anderson Drive (minimal impact)

See pages 2 and 3 for ITE Trip Generation Rate Spreadsheet.

If you have any questions or need additional information, please feel free to call or email me at Harry@Newkirk-Engineering.com.

Sincerely,

NEWKIRK ENGINEERING, INC.



Harry Newkirk, PE No. 62971
President/CEO of Newkirk Engineering, Inc.

Description/ITE Code	Units	ITE Vehicle Trip Generation Rates (peak hours are for peak hour of adjacent street traffic unless highlighted)								Expected Units	Total Generated Trips			Total Distribution of Generated Trips					
		Weekday	AM	PM	Pass-By	AM In	AM Out	PM In	PM Out		Daily	AM Hour	PM Hour	AM In	AM Out	Pass-By	PM In	PM Out	Pass-By
Waterport/Marine Terminal 010	Acres	11.93	NA	NA		NA	NA	NA	NA		0	NA	NA	NA	NA	0	NA	NA	0
Waterport/Marine Terminal 010	Berths	171.52	NA	NA		NA	NA	NA	NA		0	NA	NA	NA	NA	0	NA	NA	0
Commercial Airport 021	Employees	12.40	0.85	0.80		55%	45%	54%	46%		0	0	0	0	0	0	0	0	0
Commercial Airport 021	Avg Flights/Day	104.73	5.40	6.75		54%	46%	45%	55%		0	0	0	0	0	0	0	0	0
Commercial Airport 021	Com. Flights/Day	123.21	6.63	6.80		55%	45%	54%	46%		0	0	0	0	0	0	0	0	0
General Aviation Airport 022	Employees	14.24	0.89	1.03		83%	17%	45%	55%		0	0	0	0	0	0	0	0	0
General Aviation Airport 022	Avg. Flights/Day	1.97	0.24	0.30		NA	NA	NA	NA		0	0	0	NA	NA	0	NA	NA	0
General Aviation Airport 022	Based Aircraft	5.00	0.24	0.37		83%	17%	45%	55%		0	0	0	0	0	0	0	0	0
Truck Terminal 030	Acres	21.90	1.26	1.55		41%	59%	43%	57%		0	0	0	0	0	0	0	0	0
Truck Terminal 030	Employees	5.99	0.66	0.83		40%	60%	47%	53%		0	0	0	0	0	0	0	0	0
Park&Ride w/ Bus Service 090	Parking Spaces	4.50	0.72	0.62		81%	19%	23%	77%		0	0	0	0	0	0	0	0	0
Park&Ride w/ Bus Service 090	Acres	372.32	46.61	45.75		NA	NA	NA	NA		0	0	0	NA	NA	0	NA	NA	0
Park&Ride w/ Bus Service 090	Occ. Spaces	9.62	1.26	0.81		69%	31%	28%	72%		0	0	0	0	0	0	0	0	0
Light Rail Station w/ Park. 093	Parking Space	2.51	1.07	1.24		80%	20%	58%	42%		0	0	0	0	0	0	0	0	0
Light Rail Station w/ Park. 093	Occ. Spaces	3.91	1.14	1.33		80%	20%	58%	42%		0	0	0	0	0	0	0	0	0
General Light Industrial 110	KSF²	6.97	0.92	0.97		88%	12%	12%	88%		0	0	0	0	0	0	0	0	0
General Light Industrial 110	Acres	51.80	7.51	7.26		83%	17%	22%	78%		0	0	0	0	0	0	0	0	0
General Light Industrial 110	Employees	3.02	0.44	0.42		83%	17%	21%	79%		0	0	0	0	0	0	0	0	0
General Heavy Industrial 120	KSF²	1.50	0.51	0.15		NA	NA	NA	NA		0	0	0	NA	NA	0	NA	NA	0
General Heavy Industrial 120	Acres	6.75	1.98	2.15		NA	NA	NA	NA		0	0	0	NA	NA	0	NA	NA	0
General Heavy Industrial 120	Employees	0.93	0.51	0.48		NA	NA	NA	NA		0	0	0	NA	NA	0	NA	NA	0
Industrial Park 130	KSF²	6.96	0.84	0.86		82%	18%	21%	79%		0	0	0	0	0	0	0	0	0
Industrial Park 130	Acres	63.11	8.55	8.84		83%	17%	21%	79%		0	0	0	0	0	0	0	0	0
Industrial Park 130	Employees	3.34	0.47	0.46		86%	14%	20%	80%		0	0	0	0	0	0	0	0	0
Manufacturing 140	KSF²	3.82	0.73	0.73		78%	22%	36%	64%		0	0	0	0	0	0	0	0	0
Manufacturing 140	Acres	38.88	7.44	8.35		93%	7%	53%	47%		0	0	0	0	0	0	0	0	0
Manufacturing 140	Employees	2.13	0.40	0.36		73%	27%	44%	56%		0	0	0	0	0	0	0	0	0
Warehousing 150	KSF²	3.56	0.30	0.32		79%	21%	25%	75%		0	0	0	0	0	0	0	0	0
Warehousing 150	Acres	57.23	10.03	8.69		72%	28%	35%	65%		0	0	0	0	0	0	0	0	0
Warehousing 150	Employees	3.89	0.51	0.59		72%	28%	35%	65%		0	0	0	0	0	0	0	0	0
Mini Warehouse 151	KSF²	2.50	0.15	0.26		59%	41%	51%	49%		0	0	0	0	0	0	0	0	0
Mini Warehouse 151	Storage Units	0.25	0.02	0.02		67%	33%	NA	NA		0	0	0	0	0	0	NA	NA	0
Mini Warehouse 151	Acres	35.43	2.62	3.45		NA	NA	52%	48%		0	0	0	NA	NA	0	0	0	0
Mini Warehouse 151	Employees	61.90	5.26	6.04		67%	33%	52%	48%		0	0	0	0	0	0	0	0	0
High-Cube Warehouse 152	KSF²	1.44	0.09	0.10		65%	35%	33%	67%		0	0	0	0	0	0	0	0	0
Utilities 170	KSF²	NA	0.80	0.78		NA	NA	45%	55%		0	0	0	NA	NA	0	0	0	0
Utilities 170	Employees	NA	3.76	0.76		90%	10%	15%	85%		0	0	0	0	0	0	0	0	0
Single Family Homes 210	DU	9.57	0.75	1.01		25%	75%	63%	37%		0	0	0	0	0	0	0	0	0
Single Family Homes 210	Acres	26.04	2.06	2.74		31%	69%	66%	34%		0	0	0	0	0	0	0	0	0
Single Family Homes 210	Persons	2.55	0.21	0.28		31%	69%	66%	34%		0	0	0	0	0	0	0	0	0
Single Family Homes 210	Vehicles	6.02	0.51	0.67		31%	69%	66%	34%		0	0	0	0	0	0	0	0	0
Apartment 220	DU	6.65	0.51	0.62		20%	80%	65%	35%	39.0	259	20	24	4	16	0	16	8	0
Apartment 220	Persons	3.31	0.28	0.40		NA	NA	NA	NA		0	0	0	NA	NA	0	NA	NA	0
Apartment 220	Vehicles	5.10	0.46	0.60		NA	NA	NA	NA		0	0	0	NA	NA	0	NA	NA	0
Low Rise Apartment 221	Occ.DU	6.59	0.46	0.58		21%	79%	65%	35%		0	0	0	0	0	0	0	0	0
High Rise Apartment 222	DU	4.20	0.30	0.35		25%	75%	61%	39%		0	0	0	0	0	0	0	0	0
Mid-Rise Apartment 223	DU	NA	0.30	0.39		31%	69%	58%	42%		0	0	0	0	0	0	0	0	0
Rental Townhouse 224	DU	NA	0.41	0.52		33%	67%	51%	49%		0	0	0	0	0	0	0	0	0
Resd. Condo/Townhouse 230	DU	5.81	0.44	0.52		17%	83%	67%	33%		0	0	0	0	0	0	0	0	0
Resd. Condo/Townhouse 230	Persons	2.49	0.19	0.24		16%	84%	67%	33%		0	0	0	0	0	0	0	0	0
Resd. Condo/Townhouse 230	Vehicles	3.34	0.24	0.32		16%	84%	66%	34%		0	0	0	0	0	0	0	0	0
Low Rise Resd. Condo 231	DU	NA	0.67	0.78		25%	75%	58%	42%		0	0	0	0	0	0	0	0	0
High Rise Resd. Condo 232	DU	4.18	0.34	0.38		19%	81%	62%	38%		0	0	0	0	0	0	0	0	0
Luxury Condo/Townhouse 233	Occ. DU	NA	0.58	0.55		23%	77%	63%	37%		0	0	0	0	0	0	0	0	0
Mobile Home Park 240	Occ. DU	4.99	0.44	0.59		20%	80%	62%	38%		0	0	0	0	0	0	0	0	0
Mobile Home Park 240	Persons	2.46	0.20	0.26		18%	82%	63%	37%		0	0	0	0	0	0	0	0	0

Description/ITE Code	Units	ITE Vehicle Trip Generation Rates (peak hours are for peak hour of adjacent street traffic unless highlighted)								Expected Units	Total Generated Trips			Total Distribution of Generated Trips					
		Weekday	AM	PM	Pass-By	AM In	AM Out	PM In	PM Out		Daily	AM Hour	PM Hour	AM In	AM Out	Pass-By	PM In	PM Out	Pass-By
Fast Food with Drive Thru 934	KSF²	496.12	49.35	33.48	50%	51%	49%	52%	48%		0	0	0	0	0	0	0	0	0
Fast Food with Drive Thru 934	Seats	19.52	1.32	0.94	50%	53%	47%	53%	47%		0	0	0	0	0	0	0	0	0
Fast Food Drive Thru Only 935	KSF²	NA	NA	153.85	89%	NA	NA	54%	46%		0	NA	0	NA	NA	0	0	0	0
Coffee/Donut Shop w/o Drive Thru 93	KSF²	NA	117.23	40.75		51%	49%	50%	50%		0	0	0	0	0	0	0	0	0
Coffee/Donut Shop w/ Drive Thru 937	KSF²	818.58	110.75	42.93		51%	49%	50%	50%		0	0	0	0	0	0	0	0	0
Coffee/Donut Drive Thru Only 938	KSF²	1806.00	303.33	75.00	89%	50%	50%	50%	50%		0	0	0	0	0	0	0	0	0
Bread/Bagel Shop w/o Drive Thru 939	KSF²	NA	70.22	29.00		47%	53%	50%	50%		0	0	0	0	0	0	0	0	0
Bread/Bagel Shop w/ Drive Thru 940	KSF²	NA	36.62	19.36		50%	50%	50%	50%		0	0	0	0	0	0	0	0	0
Quick Lube Vehicle Shop 941	Service Bays	40.00	3.00	5.19		67%	33%	55%	45%		0	0	0	0	0	0	0	0	0
Automobile Care Center 942	Service Bays	12.48	1.92	2.17		68%	32%	NA	NA		0	0	0	0	0	0	NA	NA	0
Automobile Care Center 942	KSF²	15.66	2.94	3.38		65%	35%	50%	50%		0	0	0	0	0	0	0	0	0
Automobile Parts & Service Center 94	KSF²	NA	NA	4.46		NA	NA	42%	58%				0	NA	NA	0	0	0	0
Gasoline/Service Station 944	Fuel. Position	168.56	12.16	13.87	42%	51%	49%	50%	50%		0	0	0	0	0	0	0	0	0
Serv.Station w/ Conven.Mkt 945	Fuel Position	162.78	10.16	13.38	56%	50%	50%	50%	50%		0	0	0	0	0	0	0	0	0
Serv.Stat.w/Conv.Mkt.&Carwash 946	Fuel Position	152.84	11.93	13.94		51%	49%	51%	49%		0	0	0	0	0	0	0	0	0
Self-Service Carwash 947	Stalls	108.00	8.00	5.54		50%	50%	51%	49%		0	0	0	0	0	0	0	0	0
Automated Car Wash 948	KSF²	NA	NA	14.13		NA	NA	51%	49%		0	NA	0	NA	NA	0	0	0	0
											259	20	24	4	16	0	16	8	0

RED Rates = CAUTION - Use Carefully - Small Sample Size

Green Rates = Peak Hour of Generator - (no peak rate for the rush hour of adjacent street traffic)

Blue Rates = Saturday Daily total - (no weekday daily rate)

***Pass-By % are Rates from Weekay PM Peak Period**

*The Total Pass-By Trips will be Distributed: **50% IN / 50 % OUT**

NA = Not Available
DU = Dwelling Unit
Occ.Room = Occupied Room
KSF² = Units of 1,000 square feet
Fuel Position = the number of vehicles that could be fueled simultaneously

25-Apr-23

INDEX OF SHEETS	
DWG.NO.	DESCRIPTION
1	COVER
SU-1 & SU-2	BOUNDARY AND TOPOGRAPHIC SURVEY
3	DEVELOPMENT INFORMATION
4	DEMOLITION, TREE REMOVAL AND SWPPP PLAN
5	SWPPP DETAILS AND NOTES
6	SWPPP DETAILS AND NOTES
7	SITE LAYOUT PLAN
8	DRAINAGE PLAN
9	DRAINAGE DETAILS
10	DRAINAGE DETAILS
11	GRADING PLAN
12	CROSS SECTIONS
13	CROSS SECTIONS
14	RETAINING WALL DETAILS AND NOTES
15	RETAINING WALL DETAILS AND NOTES
16	UTILITY PLAN
17	PLAN AND PROFILE
18	PLAN AND PROFILE
19	UTILITY DETAILS AND NOTES
20	CITY OF FLAGLER BEACH UTILITY DETAILS
21	CITY OF FLAGLER BEACH UTILITY DETAILS
22	CITY OF FLAGLER BEACH UTILITY DETAILS
23	CITY OF FLAGLER BEACH UTILITY DETAILS
24	MISCELLANEOUS DETAILS AND NOTES
25	FDOT DETAILS
26	MAINTENANCE OF TRAFFIC
27	AUTOTURN TRUCK PLAN
28	EASEMENT PLAN
29	PHOTOMETRIC PLAN
30	PHOTOMETRIC DETAILS
31	TREE PROTECTION DETAILS
32	TREE REPLACEMENT PLAN
L1	LANDSCAPE DESIGN
IRR-01	IRRIGATION PLAN
IRR-02	IRRIGATION DETAILS
IRR-03	INSTALLATION DETAILS
A-3.0	BUILDING ELEVATIONS
A-3.1	BUILDING ELEVATIONS
A-3.2	BUILDING ELEVATIONS
A-10	DUMPSTER ENCLOSURE

LEGAL DESCRIPTION

DESCRIPTION: PARCEL 1:
A PARCEL OF LAND LYING SOUTH OF STATE ROAD 100 WITHIN GOVERNMENT SECTION 11, TOWNSHIP 12 SOUTH, RANGE 31 EAST, FLAGLER COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
A POINT OF BEGINNING BEING THE NORTHWEST COMER OF THE SOUTH HALF (1/2) OF TRACT 4, BLOCK D, ACCORDING TO THE PLAT BUNNELL DEVELOPMENT COMPANY, RECORDED IN MAP BOOK 1, PAGE 1, OF THE PUBLIC RECORDS OF FLAGLER COUNTY, FLORIDA, SAID NORTHWEST COMER BEING THE NORTHWEST COMER OF HILLCREST UNRECORDED SUBDIVISION, THENCE SOUTH 01° 20' 27" EAST ALONG THE WEST LINE OF TRACT 4, BLOCK D, A DISTANCE OF 320.00 FEET, THENCE DEPARTING TRACT 4, BLOCK D, SOUTH 88° 39' 33" WEST A DISTANCE OF 331.10 FEET, THENCE NORTH 01° 20' 27" WEST A DISTANCE OF 64.70 FEET TO A POINT ON THE BOUNDARY OF LANDS RECORDED IN OFFICIAL RECORDS BOOK 244, PAGE 576 THROUGH 578, THENCE NORTH 05° 21' 24" WEST A DISTANCE OF 267.23 FEET, THENCE SOUTH 89° 29' 02" EAST ALONG THE SOUTH LINE OF SAID LANDS RECORDED IN OFFICIAL RECORDS BOOK 244, PAGES 576 THROUGH 578, A DISTANCE OF 350.00 FEET TO THE POINT OF BEGINNING, PARCEL CONTAINING 2.5303 ACRES MORE OR LESS.
TOGETHER WITH,
PARCEL 2:
A PARCEL OF LAND LYING SOUTH OF STATE ROAD 100 WITHIN GOVERNMENT SECTION 11, TOWNSHIP 12 SOUTH, RANGE 31 EAST, FLAGLER COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
A POINT OF REFERENCE BEING THE NORTHWEST CORNER OF THE SOUTH HALF (1/2) OF TRACT 4, BLOCK D, ACCORDING TO THE PLAT BUNNELL DEVELOPMENT COMPANY, RECORDED IN MAP BOOK 1, PAGE 1, OF THE PUBLIC RECORDS OF FLAGLER COUNTY, FLORIDA, SAID NORTHWEST COMER BEING THE NORTHWEST COMER OF HILLCREST UNRECORDED SUBDIVISION, THENCE SOUTH 01° 20' 27" EAST ALONG THE WEST LINE OF TRACT 4, BLOCK D, A DISTANCE OF 320.00 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION, THENCE CONTINUE SOUTH 01° 20' 27" EAST A DISTANCE OF 60.00 FEET, THENCE DEPARTING TRACT 4, BLOCK D, SOUTH 88° 39' 33" WEST A DISTANCE OF 331.10 FEET, THENCE NORTH 01° 20' 27" WEST A DISTANCE OF 126.65 FEET TO A POINT ON THE BOUNDARY OF LANDS RECORDED IN OFFICIAL
RECORDS BOOK 244, PAGE 576 THROUGH 578, THENCE SOUTH 89° 29' 02" EAST ALONG THE SOUTH BOUNDARY LINE OF SAID LANDS RECORDED IN OFFICIAL RECORDS BOOK 244, PAGES 576 THROUGH 578, A DISTANCE OF 60.03 FEET, THENCE DEPARTING SAID BOUNDARY SOUTH 01° 20' 27" EAST A DISTANCE OF 64.70 FEET, THENCE NORTH 88° 39' 33" EAST A DISTANCE OF 331.10 FEET TO THE POINT OF BEGINNING, PARCEL CONTAINING 0.6292 ACRES MORE OR LESS.
PARCEL 2, SUBJECT TO AN EXISTING EASEMENT FOR ACCESS AND UTILITIES.
PARCELS 1 AND 2 CONTAINING 3.1595 ACRES MORE OR LESS.

JURISDICTIONAL AGENCY	PERMIT No.
CITY OF FLAGLER BEACH (DEVELOPMENT ORDER)	SP#23-04-01
SJRWMD (STORMWATER)	193375-1
FDEP (WATER)	-
FDEP (WASTEWATER)	-
FDEP (NPDES NOI)	FLR

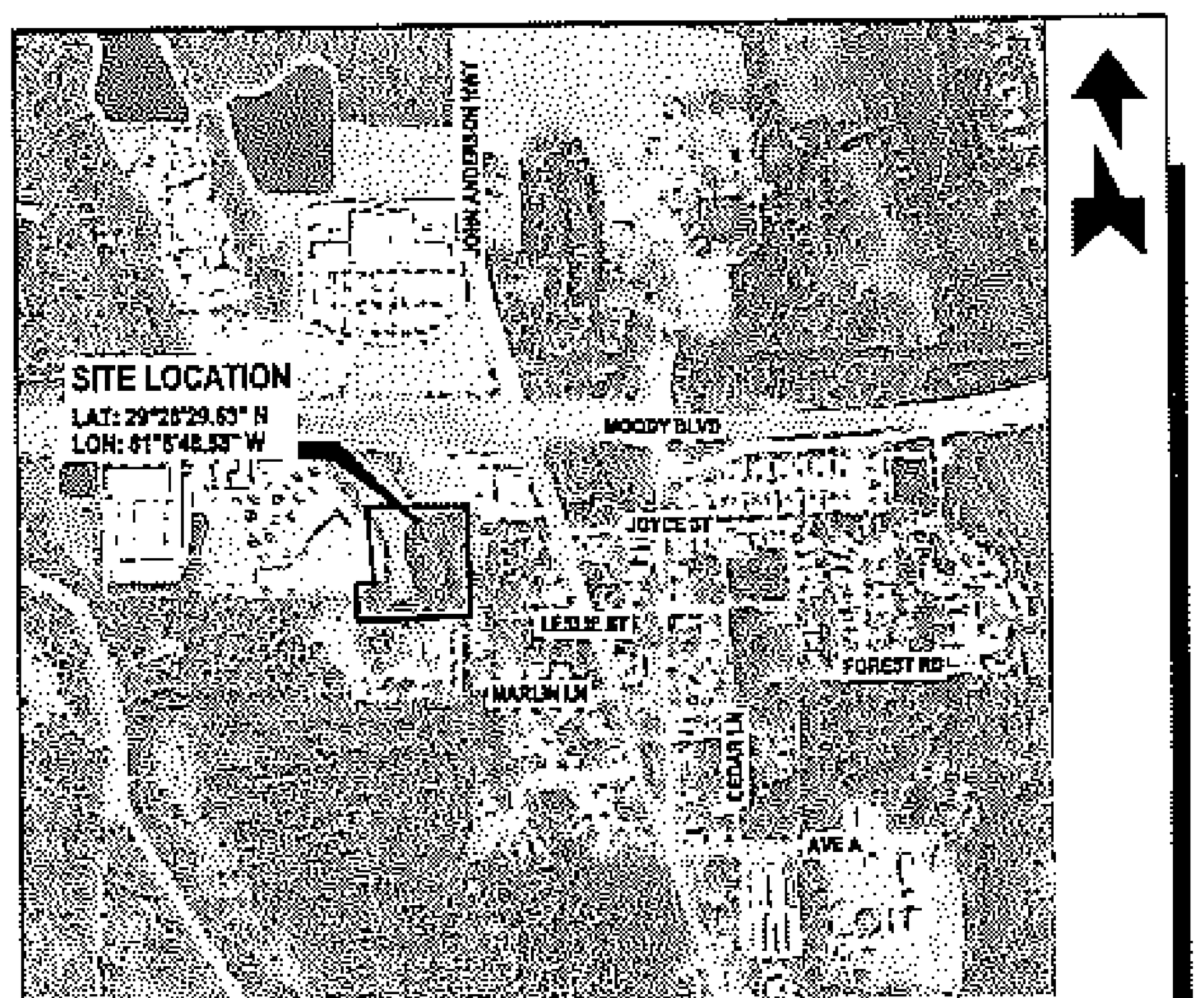
THE GENERAL CONTRACTOR SHALL ENSURE THAT ANY SUBCONTRACTOR HAS A COMPLETE SET OF CONSTRUCTION DRAWINGS FOR ITS RESPECTIVE WORK. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR SUBCONTRACTORS ONLY UTILIZING INDIVIDUAL DRAWINGS FOR ITS WORK WHERE ADDITIONAL INFORMATION MAY BE CONTAINED ON OTHER DRAWINGS WITHIN THE SET.

SITE PLAN DRAWINGS FOR

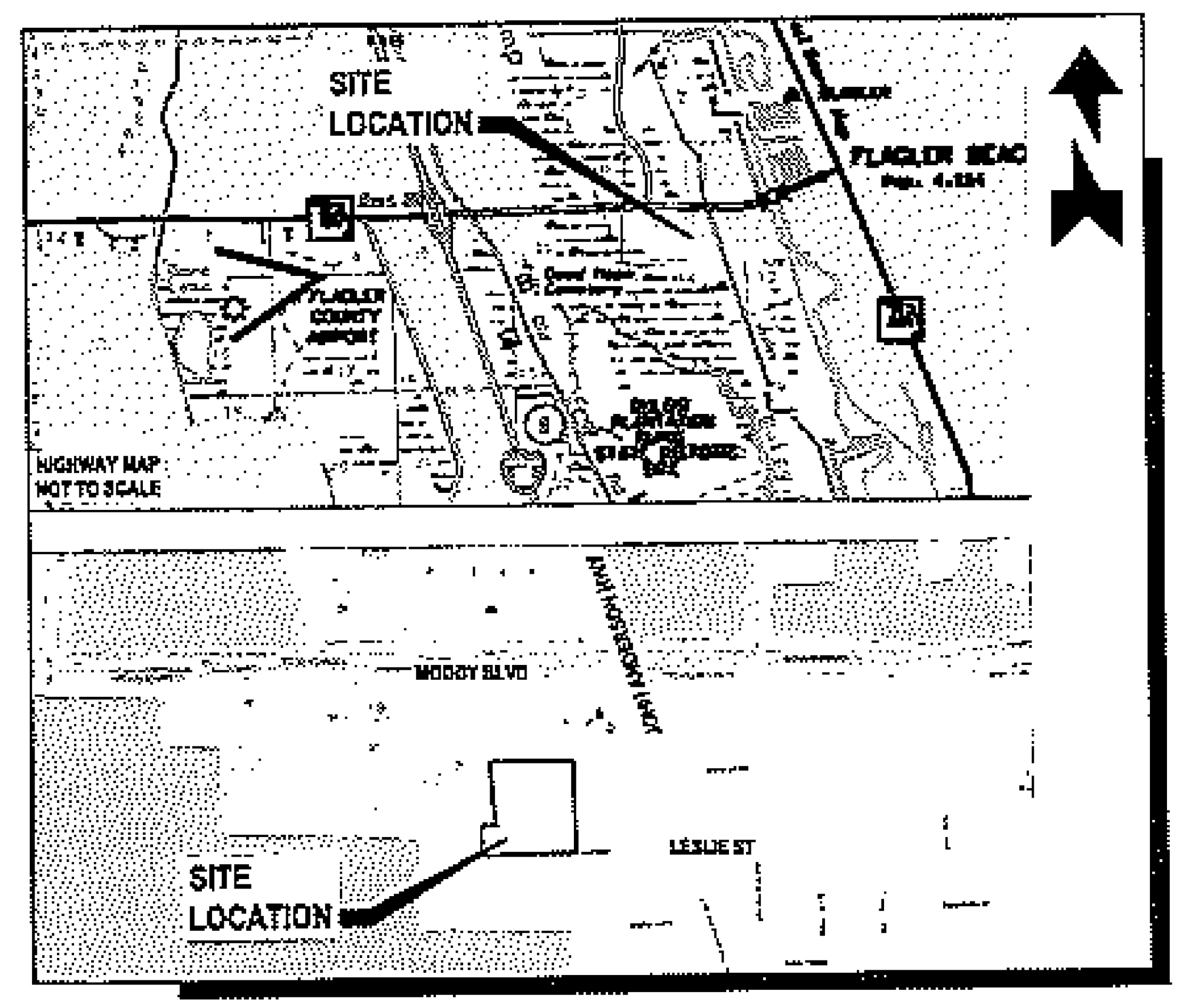
LEGACY POINTE APARTMENTS

SECTION 11, TOWNSHIP 12 S, RANGE 31 E
11-12-31-0650-000D0-0050
LESLIE STREET
FLAGLER BEACH, FL 32136

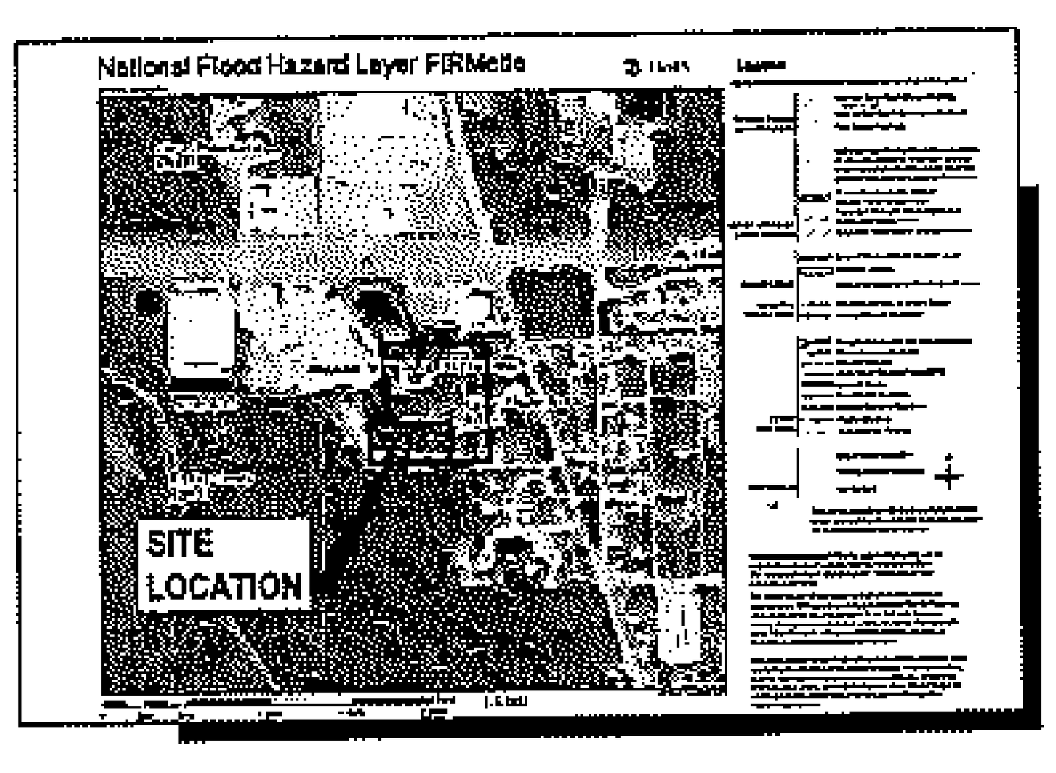
FEBRUARY 2023
REVISED APRIL 2023



AERIAL MAP
SCALE: 1" = 600'

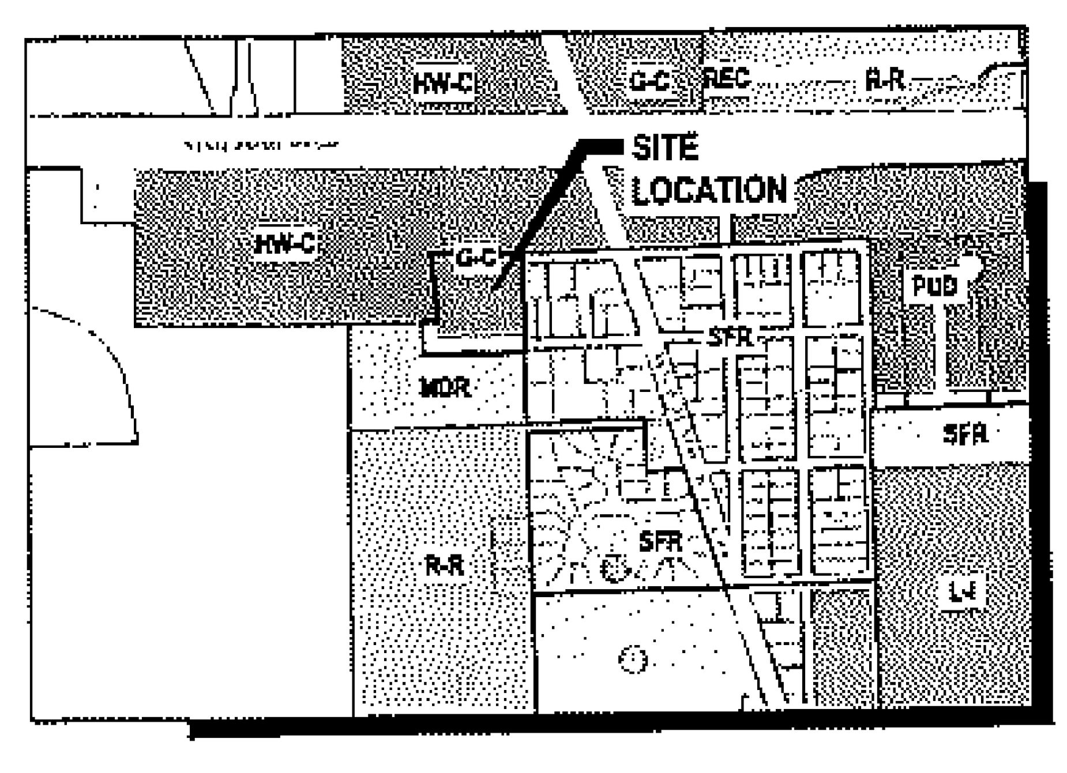


LOCATION MAP
SCALE: 1" = 700'



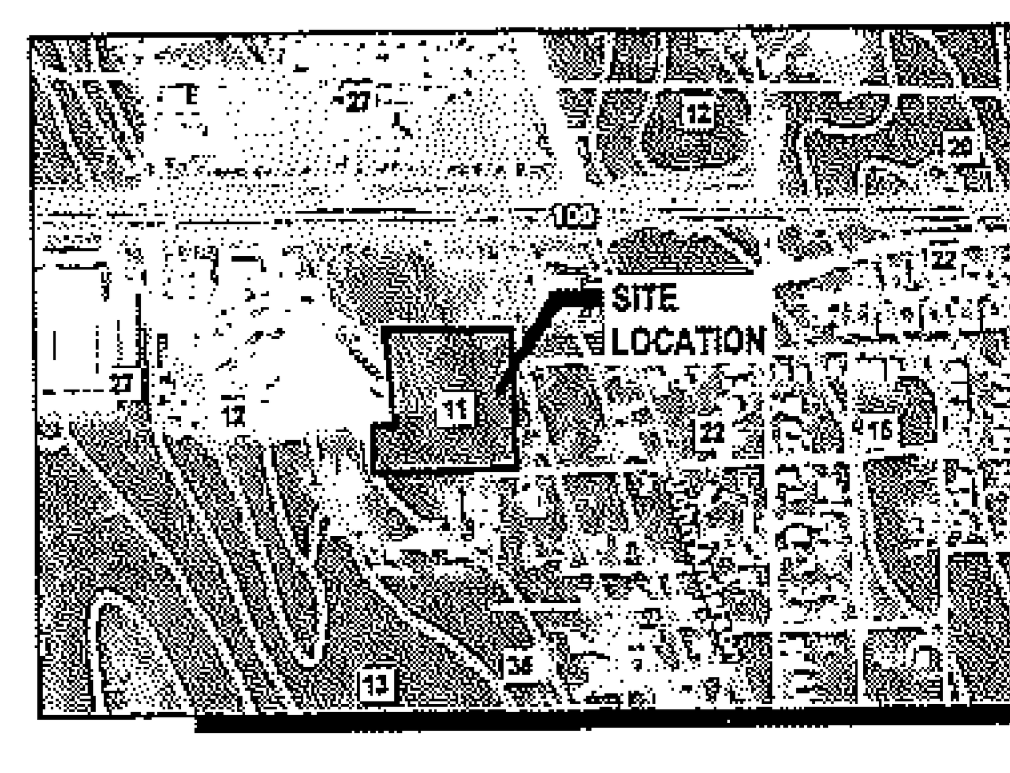
FLOOD ZONE MAP
SCALE: 1" = 600'

PANEL NO. 12035C0232 E
FLOOD ZONE "X"



ZONING MAP
SCALE: 1" = 700'

PROJECT ZONING DISTRICT: GC (GENERAL COMMERCIAL)



SOILS MAP
SCALE: 1" = 500'

SOIL TYPES: (11) MYAKKA-MYAKKA, WET, FINE SANDS, 0 TO 2 PERCENT SLOPES

PROJECT TEAM

PROPERTY OWNER / APPLICANT:	ALT HOMES LLC 39 AUDUBON LANE FLAGLER BEACH, FL 32136 PHONE: (386) 931-8018 EMAIL: ALTHOMESLLC@GMAIL.COM
ENGINEER/ LANDSCAPE ARCHITECT/ AGENT	NEWKIRK ENGINEERING, INC. 1230 NORTH US1, SUITE 3 ORMOND BEACH, FL 32174 PHONE: (386) 872-7794 EMAIL: HARRY@NEWKIRK-ENGINEERING.COM
ARCHITECT:	ROBERT HALL ARCHITECTS, INC. 217 ROBERTS ROAD NEW SMYRNA BEACH, FL 32169 PHONE: (386) 214-4529 EMAIL: HALLARCHITECTS@RHALLARCH.COM
SURVEYOR:	CPH, INC. 520 PALM COAST PARKWAY SW PALM COAST, FL 32137 PHONE: (386) 445-6569
GEOTECHNICAL:	UNIVERSAL ENGINEERING SCIENCES 911 BEVILLE ROAD, SUITE 3 SOUTH DAYTONA BEACH, FL 32119 PHONE: (386) 756-1105 EMAIL: BPOHL@UNIVERSALENGINEERING.COM
ENVIRONMENTAL:	ECOLOGICAL CONSULTING SOLUTIONS, INC. 235 HUNT CLUB BOULEVARD, SUITE 202 LONGWOOD, FL 32779 PHONE: (407) 869-3434 EMAIL: BGRIFFY@ECSFL.CC

ATTACHMENT #9

RECEIVED
APR 25 2023
City of Flagler Beach
Building Department

CONTACT NUMBERS

PLANNING DIVISION - CITY OF FLAGLER BEACH (386) 517-2016
BUILDING SERVICES - CITY OF FLAGLER BEACH (386) 517-2016
WATER - CITY OF FLAGLER BEACH UTILITY DEPARTMENT (386) 517-2000
WASTEWATER - FLAGLER BEACH UTILITY DEPARTMENT (386) 517-2000
GAS - TECO PEOPLES GAS - (386) 672-2232
ELECTRIC - FLORIDA POWER & LIGHT (386) 257-7502
TELEPHONE/CABLE - AT&T (386) 254-3550

PROJECT STATEMENT

PROPOSE A 39 UNIT APARTMENT COMPLEX WITH 75 PARKING SPACES. THE SITE CONSISTS OF 3.159 ACRES WITH 1.202 ACRES IMPERVIOUS SURFACE.

One Nation... One Number... 811 Know what's below. Call before you dig.

1230 North US1, Suite 3
Ormond Beach, Florida 32174
Phone (386) 672-7794
www.Newkirk-Engineering.com
C.A. # 30283
L.C. # 26000584
© 2013
Civil Engineering, Transportation, CEI & Landscape Architecture

NEWKIRK ENGINEERING INC.

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY HARRY NEWKIRK, PE # 62971 ON

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

HARRY NEWKIRK LICENSE NO. 62971 STATE OF FLORIDA PROFESSIONAL ENGINEER

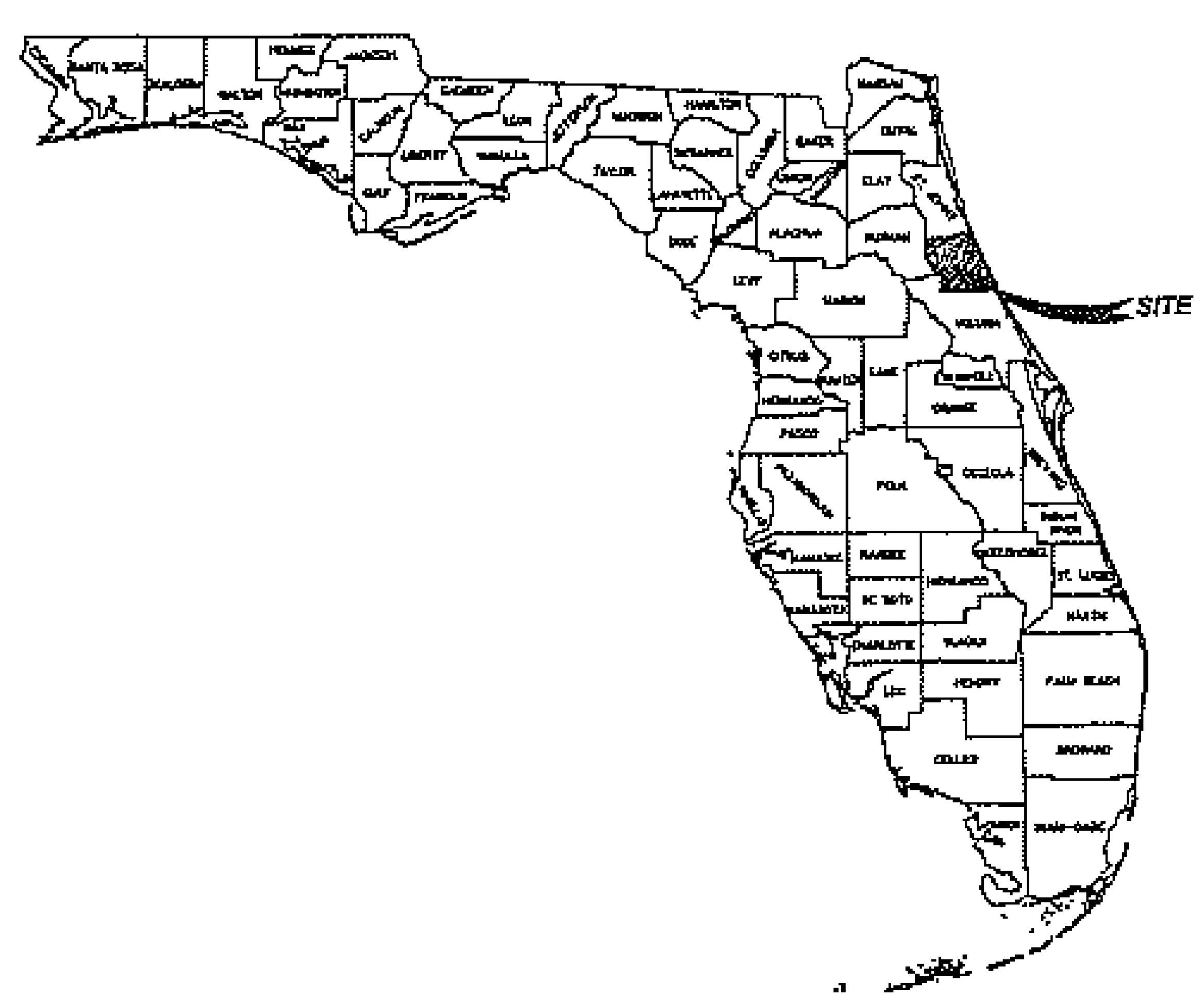
HARRY H. NEWKIRK, P.E. # 62971

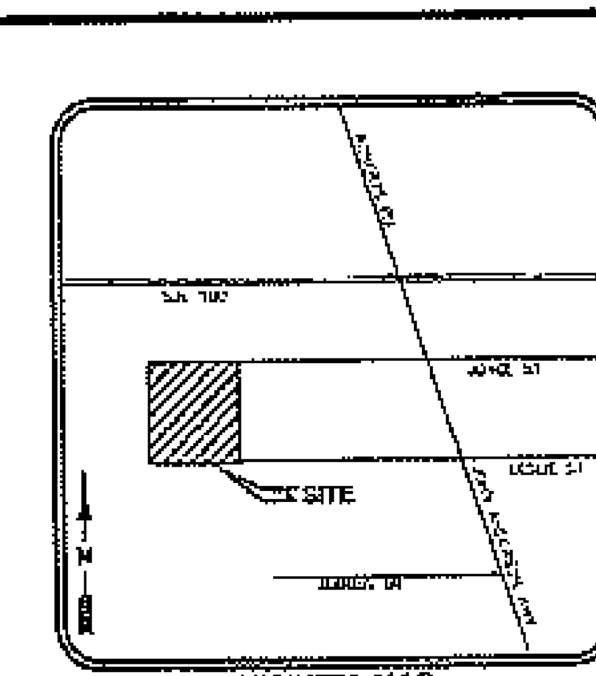
DRAWING NUMBER

1

PROJECT No. 2023-17

BOUNDARY & TOPOGRAPHIC SURVEY
FOR
ALT HOMES LLC
AT
FLAGLER BEACH
LYING IN
SECTION 11-TOWNSHIP 12 SOUTH-RANGE 31 EAST
FLAGLER COUNTY, FLORIDA





VICINITY MAP
NOT TO SCALE

Legal Description: (PER ORB 2634, PG 1298, AS PROVIDED BY CLIENT)

DESCRIPTION: PARCEL 1:

A PARCEL OF LAND LYING SOUTH OF STATE ROAD 100 WITHIN GOVERNMENT SECTION 11, TOWNSHIP 12 SOUTH, RANGE 31 EAST, FLAGLER COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A POINT OF BEGINNING BEING THE NORTHWEST CORNER OF THE SOUTH HALF (1/2) OF TRACT 4, BLOCK D, ACCORDING TO THE PLAT BUNNELL DEVELOPMENT COMPANY, RECORDED IN MAP BOOK 1, PAGE 1, OF THE PUBLIC RECORDS OF FLAGLER COUNTY, FLORIDA, SAID NORTHWEST CORNER BEING THE NORTHWEST CORNER OF HILLCREST UNRECORDED SUBDIVISION, THENCE SOUTH 01° 20' 27" EAST ALONG THE WEST LINE OF TRACT 4, BLOCK D, A DISTANCE OF 320.00 FEET, THENCE DEPARTING TRACT 4, BLOCK D, SOUTH 88° 39' 33" WEST A DISTANCE OF 331.10 FEET, THENCE NORTH 01° 20' 27" WEST A DISTANCE OF 84.70 FEET TO A POINT ON THE BOUNDARY OF LANDS RECORDED IN OFFICIAL RECORDS BOOK 244, PAGE 576 THROUGH 578, THENCE NORTH 05° 21' 24" WEST A DISTANCE OF 287.20 FEET, THENCE SOUTH 89° 20' 02" EAST ALONG THE SOUTH LINE OF SAID LANDS RECORDED IN OFFICIAL RECORDS BOOK 244, PAGES 576 THROUGH 578, A DISTANCE OF 350.00 FEET TO THE POINT OF BEGINNING, PARCEL CONTAINING 2.5303 ACRES MORE OR LESS.

TOGETHER WITH,

PARCEL 2:

A PARCEL OF LAND LYING SOUTH OF STATE ROAD 100 WITHIN GOVERNMENT SECTION 11, TOWNSHIP 12 SOUTH, RANGE 31 EAST, FLAGLER COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A POINT OF REFERENCE BEING THE NORTHWEST CORNER OF THE SOUTH HALF (1/2) OF TRACT 4, BLOCK D, ACCORDING TO THE PLAT BUNNELL DEVELOPMENT COMPANY, RECORDED IN MAP BOOK 1, PAGE 1, OF THE PUBLIC RECORDS OF FLAGLER COUNTY, FLORIDA, SAID NORTHWEST CORNER BEING THE NORTHWEST CORNER OF HILLCREST UNRECORDED SUBDIVISION, THENCE SOUTH 01° 20' 27" EAST ALONG THE WEST LINE OF TRACT 4, BLOCK D, A DISTANCE OF 320.00 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION, THENCE CONTINUE SOUTH 01° 20' 27" EAST A DISTANCE OF 80.00 FEET, THENCE DEPARTING TRACT 4, BLOCK D, SOUTH 88° 39' 33" WEST A DISTANCE OF 301.10 FEET, THENCE NORTH 01° 20' 27" WEST A DISTANCE OF 120.85 FEET TO A POINT ON THE BOUNDARY OF LANDS RECORDED IN OFFICIAL
RECORDS BOOK 244, PAGE 576 THROUGH 578, THENCE SOUTH 89° 30' 02" EAST ALONG THE SOUTH BOUNDARY LINE OF SAID LANDS RECORDED IN OFFICIAL RECORDS BOOK 244, PAGES 576 THROUGH 578, A DISTANCE OF 80.03 FEET, THENCE DEPARTING SAID BOUNDARY SOUTH 01° 20' 27" EAST A DISTANCE OF 84.70 FEET, THENCE NORTH 88° 39' 33" EAST A DISTANCE OF 331.10 FEET TO THE POINT OF BEGINNING, PARCEL CONTAINING 0.6292 ACRES MORE OR LESS.

PARCEL 2, SUBJECT TO AN EXISTING EASEMENT FOR ACCESS AND UTILITIES.

PARCELS 1 AND 2 CONTAINING 3.1595 ACRES MORE OR LESS.

Reference Material

1) MAP OF THE BUNNELL DEVELOPMENT COMPANY'S LAND, AS RECORDED IN MAP BOOK 1, PAGE 1 OF THE PUBLIC RECORDS OF FLAGLER COUNTY, FLORIDA.

2) OFFICIAL RECORDS BOOK 1814, PAGE 1470 OF THE PUBLIC RECORDS OF FLAGLER COUNTY, FLORIDA.

Survey Notes:

1. COPIES OF THIS SURVEY ARE NOT VALID WITHOUT THE ORIGINAL SIGNATURE AND SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
2. ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.
3. THIS SURVEY IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88)

   THE SITE BENCHMARKS FOR THIS TOPOGRAPHIC SURVEY ARE DISPLAYED ON THE RESPECTIVE SURVEY FILE. THESE BENCHMARKS ARE BASED ON A CLOSED VERTICAL CONTROL LOOP HAVING AN ACTUAL ERROR OF CLOSURE OF 0.014' WHICH MEETS THE ALLOWABLE CLOSURE OF 0.054. THIS FIELDWORK WAS PERFORMED USING A NIKON LEVEL MODEL #AS-2 AND REFERENCES THE FOLLOWING PUBLISHED BENCHMARKS AS ESTABLISHED BY THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88) AND ALL VERTICAL INFORMATION INCLUDING SPOT ELEVATIONS, NOTATIONS AND THE CONTOUR LINES DERIVED THEREFROM ARE BASED ON AND MATCHED TO VERTICAL CONTROL BENCHMARKS SUPPLIED BY NGS DATA SHEETS PUBLISHED AT WWW.LABINS.ORG AS FOLLOWS:

   a) DESIGNATION #T 491, PID #CE8122, SURVEY DISK IN 4"X4" CONCRETE MONUMENT STAMPED "T 491 2000" (NAVD '88) ELEVATION = 12.01'

   b) DESIGNATION #S 491, PID #CE8122, SURVEY DISK IN 4"X4" CONCRETE MONUMENT STAMPED "S 491 2000" (NAVD '88) ELEVATION = 21.28'

   SITE BENCHMARKS ARE AS SHOWN ON SHEET 2 OF 2.

4. THIS SURVEY IS NOT VALID WITHOUT SHEETS 1 THROUGH 2 OF 2.
5. THE LAST DAY FIELD WORK WAS PERFORMED WAS 2/2/22; ALL BOUNDARY CORNERS WERE RECOVERED OR SET AS NOTED HEREON.
6. THE "LEGAL DESCRIPTION" HEREON IS IN ACCORD WITH THE INSTRUMENT OF RECORD, AND WAS PROVIDED BY THE CLIENT.
7. BEARINGS SHOWN HEREON ARE RELATIVE TO THE WEST LINE OF TRACT 4, BLOCK D, AS DESCRIBED IN OFFICIAL RECORDS BOOK 1814, PAGE 1470 OF THE PUBLIC RECORDS OF FLAGLER COUNTY, FLORIDA, SAID BEARING BEING SOUTH 01°20'27" EAST.
8. HAVING CONSULTED THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NO. 12035C0232E, CITY OF FLAGLER BEACH, REVISED DATE JUNE 6, 2018, THE SUBJECT PROPERTY APPEARS TO LIE IN ZONE X, WHICH ARE AREAS OF MINIMAL FLOOD HAZARD (NAVD '88). THIS DETERMINATION WAS BASED ON GEOSPATIAL DATA DOWNLOADED FROM WWW.FEMA.GOV AND THE SHAPE FILE DISPLAYED HEREON WAS REFERENCED TO ABOVE GROUND IMPROVEMENTS. THIS DETERMINATION WAS BASED ON A GRAPHIC INTERPOLATION OF SAID MAP AND NOT ON ACTUAL FIELD MEASUREMENTS.
9. HORIZONTAL WELL-IDENTIFIED FEATURES IN THIS SURVEY AND MAP HAVE BEEN MEASURED TO AN ESTIMATED HORIZONTAL POSITIONAL ACCURACY OF 0.05 (FT). THE EQUIPMENT USED TO VERIFY THE HORIZONTAL CONTROL ON THE SUBJECT SURVEY WAS A TOPCON GPS HIPER V). THE EQUIPMENT USED TO LOCATE THE FEATURES WAS A TOPCON GPS HIPER V.
10. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OR OPINION OF TITLE. NO INSTRUMENTS OF RECORD REFLECTING EASEMENTS, RIGHTS-OF-WAY, AND/OR OWNERSHIP WERE FURNISHED TO THIS SURVEYOR EXCEPT AS NOTED BELOW:
    FLAGLER COUNTY PROPERTY APPRAISER INFORMATION DISPLAYED HEREON AS PARCEL# 15 PER THE COUNTY PROPERTY APPRAISER'S WEBSITE FLAGLERPA.COM AS OF FEBRUARY 2, 2022.
11. NO UNDERGROUND UTILITIES, FOUNDATIONS OR IMPROVEMENTS, IF ANY, HAVE BEEN LOCATED EXCEPT AS SHOWN.
12. THIS SURVEY DOES NOT IDENTIFY THE LIMITS OR EXTENT OF POTENTIAL JURISDICTIONAL WETLAND BOUNDARIES.
13. FENCES AND WALLS EXISTING ON, OVER OR ADJACENT TO SUBJECT PROPERTY, ARE DISPLAYED HEREON; OWNERSHIP WHETHER SINGULAR OR JOINT WAS NOT DETERMINED BY THIS SURVEY.
14. VERTICAL FEATURE ACCURACY: "ELEVATIONS OF WELL-IDENTIFIED FEATURES CONTAINED IN THIS SURVEY AND MAP HAVE BEEN MEASURED TO AN ESTIMATED VERTICAL POSITIONAL ACCURACY OF 0.05 (FT)."
15. DIMENSIONS ARE SHOWN RELATIVE TO UNITED STATES STANDARD FEET AND DECIMALS THEREOF, UNLESS THE OBJECT SHOWN IS COMMONLY IDENTIFIED IN INCHES, I.E. TREE DIAMETER, PIPE DIAMETER, ETC. TREES DEPICTED ARE COMMON NAMES AND MEASURED AND LABELED AS DIAMETER AT BREAST HEIGHT IN INCHES.
16. THE UNDERGROUND UTILITIES DEPICTED BY PIPE LINETYPES ARE APPROXIMATE IN NATURE BASED UPON AN INSPECTION OF THE MANHOLE, GRATE, ETC. OF EACH FACILITY. EXISTING PIPES WERE NOT LAMPED OR REMOTELY VIEWED FOR DIRECTION, OBSTRUCTIONS OR CONNECTIVITY.

Abbreviation Legend:

(A) – ACTUAL
A/C – AIR CONDITIONER
ACSM – AMERICAN CONGRESS ON SURVEYING & MAPPING
ADA – AMERICANS WITH DISABILITIES ACT
ALTA – AMERICAN LAND TITLE ASSOCIATION
APPROX – APPROXIMATE
ARV – AIR RELEASE VALVE
AVE – AVENUE
AVG – AVERAGE
(BB) – BEARING BASIS
BFP – BACK FLOW PREVENTER
BLK – BLOCK
BLDG – BUILDING
BLVD – BOULEVARD
BM – BENCH MARK
BOC – BACK OF CURB
BOW – BACK OF WALK
BSL – BUILDING SETBACK LINE
BWF – BARBED WIRE FENCE
C-X – DENOTES SHEET NUMBERING FOR ENGINEERING PLANS
(C) – CALCULATED
C – CHORD
CATV – CABLE TELEVISION RISER
CB – CHORD BEARING
CBS – CONCRETE BLOCK STRUCTURE
C.C.R. – CERTIFIED CORNER RECORD
C&G – CURB & GUTTER
CI – CATCH INLET
C/L – CENTERLINE
CLF – CHAIN LINK FENCE
CM – CONCRETE MONUMENT
CMP – CORRUGATED METAL PIPE
CO – CLEANOUT
CONC – CONCRETE
COR – CORNER
CRPP – CORRUGATED PLASTIC PIPE
CUE – COUNTY UTILITY EASEMENT
CWS – CROSSWALK SIGNAL
Δ – DELTA
(D) – DESCRIPTION
DB – DEED BOOK
DBH – DIAMETER AT BREAST HEIGHT IN INCHES
DE – DRAINAGE EASEMENT
DEPT – DEPARTMENT
DIP – DUCTILE IRON PIPE
DR – DRIVE
D/U – DRAINAGE AND UTILITY EASEMENT
(E) – ENGINEERING PLAN
EJB – ELECTRIC JUNCTION BOX
EL – UNDERGROUND ELECTRICAL LINES
ELEC – ELECTRIC
ELEV – ELEVATION
ELLIP – ELLIPTICAL
EOI – END OF INFORMATION
EOP – EDGE OF PAVEMENT
FB – FIELD BOOK
FDOT – FLORIDA DEPARTMENT OF TRANSPORTATION
FF – FINISH FLOOR
FGI – FLAT GRATE INLET
FGLP – FIBERGLASS LIGHT POLE
FHYD – FIRE HYDRANT
FM – FORCE MAIN
FND – FOUND
FP&L – FLORIDA POWER AND LIGHT
FS – FLORIDA STATUTES
(G) – GRID (STATE PLANE)
GL – UNDERGROUND GAS LINES
GOV'T – GOVERNMENT
GPR – GROUND PENETRATING RADAR
GTMH – GREASE TRAP MANHOLE
HDPE – HIGH DENSITY POLYETHYLENE PIPE
HWF – HOG WIRE FENCE
ID – IDENTIFICATION
ICV – IRRIGATION CONTROL VALVE
INFO – INFORMATION
INV – INVERT
IP – IRON PIPE
IP&C – IRON PIPE & CAP
IR – IRON ROD
IR&C – IRON REBAR & CAP
IRR – IRRIGATION
L – ARC LENGTH
LB# – LICENSED BUSINESS NUMBER
LP – LIGHT POLE
(M) – MEASURED
MB – MAP BOOK
MBX – MAILBOX
MES – MITERED END SECTION
MH – MANHOLE
MLP – METAL LIGHT POLE
MPH – MILES PER HOUR
MPP – METAL POWER POLE
N/A – NOT APPLICABLE
NAVD – NORTH AMERICAN VERTICAL DATUM
NAD – NORTH AMERICAN DATUM
NG – NATURAL GROUND
NGS – NATIONAL GEODETIC SURVEY
NGVD – NATIONAL GEODETIC VERTICAL DATUM
N & D – NAIL AND DISK
NO. – NUMBER
NR – NON-RADIAL
NSPS – NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS
NT – NON-TANGENT
NTS – NOT TO SCALE
OD – OUTSIDE DIAMETER
ORB – OFFICIAL RECORDS BOOK
OR – OFFICIAL RECORDS
OUL – OVERHEAD UTILITY LINES
OTL – OVERHEAD TRAFFIC LINES
(P) – PLAT
PB – PLAT BOOK
PC – POINT OF CURVATURE
PCC – POINT OF COMPOUND CURVATURE
PCP – PERMANENT CONTROL POINT
PFF – PROPOSED FINISHED FLOOR
PG – PAGE
PGS – PAGES
PI – POINT OF INTERSECTION
PIV – POST INDICATOR VALVE
PK – PARKER KAYLON
POB – POINT OF BEGINNING
POC – POINT OF COMMENCEMENT
POL – POINT ON LINE
PP – POWER POLE
PRC – POINT OF REVERSE CURVATURE
PRM – PERMANENT REFERENCE MONUMENT
PSM – PROFESSIONAL SURVEYOR & MAPPER
PT – POINT OF TANGENCY
PVC – POLYVINYL CHLORIDE PIPE
PVMT – PAVEMENT
R31E – RANGE 31 EAST
R – RADIUS
RAD – RADIAL
RCP – REINFORCED CONCRETE PIPE
REC – RECOVERED
REV – REVISION
RP – RADIUS POINT
R/W – RIGHT-OF-WAY
RLS – REGISTERED LAND SURVEYOR
RP – RADIUS POINT
RWL – UNDERGROUND RECLAIM WATER LINE
RWM – RECLAIMED WATER METER
SE – SPECIAL EASEMENT
SEC 11 – SECTION 11
SMH – SANITARY SEWER MANHOLE
(SP) – STATE PLANE
SQ – SQUARE
SQ FT – SQUARE FEET
ST – STREET
STMH – STORM DRAINAGE MANHOLE
S/W – SIDEWALK
TB – TANGENT BEARING
T12S – TOWNSHIP 12 SOUTH
TELE – TELEPHONE
TL – OVERHEAD TRAFFIC SIGNAL LINES
TOB – TOP OF BANK
TOE – TOE OF SLOPE
TR – TELEPHONE RISER
TRANS – TRANSFORMER
TSB – TRAFFIC SIGNAL BOX
TSSP – TRAFFIC SIGNAL SUPPORT POLE
TVL – UNDERGROUND CABLE TV LINES
(TYP) – TYPICAL
UE – UTILITY EASEMENT
UNK – UNKNOWN
UTL – UNDERGROUND TELEPHONE LINES
W/ – WITH
WL – UNDERGROUND WATER LINE
WLP – WOOD LIGHT POLE
WM – WATER METER
WP – WORK PROGRAM
WPF – WOOD POST FENCE
WPP – WOOD POWER POLE
WV – WATER VALVE

Line Legend:
NOT TO SCALE

- 1 FOOT CONTOURS
- 5 FOOT CONTOURS
- ADJOINER PROPERTY LINES
- BARBED WIRE FENCE
- BROKEN LINE
- BURIED CABLE
- BURIED CABLE TELEVISION
- BURIED ELECTRIC
- BURIED FIBER OPTICS
- BURIED GAS
- BURIED RECLAIMED WATER LINE
- BURIED SANITARY LINES
- BURIED SANITARY SEWER FORCE MAIN LINE
- BURIED TRAFFIC CONTROL
- BURIED TELEPHONE LINE
- BURIED WATER LINES
- CENTER LINE R/W
- CHAIN LINK FENCE
- EASEMENT LINES (EXISTING)
- EASEMENT LINES (PROPOSED)
- EDGE OF WATER LINES
- EXISTING DRAINAGE PIPES
- EXISTING DRAINAGE PIPES (TERMINUS & ANGLE UNKNOWN)
- FIRE WATER MAIN LINES
- HOT WATER SUPPLY LINES
- IRRIGATION LINES
- OVERHEAD TRAFFIC LINES
- OVERHEAD UTILITY LINES
- RAILROAD TRACKS
- RIGHT-OF-WAY LINES
- SECTION LINES
- STONE WALL LINES
- TOP OF BANK LINES
- TOE OF SLOPE LINES
- TREE LINES
- TRAVERSE LINES
- UNKNOWN BURIED LINES
- VINYL FENCE
- WOOD FENCE
- WETLAND LINE
- ORANGE PAINT LINE
- GREEN PAINT LINE
- RED PAINT LINE
- WHITE PAINT LINE
- PURPLE PAINT LINE
- BLUE PAINT LINE
- YELLOW PAINT LINE

Symbol Legend:
NOT TO SCALE

- AIR RELEASE VALVE
- BORING HOLE LOCATION
- BRICK PAVERS
- CABLE TV RISER
- CENTRAL ANGLE
- CLEAN OUT
- CONCRETE
- CONCRETE LIGHT POLE
- CONCRETE LIGHT POLE (DUAL)
- CONCRETE LIGHT POLE (TRIPLE)
- CONCRETE LIGHT POLE (QUAD)
- CONCRETE MITERED END SECTION
- CONCRETE PAVERS
- CONCRETE RIP RAP
- CONCRETE UTILITY POLE
- COUNTY ROAD SYMBOL
- CROSSWALK SIGNAL POLE
- DETECTABLE WARNING AREA
- DUAL SUPPORT SIGN
- ELECTRICAL MANHOLE
- ELECTRIC METER
- ELECTRICAL JUNCTION BOX
- ELECTRIC OUTLET
- ELECTRIC RISER
- FIBER OPTIC MARKER
- FIRE HYDRANT
- FLOOD LIGHT
- FOUND CONCRETE MONUMENT (AS NOTED)
- FOUND IRON PIPE (AS NOTED)
- FOUND IRON REBAR (AS NOTED)
- FOUND/SET NAIL (AS NOTED)
- GARBAGE CAN
- GAS MARKER
- GAS VALVE
- GOPHER TORTOISE HOLE
- GRATE INLET
- GRAVEL/DIRT
- GREASE TRAP MANHOLE
- GROUND LIGHT
- GUY ANCHOR
- HANDICAP PARKING SPACE
- INTERSTATE SYMBOL
- IRRIGATION CONTROL VALVE
- LIGHT POLE
- LIGHT POLE (DUAL)
- LIGHT POLE (TRIPLE)
- LIGHT POLE (QUAD)
- MAILBOX
- MONITOR WELLS
- NAIL & DISC (AS NOTED)
- PARKING SPACES (2)
- PULL BOX (AS NOTED)
- REVISION NUMBER (3)
- RECLAIMED WATER METER
- RECLAIMED WATER VALVE
- ROOF DRAIN
- SANITARY SEWER MANHOLE
- SANITARY SEWER VALVE
- SCHEDULE B ITEM NUMBER (8)
- SECTION CORNER
- 4" X 4" CM LB #7143
- 5/8" IR&C LB #7143
- SIGN
- SITE BENCH MARK
- STORM SEWER MANHOLE
- STRIPING (DIRECTIONAL)
- TELEPHONE CABLE RISER
- TELEPHONE MANHOLE
- TELEPHONE LINE MARKER
- TELEPHONE JUNCTION BOX
- TEST HOLE
- TRAFFIC SIGNAL BOX
- TRAFFIC SIGNAL SUPPORT POLE
- UNKNOWN MANHOLE
- UNKNOWN UTILITY MARKER
- UNKNOWN RISER
- UNKNOWN VALVE
- UTILITY FLAG (AS NOTED)
- VENT (AS NOTED)
- WATER METER
- WATER RISER
- WATER SERVICE
- WATER SPIGOT
- WATER SPRINKLER
- WATER VALVE
- WELL
- WETLAND FLAG
- WOOD UTILITY POLE
- WATER LINE MARKER
- WIRE HEIGHTS (SEE CHART)

Sign Legend:
NOT TO SCALE

(R1) – ROW NUMBER SIGN
(B) – BUS STOP SIGN
(DE) – DEAD END SIGN
(DNE) – DO NOT ENTER SIGN (R5-1)
(HC) – HANDICAP SIGN
(HC) – DUAL HANDICAP SIGN
(FDC) – FIRE DEPARTMENT CONNECTION
(INFO) – INFORMATION SIGN
(KR) – KEEP RIGHT SIGN
(LTO) – LEFT TURN ONLY
(MC) – MEDIAN SIGN
(ND) – NO DUMPING SIGN
(NL) – NO LEFT TURN SIGN (R3-2)
(NLI) – NO LITTERING SIGN
(NO) – NO OUTLET SIGN
(FL) – NO PARKING FIRE LANE SIGN
(NCR) – NO RIGHT TURN SIGN (R3-1)
(NTT) – NO THRU TRAFFIC SIGN
(NOT) – NO TRUCKS (R5-2)
(NP) – NO PARKING SIGN
(1W) – ONE WAY SIGN (R6-2)
(PC) – PEDESTRIAN CROSSING SIGN
(RTO) – RIGHT TURN ONLY
(SL) – SPEED LIMIT SIGN
(ST) – STOP SIGN (R1-1)
(SS) – STREET SIGN
(TZ) – TOW AWAY ZONE SIGN
(TE) – TRUCK ENTRANCE SIGN
(U) – UNKNOWN SIGN
(WL) – WEIGHT LIMIT SIGN
(WW) – WRONG WAY SIGN
(Y) – YIELD SIGN

NOTE:
THIS SURVEY IS NOT VALID WITHOUT SHEETS 1 THROUGH 2 OF 2.

WELL USED ABBREVIATIONS
Eng. = ENGINEERING L.B. = LICENSED BUSINESS
C.O.A. = CERTIFICATE OF AUTHORIZATION AAA = ARCHITECTURAL
Landscp. = LANDSCAPE N/A = NOT APPLICABLE Lic. = LICENSE
No. = NUMBER P.O. = POST OFFICE © = COPYRIGHT

Index of Sheets

Surveyor's Certification:

Certified to: ALT Homes LLC

I hereby certify that the attached "Boundary & Topographic Survey" of the hereon-described property is true and correct to the best of my knowledge, information and belief as surveyed in the field on February 2, 2022. I further certify that this "Boundary & Topographic Survey" meets the standards of practice set forth in Rule Chapter 5J-17 of the Florida Administrative Code, pursuant to F.S. 472.027.

For the Firm By: ______________
Jeffrey [illegible]
Professional Surveyor and Mapper
Florida Registration No. 6384

LS6384 STATE OF FLORIDA

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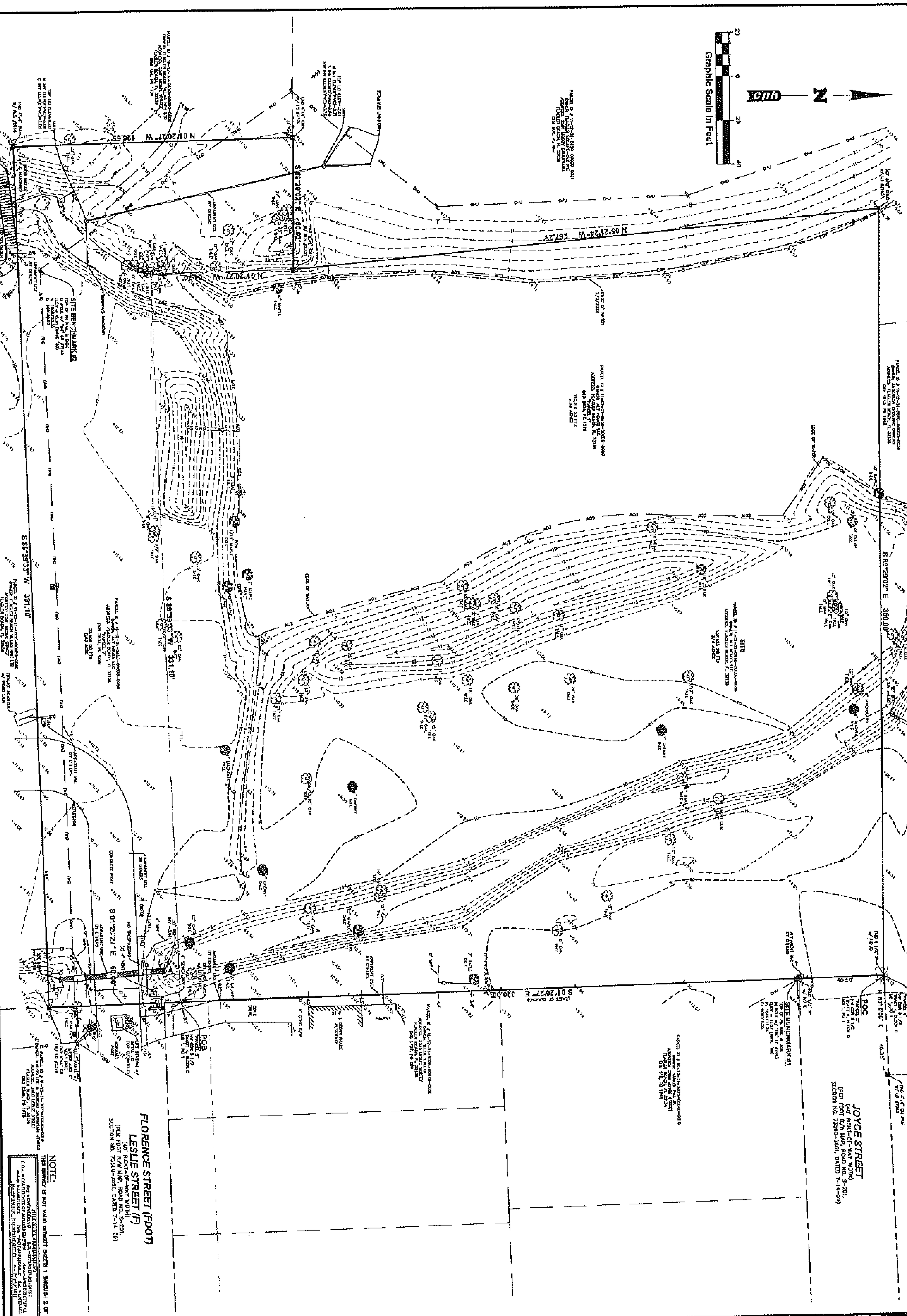
Field Crew:	D.S.	△			
Drawn by:	B.B.	△			
Checked by:	R.L.R.	△			
Approved by:	J.W.P.	△			
Scale:	N/A	△			
Date:	2/2/2022	△			
Job No.:	U3401.1	△			
File: U3401.dwg	© 2022	No.	Date	Revision	By

Survey Prepared By:
CPH, Inc.
525 Palm Coast Parkway SW
Palm Coast, FL 32137
Ph: 386.445.8300
Licenses:
Eng. C.O.A. No. 3215
Survey L.B. No. 7143
Arch. Lic. No. AA2600926
Landscp. Lic. No. LC0000298

BOUNDARY & TOPOGRAPHIC SURVEY
ALT HOMES LLC
FLAGLER BEACH
SECTION 11-TOWNSHIP 12 SOUTH-RANGE 31 EAST
FLAGLER COUNTY, FLORIDA

Sheet No.
1
of 2

J:\U3401\Survey\U3401\U3401.dwg, 2/16/2022 9:46:39 AM, [illegible] CPH SURVEY FULLSIZE



BOUNDARY & TOPOGRAPHIC SURVEY

ALT HOMES LLC

FLAGLER BEACH

SECTION 11-TOWNSHIP 12 SOUTH-RANGE 31 EAST
FLAGLER COUNTY, FLORIDA

Sheet No. **2** of 2

Survey Prepared By:
CPH, Inc.

Field Crew:	D.S.	1			
Drawn by:	B.B.	2			
Checked by:	R.L.R.	3			
Approved by:	J.W.P.	4			
Scale:	1"=20'	5			
Date:	2/2/2022	6			
Job No.:	U3401.1	7			
File: U3401.1.dwg	© 2022	No	Date	Revision	By

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GENERAL CONSTRUCTION NOTES

1. GOVERNING SPECIFICATIONS: CITY OF FLAGLER BEACH LAND DEVELOPMENT CODE, CITY OF FLAGLER BEACH STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS, CURRENT EDITION.
2. ALL CONSTRUCTION WITHIN THE FDOT RIGHT-OF-WAY SHALL CONFORM TO THE CURRENT EDITION OF THE FDOT DESIGN STANDARD INDEXES, THE FDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION AND THE FDOT UTILITY ACCOMMODATIONS MANUAL.
3. ALL UTILITY MATERIAL, CONSTRUCTION AND TESTING COVERED BY THESE DRAWINGS SHALL COMPLY WITH THE CITY OF FLAGLER BEACH STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS, LATEST EDITION. ALL UTILITY WORK AND CONNECTIONS SHALL BE COORDINATED WITH THE CITY OF FLAGLER BEACH INSPECTOR.
4. THE CONTRACTOR SHALL PAY FOR AND OBTAIN A BUILDING PERMIT. THE ENGINEER WILL SCHEDULE THE PRECONSTRUCTION CONFERENCE BEFORE THE CONTRACTOR'S START OF WORK. THE CONTRACTOR SHALL CONTACT THE BUILDING DEPARTMENT AT (386) 517-2015 FOR INFORMATION ON ISSUANCE OF CITY PERMITS AND / OR OTHER REQUIREMENTS.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER OF ANY DEFICIENCIES OR DISCREPANCIES AMONG THE DIVISIONS OF THE DRAWING AND SPECIFICATIONS PRIOR TO THE BID DATE. NEITHER THE OWNER OR ENGINEER WILL BE RESPONSIBLE FOR ANY DEFICIENCIES OR DISCREPANCIES RAISED AFTER THE BID OPENING. ACCORDINGLY, IN LIGHT OF THESE OBLIGATIONS, THE ENGINEER IS OBLIGATED TO INTERPRET THE DRAWINGS AND SPECIFICATIONS IN A MANNER THAT WILL PROVIDE THE OWNER WITH A COMPLETE, FUNCTIONING FACILITY FOR THE BID PRICE.
6. THESE DRAWINGS AND THE PROJECT MANUAL ARE COMPLEMENTARY, AND ANY REQUIREMENT OF ONE SHALL BE A REQUIREMENT OF THE OTHER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CAREFULLY EXAMINE THE DRAWINGS AND SPECIFICATIONS AND TO COMPARE THE REQUIREMENTS OF EACH DIVISION AND ENSURE THAT EACH TRADE OR SUBCONTRACTOR IS MAKING THE ALLOWANCES NECESSARY TO PROVIDE THE OWNER A COMPLETE FACILITY, OPERATIONAL IN ALL RESPECTS, UNLESS OTHERWISE SPECIFICALLY STATED IN THE DRAWINGS.
7. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR INSTRUCTING THE CONTRACTOR IN THE METHODS OF CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE METHOD TO CONSTRUCT THE IMPROVEMENTS AS SHOWN ON THE PLANS.
8. ONLY ONE TEMPORARY CONSTRUCTION SIGN IS PERMITTED, NOT TO EXCEED 32 SQUARE FEET IN SIGN AREA. MAXIMUM HEIGHT OF 8 FEET AND NO CLOSER THAN 10 FT FROM PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL APPLY FOR A TEMPORARY SIGN PERMIT AT THE CITY OF FLAGLER BEACH BUILDING DEPARTMENT. THE SIGN MUST BE REMOVED UPON RECEIPT OF THE CERTIFICATE OF OCCUPANCY.
9. LITTER CONTROL MEASURES TO PREVENT WIND-DRIVEN DEBRIS SHALL BE IMPLEMENTED THROUGHOUT THE DURATION OF CONSTRUCTION. ALL DEBRIS SHALL BE REMOVED AND THE PROJECT SITE CLEANED WITHIN 30 DAYS OF COMPLETION OF CONSTRUCTION.
10. AT NO TIME SHALL EXCAVATIONS BE LEFT UNCOVERED AFTER WORKING HOURS. CONTRACTOR SHALL SECURE THE WORK AREA AT THE END OF EACH DAY'S WORK.
11. AT ALL TIMES, THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT UNDERGROUND UTILITIES, STRUCTURES AND OTHER ASSOCIATED FACILITIES FROM DAMAGE DURING CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE MEASURES OF PROTECTION. ANY DAMAGED FACILITIES SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE CITY OR ENGINEER AT THE CONTRACTORS EXPENSE.
12. THERE SHALL BE NO DEVIATIONS FROM THESE PLANS UNLESS APPROVED IN WRITING BY THE ENGINEER AND THE OWNER.
13. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS.
14. CONTRACTOR SHALL COORDINATE AND COMPLY WITH ALL UTILITY COMPANIES INVOLVED IN PROJECT AND PAY ALL REQUIRED FEES AND COST.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CERTIFIED MATERIAL TEST RESULTS TO THE ENGINEER OF THE RECORD PRIOR TO THE RELEASE OF FINAL CERTIFICATION BY THE ENGINEER. TEST RESULTS MUST INCLUDE, BUT MAY NOT BE LIMITED TO, DENSITIES FOR SUBGRADE AND BASE DENSITIES AT UTILITY CROSSINGS, MANHOLES, INLETS, STRUCTURES. TEST SHALL INCLUDE ASPHALT GRADATION REPORTS, CONCRETE CYLINDERS, ETC.
16. WHERE NEW ASPHALT MEETS EXISTING ASPHALT, THE EXISTING ASPHALT SHALL BE SAW CUT TO PROVIDE A STRAIGHT EVEN LINE.
17. PRIOR TO REMOVING CURB OR GUTTER, THE ADJACENT ASPHALT SHALL BE SAW CUT TO PROVIDE A STRAIGHT EVEN LINE.
18. ALL PROPOSED ELEVATIONS REFER TO FINISHED GRADES.
19. CONCRETE WALKS SHALL BE 4 INCHES THICK HAVING A 3,000 PSI STRENGTH, POURED OVER PROPERLY PREPARED SUBGRADE. ALL CONCRETE SIDEWALKS SHALL BE 6 INCHES THICK ACROSS DRIVEWAYS. 1/2 INCH EXPANSION JOINTS SHALL BE PLACED AT A MAXIMUM OF 50'. CRACK CONTROL JOINTS SHALL BE 5' ON CENTERS.
20. CORE TESTS SHALL BE TAKEN TO VERIFY THICKNESS AND SUBSURFACE COMPACTION. PROVIDE FOR THREE SAMPLES, RANDOMLY LOCATED. TEST FOR EXTRACTION, GRADATION, LABORATORY DENSITY, AND MARSHALL'S STABILITY. PROVIDE A CERTIFICATE FROM THE TESTING AGENCY THAT MATERIALS AND INSTALLATION COMPLY WITH SPECIFICATIONS, SIGNED BY THE ASPHALTIC CONCRETE PRODUCER AND CONTRACTOR. ALL COSTS OF TESTS SHALL BE PAID BY THE CONTRACTOR. IF TESTS SHOW THE INSTALLATION DOES NOT MEET SPECIFICATIONS, THE PAVING SHALL BE REMOVED, REPLACED, AND RETESTED.
21. IF ANY MUCK-LIKE MATERIAL IS DISCOVERED, IT WILL BE REQUIRED TO BE REMOVED, BACKFILLED WITH APPROPRIATE FILL, COMPACTED, AND TESTED USING AASHTO T-180 MODIFIED PROCTOR METHOD.
22. FILL MATERIAL IS TO BE PLACED IN ONE FOOT LIFTS AND COMPACTED TO THE APPROPRIATE DENSITY (98% FOR PAVED AREAS AND 95% FOR BUILDING PADS AND ALL OTHER AREAS AS PER AASHTO T-180).
23. NO BURYING OF ANY ORGANIC MATERIALS ALLOWED.
24. THERE WILL BE NO PROPOSED OVERHEAD UTILITY AND SERVICE LINES ASSOCIATED WITH THIS PROJECT. ALL UTILITY LINES AND SERVICES WILL BE INSTALLED UNDERGROUND AT THE OWNER'S, DEVELOPER'S OR BUILDER'S EXPENSE.

SITE AND GENERAL INFORMATION

1. THE PROPERTY AREA BOUNDARY CONSISTS OF 137,625 SF OR 3.159 ACRES. FOR BOUNDARY AND TOPOGRAPHIC SURVEY REFER TO THE SURVEY PERFORMED BY SLIGER & ASSOCIATES, INC. (SEE SHEET No. 2 OF THESE PLANS).
2. THE EXISTING AND PROPOSED ZONING IS GC (GENERAL COMMERCIAL).
3. THE TAX PARCEL NUMBER IS 11-12-31-5650-03000-0050.
4. FLORIDA BUILDING CODE-ACCESSIBILITY (FBCA) AS THE CONTROLLING REGULATION FOR ACCESSIBLE PARKING REQUIREMENTS.
5. THE EXISTING SITE CONDITION IS UNDEVELOPED AND PARTIALLY CLEARED AND GRADED. THE FLUCFCS LAND USE IS (191) UNDEVELOPED LAND WITHIN URBAN AREAS.
6. PER THE USDA NATURAL RESOURCES CONSERVATION SERVICE FOR FLAGLER COUNTY, THE SCS SOILS MAP INDICATES THE SITE CONSISTS OF (11) MYAKKA-MYAKKA, WET, FINE SANDS, 0 TO 2 PERCENT SLOPES.
7. THE SITE IS LOCATED WITHIN ZONE "X" PER FEMA MAP PANEL No. 12035C0232 E, DATED JUNE 6, 2018.
8. ELECTRICAL UTILITY SERVICE WILL BE PROVIDED BY FLORIDA POWER & LIGHT. NATURAL GAS WILL BE PROVIDED BY TECO PEOPLES GAS COMPANY. TELEPHONE, CABLE AND INTERNET SERVICE WILL BE PROVIDED BY AT&T. CABLE TV AND INTERNET CAN ALSO BE PROVIDED BY SPECTRUM.
9. SOLID WASTE WILL BE COLLECTED AND DISPOSED OF BY WASTE PRO, INC.
10. THE SITE IS NOT LOCATED WITHIN THE LIMITS OF A WELLHEAD PROTECTION ZONE AND THERE IS NO ORDINARY HIGH WATER (OHW) LINE WITHIN THE SITE.
11. STORMWATER WILL BE PROVIDED BY INTERCONNECTED DRY RETENTION TO EXFILTRATION TRENCH SYSTEM.
12. POTABLE WATER AND WASTEWATER UTILITIES PROVIDED BY CITY OF FLAGLER BEACH.
13. IRRIGATION SERVICE WILL BE PROVIDED BY A PRIVATE WELL.

LEGEND

NOTE: NOT ALL SYMBOLS SHOWN HERE MAY BE APPLICABLE TO THESE DRAWINGS, ALSO THERE MAY BE ADDITIONAL SYMBOLS WITHIN PLANS NOT SHOWN HERE, SEE INDIVIDUAL DRAWING LEGEND WHERE APPLICABLE.

- BENCHMARK ID
- BORING ID
- EXISTING CABLE TV PEDESTAL
- EXISTING CAP OR PLUG
- EXISTING CLEAN OUT
- EXISTING CONDUIT RISER/ MARKER
- EXISTING ELECTRIC METER
- EXISTING ELEVATION (SOFT)
- PROPOSED ELEVATION (SOFT)
- EXISTING ELEVATION (HARD)
- PROPOSED ELEVATION (HARD)
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING FLOW DIRECTION
- PROPOSED FLOW DIRECTION
- EXISTING GAS METER
- EXISTING GAS VALVE
- EXISTING GUY WIRE & ANCHOR PIN
- EXISTING MAIL BOX
- EXISTING MANHOLE (UNKNOWN)
- PROPOSED MANHOLE
- EXISTING SANITARY SEWER CLEANOUT
- EXISTING SANITARY SEWER MANHOLE
- EXISTING ROAD SIGNS AND POSTS
- PROPOSED SIGN AND POST
- EXISTING TEE
- EXISTING UTILITY POLE
- EXISTING VALVE IRRIGATION
- EXISTING VALVE WATER
- PROPOSED WATER VALVE
- EXISTING WATER METER
- EXISTING STORM SEWER WITH INLET
- PROPOSED STORM SEWER WITH INLET
- 1/2" IRON ROD (NO I.D.)
- 4" BY 4" CONCRETE MONUMENT
- EXISTING EASEMENT
- EXISTING UNDERGROUND FIBER OPTIC CABLE
- EXISTING FORCE MAIN (# INDICATES SIZE)
- EXISTING GAS MAIN
- EXISTING OVERHEAD ELECTRIC CABLES
- EXISTING OVERHEAD TRAFFIC SIGNAL CABLE
- EXISTING RAW WATER MAIN (# INDICATES SIZE)
- EXISTING RECLAIM WATER MAIN (# INDICATES SIZE)
- PROPOSED SANITARY SEWER (# INDICATES SIZE)
- PROPOSED WATER MAIN (# INDICATES SIZE)
- EXISTING CONTOUR
- PROPOSED CONTOUR (SOFT)
- PROPOSED CONTOUR (HARD)
- EXISTING UNDERGROUND TELEPHONE CABLE
- EXISTING UNDERGROUND TELEVISION CABLE
- EXISTING UNDERGROUND ELECTRICAL POWER CABLE
- JURISDICTIONAL WETLAND LINE
- EXISTING SANITARY SEWER (# INDICATES SIZE)
- EXISTING WATER MAIN (# INDICATES SIZE)
- EXISTING PIPE OR CONDUIT (TYPE SPECIFIED)
- EXISTING SWALE OR CENTER OF DITCH
- PROPOSED SWALE OR CENTER OF DITCH
- EXISTING TOP OF DITCH BANK
- EXISTING BOTTOM OF DITCH BANK
- EXISTING WOOD FENCE
- EXISTING WIRE OR CHAIN LINK FENCE
- PROPOSED WIRE OR CHAIN LINK FENCE
- PROPOSED SILT/SEDIMENT FENCE
- PROPOSED COIR ROLL OR WATTLE
- PROPOSED FLOATING TURBIDITY BARRIER
- PROPOSED TREE PROTECTION

SITE DEVELOPMENT USAGE

1. SETBACK:

	BUILDING SETBACK REQUIRED
FRONT (EAST)	25 FEET
REAR (WEST)	25 FEET
SIDE (NORTH)	15 FEET
SIDE (SOUTH)	15 FEET
MAXIMUM BUILDING HEIGHT	35 FEET

ZONING	GC (GENERAL COMMERCIAL)
FLUM	MEDIUM DENSITY RESIDENTIAL
BUILDING HEIGHT	BUILDING 1 = 34'-1/2" BUILDING 2 = 35'-0"
DENSITY	12.35 UNITS/ACRE
MULTI-FAMILY UNITS	
1 BEDROOM	3
2 BEDROOM	24
3 BEDROOM	12
TOTAL UNITS	39 UNITS

2. PROPOSED SITE COVERAGE

SITE COVERAGE - PROPOSED			
AREA TYPE	SF	ACRE	% OF SITE
BUILDING	19,709	0.452	14.3%
ASPHALT PAVEMENT/ VUA	28,287	0.649	20.6%
CONCRETE / SIDEWALKS	4,356	0.100	3.2%
GREEN SPACE	85,273	1.958	62.0%
TOTAL SITE	137,625	3.159	100.0%
TOTAL IMPERVIOUS	52,352	1.202	38.0%
TOTAL OPEN SPACE	85,273	1.958	62.0%

FLOOR AREA RATIO (FAR) 0.143

3. PARKING REQUIREMENTS

MULTI-FAMILY: 2 SPACES PER DWELLING UNIT

2 SPACES x 39 UNITS = 78

TOTAL REQUIRED: 78 SPACES

4. PARKING PROVIDED

	SPACES	%
HANDICAP	5	6.3
STANDARD	74	93.7
TOTAL PARKING PROVIDED	79	100.0

5. BICYCLE PARKING REQUIRED

10% OF REQUIRED VEHICULAR PARKING
0.1 x 78 SPACES = 7.8
8 BICYCLE SPACES REQUIRED

6. BICYCLE PARKING PROVIDED

10 BICYCLE SPACES PROVIDED

7. REQUIRED RECREATIONAL AREA

200 SF PER UNIT = 200 SF x 39 UNITS =	7,800 SF
PROVIDED ACTIVE AREA = SIDEWALK, CANOE AND PADDLE BOARD POND =	46,991 SF
PROVIDED PASSIVE AREA = BENCHES, DOCK AND FLOATING FOUNTAIN =	571 SF
TOTAL RECREATION AREA =	47,562 SF

8. COMMON OPEN SPACE

REQUIRED COMMON OPEN SPACE 250 SF PER UNIT = 250 SF x 39 UNITS =	9,750 SF
PROVIDED COMMON OPEN SPACE = (ACTIVE AND PASSIVE RECREATION AND SIDEWALKS)	48,648 SF

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS - 2022 / 2023 AND QUALIFIED PRODUCTS LIST

INDEX NO.	DESCRIPTION	INDEX NO.	DESCRIPTION
102	TEMPORARY EROSION AND SEDIMENT CONTROL	514	OPTIONAL BASE GROUP AND STRUCTURAL NUMBERS
425-010	STRUCTURE BOTTOMS - TYPES J AND P	330-001	TURNOUTS
205	PIPE BACKFILL	546	SIGHT DISTANCE AT INTERSECTIONS
425-024	CURB INLET TOP - TYPE 9	102-600	GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES
425-052	DITCH BOTTOM INLETS - TYPES C, D, E AND H	102-602	TWO-LANE AND MULTILANE, WORK ON SHOULDER
430-022	SIDE DRAIN MITERED END SECTION	102-603	TWO-LANE, TWO-WAY, WORK WITHIN THE TRAVEL WAY
520-001	CURB & CURB AND GUTTER	700-101	TYPICAL SECTIONS FOR PLACEMENT OF SINGLE & MULTIPLE-COLUMN SIGNS
522-002	PUBLIC SIDEWALK CURB RAMPS	711-001	SPECIAL MARKING AREAS
350-001	CONCRETE PAVEMENT JOINTS		
522-001	CONCRETE SIDEWALK		
120-001	EMBANKMENT UTILIZATION		

ABBREVIATIONS

AWWA	AMERICAN WATER WORKS ASSOCIATION	HDPE	HIGH DENSITY POLYETHYLENE	RCP	REINFORCED CONCRETE PIPE
CMP	CORRUGATED METAL PIPE	INV	INVERT	REQ'D	REQUIRED
CPP	CORRUGATED PLASTIC PIPE	K_h	HORIZONTAL PERMEABILITY	RPM	REFLECTIVE PAVEMENT MARKER
CTV	CABLE TELEVISION	K_v	VERTICAL PERMEABILITY	R/W	RIGHT-OF-WAY
DIP	DUCTILE IRON PIPE	KO	KNOCK OUT	SAN	SANITARY
ESMT	EASEMENT	LF	LINEAL FEET	SH	SEASONAL HIGH
EXIST	EXISTING	MB	MAP BOOK	SMH	SANITARY MANHOLE
FAC	FLORIDA ADMINISTRATIVE CODE	MES	MITERED END SECTION	SJRWMD	ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
FDEP	FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION	MJ	MECHANICAL JOINT	SS	SANITARY SEWER
FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY	MPD	MULTI-PRODUCT DISPENSER (FUEL PUMP)	SWPPP	STORMWATER POLLUTION PREVENTION PLAN
FH	FIRE HYDRANT	N/A	NOT APPLICABLE	TSB	TEMPORARY SEDIMENT BASIN
FOC	FIBER OPTIC CABLE	NIC	NOT IN CONTRACT	TYP	TYPICAL
FF EL	FINISH FLOOR ELEVATION	NGVD	NATIONAL GEODETIC VERTICAL DATUM	UGE	UNDERGROUND ELECTRIC
FM	FORCE MAIN	OHE	OVERHEAD ELECTRIC	UGT	UNDERGROUND TELEPHONE
FPD	FEET PER DAY	OR	OFFICIAL RECORD	USACOE	UNITED STATES ARMY CORP OF ENGINEERS
G	GAS	PG	PAGE	W	WATER (POTABLE)
GPC	GULF POWER COMPANY	PSI	POUNDS PER SQUARE INCH		
GW	GROUND WATER	PVC	POLYVINYL CHLORIDE		
H/C	HANDICAP	PVMT	PAVEMENT		
		PROP	PROPOSED		
		R	RADIUS		

SITE GEOTECHNICAL CONSIDERATIONS

SEE GEOTECHNICAL REPORT UNIVERSAL ENGINEERING SCIENCES. (REPORT No. 134233, DATED JANUARY 14, 2019) FOR ALL SUBSURFACE CONDITIONS, GROUNDWATER, SITE PREPARATION FOR PAVEMENT AND ALL EARTHWORK REQUIREMENTS.

REVISIONS

DATE	DESCRIPTION
4/26/23	CITY COMMENTS

NEWKIRK ENGINEERING INC
1230 North US1, Suite 3
Ormond Beach, Florida 32174
Phone (386) 872-7794
www.Newkirk-Engineering.com
C.A. # 30239
L.C. # 26000384
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Civil Engineering, Transportation, CEI & Landscape Architecture

DEVELOPMENT INFORMATION
LEGACY POINTE APARTMENTS
LESLIE STREET
FLAGLER BEACH, FL 32136

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY HARRY NEWKIRK, PE # 62971 ON

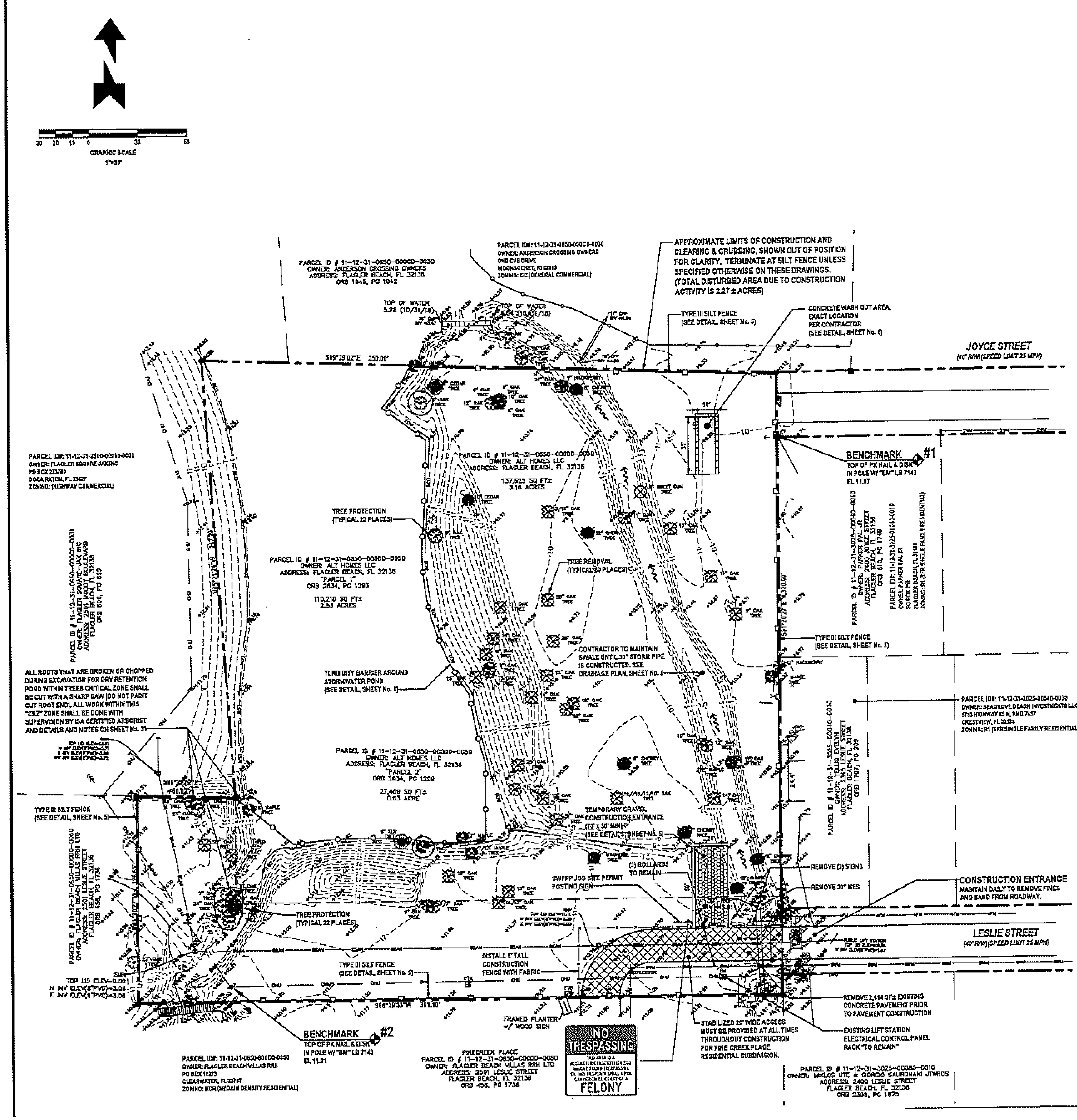
HARRY NEWKIRK LICENSE NO. 62971 STATE OF FLORIDA PROFESSIONAL ENGINEER

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

PROJECT No:	2023-17
DATE:	FEBRUARY 2023
DESIGN BY:	HHN
DRAWN BY:	NWS
CHECKED BY:	HHN
SCALE:	

DRAWING NUMBER

3



DEMOLITION AND EROSION CONTROL NOTES:

1. ALL EROSION CONTROL DEVICES AND VISIBLE BARRICADES SHALL BE INSTALLED AND APPROVED BY THE ENGINEER PRIOR TO THE START OF CLEARING AND GRUBBING.
2. THE SITE SHALL BE CLEARED AND GRUBBED OF ALL VEGETATION AND DEBRIS WITHIN THE APPROXIMATE LIMITS OF CLEARING AS INDICATED ON THE DRAWING.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE CITY FLAGLER BEACH UTILITY DEPARTMENT, FLORIDA SUNSHINE AND EMERGENCY SERVICES FOR RESPECTIVE UTILITY LOCATIONS AND "NOTICE" OF CONSTRUCTION ACTIVITY.
4. ALL REMOVED MATERIAL SHALL BE HAULED OFF-SITE TO AN APPROVED LANDFILL. TREES MAY BE LOGGED OR MULCHED FOR OFF-SITE DISPOSAL AT THE CONTRACTOR'S DISCRETION.
5. ALL EROSION CONTROL DEVICES SHALL BE PLACED PRIOR TO THE START OF WORK AND REMAIN IN PLACE UNTIL ALL WORK IS COMPLETE.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PERIODIC INSPECTION AND REMOVAL OF DEBRIS AND SILT BEHIND EROSION CONTROL DEVICES.
7. ALL OFF-SITE AREAS DISTURBED DURING CONSTRUCTION ACTIVITY SHALL BE IMMEDIATELY RESTORED TO PRIOR CONDITION UPON COMPLETION OF WORK.
8. SOILS ARE TO BE STABILIZED BY WATER OR OTHER MEANS DURING CONSTRUCTION. THIS IS INTENDED TO REDUCE SOIL EROSION, BLOWING SAND AND THE IMPACT TO NEIGHBORING PROPERTIES.
9. IF PREHISTORIC OR HISTORIC ARTIFACTS, SUCH AS POTTERY OR CERAMICS, STONE TOOLS OR METAL IMPLEMENTS, DUGOUT CANOES, OR ANY OTHER PHYSICAL REMAINS THAT COULD BE ASSOCIATED WITH NATIVE AMERICAN CULTURES, OR EARLY COLONIAL OR AMERICAN SETTLEMENT ARE ENCOUNTERED AT ANY TIME WITHIN THE PROJECT SITE AREA, THE PERMITTED PROJECT SHOULD CEASE ALL ACTIVITIES INVOLVING SUBSURFACE DISTURBANCE IN THE IMMEDIATE VICINITY OF SUCH DISCOVERIES. THE PERMITTEE, OR OTHER DESIGNEE, SHOULD CONTACT THE FLORIDA DEPARTMENT OF STATE, DIVISION OF HISTORICAL RESOURCES, REVIEW AND COMPLIANCE SECTION AT (850) 245-6333 OR (800) 847-7278, AS WELL AS THE APPROPRIATE PERMITTING AGENCY OFFICE. PROJECT ACTIVITIES SHOULD NOT RESUME WITHOUT VERBAL AND/OR WRITTEN AUTHORIZATION FROM THE DIVISION OF HISTORICAL RESOURCES. IN THE EVENT THAT UNMARKED HUMAN REMAINS ARE ENCOUNTERED DURING PERMITTED ACTIVITIES, ALL WORK SHALL STOP IMMEDIATELY AND THE PROPER AUTHORITIES NOTIFIED IN ACCORDANCE WITH SECTION 872.05, FLORIDA STATUTES.

SWPPP INSPECTIONS AND RECORD KEEPING:

INSPECTIONS ARE REQUIRED AT LEAST EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS FOLLOWING A RAINFALL EVENT OF ONE-HALF (1/2) OF AN INCH OF RAINFALL OR GREATER AND SHALL CONTINUE UNTIL THE SITE COMPLIES WITH FINAL STABILIZATION (NOTICE OF TERMINATION). INSPECTIONS MUST BE CONDUCTED BY A "QUALIFIED" INSPECTOR. "QUALIFIED" IS DEFINED AS A PERSON THAT A). HAS SUCCESSFULLY COMPLETED AND MET ALL REQUIREMENTS NECESSARY TO BE FULLY CERTIFIED THROUGH THE FDEP STORMWATER, EROSION AND SEDIMENTATION CONTROL INSPECTOR TRAINING PROGRAM; B). HAS SUCCESSFULLY COMPLETED AN EQUIVALENT FORMAL TRAINING PROGRAM; OR C). THAT IS QUALIFIED BY OTHER TRAINING OR PRACTICAL EXPERIENCE IN THE FIELD OF STORMWATER POLLUTION PREVENTION AND EROSION AND SEDIMENTATION CONTROL. EACH INSPECTION MUST BE FOLLOWED UP BY A REPORT DOCUMENTING THE INSPECTOR'S FINDINGS AND REQUEST THE REQUIRED MAINTENANCE AND/OR REPAIR FOR THE EROSION AND SEDIMENTATION CONTROL MEASURES. THESE RECORDS ARE USED TO PROVE THAT THE REQUIRED INSPECTION AND MAINTENANCE WERE PERFORMED AND SHALL BE PLACED IN THE SWPPP LEDGER. IN ADDITION TO INSPECTION AND MAINTENANCE REPORTS, RECORDS SHOULD BE KEPT OF CONSTRUCTION ACTIVITIES THAT OCCUR ON THE SITE. THE CONTRACTOR SHALL RETAIN COPIES OF THE SWPPP, ALL REPORTS AND DATA FOR A MINIMUM OF FIVE (5) YEARS AFTER THE PROJECT IS COMPLETE IN PAPER AND CD FORMAT.

LEGEND:

- PROPOSED SILT FENCE WITH WIRE (SEE DETAIL, SHEET No. 5)
- PROPOSED TREE PROTECTION (SEE DETAIL, SHEET No. 5)
- PROPOSED TURBIDITY BARRIER (SEE DETAIL, SHEET No. 6)
- PROPOSED 6' TALL CONSTRUCTION FENCE WITH FABRIC
- PROPOSED AGGREGATE
- CONCRETE PAVEMENT REMOVAL
- 17" HACKBERRY — EXISTING TREE (No. INDICATES SIZE)
- 17" OAK TREE — TREE TO BE REMOVED
- INLET PROTECTION

OVERALL TREE LEGEND:

NAME	SYMBOL	EXISTING	REMOVE	REMAIN
CEDAR		2	1	1
CHERRY		7	7	0
ELM		1	0	1
HACKBERRY		2	1	1
MAGNOLIA		1	1	0
MAPLE		9	5	4
OAK		60	46	14
SWEET GUM		5	1	0
	TOTALS:	83	62	21

BENCHMARK INFORMATION:

#1 TOP OF PK NAIL & DISK IN POLE W/ "BM" LB 7143 ELEVATION = 11.07

#2 TOP OF PK NAIL & DISK IN POLE W/ "BM" LB 7143 ELEVATION = 11.91

VERTICAL DATA
ELEVATIONS REFER TO (NAVD) NORTH AMERICAN VERTICAL DATUM 1988, FEET AND DECIMAL PART THEREOF. BENCHMARK REFERENCE NAVD DATUM OF 1988.

Call 811 Before You Dig

WARNING !!
CONTRACTOR SHALL TAKE ALL PRECAUTIONS DURING CONSTRUCTION TO AVOID CONTACT WITH EXISTING UNDERGROUND UTILITIES, GAS MAINS AND OVERHEAD ELECTRIC IN THE RIGHT-OF-WAY.

REVISIONS

DATE	DESCRIPTION
4/2023	CITY COMMENTS

NEWKIRK ENGINEERING INC.
1230 North US1, Suite 3
Ormond Beach, Florida 32174
Phone (386) 872-7734
www.NewKirk-Engineering.com
C.A. # 30209
L.C. # 26000584
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Civil Engineering, Transportation, CEI & Landscape Architecture

DEMOLITION, TREE REMOVAL AND SWPPP PLAN

LEGACY POINTE APARTMENTS

LESLIE STREET
FLAGLER BEACH, FL 32136

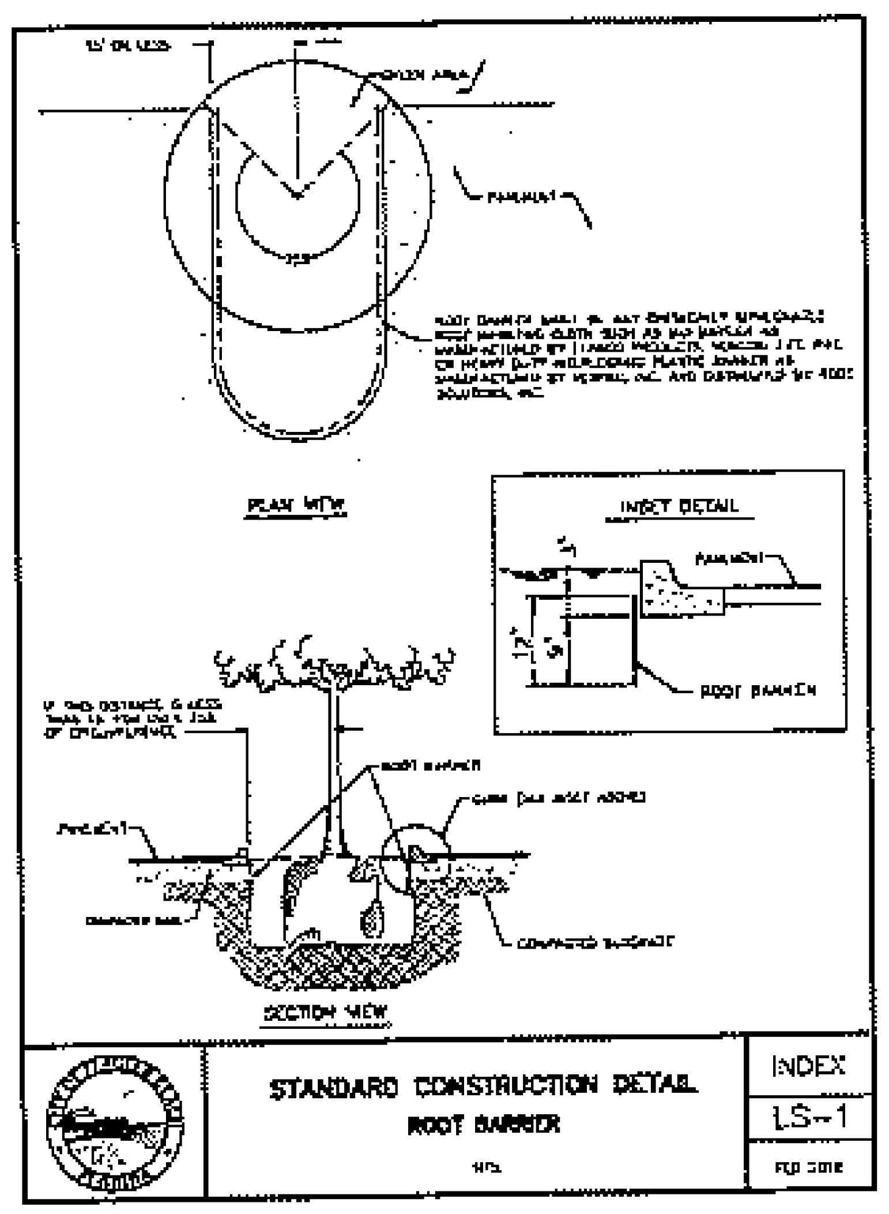
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY HARRY NEWKIRK, PE # 62971 ON

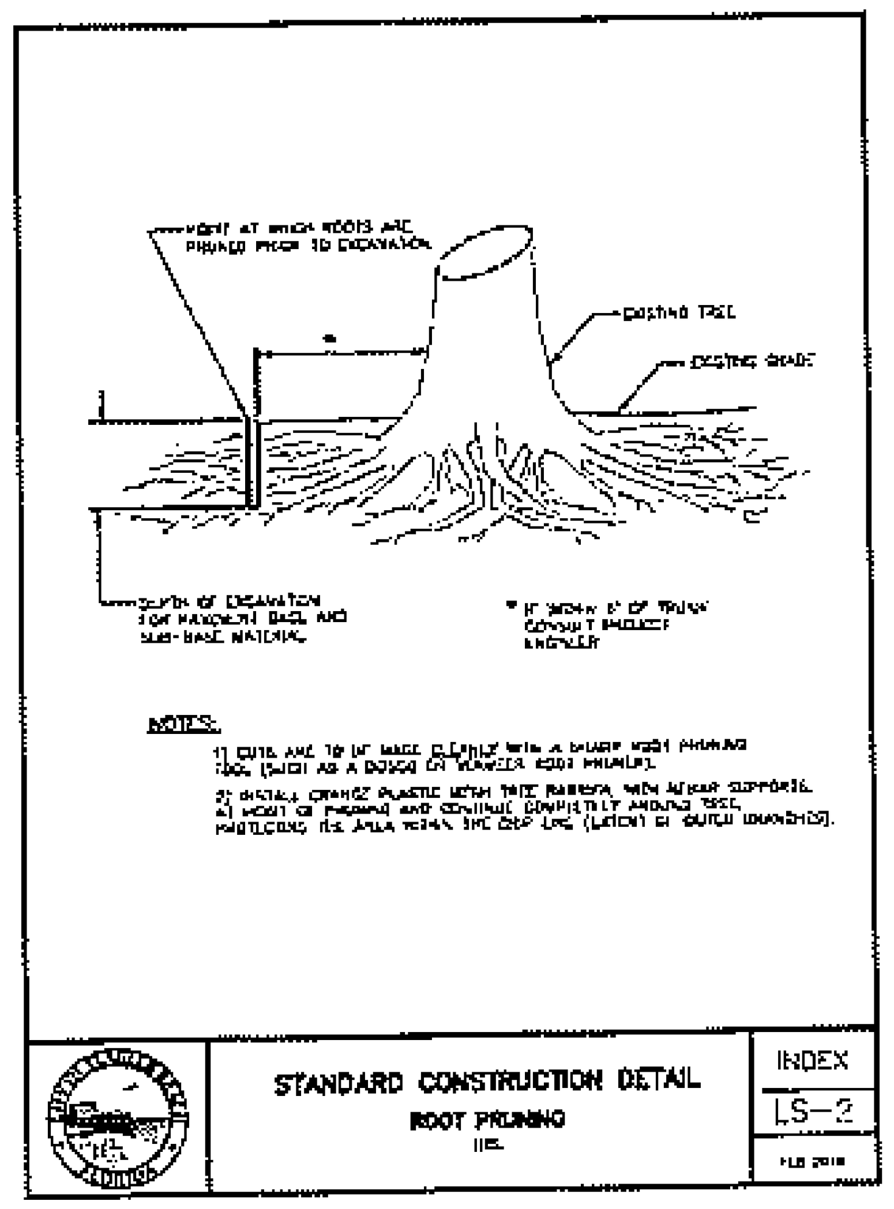
HARRY NEWKIRK LICENSE NO. 62971 STATE OF FLORIDA PROFESSIONAL ENGINEER

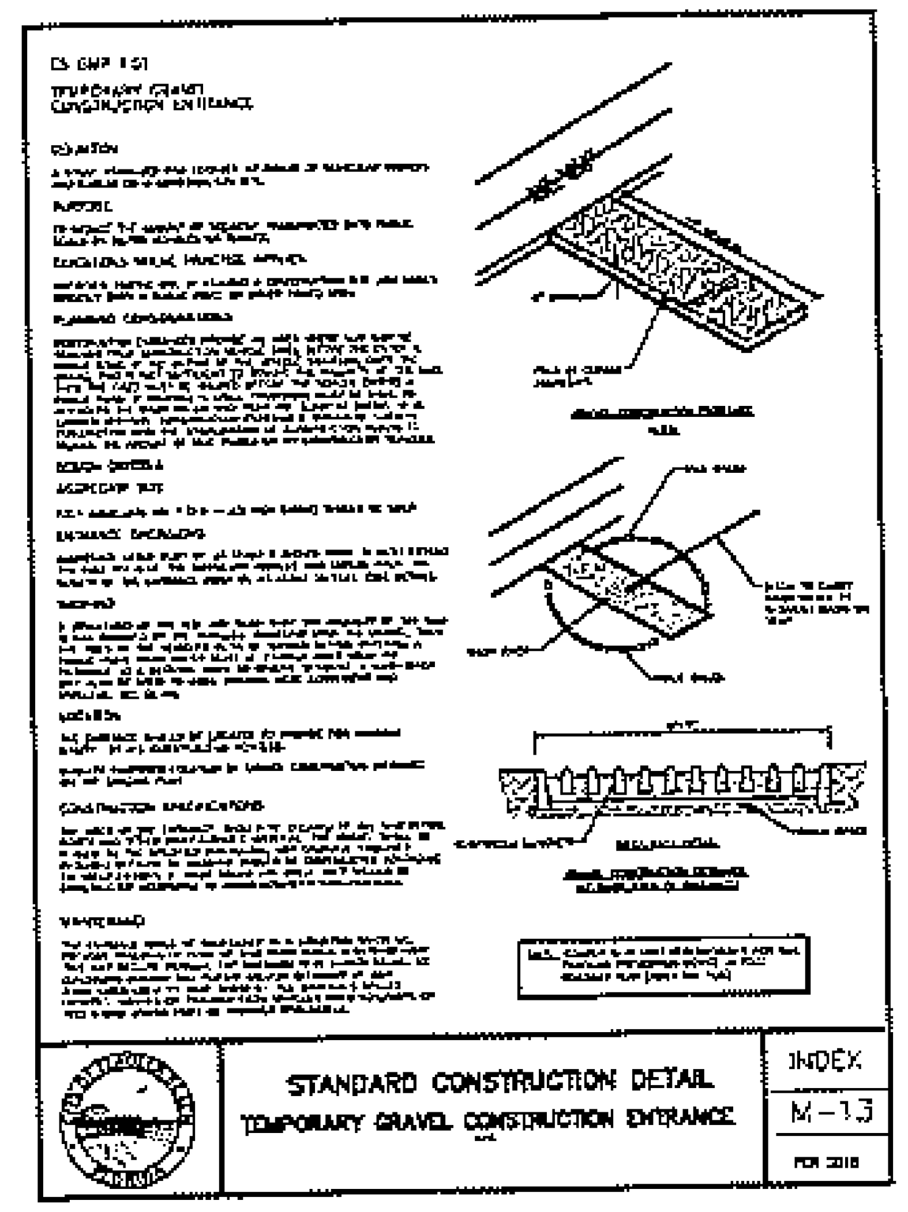
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

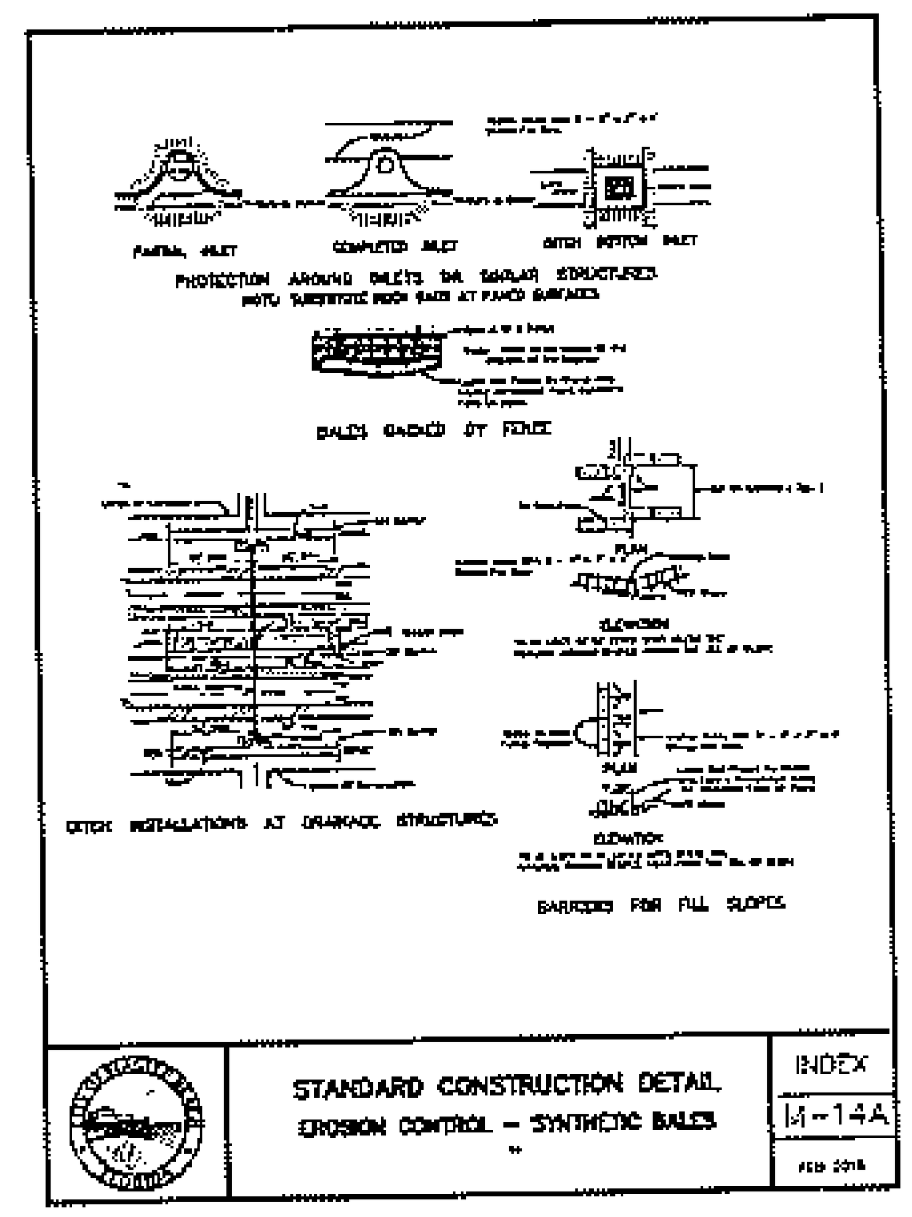
PROJECT No:	2023-17
DATE:	FEBRUARY 2023
DESIGN BY:	HHN
DRAWN BY:	NWS
CHECKED BY:	HHN
SCALE:	1" = 30'

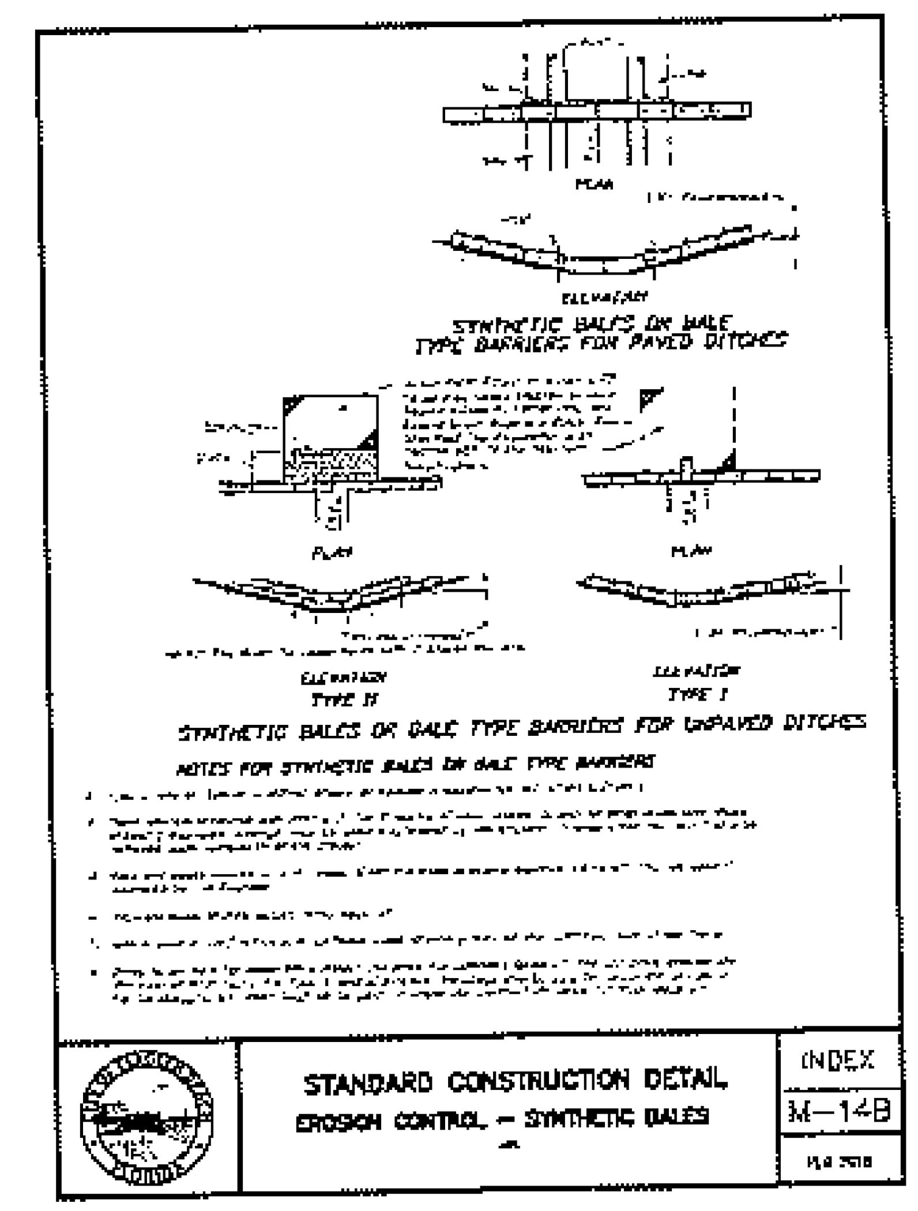
DRAWING NUMBER
4

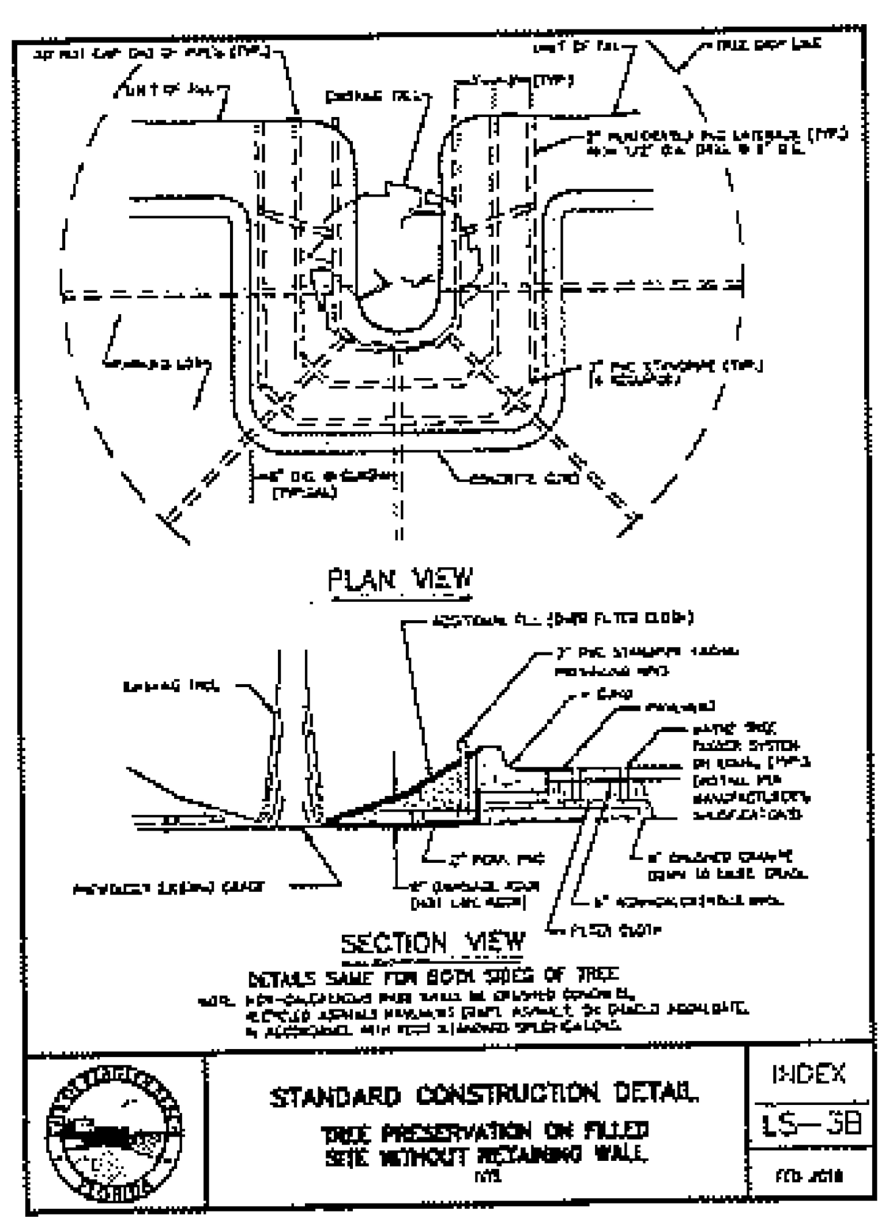


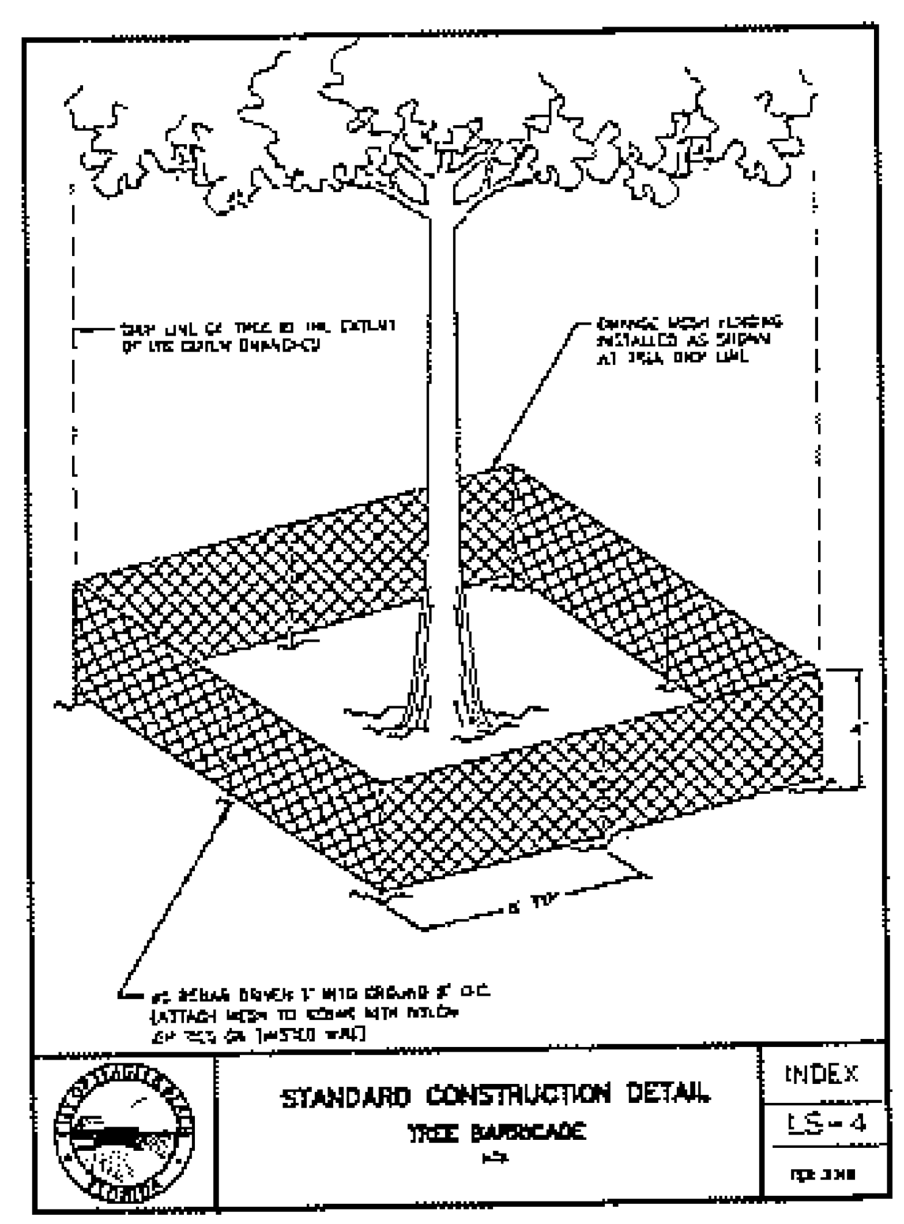


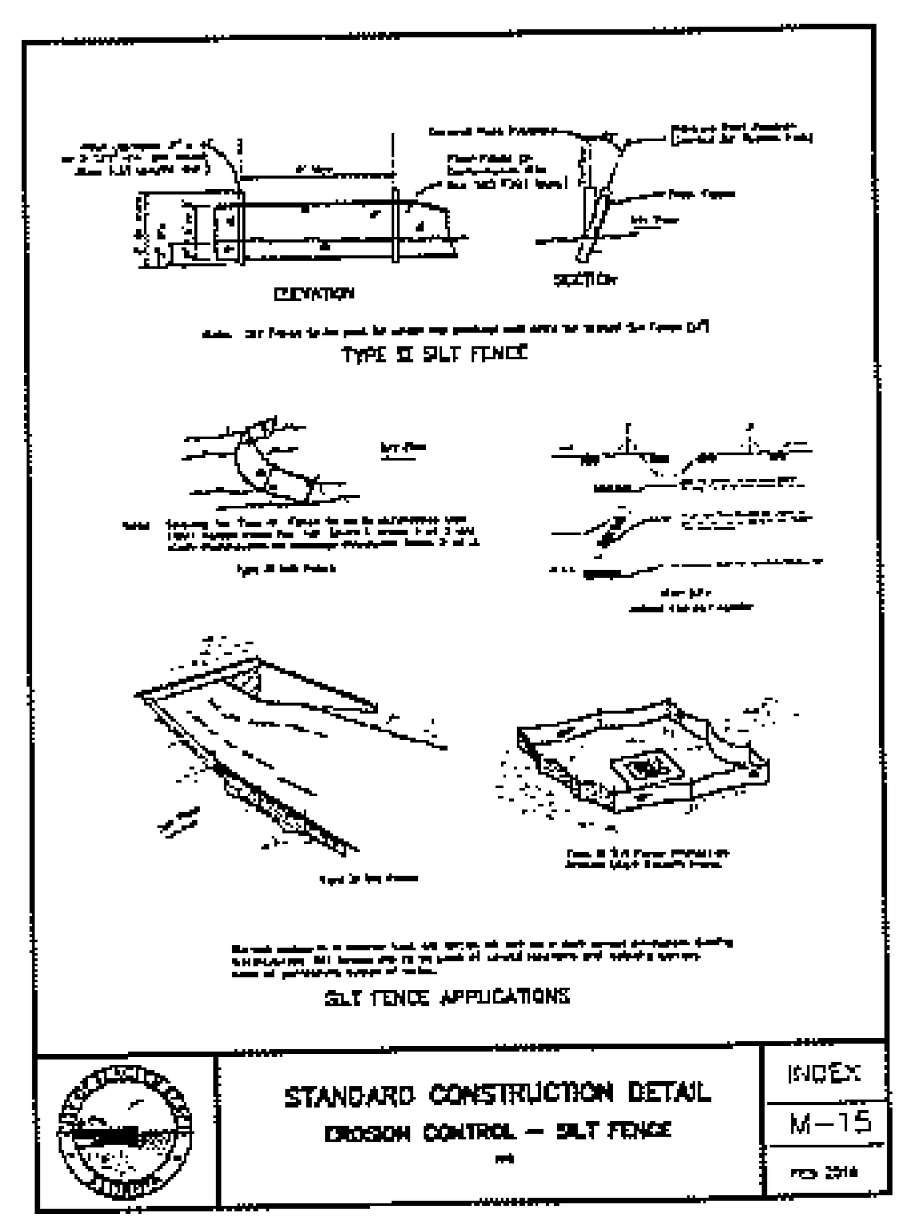


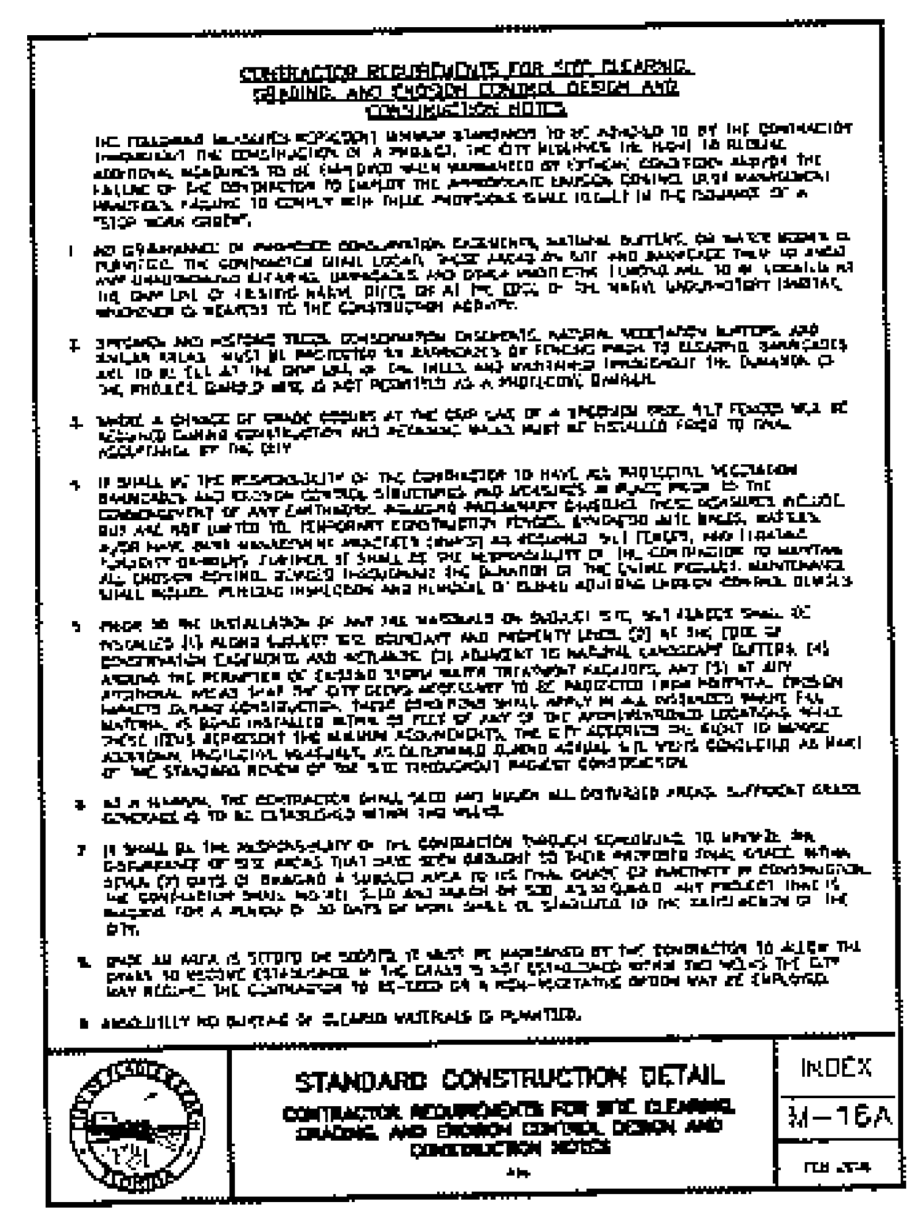


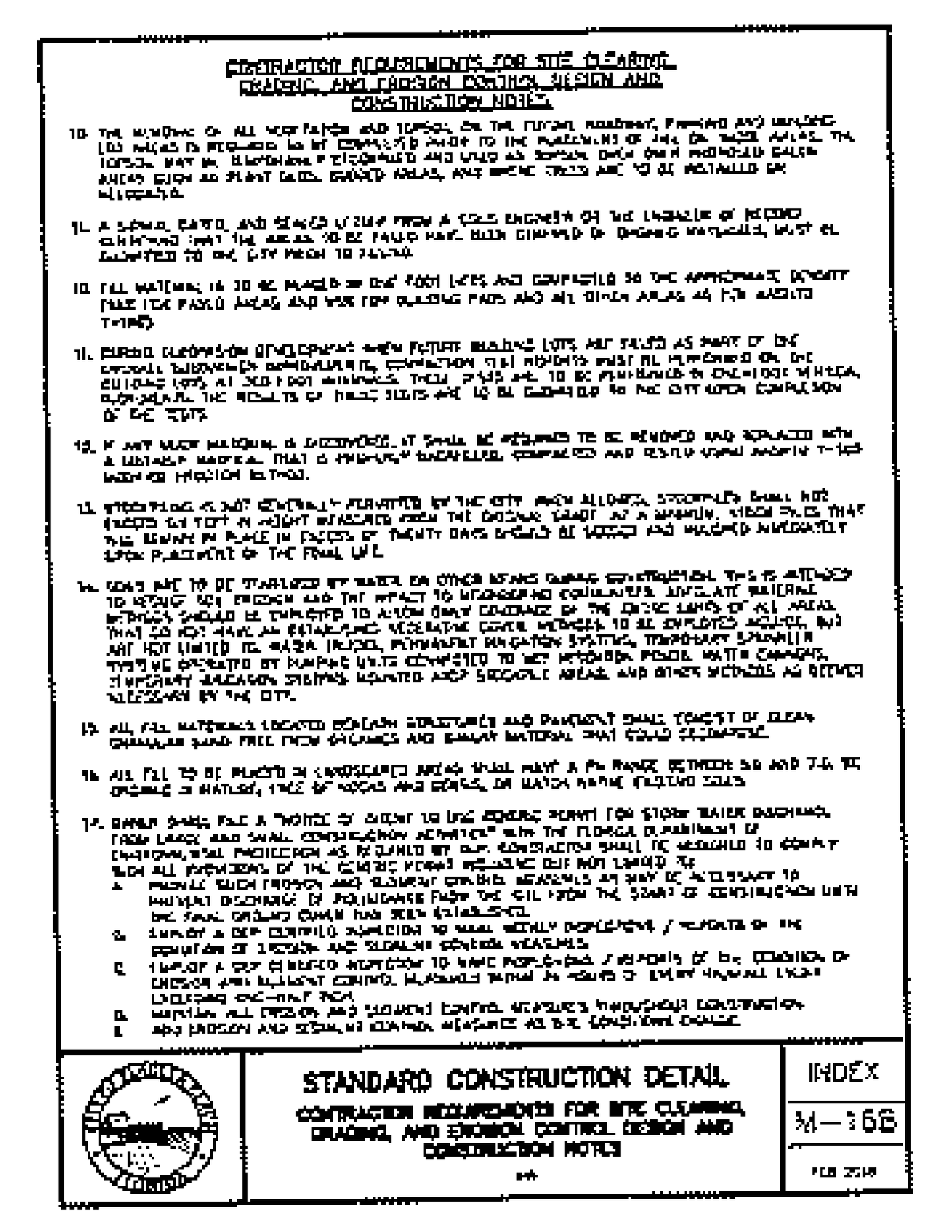












REVISIONS

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4/2023	CITY COMMENTS

1230 North US1, Suite 3
Ormond Beach, Florida 32174
Phone (386) 672-7754
www.Newkirk-Engineering.com
C.A. # 30208
L.C. # 26000584
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Civil Engineering,
Transportation, CEI &
Landscape Architecture

NEWKIRK ENGINEERING INC.

SWPPP DETAILS AND NOTES
LEGACY POINTE APARTMENTS
LESLIE STREET
FLAGLER BEACH, FL 32136

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY HARRY NEWKIRK, PE # 62971 ON

HARRY NEWKIRK LICENSE NO. 62971 STATE OF FLORIDA PROFESSIONAL ENGINEER

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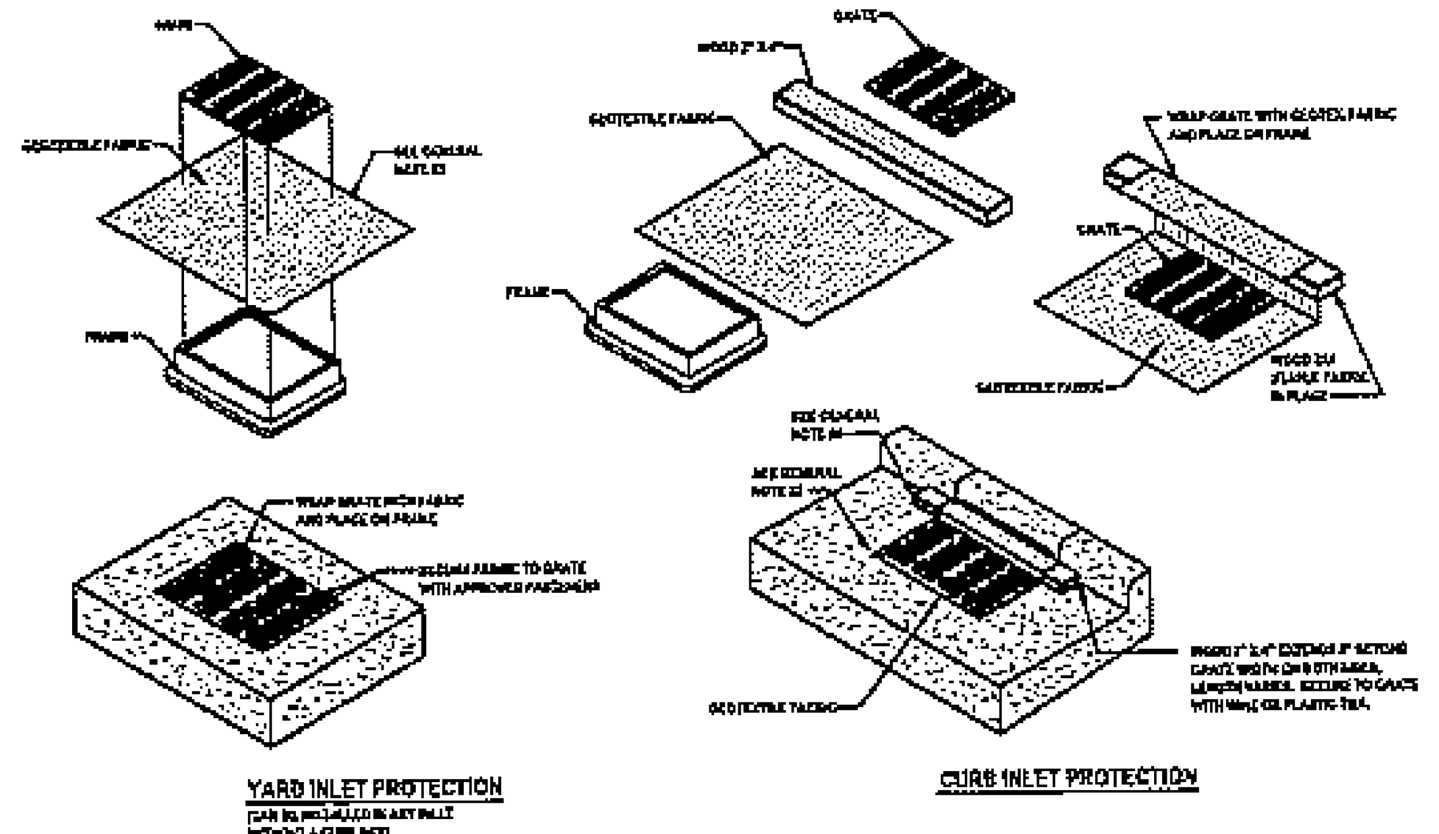
PROJECT No:	2023-17
DATE:	FEBRUARY 2023
DESIGN BY:	HHN
DRAWN BY:	NWS
CHECKED BY:	HHN
SCALE:	

DRAWING NUMBER

5

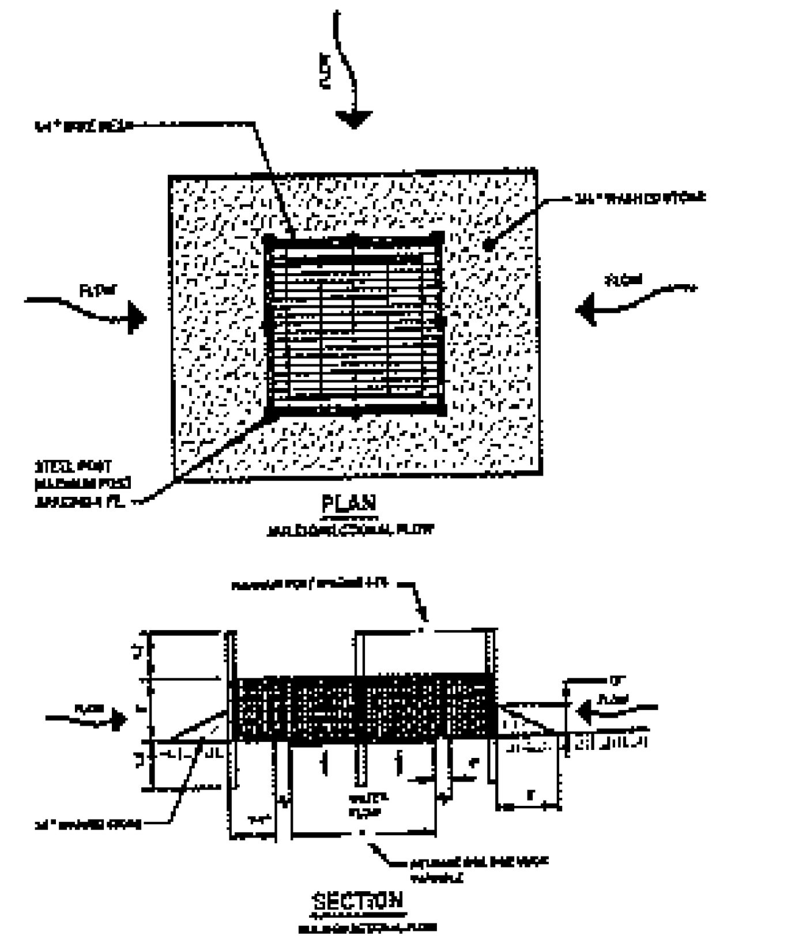


GENERAL NOTES:

1. GEOTEXTILE TO BE MIRAFI FILTERWEAVE 402 OR GEOTEX 111F. ALTERNATIVES INCLUDE APPROVED EQUAL ASTM D4491 OR 120 TO 180 GALLON PER MINUTE PER SQUARE FOOT.
2. WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.
3. FINISHED SIZE, EXCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
4. FOR CURB INLET PROTECTION AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
5. TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.
6. THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS, OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

GEOTEXTILE FABRIC INLET PROTECTION

NOT TO SCALE

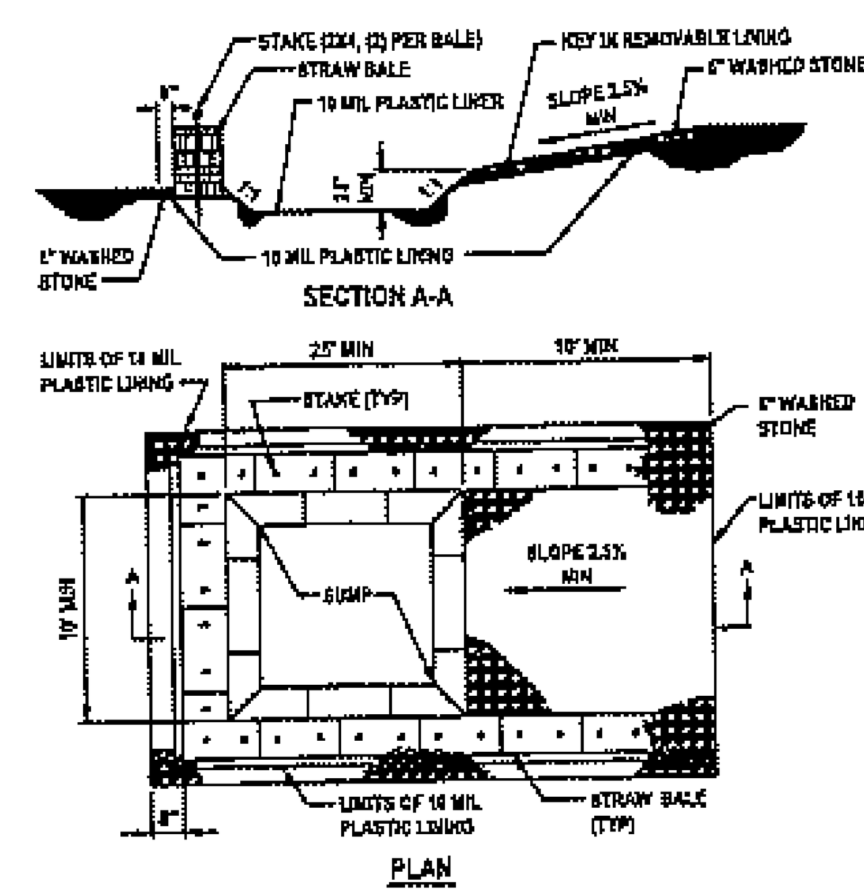


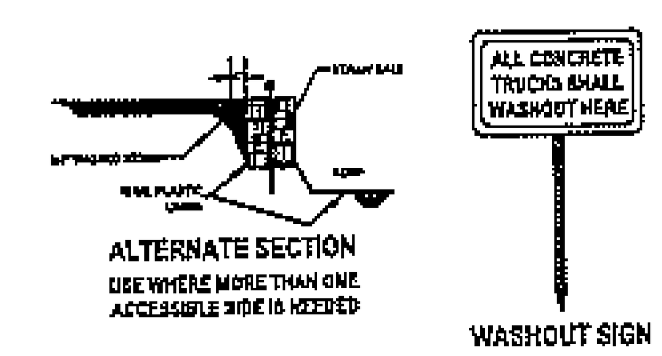
NOTE:

1. SEDIMENT CONTROL STONE SHALL BE 3/4" WASHED STONE.
2. WIRE MESH SHALL BE HARDWARE CLOTH 23 GAUGE MIN. AND SHALL HAVE 1/4 INCH MESH
3. TOP OF WIRE MESH SHALL BE A MINIMUM OF ONE FOOT BELOW THE SHOULDER OR ANY DIVERSION POINT.
4. STEEL POST SHALL BE 5 FT. IN LENGTH, BE INSTALLED 1.5 FT. DEEP MINIMUM, AND BE OF THE SELF-FASTENER ANGLE STEEL TYPE.
5. WOOD POST SHALL BE 6 FT. IN HEIGHT, BE INSTALLED TO 1.5 FT. DEEP MINIMUM, AND BE 3 INCHES IN DIAMETER.
6. POST SPACING SHALL BE A MAXIMUM OF 4 FT.

HARDWARE CLOTH INLET PROTECTION

NOT TO SCALE





NOTES:

1. PIT IS SPECIFICALLY DESIGNATED, DIKED AND IMPERVIOUS CONTAINMENT TO PREVENT CONTACT BETWEEN CONCRETE, WASH AND STORMWATER.
2. WASH WATER SHALL NOT BE ALLOWED TO FLOW TO SURFACE WATER.
3. FACILITY MUST HOLD SUFFICIENT VOLUME TO CONTAIN CONCRETE WASTE WITH A MINIMUM FREEBOARD OF 12"
4. FACILITY SHALL NOT BE FILLED BEYOND 85% CAPACITY UNLESS A NEW FACILITY IS CONSTRUCTED.
5. SAW CUT PORTLAND CEMENT CONCRETE, RESIDUE FROM SAWCUT & GRINDING TO BE DISPOSED OF IN THE PIT.
6. CONCRETE WASHOUTS SHALL BE LOCATED A MINIMUM OF 100' FROM DRAINAGE WAYS, INLETS, & SURFACE WATERS.
7. MANUFACTURED CONCRETE WASHOUT DEVICES MAY BE USED IF REMOVED FROM THE SITE WHEN 85% FULL CAPACITY.

CONCRETE WASHOUT AREA

NOT TO SCALE

TEMPORARY SEEDING SPECIFICATION:

GENERAL
SEEDING CAN BE USED FOR TEMPORARY STABILIZATION. DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS CEASED FOR MORE THAN 7 DAYS SHALL BE TEMPORARILY SEEDED AND WATERED. AREAS WHERE FINAL GRADING HAS BEEN COMPLETED FOR MORE THAN 7 DAYS SHALL BE TEMPORARILY SEEDED. TEMPORARY SEED MIXTURE IS SPECIFIED BELOW.

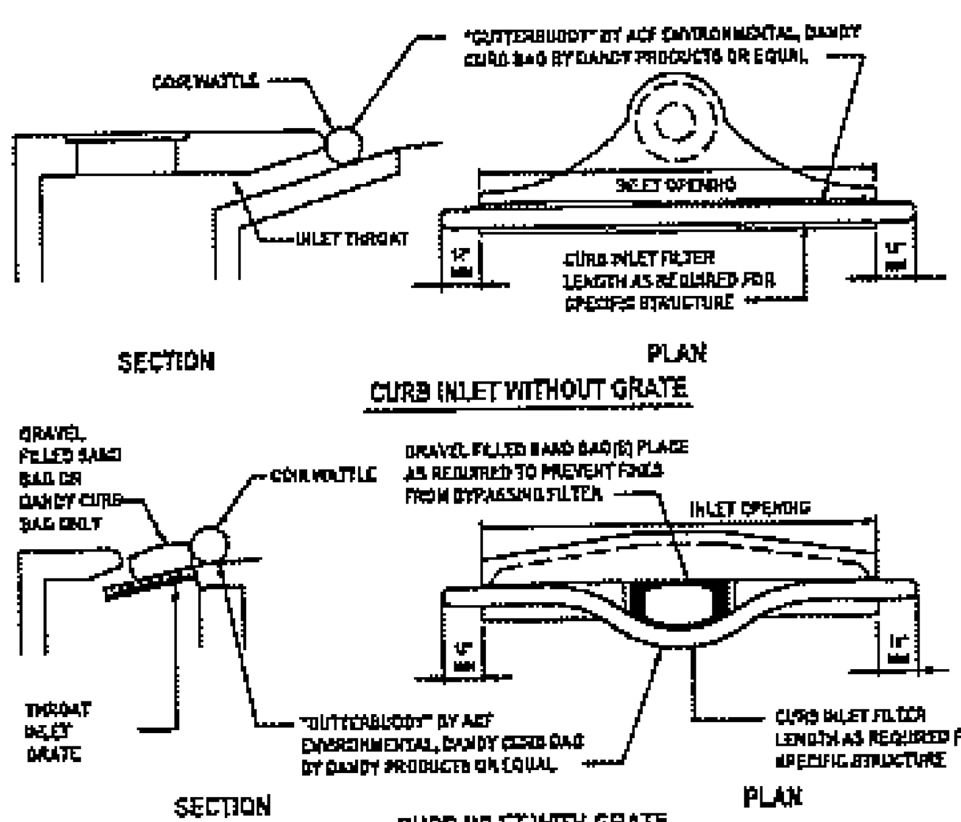
SEEDING MIXTURES
SEED MIXTURE SHALL BE BERMUDA COMMON 50 LB PURE LIVE SEED PER ACRE, FIBER 2000 LB PER ACRE, STABILIZER 120 LB PER ACRE AND FERTILIZER 350 LB PER ACRE.

ALL SLOPES AND FLAT GRADE
APPLY 6-20-20 COMMERCIAL ORGANIC FERTILIZER AT A RATE OF 350 LB PER ACRE AND SEED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

TEMPORARY SEEDING PLANTING DATES	SEED VARIETY	APPLICATION RATE
MARCH 15 - OCTOBER 15	PENSACOLA BAHIA (SCARIFIED)	50
	BERMUDA COMMON (50% HULLED)	25
OCTOBER 16 - MARCH 14	PENSACOLA BAHIA (SCARIFIED)	130
	BERMUDA COMMON (50% HULLED)	35
	ANNUAL RYE GRASS	10
	RYE GRAIN	23

MULCH SEEDED AREA WITH 2 TONS PER ACRE CLEAN GRAIN STRAW. ANCHOR STRAW WITH HYDRAULIC WOOD FIBER MULCH AT THE RATE OF 1000 LB PER ACRE, OR 150-200 POUNDS OF ORGANIC MULCH TACKIFIER PER ACRE, OR USE NETTING.

HYDRO FIBER MULCH MIXTURE SHALL BE PERFORMED IN A TANK WITH A CONTINUOUS AGITATION AND RECIRCULATION SYSTEM WITH SUFFICIENT OPERATING CAPACITY TO PRODUCE A HOMOGENEOUS SLURRY AND DISCHARGE SYSTEM WHICH WILL APPLY THE SLURRY AT A CONTINUOUS AND UNIFORM RATE. MIXTURE SHALL CONTAIN A GREEN FUGITIVE DYE AS AN APPLICATION INDICATOR.

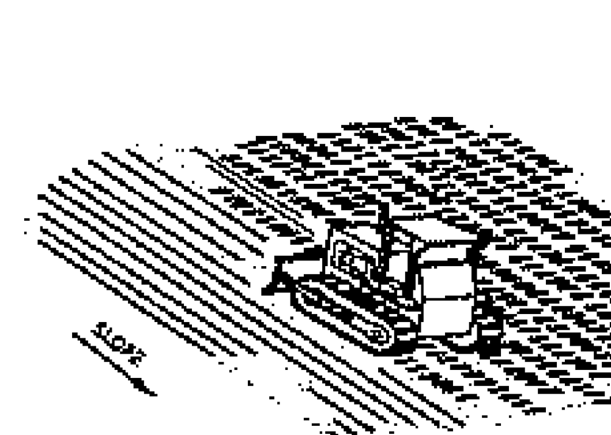


NOTES:

1. INSTALL FILTER PRIOR TO BEGINNING CONSTRUCTION.
2. INSPECT ONCE EACH WEEK AND AFTER ANY RAIN EVENT, REMOVE ANY FINES AND DEBRIS THAT MAY HAVE ACCUMULATED AND DISPOSE OF PROPERLY.

CURB INLET SEDIMENT PREVENTION DETAIL

NOT TO SCALE



NOTE:
USE DOZER TRACKS TO CREATE GROOVES PERPENDICULAR TO THE SLOPE. GROOVES WILL CATCH SEED, FERTILIZER, MULCH, RAINFALL AND DECREASE SEDIMENT IN RUNOFF.

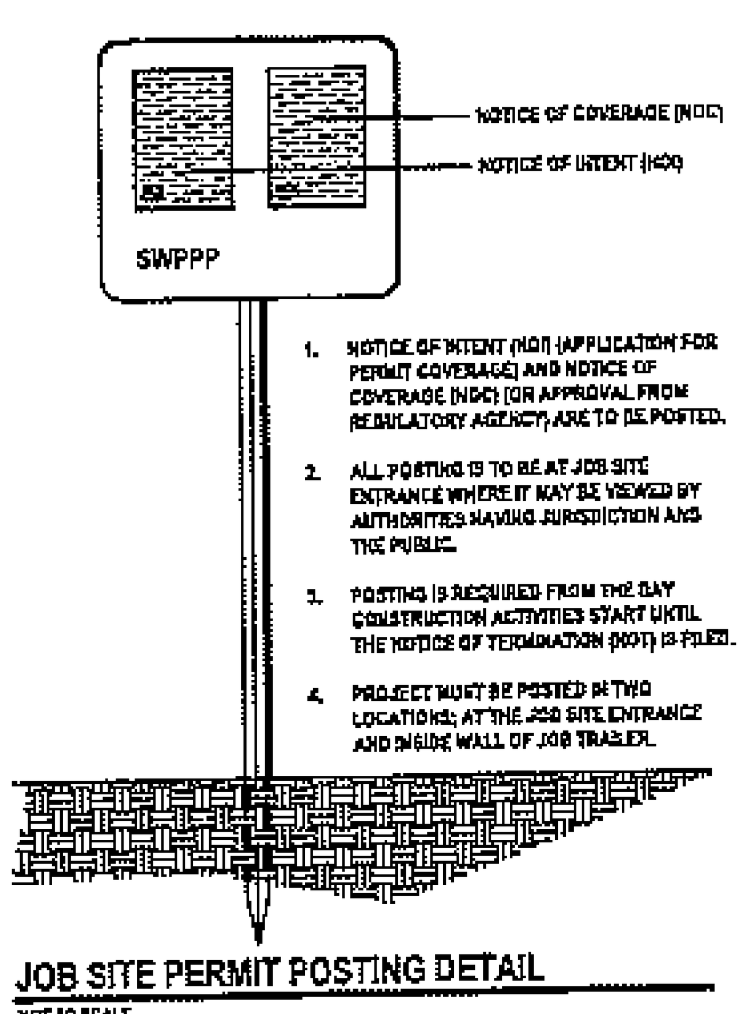
TRACKING DETAIL

NOT TO SCALE

CULTIVATE SOILS TO CREATE FURROWS PERPENDICULAR TO SLOPE. CONTOURS/FURROWS WILL CATCH SEED, FERTILIZER, MULCH, RAINFALL AND DECREASE RUNOFF.

SURFACE ROUGHENING

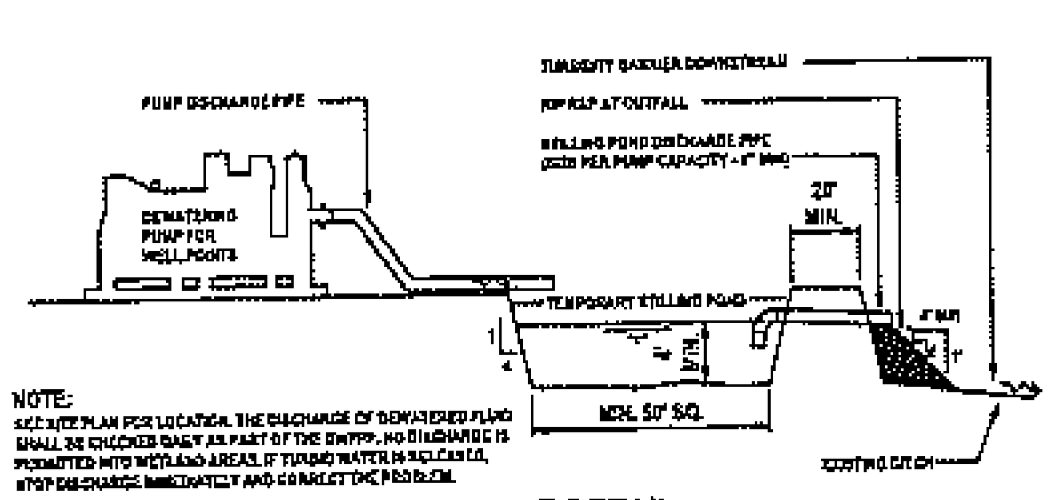
(NOT TO SCALE)



1. NOTICE OF INTENT (NOI) (APPLICATION FOR PERMIT COVERAGE) AND NOTICE OF COVERAGE (NOC) (OR APPROVAL FROM REGULATORY AGENCY) ARE TO BE POSTED.
2. ALL POSTING IS TO BE AT JOB SITE ENTRANCE WHERE IT MAY BE VIEWED BY AUTHORITIES HAVING JURISDICTION AND THE PUBLIC.
3. POSTING IS REQUIRED FROM THE DAY CONSTRUCTION ACTIVITIES START UNTIL THE NOTICE OF TERMINATION (NOT) IS FILED.
4. PROJECT MUST BE POSTED IN TWO LOCATIONS; AT THE JOB SITE ENTRANCE AND INSIDE WALL OF JOB TRAILER.

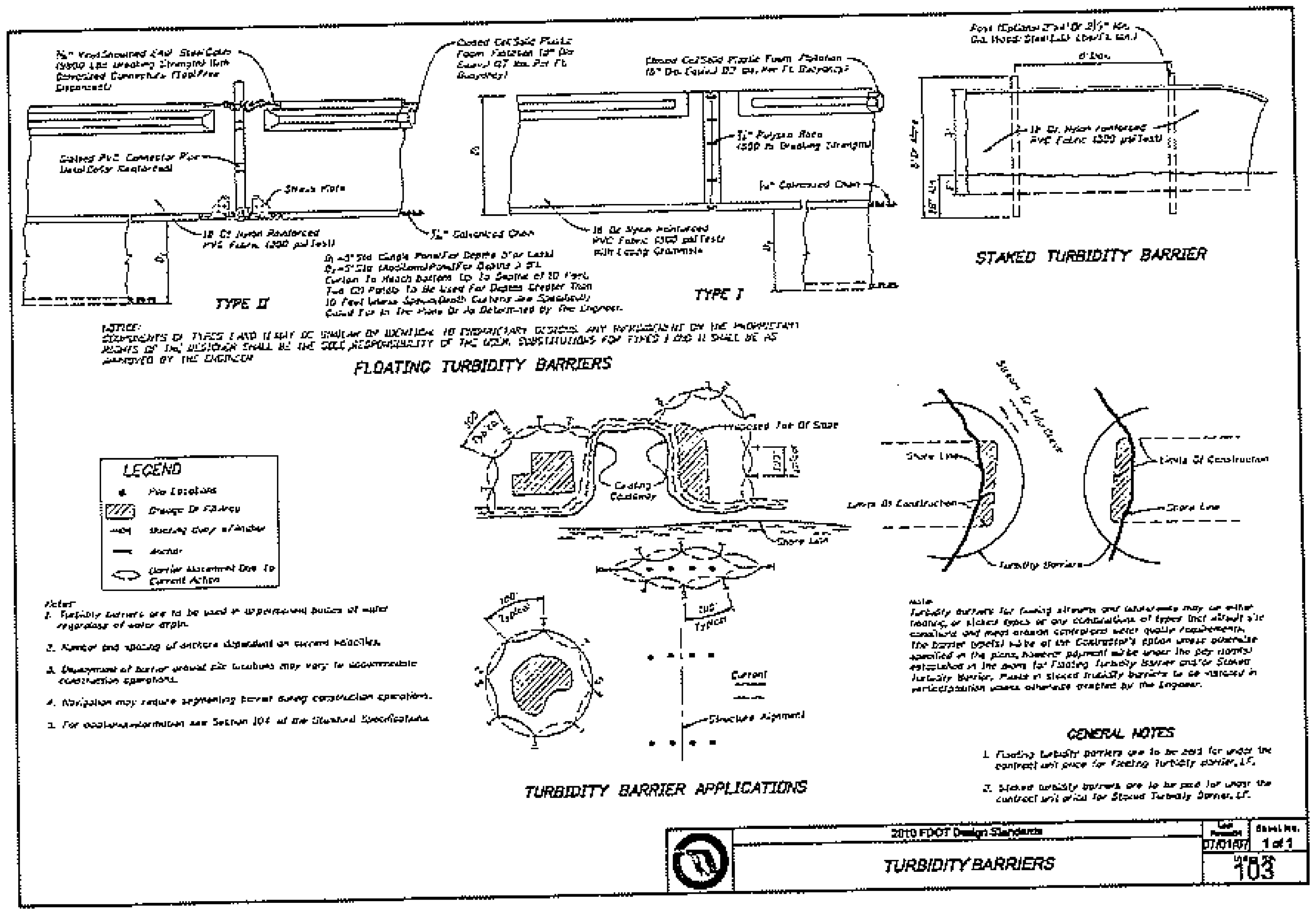
JOB SITE PERMIT POSTING DETAIL

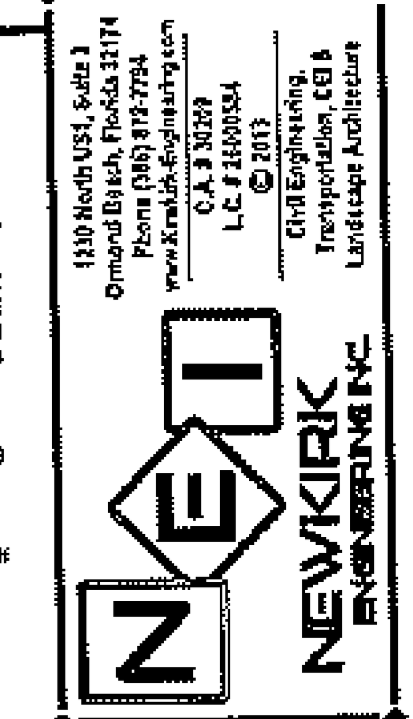
NOT TO SCALE



NOTE:
SEE SITE PLAN FOR LOCATION. THE DISCHARGE OF DEWATERED FLUID SHALL BE CHECKED DAILY AS PART OF THE SWPPP. NO DISCHARGE IS PERMITTED INTO WETLAND AREAS. IF TURBID WATER IS RELEASED, STOP DISCHARGE IMMEDIATELY AND CORRECT THE PROBLEM.

TYPICAL DEWATERING DISCHARGE DETAIL





REVISIONS

DATE	DESCRIPTION
4/29/23	CITY COMMENTS

1230 North US1, Suite 3
Ormond Beach, Florida 32174
Phone (386) 872-7794
www.Newkirk-Engineering.com
C.A. # 30209
L.C. # 26000584
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NEWKIRK ENGINEERING INC.

SWPPP DETAILS AND NOTES
LEGACY POINTE APARTMENTS
LESLIE STREET
FLAGLER BEACH, FL 32136

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY HARRY NEWKIRK, PE # 62971 ON

HARRY NEWKIRK, LICENSE NO. 62971, STATE OF FLORIDA, PROFESSIONAL ENGINEER

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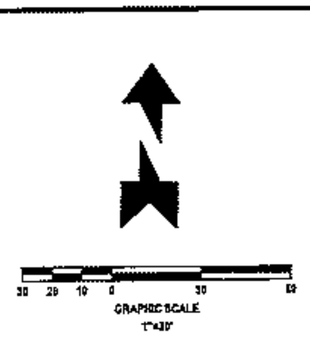
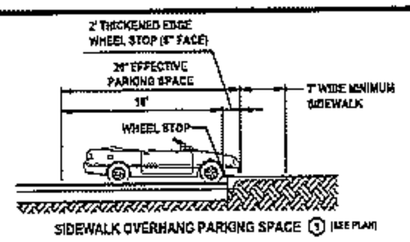
PROJECT No:	2023-17
DATE:	FEBRUARY 2023
DESIGN BY:	HHN
DRAWN BY:	NWS
CHECKED BY:	HHN
SCALE:	

DRAWING NUMBER

6





PAVING LEGEND

ASPHALT PAVEMENT	2" SP-12.5 (FL-C) WITH TACK COAT PER FDOT SPECIFICATIONS 6" CRUSHED CONCRETE (LBR=120) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180 (4" MAX. LIFTS) 12" STABILIZED SUBBASE (LBR 40) MIN OF 95% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180 (TYPE B STABILIZATION) * ALTERNATE 12" STABILIZED SUBBASE: 6" CRUSHED CONCRETE (LBR=120) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180 (4" MAX. LIFTS) (TYPE B STABILIZATION) *ALTERNATE PAVEMENT TO ASPHALT IS CONCRETE PAVEMENT
CONCRETE PAVEMENT	6" CONCRETE (4,000 P.S.I. @ 28 DAYS) 12" STABILIZED SUBGRADE (LBR 40) MIN OF 98% MODIFIED PROCTOR MAX DRY DENSITY PER ASTM D1557, AASHTO T-180 (5" LIFTS) (TYPE B STABILIZATION)
CONCRETE SIDEWALK	4" THICK CLASS I CONCRETE (3,000 P.S.I. @ 28 DAYS) PER FDOT INDEX 522-001 (SEE DETAIL, SHEET No. 20 & 24)

LEGEND

- TYPE "F1" CURB
- RIBBON CURB
- 24" DETECTABLE WARNING MAT
- SITE LIGHTING
  SEE SITE LIGHTING PLAN FOR COMPLETE SPECIFICATIONS
  (SITE LIGHTING SHALL NOT EMIT MORE THAN 0.5 FOOT-CANDLES AT THE PROPERTY LINE. ADD GLARE GUARDS IF REQUIRED.) (SEE SHEET, No. 29-30)
- FLOATING FOUNTAIN
  FOUNTAIN SPECIFICATIONS:
  MANUFACTURER - EAGLE FOUNTAINS
  MODEL - EFS-3000 (BIG FOUNTAIN)
  MOTOR - 220V, 1 PHASE

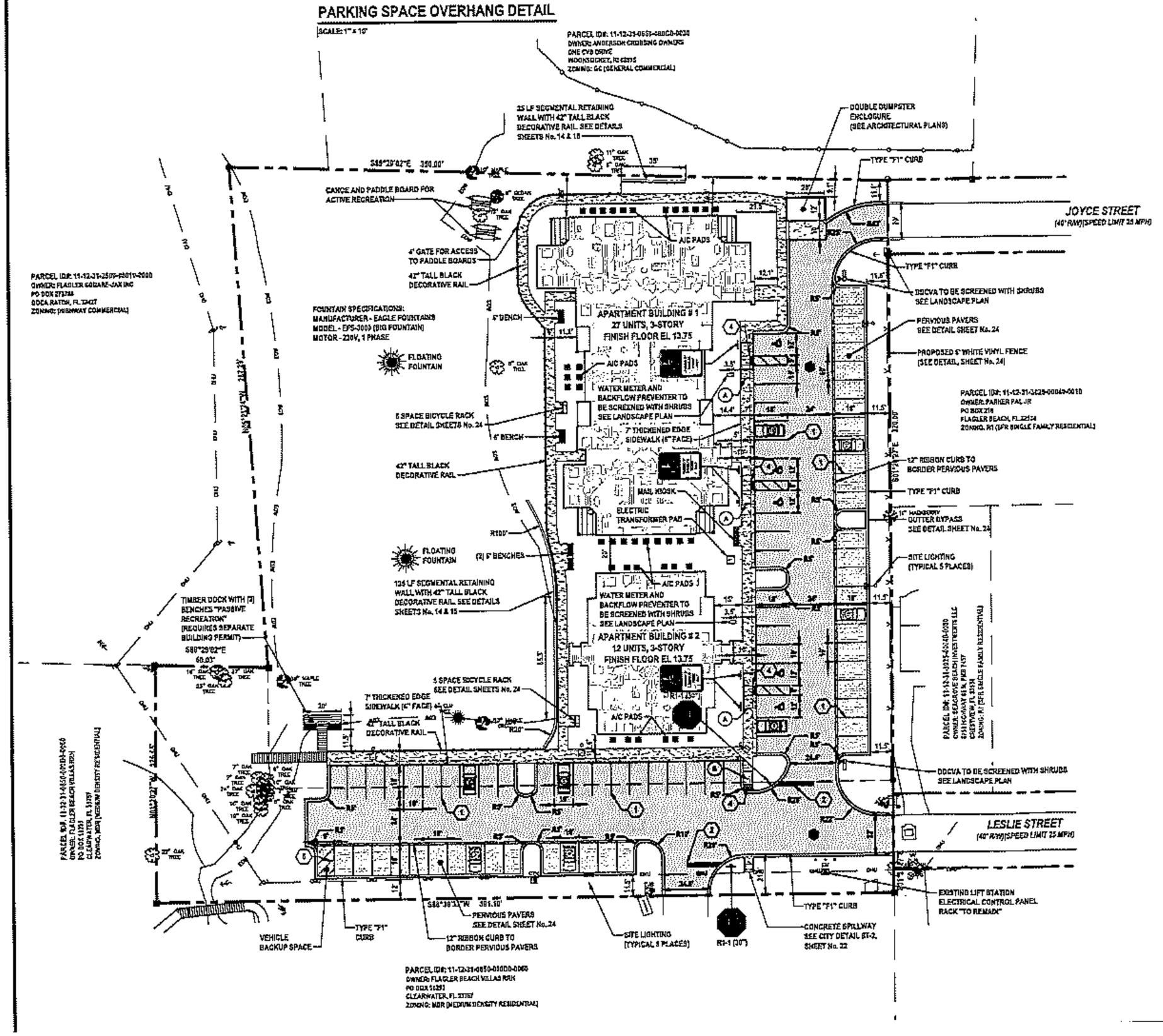
SIDEWALK RAMP KEYNOTES:

(A) SIDEWALK CURB RAMP C (SEE DETAIL, SHEET No. 25)

(B) SIDEWALK CURB RAMP G (SEE DETAIL, SHEET No. 25)

PARKING SPACE OVERHANG DETAIL

SCALE: 1" = 10'



GENERAL NOTES:

1. CITY OF FLAGLER BEACH BUILDING PERMITS ARE REQUIRED FOR BUILDING, CANOPIES, DUMPSTER ENCLOSURE, LIGHT POLES, FENCE AND SIGNS. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING APPROPRIATE INFORMATION (ENGINEERING, SPECIFICATIONS, ETC.) AT TIME OF BUILDING PERMIT.
2. ALL CONSTRUCTION IN THE FDOT ROW SHALL CONFORM TO THE LATEST EDITIONS OF THE FDOT DESIGN STANDARDS (INDEXES), THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE FDOT UTILITY ACCOMMODATION MANUAL.
3. ALL DIMENSIONS AND TIES ARE TO THE EDGE OF PAVEMENT AND OUTSIDE FACE OF BUILDING.
4. ALL IMPROVEMENTS SHALL BE STAKED FOR CONSTRUCTION BY MEANS OF DIGITAL COORDINATES BY SURVEYOR UTILIZING GEODETIC TOTAL STATION OR GPS. SCALING OF DRAWINGS FOR PURPOSES OF STAKING ARE AT THE SURVEYOR'S RISK.
5. THE CONTRACTOR SHALL COORDINATE WITH THE EXISTING ADJACENT BUSINESSES TO ENSURE THERE IS NO DISRUPTION TO THEIR RESPECTIVE OPERATIONS.
6. THE CONTRACTOR AT ITS OWN DISCRETION SHALL MAINTAIN THE CONSTRUCTION SITE SECURE FROM TRESPASS.
7. SOD ALL DISTURBED AREAS IN RIGHT-OF-WAY WITH BAHIA SOD.
8. ALL CURB RAMPS SHALL COMPLY WITH SECTION 405 OF FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION (FACBC).
9. ALL PAVEMENT EDGE SHALL HAVE TYPE "F1" CURBING UNLESS OTHERWISE NOTED ON THESE PLANS.
10. ALL WALL-MOUNTED EQUIPMENT SUCH AS ELECTRICAL METERS, IRRIGATION METERS, PHONE/CABLE BOXES, EXTERNAL VENTS AND LOUVERS, ETC., SHALL BE PAINTED TO MATCH THE WALL OR WHICH IT IS MOUNTED OR OTHERWISE CONSISTENT WITH THE COLOR(S) OF THE BUILDING.
11. ALL MATERIALS, MACHINERY AND VEHICLES SHALL BE STORED ON-SITE IN AN ORDERLY ORGANIZED FASHION.
12. COMMERCIAL IMPACT FEE SHALL BE CALCULATED, DUE AND PAYABLE WITHIN 30 DAYS OF INITIATION OF PERMANENT ELECTRIC SERVICE.
13. CONTRACTOR TO PROVIDE PREMISE IDENTIFICATION FOR BUILDING DURING CONSTRUCTION.
14. THE PROPOSED FIVE FOOT SIDEWALK THAT CONNECTS TO THE EXISTING SIDEWALK ALONG SR-100 SHALL BE MAINTAINED BY THE PROPERTY OWNER.
15. ALL PROPOSED CURBING SHALL BE TYPE "F1".
16. ALL COMPACTION SHALL BE 98% OF THE MODIFIED PROCTOR MAXIMUM DENSITY (AASHTO T-180).
17. THE USES PROPOSED AS PART OF THIS SITE PLAN DO NOT REQUIRE A SUBMITTAL OF A RISK MANAGEMENT PLAN (RMP) PURSUANT TO U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) REGULATIONS AND SHALL NOT EXCEED EPA's RMP THRESHOLD QUANTITIES OF LISTED SUBSTANCES.
18. THE SIGN PERMIT WILL BE UNDER SEPARATE APPLICATION TO BE REVIEWED BY THE CITY'S PLANNING AND ZONING DEPARTMENT.

PAVEMENT MARKING NOTES:

1. PARKING STALL LINES AND LOADING ZONE PAVEMENT MARKINGS COMPLY WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION, AND MAINTAINED IN A CLEAR AND VISIBLE CONDITION.
2. PAINTED PAVEMENT MARKINGS SHALL BE APPLIED AFTER PAVEMENT SURFACE HAS CURED. SURFACE SHALL BE FREE OF FINE SAND AND DEBRIS PRIOR TO APPLICATIONS.
3. APPLY PAINTED PAVEMENT MARKINGS AT LAST STAGE OF CONSTRUCTION AFTER LANDSCAPE PLANTINGS ARE INSTALLED.
4. PAINT SHALL BE SHERWIN WILLIAMS LOW-VOC ACRYLIC PRO PARK PAINT, APPLY PER MANUFACTURER'S RECOMMENDATIONS. REFER TO DRAWINGS FOR LOCATIONS OF SPECIFIC COLORS.
5. ALL STOP BARS SHALL BE THERMOPLASTIC.
6. ALL REFLECTIVE PAVEMENT MARKERS ARE TO BE PLACED IN ACCORDANCE WITH FDOT STANDARD INDEX NO. 706-101.
7. LOCATION OF SIGNS IS APPROXIMATE ONLY AND IS SUBJECT TO CHANGE AS DIRECTED BY THE ENGINEER.
8. FOR ADDITIONAL DETAILS SEE INDEX NO. 706-010, 706-151 AND 711-001.

STRIPING KEYNOTES: (PER FDOT INDEX No. 711-001, ONLY THERMOPLASTIC IN R/W)

1. 6" SOLID WHITE LINE
2. 24" WHITE STOP BAR
3. WHITE DIRECTIONAL ARROW
4. 24" DETECTABLE WARNING MAT
5. 6" WHITE LINE @ 45° SPACED 4' ON CENTER

REVISIONS

DATE	DESCRIPTION
4/25/23	CITY COMMENTS

1336 North US1, Suite 3
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E 2413

Civil Engineering
Transportation, CEI &
Landscape Architecture

NEWKIRK ENGINEERING INC

SITE LAYOUT PLAN
LEGACY POINTE APARTMENTS
LESLIE STREET
FLAGLER BEACH, FL 32136

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY HARRY NEWKIRK, PE # 62971 ON

HARRY NEWKIRK LICENSE NO. 62971 STATE OF FLORIDA PROFESSIONAL ENGINEER

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DATE:	FEBRUARY 2023
DESIGN BY:	HHN
DRAWN BY:	NWS
CHECKED BY:	HHN
SCALE:	1" = 30'

DRAWING NUMBER

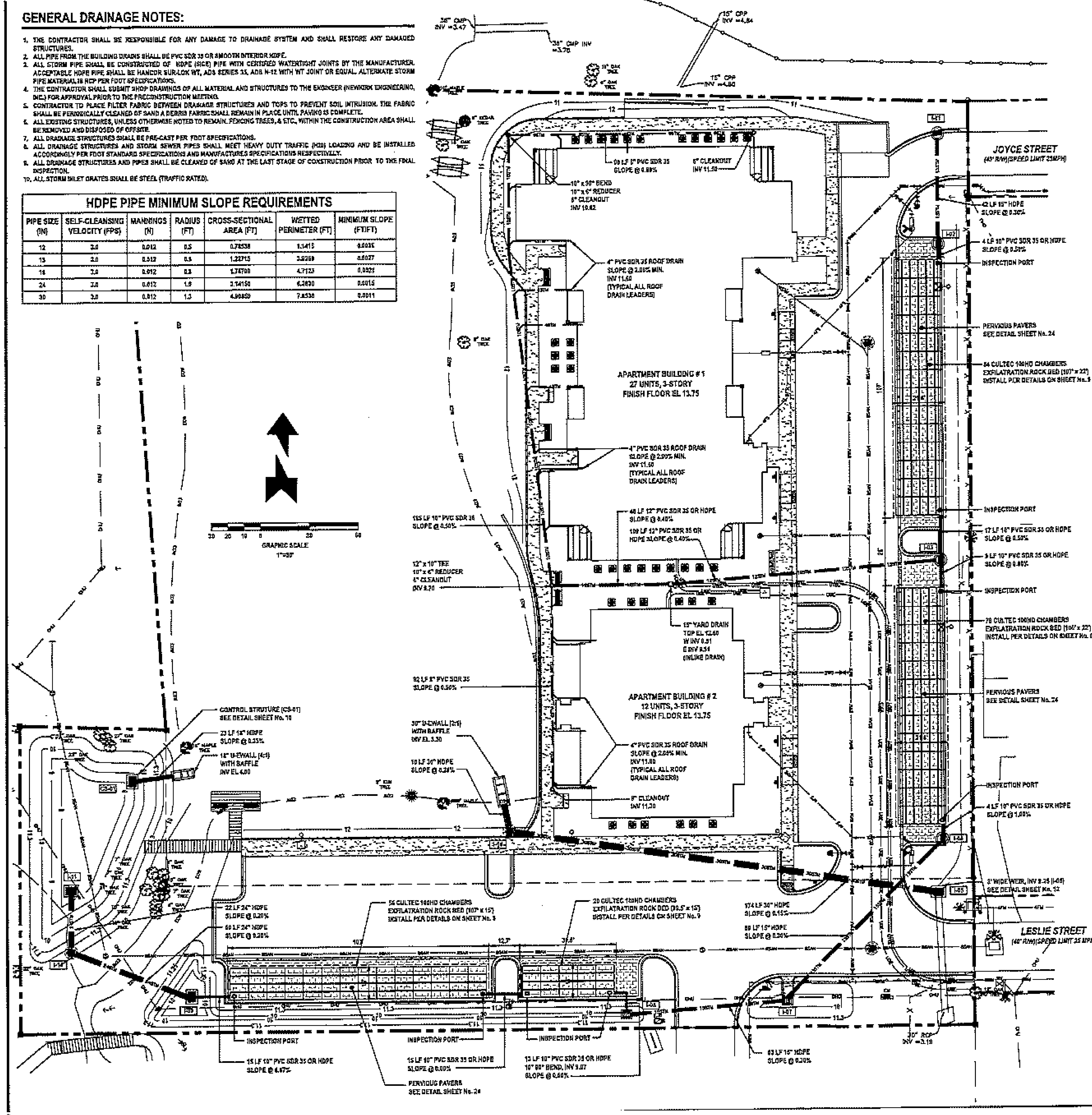
7

GENERAL DRAINAGE NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO DRAINAGE SYSTEM AND SHALL RESTORE ANY DAMAGED STRUCTURES.
2. ALL PIPE FROM THE BUILDING DRAINS SHALL BE PVC SDR 35 OR SMOOTH INTERIOR HDPE.
3. ALL STORM PIPE SHALL BE CONSTRUCTED OF HDPE (SICE) PIPE WITH CERTIFIED WATERTIGHT JOINTS BY THE MANUFACTURER. ACCEPTABLE HDPE PIPE SHALL BE HANCOR SUR-LOK WT, ADS SERIES 35, ADS N-12 WITH WT JOINT OR EQUAL. ALTERNATE STORM PIPE MATERIAL IS RCP PER FDOT SPECIFICATIONS.
4. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL MATERIAL AND STRUCTURES TO THE ENGINEER (NEWKIRK ENGINEERING, INC.) FOR APPROVAL PRIOR TO THE PRECONSTRUCTION MEETING.
5. CONTRACTOR TO PLACE FILTER FABRIC BETWEEN DRAINAGE STRUCTURES AND TOPS TO PREVENT SOIL INTRUSION. THE FABRIC SHALL BE PERIODICALLY CLEANED OF SAND & DEBRIS FABRIC SHALL REMAIN IN PLACE UNTIL PAVING IS COMPLETE.
6. ALL EXISTING STRUCTURES, UNLESS OTHERWISE NOTED TO REMAIN, FENCING TREES, & ETC., WITHIN THE CONSTRUCTION AREA SHALL BE REMOVED AND DISPOSED OF OFFSITE.
7. ALL DRAINAGE STRUCTURES SHALL BE PRE-CAST PER FDOT SPECIFICATIONS.
8. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND BE INSTALLED ACCORDINGLY PER FDOT STANDARD SPECIFICATIONS AND MANUFACTURES SPECIFICATIONS RESPECTIVELY.
9. ALL DRAINAGE STRUCTURES AND PIPES SHALL BE CLEANED OF SAND AT THE LAST STAGE OF CONSTRUCTION PRIOR TO THE FINAL INSPECTION.
10. ALL STORM INLET GRATES SHALL BE STEEL (TRAFFIC RATED).

HDPE PIPE MINIMUM SLOPE REQUIREMENTS

PIPE SIZE (IN)	SELF-CLEANSING VELOCITY (FPS)	MANNINGS (N)	RADIUS (FT)	CROSS-SECTIONAL AREA (FT)	WETTED PERIMETER (FT)	MINIMUM SLOPE (FT/FT)
12	3.0	0.012	0.5	0.78538	3.1415	0.0035
15	3.0	0.012	0.6	1.22715	3.9269	0.0027
18	3.0	0.012	0.8	1.76700	4.7123	0.0021
24	3.0	0.012	1.0	3.14150	6.2830	0.0015
30	3.0	0.012	1.3	4.90859	7.8536	0.0011



STORM STRUCTURE SCHEDULE

I.D.	SIZE	TYPE BOT	TYPE TOP	TOP ELEV	BOT ELEV	N INV	S INV	E INV	W INV
I-01	4' DIA.	ALT-A	9	EOP 11.00	6.50	—	15" 7.50	—	—
I-02	4' DIA.	ALT-A	9	EOP 11.30	6.37	15" 7.37	10" 9.02	—	—
I-03	4' DIA.	ALT-A	9	EOP 11.30	8.08	10" 9.08	10" 9.03	—	12" 9.08
I-04	4' DIA.	ALT-A	9	EOP 11.30	6.07	10" 9.08	15" 7.07	—	—
I-05	—	ALT-B	E	10.50	2.81	—	30" 3.81	—	30" 3.81
I-06	4' DIA.	ALT-B	M.H.	12.70	2.34	30" 3.34	—	30" 3.34	—
I-07	—	ALT-B	C	11.00	6.70	15" 7.70	—	—	15" 7.70
I-08	—	ALT-B	C	11.50	6.51	10" 8.07	—	15" 7.51	—
I-09	—	ALT-B	C	11.00	2.30	—	—	10" 8.00	24" 3.30
I-10	4' DIA.	ALT-B	M.H.	11.00	2.20	24" 3.20	—	24" 3.20	—
I-11	—	ALT-D	C	9.50	2.15	—	24" 3.15	—	—
CS-01	SEE DETAIL SHEET No. 10								

DRAINAGE STRUCTURE NOTES:

1. SEE SHEET No. 10 FOR WEIR DETAILS FOR STRUCTURES 5,7,8,9,11 & CS-01.
2. ROUND STRUCTURE BOTTOMS ARE FDOT ALTERNATE 'A'.
3. SQUARE / RECTANGULAR STRUCTURE BOTTOMS ARE FDOT ALTERNATE 'B'.
4. 4'-0" DIAMETER AND SMALLER AND 3'-6" SQUARE STANDARD STRUCTURE BOTTOMS ARE FDOT TYPE DESIGNATED 'P' LARGER STANDARD STRUCTURE BOTTOMS ARE DESIGNATED TYPE 'J'.
5. ALL STRUCTURES SHALL HAVE A 12" SUMP.
6. NO WEEP HOLES ALLOWED.
7. CONTRACTOR SHALL WORK WITH STRUCTURE FABRICATOR TO DETERMINE ADEQUATE STRUCTURE BOTTOM SIZE FOR THE PROPOSED PIPE SIZES AND ANGLES.

SUMMARY OF DRAINAGE:

THE MINIMUM WATER QUALITY TREATMENT VOLUME REQUIRED IS THE GREATER OF 0.5-INCHES OF RUNOFF OVER THE DRAINAGE RETENTION AREA OR 1.25-INCHES OVER THE IMPERVIOUS SURFACE. STORMWATER TREATMENT IS PROVIDED BY A DRY RETENTION AND EXFILTRATION SYSTEM. AN ADDITIONAL 0.5-INCH IS ADDED TO THE REQUIRED TREATMENT VOLUME FOR AN ONLINE SYSTEM. THE TREATMENT SYSTEM IS DESIGNED TO ENSURE THE POST DEVELOPMENT DISCHARGE RATE AND VOLUME DOES NOT EXCEED THE PRE-DEVELOPMENT RATE AND VOLUME FOR THE MEAN ANNUAL, 25 YEAR-24 HOUR, AND 100 YEAR-24 HOUR STORM EVENTS.

PERMITTED RUNOFF			PRE	
Design Storm		Rainfall (inches)	Charge Rate (cfs)	Inflow Volume (ft^3)
Mean Annual 24-Hour	PRE	4.50	2.53	16,223
25 Year, 24-Hour	PRE	8.85	7.07	44,838

PROPOSED - DISCHARGE			POST		STAGE		
Design Storm		Rainfall (inches)	Inflow Rate (cfs)	Inflow Volume (ft^3)	DRY RET WEST	DRY RET EAST	EXFIL
Mean Annual 24-Hour	POST	4.50	0.37	5,805	10.20	10.20	10.29
25 Year, 24-Hour	POST	8.85	6.98	36,275	10.75	10.80	10.34
				TOB	11.30	11.30	11.30

EXFILTRATION NOTES:

1. CULTEC CONTACTOR 100 HD STORM CHAMBERS TO BE INSTALLED PER CULTEC DETAILS (SEE DETAILS SHEET No 10.)
2. INSPECTION PORT TO BE INSTALLED ON EACH CULTEC CONTACTOR 100 HD TERMINAL END CAP. (SEE INSPECTION PORT DETAIL SHEET No. 9)
3. ANNUAL INSPECTION AND MAINTENANCE TO BE PERFORMED PER GUIDELINES PROVIDED ON THIS SHEET. (SEE PRETREATMENT INSPECTION AND MAINTENANCE GUIDELINES)

TOTAL NUMBER OF CHAMBERS (EA)	TREATMENT VOLUME PROVIDED (CF)	TREATMENT VOLUME PROVIDED (AC-FT)
238	5,183.44	0.118

PRETREATMENT INSPECTION AND MAINTENANCE GUIDELINES

SEDIMENTATION CONTROL INSPECTION	INSPECTION	MAINTENANCE
CATCH BASIN SUMP	EVERY 12 MONTHS	EXCAVATE, PUMP OR VACUUM
INSPECTION PORT	EVERY 6 MONTHS	JET VAC

STEP-BY-STEP MAINTENANCE PROCEDURES

1. THE PROPERTY OWNER IS RESPONSIBLE FOR INSPECTION AND MAINTENANCE OF THE ENTIRE ON-SITE STORMWATER SYSTEM.
2. INSPECT CATCH BASINS AND MANHOLES UPSTREAM OF CULTEC CHAMBERS FOR SEDIMENT.
3. REMOVE GRATE OR INSPECTION PORT.
4. REMOVE RISER PIPE CAP UNDER INSPECTION PORT LID.
5. USING A FLASHLIGHT AND STADIA ROD, MEASURE THE DEPTH OF SEDIMENT.
6. IF SEDIMENT IS AT A DEPTH GREATER THAN 3", PROCEED TO STEP 7. IF NOT, PROCEED TO STEP 8.
7. JET VAC, VACUUM OR MANUALLY REMOVE SEDIMENT.
8. REPLACE GRATE OR INSPECTION PORT LID.
9. RECORD DEPTH & DATE AND SCHEDULE NEXT INSPECTION.

REVISIONS	
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4/2023	CITY COMMENTS

NEWKIRK ENGINEERING INC.
1250 North US1, Suite 3
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www.Newkirk.Engineering.com
C.A. # 30203
L.C. # 26000564
C 2013
Civil Engineering, Transportation, CEI & Landscape Architecture

DRAINAGE PLAN
LEGACY POINTE APARTMENTS
LESLIE STREET
FLAGLER BEACH, FL 32136

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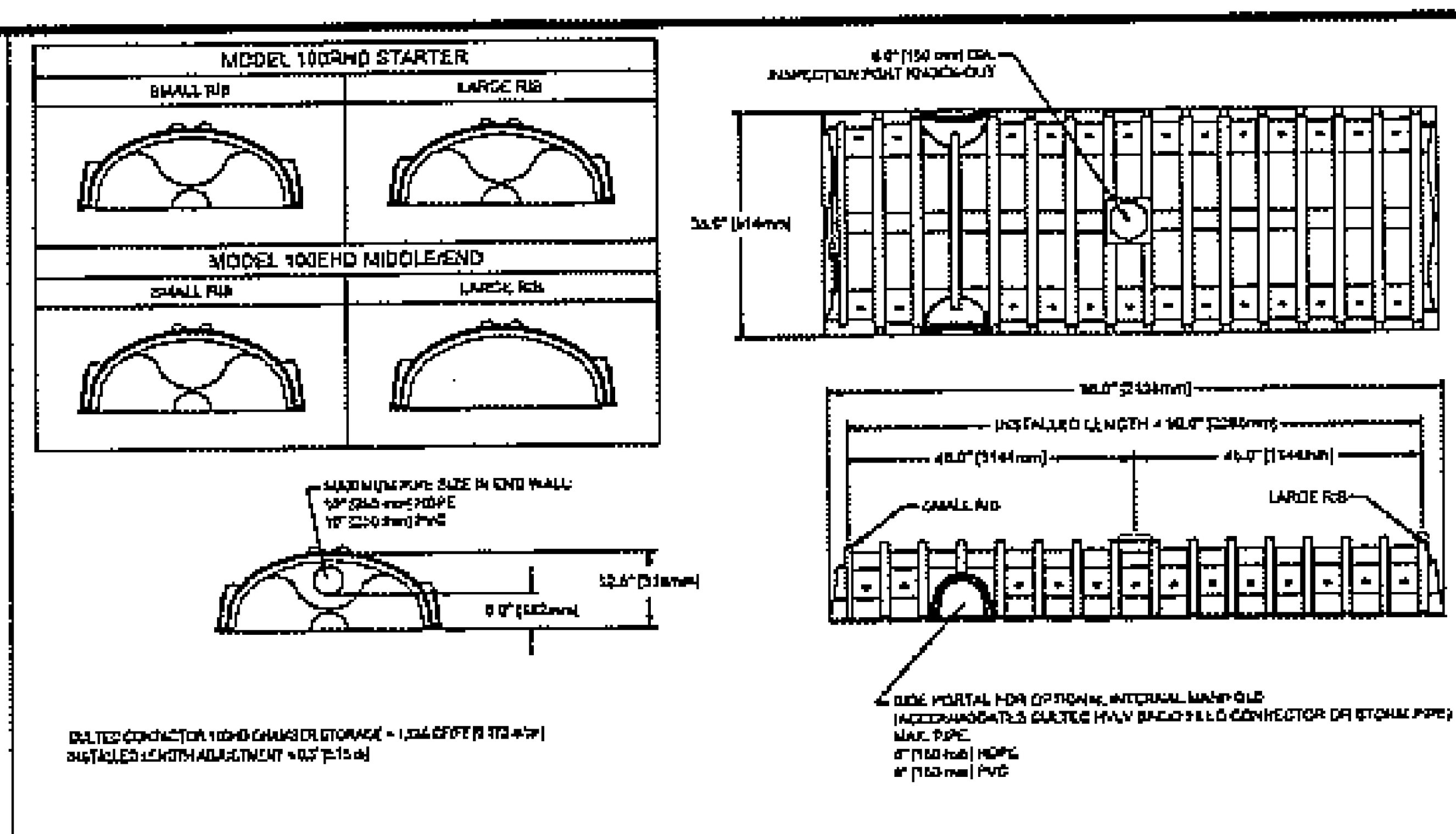
DRAWN BY:	NWS
CHECKED BY:	HHN
SCALE:	1" = 20'

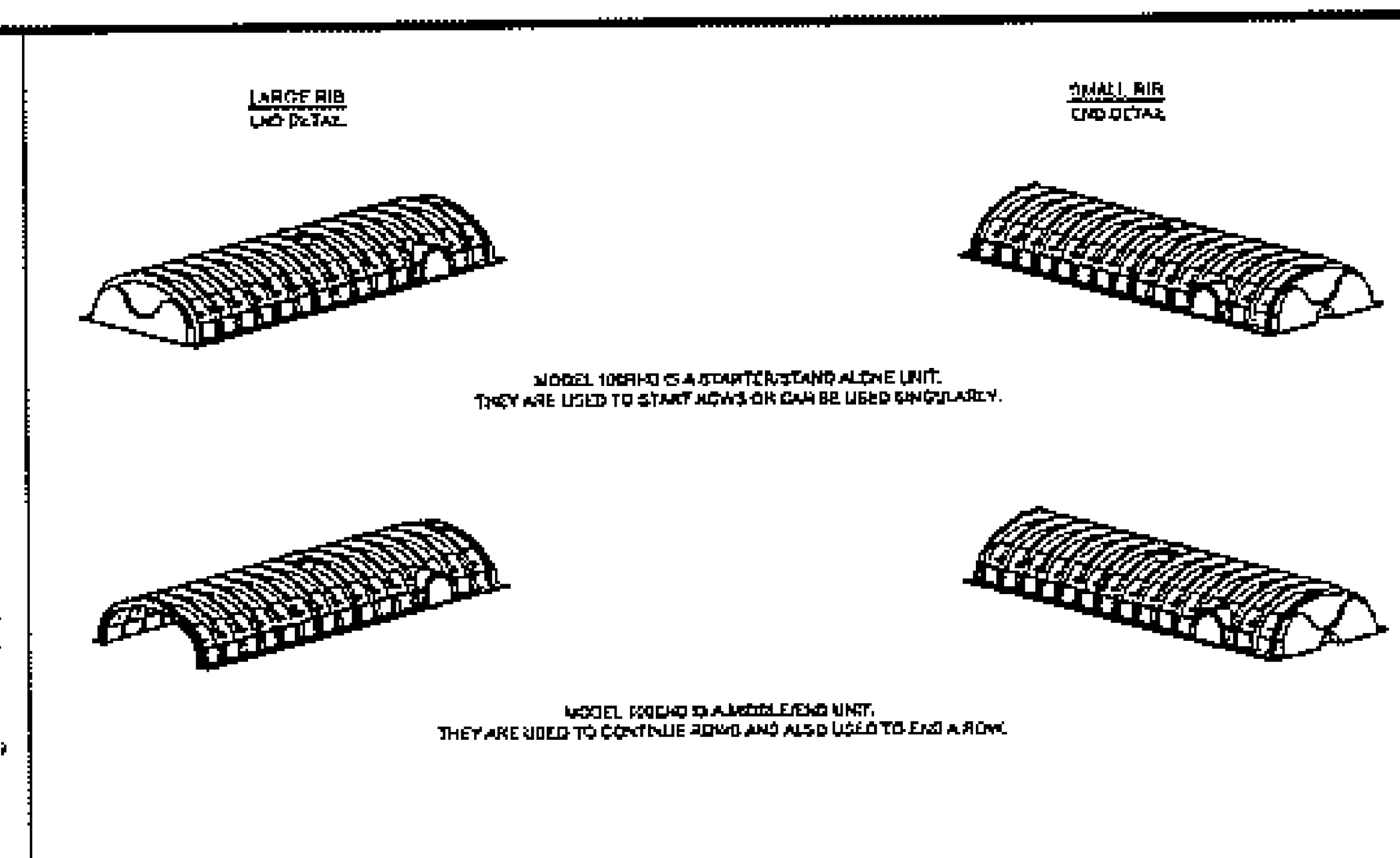
DRAWING NUMBER

8

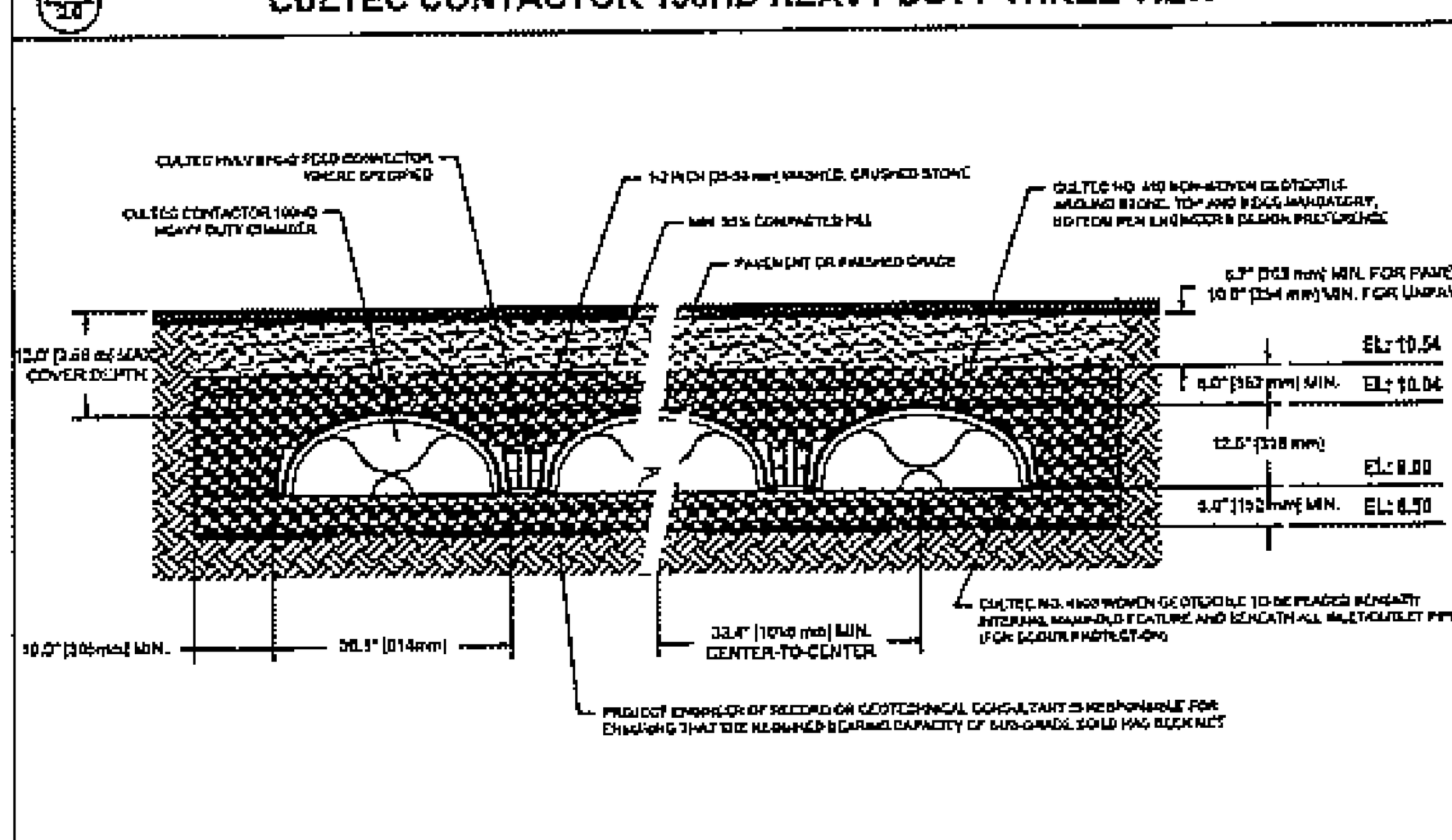
GENERAL NOTES



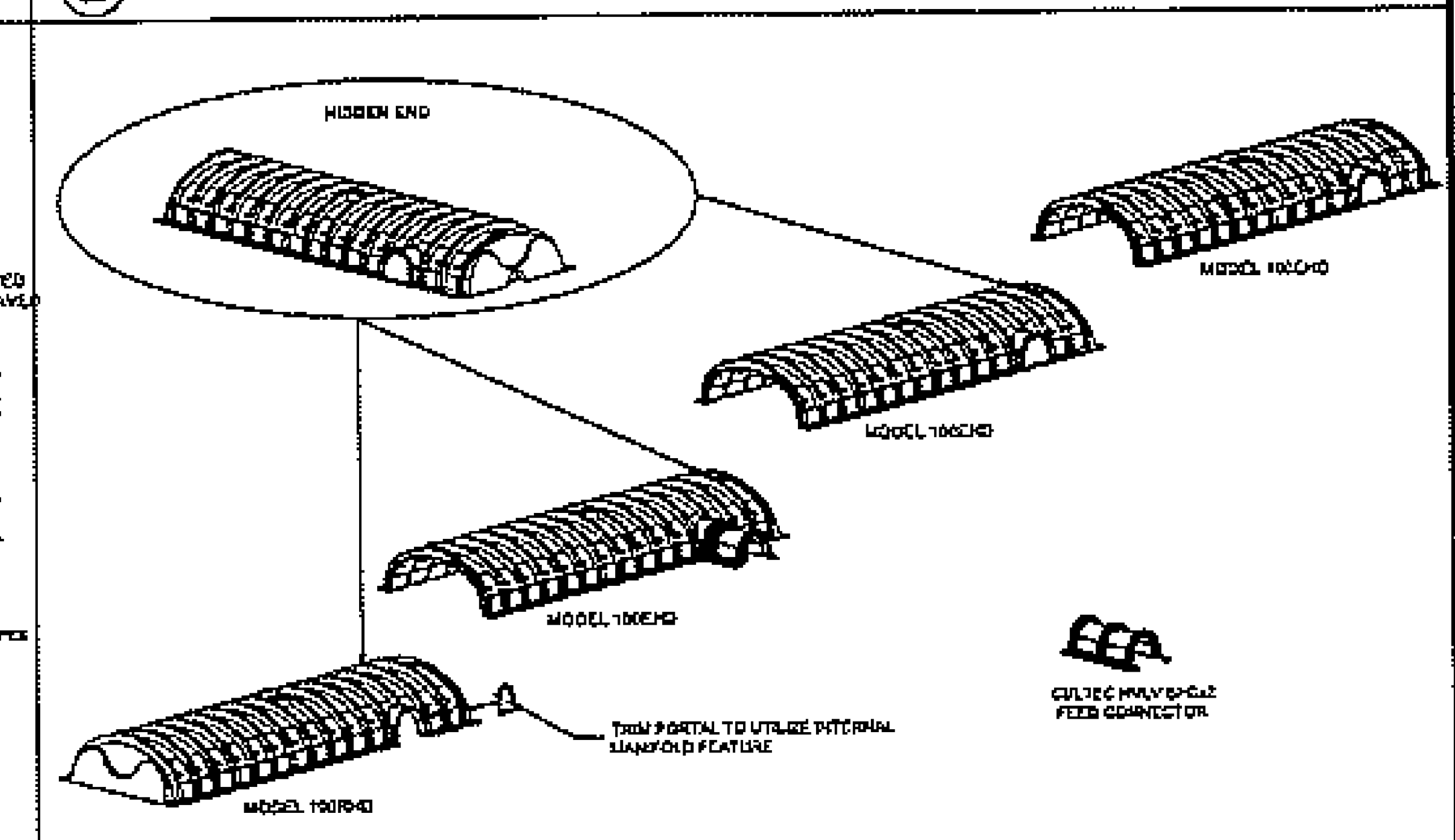
CULTEC CONTACTOR 100HD HEAVY DUTY THREE VIEW



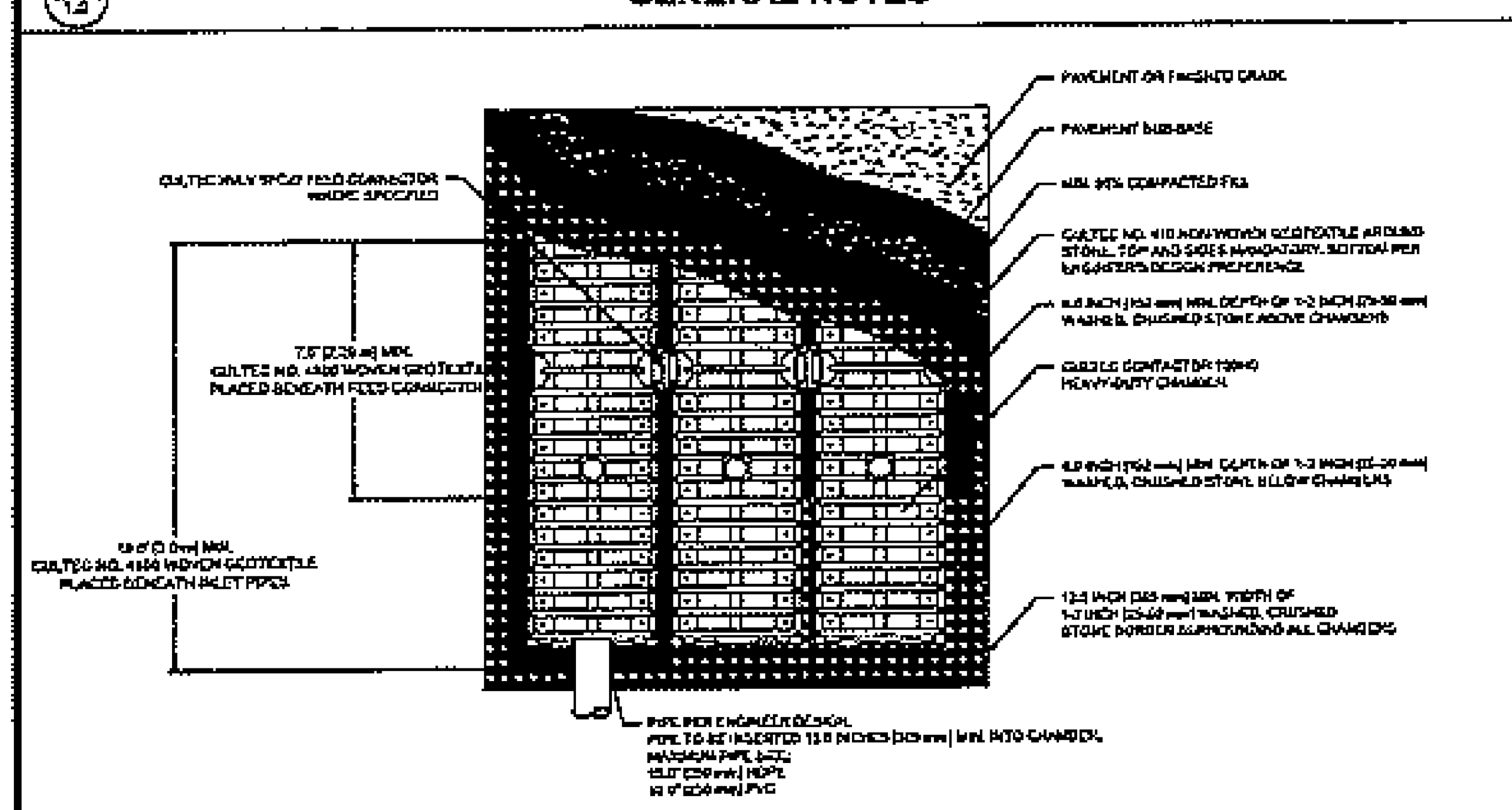
CULTEC CONTACTOR 100HD HEAVY DUTY END DETAIL INFORMATION



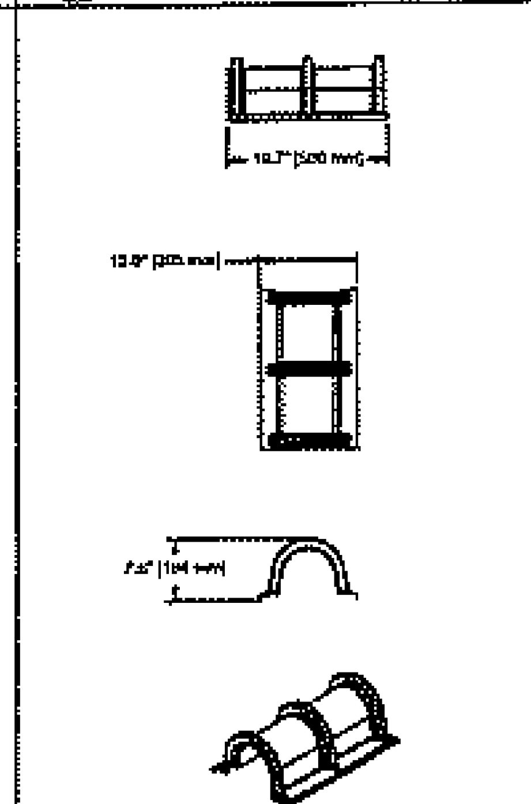
CULTEC CONTACTOR 100HD HEAVY DUTY SYSTEM CROSS SECTION



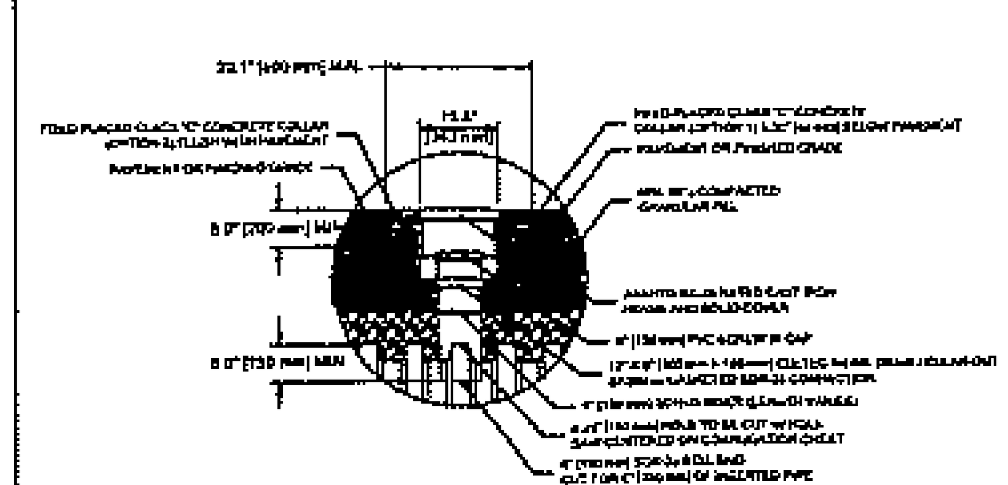
CULTEC CONTACTOR 100HD HEAVY DUTY TYPICAL INTERLOCK



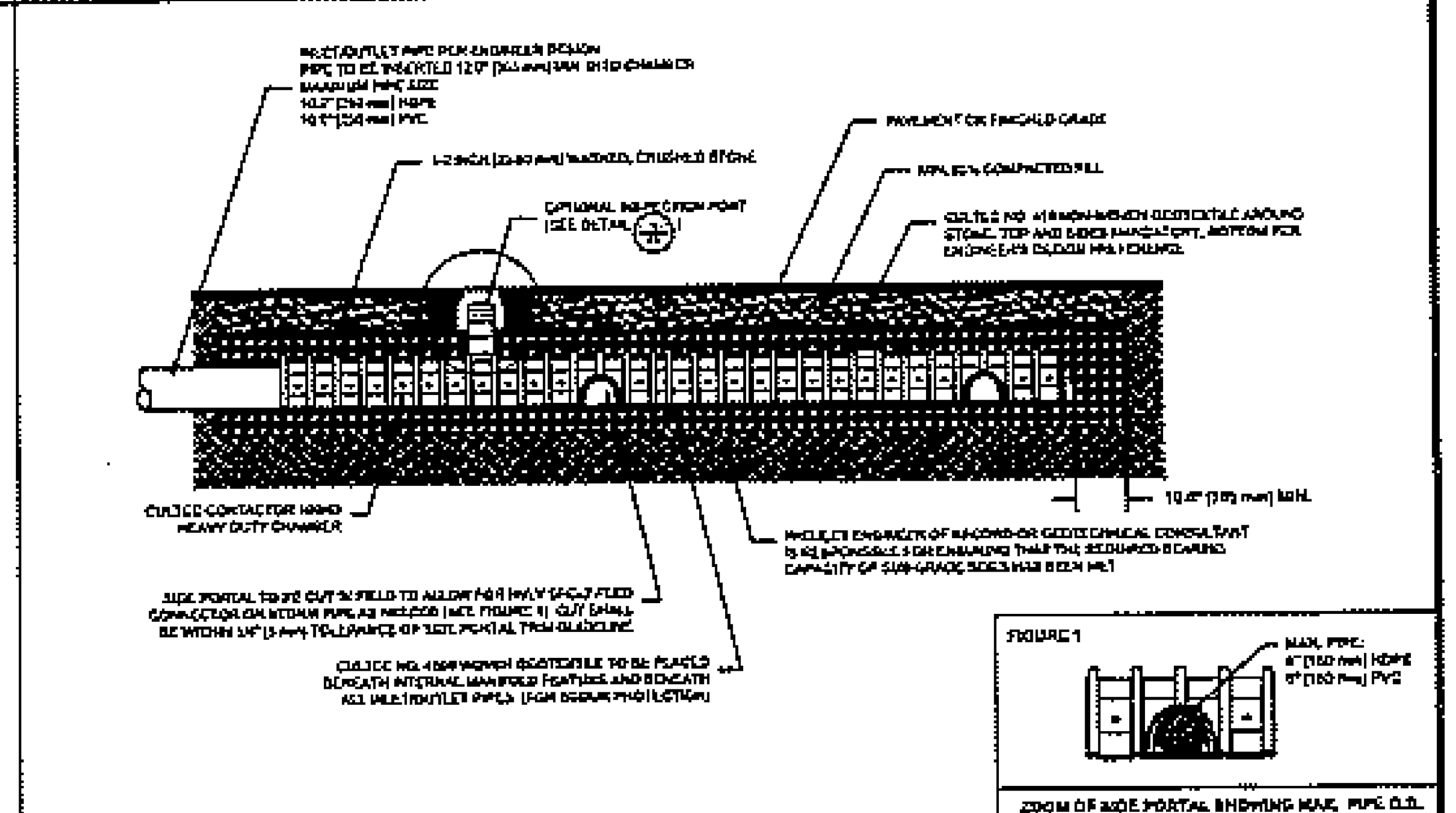
CULTEC CONTACTOR 100HD HEAVY DUTY PLAN VIEW



CULTEC HVLV SFCx2 FEED CONNECTOR



OPTIONAL INSPECTION PORT - ZOOM DETAIL



CULTEC MANIFOLD - OPTIONAL INSPECTION PORT DETAIL

CULTEC, Inc.
Subsurface Stormwater Management Systems
P.O. Box 280 PH: (203) 775-4416
878 Federal Road PH: (800) 4-CULTEC
Brookfield, CT 06804 FX: (203) 775-1462
www.cultec.com tech@cultec.com

THIS DRAWING WAS PREPARED TO SUPPORT THE PROJECT ENGINEER OF RECORD FOR THE PROPOSED SYSTEM. IT IS THE ULTIMATE RESPONSIBILITY OF THE PROJECT ENGINEER OF RECORD TO ENSURE THAT THE CULTEC SYSTEM'S DESIGN IS IN FULL COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. IT IS THE PROJECT ENGINEER OF RECORD'S RESPONSIBILITY TO ENSURE THAT THE CULTEC PRODUCTS ARE DESIGNED IN ACCORDANCE WITH CULTEC'S MINIMUM REQUIREMENTS. CULTEC DOES NOT APPROVE PLANS, SIZING, OR SYSTEM DESIGNS.

CONTACTOR 100HD
DETAIL SHEET
TRAFFIC APPLICATION

CULTEC STORMWATER CHAMBER			
PROJECT NO:		DATE:	2019
DRAWN BY:		CHECKED BY:	
SCALE:	N.T.S.	SHEET NO:	

REVISIONS	
DATE	DESCRIPTION
4/25/23	CITY COMMENTS

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Civil Engineering,
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NEWKIRK ENGINEERING INC.

DRAINAGE DETAILS
LEGACY POINTE APARTMENTS
LESLIE STREET
FLAGLER BEACH, FL 32136

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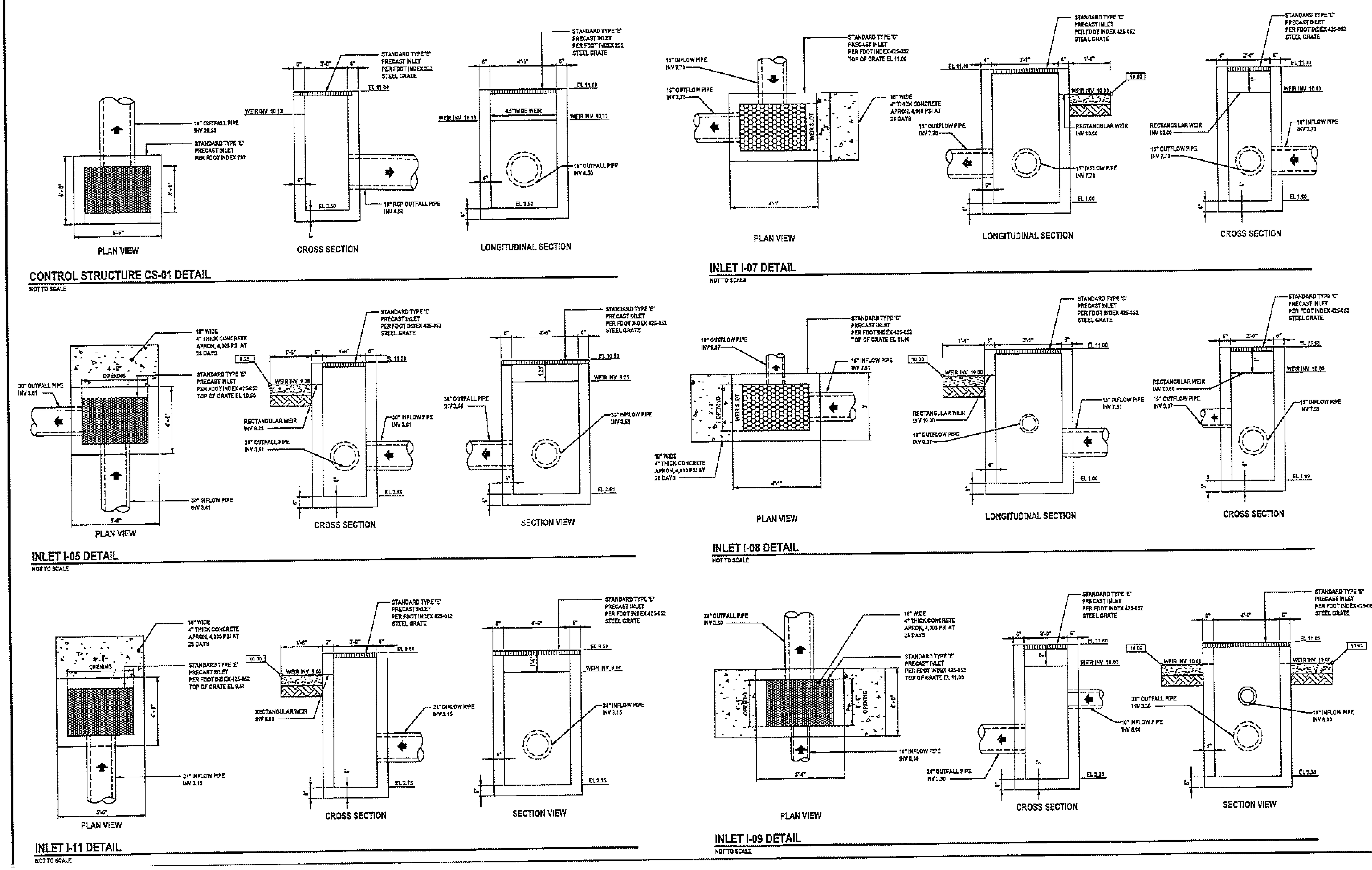
9



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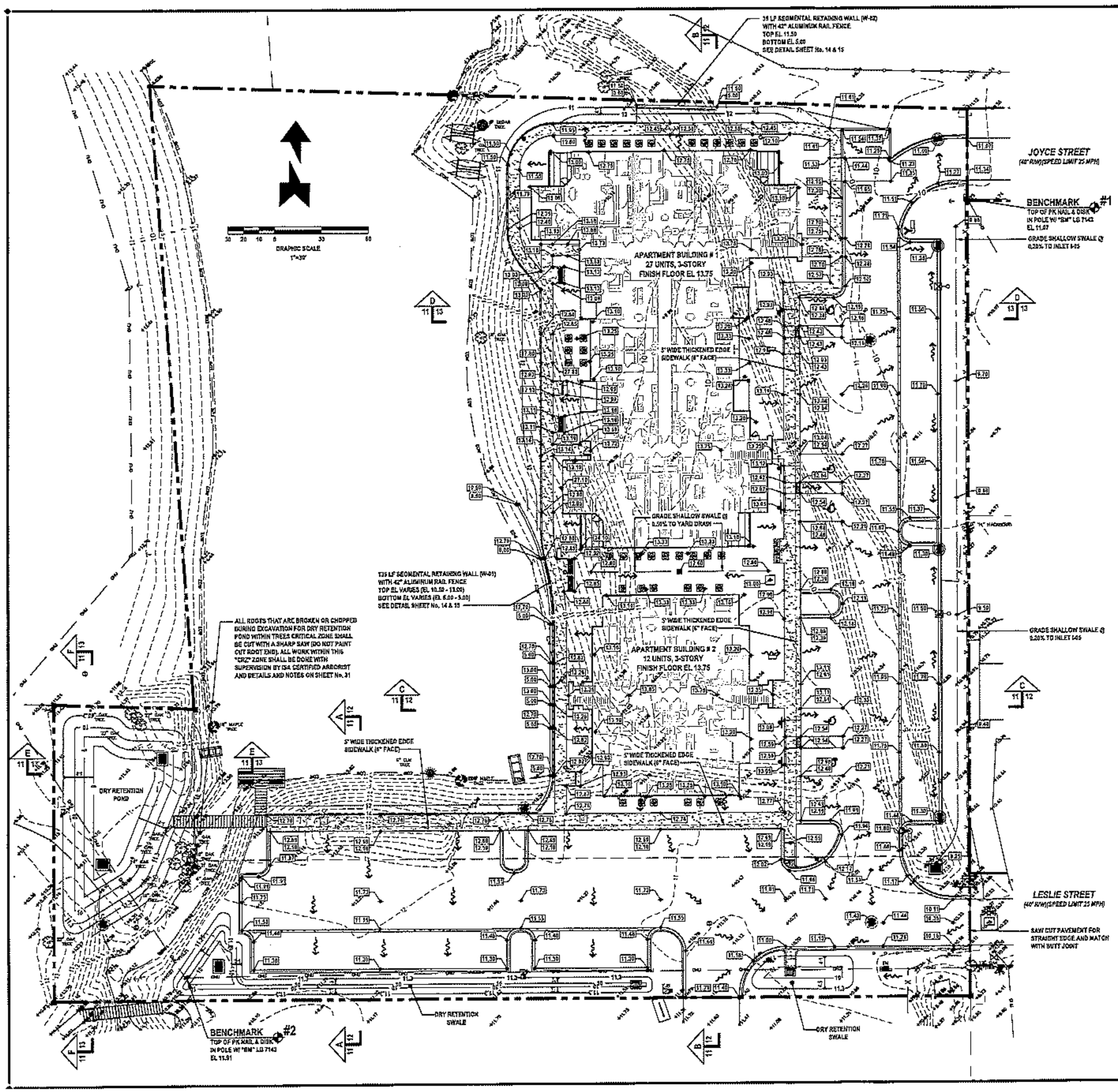
10



GENERAL EARTHWORK NOTES:

1. REMOVE ALL ORGANIC OR UNSUITABLE MATERIALS. IF ANY MUCK OR MUCK-LIKE MATERIAL IS DISCOVERED, IT WILL BE REQUIRED TO BE REMOVED, BACKFILLED WITH APPROPRIATE FILL, COMPACTED, AND TESTED USING AASHTO T-180 MODIFIED PROCTOR METHOD.
2. ALL FILLING IS TO BE PERFORMED IN ONE-FOOT LIFTS. THE COMPACTION REQUIREMENT IS 98% FOR PAVED AREAS AND 95% FOR UNPAVED AREAS PER AASHTO T-180 MODIFIED PROCTOR TEST.
3. TEMPORARY FILL STOCKPILING IS NOT PERMITTED IN LIFTS GREATER THAN SIX FEET.
4. SOILS ARE TO BE STABILIZED BY WATER OR OTHER MEANS DURING CONSTRUCTION. THIS IS INTENDED TO REDUCE SOIL EROSION AND THE IMPACT TO NEIGHBORING COMMUNITIES.
5. ONCE AN AREA IS SEEDED OR SODDED, IT MUST BE MAINTAINED TO ALLOW THE GRASS TO GROW.
6. ALL NON-PAVED AREAS MUST BE PLANTED, GRASSED, OR MULCHED.

GENERAL GRADING NOTES:

1. CROSS SLOPES OF ACCESSIBLE PARKING SPACES AND ACCESS AISLE SHALL NOT EXCEED 1:48 IN ACCORDANCE WITH SECTION 502.4 OF FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION (FACBC).
2. THE MAXIMUM ELEVATION CHANGE AT THE ENTRANCE DOOR MAY NOT EXCEED 1/2 INCH.
3. ALL SIDEWALK LANDINGS SHALL HAVE SLOPES NO GREATER THAN 1/4 INCH / 1 FOOT IN MAKE/LEVERING SPACES AT ALL DOORWAYS.
4. ALL SIDEWALKS SHALL HAVE A 1.5% CROSS SLOPE (2.4% MAXIMUM) AND 5.0% MAXIMUM LONGITUDINAL SLOPE.
5. ALL CURB RAMPS SHALL COMPLY WITH SECTION 406 OF FACBC. LANDINGS OF 36 INCHES AT HEAD OF CURB RAMPS SHALL COMPLY WITH FACBC SECTION 405.4.
6. ALL IMPROVEMENTS SHALL BE STAKED FOR CONSTRUCTION BY MEANS OF DIGITAL COORDINATES BY SURVEY OR UTILIZING GEODETIC TOTAL STATION. SCALING OF DRAWINGS FOR PURPOSES OF STAKING ARE AT THE SURVEYOR.

BENCHMARK INFORMATION:

#1 TOP OF PK NAIL & DISK
IN POLE W/ "SM" LB 7143
ELEVATION = 11.67

#2 TOP OF PK NAIL & DISK
IN POLE W/ "SM" LB 7143
ELEVATION = 11.91

VERTICAL DATA
ELEVATIONS REFER TO (NAVD) NORTH AMERICAN VERTICAL DATUM 1988, FEET AND DECIMAL PART THEREOF. BENCHMARK REFERENCE NAVD DATUM OF 1988.

GRADING LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- DRAINAGE FLOW ARROW
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- MATCH EXISTING GRADE

SIDEWALK RAMP KEYNOTES:

(A) SIDEWALK CURB RAMP C (SEE DETAIL, SHEET No. 25)

(B) SIDEWALK CURB RAMP G (SEE DETAIL, SHEET No. 25)

WARNING !!
CONTRACTOR SHALL TAKE ALL PRECAUTIONS DURING CONSTRUCTION TO AVOID CONTACT WITH EXISTING UNDERGROUND UTILITIES, GAS MAINS AND OVERHEAD ELECTRIC IN THE RIGHT-OF-WAY.

REVISIONS

DATE	DESCRIPTION
4/28/23	CITY COMMENTS

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Civil Engineering,
Transportation, GIS &
Landscape Architecture
NEWKIRK ENGINEERING INC.

GRADING PLAN
LEGACY POINTE APARTMENTS
LESLIE STREET
FLAGLER BEACH, FL 32136

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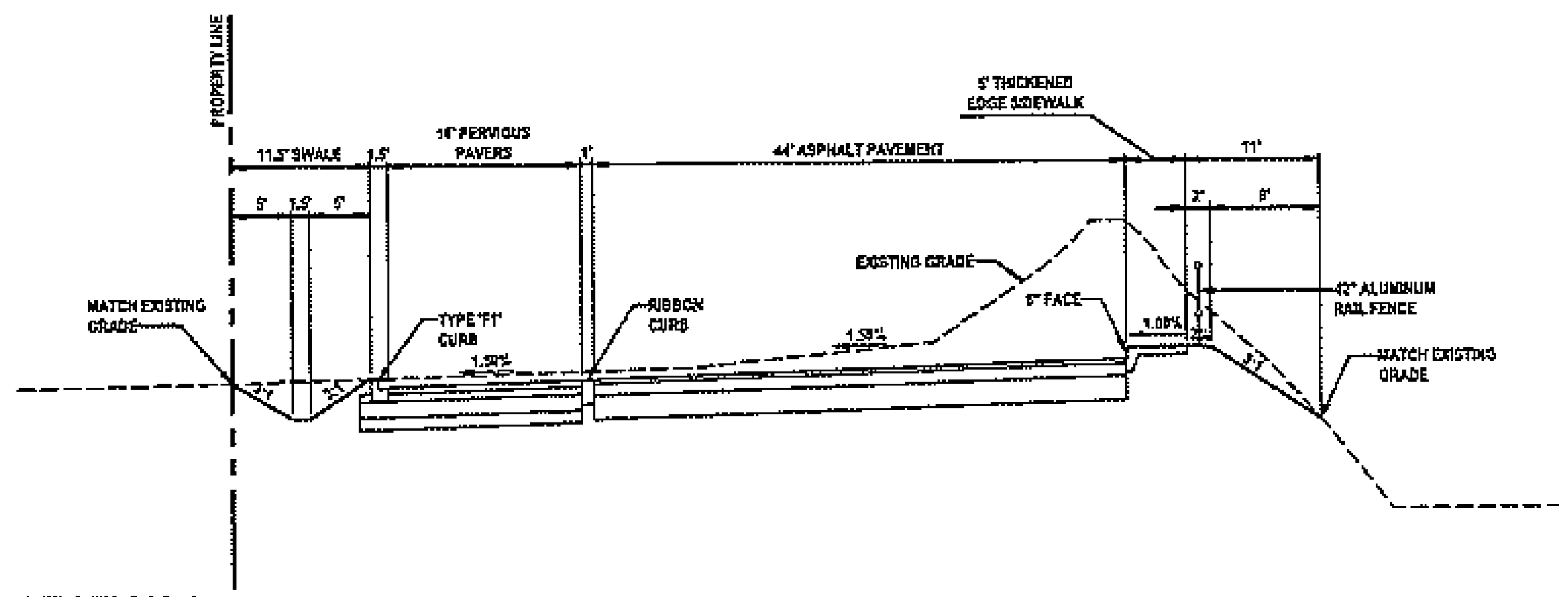
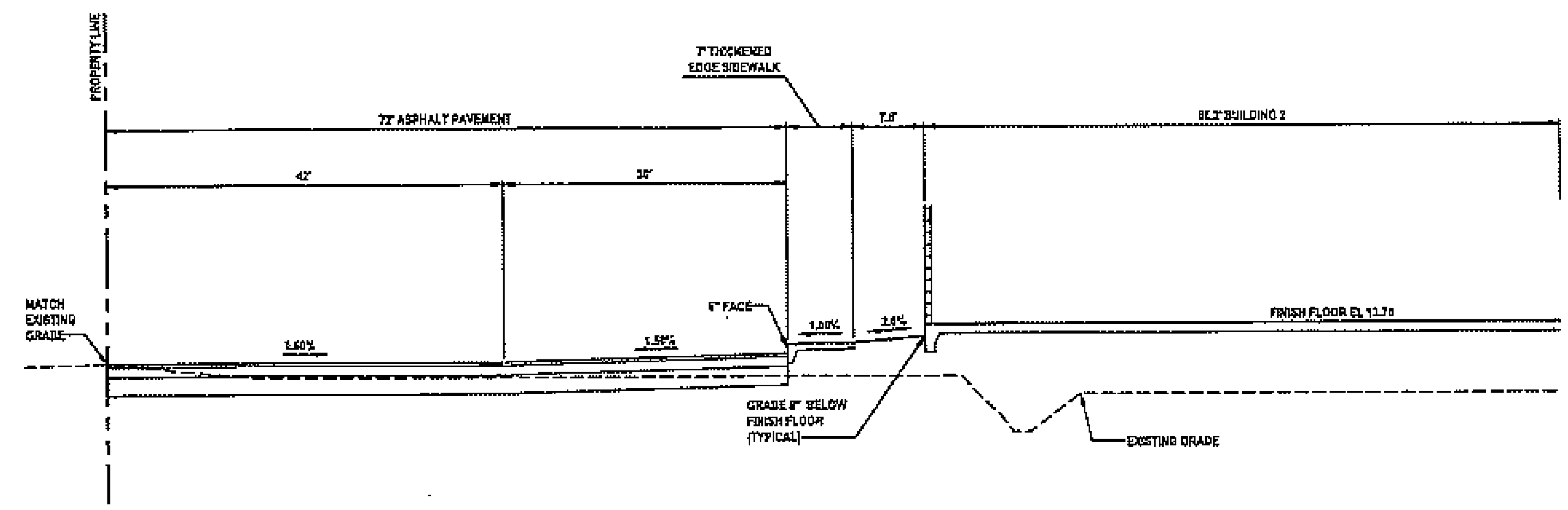
CHECKED BY:	HHN
SCALE:	1" = 20'

DRAWING NUMBER

11



SECTION A
NOT TO SCALE



SECTION B
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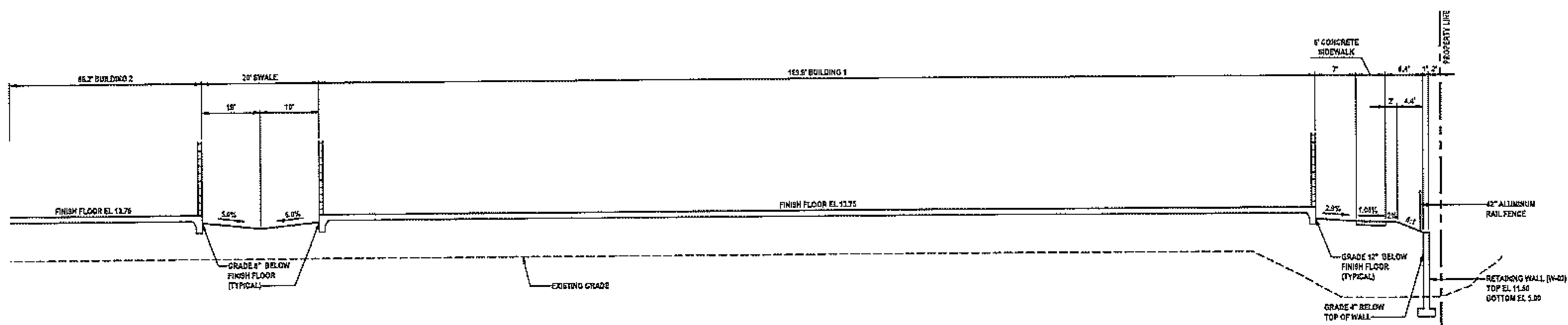

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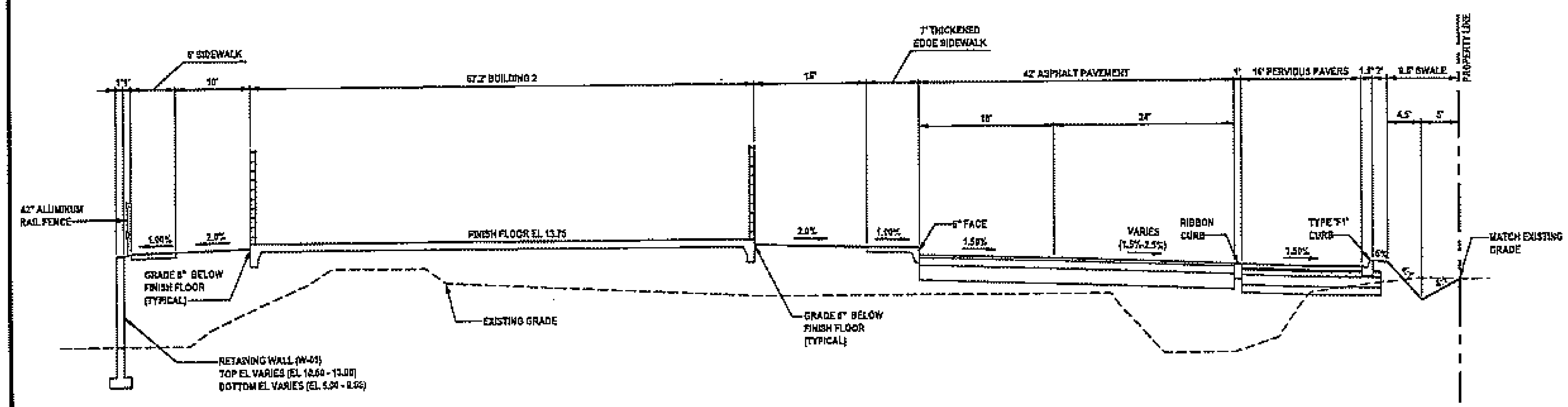

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REVISIONS	
DATE	DESCRIPTION
4/20/23	CITY COMMENTS

NEWKIRK ENGINEERING INC.

1230 North US1, Suite 3
Ormond Beach, Florida 32174
Phone (386) 872-3734
www.NewKirk-Engineering.com
C.A. # 30202
L.C. # 26000584
C 2013
Civil Engineering, Transportation, CEI & Landscape Architecture

CROSS SECTIONS
LEGACY POINTE APARTMENTS
LESLIE STREET
FLAGLER BEACH, FL 32136

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY HARRY NEWKIRK, PE # 62971 ON

HARRY NEWKIRK LICENSE NO. 62971 STATE OF FLORIDA PROFESSIONAL ENGINEER

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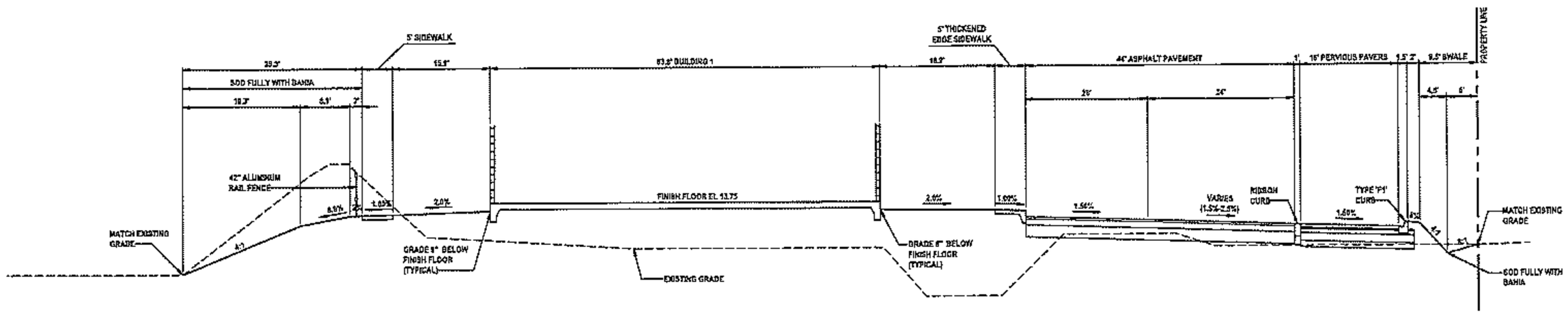
PROJECT No:	2023-17
DATE:	FEBRUARY 2023
DESIGN BY:	HHN
DRAWN BY:	NWS
CHECKED BY:	HHN
SCALE:	AS SHOWN

DRAWING NUMBER

12



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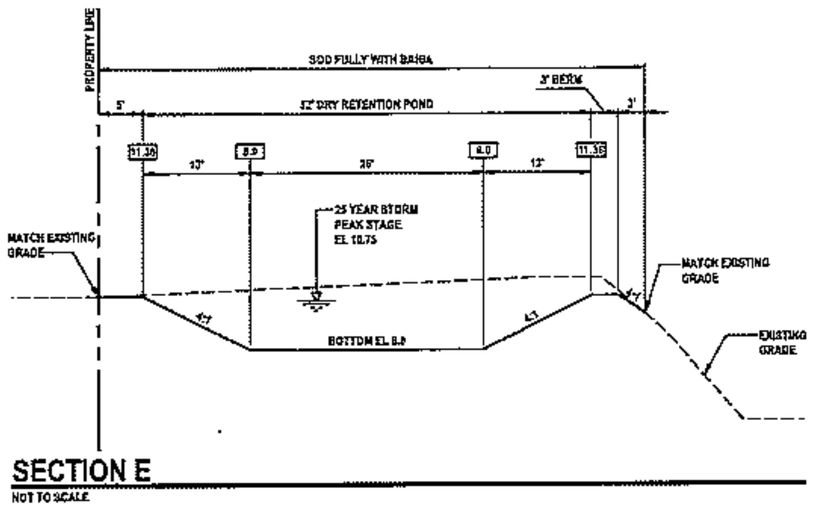

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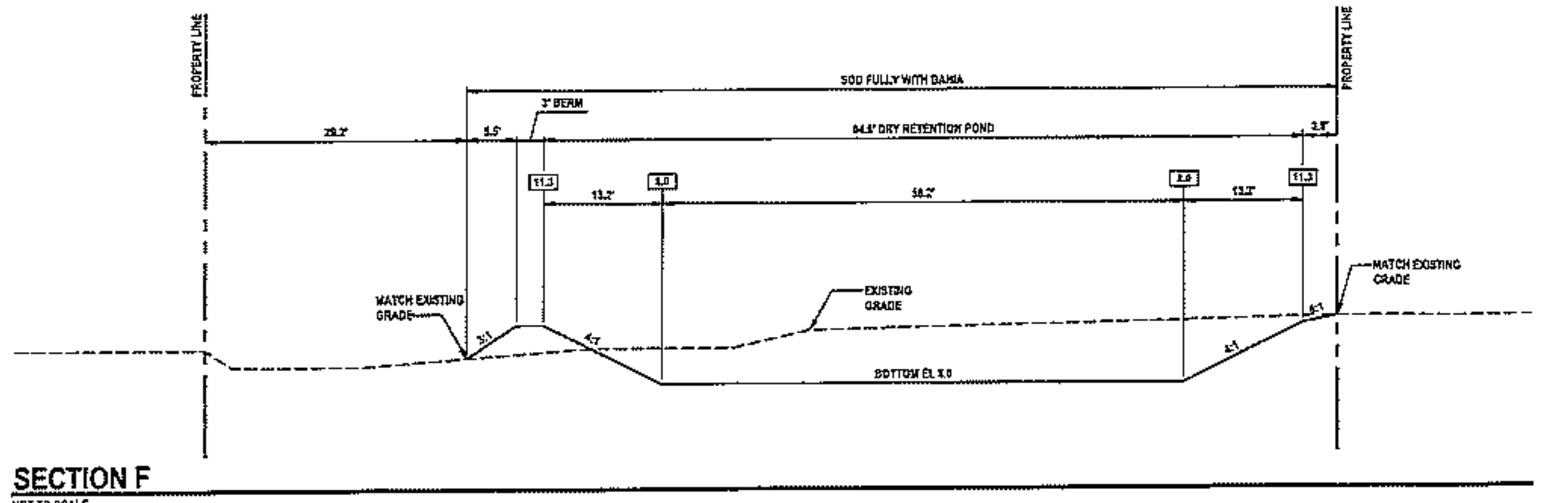

SECTION F
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REVISIONS

DATE	DESCRIPTION
4/28/23	CITY COMMENTS

1330 North US1, Suite 3
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HARRY NEWKIRK LICENSE NO. 62971 STATE OF FLORIDA PROFESSIONAL ENGINEER

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PROJECT No:	2023-17
DATE:	FEBRUARY 2023
DESIGN BY:	HNN
DRAWN BY:	NWS
CHECKED BY:	HNN
SCALE:	AS SHOWN

DRAWING NUMBER:

13

SEGMENTAL RETAINING WALL SPECIFICATIONS:

PART 1: GENERAL

1.01 DESCRIPTION

A. WORK SHALL CONSIST OF FURNISHING AND CONSTRUCTION OF A KEYSTONE COMPAC UNIT RETAINING WALL SYSTEM OR EQUAL IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADES, DESIGN, AND DIMENSIONS SHOWN ON THE PLANS.

B. WORK INCLUDES PREPARING FOUNDATION SOIL, FURNISHING AND INSTALLING LEVELING PAD, UNIT DRAINAGE FILL AND BACKFILL TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS.

C. WORK INCLUDES FURNISHING AND INSTALLING GEOGRID SOIL REINFORCEMENT OF THE TYPE, SIZE, LOCATION, AND LENGTHS DESIGNATED ON THE CONSTRUCTION DRAWINGS.

1.02 RELATED SECTIONS

A. SECTION 02200 [23 00 00] - EARTHWORK

1.03 REFERENCE DOCUMENTS

A. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

1. ASTM C140 SAMPLING AND TESTING CONCRETE MASONRY UNITS
1. ASTM C1372 SPECIFICATION FOR DRY-CAST SEGMENTAL RETAINING WALL UNITS
2. ASTM D422 PARTICLE-SIZE ANALYSIS OF SOILS
3. ASTM D698 LABORATORY COMPACTION CHARACTERISTICS OF SOIL -STANDARD EFFORT
4. ASTM D1557 LABORATORY COMPACTION CHARACTERISTICS OF SOIL -MODIFIED EFFORT
5. ASTM D1784 POLYVINYL CHLORIDE PIPE (PVC)
6. ASTM D4318 LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS
7. ASTM D4476 HORIZONTAL SHEAR STRENGTH OF PULTRUDED REINFORCED PLASTIC RODS
8. ASTM D4475 FLEXURAL PROPERTIES OF FIBER REINFORCED PULTRUDED PLASTIC RODS
9. ASTM D4595 TENSILE PROPERTIES OF GEOTEXTILES - WIDE WIDTH STRIP
10. ASTM D5262 UNCONFINED TENSION CREEP BEHAVIOR OF GEOSYNTHETICS
11. ASTM D5818 EVALUATE INSTALLATION DAMAGE OF GEOSYNTHETICS
12. ASTM D6637 TENSILE PROPERTIES OF GEOGRIDS - SINGLE OR MULTI-RIB
13. ASTM D6638 CONNECTION STRENGTH - REINFORCEMENT/SEGMENTAL UNITS
14. ASTM D6706 GEOSYNTHETIC PULLOUT RESISTANCE IN SOIL
15. ASTM D4716 SHEAR STRENGTH BETWEEN SEGMENTAL CONCRETE UNITS

B. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

1. AASHTO M 252 CORRUGATED POLYETHYLENE DRAINAGE PIPE

C. GEOSYNTHETIC RESEARCH INSTITUTE (GRI)

1. GRI-GG4 DETERMINATION OF LONG TERM DESIGN STRENGTH OF GEOGRIDS
2. GRI-GG5 DETERMINATION OF GEOGRID (SOIL) PULLOUT

D. NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA)

1. NCMA SRM-1 TEST METHOD FOR DETERMINING CONNECTION STRENGTH OF SRW
2. NCMA SRM-2 TEST METHOD FOR DETERMINING SHEAR STRENGTH OF SRW

1.04 SUBMITTALS/CERTIFICATION

A. CONTRACTOR SHALL SUBMIT A MANUFACTURER'S CERTIFICATION, PRIOR TO START OF WORK, THAT THE RETAINING WALL SYSTEM COMPONENTS MEET THE REQUIREMENTS OF THIS SPECIFICATION AND THE STRUCTURE DESIGN.

B. CONTRACTOR SHALL SUBMIT CONSTRUCTION DRAWINGS AND DESIGN CALCULATIONS FOR THE RETAINING WALL SYSTEM PREPARED AND STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT. THE ENGINEERING RESUME, TECHNIQUES, AND MATERIAL EVALUATIONS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S DESIGN MANUAL, NCMA DESIGN GUIDELINES FOR SEGMENTAL RETAINING WALLS, OR THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES (WHICHEVER IS APPLICABLE TO DESIGNER).

C. CONTRACTOR SHALL SUBMIT A TEST REPORT DOCUMENTING STRENGTH OF SPECIFIC MODULAR CONCRETE UNIT AND GEOGRID REINFORCEMENT CONNECTION. THE MAXIMUM DESIGN TENSILE LOAD OF THE GEOGRID SHALL BE EQUAL TO THE LABORATORY TESTED ULTIMATE STRENGTH OF GEOGRID / FACING UNIT CONNECTION AT A MINIMUM NORMAL FORCE LIMITED BY THE "PEAK HEIGHT" OF THE STRUCTURE DIVIDED BY A SAFETY FACTOR OF 1.5. THE CONNECTION STRENGTH EVALUATION SHALL BE PERFORMED IN ACCORDANCE WITH ASTM D6638 (NCMA SRM-1, 5).

1.05 QUALITY ASSURANCE

A. CONTRACTOR SHALL SUBMIT CERTIFICATION, PRIOR TO START OF WORK, THAT THE RETAINING WALL SYSTEM (MODULAR CONCRETE UNITS AND SPECIFIC GEOGRID):

1) HAS BEEN SUCCESSFULLY UTILIZED ON A MINIMUM OF FIVE (5) SIMILAR PROJECTS, I.E., HEIGHT, SOIL, FILL TYPES, ERECTION TOLERANCES, ETC.; AND

2) HAS BEEN SUCCESSFULLY INSTALLED ON A MINIMUM OF 1 MILLION (1,000,000) SQUARE FEET OF RETAINING WALLS.

B. CONTRACTOR SHALL SUBMIT A LIST OF FIVE (5) PREVIOUSLY CONSTRUCTED PROJECTS OF SIMILAR SIZE AND MAGNITUDE BY THE WALL INSTALLER WHERE THE SPECIFIC RETAINING WALL SYSTEM HAS BEEN CONSTRUCTED SUCCESSFULLY. CONTACT NAMES AND TELEPHONE NUMBERS SHALL BE LISTED FOR EACH PROJECT.

C. CONTRACTOR SHALL PROVIDE EVIDENCE THAT THE DESIGN ENGINEER HAS A MINIMUM OF FIVE YEARS OF DOCUMENTAL EXPERIENCE IN THE DESIGN FOR REINFORCED SOIL STRUCTURES. THE DESIGN ENGINEER SHALL POSSESS PROOF OF CURRENT PROFESSIONAL LIABILITY INSURANCE WITH AN AGGREGATE COVERAGE LIMIT OF NOT LESS THAN $2,000,000.

D. OWNER SHALL MAY PROVIDE SOIL TESTING AND QUALITY ASSURANCE INSPECTION DURING EARTHWORK AND WALL CONSTRUCTION OPERATIONS. CONTRACTOR SHALL PROVIDE ANY QUALITY CONTROL TESTING OR INSPECTION NOT PROVIDED BY THE OWNER. OWNER'S QUALITY ASSURANCE PROGRAM DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR QUALITY CONTROL AND WALL PERFORMANCE.

1.06 DELIVERY, STORAGE AND HANDLING

A. CONTRACTOR SHALL CHECK ALL MATERIALS UPON DELIVERY TO ASSURE THAT THE PROPER TYPE, GRADE, COLOR, AND CERTIFICATION HAVE BEEN RECEIVED.

B. CONTRACTOR SHALL PROTECT ALL MATERIALS FROM DAMAGE DUE TO JOBSITE CONDITIONS AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DAMAGED MATERIALS SHALL NOT BE INCORPORATED INTO THE WORK.

PART 2: PRODUCTS

2.01 DEFINITIONS

A. MODULAR UNIT - A CONCRETE RETAINING WALL ELEMENT MACHINE MADE FROM PORTLAND CEMENT, WATER, AND AGGREGATES.

B. STRUCTURAL GEOGRID - A STRUCTURAL ELEMENT FORMED BY A REGULAR NETWORK OF INTEGRALLY CONNECTED TENSILE ELEMENTS WITH APERTURES OF SUFFICIENT SIZE TO ALLOW INTERLOCKING WITH SURROUNDING SOIL, ROCK, OR EARTH AND FUNCTION PRIMARILY AS REINFORCEMENT.

C. UNIT DRAINAGE FILL - DRAINAGE AGGREGATE, WHICH IS PLACED WITHIN AND IMMEDIATELY BEHIND THE MODULAR CONCRETE UNITS.

D. REINFORCED BACKFILL - COMPACTED SOIL, WHICH IS PLACED WITHIN THE REINFORCED SOIL VOLUME AS OUTLINED ON THE PLANS.

2.02 MODULAR CONCRETE RETAINING WALL UNITS

A. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING ARCHITECTURAL REQUIREMENTS:

1. FACE COLOR - CONCRETE GRAY, UNLESS OTHERWISE SPECIFIED. THE OWNER MAY SPECIFY STANDARD MANUFACTURERS' COLOR.
2. FACE FINISH - SCULPTURED ROCK FACE, OR ANGULAR TRAPEZOIDAL CONFIGURATION. OTHER FACE FINISHES WILL NOT BE ALLOWED WITHOUT WRITTEN APPROVAL OF OWNER.
3. BOND CONFIGURATION - RUNNING WITH BONDS NOMINALLY LOCATED AT MIDPOINT VERTICALLY ADJACENT UNITS, IN BOTH STRAIGHT AND CURVED ALIGNMENTS.
4. EXPOSED SURFACES OF UNITS SHALL BE FREE OF CHIPS, CRACKS OR OTHER IMPERFECTIONS WHEN VIEWED FROM A DISTANCE OF 10 FEET UNDER DIFFUSED LIGHTING.

B. MODULAR CONCRETE MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C1372 - STANDARD SPECIFICATIONS FOR SEGMENTAL RETAINING WALL UNITS.

C. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING STRUCTURAL AND GEOMETRIC REQUIREMENTS MEASURED IN ACCORDANCE WITH ASTM C140 SAMPLING AND TESTING CONCRETE MASONRY UNITS:

1. COMPRESSIVE STRENGTH: 3000 PSI (21 MPA);
2. ABSORPTION: 8 % (6% IN NORTHERN STATES) FOR STANDARD WEIGHT AGGREGATES;
3. DIMENSIONAL TOLERANCES: ± 1/8" (3 MM) FROM NOMINAL UNIT DIMENSIONS NOT INCLUDING ROUGH SPLIT FACE, ±1/16" (1.5 MM) UNIT HEIGHT - TOP AND BOTTOM PLANES;
4. UNIT SIZE: 9" (230 MM) (W) X 12" (457 MM)(W) X 12" (304 MM)(D) MINIMUM;
5. UNIT WEIGHT: 75 LB/UNIT (35 KG/UNIT) MINIMUM FOR STANDARD WEIGHT AGGREGATES.

D. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING PERFORMANCE TESTING:

1. INTER-UNIT SHEAR STRENGTH IN ACCORDANCE WITH ASTM D6916 (NCMA SRM-6): 800-PLF (11 KN/M) MINIMUM AT 2 PSI (13 KPA) NORMAL PRESSURE;
2. GEOGRID/UNIT PEAK CONNECTION STRENGTH IN ACCORDANCE WITH ASTM D6638 (NCMA SRM-5): 500-PLF (7 KN/M) MINIMUM AT 2 PSI (13 KPA) NORMAL FORCE.

E. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING CONSTRUCTABILITY REQUIREMENTS:

1. VERTICAL SETBACK = 1/8" ± (3 MM) PER COURSE (NEAR VERTICAL) OR 1" (25 MM) PER COURSE PER THE DESIGN;
2. ALIGNMENT AND SIZED POSITIONING MECHANISM - FIBERGLASS PINS, TWO PER UNIT MINIMUM;
3. MAXIMUM HORIZONTAL GAP BETWEEN ERECTED UNITS SHALL BE 1/2 INCH (13 MM).

2.03 SHEAR CONNECTORS

A. SHEAR CONNECTORS SHALL BE 1/2-INCH (12 MM) DIAMETER THERMOSET ISOPHTHALIC POLYESTER RESIN PULTRUDED FIBERGLASS REINFORCEMENT RODS OR EQUIVALENT TO PROVIDE CONNECTION BETWEEN VERTICALLY AND HORIZONTALLY ADJACENT UNITS WITH THE FOLLOWING REQUIREMENTS:

1. FLEXURAL STRENGTH OF ACCORDANCE WITH ASTM D4475: 120,000 PSI (827 MPA) MINIMUM;
2. SHORT BEAM SHEAR IN ACCORDANCE WITH ASTM D4475: 8,400 PSI (58 MPA) MINIMUM.

B. SHEAR CONNECTORS SHALL BE CAPABLE OF HOLDING THE GEOGRID IN THE PROPER DESIGN POSITION DURING GRID PRE-TENSIONING AND BACKFILLING.

2.04 BASE LEVELING PAD MATERIAL

A. MATERIAL SHALL CONSIST OF A COMPACTED CRUSHED STONE BASE OR NON-REINFORCED CONCRETE AS SHOWN ON THE CONSTRUCTION DRAWINGS.

2.05 UNIT DRAINAGE FILL

A. UNIT DRAINAGE FILL SHALL CONSIST OF CLEAN 3/4" (19 MM) MINUS CRUSHED STONE OR CRUSHED GRAVEL MEETING THE FOLLOWING GRADATION TESTED IN ACCORDANCE WITH ASTM D-422:

SIEVE SIZE	PERCENT PASSING
1 INCH (25 MM)	100
3/4-INCH (19 MM)	75 - 100
NO. 4	0 - 10
NO. 50	0 - 5

B. ONE CUBIC FOOT (0.028 M3) MINIMUM, OF DRAINAGE FILL SHALL BE USED FOR EACH SQUARE FOOT (0.093 M2) OF WALL FACE. DRAINAGE FILL SHALL BE PLACED WITHIN CORES OF, BETWEEN, AND BEHIND UNITS TO MEET THIS REQUIREMENT.

2.06 REINFORCED BACKFILL

A. REINFORCED BACKFILL SHALL BE FREE OF DEBRIS AND MEET THE FOLLOWING GRADATION TESTED IN ACCORDANCE WITH ASTM D-422:

SIEVE SIZE	PERCENT PASSING
3-INCH (50 MM)	100
3/4-INCH (19 MM)	70 - 100
NO. 40	0 - 60
NO. 200	0 - 35

PLASTICITY INDEX (PI) <15 AND LIQUID LIMIT <40 PER ASTM D-4318.

B. THE MAXIMUM AGGREGATE SIZE SHALL BE LIMITED TO 3/4 INCH (19 MM) UNLESS FIELD TESTS HAVE BEEN PERFORMED TO EVALUATE POTENTIAL STRENGTH REDUCTIONS TO THE GEOGRID DESIGN DUE TO DAMAGE DURING CONSTRUCTION.

C. MATERIAL CAN BE SITE-EXCAVATED SOILS WHERE THE ABOVE REQUIREMENTS CAN BE MET. UNSUITABLE SOILS FOR BACKFILL (HIGH PLASTIC CLAYS OR ORGANIC SOILS) SHALL NOT BE USED IN THE BACKFILL OR IN THE REINFORCED SOIL MASS.

D. CONTRACTOR SHALL SUBMIT REINFORCED FILL SAMPLE AND LABORATORY TEST RESULTS TO THE ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO THE USE OF ANY PROPOSED REINFORCED FILL MATERIAL.

2.07 GEOGRID SOIL REINFORCEMENT

A. GEOSYNTHETIC REINFORCEMENT SHALL CONSIST OF GEOGRIDS MANUFACTURED SPECIFICALLY FOR SOIL REINFORCEMENT APPLICATIONS AND SHALL BE MANUFACTURED FROM HIGH TENACITY POLYESTER YARN OF HIGH-DENSITY POLYETHYLENE. POLYESTER GEOGRID SHALL BE KNITTED FROM HIGH TENACITY POLYESTER FILAMENT YARN WITH A MOLECULAR WEIGHT EXCEEDING 25,000 G/M AND A CARBOXYL END GROUP VALUES LESS THAN 30. POLYESTER GEOGRID SHALL BE COATED WITH AN IMPREGNATED PVC COATING THAT RESISTS PEELING, CRACKING, AND STRIPPING.

B. TA, LONG TERM ALLOWABLE TENSILE DESIGN LOAD, OF THE GEOGRID MATERIAL SHALL BE DETERMINED AS FOLLOWS:

$T_A = T_{ULT} / (RF_{CR} \cdot RF_D \cdot RF_{ID})$

TA SHALL BE EVALUATED BASED ON A 75-YEAR DESIGN LIFE.

1. T_{ULT}, SHORT TERM ULTIMATE TENSILE STRENGTH SHALL BE DETERMINED IN ACCORDANCE WITH ASTM D4595 GRAB TEST.
   T_{ULT} IS BASED ON THE MINIMUM AVERAGE ROLL VALUES (MARV).
2. RF_{CR}, REDUCTION FACTOR FOR LONG TERM TENSION CREEP
   RF_{CR} SHALL BE DETERMINED FROM TRIAXIAL CREEP TESTING PERFORMED IN ACCORDANCE WITH ASTM D5262. REDUCTION VALUE = 1.45 MINIMUM.
3. RF_D, REDUCTION FACTOR FOR DURABILITY
   RF_D SHALL BE DETERMINED FROM POLYMER SPECIFIC DURABILITY TESTING COVERING THE RANGE OF EXPECTED SOIL ENVIRONMENTS. RF_D = 1.31 MINIMUM.
4. RF_{ID}, REDUCTION FACTOR FOR INSTALLATION DAMAGE
   RF_{ID} SHALL BE DETERMINED FROM PRODUCT SPECIFIC CONSTRUCTION DAMAGE TESTING PERFORMED IN ACCORDANCE WITH ASTM D5818 (GRI, GG4). TEST RESULTS SHALL BE PROVIDED FOR EACH PRODUCT TO BE USED WITH PROJECT SPECIFIC OR MORE SEVERE SOIL TYPE. RF_D = 1.35 MINIMUM.
5. FS, OVERALL DESIGN FACTOR OF SAFETY
   FS SHALL BE 1.5 UNLESS OTHERWISE NOTED FOR THE MAXIMUM ALLOWABLE WORKING STRESS CALCULATION.

C. THE MAXIMUM DESIGN TENSILE LOAD OF THE GEOGRID SHALL NOT EXCEED THE LABORATORY TESTED ULTIMATE STRENGTH OF THE GEOGRID/FACING UNIT CONNECTION AS LIMITED BY THE "PEAK HEIGHT" DIVIDED BY A FACTOR OF SAFETY OF 1.5. THE CONNECTION STRENGTH TESTING AND COMPUTATION PROCEDURES SHALL BE IN ACCORDANCE WITH ASTM D6638 CONNECTION STRENGTH BETWEEN GEOSYNTHETIC REINFORCEMENT AND SEGMENTAL CONCRETE UNITS (NCMA SRM-1, 5).

D. SOIL INTERACTION COEFFICIENT, Ci
Ci VALUES SHALL BE DETERMINED PER ASTM D6706 (GRI-GG5) AT A MAXIMUM 0.75-INCH (19 MM) DISPLACEMENT.

E. MANUFACTURING QUALITY CONTROL
THE GEOGRID MANUFACTURER SHALL HAVE A MANUFACTURING QUALITY CONTROL PROGRAM THAT INCLUDES QC TESTING BY AN INDEPENDENT LABORATORY.
THE QC TESTING SHALL INCLUDE:
TENSILE STRENGTH TESTING
MELT FLOW INDEX (HDPE)
MOLECULAR WEIGHT (POLYESTER)

2.08 DRAINAGE PIPE

A. IF REQUIRED, THE DRAINAGE PIPE SHALL BE PERFORATED OR SLOTTED PVC PIPE MANUFACTURED IN ACCORDANCE WITH ASTM D-1784 OR CORRUGATED HDPE PIPE MANUFACTURED IN ACCORDANCE WITH AASHTO M252.

2.09 GEOTEXTILE FILTER FABRIC

A. WHEN REQUIRED, GEOTEXTILE FILTER FABRIC SHALL BE 4.8 OZ/SY, POLYPROPYLENE, NEEDLEPUNCHED NONWOVEN FABRIC.

PART 3: EXECUTION

3.01 EXCAVATION

A. CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS. OWNER'S REPRESENTATIVE SHALL INSPECT THE EXCAVATION AND APPROVE PRIOR TO PLACEMENT OF LEVELING MATERIAL OR FILL SOILS. PROOF ROLL FOUNDATION AREA AS DIRECTED TO DETERMINE IF REMEDIAL WORK IS REQUIRED.

B. OVER-EXCAVATION AND REPLACEMENT OF UNSUITABLE FOUNDATION SOILS AND REPLACEMENT WITH APPROVED COMPACTED FILL WILL BE COMPENSATED AS AGREED UPON WITH THE OWNER.

3.02 BASE LEVELING PAD

A. LEVELING PAD MATERIAL SHALL BE PLACED TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS, TO A MINIMUM THICKNESS OF 6 INCHES (150 MM) AND EXTEND LATERALLY A MINIMUM OF 6" (150 MM) IN FRONT AND BEHIND THE MODULAR WALL UNIT.

B. SOIL LEVELING PAD MATERIALS SHALL BE COMPACTED TO A MINIMUM OF 95 % STANDARD PROCTOR DENSITY PER ASTM D-698 OR 92% MODIFIED PROCTOR DENSITY PER ASTM D1557.

C. LEVELING PAD SHALL BE PREPARED TO INSURE FULL CONTACT TO THE BASE SURFACE OF THE CONCRETE UNITS.

3.03 MODULAR UNIT INSTALLATION

A. FIRST COURSE OF UNITS SHALL BE PLACED ON THE LEVELING PAD AT THE APPROPRIATE LINE AND GRADE. ALIGNMENT AND LEVEL SHALL BE CHECKED IN ALL DIRECTIONS AND ENSURE THAT ALL UNITS ARE IN FULL CONTACT WITH THE BASE AND PROPERLY SEATED.

B. PLACE THE FRONT OF UNITS SNUGLY SIDE. DO NOT LEAVE GAPS (BETWEEN ADJACENT UNITS. LAYOUT OF CORNERS AND CURVES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

C. INSTALL SHEAR CONNECTING DEVICES PER MANUFACTURER'S RECOMMENDATIONS.

D. PLACE AND COMPACT DRAINAGE FILL WITHIN AND BEHIND WALL UNITS. PLACE AND COMPACT BACKFILL SOIL BEHIND DRAINAGE FILL. FOLLOW WALL ERECTION AND DRAINAGE FILL CLOSELY WITH STRUCTURE BACKFILL.

E. MAXIMUM STACKED VERTICAL HEIGHT OF WALL UNITS, PRIOR TO UNIT DRAINAGE FILL AND BACKFILL PLACEMENT AND COMPACTION, SHALL NOT EXCEED TWO COURSES.

3.04 STRUCTURAL GEOGRID INSTALLATION

A. GEOGRID SHALL BE ORIENTED WITH THE HIGHEST STRENGTH AXIS PERPENDICULAR TO THE WALL ALIGNMENT.

B. GEOGRID REINFORCEMENT SHALL BE PLACED AT THE STRENGTHS, LENGTHS, AND ELEVATIONS SHOWN ON THE CONSTRUCTION DESIGN DRAWINGS OR AS DIRECTED BY THE ENGINEER.

C. THE GEOGRID SHALL BE LAID HORIZONTALLY ON COMPACTED BACKFILL AND ATTACHED TO THE MODULAR WALL UNITS. PLACE THE NEXT COURSE OF MODULAR CONCRETE UNITS OVER THE GEOGRID. THE GEOGRID SHALL BE PULLED TAUT, AND ANCHORED PRIOR TO BACKFILL PLACEMENT ON THE GEOGRID.

D. GEOGRID REINFORCEMENTS SHALL BE CONTINUOUS THROUGHOUT THEIR EMBEDMENT LENGTHS AND PLACED SIDE-BY-SIDE TO PROVIDE 100% COVERAGE AT EACH LEVEL. SPLICED CONNECTIONS BETWEEN SHORTER PIECES OF GEOGRID OR GAPS BETWEEN ADJACENT PIECES OF GEOGRID ARE NOT PERMITTED.

3.05 REINFORCED BACKFILL PLACEMENT

A. REINFORCED BACKFILL SHALL BE PLACED, SPREAD, AND COMPACTED IN SUCH A MANNER THAT MINIMIZES THE DEVELOPMENT OF SLACK IN THE GEOGRID AND INSTALLATION DAMAGE.

B. REINFORCED BACKFILL SHALL BE PLACED AND COMPACTED IN LIFTS NOT TO EXCEED 8 INCHES (150 MM) WHERE HAND COMPACTION IS USED, OR 8 - 12 INCHES (200 TO 250 MM) WHERE HEAVY COMPACTION EQUIPMENT IS USED. LIFT THICKNESS SHALL BE DECREASED TO ACHIEVE THE REQUIRED DENSITY AS REQUIRED.

C. REINFORCED BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 95 % STANDARD PROCTOR DENSITY PER ASTM D-698 OR 92% MODIFIED PROCTOR DENSITY PER ASTM D1557. THE MOISTURE CONTENT OF THE BACKFILL MATERIAL PRIOR TO AND DURING COMPACTION SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT EACH LAYER AND SHALL BE DRY OF OPTIMUM, + 0%, -3%.

D. ONLY LIGHTWEIGHT HAND OPERATED EQUIPMENT SHALL BE ALLOWED WITHIN 3 FEET (1 M) FROM THE TAIL OF THE MODULAR CONCRETE UNIT.

E. TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY UPON THE GEOGRID REINFORCEMENT. A MINIMUM FILL THICKNESS OF 6 INCHES (150 MM) IS REQUIRED PRIOR TO OPERATION OF TRACKED VEHICLE OVER THE GEOGRID. TRACKED VEHICLE TURNING SHOULD BE KEPT TO A MINIMUM TO PREVENT TRACKS FROM DISPLACING THE FILL AND DAMAGING THE GEOGRID.

F. RUBBER TIRED EQUIPMENT MAY PASS OVER GEOGRID REINFORCEMENT AT SLOW SPEEDS, LESS THAN 10 MPH (15 KPH). SUDDEN BRAKING AND SHARP TURNING SHALL BE AVOIDED.

G. AT THE END OF EACH DAY'S OPERATION, THE CONTRACTOR SHALL SLOPE THE LAST LIFT OF REINFORCED BACKFILL AWAY FROM THE WALL UNITS TO DIRECT RUNOFF AWAY FROM WALL FACE. THE CONTRACTOR SHALL NOT ALLOW SURFACE RUNOFF FROM ADJACENT AREAS TO ENTER THE WALL CONSTRUCTION SITE.

3.06 CAP INSTALLATION

A. CAP UNITS SHALL BE GLUED TO UNDERLYING UNITS WITH AN ALL-WEATHER ADHESIVE RECOMMENDED BY THE MANUFACTURER.

3.07 AS-BUILT CONSTRUCTION TOLERANCES

A. VERTICAL ALIGNMENT: ± 1.0" (14 MM) OVER ANY 10' (3 M) DISTANCE.

B. WALL BATTER: WITHIN 2 DEGREES OF DESIGN BATTER.

C. HORIZONTAL ALIGNMENT: ± 1.5" (44 MM) OVER ANY 10' (3 M) DISTANCE.
CORNERS, BENDS & CURVES: ± 1" (25 MM) TO THE THEORETICAL LOCATION.

D. MAXIMUM HORIZONTAL GAP BETWEEN ERECTED UNITS SHALL BE 1/2 INCH (13 MM).

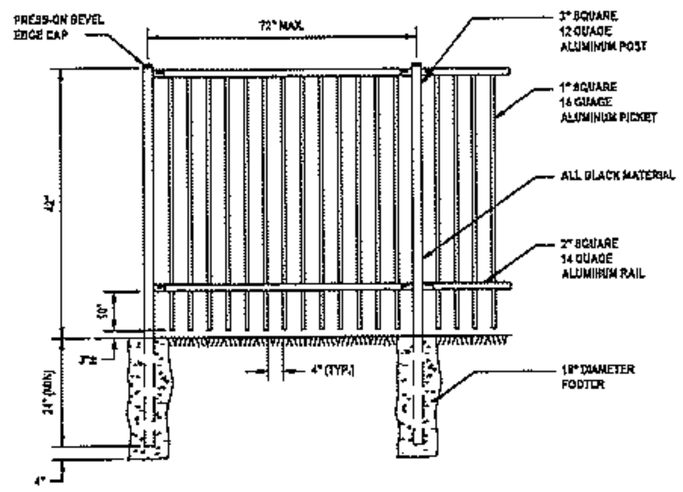
3.08 FIELD QUALITY CONTROL

A. QUALITY ASSURANCE - THE OWNER SHALL MAY ENGAGE INSPECTION AND TESTING SERVICES, INCLUDING INDEPENDENT LABORATORIES, TO PROVIDE QUALITY ASSURANCE AND TESTING SERVICES DURING CONSTRUCTION. THIS DOES NOT RELIEVE THE CONTRACTOR FROM HAVING THE NECESSARY CONSTRUCTION QUALITY CONTROL TESTING.

B. QUALITY ASSURANCE SHOULD INCLUDE FOUNDATION SOIL INSPECTION, VERIFICATION OF GEOTECHNICAL DESIGN PARAMETERS, AND VERIFICATION THAT THE CONTRACTOR'S QUALITY CONTROL TESTING IS ADEQUATE AS A MINIMUM. QUALITY ASSURANCE SHALL ALSO INCLUDE OBSERVATION OF CONSTRUCTION FOR GENERAL COMPLIANCE WITH DESIGN DRAWINGS AND PROJECT SPECIFICATIONS. QUALITY ASSURANCE IS USUALLY BEST PERFORMED BY THE SITE GEOTECHNICAL ENGINEER.

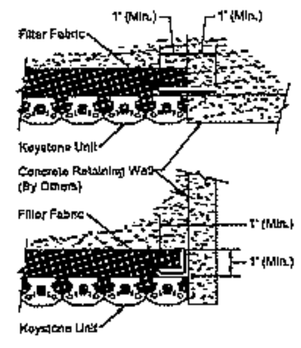
C. QUALITY CONTROL - THE CONTRACTOR SHALL ENGAGE INSPECTION AND TESTING SERVICES TO PERFORM THE MINIMUM QUALITY CONTROL TESTING DESCRIBED IN THE RETAINING WALL DESIGN PLANS AND SPECIFICATIONS. ONLY QUALIFIED AND EXPERIENCED TECHNICIANS AND ENGINEERS SHALL PERFORM TESTING AND INSPECTION SERVICES.

D. QUALITY CONTROL TESTING SHALL INCLUDE SOIL AND BACKFILL TESTING TO VERIFY SOIL TYPES AND COMPACTION AND VERIFICATION THAT THE RETAINING WALL IS BEING CONSTRUCTED IN ACCORDANCE WITH THE DESIGN PLANS AND PROJECT SPECIFICATIONS.



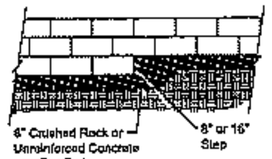
ALUMINIMUM RAIL FENCE DETAIL

NOT TO SCALE



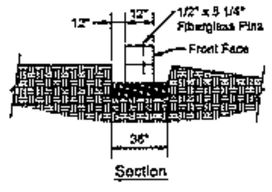
Connection Details

Compac Unit - Shown



Elevation

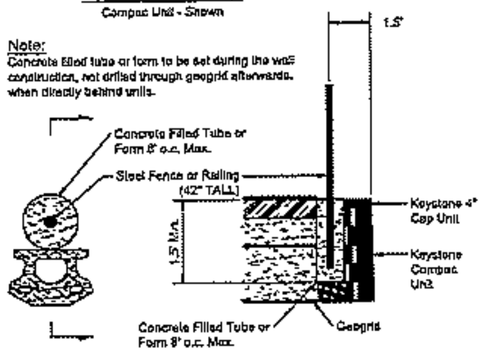
Note:
1. The leveling pad is to be constructed of crushed stone or 2,000 psi unreinforced concrete.



Section

Leveling Pad Detail

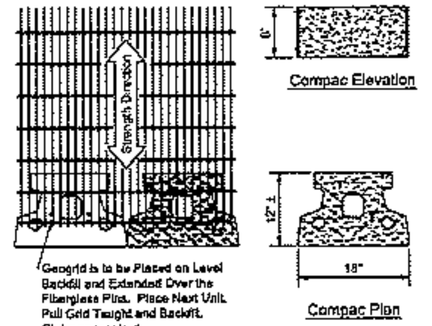
Note:
Concrete filled tube or form to be set during the wall construction, not drilled through geogrid afterwards, when directly behind units.



Fence Plan Detail

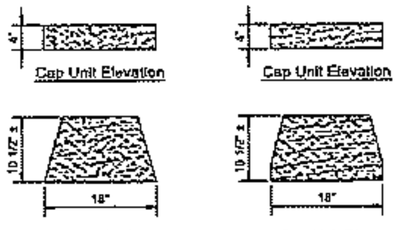
Fence Section & Plan Detail

Compact Unit - Near Vertical Setback



Grid & Pin Connection

Compac Unit
* Dimensions May Vary by Region



Universal Cap Unit Option
* Dimensions & Availability Will Vary by Region

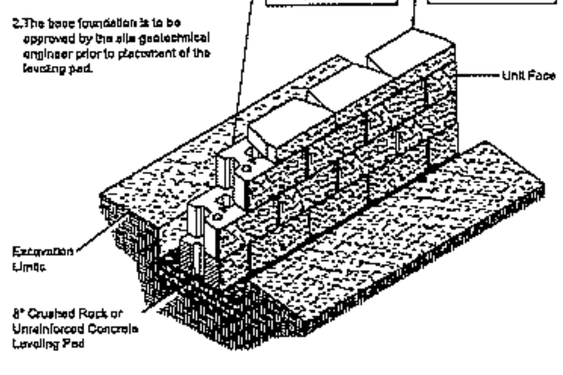
Straight Split Cap Unit Option
* Dimensions & Availability Will Vary by Region

Base Leveling Pad Notes:

1. The leveling pad is to be constructed of crushed stone or 2,000 psi unreinforced concrete.
2. The base foundation is to be approved by the site geotechnical engineer prior to placement of the leveling pad.

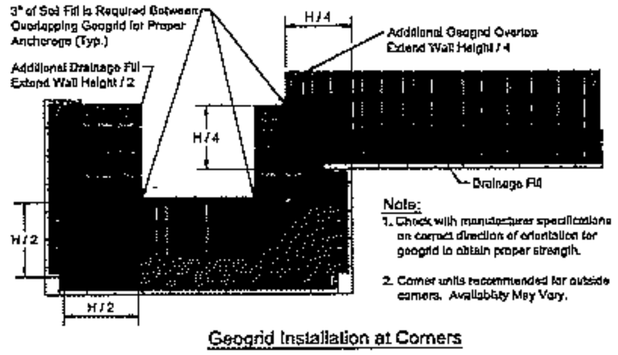
Compac Unit	
Width:	18"
*Depth:	12"
Height:	8"
*Weight:	90 lbs

Cap Unit	
Width:	18"
*Depth:	10 1/2"
Height:	4"
*Weight:	50 lbs



Compac Unit/Base Pad Isometric Section View

* Dimensions & Weight May Vary by Region



Note:
1. Check with manufacturer specifications on correct direction of orientation for geogrid to obtain proper strength.
2. Corner units recommended for outside corners. Availability May Vary.

Geogrid Installation at Corners

REVISIONS	
DATE	DESCRIPTION
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1230 North 13th, Suite 3
Ormond Beach, Florida 32174
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NEWKIRK ENGINEERING INC

RETAINING WALL DETAILS AND NOTES

LEGACY POINTE APARTMENTS

LESLIE STREET

FLAGLER BEACH, FL 32136

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY HARRY NEWKIRK, PE # 62971 ON

HARRY NEWKIRK LICENSE NO. 62971 STATE OF FLORIDA PROFESSIONAL ENGINEER

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SCALE:	AS SHOWN

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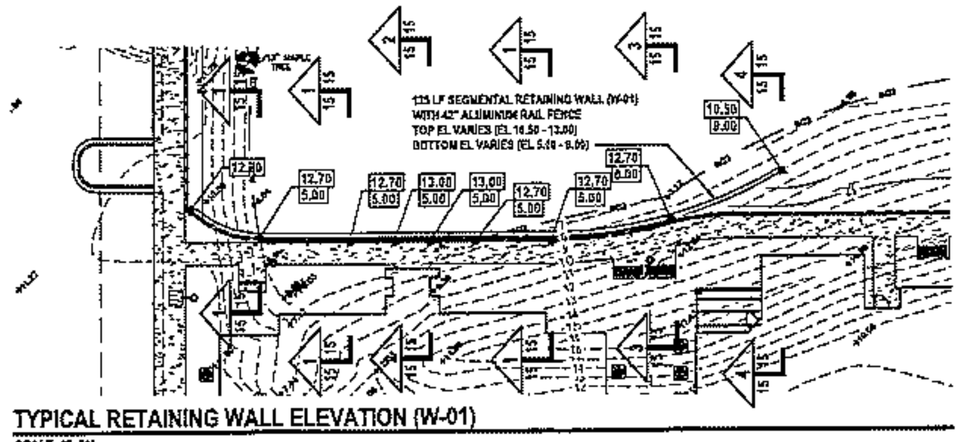
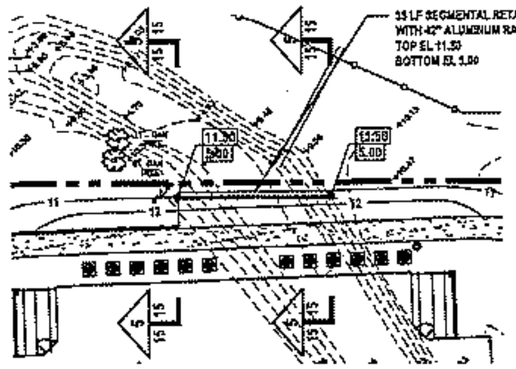
14



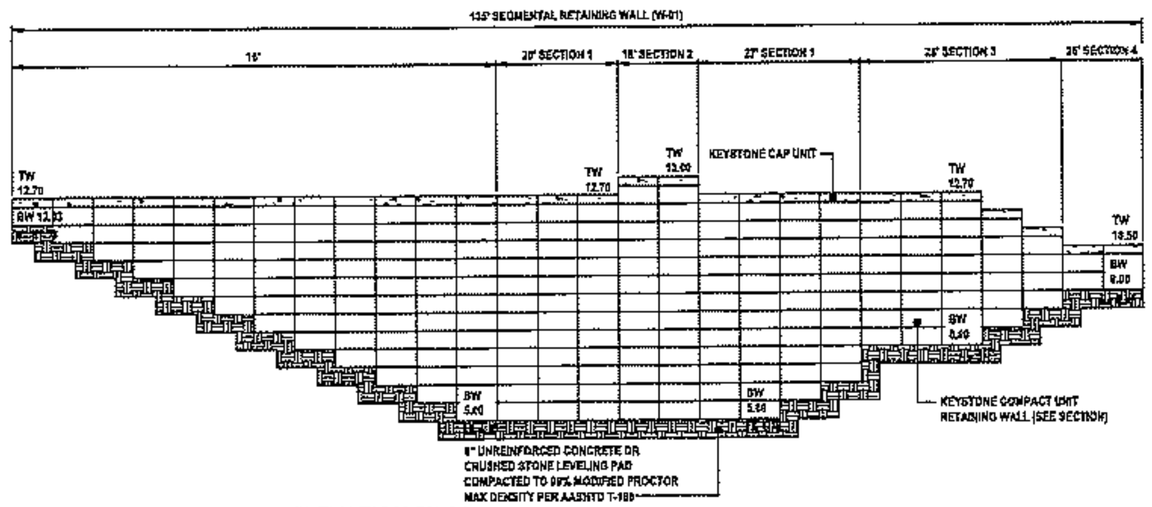
TYPICAL RETAINING WALL ELEVATION (W-01)

SCALE: 1"=20'



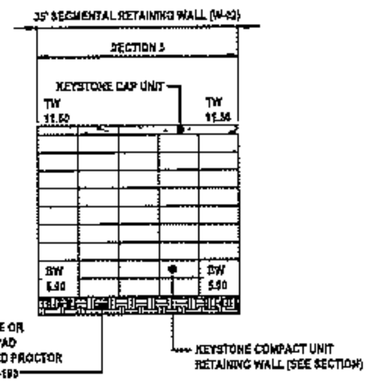
TYPICAL RETAINING WALL ELEVATION (W-02)

SCALE: 1"=20'



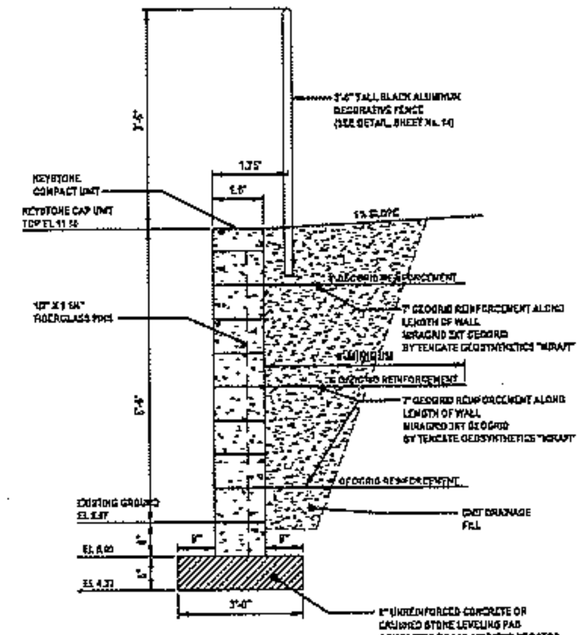
TYPICAL RETAINING WALL ELEVATION (W-01)

NOT TO SCALE



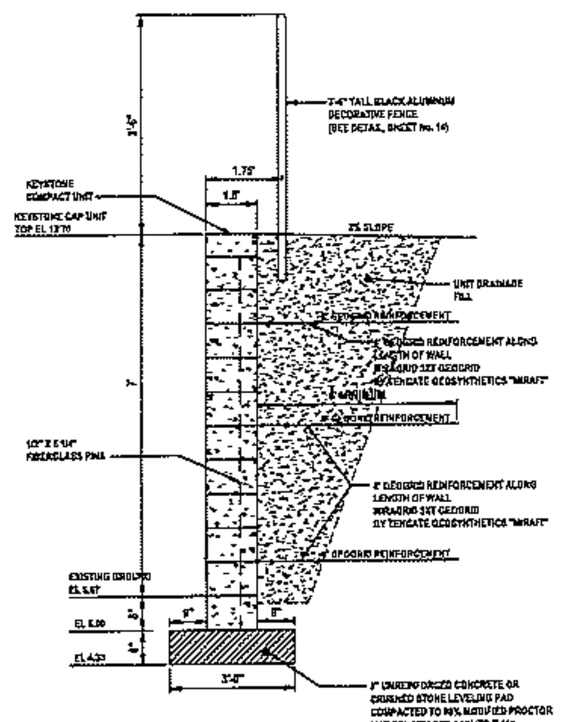
TYPICAL RETAINING WALL ELEVATION (W-02)

NOT TO SCALE



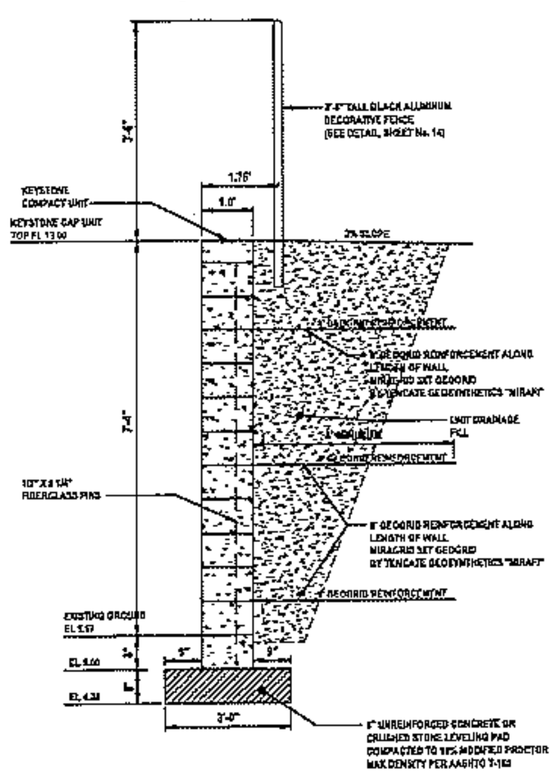
TYPICAL WALL CROSS SECTION 5

NOT TO SCALE



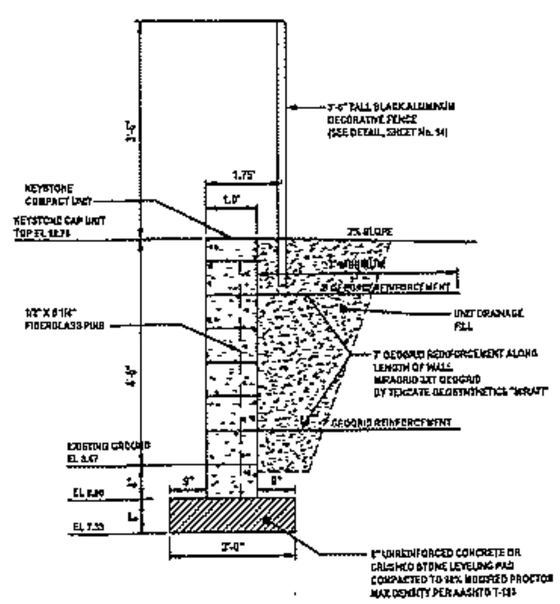
TYPICAL WALL CROSS SECTION 1

NOT TO SCALE



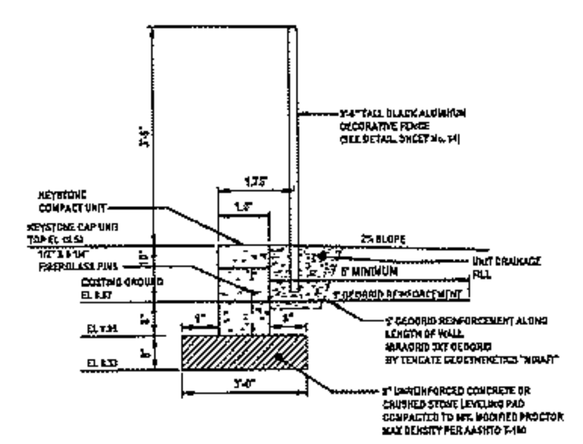
TYPICAL WALL CROSS SECTION 2

NOT TO SCALE



TYPICAL WALL CROSS SECTION 3

NOT TO SCALE



TYPICAL WALL CROSS SECTION 4

NOT TO SCALE

REVISIONS

DATE	DESCRIPTION
4/23/25	CITY COMMENTS

1320 North US1, Suite 3
Ormond Beach, Florida 32174
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L.C. # 26000364
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Civil Engineering
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NEWKIRK ENGINEERING INC

RETAINING WALL DETAILS AND NOTES

LEGACY POINTE APARTMENTS

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FLAGLER BEACH, FL 32136

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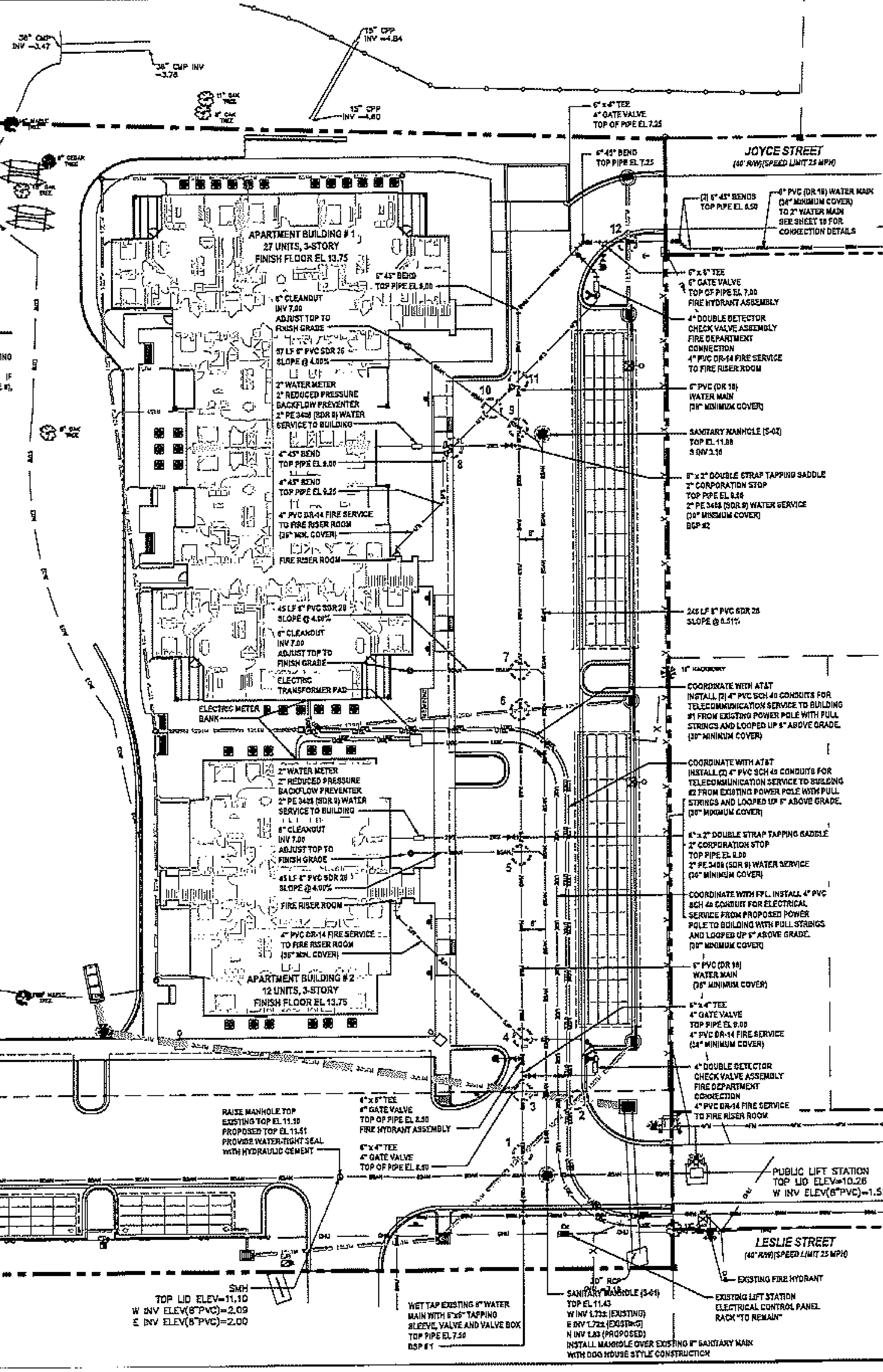

20 10 0 20 40
GRAPHIC SCALE
1"=20'

BUILDING FIRE PROTECTION NOTES:

1. SPRINKLER SYSTEM PER NFPA 13R.
2. FIRE ALARM PER NFPA 72.
3. INTERCONNECTED SMOKE DETECTOR FOR INSIDE UNITS.
4. EACH BUILDING SHALL HAVE A MASTER KEY (SUPER BOX) FOR ALL UNITS AND DOORS.

REQUIRED FIRE FLOW:

*SITE DESIGNED IN ACCORDANCE TO THE FLORIDA FIRE PREVENTION CODE, 7TH EDITION.

FLORIDA BUILDING CODE CONSTRUCTION TYPE:	VA - PROTECTED
FIRE AREA:	41,557 SF
REQUIRED FIRE FLOW:	3,750 GPM @ 3 HOURS
FIRE SPRINKLER SYSTEM REDUCTION (75%)	2,812 GPM
REQUIRED FIRE FLOW	938 GPM @ 3 HOURS 1,000 GPM @ 3 HOURS (MINIMUM)

BASED ON NFPA 18.4.5.2.1, REDUCTION IN REQUIRED FIRE FLOW OF 75% SHALL BE PERMITTED WHEN THE BUILDING IS PROTECTED THROUGHOUT BY AN APPROVED SPRINKLER SYSTEM. THE RESULTING FIRE FLOW SHALL NOT BE LESS THAN 1,000 GPM.

CITY OF FLAGLER BEACH NOTES:

A. ALL UTILITIES SHALL BE LOCATED UNDERGROUND.
B. CONTRACTOR TO ATTEND A MANDATORY PRECONSTRUCTION MEETING WITH CITY STAFF PRIOR TO ANY DISTURBANCE OF THE PROPERTY.
C. CONSERVATION EASEMENTS WITH UPLAND BUFFERS DELINEATED IF APPLICABLE WITH THE RECORDING INFORMATION (O.R. BOOK AND PAGE #), IF APPLICABLE.

WARNING !!

CONTRACTOR SHALL TAKE ALL PRECAUTIONS DURING CONSTRUCTION TO AVOID CONTACT WITH EXISTING UNDERGROUND UTILITIES, GAS MAINS AND OVERHEAD ELECTRIC IN THE RIGHT-OF-WAY.

UTILITY LEGEND

- PROPOSED 11.25° BEND
- PROPOSED 22.5° BEND
- PROPOSED 45° BEND
- PROPOSED 90° BEND
- PROPOSED TEE
- PROPOSED GATE VALVE
- PROPOSED FIRE HYDRANT ASSEMBLY
- RPZ — REDUCED PRESSURE BACKFLOW PREVENTER
- PROPOSED 8"x4", 4" GATE VALVE, 4" PVC DR-14, 4" DOUBLE DETECTOR CHECK VALVE ASSEMBLY (DDCVA) (PER CITY DETAIL W-4E, SHEET No. 22) WITH ATTACHED FIRE DEPARTMENT CONNECTION WITH (2 - 2.5" WYE) STANDARD FDC THREADS (NO LOCKING CAPS) DETAIL SHEET No. 19
- PROPOSED 8"x2" SERVICE SADDLE, 2" CORPORATION STOP, 2" PE3408 (SDR 9), 2" WATER METER AND 2" RPZ. SEE CITY DETAIL W-3 & W-3D ON SHEET 22.
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED 8" PVC CLASS 150 (DR-18) WATER MAIN (36" MIN. COVER)
- PROPOSED 2" PE 4710 (SDR 9) WATER SERVICE (30" MINIMUM COVER)
- PROPOSED 4" PVC CLASS 200 (DR-14) FIRE SERVICE (36" MIN. COVER)
- PROPOSED 8" PVC SDR 26 SANITARY MAIN SLOPE @ 0.40% MIN.
- PROPOSED 6" PVC SDR 26 SANITARY SERVICE WITH 2.0% MIN. SLOPE
- UNDERGROUND ELECTRICAL CONDUIT (4")
- UNDERGROUND TELEPHONE CONDUIT (4")
- 1 — UTILITY CONFLICT (SEE DETAILS, SHEET No. 11)

GENERAL WATER NOTES:

1. THE CITY OF FLAGLER BEACH WATER UTILITY DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY WATER SYSTEM CONSTRUCTION.
2. ALL WATER DISTRIBUTION CONSTRUCTION SHALL BE IN ACCORDANCE WITH FDEP REGULATIONS AND THE CITY OF FLAGLER BEACH UTILITY DETAILS AND SPECIFICATIONS (LATEST EDITION).
3. CONTRACTOR IS TO VERIFY THE LOCATION (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES (UNDERGROUND AND OVERHEAD) PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY CONFLICTS SHALL BE REPORTED TO THE ENGINEER.
4. CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ANY EXISTING PAVEMENT, SIDEWALK, CURBING, UTILITIES AND DRAINAGE SYSTEMS DAMAGED DURING CONSTRUCTION. ALL DAMAGED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER.
5. LOCATION OF TELEPHONE, T.V. CABLE AND ELECTRICAL SERVICE CONNECTIONS TO BE DETERMINED BY APPROPRIATE UTILITIES PERSONNEL IN COOPERATION WITH CONTRACTOR.
6. ALL WATER MAINS SHALL BE LAID ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
7. TRENCHES SHALL BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE CITY WITH A MINIMUM COMPACTION OF 98 PERCENT (AASHTO-T180).
8. WATER SERVICES FROM 3/4" TO 2" POLYETHYLENE (ENDOTRACE) WITH 30" MINIMUM COVER.
9. WATER MAIN FROM 4" TO 12" SHALL BE PVC CLASS 150 (DR 18) WITH 36" MINIMUM COVER.
10. ALL WATER AND FIRE SERVICES ARE REQUIRED TO HAVE A HARD BODY GATE VALVE OFF THE MAIN LINE.
11. ALL VALVES SHALL BE BOLTED TO TEES.
12. ALL POTABLE WATER PIPE SHALL HAVE "NSF POTABLE WATER" IMPRINTED ON THE PIPE.
13. ALL WATER MAIN FITTINGS 4 INCHES OR LARGER SHALL BE CEMENT LINED DIP.
14. A TAPPING CONTRACTOR ACCEPTABLE TO THE CITY OF FLAGLER BEACH WILL BE REQUIRED FOR TAPS.
15. THE CONTRACTOR SHALL MAKE ALL ATTEMPTS TO LOCATE BURIED UTILITIES AND NOTIFY THE UTILITY COMPANIES 48 HR. PRIOR TO CONSTRUCTION.
16. UTILITY TRENCH CONSTRUCTION SHALL CONFORM TO CITY OF FLAGLER BEACH AND OSHA REQUIREMENTS.
17. IN THE CASE WHERE SOLVENT CONTAMINATION IS FOUND IN THE TRENCH, WORK WILL BE STOPPED AND THE PROPER AUTHORITIES NOTIFIED. WITH THE APPROVAL OF THE CITY OF FLAGLER BEACH UTILITY DEPARTMENT, DUCTILE IRON PIPE, FITTINGS AND APPROVED SOLVENT RESISTANT GASKET MATERIAL SHALL BE USED IN THE CONTAMINATED AREA. THE DUCTILE IRON PIPE WILL EXTEND AT LEAST 100 FEET BEYOND ANY DISCOVERED SOLVENT.

GENERAL SEWER NOTES:

1. CITY OF FLAGLER BEACH SHALL BE NOTIFIED PRIOR TO ANY SEWER CONSTRUCTION.
2. ALL SEWER CONSTRUCTION MUST COMPLY WITH FDEP REGULATIONS AND THE CITY OF FLAGLER BEACH UTILITY DETAILS AND SPECIFICATIONS (LATEST EDITION).
3. ALL SANITARY SEWER LINES SHALL BE PVC SDR 26 DUE TO THE MINIMUM AMOUNT OF COVER. WATER LINES, RECLAIMED LINES AND STORM DRAINAGE CROSSINGS SHALL FOLLOW THE C-900 OR CONCRETE ENCASEMENT REQUIREMENT PER THESE STANDARDS AND AS FDEP REQUIREMENTS.
4. SEWER LINE CONSTRUCTION SHALL BE ACCOMPLISHED BY THE USE OF A LASER INSTRUMENT UNLESS ANOTHER METHOD IS PREVIOUSLY APPROVED BY CITY OF FLAGLER BEACH.
5. THE CONTRACTOR SHALL AT ALL TIMES, DURING PIPE LAYING, DEWATER THE GROUND SUFFICIENTLY TO KEEP THE GROUNDWATER ELEVATION A MINIMUM OF 6" BELOW THE PIPE BEING LAID WITHIN THE AREA OF THE TRENCH.
6. ALL PIPES SHALL BE LAID ON A FIRM FOUNDATION. SOFT OR SPONGY BEDDING FOR PIPES WILL NOT BE ACCEPTED. ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH A DRY, COMPACTED, GRANULAR MATERIAL SATISFACTORY TO THE CITY OF FLAGLER BEACH.
7. SANITARY SEWER PIPE SHALL BE PVC SDR 26.
8. EXCAVATION AND BACKFILL: THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING AND BRACING OF EXCAVATION WORK IN ORDER TO PROVIDE FOR THE SAFETY OF WORKMEN, AS WELL AS REPRESENTATIVES OF THE CITY OF FLAGLER BEACH, THE DESIGN ENGINEER, AND THE DEVELOPER.
9. ALL TRENCHES SHALL BE BACKFILLED WITH ACCEPTABLE MATERIAL AND COMPACTED TO MINIMUM COMPACTION OF (95) PERCENT OF THE OPTIMUM DENSITY OF THAT MATERIAL BASED ON THE AASHTO T-180 MODIFIED PROCTOR TEST.
10. ALL TESTING REQUIRED BY THE CITY SHALL BE PAID FOR BY THE CONTRACTOR.
11. GRAVITY MAINS MUST HAVE A TELEVISED INSPECTION. A VIDEO INSPECTION FORM MUST BE FAXED TO THE CITY OF FLAGLER BEACH WASTEWATER COLLECTION DEPARTMENT 48 HOURS PRIOR TO VIDEO INSPECTION. A CITY INSPECTOR MUST BE PRESENT.
12. SEWER CLEANOUT LOCATED ON PAVEMENT AND SIDEWALK AREA SHALL BE TRAFFIC BEARING FLAT TOP BRASS CAP.
13. ALL GREASE TANKS SHALL HAVE A MINIMUM CAPACITY OF 1,250 GALLONS.
14. PLUMBING CONTRACTOR SHALL INSTALL TANK AND COORDINATE PIPE INVERTS TO BUILDING WITH UTILITY CONTRACTOR.

REVISIONS

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1230 North US1, Suite 3
Ormond Beach, Florida 32174
Phone (386) 872-7794
www.Newkirk-Engineering.com
C.A. # 30209
L.C. # 26000584
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Civil Engineering, Transportation, CEI & Landscape Architecture
NEWKIRK ENGINEERING INC.

UTILITY PLAN
LEGACY POINTE APARTMENTS
LESLIE STREET
FLAGLER BEACH, FL 32136

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CHECKED BY:	HHN
SCALE:	1" = 20'

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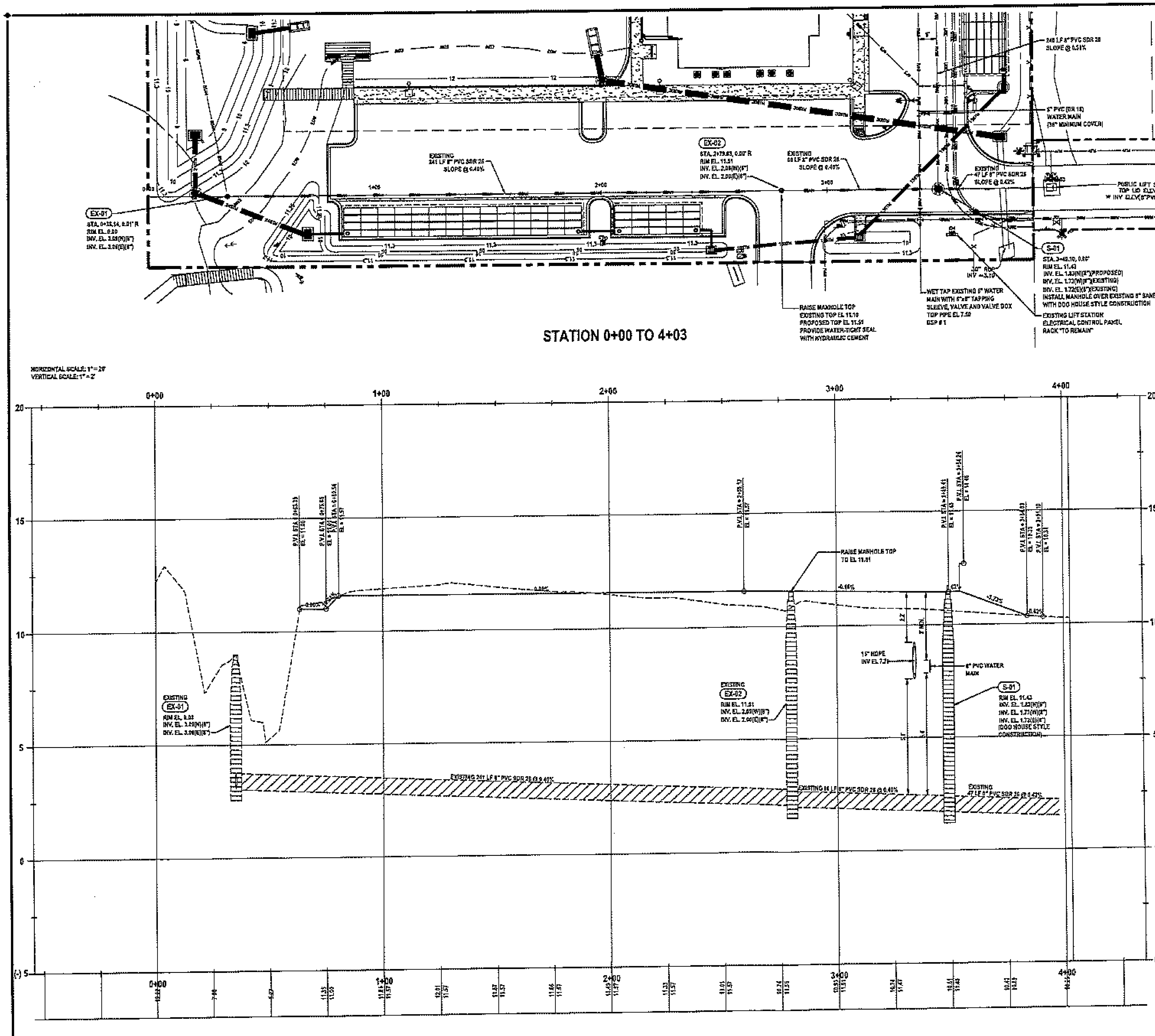
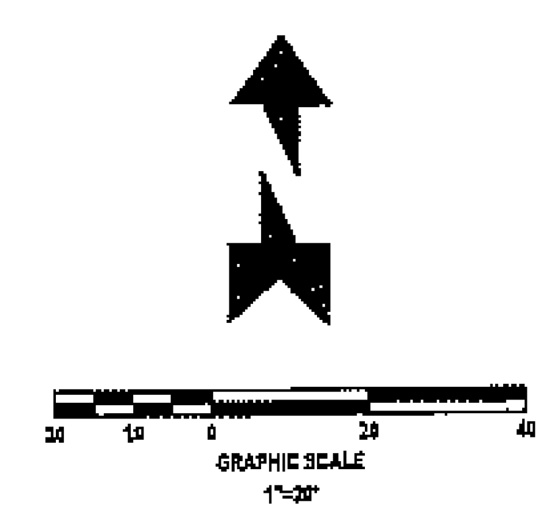
16





UTILITY LEGEND

- PROPOSED 11.25° BEND
- PROPOSED 22.5° BEND
- PROPOSED 45° BEND
- PROPOSED 90° BEND
- PROPOSED TEE
- PROPOSED GATE VALVE
- PROPOSED FIRE HYDRANT ASSEMBLY
- RPZ — REDUCED PRESSURE BACKFLOW PREVENTER
- PROPOSED 6"x4", 4" GATE VALVE, 4" PVC DR-14, 4" DOUBLE DETECTOR CHECK VALVE ASSEMBLY (DDCVA) (PER CITY DETAIL W-45, SHEET No. 22) WITH ATTACHED FIRE DEPARTMENT CONNECTION WITH (2 - 2.5" WYE) STANDARD FDC THREADS (NO LOCKING CAPS) DETAIL SHEET No. 18
- PROPOSED 8"x2" SERVICE SADDLE, 2" CORPORATION STOP, 2" PE 3408 (SDR 9), 2" WATER METER AND 2" RPZ. SEE CITY DETAIL W-3 & W-60 ON SHEET 22.
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED 8" PVC CLASS 150 (DR-18) WATER MAIN (36" MIN. COVER)
- PROPOSED 2" PE 4710 (SDR 9) WATER SERVICE (30" MINIMUM COVER)
- PROPOSED 4" PVC CLASS 200 (DR-14) FIRE SERVICE (36" MIN. COVER)
- PROPOSED 8" PVC SDR 26 SANITARY MAIN SLOPE @ 0.40% MIN.
- PROPOSED 6" PVC SDR 26 SANITARY SERVICE WITH 2.0% MIN. SLOPE
- UNDERGROUND ELECTRICAL CONDUIT (4")
- UNDERGROUND TELEPHONE CONDUIT (4")

WARNING !!
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PLAN AND PROFILE
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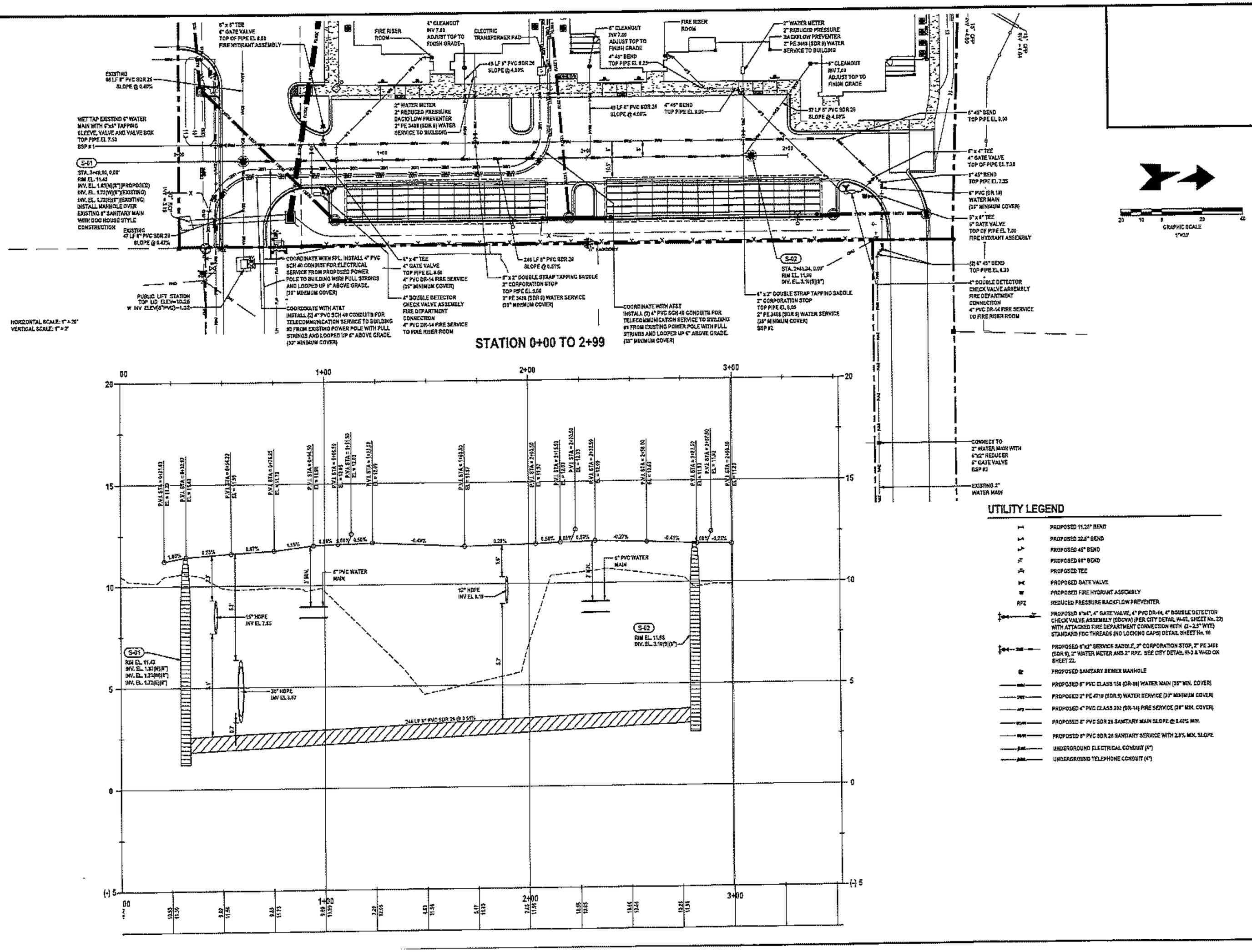
DRAWING NUMBER
17



UTILITY LEGEND

- PROPOSED 11.25° BEND
- PROPOSED 22.5° BEND
- PROPOSED 45° BEND
- PROPOSED 90° BEND
- PROPOSED TEE
- PROPOSED GATE VALVE
- PROPOSED FIRE HYDRANT ASSEMBLY
- RPZ — REDUCED PRESSURE BACKFLOW PREVENTER
- PROPOSED 6"x6", 4" GATE VALVE, 4" PVC DR-14, 4" DOUBLE DETECTOR CHECK VALVE ASSEMBLY (DDCVA) (PER CITY DETAIL W-6E, SHEET No. 22) WITH ATTACHED FIRE DEPARTMENT CONNECTION WITH (2-2.5" NYE) STANDARD FDC THREADS (NO LOCKING CAPS) DETAIL SHEET No. 18
- PROPOSED 6"x2" SERVICE SADDLE, 2" CORPORATION STOP, 2" PE 3408 (SDR 9), 2" WATER METER AND 2" RPZ. SEE CITY DETAIL W-3 & W-6D ON SHEET 22.
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED 6" PVC CLASS 150 (DR-18) WATER MAIN (36" MIN. COVER)
- PROPOSED 2" PE 4710 (SDR 9) WATER SERVICE (30" MINIMUM COVER)
- PROPOSED 4" PVC CLASS 200 (DR-14) FIRE SERVICE (36" MIN. COVER)
- PROPOSED 8" PVC SDR 26 SANITARY MAIN SLOPE @ 0.42% MIN.
- PROPOSED 8" PVC SDR 26 SANITARY SERVICE WITH 2.0% MIN. SLOPE
- UNDERGROUND ELECTRICAL CONDUIT (4")
- UNDERGROUND TELEPHONE CONDUIT (4")

GRAPHIC SCALE
20 10 0 20 40
1"=20'

REVISIONS	
DATE	DESCRIPTION
4/2023	CITY COMMENTS

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LESLIE STREET
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HARRY NEWKIRK LICENSE NO. 62971 STATE OF FLORIDA PROFESSIONAL ENGINEER

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DATE:	FEBRUARY 2023
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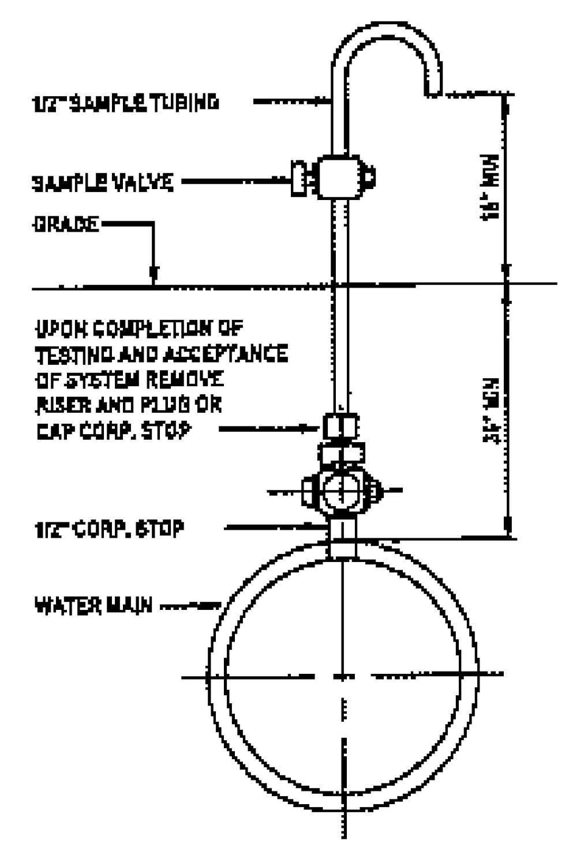
SCALE:	AS SHOWN

DRAWING NUMBER

18

TABLE 1: CLASSES OF EMBEDMENT AND BACKFILL MATERIALS

ASTM D 2321 MATERIAL CLASS	ASTM D 2487 USCS SOIL GROUP	MATERIAL TYPE	% PASSING 1 1/2 IN.	% PASSING NO. 4	% PASSING NO. 200	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI
IA	NONE	MANUFACTURED OPEN GRADED AGGREGATES	100%	≤10%	<5%	NON PLASTIC	
IB	NONE	MANUFACTURED DENSE GRADED AGGREGATES	100%	≤50%	<5%	NON PLASTIC	
II	GW	COARSE-GRAINED SOILS, CLEAN	100%	<50% OF "COARSE FRACTION"	<5%	NON PLASTIC	
	GP						
	SW			>50% OF "COARSE FRACTION"			
	SP						
III	GM	COARSE-GRAINED SOILS W/ FINES	100%	<50% OF "COARSE FRACTION"	12% TO 50%		<4 OR <"A" LINE
	GC						<7 OR >"A" LINE
	SM			>50% OF "COARSE FRACTION"			>4 OR <"A" LINE
	SC						>7 OR >"A" LINE
IV-A	ML	FINE-GRAINED SOILS	100%	100%	>50%	<50	<4 OR <"A" LINE
	CL						>7 OR >"A" LINE

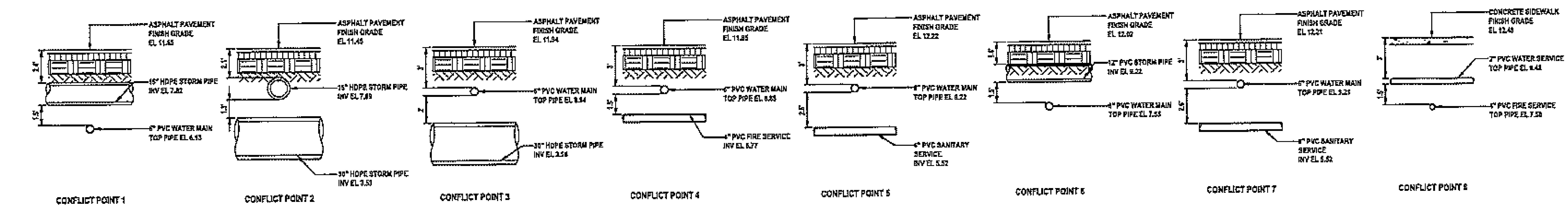


BACTERIOLOGICAL SAMPLE POINT DETAIL
NOT TO SCALE

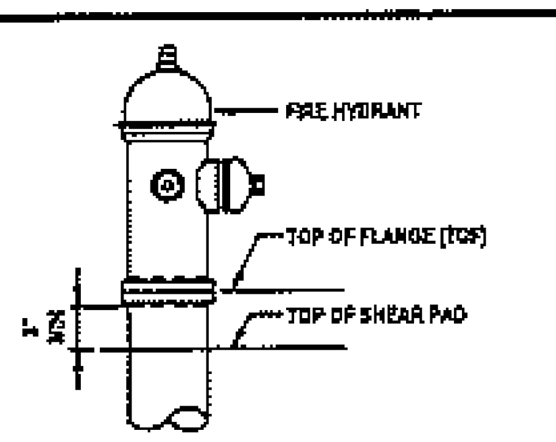
LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING AT CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER (2)	WATER MAIN; 3 FT MINIMUM	WATER MAIN; 12 INCHES IS THE MINIMUM EXCEPT FOR STORM SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED	ALTERNATE 3 FT MINIMUM; WATER MAIN
VACUUM SANITARY SEWER	WATER MAIN; 10 FT PREFERRED 3 FT MINIMUM	WATER MAIN; 12 INCHES PREFERRED 6 INCHES MINIMUM	ALTERNATE 3 FT MINIMUM; WATER MAIN
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY SEWER FORCE MAIN, RECLAIMED WATER (4)	WATER MAIN; 10 FT PREFERRED 6 FT MINIMUM (3)	WATER MAIN; 12 INCHES IS THE MINIMUM EXCEPT FOR STORM SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED	ALTERNATE 6 FT MINIMUM; WATER MAIN
ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM	10 FT MINIMUM (3)	—	—

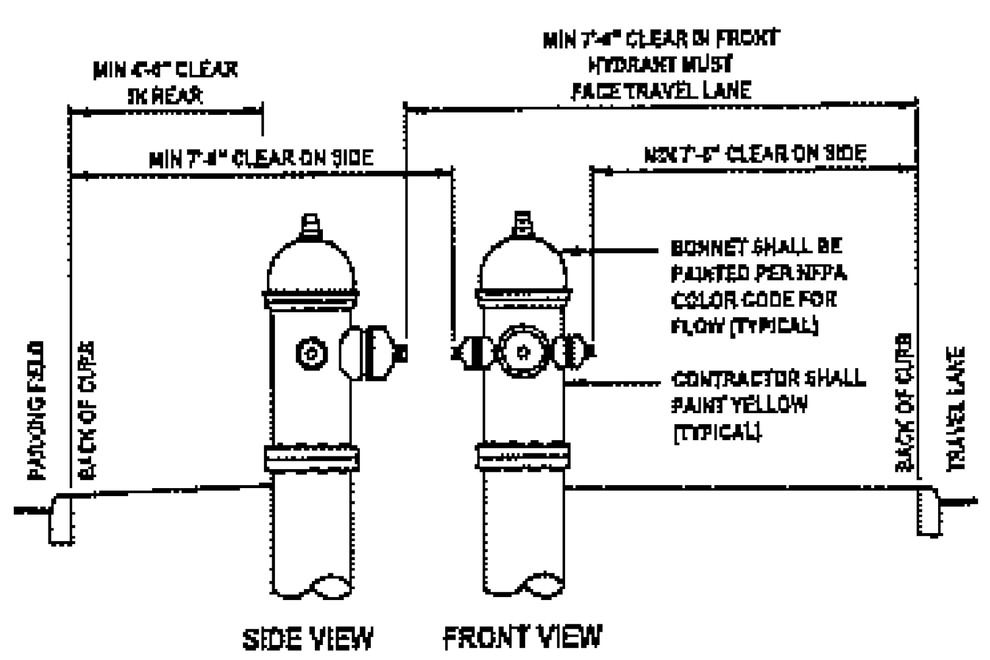
(1) WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
(2) RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
(3) 3 FT FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
(4) RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.



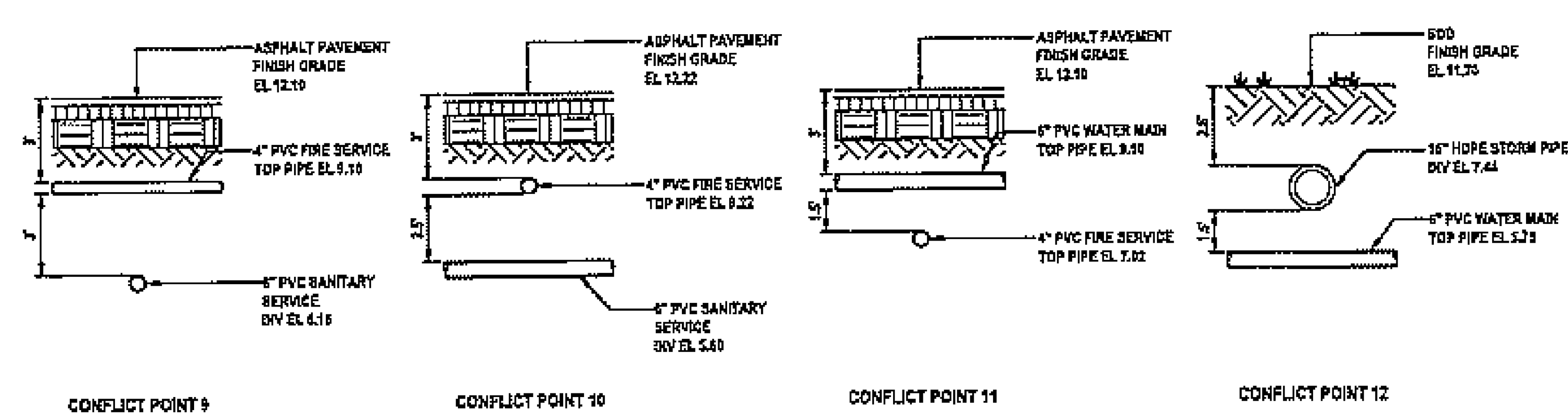
UTILITY CONFLICT DETAIL
NOT TO SCALE



TOP OF FLANGE REFERENCE POINT DETAIL
NOT TO SCALE



TYPICAL FIRE HYDRANT CLEARANCE REQUIREMENT
NOT TO SCALE



UTILITY CONFLICT DETAIL
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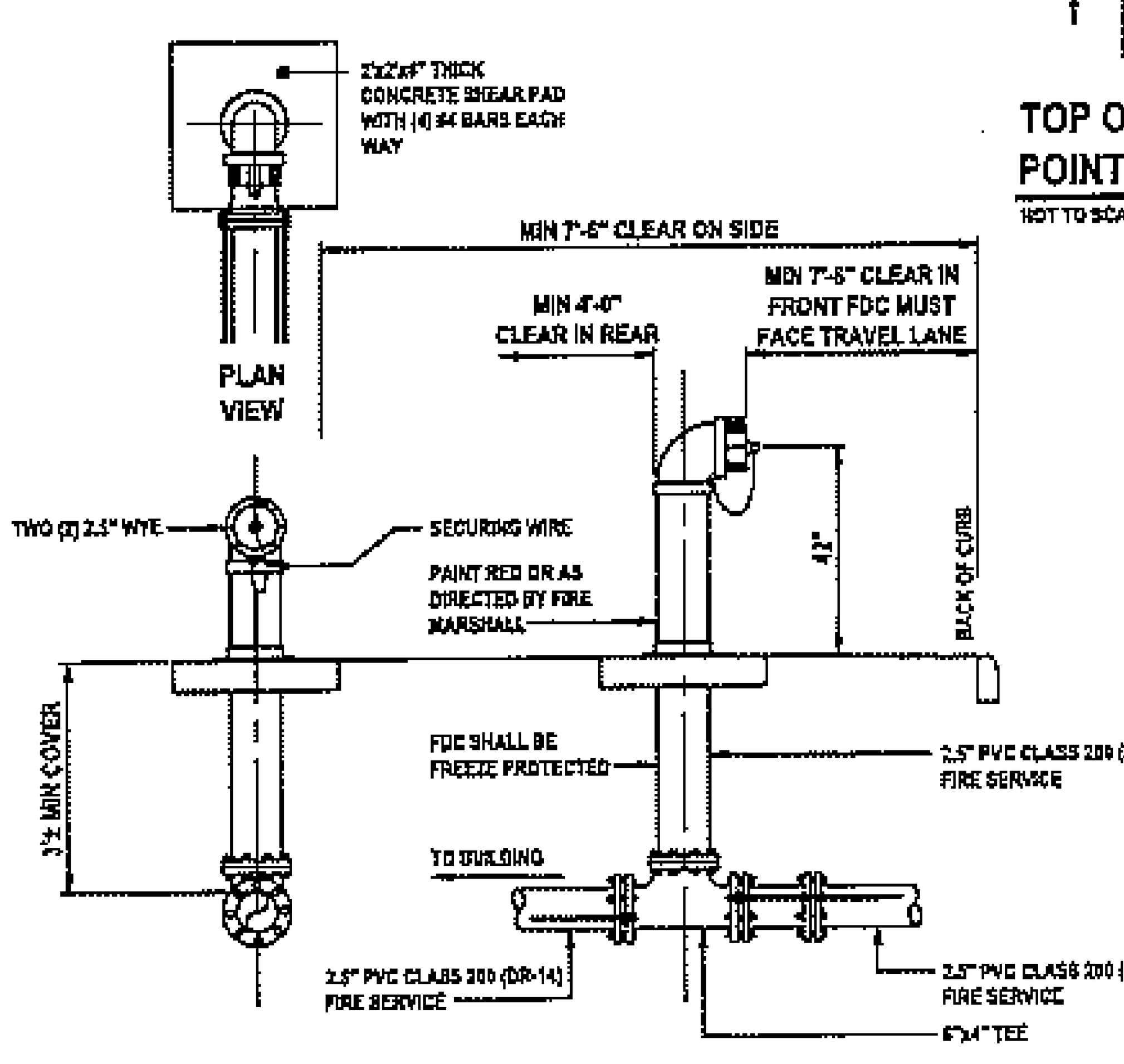
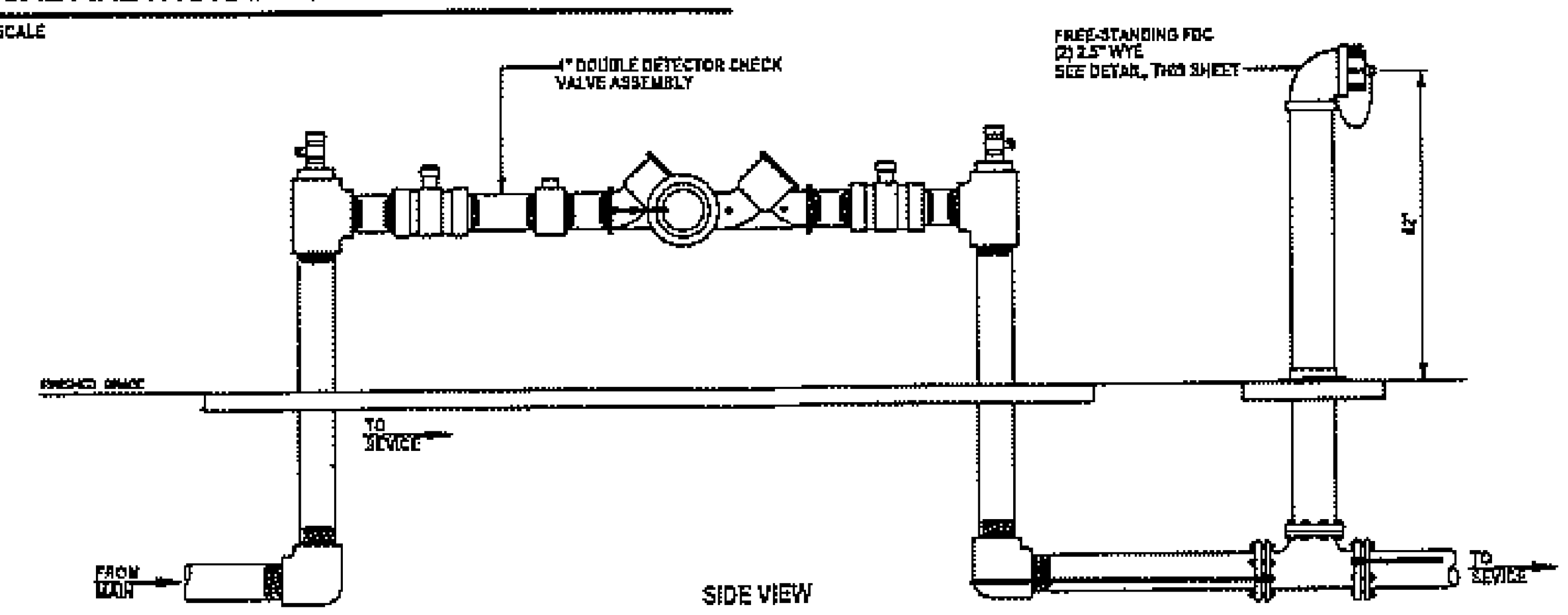


FDC (FREE STANDING) DETAIL
NOT TO SCALE



DDC TO FDC DETAIL
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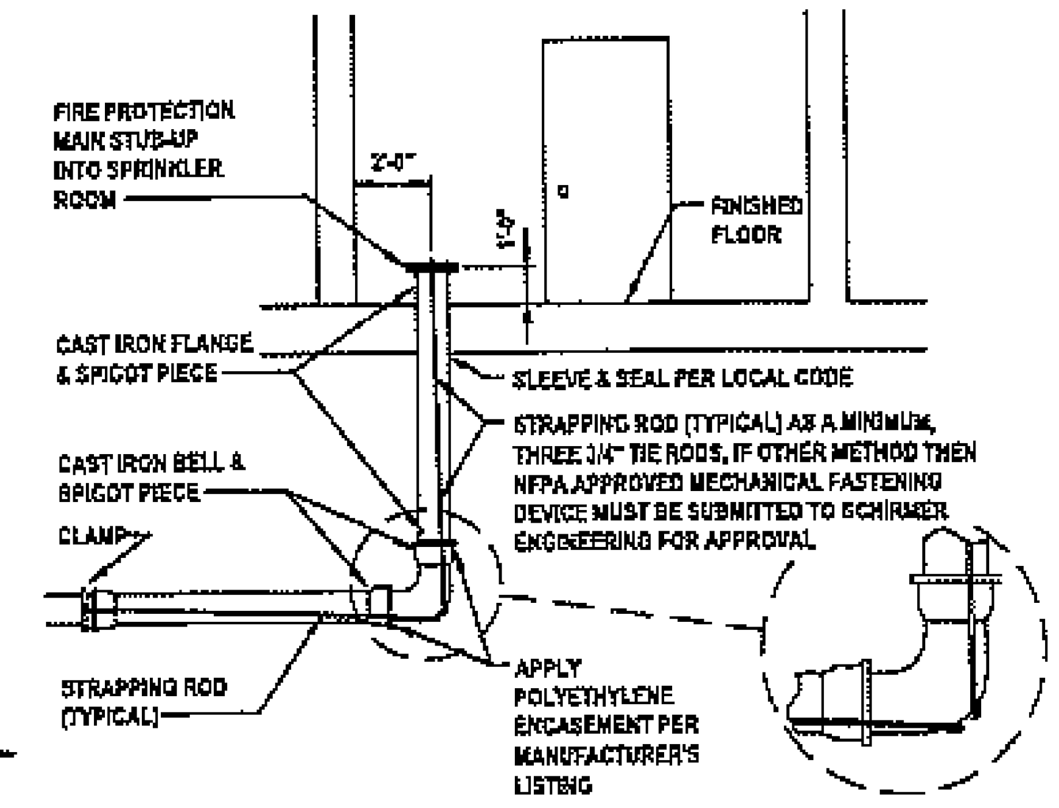

UNDERGROUND RESTRAINT DETAIL
NOT TO SCALE

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DATE	DESCRIPTION
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UTILITY DETAILS AND NOTES
LEGACY POINTE APARTMENTS
LESLIE STREET
FLAGLER BEACH, FL 32136

PROJECT No:	2023-17
DATE:	FEBRUARY 2023
DESIGN BY:	HHN
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STANDARD CONSTRUCTION DETAIL
REQUIREMENTS FOR "AS-BUILT" DRAWINGS
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STANDARD CONSTRUCTION DETAIL
REQUIREMENTS FOR AS BUILT DRAWINGS
INDEX M-1B

STANDARD CONSTRUCTION DETAIL
GENERAL CONSTRUCTION NOTES
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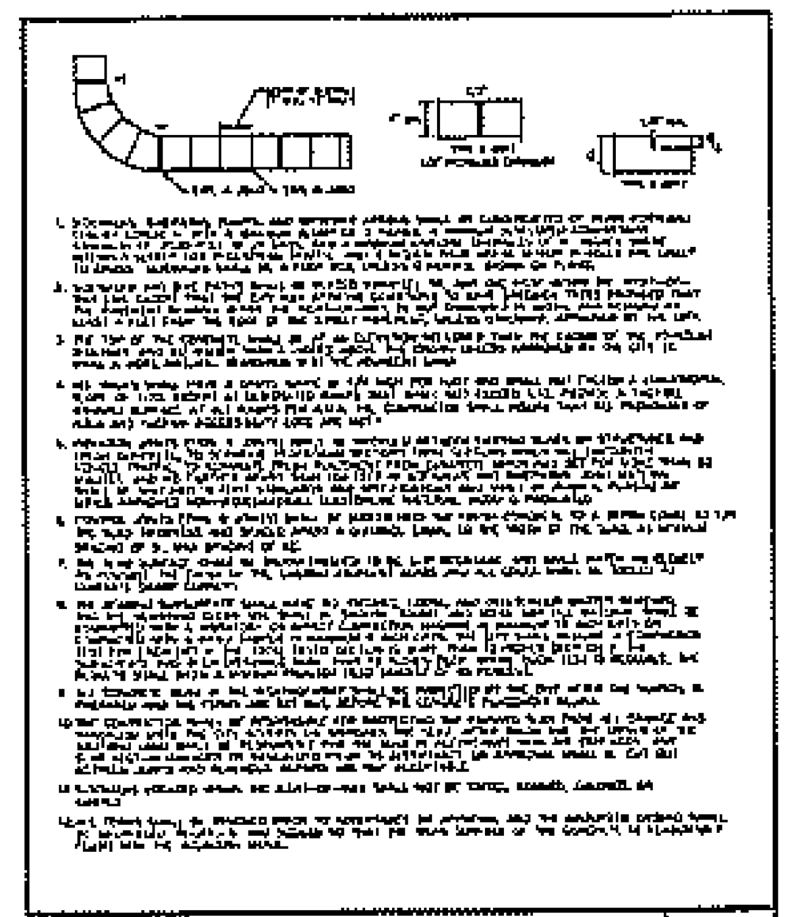

STANDARD CONSTRUCTION DETAIL
SIDEWALK, RAMP, AND DRIVEWAY APRON CONSTRUCTION REQUIREMENTS
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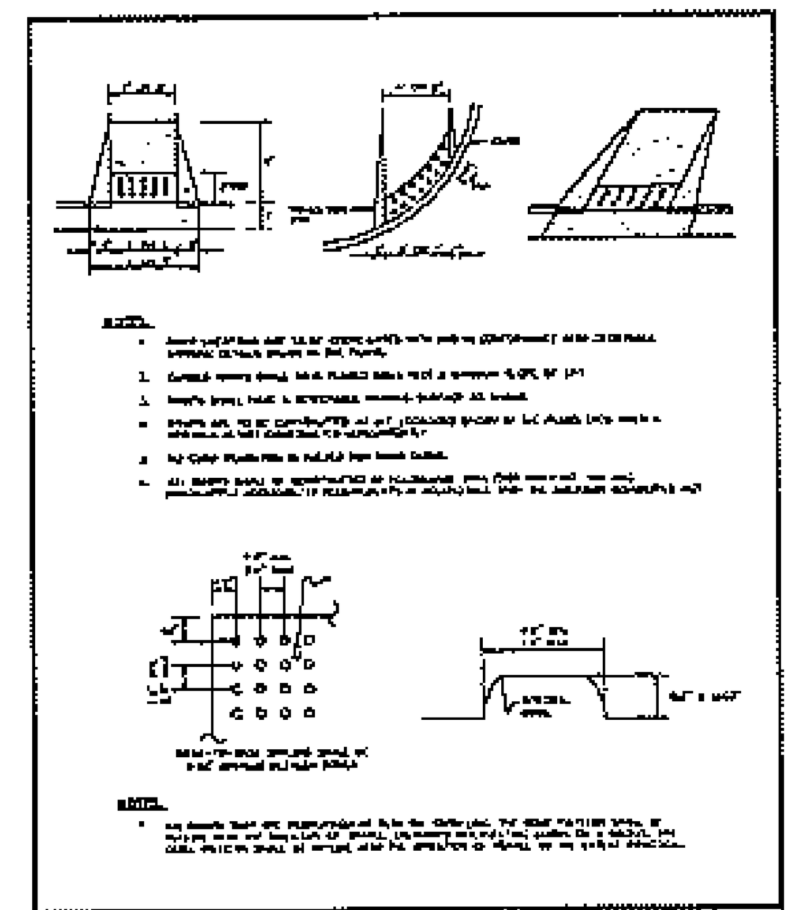

STANDARD CONSTRUCTION DETAIL
SIDEWALK AND BIKE PATH RAMP
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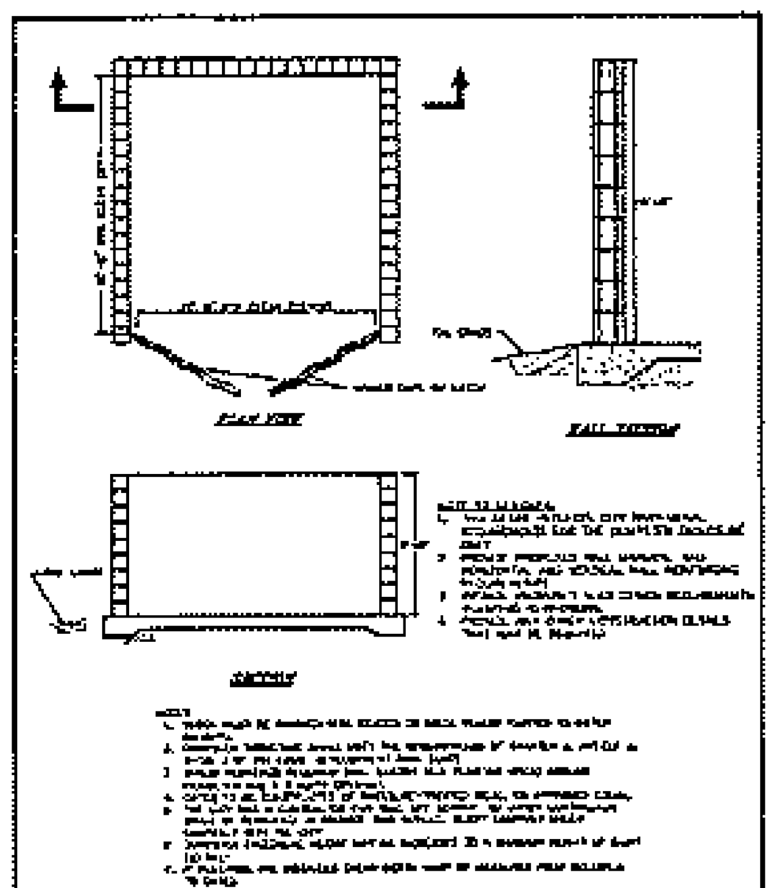

STANDARD CONSTRUCTION DETAIL
SINGLE USE DUMPSTER ENCLOSURE
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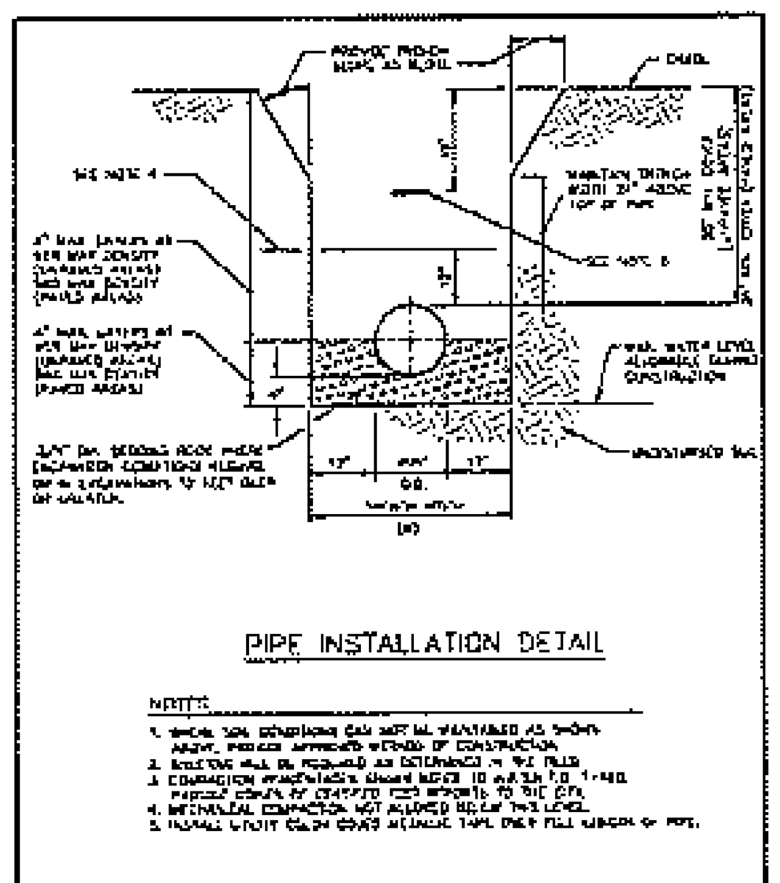
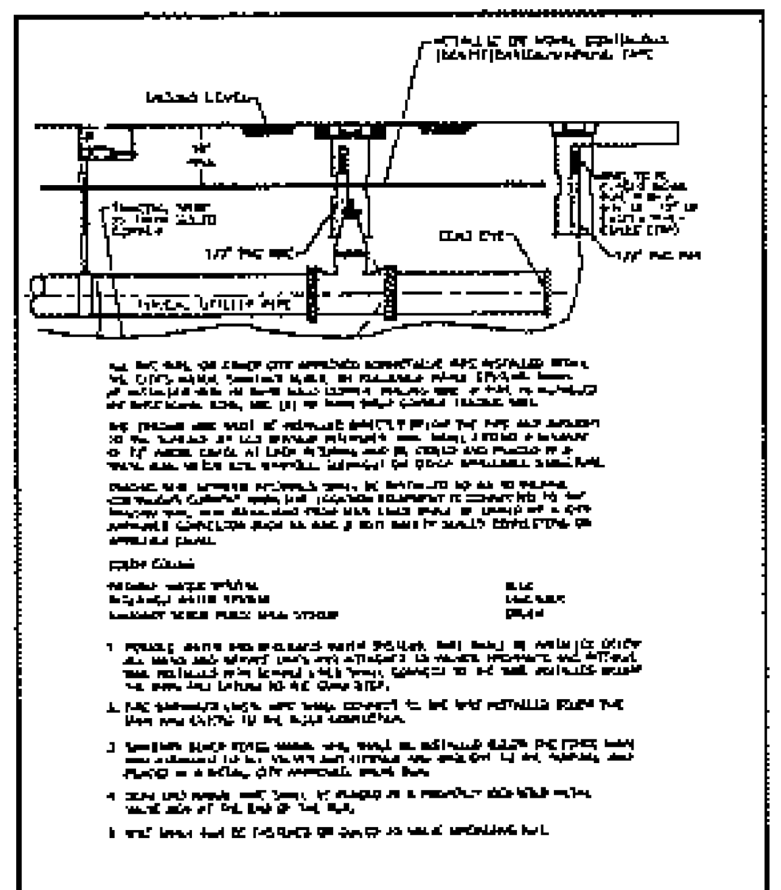


PIPE INSTALLATION DETAIL

STANDARD CONSTRUCTION DETAIL
PIPE INSTALLATION
INDEX M-3



STANDARD CONSTRUCTION DETAIL
UTILITY PIPE LOCATION MATERIALS
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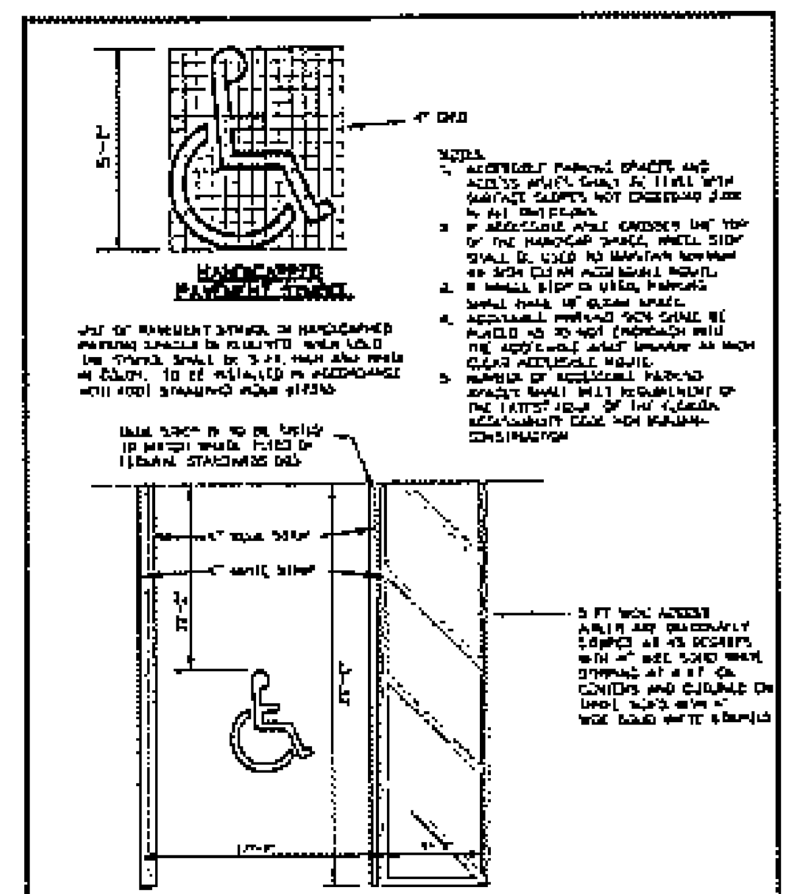

STANDARD CONSTRUCTION DETAIL
TYPICAL MARKINGS FOR HANDICAPPED PARKING
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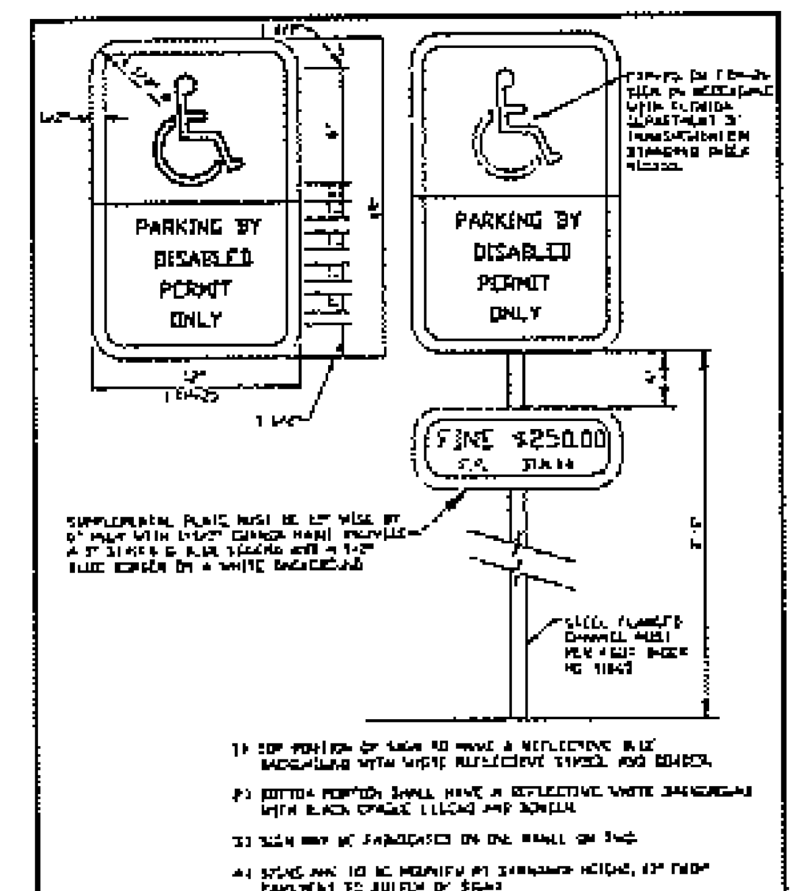

STANDARD CONSTRUCTION DETAIL
HANDICAP PARKING SIGN DETAIL
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ROADWAY CONSTRUCTION NOTES

STANDARD CONSTRUCTION DETAIL
ROADWAY CONSTRUCTION NOTES
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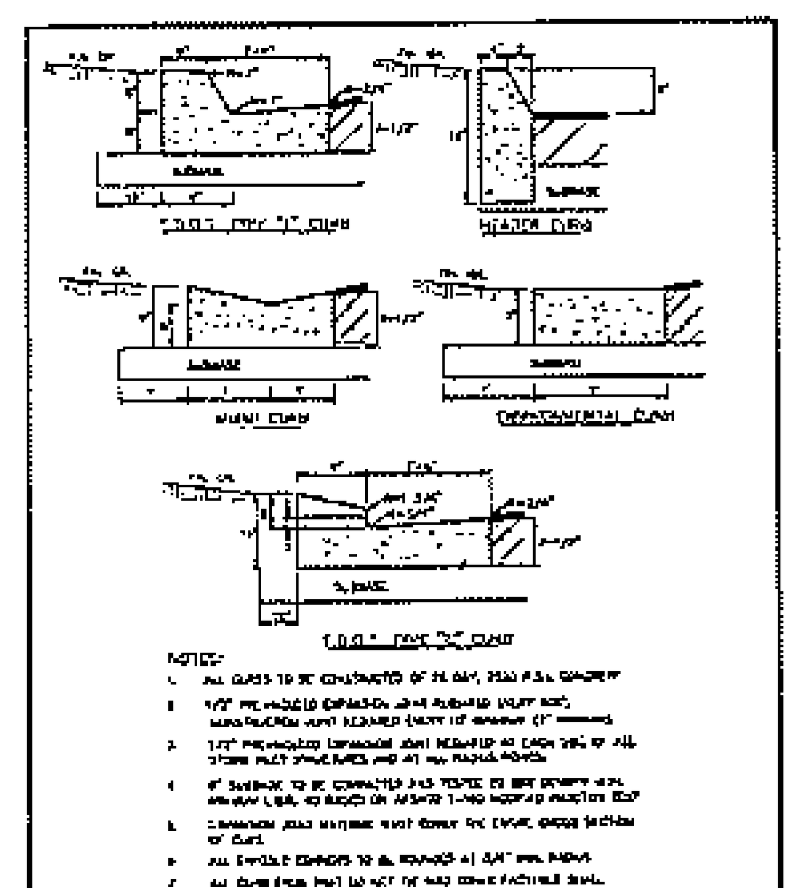
STANDARD CONSTRUCTION DETAIL
ROADWAY CONSTRUCTION NOTES
INDEX R-1B

STANDARD CONSTRUCTION DETAIL
ROADWAY CONSTRUCTION NOTES
INDEX R-1C



STANDARD CONSTRUCTION DETAIL
STANDARD CURB CONSTRUCTION
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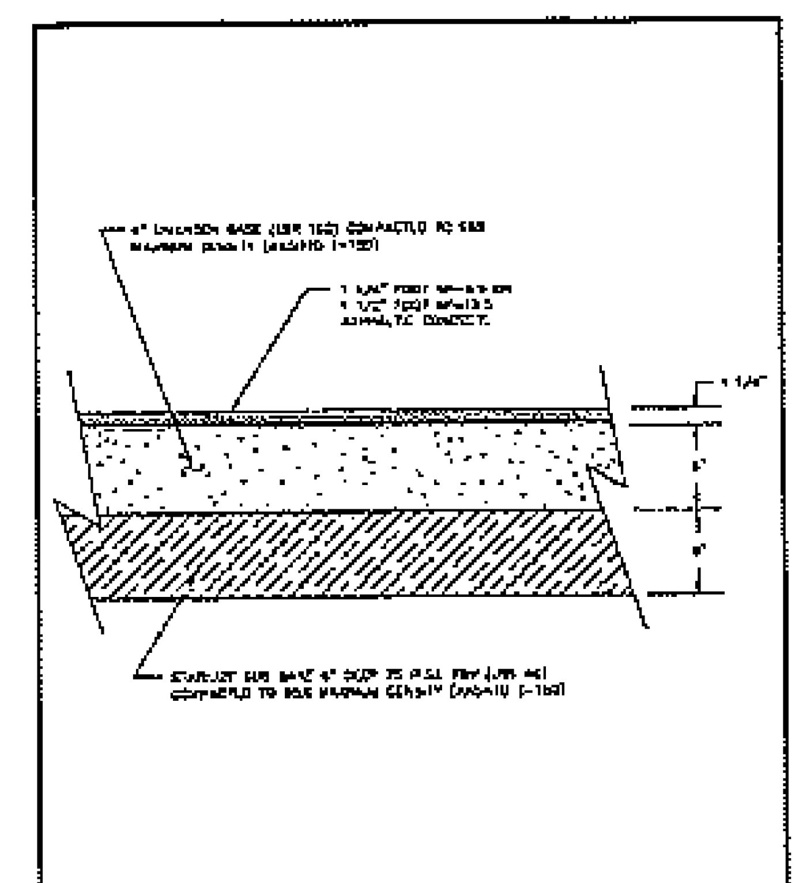

STANDARD CONSTRUCTION DETAIL
STANDARD PAVING DETAIL
INDEX R-5

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CITY OF FLAGLER BEACH
UTILITY DETAILS
LEGACY POINTE APARTMENTS
LESLIE STREET
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THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY HARRY NEWKIRK, PE # 62971 ON

HARRY NEWKIRK, LICENSE NO. 62971, STATE OF FLORIDA, PROFESSIONAL ENGINEER

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20

ROADWAY COMPACTION AND DENSITY TESTING REQUIREMENTS

ITEM	TEST	FREQUENCY	STANDARD	TEST METHOD
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[illegible]	[illegible]	[illegible]	[illegible]	

STANDARD CONSTRUCTION DETAIL
TECHNICAL SPECIFICATIONS FOR TESTING REQUIREMENTS
INDEX R-6A

PIPED UTILITY INSTALLATION REQUIREMENTS

ITEM	TEST	FREQUENCY	STANDARD	TEST METHOD
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

STANDARD CONSTRUCTION DETAIL
TECHNICAL SPECIFICATIONS FOR TESTING REQUIREMENTS
INDEX R-6B

A. SCOPE OF WORK – The work in this section consists of furnishing and placing sod, temporary seed and mulch only the limits called for on the construction drawings.

B. MATERIALS – GRASS SOD SHALL BE A VARIETY OF:

FLORATAM (ST. AUGUSTINE)	60 LBS/ACRE
HULLED BERMUDA	20 LBS/ACRE
ARGENTINE BAHIA	20 LBS/ACRE

IN THE FALL AND WINTER MONTHS (OCT. THRU FEB.) AND WITH THE APPROVAL OF THE CITY, ANNUAL RYE GRASS SHALL BE SUBSTITUTED IN EQUAL AMOUNTS FOR THE BAHIA TOP MULCH. SEED SHALL BE PLANTED BY A SOD CONTRACTOR OR OTHER PROFESSIONAL EXPERIENCED WORK, WITH CERTIFICATION FROM THE CONTRACTOR PERFORMED TO THE CITY PRIOR TO USE. SHARP STEEL KNIFE IS REQUIRED FOR CUTTING SOD. SOD SHALL BE LAID WITH STAGGERED JOINTS AND FIRMLY TAMPED OR ROLLED TO ENSURE GOOD CONTACT OF ROOTS WITH SOIL. SOD SHALL BE WATERED IMMEDIATELY AFTER PLANTING TO A DEPTH OF 4" BELOW THE BOTTOM OF THE SOD. AFTER INSTALLATION, SOD SHALL BE PROTECTED FROM TRAFFIC AND OTHER USE UNTIL ESTABLISHED. SOD SHALL BE REPLACED IMMEDIATELY IF DAMAGED BY FAILURE TO WATER, MOW, OR ALLOW EXCESSIVE WEED AND INSECT UNDESIRABLE GROWTH.

C. METHODS – Sodded areas shall be cared immediately upon completion of the work. Care and maintenance shall include watering, mowing, weeding and treatment for insects, as usually will the rate of spread for the sod. Watering shall be done evenly and thoroughly during the growing season. Mowing shall be performed periodically during the growing season immediately after sodding to a height of 2 1/2" inches. Weeds, insects, or other undesirable growth shall be controlled by the use of approved herbicides and insecticides applied in accordance with the manufacturer's recommendations. Any sod damaged by insects or disease shall be replaced promptly by the sodder.

D. TURF LIFT – A minimum of 95% coverage of the sodded areas (approximately 1 sod square per 1000 square feet) is required. The sodded area shall be cut and trimmed around the inlets, curbs, manholes, or valves and shall be free of weeds, grass, and other undesirable growth.

E. FERTILIZER – 1. Analysis of soils shall be obtained by submittal of samples to Volusia County. All application rates will be based on this report. Submit a copy of this report to the City prior to commencing any sod application.

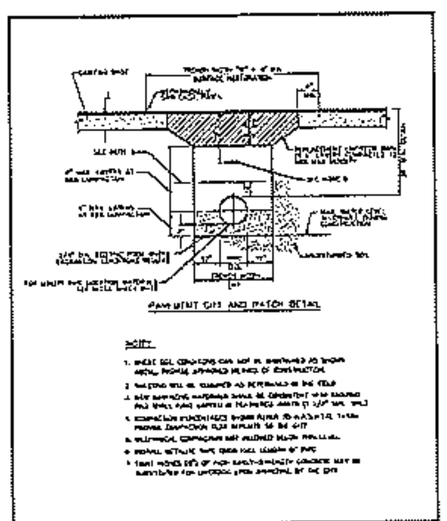
2. The fertilizer shall be a commercial granular type with a chemical composition as recommended in the soils analysis report.

3. The manufacturer recommendations for fertilizer indicate the minimum percentages (measured by dry weight) of (1) total nitrogen, (2) available phosphoric acid and (3) water soluble potash contained in the fertilizer.
   a) At least 30 percent (30%) of the phosphoric acid shall be from a neutral citrate insoluble source. Sodder shall not provide a material of two units or less.
   b) The amount of fertilizer shall be based on the quantities specified and applied at each application.

4. Commercial fertilizers shall comply with the State Fertilizer Law.

5. Lime may, at the discretion of the Engineer/Architect, upon the recommendation by the manufacturer of fertilizer, be applied in liquid form.

STANDARD CONSTRUCTION DETAIL
SEEDING AND MULCHING
INDEX R-7



NOTES:
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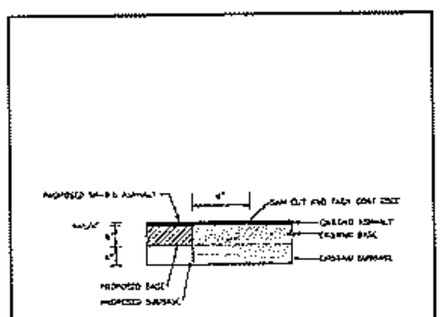
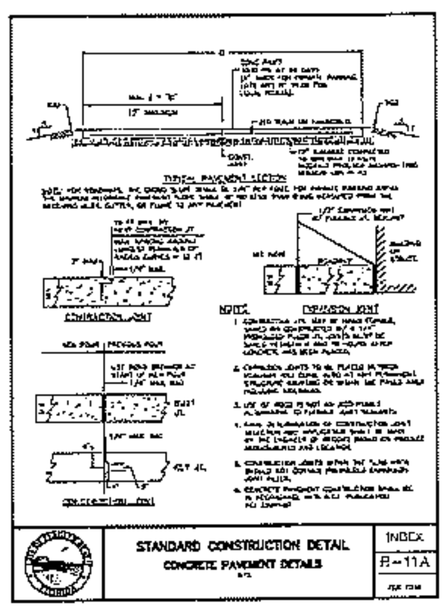
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]
6. [illegible]
7. [illegible]

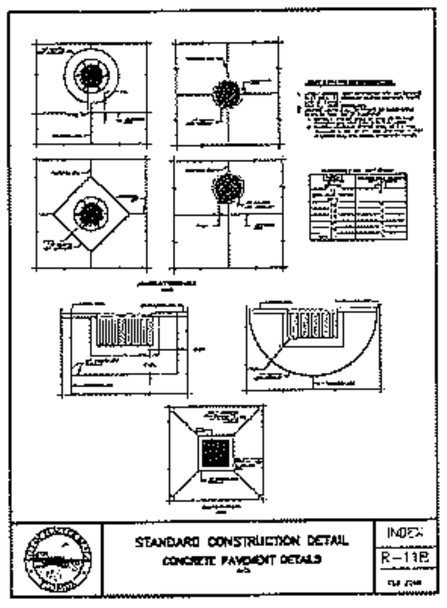
STANDARD CONSTRUCTION DETAIL
PAVEMENT CUT AND PATCH
N.T.S.
INDEX R-8



STANDARD CONSTRUCTION DETAIL
PAVEMENT BUTT JOINT
N.T.S.
INDEX R-9



STANDARD CONSTRUCTION DETAIL
CONCRETE PAVEMENT DETAILS
N.T.S.
INDEX R-11A



STANDARD CONSTRUCTION DETAIL
CONCRETE PAVEMENT DETAILS
N.T.S.
INDEX R-11B

SANITARY SEWER CONSTRUCTION GENERAL NOTES

1. THE CITY SHALL BE NOTIFIED PRIOR TO BEGINNING ANY SEWER CONSTRUCTION.
2. ALL GRAVITY SANITARY SEWER LINES SHALL BE A MINIMUM OF 8" IN DIAMETER (UNLESS OTHERWISE SHALL BE A MINIMUM OF 4" DIAMETER (RESIDENTIAL) OR A MINIMUM OF 6" DIAMETER (COMMERCIAL).
3. ALL SANITARY SEWER LINES SHALL BE AND RUN IN A STRAIGHT LINE BETWEEN MANHOLES. CURVED SANITARY SEWER LINES WILL NOT BE PERMITTED.
4. MINIMUM ALLOWABLE SANITARY SEWER SLOPES ALLOWED ARE:
   8" PVC @ 0.40%
   10" PVC @ 0.32%
   12" PVC @ 0.25%
5. SEWER LINE CONSTRUCTION SHALL BE ACCOMPLISHED BY THE USE OF A LASER INSTRUMENT.
6. THE CONTRACTOR SHALL AT ALL TIMES, DURING PIPE LAYING, EXERCISE DUE DILIGENCE TO KEEP THE EXCAVATION FREE OF WATER. THE CONTRACTOR SHALL NOT CEASE TO KEEP THE EXCAVATION FREE OF WATER UNTIL THE PIPE HAS BEEN LAID WITHIN THE LIMITS OF THE TRENCH.
7. ALL PIPE'S SHALL BE LAID ON A PIPE FOUNDATION THAT IS WITHOUT BEDDING FOR PIPES WILL NOT BE ACCEPTED. ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH A CLEAN, COMPACTED GRANULAR MATERIAL SATISFACTORY TO THE CITY.
8. TRENCHES SHALL BE BACKFILLED WITH CLEAN GRANULAR MATERIAL IN MAX 12" LIFTS WITH A MINIMUM COMPACTION OF 98 PERCENT (ASSHTO-T180) OR MORE UNDER AND 95 PERCENT IN UNPAVED AREAS.
9. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT TRENCH COMPACTION TESTS ARE PERFORMED AT POINTS 1' (ONE) ABOVE THE PIPE AND ALL 2 FEET VERTICAL INCREMENTS TO GROUND SURFACE, AT A MINIMUM SPACING OF EVERY 300 LF, AND TO FURNISH COPIES OF TEST REPORTS PROMPTLY TO THE CITY.
10. EXCAVATION AND BACKFILL: THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING AND BRACING OF EXCAVATION WORK ON SITE SO TO KEEP WORK IN CREATE IN PROTECT FOR THE SAFETY OF WORKERS AS WELL AS REPRESENTATIVES OF THE CITY, THE OWNER AND THE ENGINEER.
11. THE CONTRACTOR SHALL INSTALL A NOTCHED PIPE LOCATOR WIRE, OR SIMILAR METHOD, AS WILL BE APPROVED BY THE CITY FOR THE FULL LENGTH OF ALL PVC SERVICE LATERALS WHERE AND STRAIGHT TRACK WILL THAT PIPE LOCATOR MAY BE USED. ALL MATERIALS (TAPE, MARKER, ETC.) SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF ANY MATERIALS THAT ARE DAMAGED DURING CONSTRUCTION. PIPE LOCATOR WIRE SHALL BE TERMINATED AT EACH MANHOLE AND CLEANOUT LOCATION WITHIN A DETAIL (SPECIFIED ABOVE) SHOWN ON THE PLANS.
12. MANHOLES SHALL BE LOCATED AT INTERVALS NOT EXCEEDING 400 FEET.
13. MANHOLE RIMS SHALL MATCH FINISH WITH THE FINISH GRADE ELEVATION IN PAVED AREAS AND A MINIMUM OF 0.5' ABOVE GRADE IN UNPAVED AREAS.

STANDARD CONSTRUCTION DETAIL
GENERAL NOTES
SANITARY SEWER CONSTRUCTION
INDEX S-1A

SANITARY SEWER CONSTRUCTION GENERAL NOTES

14. THE CONTRACTOR SHALL CONSTRUCT SANITARY SEWER MANHOLES IN SUCH A WAY THAT WHEN LAID ON SAT INTERVALS SCALED WITH ARROW DETAILS SECTIONS OF ANY MANHOLE SHALL NOT BE LESS THAN 4' IN DIAMETER.
15. NUMBER BOLTS AND STAINLESS STEEL BANDS SHALL BE UTILIZED IN THE CONNECTIONS OF THE SEWER MAIN TO THE MANHOLES (SEE RUBBER BOOT AND PRECAST JOINT CONNECTOR DETAIL).
16. DROPSHOE TYPE MANHOLES ARE NOT PERMITTED WITHIN THE CITY.
17. INDIVIDUAL SANITARY SEWER CONNECTIONS ON NEW CONSTRUCTION SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES, BUT SHALL BE MADE WITH A WYE OR TEE CONNECTION.
18. FOR SINGLE FAMILY HOMES, SINGLE FOUR INCH SEWER SERVICES SHALL BE CONSTRUCTED AT LOCATIONS OF UNITS AND LOCATED ON THE DOWNSTREAM SIDE OF THE PROPERTY LINE. WITH A PVC SWEEP AND RISER BEING FULLY INSTALLED FROM THE MAIN TO THE PROPERTY LINE. WITH A PVC SWEEP AND RISER BEING FULLY INSTALLED FROM THE MAIN TO WITHIN 18" OF THE FINISH GRADE. FITTINGS TO BE USED ON ALL SAND, LAND SHALL BE ACCEPTABLE.
19. FOR MULTI-FAMILY AND COMMERCIAL SITES, SIX INCH MINIMUM SEWER SERVICES AND CLEANOUTS SHALL BE REQUIRED AS APPROVED BY THE CITY.
20. MINIMUM SEWER LATERAL LENGTH SHALL BE 75 FEET, MEASURED FROM THE SEWER MAIN TO THE RIGHT-OF-WAY LINE MAY BE APPROVED ON A CASE BY CASE BASIS. SUCH VARIANCE SHALL BE GIVEN ONLY ON 6-INCH PIPE.
21. SANITARY SEWER MANHOLES SHALL NOT BE CONSTRUCTED WHERE GROUNDWATER DIRECTLY INTO THEIR CONSTRUCTION. WHEN SUCH FILL IS ALLOWED, SHALL BE APPROVED BY THE CITY. CONSTRUCTION SHALL BE CATEGORIZED A TEST ALONG LOCATIONS AS PER CONVENTIONS SUCH AS THIS ARE SAND, LAND SHALL BE ACCEPTABLE WHEN PERFORMED WITH THE APPROVAL OF THE CITY.
22. ALL CLEAN WATER FROM 10 HOUSEHOLDS OR THE CITY SHALL BE INTERCEPTED BY A NON-TRADE COMPANY THAT IS REGULATED BY THE CITY. THE CITY SHALL BE NOTIFIED BY A NON-STOP WITH AUDIO RECORDING WHEN IT IS DONE. THE CITY SHALL BE NOTIFIED WHEN THE CONNECTION OR DISCHARGE OF THE LINES SHALL COMMENCE. THE END MANHOLES IN THE CITY.
23. CONTRACTORS SHALL BE RESPONSIBLE TO REMOVE ALL SEWER DEBRIS AND LATERAL LINES IN THE PRESENCE OF THE CITY AND PROVIDE TWO COPIES OF THE AS-BUILT WITH CERTIFIED LOCATION TO THE CITY. ANY DEFICIENCY NOTED SHALL BE CORRECTED PRIOR TO ACCEPTANCE BY THE CITY.

STANDARD CONSTRUCTION DETAIL
GENERAL NOTES
SANITARY SEWER CONSTRUCTION
INDEX S-1B

SANITARY SEWER CONSTRUCTION GENERAL NOTES

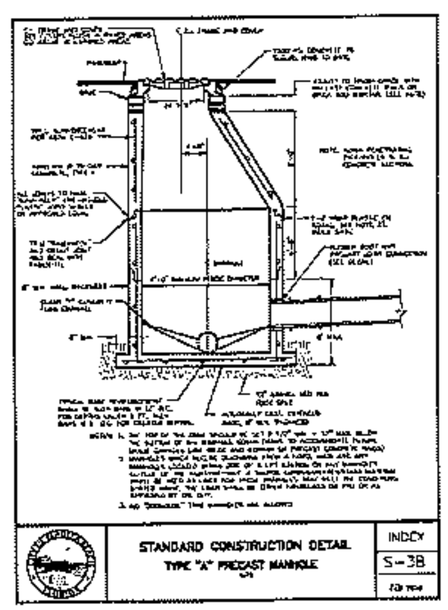
24. ALL MANHOLES CONSTRUCTED IN SIDE TAPERS, BENCHINGS, AND CHANNELS BY THE MONTHLY MAY SHALL BE CONSTRUCTED WITH CHANNELLESS LINERS FOR SMOOTH FLOW OF SEWERS. ALL CONSTRUCTION APPROVED BY THE CITY OR VERSION AND CITY MAY REQUIRE LINERS TO BE REMOVED TO BE INSTALLED ON OTHER SIDES WHERE THE PUBLIC UTILITY DEPARTMENT DETERMINES THE NEED IS AGREED.
25. ALL SEWER LINES WHERE ANY CONSTRUCTION ONLY MUCKS SHOULD BE CLEAN OF ALL FLOWING, SUBSTANCES, AND OTHER FOREIGN MATERIALS. ALL SEWERS SHALL BE CONSTRUCTED OF CLEANED PIPE OR LIGHT LOAD CLEANS MAIN SHALL BE INSTALLED = NO LESS TO PASSING THROUGH THE MAIN.
26. SLANT LATERAL LOCATIONS SHALL BE MARKED ALONG THE OUTSIDE OF THE SEWER WITH A SAW CUT TO THE APT IN RELATIVE TO THE PROPERTY.
27. ALL MANHOLE SHALL BE MANUFACTURED BY PRECAST SEWER CONTRACTOR OR APPROVED EQUAL. SHALL BE LOAD ON THE BOTTOM OF ALL MANHOLES AND NOT WELL-SEATS. WHERE DOG LATERS OF 8" WERE CENTERED ON EACH JOINT IN THE CITY SHALL PERIODICALLY TEST WHERE ALL JOINT SEALS MEET THE REQUIREMENTS.
28. ALL MANHOLE TESTS SHALL BE OR GREATER, SHALL BE FLUSHED AND CLEANED WITH A MINIMUM OF 24 HOURS BETWEEN THE LAYING OF THE MANHOLE AND THE TESTING.
29. ALL SEWER MAINS SHALL HAVE A MINIMUM COVER OF 24 INCHES AND A MAXIMUM DEPTH OF 12' TO MEET MINIMUM OR METHODS. THE MAXIMUM DEPTH IS PERMISSIBLE ON RECOMMENDATION TO UNDERGO HEAVIEST STRIP SHALL HAVE PIPE CLASS 200 OR EQUIVALENT CONCRETE ENCASEMENT MAY BE USED AS APPROVED BY THE CITY.
30. SEWER SYSTEMS SHALL BE PRESSURE TESTED AT NOT LESS THAN 5 PSI STATIC PRESSURE FOR A PERIOD OF 2 HOURS WITH A MAXIMUM ALLOWABLE LEAKAGE OF 0.004 GPH PER INCH DIAMETER PER 100 FEET OF PIPE. APPROVED BY THE CITY.
31. DURING CONSTRUCTION, CONTRACTOR SHALL ADJUST HIS CONSTRUCTION SCHEDULE TO ELIMINATE FROM EXISTING SANITARY SEWER FACILITIES TO THE MINIMUM EXTENT BY INSTALLATION OF A BLANKED NEOPRENE PLUGGED AT POINT OF CONNECTION IN THE EXISTING SYSTEM. THE REMOVAL OF THE PLUG SHALL BE DONE IN THE PRESENCE OF THE CITY. ANY DEBRIS FOUND IN THE SANITARY SEWER SYSTEM SHALL BE REMOVED PRIOR TO THE BLANKED BEING REMOVED. DAMAGE WHICH SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

FORCE MAIN & HOUSE MAIN STANDARDS

DIAMETER	MATERIAL	STANDARD
1" – 4"	PVC 1120 / DUR 21	ASTM D 2241
6" & 10"	PVC 1120 / CLASS 150	AWWA C 900
12" – 24"	PVC 1120	AWWA C 905
30" – 36"	HDPE (DR9) PE 3408	ASTM F 714
ALL SIZES	HDPE (DR9) PE 3408	ASTM F 714

NOTE: SAW AND COLOR SHALL BE GREEN IN WHITE FOR SEWER FORCE MAIN, AND PURPLE FOR RECLAIMED.

STANDARD CONSTRUCTION DETAIL
GENERAL NOTES
SANITARY SEWER CONSTRUCTION
INDEX S-1C



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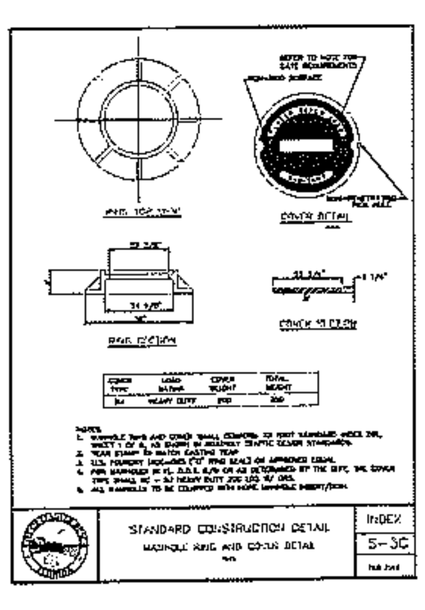

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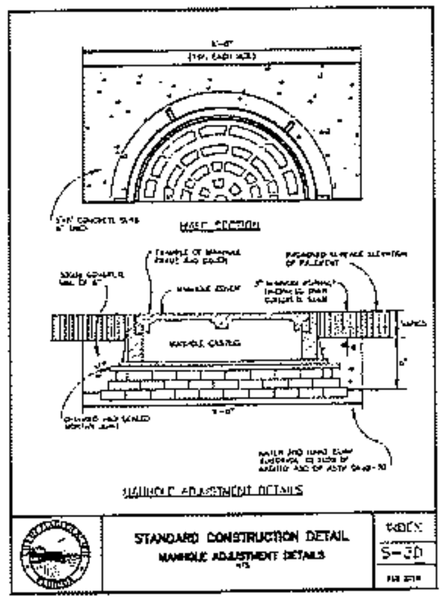

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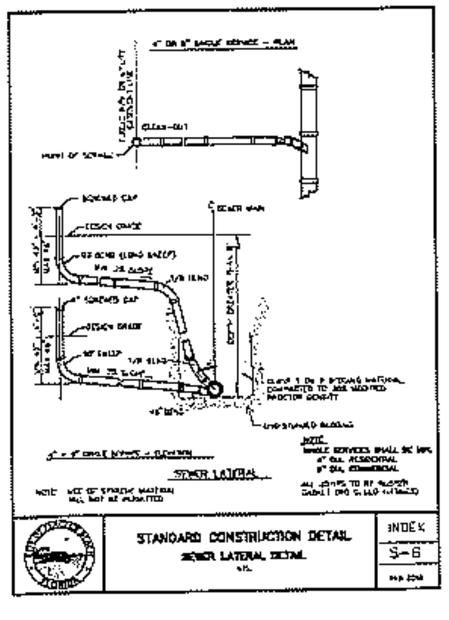

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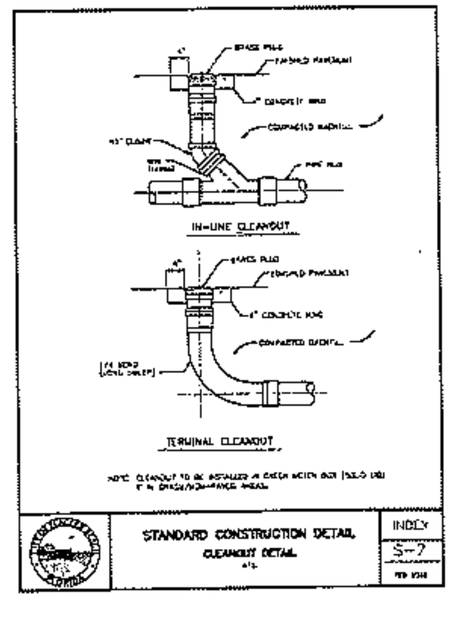

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CITY OF FLAGLER BEACH
UTILITY DETAILS
LEGACY POINTE APARTMENTS
LESLIE STREET
FLAGLER BEACH, FL 32136

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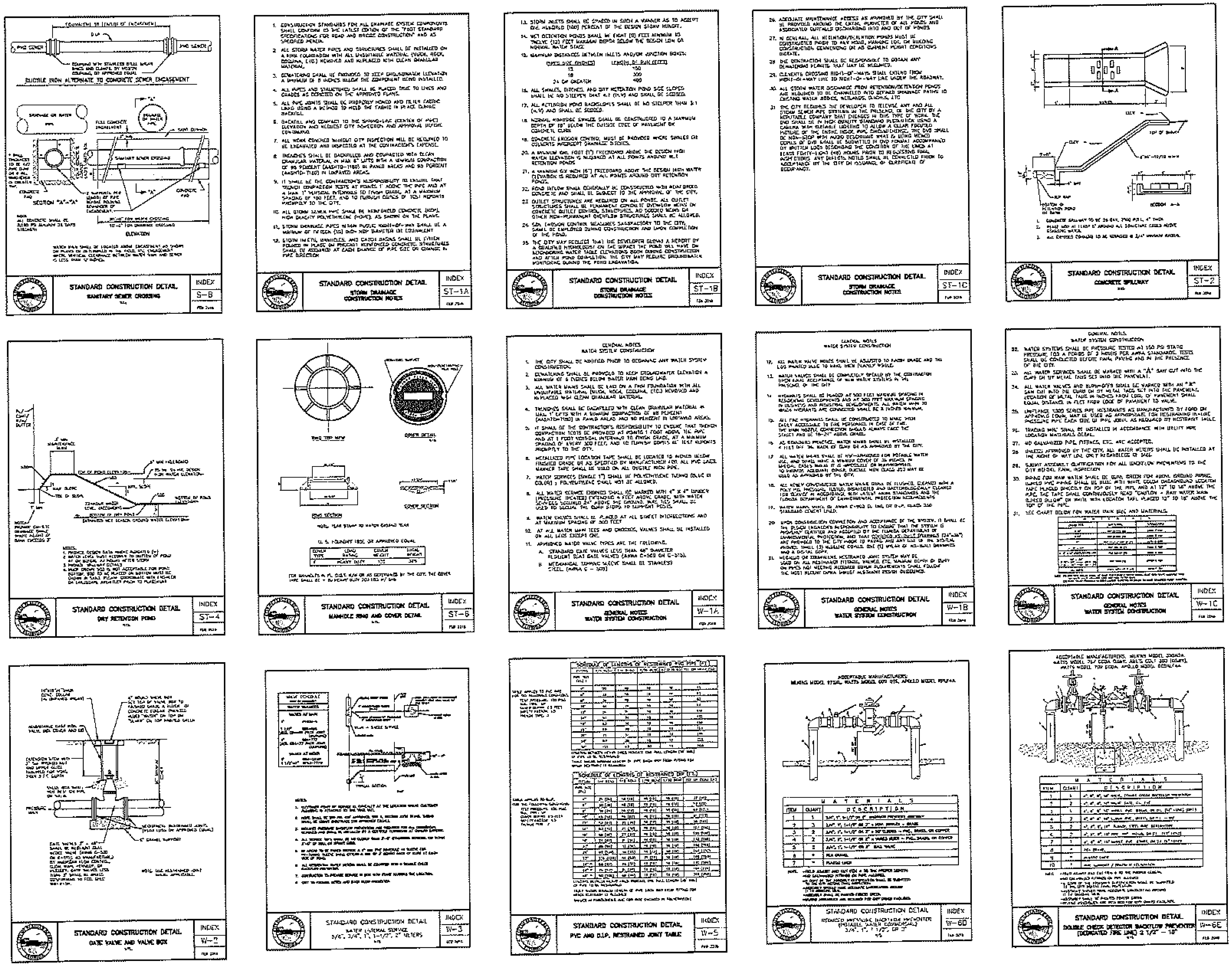

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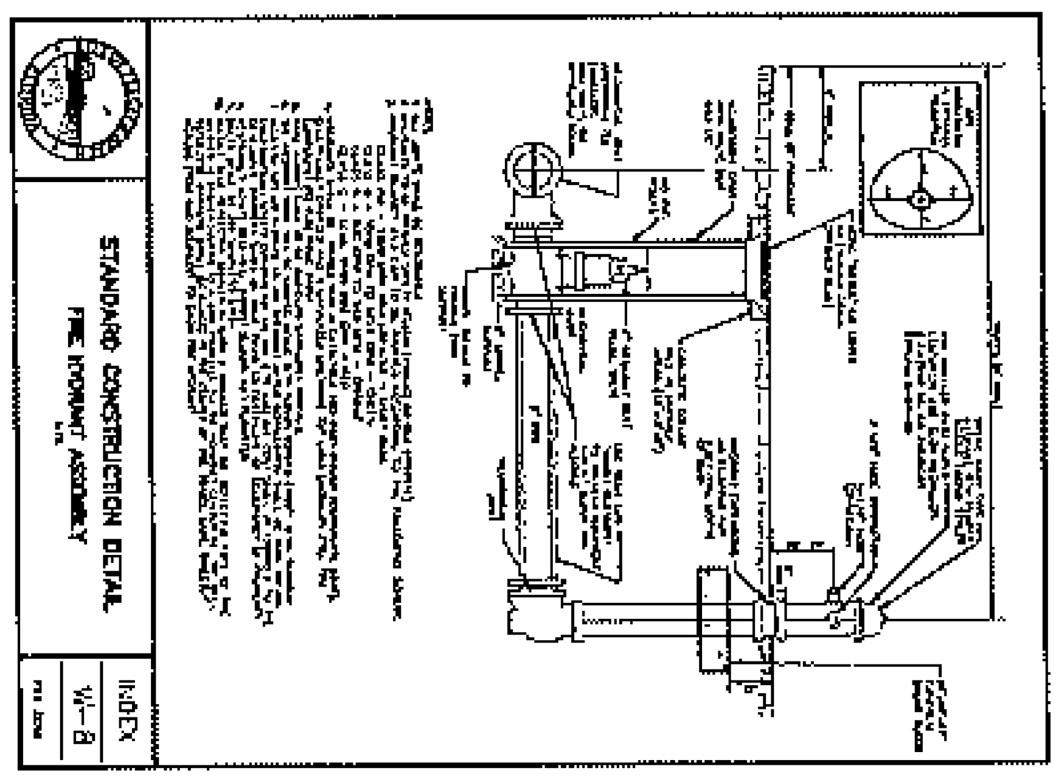

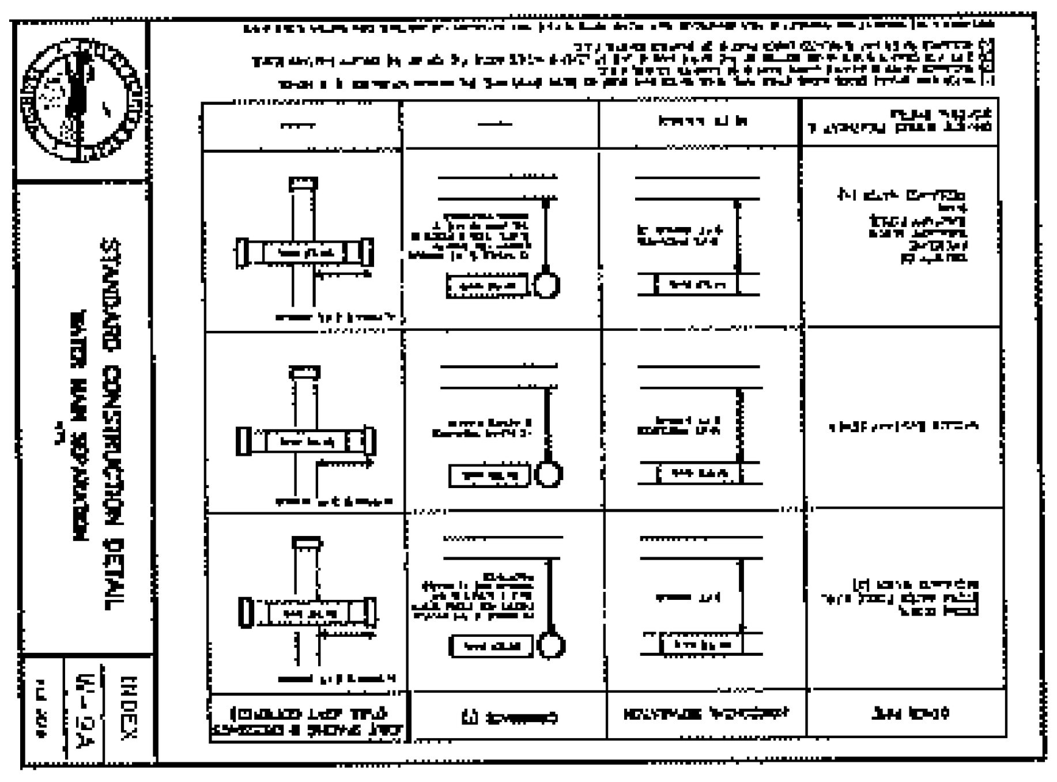

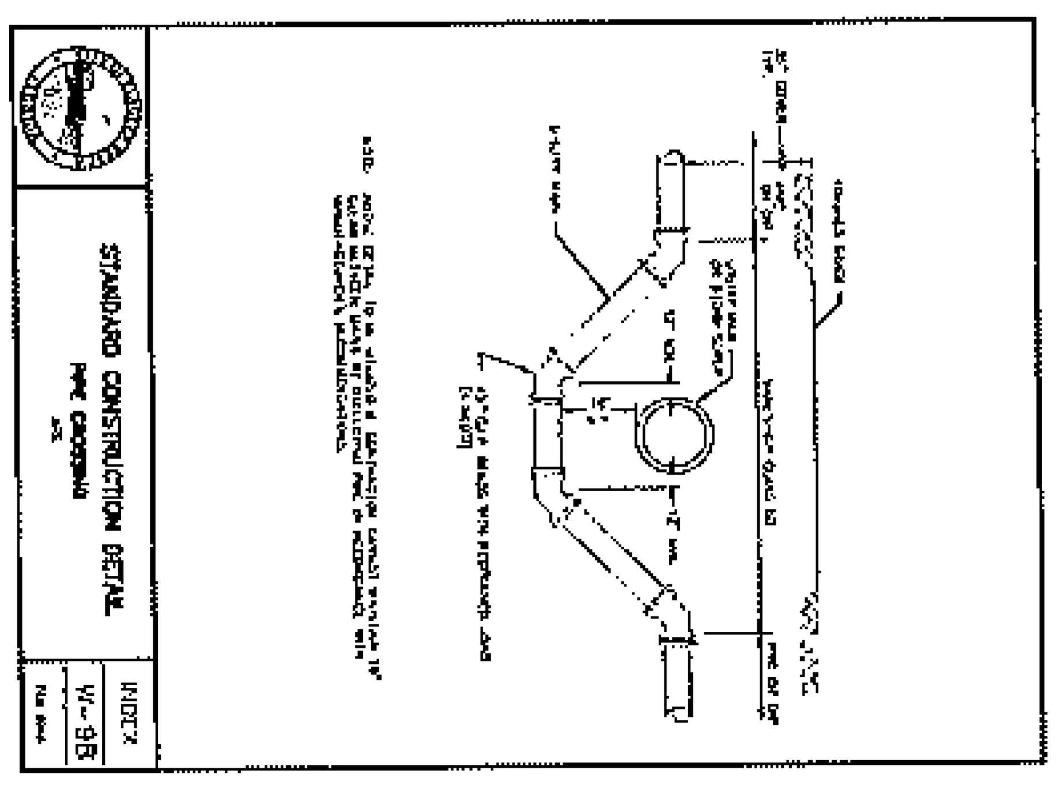

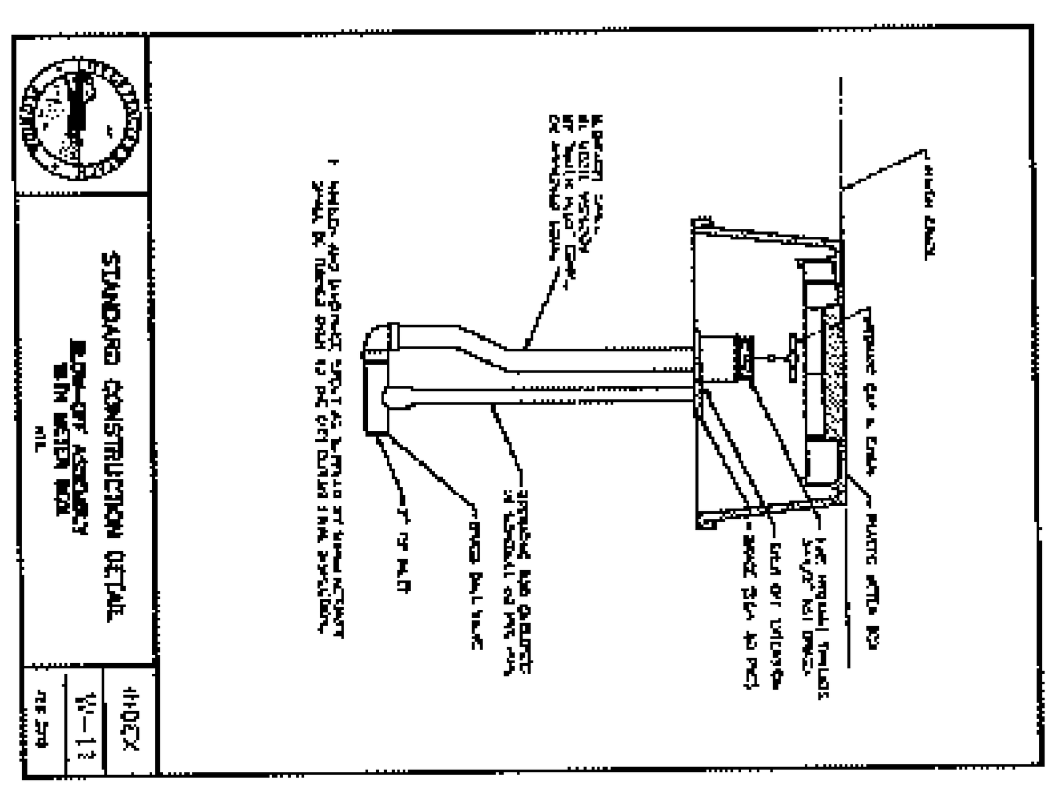

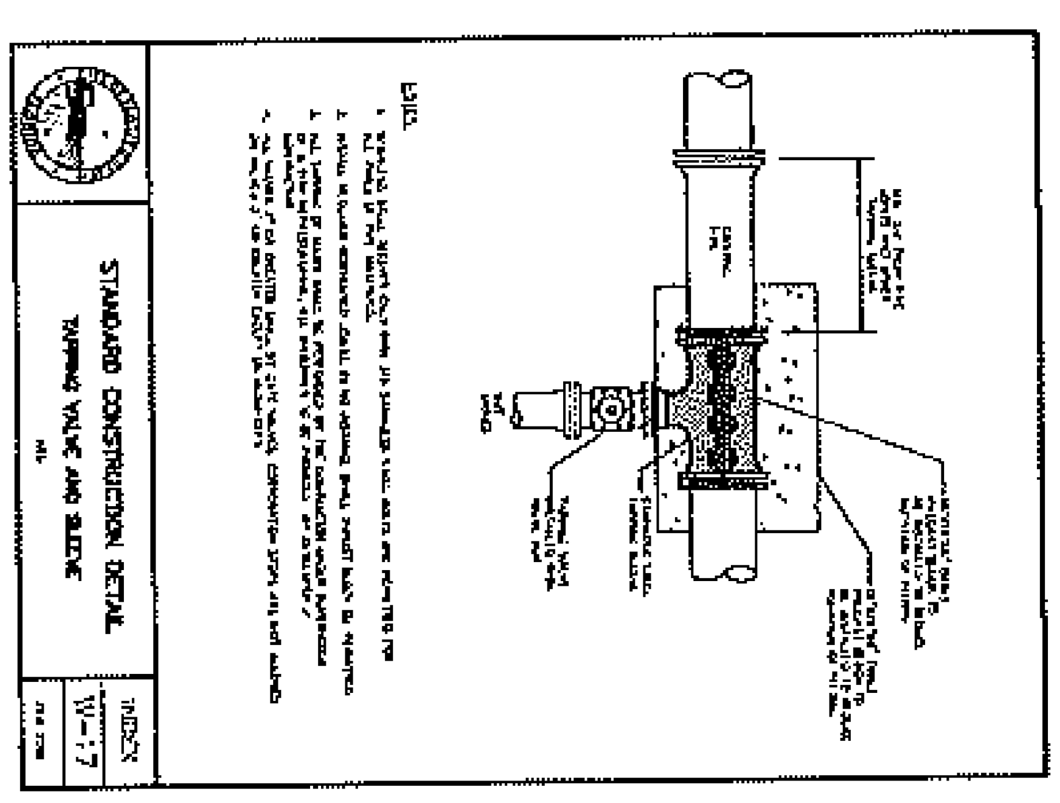

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CITY OF FLAGLER BEACH
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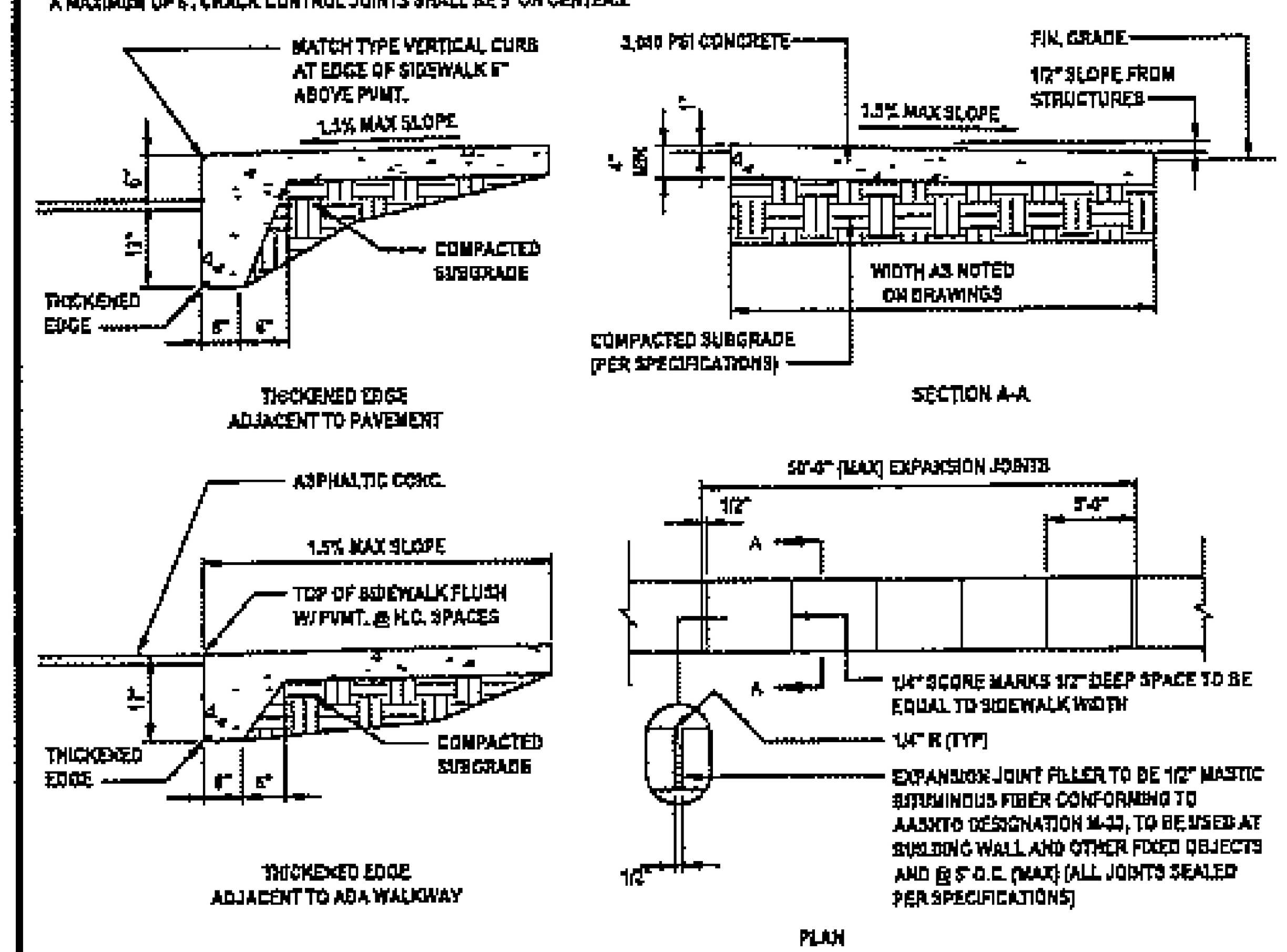
CONCRETE WALKS SHALL BE 4 INCHES THICK, CLASS I, HAVING A 3,000 PSI STRENGTH @ 28 DAYS, POURED OVER PROPERLY PREPARED SUBGRADE. ALL CONCRETE SIDEWALKS SHALL BE 6 INCHES THICK ACROSS DRIVEWAYS. 1/2 INCH EXPANSION JOINTS SHALL BE PLACED AT A MAXIMUM OF 50', CRACK CONTROL JOINTS SHALL BE 5' ON CENTERS.



SIDEWALK DETAILS
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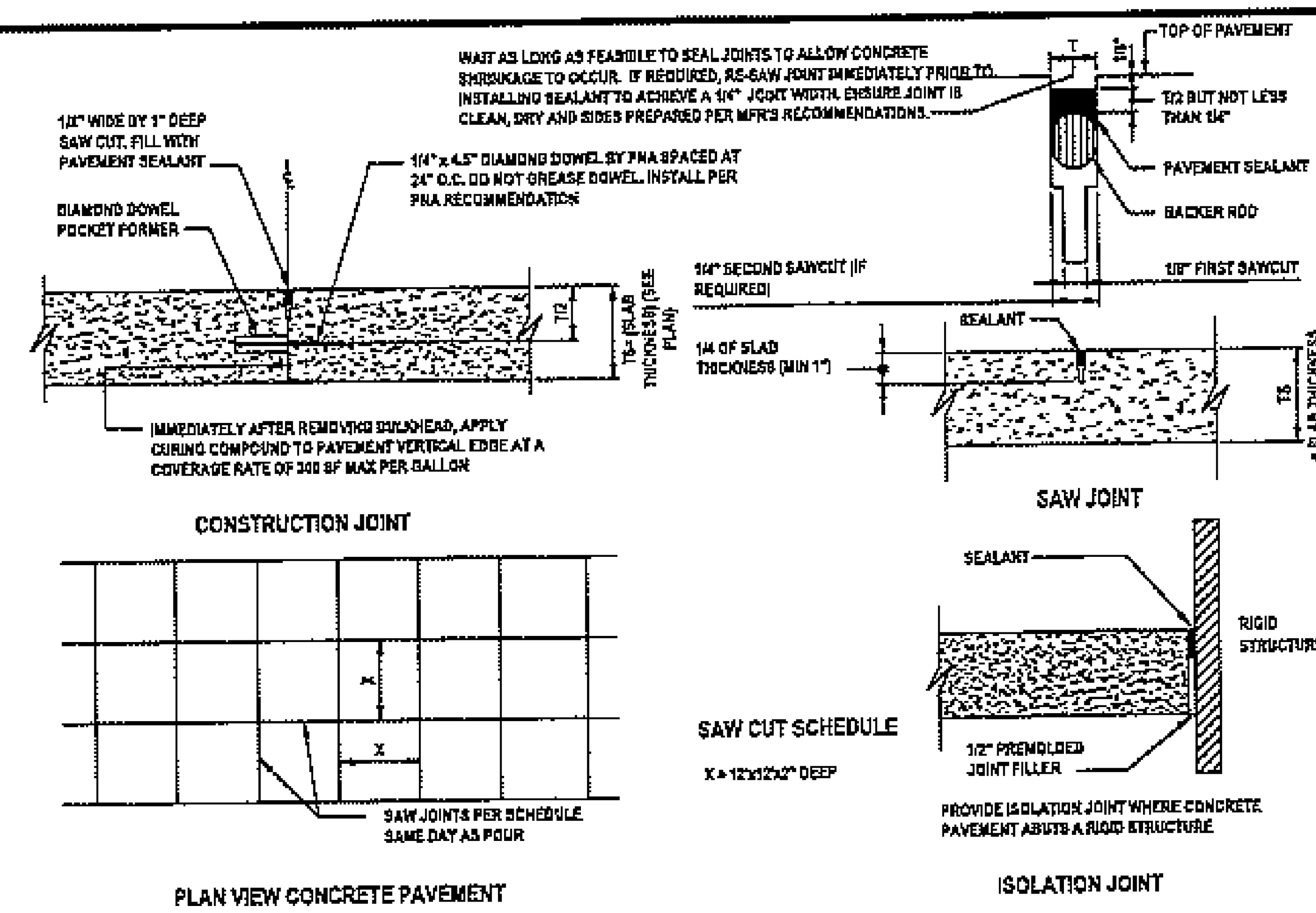

CONCRETE PAVEMENT JOINT DETAILS
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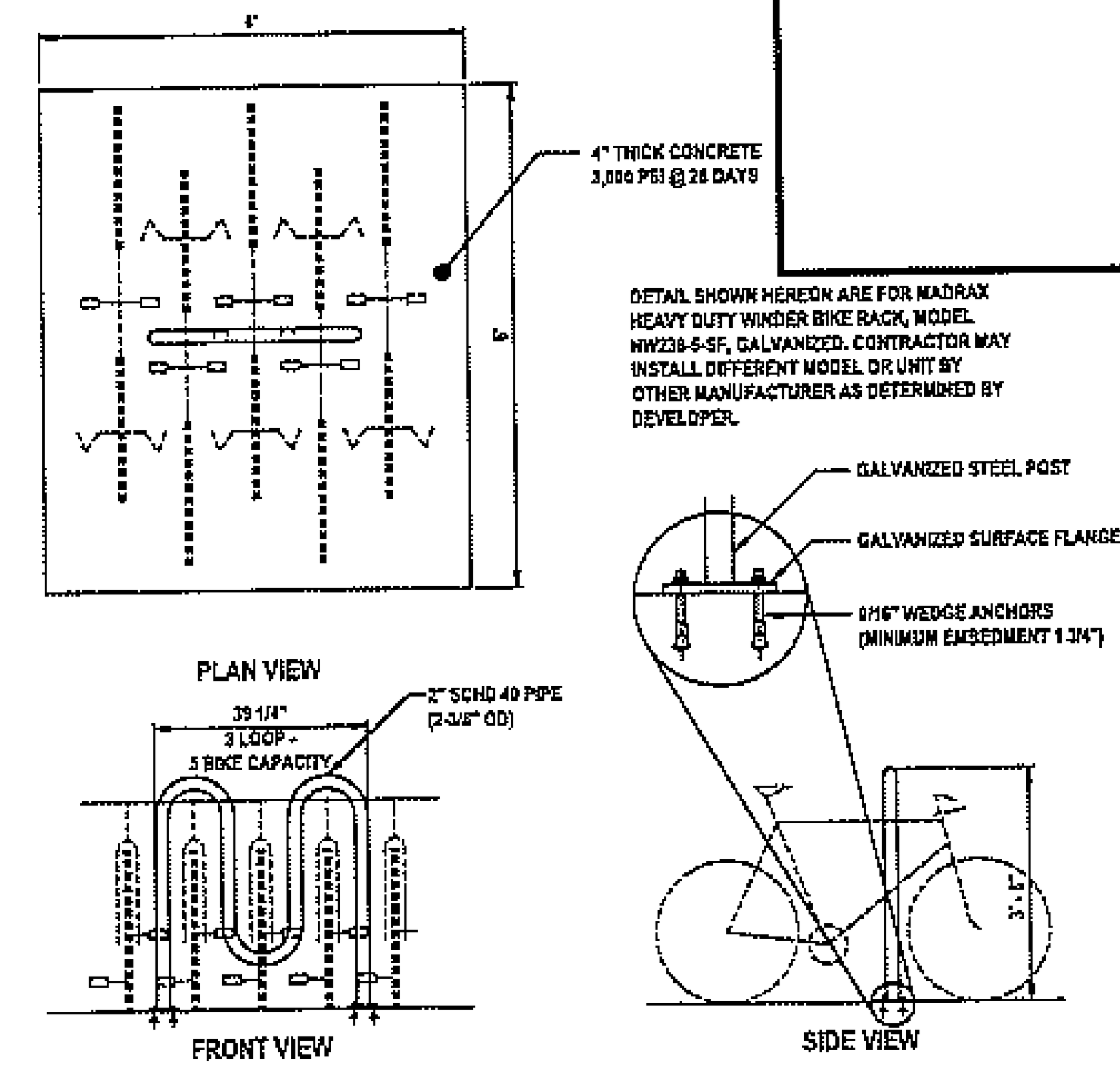

BICYCLE RACK DETAIL
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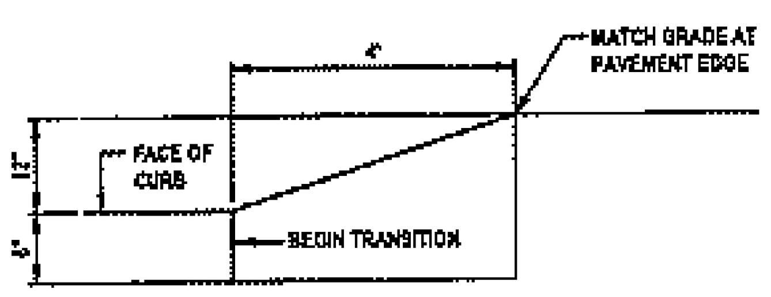

"F1" CURB TRANSITION TO FLAT DETAIL
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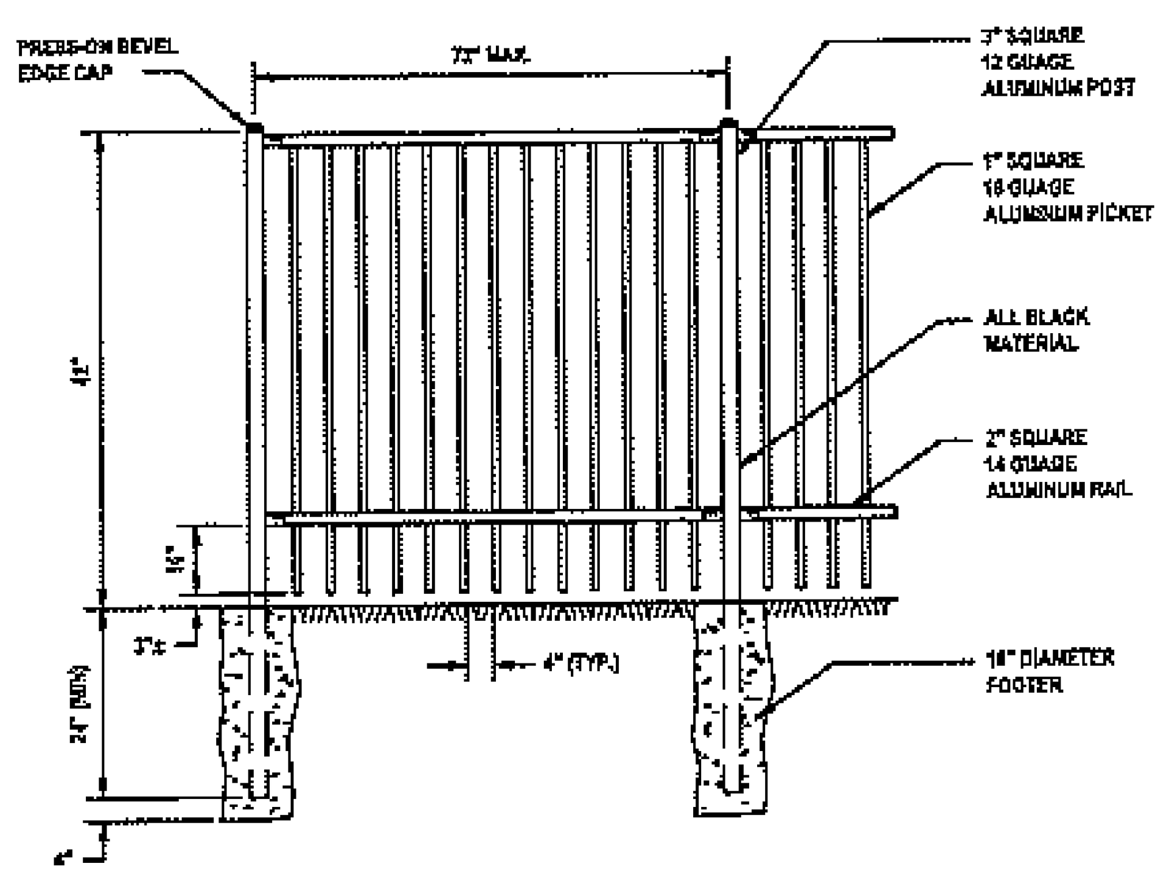

ALUMINIMUM RAIL FENCE DETAIL
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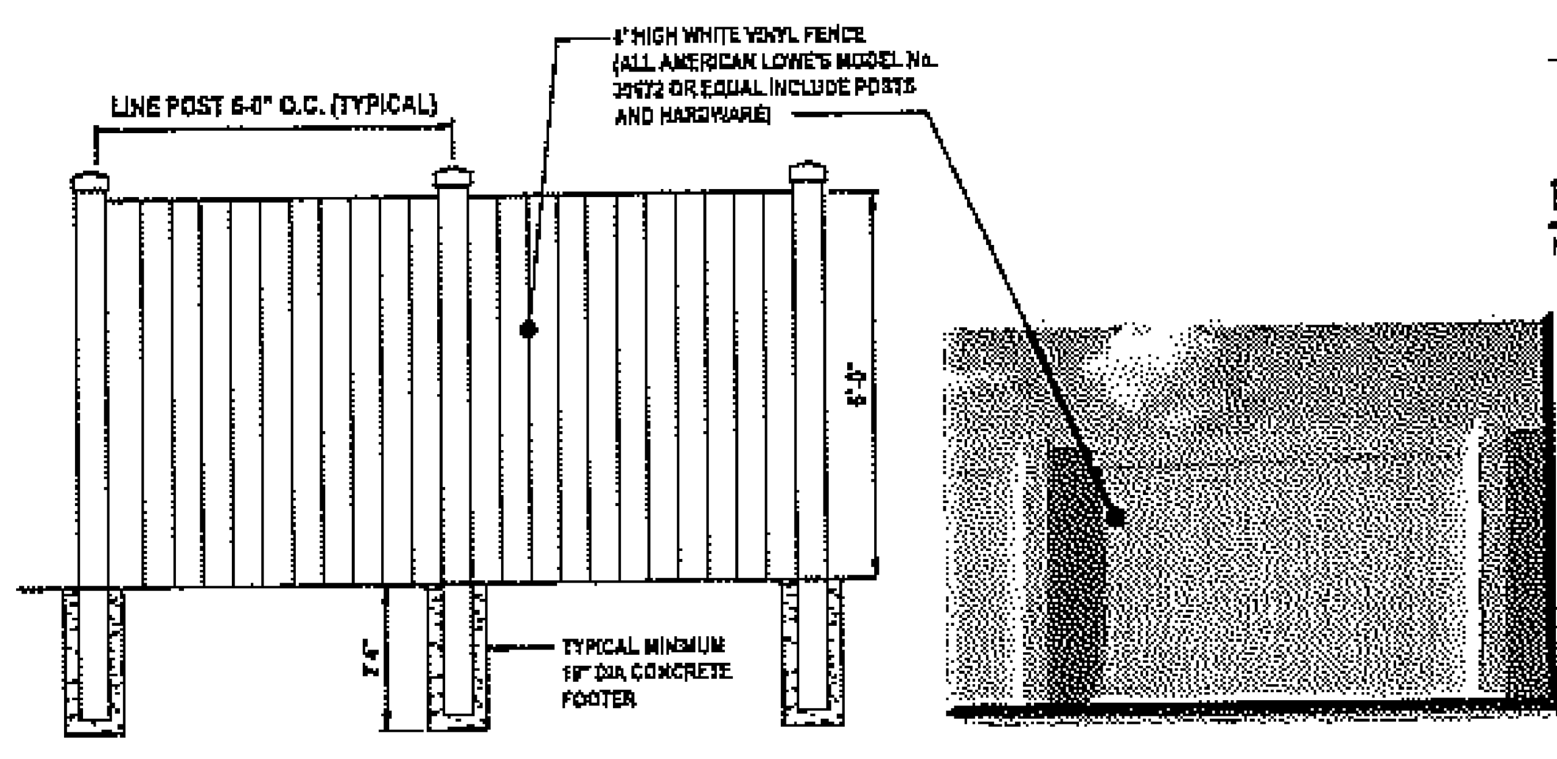

VINYL FENCE DETAIL
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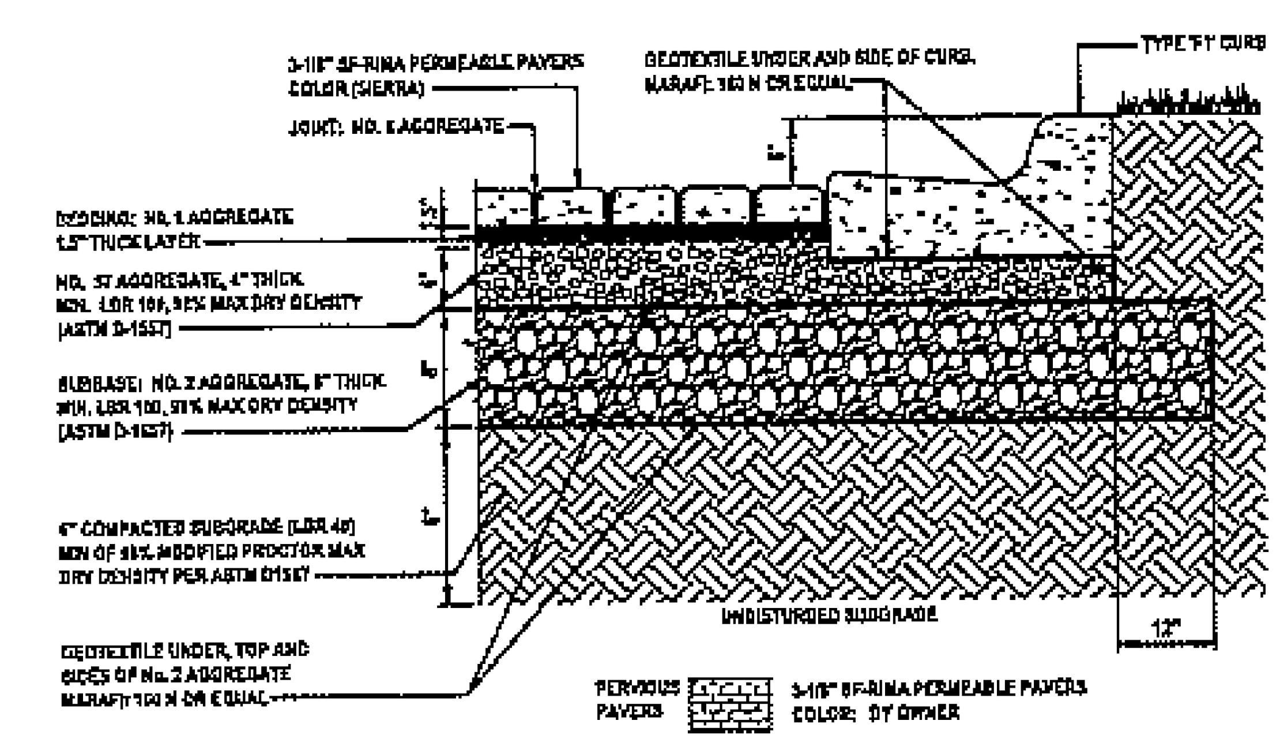

PERMEABLE PAVER DETAIL
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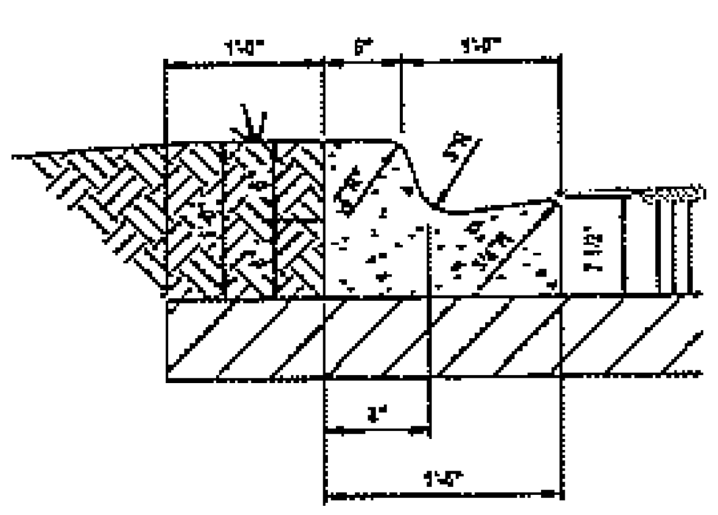
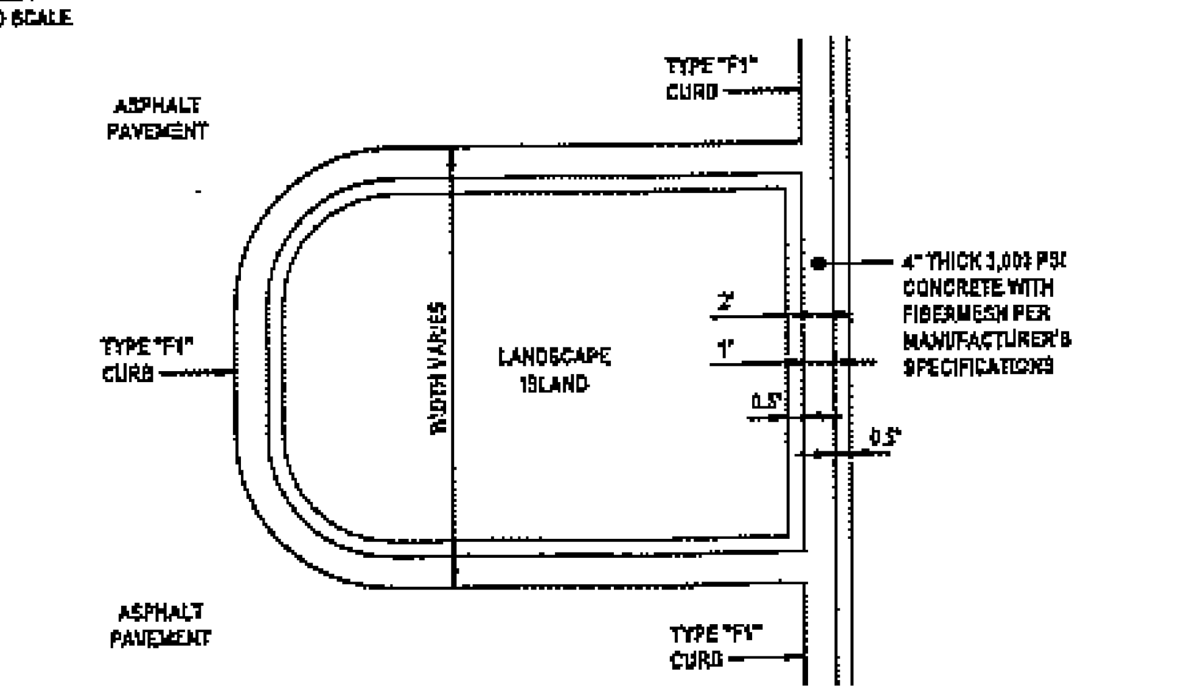


TYPE "F1" CATCH CURB DETAIL
NOT TO SCALE

CURB CONSTRUCTION NOTES

1. ALL CURBS TO BE CONSTRUCTED OF 28 DAY, 3000 P.S.I. CONCRETE.
2. 1/2" PRE-MOLDED EXPANSION JOINT REQUIRED EVERY 50', CONSTRUCTION JOINT REQUIRED EVERY 10' MAXIMUM (4' MINIMUM).
3. 1/2" PRE-MOLDED EXPANSION JOINT REQUIRED AT EACH SIDE OF ALL STORM INLET STRUCTURES AND AT ALL RADIUS POINTS.
4. 6" SUBBASE TO BE COMPACTED AND TESTED TO 98% DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST AND SHALL BE STABILIZED TO A MINIMUM L.B.R. 40.
5. EXPANSION JOINT MATERIAL MUST COVER ENTIRE CROSS SECTION OF CURB.
6. IN NO INSTANCE SHALL EXTRUDED CURBS (DEFINED AS HEADER-TYPE CURBS INSTALLED DIRECTLY ON TOP OF PAVEMENT) BE PERMITTED.



1' WIDE GUTTER BYPASS @ LANDSCAPE ISLAND DETAIL
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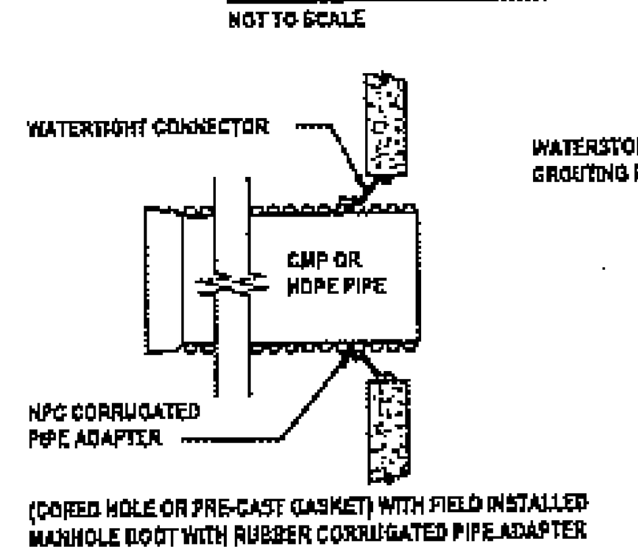

WATER-TIGHT PIPE TO MANHOLE CONNECTION DETAIL
PRECAST HOLES REQUIRED
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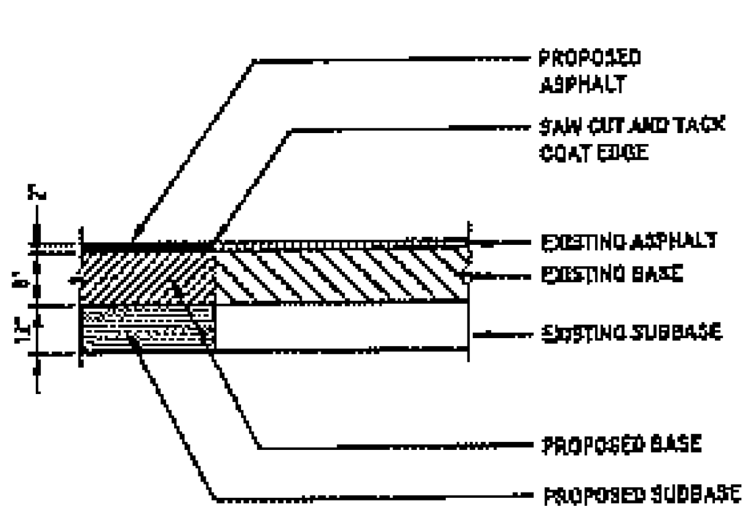

PAVEMENT BUTT JOINT DETAIL
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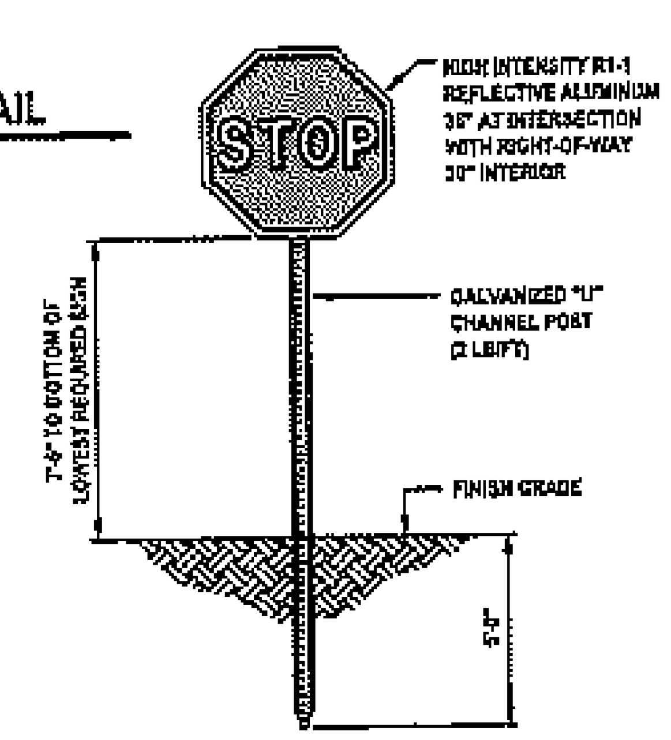

STOP SIGN DETAIL
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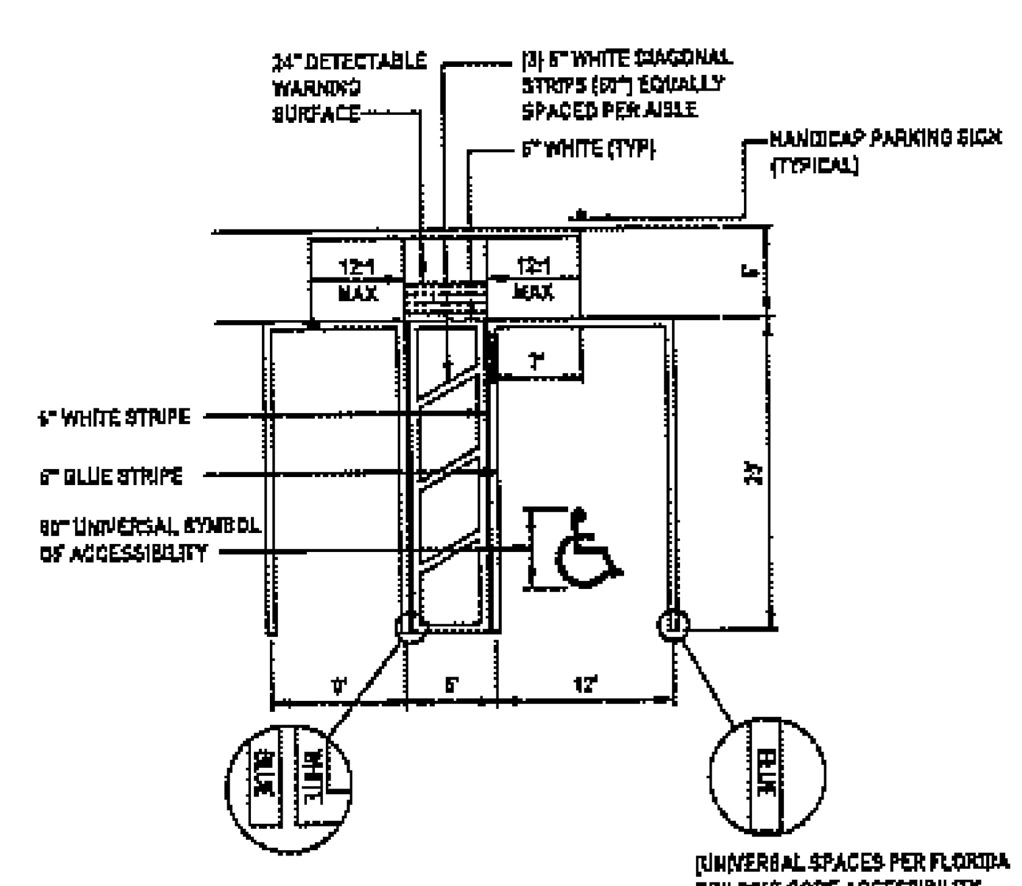
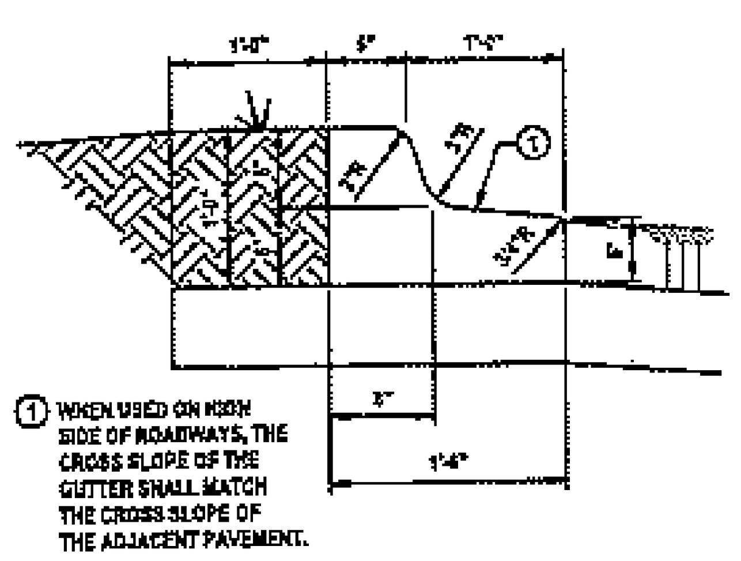


HANDICAP PARKING STRIPING
SCALE: 1" = 10'



TYPE "F1" SPILLOUT CURB DETAIL
NOT TO SCALE

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MISCELLANEOUS DETAILS AND NOTES
LEGACY POINTE APARTMENTS
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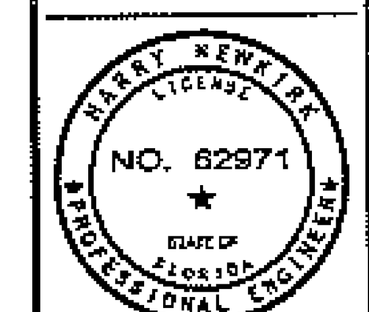

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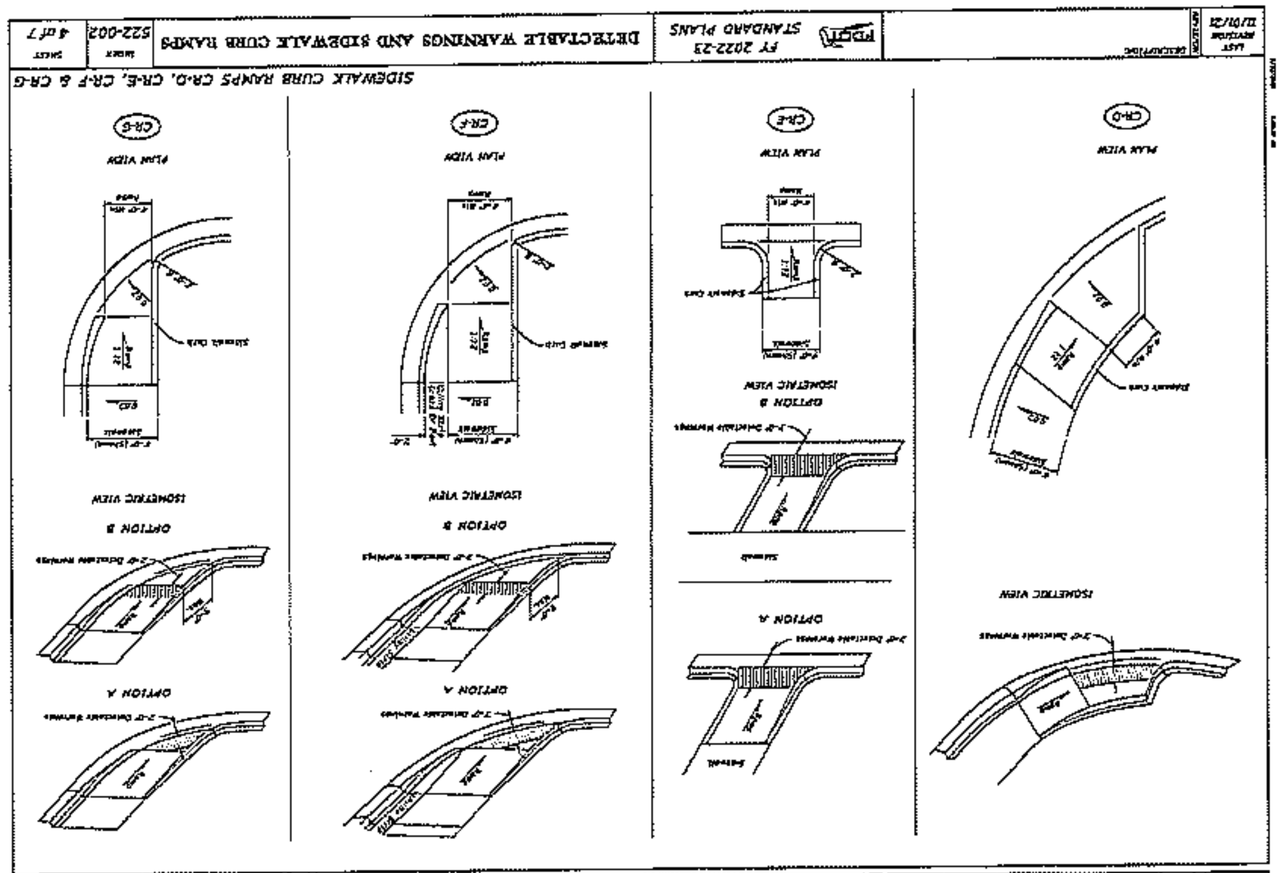

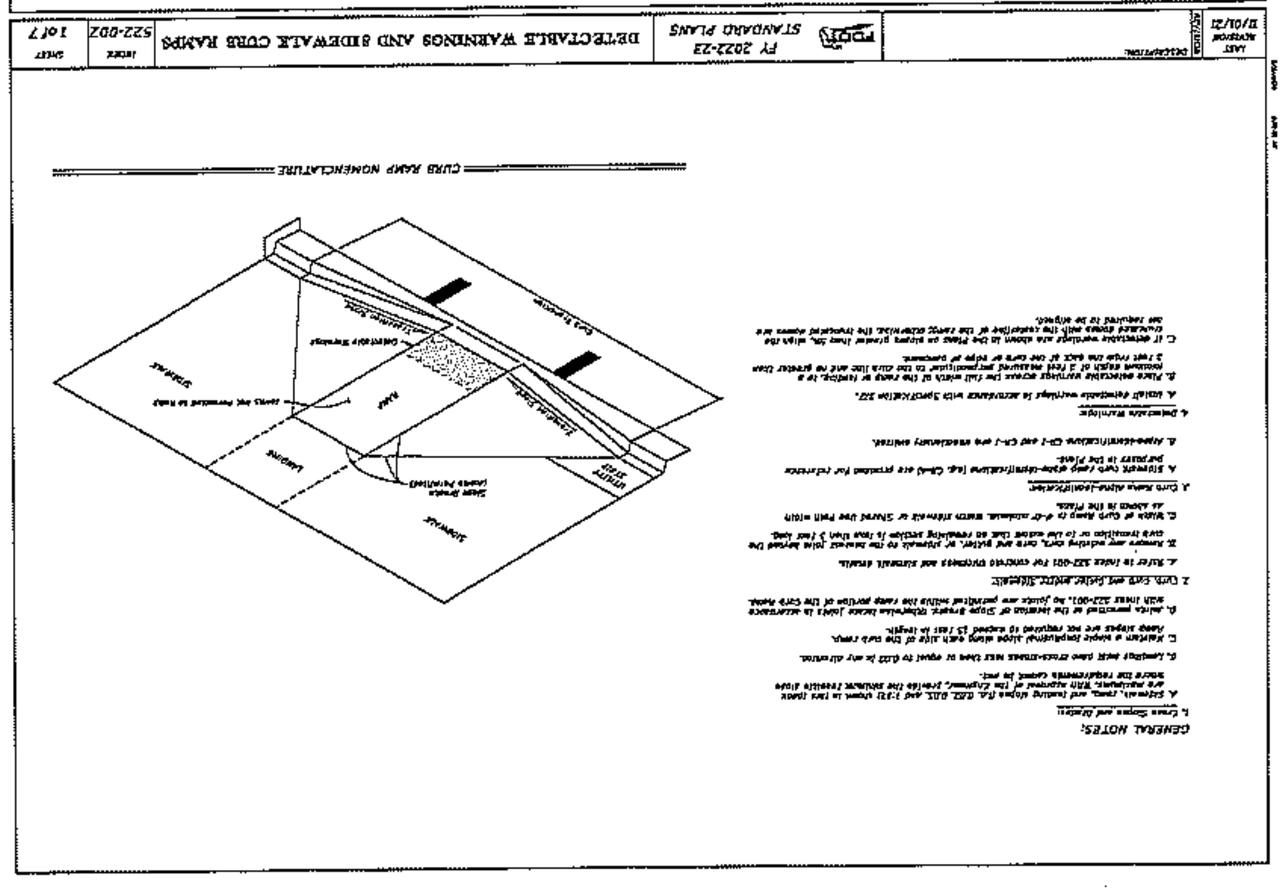

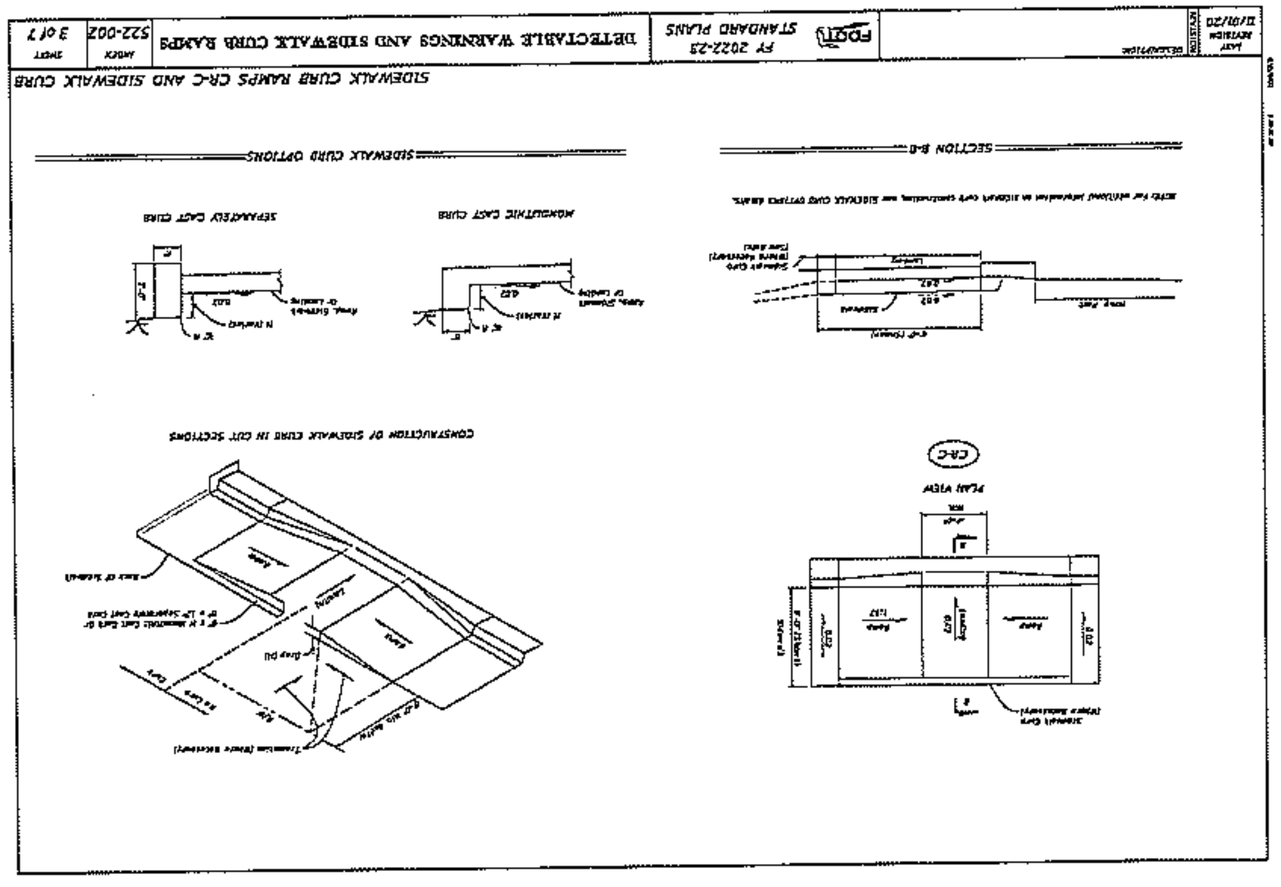

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FDOT DETAILS

LEGACY POINTE APARTMENTS

LESLIE STREET

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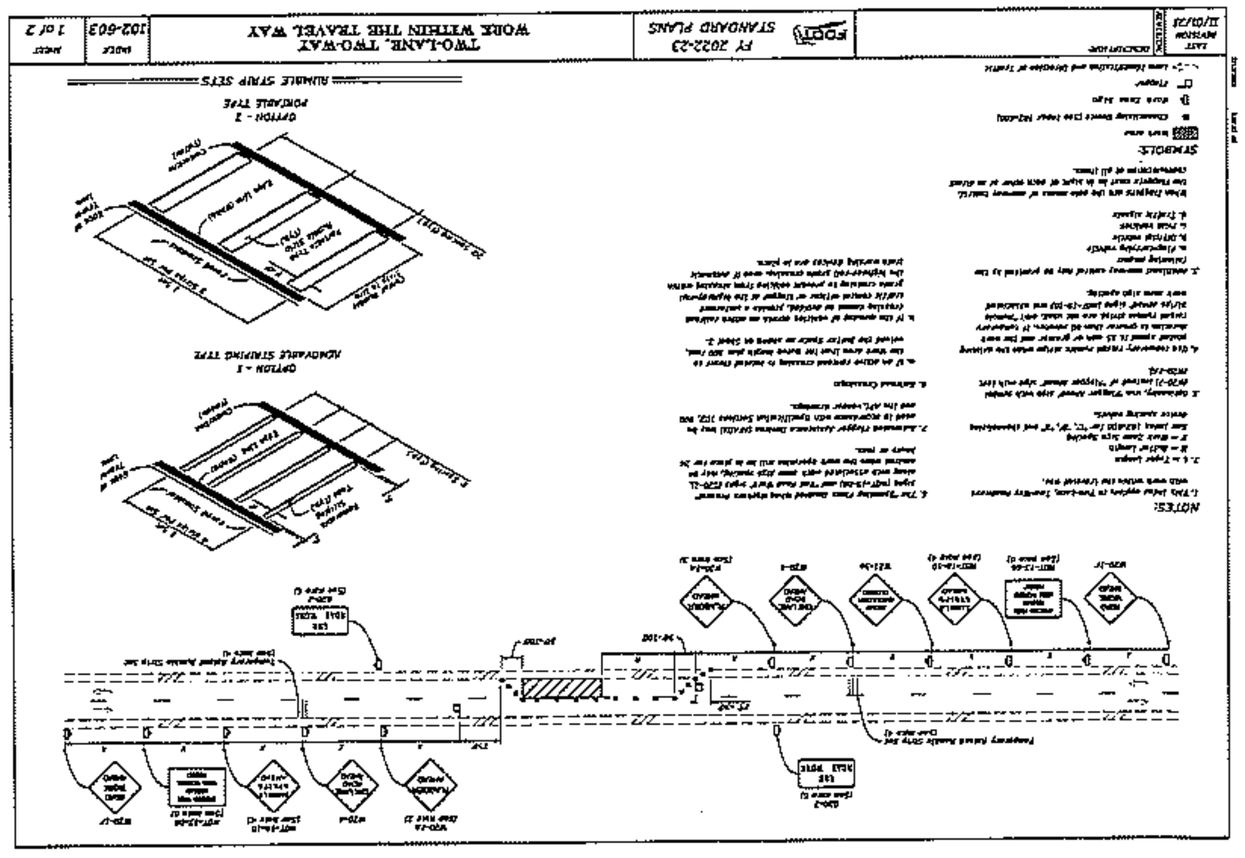

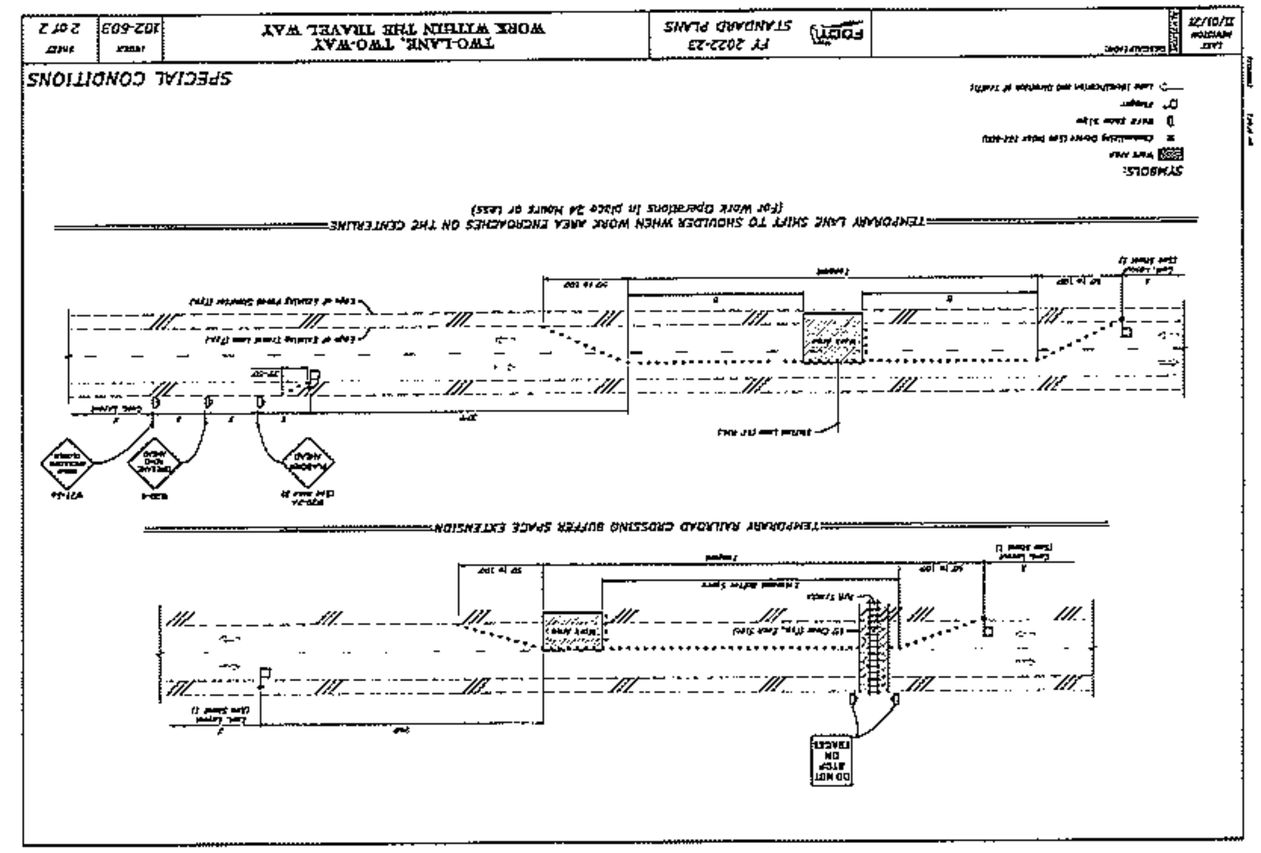

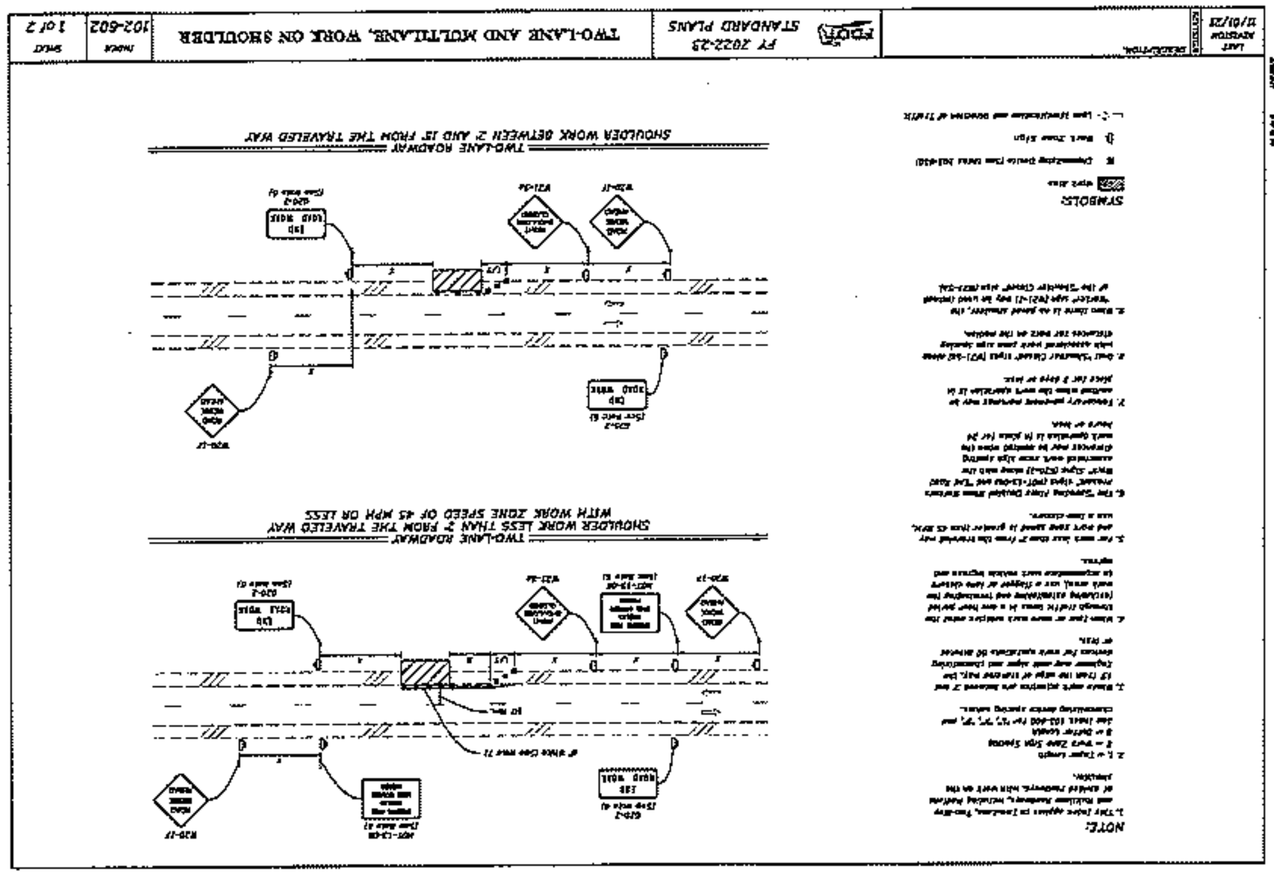

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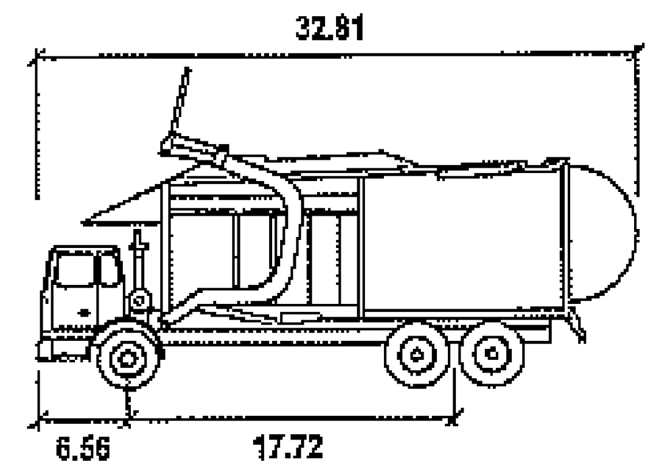

Waste Collection Truck

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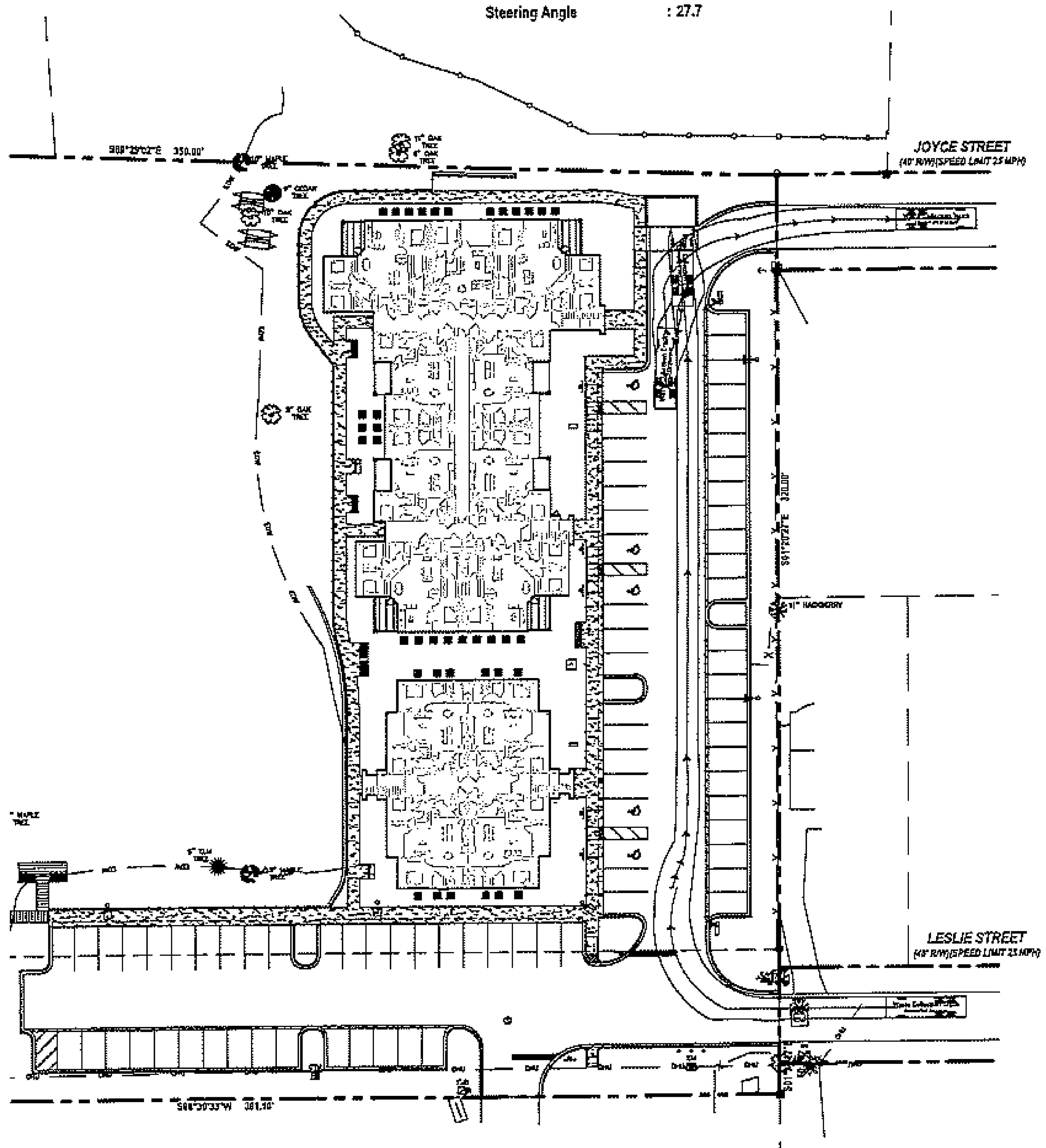
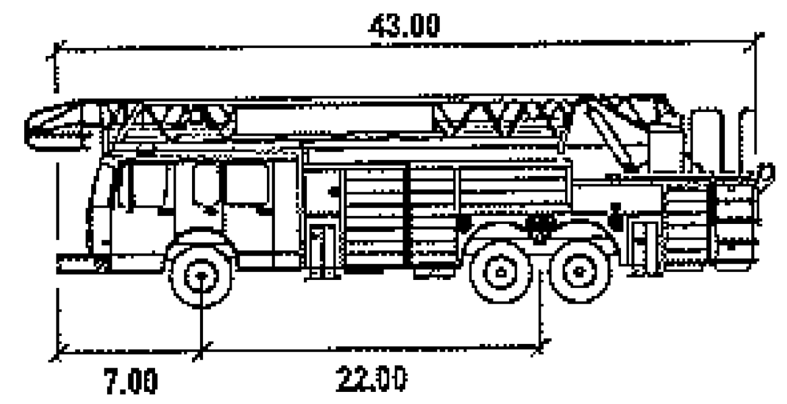
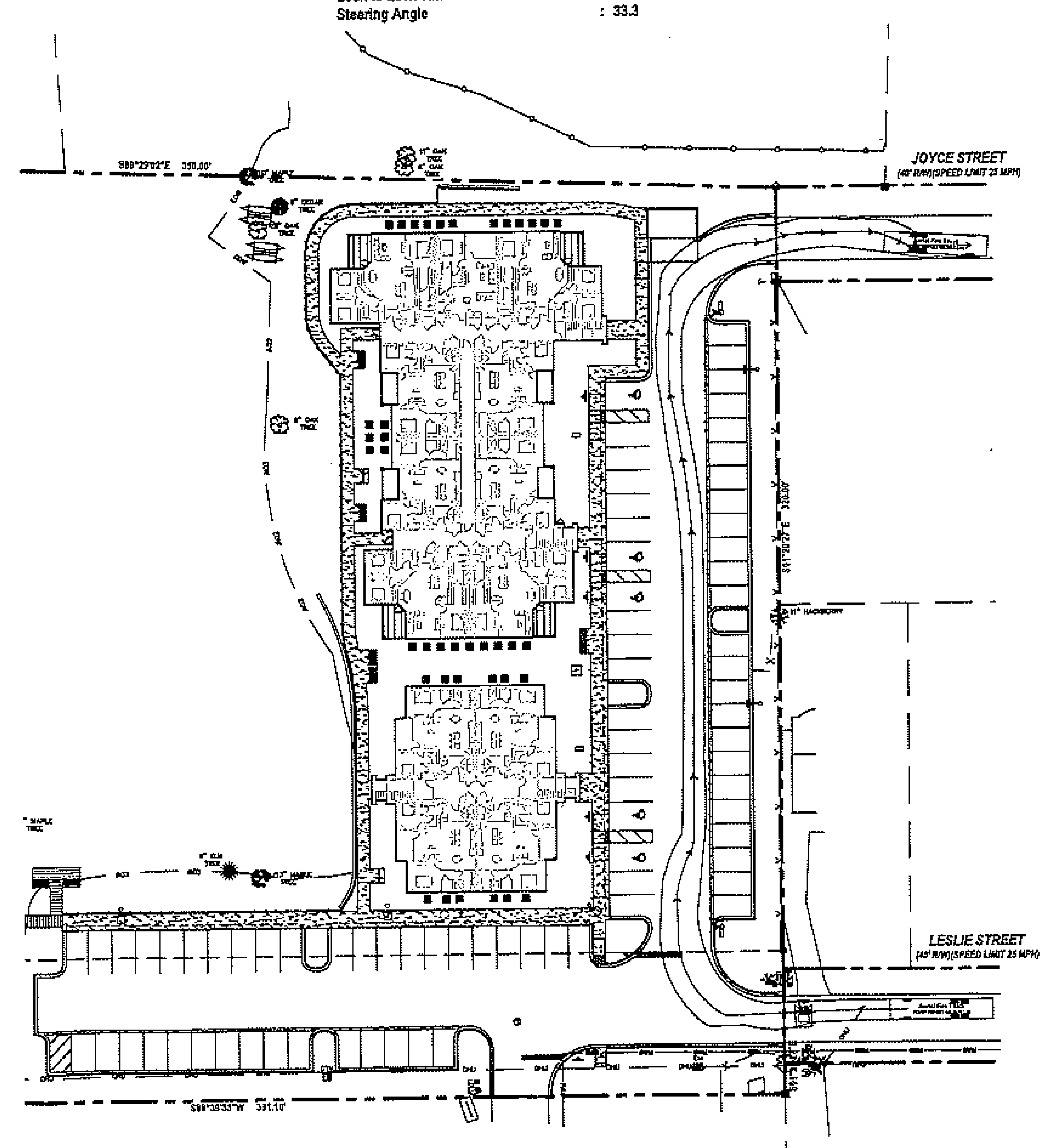
Track	: 8.53
Lock to Lock Time	: 6.0
Steering Angle	: 27.7





Aerial Fire Truck

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 33.3



REVISIONS

DATE	DESCRIPTION
	CITY COMMENTS

NEWKIRK ENGINEERING INC.

Civil Engineering, Transportation, CEI & Landscape Architecture

AUTOTURN TRUCK PLAN
LEGACY POINTE APARTMENTS

LESLIE STREET
FLAGLER BEACH, FL 32136

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY HARRY NEWKIRK, PE # 62971 ON

HARRY NEWKIRK LICENSE NO. 62971 STATE OF FLORIDA PROFESSIONAL ENGINEER

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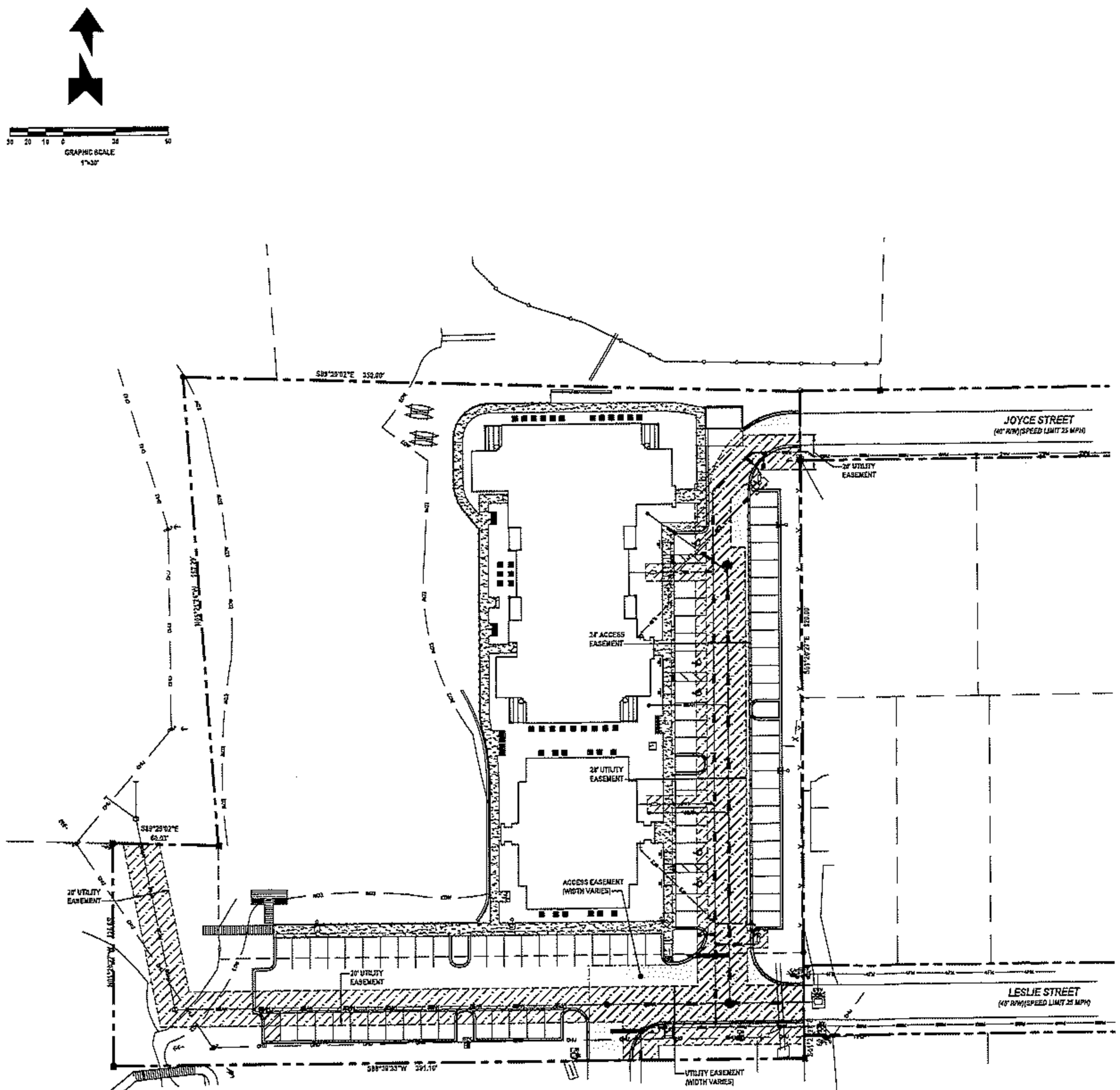
PROJECT No:	2023-17
DATE:	FEBRUARY 2023
DESIGN BY:	HHN
DRAWN BY:	NWS
CHECKED BY:	HHN
SCALE:	1" = 30'

DRAWING NUMBER

27



EASEMENT LEGEND:

- PROPOSED ACCESS EASEMENT
- PROPOSED UTILITY EASEMENT

REVISIONS	
DATE	DESCRIPTION
4/20/23	CITY COMMENTS

1330 North US1, Suite 3
Ormond Beach, Florida 32174
Phone (386) 672-7754
www.NewkirkEngineering.com
C.A.# 30359
L.C.# 26000334
C 2913
Civil Engineering
Transportation, CEI &
Landscape Architecture
NEWKIRK ENGINEERING INC

EASEMENT PLAN

LEGACY POINTE APARTMENTS

LESLIE STREET
FLAGLER BEACH, FL 32136

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PROJECT No:	2023-17
DATE:	FEBRUARY 2023
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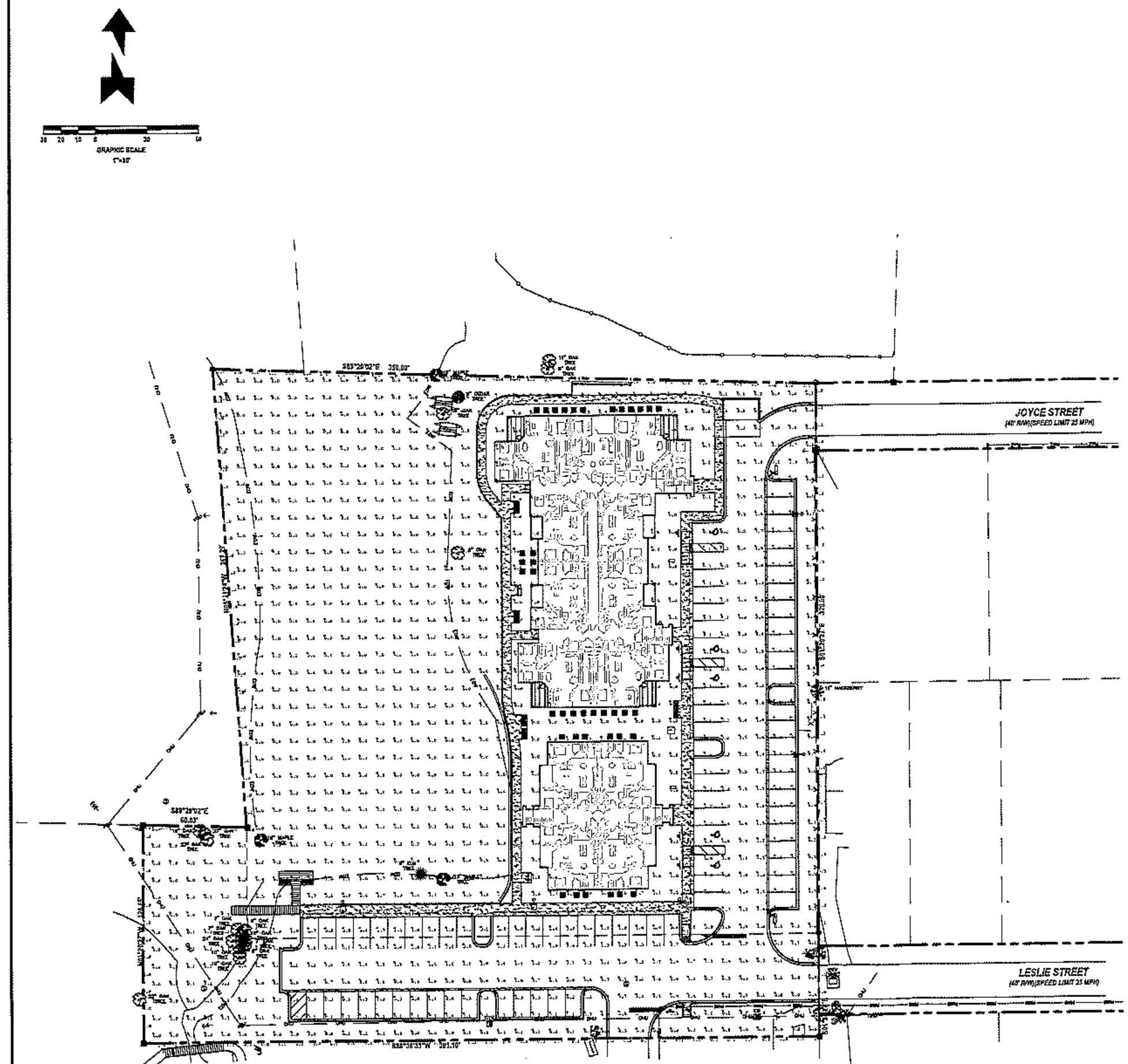
DRAWN BY:	NWB
CHECKED BY:	HHN
SCALE:	1" = 30'

DRAWING NUMBER

28



Luminaire Schedule				
Qty	Symbol	Label	Arrangement	LLF
3		ML740-CA-24L40T3-MDL018-CA	SINGLE	1.000
2		ML740-CA-32L40T2-MDL014-CA-BLOC	SINGLE - SHIELDED	1.000

Calculation Summary				
Label	Units	Avg	Max	Min
BOUNDARY	Fc	0.07	0.4	0.0
SITE	Fc	0.51	5.8	0.0

LIGHTING NOTES:

A. NO LIGHTS ALLOWED 90 DEGREES ABOVE HORIZONTAL PLANE, EXCEPT ACCENT LIGHTING.
B. LIGHT SHIELDING REQUIREMENTS SHALL PROTECT FROM GLARE, LIGHT SPILLAGE TO PEDESTRIANS, AIRCRAFT AND CARS.
C. MERCURY VAPOR SHALL NOT BE ALLOWED.
D. LIGHTING PLAN MEET THE REQUIREMENTS OF SECTION 14 OF IESNA RP-20-98 LIGHTING 1998 OR CURRENT EDITION.

REVISIONS

DATE	DESCRIPTION
4/24/23	CITY COMMENTS

1599 North US1, Suite 3
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www.NewkirkEngineering.com
C.A. # 30359
L.C. # 26000384
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NEWKIRK ENGINEERING INC.

PHOTOMETRIC PLAN

LEGACY POINTE APARTMENTS

LESLIE STREET
FLAGLER BEACH, FL 32136

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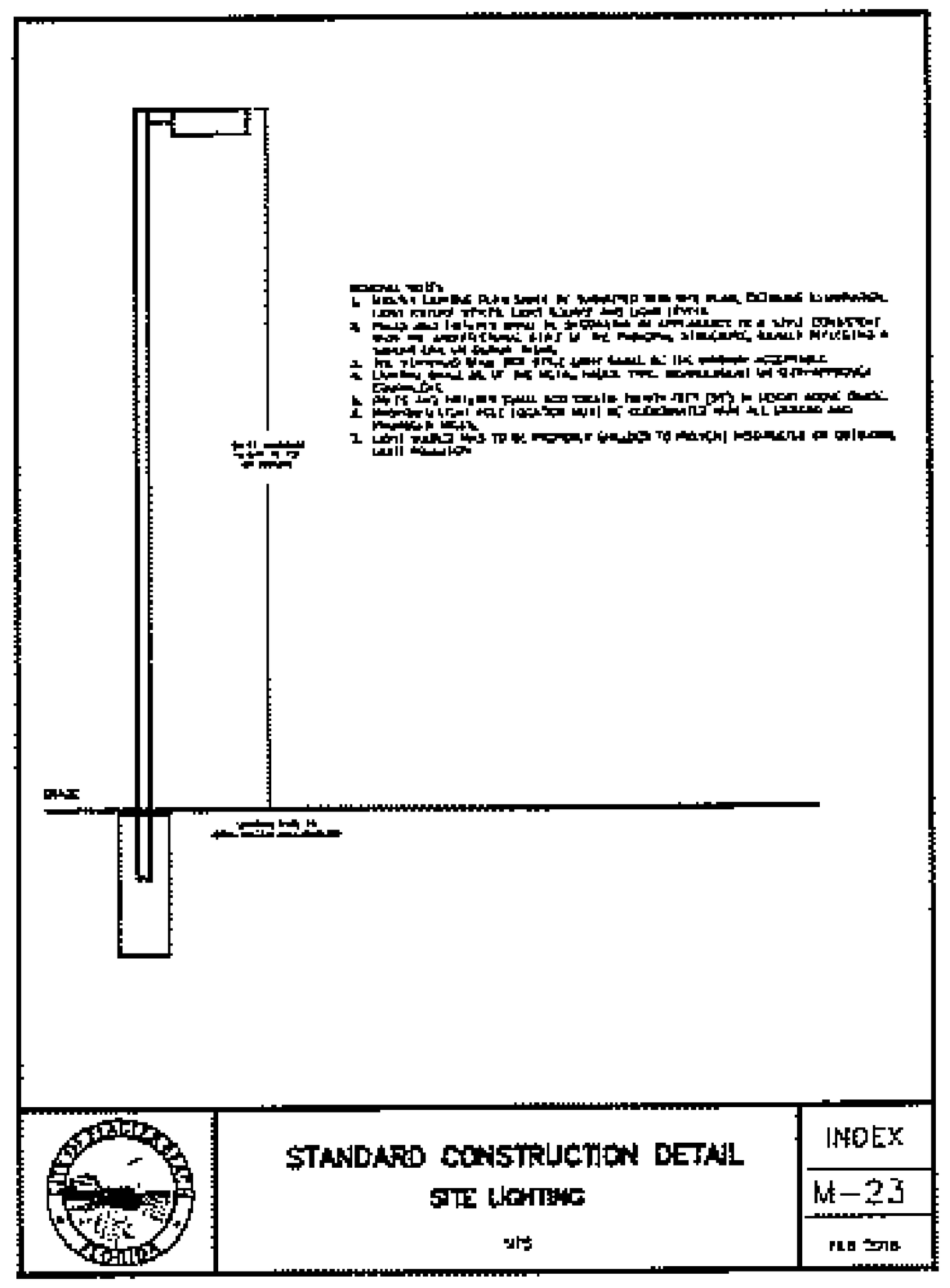
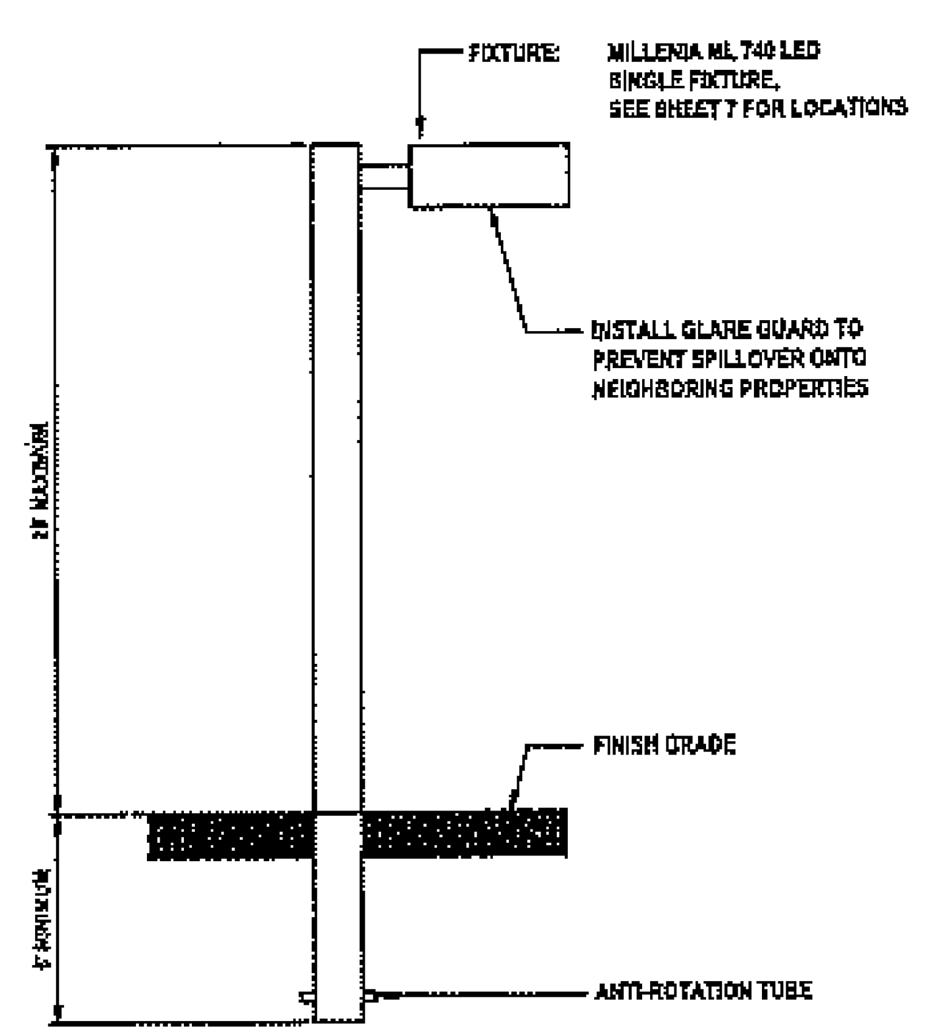


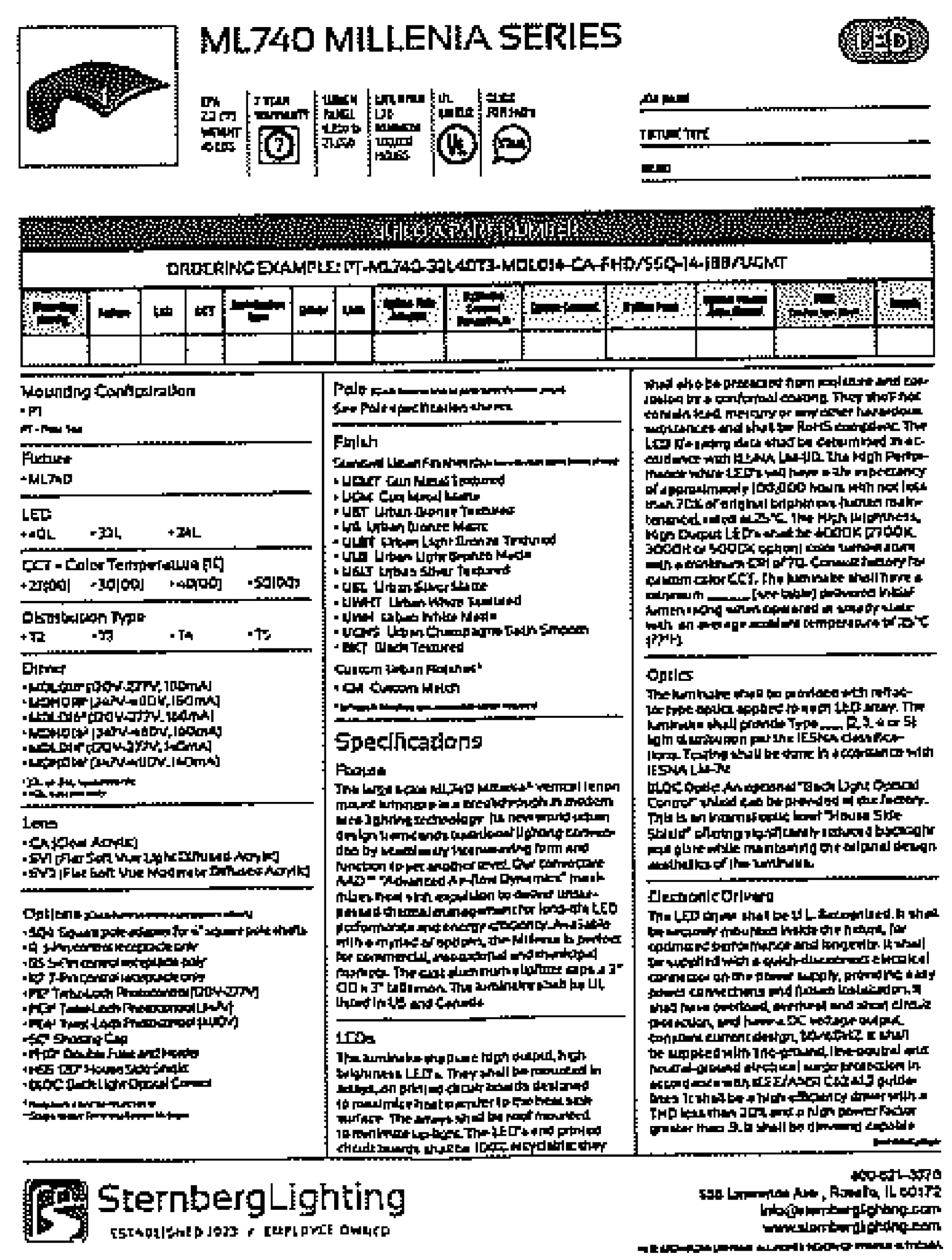


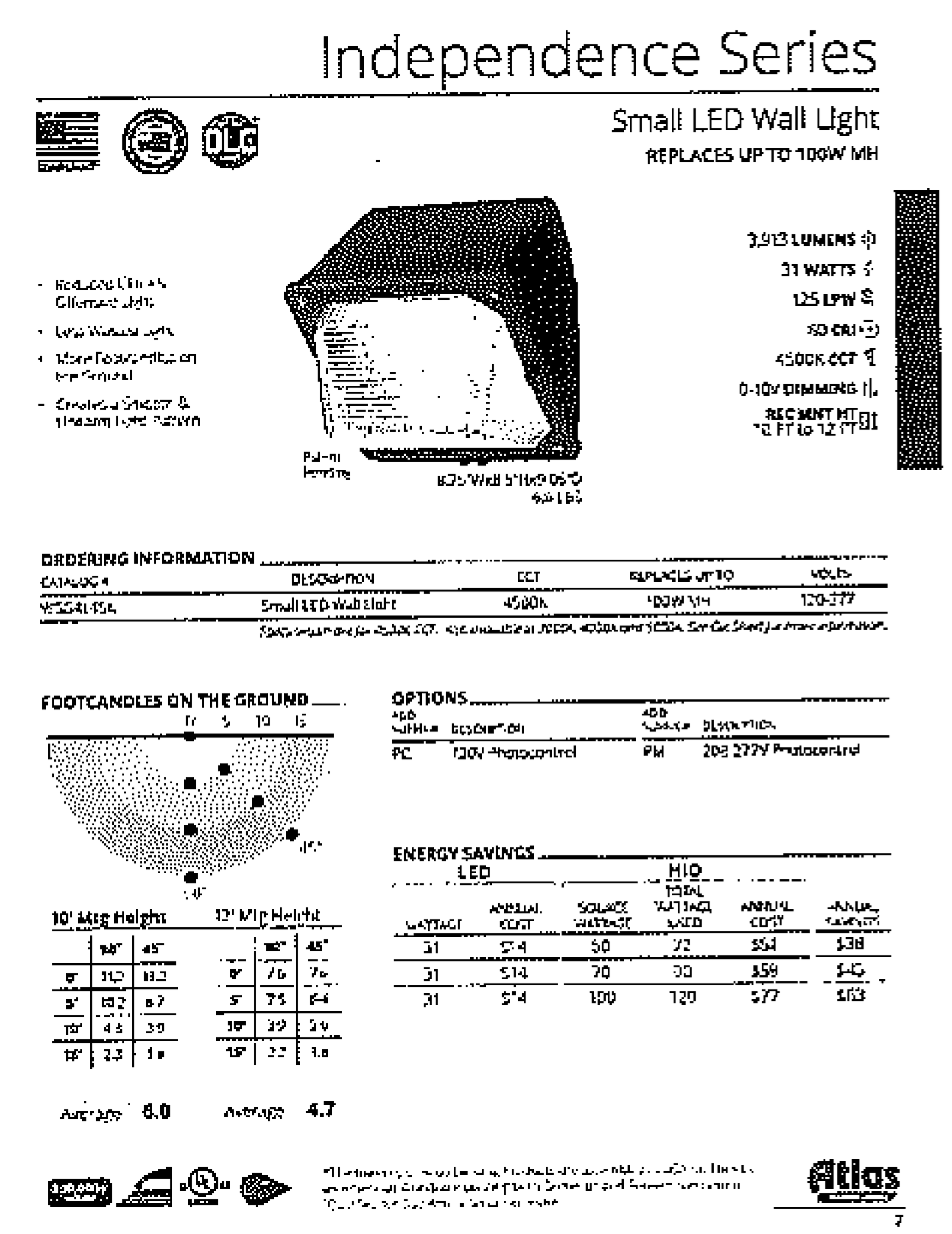
POLE TYPE:	5" X 5" STRAIGHT SQUARE DIRECT BURIAL LIGHT POLE STRENSBERG LIGHTING - URBANLINE
POLE HEIGHT:	25' MAXIMUM HEIGHT WITH 5' MINIMUM BURIAL
FINISH:	SMOOTH BLACK OR SATIN ALUMINUM
MATERIAL:	ALUMINUM

1. CONTRACTOR MUST OBTAIN CITY OF FLAGLER BEACH BUILDING PERMIT FOR LIGHT POLES. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING APPROPRIATE INFORMATION (ENGINEERING, SPECIFICATIONS, ETC...) FOR LIGHT FIXTURES AT TIME OF PERMIT REVIEW.
2. DESIGNED TO HANDLE A MINIMUM 140 MPH WIND SPEED, EXPOSURE B OR C.
3. MAKE THE HOLE, GENERALLY HOLES SHALL BE ROUND WITH SMOOTH VERTICAL SIDES CONSISTING OF UNDISTURBED SOIL. FOR BEST COMPACTION AND STABILITY OF POLES. DIAMETER OF POLE SHALL BE ABOUT TWICE THE DIAMETER OF THE POLE AT ITS BASE. HOLES SHALL BE AUGURED.
4. WIRE THE POLE UTILIZING APPROVED METHODS.
5. INSTALL THE POLE. IN MANY CASES COMPOSITE POLES CAN BE MANUALLY LIFTED INTO PLACE AND INSERTED INTO THE HOLE.
6. ALIGN AND LEVEL THE POLE.
7. BACKFILL THE HOLE, FILL AND TAMP EVERY 6 TO 8 INCHES OF BACKFILL. FREQUENT TAMPING IS IMPORTANT FOR INSTALLATION.
8. SITE LIGHTING MUST NOT SHINE DIRECTLY UPON ANY ADJACENT RESIDENCE AND MUST NOT PRODUCE EXCESSIVE GLARE. GLARE GUARDS WILL BE INSTALLED IF NEEDED.

SITE LIGHTING DETAIL

NOT TO SCALE





REVISIONS

DATE	DESCRIPTION
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1210 North US1, Suite 3
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Phone (386) 872-7794
www.NewkirkEngineering.com
C.A. # 30206
L.C. # 26000584
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Civil Engineering, Transportation, CEI & Landscape Architecture

NEWKIRK ENGINEERING INC.

PHOTOMETRIC DETAILS
LEGACY POINTE APARTMENTS
LESLIE STREET
FLAGLER BEACH, FL 32136

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PROJECT No:	2023-17
DATE:	FEBRUARY 2023
DESIGN BY:	HHN
DRAWN BY:	NWG
CHECKED BY:	HHN
SCALE:	1" = 20'

DRAWING NUMBER

30

TREE PROTECTION AND ROOT PRUNING SPECIFICATIONS

PART 1 GENERAL

1.1 SUMMARY

A. This item shall consist of furnishing all labor, materials, tools and equipment required to protect those trees designated to remain on the site. Protection of designated trees shall include directing heavy construction work activity away from the protected trees Section includes the protection, trimming, and pruning of trees that interfere with, or are affected by, execution of the Work, whether temporary or new construction.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.
B. Tree Pruning Schedule: Written schedule from certified arborist detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.
C. Qualification Data: For tree service firm and arborist, ISA certification required.
D. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly pruned and repaired when damaged.
E. Maintenance Recommendations: From certified arborist, for care and protection of trees affected by construction during and after completion of the Work.
F. Provide final log of work performed including any damage that occurred during construction and subsequent repairs.

1.3 QUALITY ASSURANCE

A. Tree Service Qualifications: An experienced tree service firm that has successfully completed tree protection and trimming work similar to that required for this Project and that will assign an experienced, qualified arborist to Project site on a full-time basis during execution of the Work.
B. Arborist qualifications: An arborist certified by the International Society of Arboriculture.
C. Tree Pruning Standards: Comply with ANSI A300 (Part 1), Trees, Shrubs, and other Woody Plant Maintenance--Standard Practices (Pruning) and Part 8 - Root Management Standard.
D. Pre-installation Conference: Before starting tree protection and trimming, meet with representatives of authorities having jurisdiction, Owner, Architect, consultants, and other concerned entities to review tree protection and trimming procedures and responsibilities.

PART 2 PRODUCTS

2.1 MATERIALS

A. Materials for tree/vegetation protection barriers shall conform to the following requirements:

1. Mesh Construction Fencing by Conwed or Approved Equal (orange or green color)
2. Wood Posts (minimum length 6.0 feet)
3. #14 gauge steel wire

PART 3 EXECUTION

3.1 PREPARATION

A. Temporary Fencing: Install temporary fencing around the tree protection zones designated on the plans or where directed by the engineer to protect remaining vegetation from construction damage. Maintain temporary fence and remove when construction is complete. See detail this sheet.
B. Root Zone Protection: During the entire construction period all reasonable efforts shall be made to protect from damage those trees and their root system designated to remain. Around the trees to be protected, the Contractor shall avoid excessive excavation or compaction and damage during the removal of trees and shrubs designated to be removed. All plant material designated to be saved, or outside of the limits of construction, shall be protected during subsequent construction work. Work under these items will include construction and maintenance of temporary fencing to protect the root zones of existing trees and other plantings, construction and maintenance of tree trunk protection.

A protection barrier or temporary fence of at least 4 feet in height shall be installed around each tree to be protected and preserved. The tree protection shall be installed prior to the actual construction start and maintained for the duration of the project.

Within this protection zone, construction materials shall not be stored, equipment operated and/or temporary storage buildings or work trailers placed.

The protection barrier shall be constructed of orange snow fencing securely fastened to fence posts spaced a maximum of 6 feet on center. Posts are 6 feet in length with 2 feet set into the ground and 4 feet extending above ground. The fencing shall be attached to the post with a minimum of four (4) nylon-locking ties evenly placed at each post.

3.2 EXCAVATION

A. Install shoring or other protective support systems to minimize sloping or benching of excavations.
B. Do not excavate within tree protection zones, unless otherwise indicated on plans.
C. Where excavation for new construction is required within drip line of trees, clear and excavate to minimize damage to root systems. Use narrow-tine spading forks and comb soil to expose roots.

1. Relocate roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and relocate them without breaking. If encountered immediately adjacent to location of new construction and relocation is not practical, cut roots approximately 3 inches back from new construction.
2. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect

D. Root Pruning: Cut roots with sharp pruning instruments. All roots that are broken or chopped by excavators during excavation will be required to be saw cut cleanly with a sharp saw and do not paint cut root end.
E. When excavating, place excavated soil on opposite side of trench from tree.

3.3 ROOT PRUNING

A. Root pruning shall take place only where the roots of existing trees have been damaged by the Contractor during construction of the Project, as directed by the Certified Arborist.
B. If construction is to occur within the root zone of existing plant material, root pruning and special plant care including fertilizing and watering will be required, as directed by the Certified Arborist and hereinafter specified. Prior to root pruning, remove all weeds growing to existing tree mulch rings. Root pruning using an approved mechanical root pruning saw shall be performed prior to digging where roots on the plans, or directed by the Certified Arborist. Air Spading excavation consisting of hand and/or pneumatic excavation may be required if indicated on plans or as directed by Certified Arborist. Whenever roots of plant material to remain are exposed during construction, the damaged root ends are to be removed by cutting them off cleanly.
C. Initial watering shall be performed on all trees, which are designated for root pruning. Water trees immediately by thoroughly saturating root balls and provide a horticultural watering bag, such as a Gator Bag or equivalent, filled with water to keep root balls thoroughly saturated during first three weeks following root pruning. Thereafter refill bags as required, according to weather conditions, to keep root balls in a moist condition during growing seasons, through the duration of the Project. Tear root balls for optimal moisture once a week using a soil auger.
D. All pruning shall be overseen by a professional arborist (someone whose principal occupation is the care and maintenance of trees). All pruning shall be done according to the National Arborist Association's Pruning Standards for Shade Trees Class 11 - Standard Pruning Specifications.
E. Any damage to the root zone, as determined by the Certified Arborist, will be compensated by pruning an equivalent amount of the top vegetative growth of the material within 1 week following root damage, fertilization and supplemental watering.
F. Fertilize damaged trees with fertilizer that promotes root growth. Fertilizer nutrients shall be applied within 48 hours after root damage occurs. Fertilizer nutrients shall be applied within 48 hours after root damage occurs. A fertilizer with a 1: 1: 1 ratio shall be applied at the rate of .5 pounds of nutrients per 1000 square feet (2 kg per 90 square meters).
G. Application shall be accomplished by placing dry fertilizer in holes in the soil. The holes shall be 8 inches (200 mm) to 12 inches (300 mm) deep and spaced 24 inches (600 mm) apart in an area beginning 36 inches (1 meter) from the base of the plant. Holes can be punched with a punch bar, dug with a spade, drilled with an auger or any other method approved by the Certified Arborist.
H. Approximately 0.82 pounds (10 grams) of fertilizer nutrients shall be placed in each hole 250 holes per 1000 square feet (90 square meters). Fertilizer Nutrients shall not be measured for payment but considered incidental to root pruning. If the Certified Arborist determines that the whole method of fertilizer placement is not practical or desirable, an approved method of uniform surface application will be allowed. Neither separate measurement nor payment will be made for fertilization, but will be considered incidental to the cost of TREE PROTECTION.
I. Supplemental water shall be applied within 48 hours of any root damage. The water shall be applied at the rate of 7 quarts per square yard of surface area within the root zone of plant material having sustained damage to the root zone. Root zone shall be calculated as the areas, which extend three meters beyond the limits of the crown's branches. Subsequent weekly watering shall be applied if deemed necessary by the Certified Arborist. Neither separate measurement nor payment will be made for supplemental watering but will be considered incidental to the cost of TREE PROTECTION.
J. The Contractor shall repair or replace any and all damage determined by the Certified Arborist and City of Flagler Beach to any existing or newly installed plant material at his own expense. Unnecessary damage to ground cover or turf shall be repaired or replaced as specified for restoration of similar areas within the plans, or as directed by the Certified Arborist and City of Flagler Beach, and shall be at the Contractor's expense.
K. Materials shall be disposed of in accordance with specifications.

3.4 REGRADING

A. Do not fill within tree protection zones, unless otherwise indicated.
B. Where filling for new construction is required within drip line of trees, perform work by hand to minimize damage to root systems.
1. Where existing grade is below elevation of finish grade, fill with topsoil. Place topsoil by hand in a single uncompacted layer and hand grade to required finish elevations.

3.5 TREE PRUNING

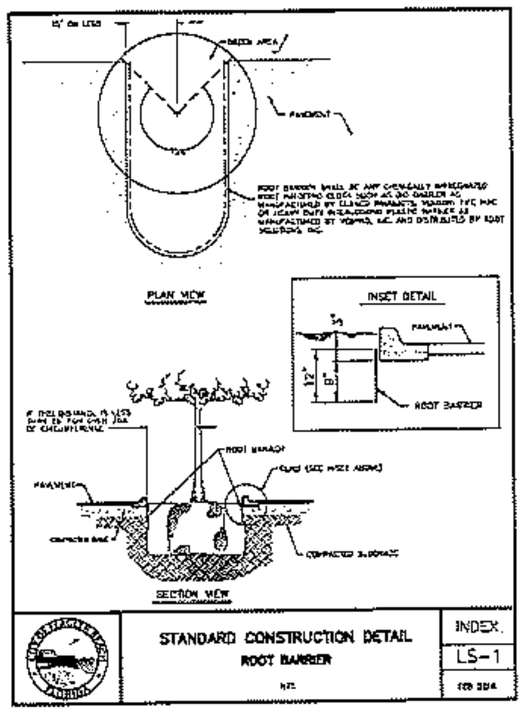
A. Prune trees to remain that are affected by temporary and permanent construction.
B. Pruning Standards: Prune trees according to ANSI A300 (Part 1).
C. Cut branches with sharp pruning instruments; do not break or chop.
1. Clean all pruning instruments with antimicrobial solution between performing work on separate trees to avoid the potential spread of pathogens.
D. Chip removed tree branches and use as organic mulch or dispose of off-site.

3.6 TREE REPAIR AND REPLACEMENT

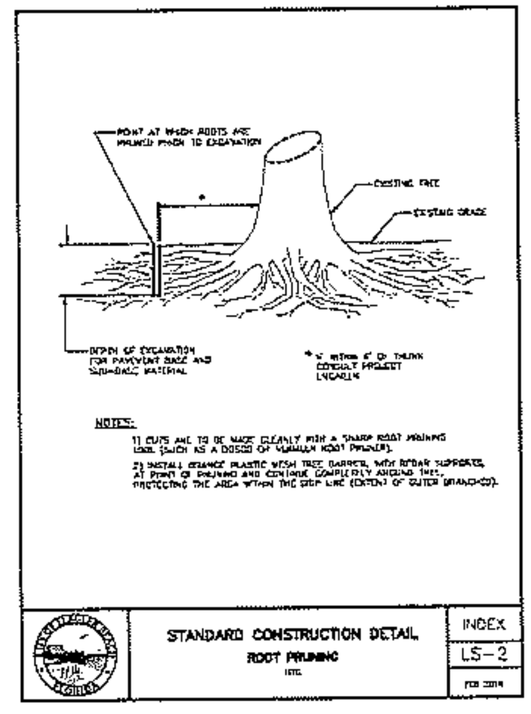
A. Promptly repair trees damaged by construction operations within 24 hours. Treat damaged trunks, limbs, and roots according to arborist's written instructions.
B. Aerate surface soil, compacted during construction, 10 feet (3 m) beyond drip line. Drill 2-inch (50-mm) diameter holes a minimum of 12 inches (300 mm) deep at 24 inches (600 mm) o.c. Backfill holes with an equal mix of augered soil and sand.

3.7 DISPOSAL OF WASTE MATERIALS

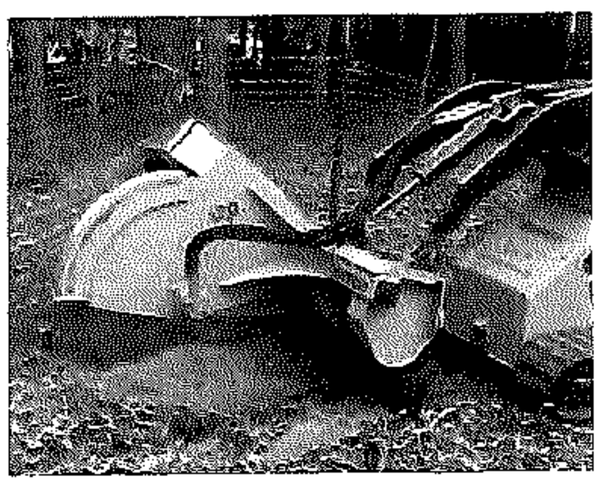
A. Burning is not permitted.
B. Disposal: Remove excess excavated material, displaced trees, and excess chips from Owner's property. Disposal shall be local landfill.



STANDARD CONSTRUCTION DETAIL
ROOT BARRIER
INDEX LS-1
FEB 2014

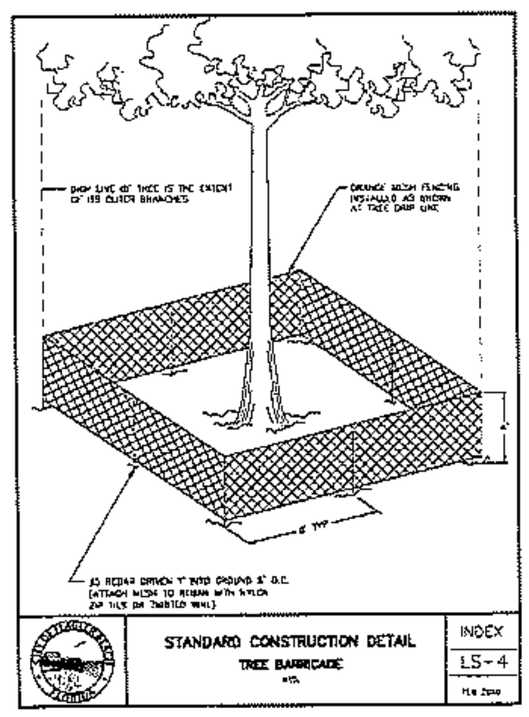


STANDARD CONSTRUCTION DETAIL
ROOT PRUNING
INDEX LS-2
FEB 2014



CONTRACTOR TO USE DOSKO OR VERMEER MECHANICAL ROOT PRUNER EQUIPMENT WHEN WITHIN CRITICAL ROOT ZONE OR TREE PROTECTION AREA FOR INSTALLATION OF 4" CONDUITS FOR ELECTRICAL, CABLE, TELECOMMUNICATIONS AND IRRIGATION SERVICES

MECHANICAL ROOT PRUNER EQUIPMENT DETAIL
NOT TO SCALE



STANDARD CONSTRUCTION DETAIL
TREE BARRICADE
INDEX LS-4
FEB 2014

REVISIONS	
DATE	DESCRIPTION
4/25/23	CITY COMMENTS

1210 North US1, Suite 3
Ormond Beach, Florida 32174
Phone (386) 672-7784
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Civil Engineering
Transportation Planning
Landscape Architecture
NEWKIRK ENGINEERING INC

TREE PROTECTION DETAILS
LEGACY POINTE APARTMENTS
LESLIE STREET
FLAGLER BEACH, FL 32136

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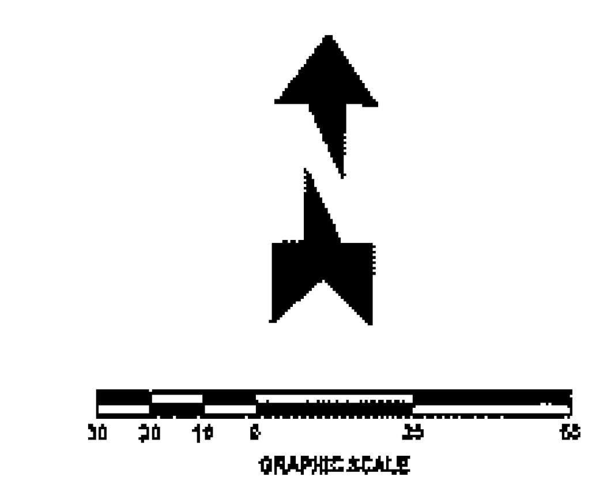
PROJECT No:	2022-17
DATE:	FEBRUARY 2023
DESIGN BY:	HHN
DRAWN BY:	NWS
CHECKED BY:	HHN
SCALE:	AS SHOWN

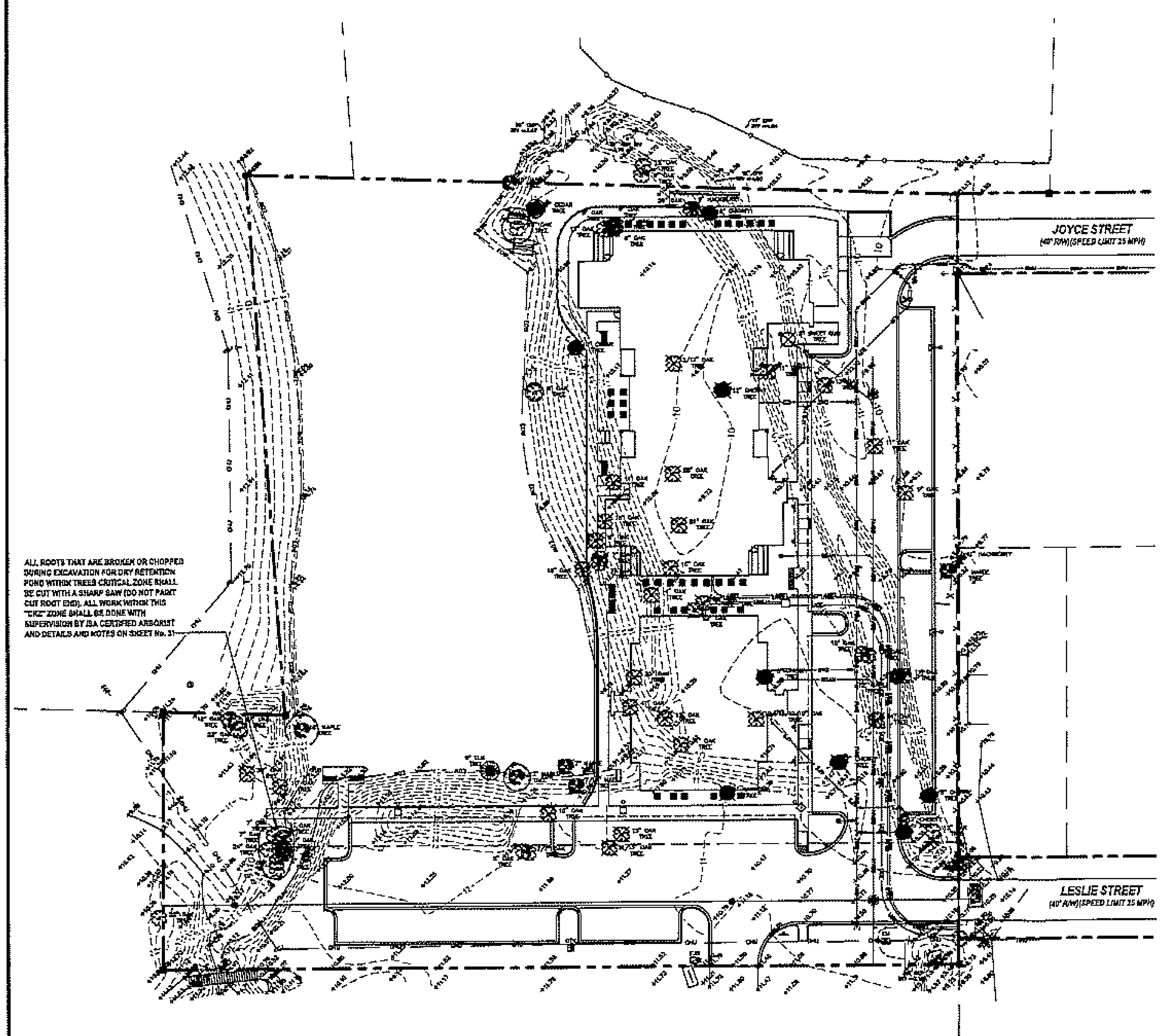
DRAWING NUMBER

31



OVERALL TREE LEGEND:

NAME	SYMBOL	EXISTING	REMOVE	REMAIN
CEDAR		2	1	1
CHERRY		7	7	0
ELM		1	0	1
HACKBERRY		2	1	1
MAGNOLIA		1	1	0
MAPLE		9	5	4
OAK		60	46	14
SWEET GUM		1	1	0
	TOTALS:	83	62	21



MAPLE	TREES REMOVED	TREES REMAIN
7"	3	
10"		1
12"	1	
13"	1	1
14"		1
16"		1
TOTAL	5	4
CEDAR	TREES REMOVED	TREES REMAIN
9"		1
10"	1	
TOTAL	1	1
OAK	TREES REMOVED	TREES REMAIN
6"	1	1
7"	4	3
8"	3	1
9"	2	1
10"	3	3
11"	5	
12"	5	
13"	5	
14"	2	
15"	4	1
16"	1	1
18"	2	
19"	1	
21"	1	
22"	2	
23"		1
24"		1
25"	1	
26"	2	
27"		1
28"	1	
41"	1	
TOTAL	46	14
ELM	TREES REMOVED	TREES REMAIN
9"		1
TOTAL	0	1
CHERRY	TREES REMOVED	TREES REMAIN
7"	1	
8"	3	
11"	1	
12"	2	
TOTAL	7	0
SWEET GUM	TREES REMOVED	TREES REMAIN
8"	1	
TOTAL	1	0
MAGNOLIA	TREES REMOVED	TREES REMAIN
14"	1	
TOTAL	1	0
TOTALS	61	20
TOTAL TREES REMOVED		61
TOTAL DBH REMOVED		800"

REQUIRED TREE REPLACEMENT: 61 CANOPY TREES
(8' MINIMUM HEIGHT)

REVISIONS	
DATE	DESCRIPTION
4/2025	CITY COMMENTS

NEWKIRK ENGINEERING INC.
1230 North US1, Suite 3
Ormond Beach, Florida 32174
Phone (386) 872-7794
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C.A. # 30209
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C 2013
Civil Engineering, Transportation, CEI & Landscape Architecture

TREE REPLACEMENT PLAN
LEGACY POINTE APARTMENTS
LESLIE STREET
FLAGLER BEACH, FL 32136

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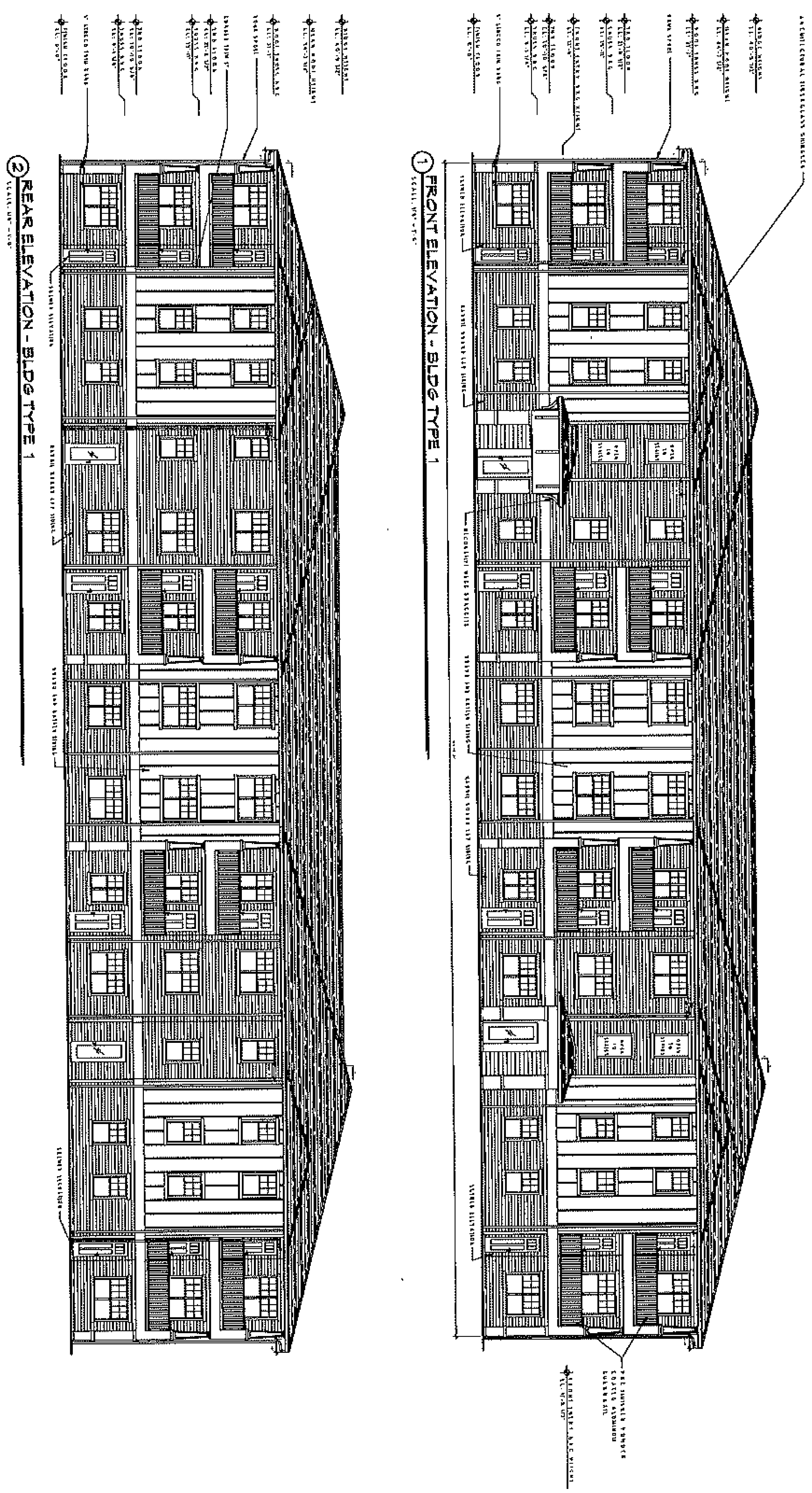
CHECKED BY:	HHN
SCALE:	1" = 30'

DRAWING NUMBER

32



ROBERT HALL
ARCHITECTS, INC.
217 ROBINSON ROAD
NEW SMYRNA, FLORIDA 32162
(386) 214-4529
AA 26003415

☐PLANNING ☐DESIGN ☐ARCHITECTURE

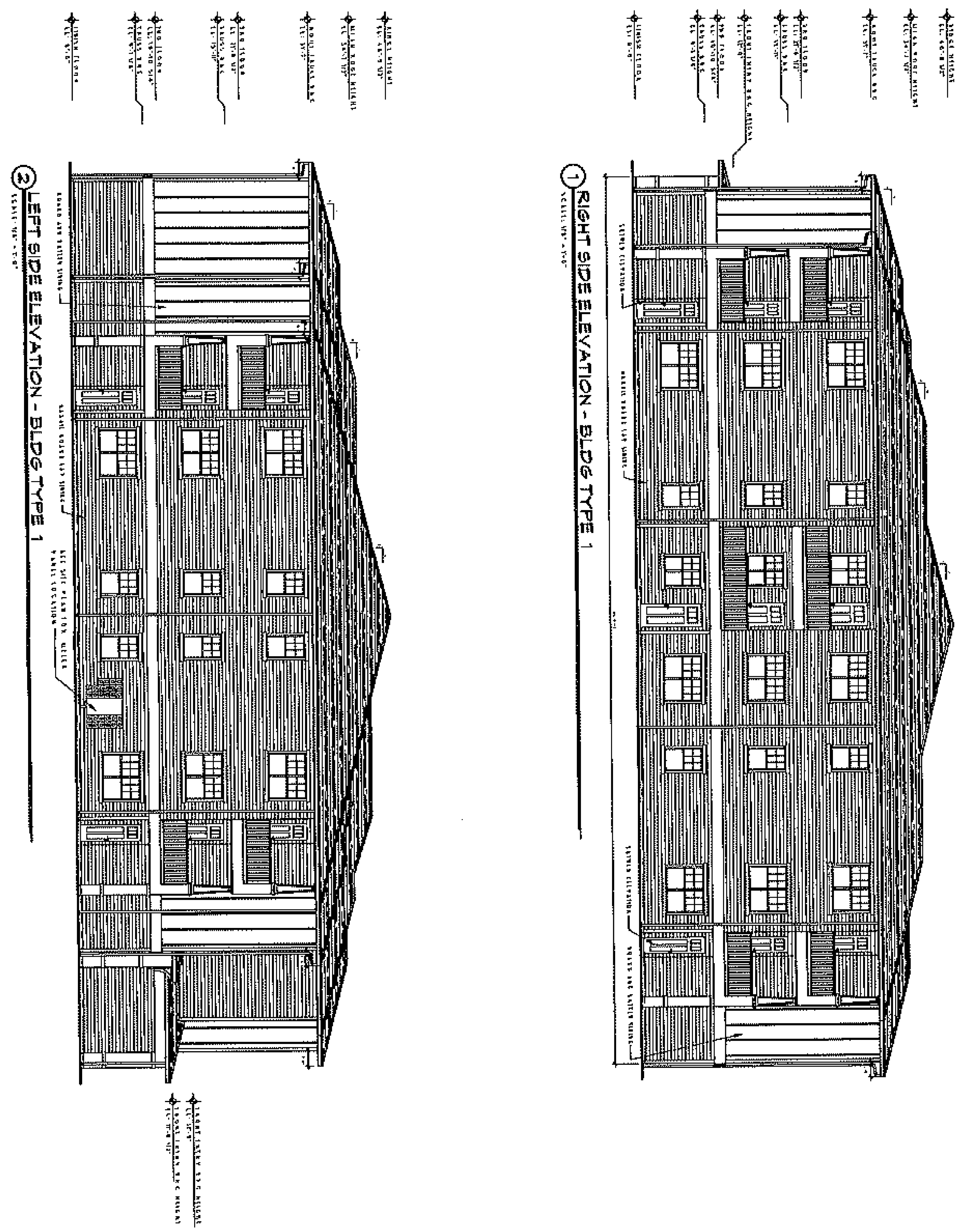
ROBERT A. HALL ARCHITECT

ELEVATIONS FOR:
LEGACY POINT APARTMENTS
LESLIE STREET
FLAGLER BEACH, FLORIDA

REV#	DATE	DESCRIPTION

DATE: 6-30-22
DRAWN BY: JJB

SHEET NO.
A-3.0



ELEVATIONS FOR:

LEGACY POINTE APARTMENTS

LESLIE STREET

FLAGLER BEACH, FLORIDA

ROBERT HALL ARCHITECTS, INC.

217 ROBINSON ROAD
NEW SYMERNA, FLORIDA 32169
(386) 214-4529
hallarchitects@halllarch.com
AA 26003415

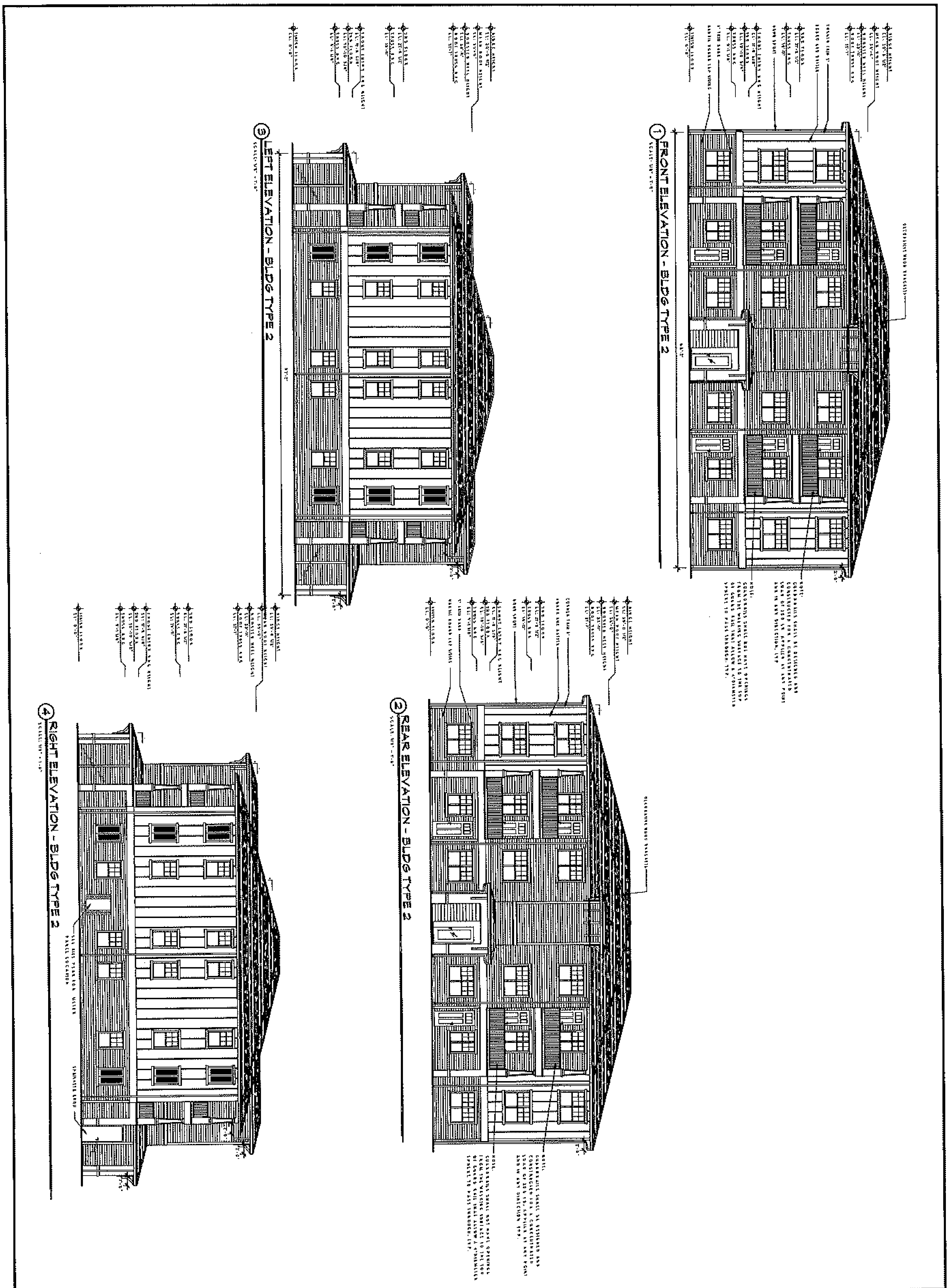
☐PLANNING ☐DESIGN ☐ARCHITECTURE

ROBERT A. HALL ARCHITECT

REV#	DATE	DESCRIPTION

DATE: 6-30-22
DRAWN BY: AJR

SHEET NO.
A-3.1



ELEVATIONS FOR:

LEGACY POINTE APARTMENTS

LESLIE STREET
FLAGLER BEACH, FLORIDA

ROBERT HALL ARCHITECTS, INC.
217 ROBINSON ROAD
NEW SMYRNA, FLORIDA 32169
(386) 216-4529
hallarchitects@rhallarch.com
AA 26003415

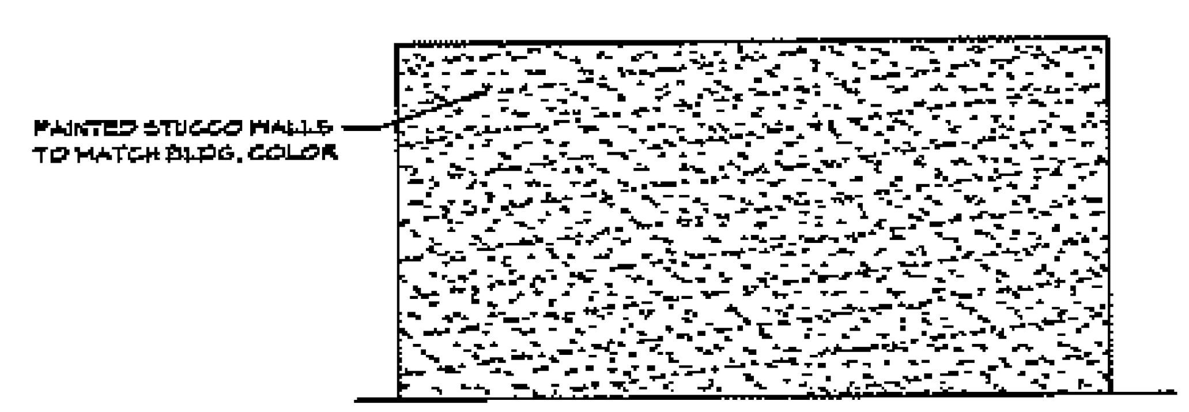
ROBERT A. HALL ARCHITECT

☐PLANNING ☐DESIGN ☐ARCHITECTURE

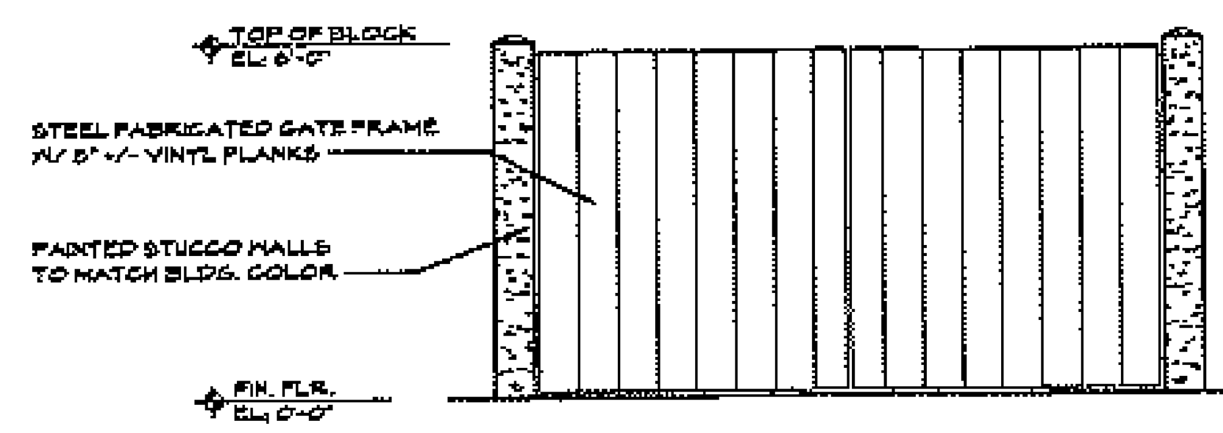
SHEET NO. A-3.2

DATE: 8-30-22
DRAWN BY: JJB

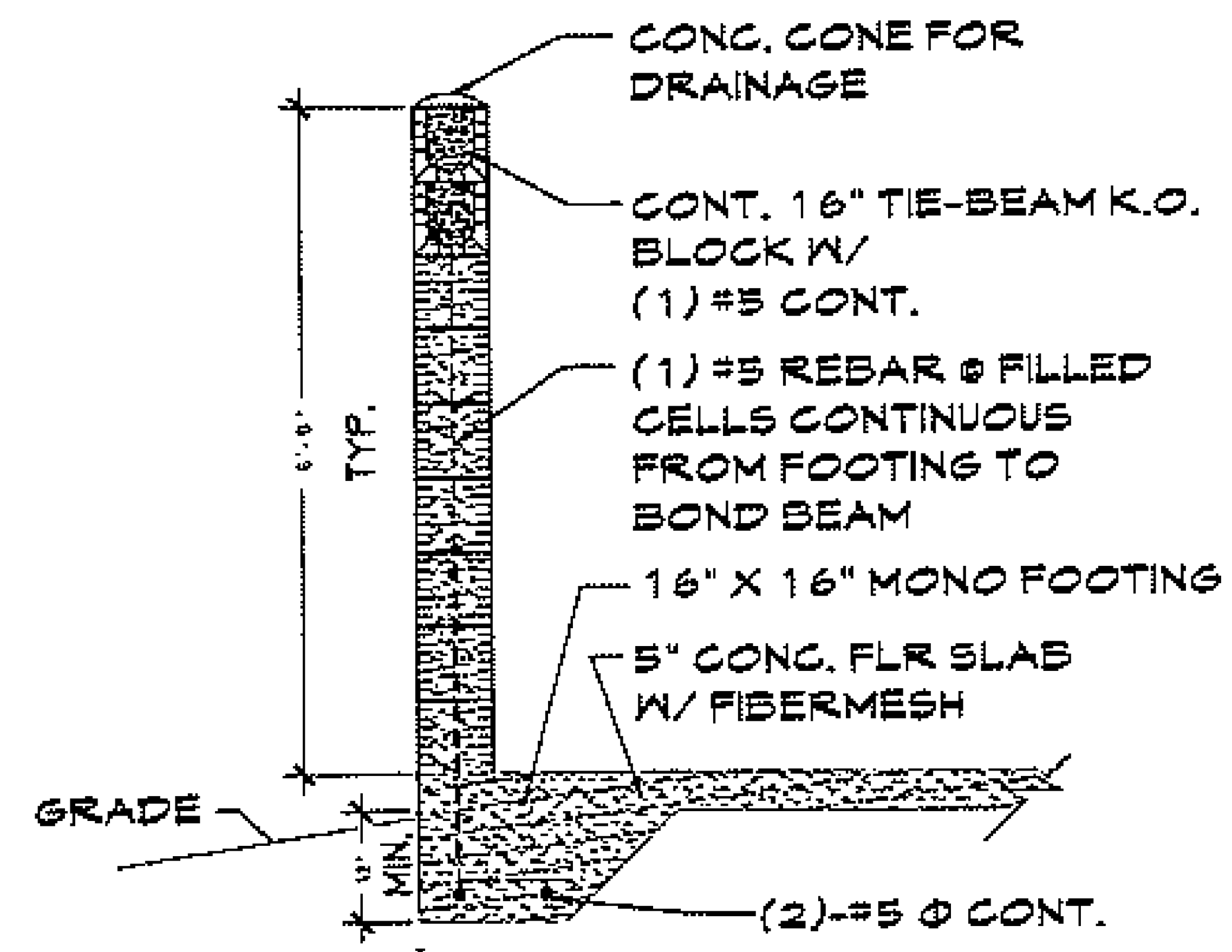
REV#	DATE	DESCRIPTION



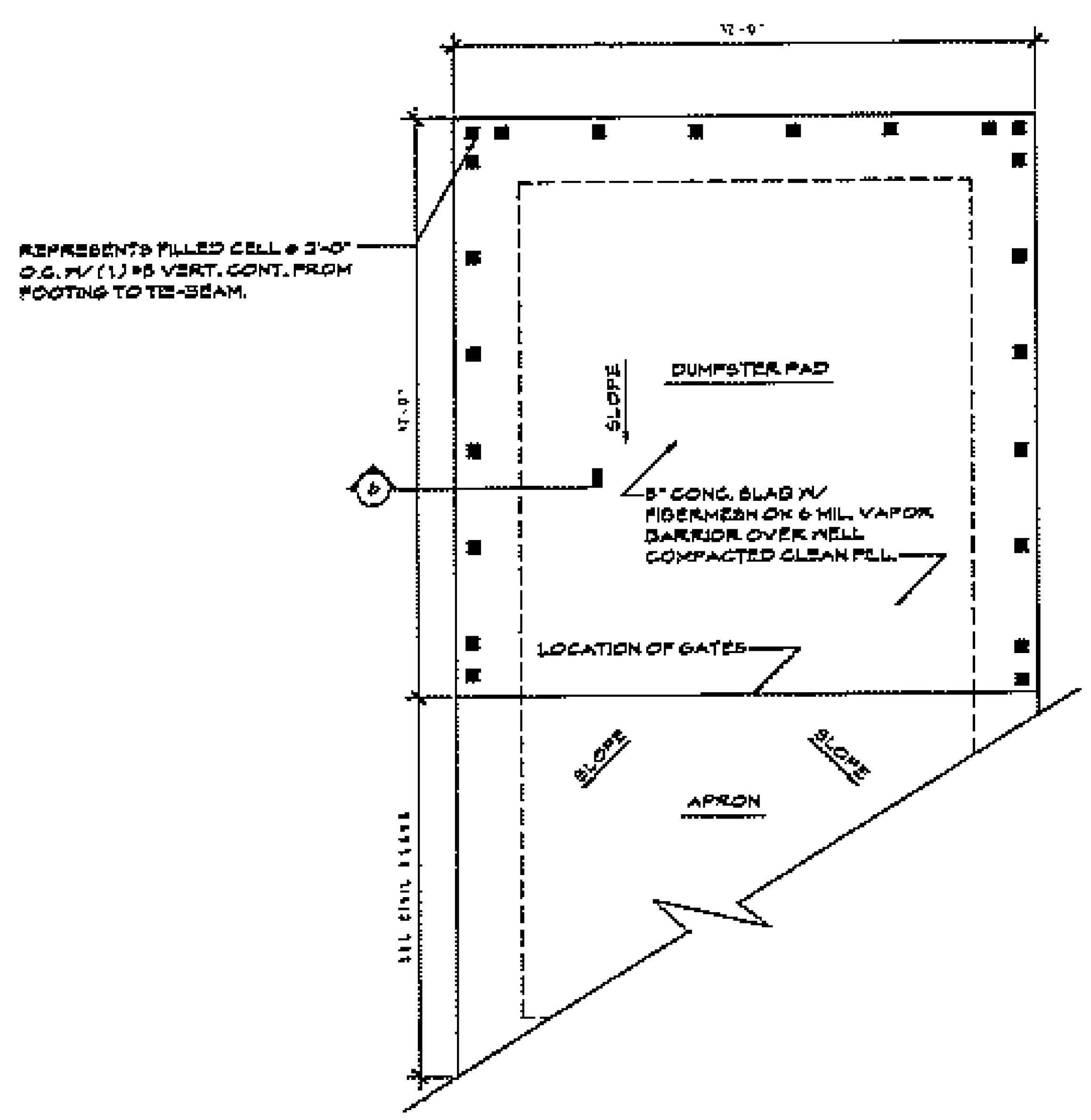
1 SIDE ELEVATION
SCALE: 3/8" = 1'-0"



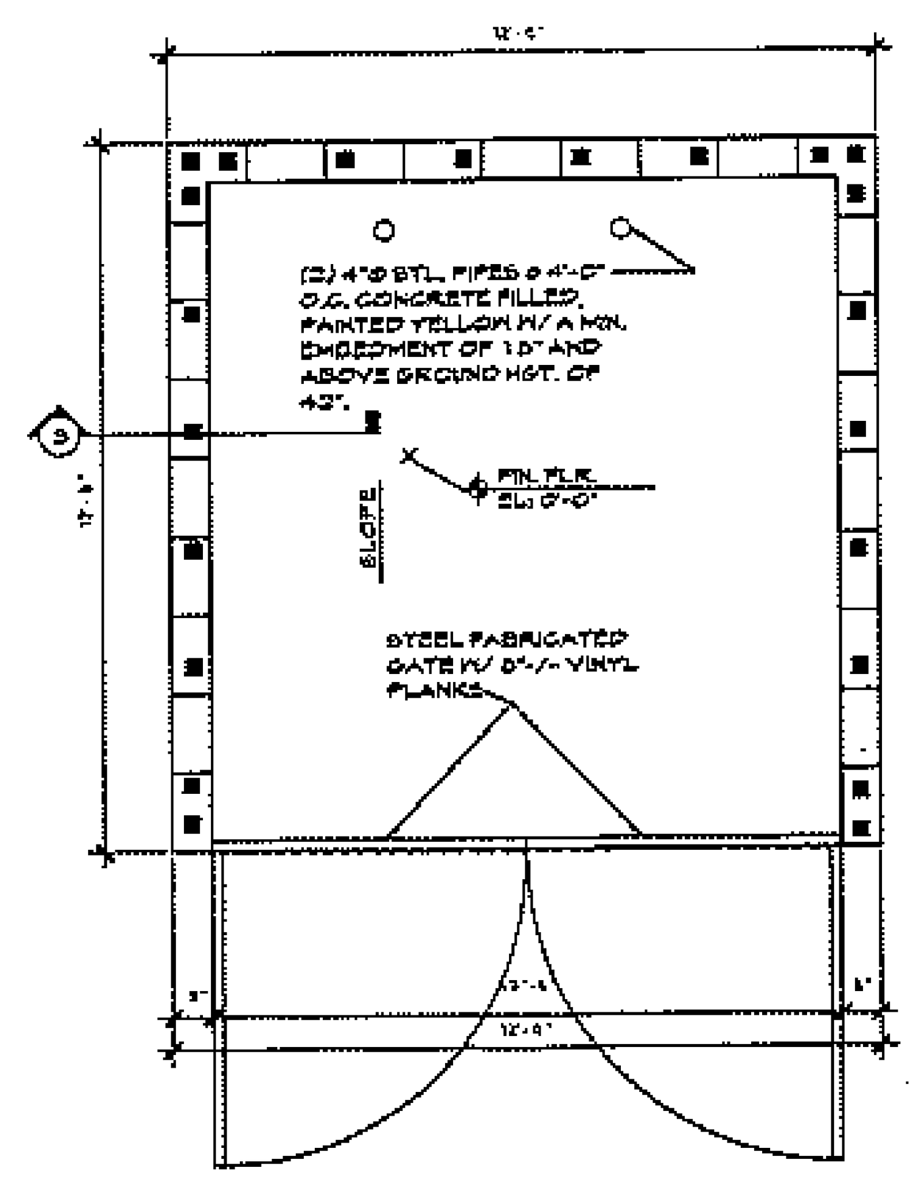
2 FRONT ELEVATION
SCALE: 3/8" = 1'-0"



3 WALL SECTION
SCALE 1/2" = 1'-0"

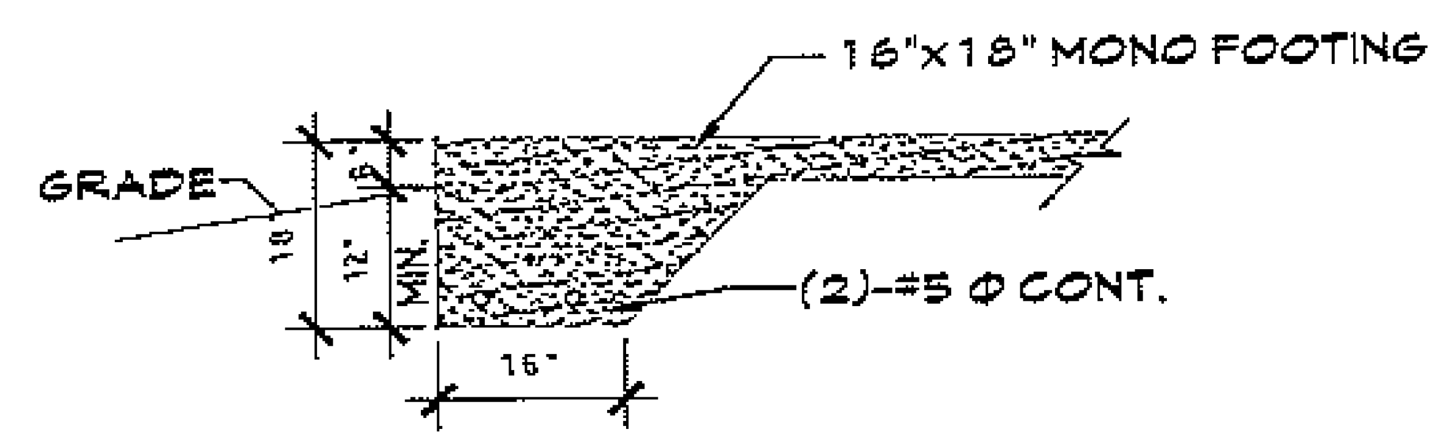


4 FOUNDATION PLAN
SCALE: 3/8" = 1'-0"



5 FLOOR PLAN
SCALE: 3/8" = 1'-0"

NOTE: SEE SITE PLAN FOR LOCATIONS OF DUMPSTER ENCLOSURES



6 DETAIL
SCALE 1/2" = 1'-0"

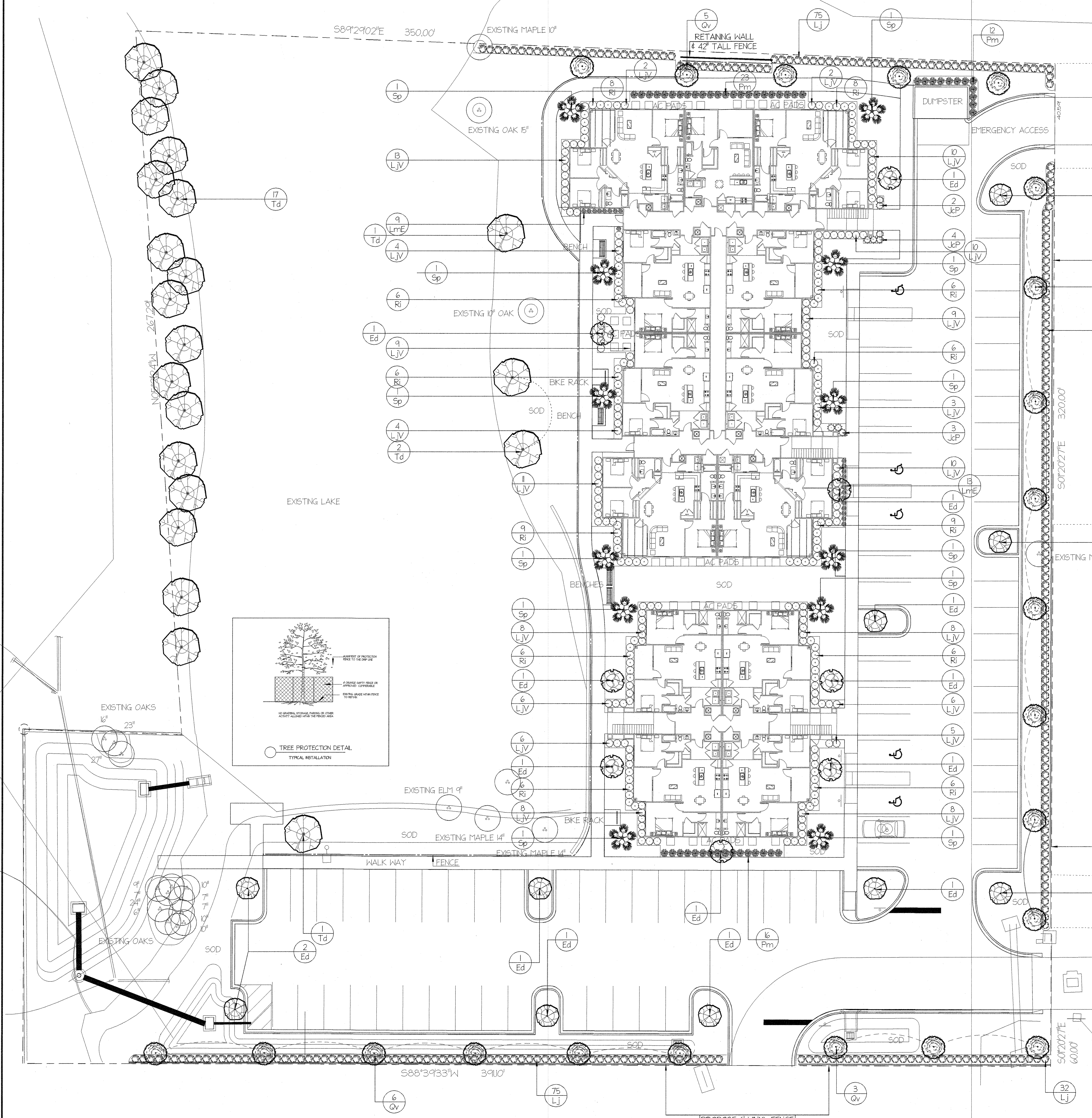
DUMPSTER ENCLOSURE FOR:
LEGACY POINTE APARTMENTS
LESLIE STREET
FLAGLER BEACH, FLORIDA

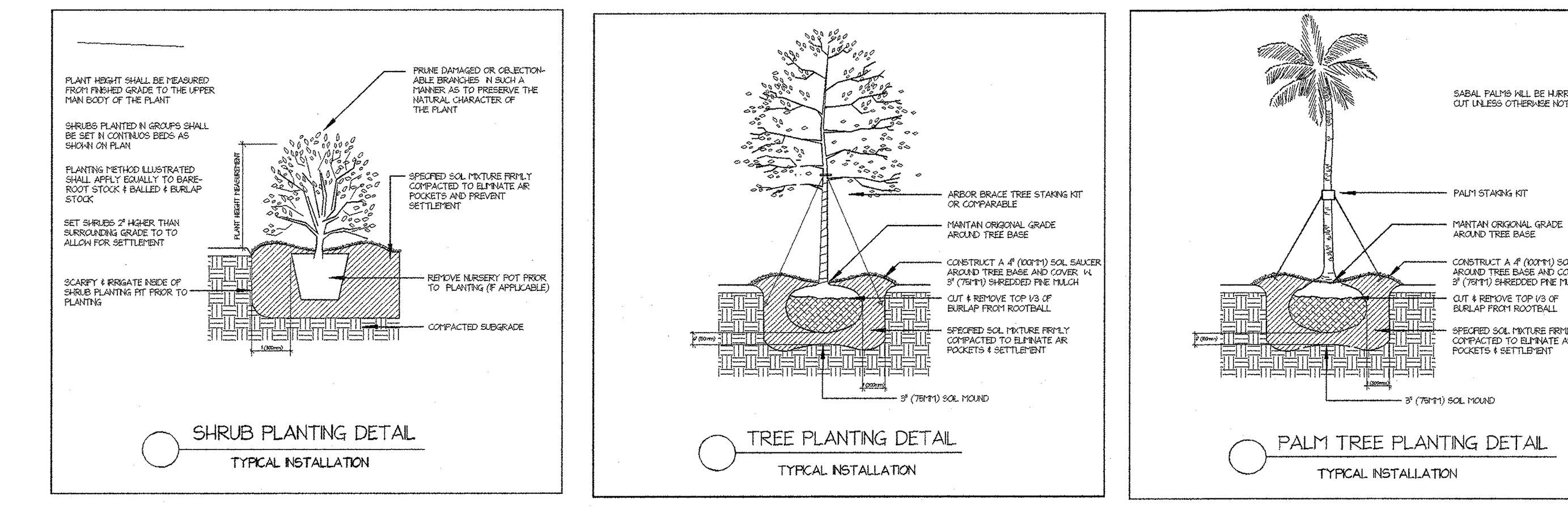
ROBERT HALL ARCHITECTS, INC.
237 ROBINSON ROAD
NEW SMYRNA, FLORIDA 32169
(305) 214-4523
AA 26003415
PLANNING DESIGN ARCHITECTURE
ROBERT A. HALL ARCHITECT

DATE: 8-30-22
DRAWN BY: JJB

REV	DATE	DESCRIPTION

SHEET NO.
A-10





Key	Qty	Botanical Name	Common Name	Size/Condition		Spacing
Trees						
Ed	18	Elaeocarpus decipiens	JAPANESE BLUEBERRY. STANDARD	45g	2.5" cal. 10' oa ht.	See Plan
Qv	22	Quercus virginiana	SOUTHERN LIVE OAK	30g	2" cal. 8-10' ht.	See Plan
Td	21	Taxodium distichum	CYPRESS, BALD	30g	2" cal. 8-10' ht.	See Plan
Palms						
Sp	12	Sabal palmetto	SABAL PALM	14' ct		See Plan
Shrubs						
Lj	279	Ligustrum japonicum	LIGUSTRUM, GREEN	3g	18" X 18"	See Plan
LjV	142	Ligustrum japonicum 'Variegatum'	LIGUSTRUM, JACK FROST	3g	18" X 18"	36" oc
Pm	12	Podocarpus macrophyllus	PODOCARPUS	7g	36" oa ht	36" oc
Pm	39	Podocarpus macrophyllus	PODOCARPUS	3g	16" x 16"	36" oc
Ri	82	Rhaphiolepis indica	INDIAN HAWTHORN	3g	12" x 16"	36" oc
Perennials and Annuals						
LmE	22	Liriope muscari 'Evergreen Giant'	LIRIOPE, EVERGREEN GIANT	1g	Spread	24" oc
Groundcovers						
JcP	9	Juniperus chinensis 'Parsonii'	JUNIPER, PARSONII	3g	16" x 16"	36" oc

Sod: Bahia
Mulch: Pine Bark nuggets for all planting areas 3" depth.
Irrigation: Full coverage to all newly planted and sodded areas

Perimeter Tree Requirement:
1 Tree for every forty linear feet of property.
Property Permeter
North Property Line: 350' less 129' water = 221'
6 Tress Required, 5 supplied and 1 existing.
East Property Line: 320'. 8 trees.
8 trees supplied and 1 existing.
South Property Line: 391' less water 33'.
9 trees required. 9 trees supplied.

Total Trees:
12 Sabal Palms Provided
61 New Trees Provided
21 Existing Trees
94 Total Trees

1) All work is to meet local codes and ordinances.
2) All plants and trees are to be FL #1 according to Florida grades and standards.
3) The landscape contractor is responcible to confirm all material quantities. The plan takes presidence over the plant key.
4) All materials are to be irrigated with water wise irrigation practices and materials providing one hundred percent coverage to all planted areas. ROW is excluded.
5) All trees are to be staked and maintained straight.
~~6) All plants & trees are to be fertlized with Nurserymen's Special 6-8-10 at the manufacturers rates.~~ All soil is to be tested and amended with potting soil.
7) All materials are to be warrantied for one year after the time of final acceptance providing they have been professionaly maintained.
8) Any substitutions based on availbilty are subject to the owners and landscape designers recommendations.

L-1

Graphic Scale
Scale 1" = 20'
40' 20' 0' 20' 40'

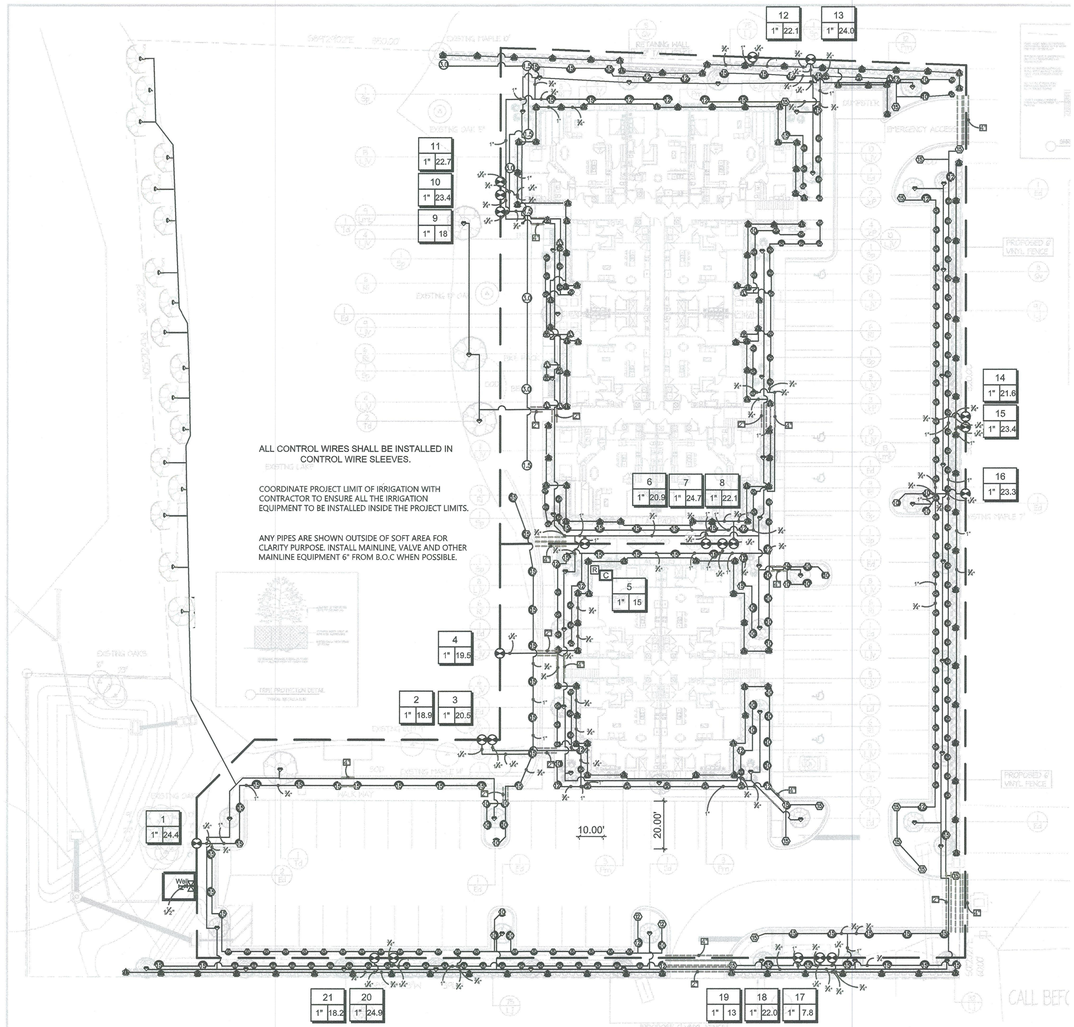
CALL BEFORE YOU DIG: Sunshine 811

VERDEGO Design Center
Main Office/Garden Center
3335 North State Street, Bunnell FL 32110
P. 386.437.3122 F. 386.437.6883

Landscape Design

LEGACY POINTE APARTMENTS
LESLIE STREET
FLAGLER BEACH, FL

Job #
Date 2-8-23
Revisions 2-22-23 4-27-23
Designer



1
1 of 3
IRRIGATION DESIGN LAYOUT

FIS OUTDOOR
FIRST IN SERVICE

DRAWING INDEX
IRR-01: IRRIGATION DESIGN
IRR-02: IRRIGATION DETAILS
IRR-03: INSTALLATION DETAILS

RYAN SEIFERT
Certified Landscape Water Manager
CIC
IRRIGATION ASSOCIATION
75785

0 30 60 90 feet
SCALE: 1" = 30'

DESIGN PLOT SIZE: 24X36

Irrigation ASSOCIATION™ Member

811 Know what's below. Call before you dig.

PREPARED FOR:

LEGACY POINTE APARTMENTS

FLAGLER BEACH, FL

PREPARED BY:

FIS OUTDOOR
1112 Samples Industrial Dr.
Cumming, GA 30041

770-844-7899
www.fisoutdoor.com

FIS OUTDOOR

IRRIGATION PLAN

REVISION	COMMENTS	DATE
1		02-28-2023
2		xx-xx-xxxx
3		xx-xx-xxxx
4		xx-xx-xxxx
5		xx-xx-xxxx

NORTH

DRAWING SCALE: 1"= 30'

PROJECT NUMBER: F56801

DRAWING TITLE: IRRIGATION DESIGN

DRAWN BY: ZN

CHECKED BY: JF

AUTHORIZED: JF

ISSUE: DESIGN

ISSUE DATE: 02-14-2023

SHEET NUMBER: IRR-01

VALVE_SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	WIRE	PSI	PSI @ POC	PRECIP
1	Hunter PGV-101 Globe	1"	Turf Spray	24.4	339.2	37.5	37.8	0.69 in/h
2	Hunter PGV-101 Globe	1"	Turf Spray	18.87	190.4	35.4	36.5	0.82 in/h
3	Hunter PGV-101 Globe	1"	Turf Spray	20.54	186.1	36.4	37.7	1.28 in/h
4	Hunter PGV-101 Globe	1"	Shrub Spray	19.5	146.9	36.7	38.1	1.19 in/h
5	Hunter PGV-101 Globe	1"	Bubbler	15	65.7	35.3	36.4	1.7 in/h
6	Hunter PGV-101 Globe	1"	Turf Spray	20.87	65.7	37.6	40.1	0.89 in/h
7	Hunter PGV-101 Globe	1"	Turf Spray	24.69	72.7	36.2	39.6	1.01 in/h
8	Hunter PGV-101 Globe	1"	Shrub Spray	22.1	77.3	37.9	40.8	1.34 in/h
9	Hunter PGV-101 Globe	1"	Turf Rotor	18	240.0	49.5	51.2	0.65 in/h
10	Hunter PGV-101 Globe	1"	Shrub Spray	23.4	247.0	39.0	41.7	1.4 in/h
11	Hunter PGV-101 Globe	1"	Turf Spray	22.71	252.5	37.1	39.6	1.18 in/h
12	Hunter PGV-101 Globe	1"	Shrub Spray	22.1	414.2	36.7	39.2	1.48 in/h
13	Hunter PGV-101 Globe	1"	Turf Spray	24.03	438.5	35.5	38.2	1.3 in/h
14	Hunter PGV-101 Globe	1"	Turf Spray	21.59	650.4	37.7	40.0	0.74 in/h
15	Hunter PGV-101 Globe	1"	Shrub Spray	23.4	654.8	37.7	40.4	1.53 in/h
16	Hunter PGV-101 Globe	1"	Turf Spray	23.3	682.6	38.1	40.8	0.76 in/h
17	Hunter PGV-101 Globe	1"	Shrub Spray	7.8	653.2	32.3	32.6	1.54 in/h
18	Hunter PGV-101 Globe	1"	Turf Spray	21.97	648.1	34.6	36.7	1.3 in/h
19	Hunter PGV-101 Globe	1"	Bubbler	13	638.9	35.3	36.1	1.7 in/h
20	Hunter PGV-101 Globe	1"	Turf Spray	24.93	469.4	37.8	39.2	0.99 in/h
21	Hunter PGV-101 Globe	1"	Shrub Spray	18.2	461.4	34.7	35.4	1.53 in/h
	Common Wire							

WATERING_SCHEDULE

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
1	Hunter PGV-101 Globe	Turf Spray	0.69 in/h	1.01	88	2,147	716
2	Hunter PGV-101 Globe	Turf Spray	0.82 in/h	1.01	75	1,415	472
3	Hunter PGV-101 Globe	Turf Spray	1.32 in/h	1.01	46	977	326
4	Hunter PGV-101 Globe	Shrub Spray	1.37 in/h	1.01	45	1,112	371
5	Hunter PGV-101 Globe	Bubbler	1.7 in/h	0.75	27	405	135
6	Hunter PGV-101 Globe	Turf Spray	0.96 in/h	1.01	63	1,542	514
7	Hunter PGV-101 Globe	Turf Spray	1.01 in/h	1.01	61	1,506	502
8	Hunter PGV-101 Globe	Shrub Spray	1.4 in/h	1.01	44	1,030	343
9	Hunter PGV-101 Globe	Turf Rotor	0.65 in/h	1.01	94	1,692	564
10	Hunter PGV-101 Globe	Shrub Spray	1.51 in/h	1.01	41	1,013	338
11	Hunter PGV-101 Globe	Turf Spray	1.2 in/h	1.01	51	1,265	422
12	Hunter PGV-101 Globe	Shrub Spray	1.56 in/h	1.01	39	862	287
13	Hunter PGV-101 Globe	Turf Spray	1.3 in/h	1.01	47	1,156	385
14	Hunter PGV-101 Globe	Turf Spray	0.74 in/h	1.01	83	1,792	597
15	Hunter PGV-101 Globe	Shrub Spray	1.53 in/h	1.01	40	936	312
16	Hunter PGV-101 Globe	Turf Spray	0.76 in/h	1.01	80	1,864	621
17	Hunter PGV-101 Globe	Shrub Spray	1.54 in/h	1.01	40	312	104
18	Hunter PGV-101 Globe	Turf Spray	1.3 in/h	1.01	47	1,033	344
19	Hunter PGV-101 Globe	Bubbler	1.7 in/h	0.75	27	351	117
20	Hunter PGV-101 Globe	Turf Spray	0.99 in/h	1.01	62	1,546	515
21	Hunter PGV-101 Globe	Shrub Spray	1.53 in/h	1.01	40	728	243
		TOTALS:			1,140	24,682	8,227

CRITICAL ANALYSIS

Generated:	
P.O.C. NUMBER:	01
Water Source Information:	Potable
FLOW AVAILABLE	
Custom Max Flow:	25 GPM
Flow Available	25 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	65 PSI
Pressure Available:	65 PSI
DESIGN ANALYSIS	
Maximum Station Flow:	24.93 GPM
Flow Available at POC:	25 GPM
Residual Flow Available:	0.07 GPM
Critical Station:	9
Design Pressure:	45 PSI
Friction Loss:	1.73 PSI
Fittings Loss:	0.17 PSI
Elevation Loss:	0 PSI
Loss through Valve:	2.62 PSI
Pressure Req. at Critical Station:	49.5 PSI
Loss for Fittings:	0.15 PSI
Loss for Main Line:	1.48 PSI
Loss for POC to Valve Elevation:	0 PSI
Loss for Backflow:	0 PSI
Critical Station Pressure at POC:	51.2 PSI
Pressure Available:	65 PSI
Residual Pressure Available:	13.8 PSI

IRRIGATION_SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY
ES LCS RCS CS SS	Hunter PROS-06-NSI Strip Series	19
Q T H F	Hunter PROS-06-NSI 8 Series	162
Q T H F	Hunter PROS-06-NSI 10 Series	33
Q T H HT TQ F	Hunter PROS-06-NSI 12 Series	21
Q T H HT TQ F	Hunter PROS-06-NSI 15 Series	58
4 6 8 10 12 15 17	Hunter PROS-06-NSI Adj Series	15
ES LCS RCS CS SS	Hunter PROS-12-NSI Strip Series on riser	144
25 50 10 20	Hunter PCB-50 (One per Tree)	56
SYMBOL	MANUFACTURER/MODEL	QTY
1.5	Hunter PGP-04 1.5	4
3.0	Hunter PGP-04 3.0	4
SYMBOL	MANUFACTURER/MODEL	QTY
	Hunter PGV-101 Globe 1"	21
	Gate Valve 1-1/2"	1
C	Hunter I-Core Controller-Wall Mount	1
R	Hunter WR-CLIK	1
Well	Irrigation Well With a 2HP Pump	1
	Irrigation Lateral Line: PVC Class 160 SDR 26 3/4"	7,020 l.f.
	Irrigation Lateral Line: PVC Class 160 SDR 26 1"	620 l.f.
	Irrigation Lateral Line: PVC Class 160 SDR 26 1 1/4"	240 l.f.
	Irrigation Mainline: PVC Class 200 SDR 21 1 1/2"	1,520 l.f.
	Pipe Sleeve: Conduit 1-1/4" (Control Wire)	100 l.f.
	Pipe Sleeve: PVC Schedule 40 2"	110 l.f.
	Pipe Sleeve: PVC Schedule 40 4"	140 l.f.

Valve Callout

SLEEVING SIZE SCHEDULE

PIPE SIZE	SLEEVE SIZE
3/4"	2" SLV
1"	2" SLV
1 1/4"	2" SLV
1 1/2"	4" SLV
2"	4" SLV
2 1/2"	4" SLV
3"	6" SLV

VALVE SIZING REQUIREMENTS

MAX.FLOW RANGE	VALVE SIZE
1 TO 25 GPM	1"
26 TO 50 GPM	1-1/2"
51 TO 75 GPM	2"

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LATERAL PIPE SIZING REQUIREMENTS

PVC CLASS 200		PVC SCH 40	
3/4"	10 GPM	3/4"	8 GPM
1"	16 GPM	1"	12 GPM
1 1/4"	26 GPM	1 1/4"	22 GPM
1 1/2"	35 GPM	1 1/2"	30 GPM
2"	55 GPM	2"	50 GPM
2 1/2"	80 GPM	2 1/2"	70 GPM
3"	120 GPM	3"	110 GPM

GENERAL IRRIGATION NOTES

1. IRRIGATION SYSTEM DESIGN IS BASED ON 25 GPM AND 65 PSI. EACH IRRIGATION ZONE SHALL BE PROGRAMMED ON THE BASIS OF WATER REQUIREMENT 0.75 (LOW VOLUME IRRIGATION) 1 (HIGH VOLUME IRRIGATION) INCH WATER PER WEEK TO THE LANDSCAPE IRRIGATION SYSTEM.
2. IRRIGATION DESIGN IS FROM THE POINT OF CONNECTION (POC) ONLY. THE DESIGN IS BASED ON GALLONS PER MINUTE (GPM) AND POUNDS PER SQUARE INCH (PSI) FURNISHED BY OTHERS.
3. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATION OF ALL SITE UTILITIES AND MAKING THE NECESSARY ADJUSTMENTS TO THE IRRIGATION SYSTEM TO ACCOMMODATE THE INFRASTRUCTURE.
4. THE PRESSURE REQUIREMENT AT THE POINT OF CONNECTION IS BASED ON NO MORE THAN 5 FEET OF ELEVATION CHANGE IN THE AREAS OF IRRIGATION.
5. PIPE LOCATIONS ARE DIAGRAMATIC. MAINLINE, LATERAL & VALVES SHOWN IN OUTSIDE OF CURBS FOR GRAPHIC CLARITY ONLY.
6. CONTRACTOR TO VERIFY WATER PRESSURE AND AVAILABILITY PRIOR TO INSTALLATION.
7. ALL CONTROL WIRING DOWNSTREAM OF THE CONTROLLER IS TO BE 14-AWG, UL APPROVED DIRECT BURY.
8. LOCATION OF IRRIGATION COMPONENTS SHOWN ON DRAWING IS APPROXIMATE. ACTUAL PLACEMENT MAY VARY SLIGHTLY AS REQUIRED TO ACHIEVE FULL, EVEN COVERAGE.
9. CONTRACTOR SHALL INSTALL ADDITIONAL CHECK VALVES TO HEADS AND LATERALS AS REQUIRED TO PREVENT LOW HEAD DRAINAGE.
10. ACTUAL LOCATION FOR THE INSTALLATION OF THE BACKFLOW AND THE CONTROLLER IS TO BE DETERMINED IN THE FIELD BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
11. ALL HEADS ARE TO BE INSTALLED WITH THE NOZZLE, SCREEN AND ARCS SHOWN ON THE PLANS. ALL HEADS ARE TO BE ADJUSTED TO PREVENT OVERSPRAY ONTO BUILDINGS, WALLS, FENCE AND ANY HARD STRUCTURE.
12. FINAL LOCATION OF THE AUTOMATIC CONTROLLER (S) SHALL BE APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION (INDOOR VS OUTDOOR).
13. SLEEVE SHALL BE PLACED UNDER PAVEMENT AS SHOWN ON PLANS AND SHALL BE A MINIMUM OF 2X THE SIZE OF THE IRRIGATION PIPE. SEE SLEEVE SIZE CHART.
14. ALL MAINLINE PIPING SHALL BE BURIED TO A MINIMUM DEPTH OF 18" OF COVER AND ALL LATERAL PIPING SHALL BE BURIED TO A MINIMUM DEPTH OF 12" OF COVER.
15. ALL REMOTE CONTROL VALVES, GATE VALVES AND QUICK COUPLER VALVE SHALL BE INSTALLED IN VALVE BOXES.
16. ANY PIPING OR VALVES SHOWN OUTSIDE OF THE PROPERTY LINE OR OUTSIDE OF LANDSCAPE AREA IS SHOWN THERE FOR DESIGN CLARITY ONLY. ALL PIPING AND VALVES SHALL BE INSTALLED ON THE PROPERTY AND WITHIN LANDSCAPE AREAS.

2
2 of 3

IRRIGATION DETAILS LAYOUT

FIS OUTDOOR
FIRST IN SERVICE

PREPARED FOR:

LEGACY POINTE APARTMENTS

FLAGLER BEACH, FL

PREPARED BY:

FIS OUTDOOR
1112 Samples Industrial Dr.
Cumming, GA 30041

770-844-7899
www.fisoutdoor.com

FIS OUTDOOR

IRRIGATION DETAILS

REVISION	COMMENTS	DATE
1		02-28-2023
2		XX-XX-XXXX
3		XX-XX-XXXX
4		XX-XX-XXXX
5		XX-XX-XXXX

RYAN SEIFERT
Certified Landscape Water Manager
CIC
IRRIGATION ASSOCIATION
75785

DRAWING SCALE: NTS

PROJECT NUMBER: F56801

DRAWING TITLE: IRRIGATION DETAILS

DRAWN BY: ZN

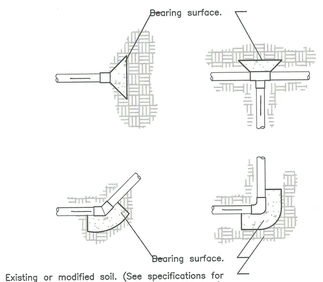
CHECKED BY: JF

AUTHORIZED: JF

ISSUE: DESIGN

ISSUE DATE: 02-14-2023

SHEET NUMBER: IRR-02



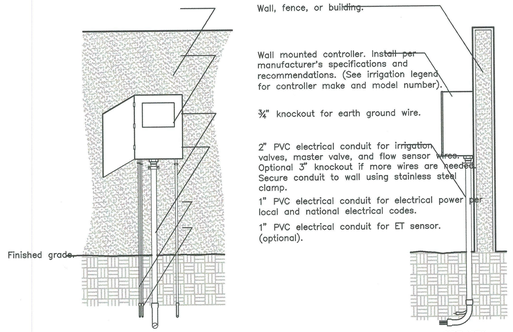
MINIMUM BEARING SURFACE AREA

PIPE SIZE	TEE AND PLUG	90° BEND	45° BEND
1-1/2"	Ø.45 FEET²	Ø.63 FEET²	Ø.34 FEET²
2"	Ø.69 FEET²	Ø.97 FEET²	Ø.53 FEET²
2-1/2"	1.Ø FEET²	1.41 FEET²	Ø.77 FEET²
3"	1.48 FEET²	2.1Ø FEET²	1.14 FEET²
4"	2.43 FEET²	3.45 FEET²	1.87 FEET²
6"	5.25 FEET²	7.41 FEET²	4.Ø2 FEET²
8"	9.Ø8 FEET²	12.83 FEET²	6.96 FEET²
10"	14.93 FEET²	21.Ø7 FEET²	11.44 FEET²

Existing or modified soil. (See specifications for soil modification).

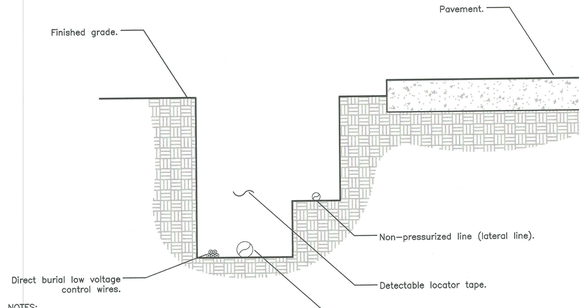
Notes:
1– Size thrust blocks shall be specified as show in the table above.
2– Control wires shall not be encased in concrete.
3– All fittings shall be wrapped with polyethylene to prevent concrete from adhering to pipe, fittings or bolts.
4– Joints and bolts shall be accessible for repairs.
5– Thrust blocks shall be a minimum of 6" thick.
6– One 8Ø lbs. sack of concrete shall cover .6 ft.³

01 THRUST BLOCK



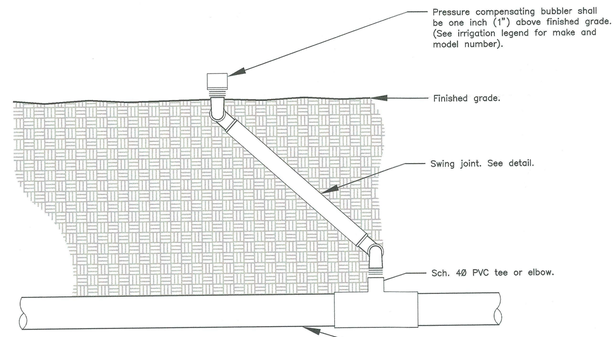
Notes:
1– Common and controller wire to be bundled using electrical tape at 10'–Ø" on center.
2– Grounding rods shall be located between 8"– Ø" to 12'– Ø" away from the controller. Grounding rods shall be ⅝" in diameter x 8' in length. Connect the grounding rod to the controller using 6 gauge bare copper wire or per the manufacturer's specifications.See grounding rod detail.
3– ET Station shall be installed no further than 9Ø' away from the controller and a minimum of 15' off of the ground, out from under any overhead obstructions such as, but not limited to, building overhangs, trees, or utilities.

02 WALL MOUNTED CONTROLLER



NOTES:
1– See irrigation legend for mainline and lateral line pipe size and type.
2– Direct burial control wires shall be installed in Sch. 4Ø PVC electrical conduit if required.
3– 2–wire irrigation wire shall be installed in Sch. 4Ø PVC electrical conduit.
4– Detectable locator tape shall be located six inches (6") above the entire mainline run.

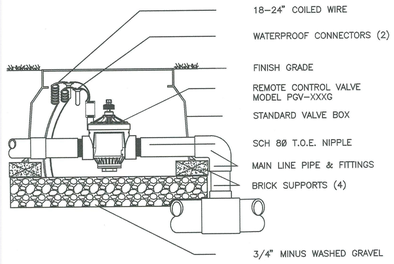
03 IRRIGATION TRENCHING



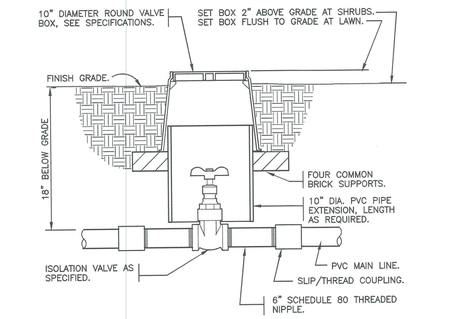
Notes:
1– All irrigation fittings shall be Sch. 4Ø PVC unless specified otherwise.
2– All threaded connection from Sch. 4Ø to Sch. 8Ø PVC shall be made using teflon tape.
3– Contractor shall settle soil around the bubbler and swing joint prior after installation.

04 BUBBLER ON SWING JOINT

Hunter®

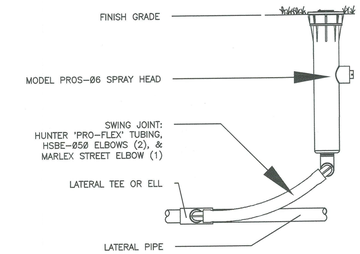


05 PGV GLOBE VALVE



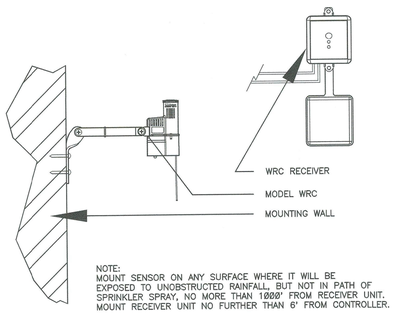
06 BRASS ISOLATION VALVE

Hunter®



07 PROS-06 SPRAY HEAD WITH PRO-FLEX TUBING

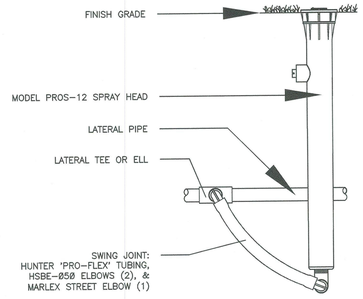
Hunter®



NOTE:
MOUNT SENSOR ON ANY SURFACE WHERE IT WILL BE EXPOSED TO UNOBSTRUCTED RAINFALL, BUT NOT IN PATH OF SPRINKLER SPRAY, NO MORE THAN 1ØØ' FROM RECEIVER UNIT. MOUNT RECEIVER UNIT NO FURTHER THAN 6' FROM CONTROLLER.

08 WIRELESS RAIN-CLIK

Hunter®



09 PROS-12 SPRAY HEAD WITH PRO-FLEX TUBING

3
3 of 3

IRRIGATION INSTALLATION DETAILS LAYOUT

811 Know what's below. Call before you dig.

PREPARED FOR:

LEGACY POINTE APARTMENTS

FLAGLER BEACH, FL

PREPARED BY:

FIS OUTDOOR
1112 Samples Industrial Dr.
Cumming, GA 30041

770-844-7899
www.fisoutdoor.com

FL OUTDOOR

INSTALLATION DETAILS

REVISION

	COMMENTS	DATE
1		02-28-2023
2		xx-xx-xxxx
3		xx-xx-xxxx
4		xx-xx-xxxx
5		xx-xx-xxxx

RYAN SERGENT
Certified Landscape Water Manager
CIC
IRRIGATION ASSOCIATION
#57285

DRAWING SCALE: NTS

PROJECT NUMBER: F56801

DRAWING TITLE: IRRIGATION DETAILS

DRAWN BY: ZN

CHECKED BY: JF

AUTHORIZED: JF

ISSUE: DESIGN

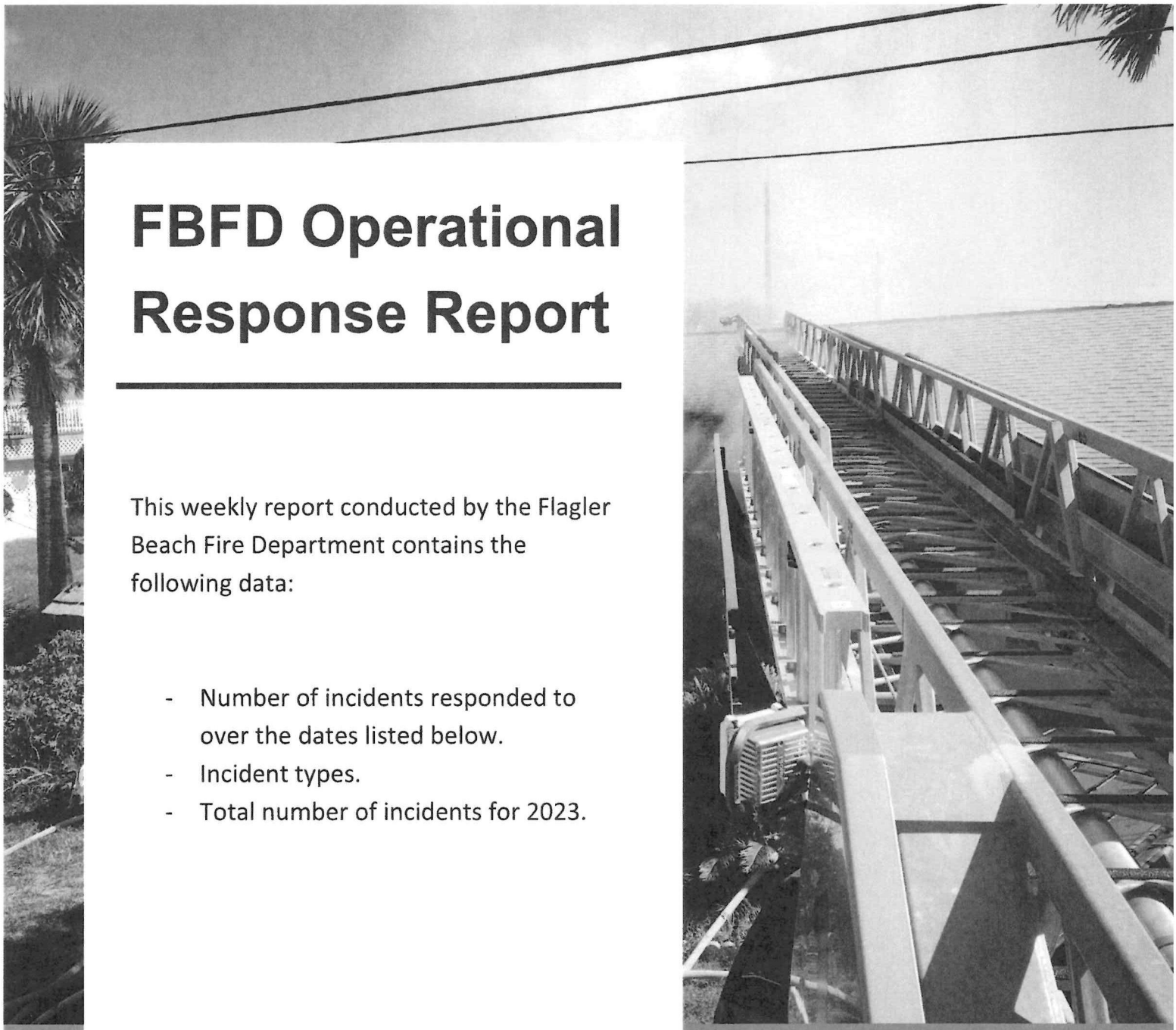
ISSUE DATE: 02-14-2023

SHEET NUMBER: IRR-03

STAFF REPORTS ITEM #14

Beach/Parks/Recreation
Weekly Highlights April 26, 2023

- We began beach training with our new recruit class this past weekend. The training will continue through the next four weekends. We will also be providing lifeguard protection on the beach only on weekends until Memorial Day weekend at which time we will provide lifeguard protection seven days per week through Labor Day. During the times where there are no lifeguard services on the beach, Flagler Beach Fire Department will be the primary responders to all beach emergencies.
- On April 25, presented our beach safety education program at Old Kings Elementary School. We talked about ocean with all grade levels from kindergarten through fifth grade. On April 28, we will be presenting at Rymfire Elementary School.
- People have already begun to register for the 2023 summer Junior Lifeguard summer camp. Application packet and information handbook are available on the City website.
- This weekend we also continued beach training for returning summer lifeguards. We hope to have all United States Lifeguard Association and City of Flagler Beach Lifeguard Training completed by Memorial Day Weekend.
- ATVs and Jet skis are still being operated on a regular basis in order to keep all of our summer rescue vehicles and vessels properly maintained.
- Lifeguard towers from last season are being repaired and repainted as necessary in preparation for the summer season.



FBFD Operational Response Report

This weekly report conducted by the Flagler Beach Fire Department contains the following data:

- Number of incidents responded to over the dates listed below.
- Incident types.
- Total number of incidents for 2023.

Report Conducted: April 20- April 26

Flagler Beach Fire Department
Captain Stephen Cox
Scox@Fbfire.org

Weekly Incident Response Data

eso ANALYTICS Total Record Volume By Incident Type

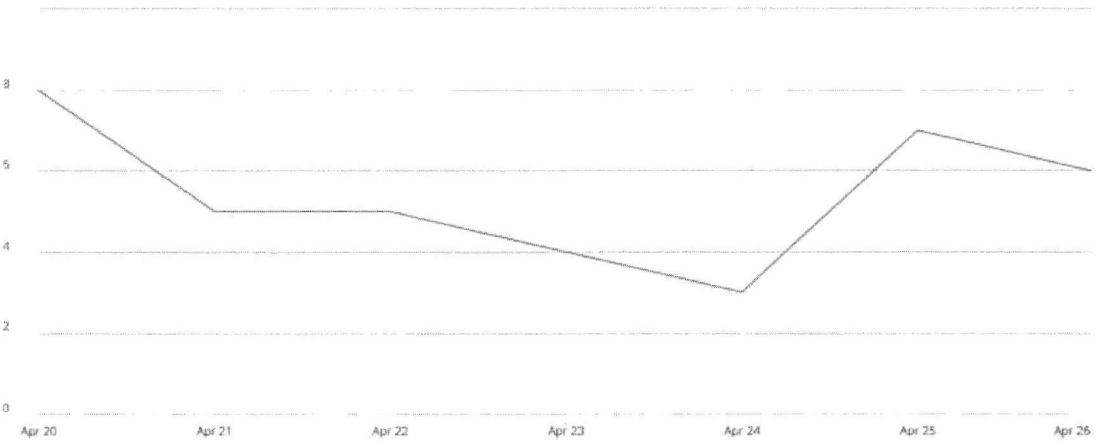
Last 7 Days v Apr 20, 2023 - Apr 26, 2023 v

53%
FIRE
Percentage of Total Incidents

47%
EMS
Percentage of Total Incidents

38
INCIDENTS
In Selected Time Slice

7
DAYS
In Selected Time Slice



Counts | % Rows | % Columns | % All

	4/20/23	4/21/23	4/22/23	4/23/23	4/24/23	4/25/23	4/26/23	4/27/23	4/28/23	4/29/23	4/30/23	5/1/23	5/2/23	Total
(13) Mobile property (vehicle) fire					1									1
(32) Emergency medical service (EMS) incident	2	5	3	1	1	3	3							18
(36) Water or ice-related rescue	1													1
(44) Electrical wiring/equipm. problem						1								1
(55) Public service assistance					1	1	1							3
(61) Dispatched and canceled en route	5		2	3		2								12
(70) False alarm and false call, other							2							2
Total	8	5	5	4	3	7	6							38

Total Number of Incident for 2023

502

Jeanelle Jarrah

From: Robert Pace
Sent: Thursday, April 27, 2023 11:37 AM
To: Michael Abels
Cc: Jeanelle Jarrah; Katie Dockhorn
Subject: Weekly Highlights

Mr. Abels,
The following are the weekly highlights;

- 2nd Portion of Hose and Ladder Testing

The technicians from 1st American Fire Service reported to the station approximately three weeks ago to conduct hose and ladder testing. On the first visit, all the hose from Engine 11 and Ladder 11 was tested. The ground ladders from Engine 11 were also inspected/tested. This week, the second portion was conducted. This included the aerial unit, ground ladders from Ladder 11, and all the hose on the storage rack. With the exception of five older lengths of hose, the before mentioned equipment passed inspection. The documentation was received by the department and is shelf ready for next week's ISO inspection

- Mental Health First Aid

Mental Health First Aid Training took place here at the station house Monday and Tuesday. The training was four hour sessions each day. Originally, the training was to take place at the EOC, as the EOC was overbooked, the department offered to host the event. The lead instructor was Salvatore Gintoli (Senior Director of Crisis Services/SMA Healthcare). Instruction was geared to the newly selected Peer Support Representatives from throughout the county. The main objective was to provide useful tools to the Peer Support Representatives that could assist them when counseling a co-worker in crisis. Much credit goes out to Lieutenant Oberst who is the department's representative and coordinated the entire training. I received nothing, but positive feedback

- Station Tour

Some local residents requested a station tour for six children. The request came into Lieutenant Rainey and A Shift was happy to do it. The children were given a station tour, demonstration of equipment, and the opportunity to flow water from a booster line. In addition, The crew took advantage of the visit to go over some fire prevention/ safety practices. The children were instructed on who to call in the case of an emergency, stop-drop-& roll, and exit drills from the home. Each child received a plastic fire helmet and department Frisbee before leaving the station

- Computer Replacement

I have been working with Nicholas Murdock (IT Support Specialist for Flagler Beach) on what computers are in need of replacement according to the inventory list. There were three desktop computers and one laptop identified for this year. Nick believes he can arrange for the equipment to be delivered to the station within a few weeks. There was also a plan scheduled for next year that includes two desktop computers and Mach Alert equipment. I will once again work with Nick as we enter a new budget

- Local Businesses' Pre-Plans (Fire Marshal Gocke)

Business Pre-Plans can provide vital information for fire crews when responding to a fire. The plans include building dimensions, occupancy loads, fire protection equipment, and special hazards. Considering there are over 250 businesses in the city now, this is a lot of information to be documented by Fire Marshal Gocke. He has been working on the existing plans for a couple of weeks and they will all be updated for next week's ISO inspection. Fire Marshal Gocke is also working towards having the city's pre-plans stored electronically through the Mobile Eyes computer software

- Continual Education Unit

Staff was assigned a continual education unit called Cyanide Poisoning. Upon successful completion, the firefighters were to accomplish several objectives. Explain how cyanide is used in commercial applications. Describe the prevalence of cyanide poisoning in the U.S. Recognize the prevalence of cyanide as a byproduct of combustion on emergency scenes. Finally, assess a patient who has been poisoned by cyanide exposure

- Impact Issues

There was an unscheduled event last weekend that involved five busloads of college students visiting the city. The communication between Chief Doughney, Director Gillin, local business owners and myself was very thorough and there were no reported incidents. This coming weekend there is an event Saturday morning (Walk a Mile in Her Shoes) in Veterans Park. As usual, the department is expecting many beachgoers. The department is once again anticipating several hundred visitors in the city
I look forward to talking to you soon.

Thanks,

Robert Pace
Fire Chief
Flagler Beach Fire Rescue
320 S. Flagler Ave
Flagler Beach, Florida 32136
Office-386-517-2010
Cell-386-276-0405

FLAGLER BEACH POLICE DEPARTMENT
Matthew P. Doughney, Chief of Police
204 South Flagler Avenue
Flagler Beach, FL 32136
386.517.2023

Chief's Weekly Report

From: Friday		4/21/2023		To: Thursday		4/27/2023	
Calls For Service	83	Felony Arrest	1	Reports Written	11	Citations Issued	46
Self-Initiated	52	Misd. Arrest	1	Comm. Policing	6	Warnings (Written/Verbal)	44
Traffic Stops	32	City Ordinance	3	Security Checks	362		

Chief's Weekly Summary

Friday: 4/21/23 @ 8:51 a.m. / Stolen Tag (Recovered) / 100 Block of Oak Lane: A Patrol Officers responded in reference to a delayed theft of a motor vehicle tag. The owner/victim advised that the theft occurred sometime within a two (2) week period, when he was out of town. A Police report was completed and the stolen tags information was entered into FCIC/NCIC by Dispatch; and it was "Hot Listed" in our License Plate Reader (LPR) System. **Update:** On 4/23/23 @ 8:20 a.m. Officers were made aware that the stolen tag, originally reported on April 21, 2023 was recovered in Concord, North Carolina. The Concord Police Department stopped the vehicle after they received a "Stolen Tag" alert by an LPR. The Concord Police arrested the driver of the vehicle for possession of stolen property. The tag information was removed from our LPR system and was additionally removed from NCIC/FCIC by Dispatch. A supplemental report was completed.

Friday: 4/20/23 @ 10:28 a.m. / Domestic Disturbance / 6th Street North and North Central Avenue: Officers were dispatched to the area in reference to a male and a female physically fighting in the street. Prior to our Officers arrival, the male fled the area on foot and he was not located. The female claimed that nothing happened, but witnesses in the area stated the male battered the female. A charging affidavit was completed for the male subject; which was turned over to Nightshift. The suspect has an extensive criminal history as well as prior convictions for Domestic Battery. The license plate number to a vehicle that the suspect has access to was "Hot Listed" in the License Plate Reader (LPR) system Countywide. A Police report was completed and Detective Vinci will follow up on this case on Friday, April 21st. **Update**: 4/21/23 @ 1:55 p.m. Flagler County Dispatch was alerted to the suspect vehicle within the City of Palm Coast via a License Plate Reader (LPR), and a Flagler County Deputy located the vehicle. The Deputy verified that the suspect in this case was located within the vehicle and stood by for our Officers to arrive on the scene. The suspect was arrested without incident and he was transported to the Flagler County Inmate Facility. A supplemental narrative to the original report was completed. **Great teamwork!**

Friday: Dayshift Officers conducted proactive traffic enforcement at the following locations and times:
2100 block of North Oceanshore Boulevard, from 6:48 a.m. to 7:21 a.m. No violations.
North 19th Street and North Central Avenue, from 7:47 a.m. to 8:47 a.m. One (1) stop traffic stop conducted for a stop sign violation, with one (1) State traffic citation issued.

Saturday: 4/22/23 @ 12:23 p.m. / Crash - Hit & Run (with Injuries) / 2200 Block of South Daytona Avenue: A Patrol Officers was dispatched to Advent Hospital in reference to a delayed Hit and Run Crash. The reporting party advised, that around 11:30 a.m. he was walking southbound on South Daytona Avenue when a black in color mini-van (unknown make & model) was traveling in the same direction. The vehicle in question struck him on the right side of his body; knocking him to the ground. The only description provided was a black mini-van with a paper tag on the rear. Officers checked the area for a vehicle matching the description with negative results. The area was also canvased for cameras that might have caught the incident, but that was also met with negative results. A State Crash report was completed.

Saturday: Officers responded to seven (7) "911" calls during the shift.

Saturday: Dayshift Officers conducted proactive traffic enforcement at the following locations and times:
2300 block of South Oceanshore Boulevard, from 7:14 a.m. to 8:08 a.m. No violations.
3400 block of South Oceanshore Boulevard, from 8:11 a.m. to 8:59 a.m. No violations.
2000 block of North Oceanshore Boulevard, from 7:03 a.m. to 7:32 a.m. No violations.

Sunday: 4/8/23 @ 7:49 a.m. / Crash - No Injuries / 1600 Block of South Flagler Avenue: A Patrol Officer responded in reference to a delayed crash that occurred overnight. The owner of a silver BMW backed into a red GMC SUV, causing minor damage to both vehicles. A Drivers Exchange of Information form was completed, and the driver of the BMW was cited for improper backing.

Sunday: Dayshift Officers conducted proactive traffic enforcement at the following locations and times:
2300 block of South Oceanshore Boulevard, from 8:30 a.m. to 9:08 a.m. No violations.
3400 block of South Oceanshore Boulevard, from 1:02 p.m. to 1:34 p.m. One (1) violation traffic stop, with a written warning issued.
2100 block of North Oceanshore Boulevard, from 8:45 a.m. to 9:16 a.m. No violations.

Sunday: Patrol Officers utilized our Department's blue Ford Taurus, an unmarked vehicle, during dayshift for additional traffic enforcement, resulting in the issuance of two (2) State traffic citations and two (2) written warnings. **Good Job!**

Monday: 4/24/23 @ 2:30 p.m. / Marchman Act / 300 Block of 3rd Street North: Officers were dispatched to a residence in reference to an intoxicated female who was unable to care for herself, and she was seeking substance abuse treatment. The female was transported to Advent Health Palm Coast for medical clearance, then to Stewart Marchman's facility in Bunnell. A Police report was completed.

Monday: Dayshift Officers conducted proactive traffic enforcement at the following location and times:
1000 block of South Oceanshore Boulevard, from 11:00 a.m. to 11:30 a.m. No violations.
2200 block of Moody Boulevard, from 11:00 a.m. to 11:30 a.m. No violations.
7th Street South and South Flagler Avenue, from 2:00 p.m. to 2:30 p.m. One (1) traffic stop, with a written warning issued.

Tuesday: Dayshift Officers conducted proactive traffic enforcement at the following locations and times:
400 block of John Anderson Highway, from 9:45 a.m. to 10:15 a.m. No violations.
7th Street South and South Flagler Avenue, from 12:00 p.m. to 1:00 p.m. Three (3) traffic stops, with two (2) written warnings and one (1) State traffic citation.

Wednesday: 4/26/23 @ 11:20 a.m. / Disturbance Domestic - Arrest / 300 Block of 2nd Street South: Officers were dispatched in reference to a verbal disturbance occurring between a male and female. Upon our Officers arrival, contact was made with the male half of the disturbance who advised that he and his girlfriend were arguing. The investigation determined that the female struck the male in the left ear during the argument. The female was identified as the primary aggressor and she was subsequently arrested for Domestic Battery. The subject was transported to the Flagler County Inmate Facility without incident. A Police report was completed.

Wednesday: Dayshift Officers conducted proactive traffic enforcement at the following locations and times:
2300 block of South Oceanshore Boulevard, from 6:52 a.m. to 8:02 a.m. No violations.
2100 block of North Ocean shore Boulevard, from 7:00 a.m. to 7:20 a.m. No violations.

Wednesday: Officers responded to six (6) "911" call investigations throughout the shift today.

Thursday: 4/27/23 @ 10:20 a.m. / Crash - No Injuries / South Flagler Avenue at 3rd Street South: A Patrol Officer responded in reference to a crash involving two (2) motor vehicles. The crash occurred between a City of Flagler Beach Public Works truck and a Toyota utility vehicle. The operator of the Toyota was backing out onto South Flagler Avenue from 3rd Street South, when the Toyota impacted the City vehicle. There was no visible damage to either vehicle; and no injuries. A State Crash report was completed, and Liz Mathis was notified.

Thursday: Detective Vinci attended the weekly Flagler Leadership Academy presented by the Flagler County Tax Collectors Office, and she delivered a fantastic presentation to the class. This session of the Academy graduates in May 18, 2023, and Detective Vinci continues to work very hard during this prestigious class. Keep up the great work Detective Vinci!

Thursday: Dayshift Officers conducted proactive traffic enforcement at the following locations and times:
2300 block of South Oceanshore Boulevard, from 8:08 a.m. to 8:52 a.m. No violations.
South Central Avenue at 8th Street South, from 1:00 p.m. to 1:28 p.m. No violations.
2100 block of North Oceanshore Boulevard, from 6:48 a.m. to 7:20 a.m. No violations.

Prescription Drug Take Back Day: On Saturday, April 22nd, Captain Blanchette and our Property & Evidence Custodian, Jamie Z., participated in National Prescription Drug Take Back Day from 10:00 a.m. to 2:00 p.m. On Monday, April 24th, Agents from the Drug Enforcement Administration (DEA) picked up 171.1 lbs. of Prescription Drugs that will be disposed of safely. Thanks to our community for participating in Saturday's Drug Take Back Day, and for utilizing our lobby's Prescription Drug Drop box (thanks to CVS Pharmacy) throughout the last six (6) months! The safe disposal of prescription drugs cannot be understated and KUDO'S to all involved in this initiative!

Professional Education: Officers Cozzone and Sherr attended a free, forty (40) hour training class at Daytona State College this week. The training, Field Training Officer (FTO) for Law Enforcement Officers, is a Florida Department of Law Enforcement (FDLE) curriculum that provides students with training in the following topics; roles and responsibilities of the FTO Program, elements of adult learning and instruction, effective communication skills, supervision and leadership by the FTO, on-the-job counseling by the FTO, evaluation and remediation, and more

Celebration of Life: Chief Doughney assisted Ms. Karen Dion with a "Celebration of Life" for a local twenty-three (23) year old Flagler Palm Coast High School graduate, Mr. Christian Romero, that was tragically killed in a car crash on April 23rd in Orlando, Florida. Christian's parents own Romero's Tuscany by the Seas restaurant in our City. The "Celebration" was held on the beach, across from the family's restaurant on Thursday, April 27th at 6:00 p.m. Overflow parking for the event was arranged thanks to Ms. Caryn Miller, Mr. Manoj Bahoola and Mr. Anthony Cinelli. On Tuesday, April 25th at 2:45 p.m. Chief Doughney along with Karen Dion and Scott Fox (FB3) were interviewed for a news story about the event by News Channel 6. The event on April 27th was very well attended, even though there were heavy thunderstorm before, during and after the celebration. There were no parking or traffic issues associated with the event and Chief Doughney assisted the celebration attendees with crossing A1A at the Pier crosswalk; both before and after the event.

Training: Sergeant Blank attended a two (2) day training seminar in Tampa, Florida for ELVIS; a database for Law Enforcement that we utilize for investigations.

Monthly Training: All Sworn Officers completed their April 2023 online monthly training though Police Law Institute. This month's topic; **Lawful searches.**

FLAGLER BEACH POLICE DEPARTMENT
Matthew P. Doughney, Chief of Police
204 South Flagler Avenue
Flagler Beach, FL 32136
386.517.2023

Chief's Weekly Report

From: Friday		4/28/2023		To: Thursday		5/4/2023	
Calls For Service	96	Felony Arrest	3	Reports Written	16	Citations Issued	19
Self-Initiated	48	Misd. Arrest	3	Comm. Policing	17	Warnings (Written/Verbal)	45
Traffic Stops	35	City Ordinance	8	Security Checks	268		

Chief's Weekly Summary

Friday: Dayshift Officers conducted proactive traffic enforcement at the following locations and times:
400 block of Roberts Road, from 10:45 a.m. to 11:15 a.m. No violations.
2200 block of North Oceanshore Boulevard, from 12:00 p.m. to 12:30 p.m. No violations.

Saturday: Dayshift Officers conducted proactive traffic enforcement at the following locations and times:
2200 block of North Central Avenue, from 8:15 a.m. to 8:45 a.m. No violations.
400 block of John Anderson Highway, from 4:00 p.m. to 4:30 p.m. No violations.

Saturday: 4/29/23 @ 4:59 p.m. / Traffic Stop - Arrest / 100 Block Moody Boulevard: A traffic stop was conducted on a motor vehicle after Officers received an alert from a License Plate Reader (LPR) due to the registered owner not having a valid Driver's License. Upon Officers conducting a traffic stop, the Driver was found to be the registered owner, and he was operating the vehicle without a valid Driver's License. The owner was also a Habitual Traffic Offender (Felony). The Driver was taken into custody without incident, and he was transported to the Flagler County Inmate Facility without incident. A Police report was completed.

Saturday: 4/29/23 @ 1:01 a.m. / Sea Dune Violation / 1900 Block of North Oceanshore Boulevard: Officers were dispatched in reference to a male subject in the road trying to wave vehicles down. Upon our Officers arrival, they contacted the subject in question who advised that he drove his Jeep over the sea dunes and was now stuck on the beach. A "Class A Wrecker" was required to remove the vehicle from the beach. A Police report was completed and a Misdemeanor charging affidavit was completed and forwarded to the State Attorney's Office for review. Please see the end of this weekly report for the Misdemeanor Statute utilized to charge the subject in this case; which is not an exception to the "Misdemeanor Rule" and thus the reason no physical arrest was made on April 29th.

Sunday: 4/30/23 @ 8:22 a.m. / Traffic Stop - Arrest / 300 Block of South Oceanshore Boulevard: A traffic stop was conducted on a black Toyota Tacoma after Officers received an alert from a License Plate Reader (LPR) due to the the registered owner not having a valid Driver's License. A traffic stop was conducted, and the Driver was found to not have a valid Driver's License. During the investigation, it was discovered that the Driver was in possession of a fictitious Driver's License, and he was in the Country illegally. Officials from the United States Immigration and Customs Enforcement (ICE) were notified of the incident and as to where the male subject would be located. The Driver was taken into custody without incident, and he was transported to the Flagler County Inmate Facility. A Police report was completed. **Good Job!**

Sunday: 4/30/23 @ 2:23 p.m. / Assist Other Agency / 1104 South Oceanshore Boulevard (Golden Magnolia): Officers responded in reference to a female that called 911 claiming that she had just been beaten up by her boyfriend. Upon our Officers arrival, it was determined that the incident occurred in Hastings, Florida. The female victim had taken a taxi to Flagler Beach, she rented a hotel room, and ate lunch before calling to report the incident. An informational report was completed and provided to St. Johns County Sheriff's Office.

Sunday: Dayshift Officers conducted proactive traffic enforcement at the following location and times:
North Flagler Avenue and Palm Circle, from 10:00 a.m. to 11:30 a.m. Two (2) traffic stops, with two (2) written warnings for stop sign violations.

Monday: 5/2/23 @ 8:27 p.m. / Traffic Stop (LPR) / 800 Block of South Oceanshore Boulevard: A Patrol Officer received an alert from a License Plate Reader (LPR) in reference to the registered owner having a financial responsibility suspension on his Driver's License. The vehicle in question was located and a traffic stop was conducted. The Driver was the owner of the vehicle and he stated he didn't know about the suspension. The Driver was issued a State traffic citation for Driving While License Suspended (without knowledge) and he was additionally issued a State traffic citation for open container of an alcoholic beverage.

Monday: 5/2/23 @ 9:20 p.m. / Traffic Stop (LPR) / 400 Block South Oceanshore Boulevard: A Patrol Officer received an alert from a License Plate Reader (LPR) in reference to the registered owner having a financial responsibility suspension on his Driver's License; as well as a seize tag order. The vehicle in question was located and a traffic stop was conducted. The Driver was the registered owner and he stated he didn't know about the suspension. The Driver was issued a State traffic citation for Driving While License Suspended (without knowledge), and the vehicle's tag was seized. The vehicle was towed from the scene. A Police report was completed.

Tuesday: Dayshift Officers conducted proactive traffic enforcement at the following locations and times:
2300 block of South Oceanshore Boulevard, from 7:47 a.m. to 8:44 a.m. No violations.
South Daytona Avenue at 5th Street South, from 9:41 a.m. to 10:44 a.m. No violations.
1800 block of South Oceanshore Boulevard, from 10:22 a.m. to 11:00 a.m. Two (2) traffic stops, with (2) two written warnings issued.
2000 block of North Central Avenue, from 6:54 a.m. to 7:26 a.m. No violations.

Wednesday: Dayshift Officers conducted proactive traffic enforcement at the following locations and times:
400 block of Roberts Road, from 8:45 a.m. to 9:15 a.m. No violations.
2200 block of Moody Boulevard, from 12:00 p.m. to 12:30 p.m. No violations.

Wednesday: Chief Doughney presented his budget power point presentation to the City Commission from 9:00 a.m. to 9:30 a.m. Chief Doughney remained at City Hall until 6:00 p.m. in order to support his fellow Department Heads, and to be available should any members of the Commission have any questions regarding proposed changes to next year's budget.

Wednesday: 5/3/23 @ 4:27 p.m. / Domestic Disturbance- Arrest / Moody Boulevard at John Anderson Highway: Officers were notified about a domestic disturbance, between a husband and wife, that was actively occurring in a vehicle; while there were four (4) children inside the vehicle. The investigation determined that the wife slapped the husband in the face. The female was taken into custody without incident and she was transported to the Flagler County Inmate Facility. The Department of Children and Families (DCF) were notified due to the children witnessing the battery. A Police report was completed.

Wednesday: 5/3/23 @ 5:40 p.m. / Domestic Disturbance - Arrest / 200 Block of North Oceanshore Boulevard: Officers were dispatched in reference to a disturbance between a male and a female. The reporting party advised that the female was biting the male and that there was blood everywhere. Upon our Officers arrival, the female was located in middle of road, covered in blood, yelling "I'm gonna kill him". The female was detained and removed from the roadway. The victim was located, as was as a witness that captured the incident on video. The female was arrested without incident, as she was the primary aggressor. The female was transported to the Flagler County Inmate Facility. A Police report was completed.

Thursday: 5/4/23 @ 7:27 a.m. / Warrant Arrest / 1700 Block of Windsong Circle: Officers received information with regards to a male fugitive at a residence, with an active felony arrest warrant for Violation of Probation re; Drug Possession. The subject in question was located and he was taken into custody without incident. The felony arrest warrant was confirmed, and the subject was transported to the Flagler County Inmate Facility. A Police report was completed.

Thursday: Dayshift Officers conducted proactive traffic enforcement at the following location and times:
400 block of John Anderson Highway, from 12:00 p.m. to 12:30 p.m. No violations.

Thursday: 5/4/23 @ 7:56p.m. / Medical Call - CPR / 319 Moody Boulevard (Johnny D's): An elderly male had a medical episode at the business and CPR was administered once our Officers arrived on scene. A Department issued Automated External Defibrillator (AED) was utilized by our Officers and the patient was transported to Advent Health by Rescue 11. **Great Job!**

Thursday: 5/4/23 @ 8:52p.m. / Crash with Injuries – Arrest / 2000 Block of South Oceanshore Blvd (Crave's): Officers responded in reference to a crash involving a golf cart. The crash investigation determined that a female exited the business parking lot onto 19th Street South, in a golf cart, and then ran into the back of a parked motor vehicle; ejecting her from the golf cart. Once the Crash investigation was completed, a criminal investigation began for Driving Under the Influence. The female was subsequently arrested for Driving Under the Influence and after being treated for minor injuries at Advent Health, she was transported to the Flagler County Inmate Facility. A State Crash report and a Police report were completed.

Thursday: Detective Vinci attended the weekly Flagler Leadership Academy presented by the Flagler County Tax Collectors Office. This session of the Academy graduates in May 18, 2023, and Detective Vinci continues to work very hard during this prestigious class. Only a few weeks to graduation!

Story Time: On Thursday, May 4th, from 11:00 a.m. to 12:00 p.m., Captain Blanchette was the "Guest Reader" at our City's Library for "Story Time". Captain Blanchette read "Waiting is not easy" by Mo Willems, and the event was very well attended by our community's children and parents. "Dad" jokes were also part of the event 😊, and Chief Doughney will work with our Librarian, Ms. Melissa Parrish, on scheduling a future "Guest Reader" event at our Library.

Charity Golf Event: Chief Doughney and Captain Cox, from our Fire Department, participated in the Flagler Woman's Clubs annual charity golf tournament, that was held on Saturday, April 29th at Cypress Knolls Country Club. The Flagler Beach "1st Responder Golf Team" finished tied for 2nd in this year's event, and a good time was had by all. The proceeds from the tournament will be distributed to twelve (12) local charities!

Active Shooter Policy: Our Property & Evidence Clerk, Jamie Z., revised our Department's Active Shooter policy, which will be reviewed next week by Captain Blanchette and Chief Doughney.

Lazy Hours Hotel: Nightshift Officers requested Dayshift Officers make contact with the property management of this location, as it appears that an unauthorized individual has been staying at the hotel; which has been closed for years. All requested information that was received from the property management team was forwarded to Nightshift for their investigation. **Good Job!**

Monthly Training: All Sworn Officers worked on completed their May 2023 online monthly training though Police Law Institute. This month's topic; **Lawful Use of Force and Deadly Force.**

161.58 (1) Vehicular traffic on coastal beaches. - Vehicular traffic, except that which is necessary for cleanup, repair, or public safety, and except for traffic upon authorized local or State dune crossovers, is prohibited on the dunes or native stabilizing vegetation of the dune system of coastal beaches. Except as otherwise provided in this section, any person driving any vehicle on, over, or across any dune or native stabilizing vegetation of the dune system shall be guilty of a Misdemeanor of the second degree.

Jeanelle Jarrah

From: Penny Overstreet
Sent: Friday, May 5, 2023 3:29 PM
To: Jeanelle Jarrah
Subject: FW: Weekly Highlights

From: Robert Pace <RPace@fbfire.org>
Sent: Thursday, May 4, 2023 1:11 PM
To: Michael Abels <MAbels@cityofflaglerbeach.com>
Cc: Penny Overstreet <POverstreet@CityofFlaglerBeach.com>; Katie Dockhorn <KDockhorn@cityofflaglerbeach.com>
Subject: Weekly Highlights

Mr. Abels,

The following are the weekly highlights;

- Quarterly Safety Meeting

Mainly due to COVID Quarterly Safety Meetings have not been conducted for some time. Liz Mathis and I have been working on schedule for when was good time to conduct the next meeting. Lieutenant Oberst delivered a PowerPoint presentation on lifting injuries. Lt. Oberst and his crew (C Shift) are the safety committee for the department and prepare the material to be delivered at the Quarterly Safety Meetings. The latest meeting covered Lifting Injuries. Lt. Oberst addressed proper lifting techniques, predetermined paths for moving objects, the importance of exercise, and special hazards. I received positive feedback from all who attended

- Eagle Scout Promotion (Andrew Wheeler)

Chief Tucker and I attended Eagle Scout Court of Honor Ceremony to recognize Andrew Wheeler. Andrew is a member of Boy Scout Troop 281 and has been working towards an Eagle Scout promotion for a few years. Part of promoting involved completing a community service project. Andrew's project was constructing drying racks for bunker gear. Three racks were constructed for each fire agency in the county and they work great. FBFD's drying rack has already been utilized several times in the aftermath of a fire. The ceremony was held at Trinity Presbyterian Church in Palm Coast. Andrew gave special thanks to the fire agencies in the county for supporting and donating towards his project

- Chief's Annual Hurricane Meeting

The Chief's Annual Hurricane Meeting was held here at Station 11 on Monday. This meeting typically takes place a few weeks before hurricane season, which starts June 1st. The meeting started with after action reports on what went well and improvements to make concerning past storms. For FBFD specifically, the new approach of two high-water vehicles and the use of a reserve engine as the primary response was discussed in detail. Another big issue reviewed was response for nighttime hours in the midst of hurricane

- ISO Inspection

On Tuesday, the department received our latest ISO Inspection. The last inspection took place five year ago the FBFD received a rating of 3. The inspection involves many factors that include, staffing, training, available units, water supply, fire inspections/pre-planning, annual testing, and record keeping. All of the documentation was prepared and available for the inspector. The department will receive the outcome and latest rating over the next few weeks

- Fire Pre-Plans (Fire Marshal Gocke)

I have mentioned in past reports that Fire Marshal Gocke has been working on fire pre-plans for all the businesses in the city. Fire Marshal Gocke has completed the pre-plans and did an outstanding job. He prepared a four-inch binder that

included pertinent information and blue prints for the businesses. Pre-Plan information was transferred electronically to Engine 11 and Ladder 11. Captain Cox and I will receive the information electronically in the next couple of weeks. The pre-plans were also a requirement of ISO and they were delivered to the inspector

- R&M Solutions (Fire Hydrant Maintenance/Repairs)

R&M Solutions have been in town for a few weeks conducting maintenance and repairs on the city's fire hydrants. Some hydrants were identified as in need of complete replacement. That work has begun as well. The technicians are staying in contact with Supervisor Crews and me frequently with status reports. The company is also formulating future forecasts recommendations that will be delivered in budget workshops

- Impact Issues

This weekend there will be a Cinco de Mayo event in the Publix parking lot. There is also the Narly Charly Surfing Event taking place south of the pier on Saturday. The department is once again expecting many beach goers. Considering the aforementioned events and dependent on weather conditions, the department is anticipating hundreds of visitors in the city this weekend

I look forward to talking to you soon.

Thanks,

Robert Pace
Fire Chief
Flagler Beach Fire Rescue
320 S. Flagler Ave
Flagler Beach, Florida 32136
Office-386-517-2010
Cell-386-276-0405

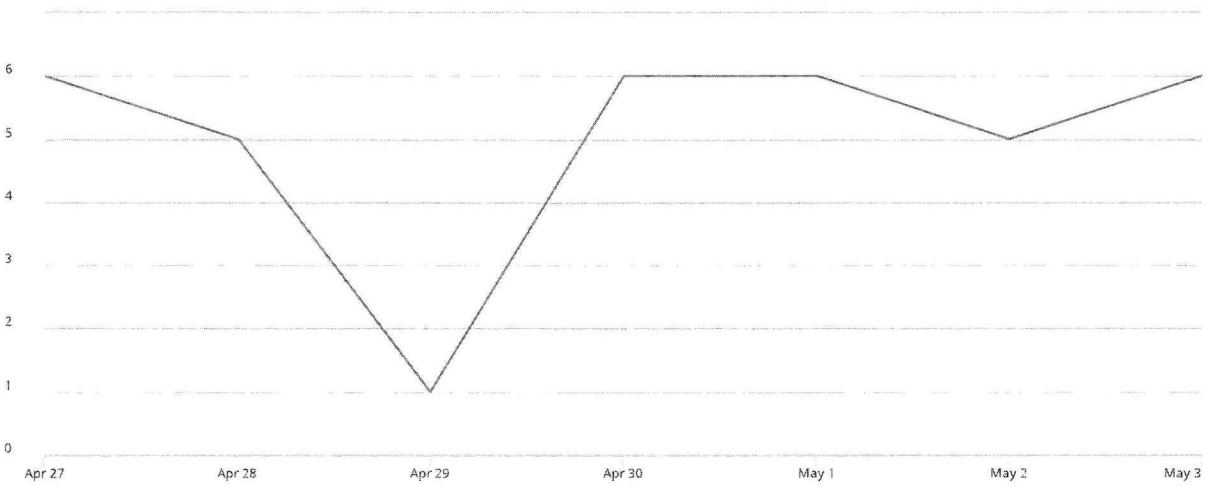
Custom ∨ Apr 27, 2023 - May 3, 2023 ∨

57%
FIRE
Percentage of Total Incidents

43%
EMS
Percentage of Total Incidents

35
INCIDENTS
In Selected Time Slice

7
DAYS
In Selected Time Slice



Counts | % Rows | % Columns | % All

	4/27/23	4/28/23	4/29/23	4/30/23	5/1/23	5/2/23	5/3/23	5/4/23	5/5/23	5/6/23	5/7/23	5/8/23	5/9/23	Total
(14) Natural vegetation fire						1								1
(32) Emergency medical service (EMS) incident	2	4		3	3	1	2							15
(55) Public service assistance					1		2							3
(61) Dispatched and canceled en route	3			1		1	1							6
(62) Wrong location, no emergency found	1	1		1										3
(65) Steam, other gas mistaken for smoke					2	1								3
(70) False alarm and false call, other						1	1							2
(74) Unintentional system/detect... operation (no fire)			1	1										2
Total	6	5	1	6	6	5	6							35

Beach/Parks/Recreation
Weekly Highlights May 3, 2023

- We continued beach training with our new recruit class this past weekend. Topics included extensive First Aid and CPR training along with active drowning surf rescues. The training will continue through the next three weekends. We will also be providing lifeguard protection on the beach only on weekends until Memorial Day weekend at which time we will provide lifeguard protection seven days per week through Labor Day. During the times where there are no lifeguard services on the beach, Flagler Beach Fire Department will be the primary responders to all beach emergencies.
- On May 20, ocean rescue lifeguards will be participating at the annual WaterSafe event at the Belle Terre Swim and Racquet Club pool in Palm Coast from 9:00am to 12:00pm. The event is free to everyone and will provide information about water safety at pools and the beach environment.
- Formal registration for the 2023 summer Junior Lifeguard summer camp is scheduled for May 18 and 19, 4:00pm to 6:00pm at Flagler Beach City Hall. Application packet and information handbook are also currently available on the City website.
- May is Water Safety Awareness Month. We will be participating in a water safety discussion on WNZF Radio on May 9 and we are also scheduled to do a Junior Lifeguard water safety presentation at Wadsworth Elementary School on May 12.
- ATVs and Jet skis are still being operated on a regular basis in order to keep all of our summer rescue vehicles and vessels properly maintained.
- Lifeguard towers from last season are being repaired and repainted as necessary in preparation for the summer season.