AGENDA
TECHNICAL REVIEW COMMITTEE
REGULAR MEETING
NOVEMBER 13, 2025
10:00 AM
CITY HALL COMMISSION CHAMBERS
204 ASH STREET
FERNANDINA BEACH, FL 32034

1. CALL TO ORDER

2. ROLL CALL

3. PLEDGE OF ALLEGIANCE

4. APPROVAL OF MINUTES

4.1 Approval of the Minutes from the Regular Meeting of October 23, 2025.

5. FIRST STEP REVIEW (PRE-APPLICATION ITEMS)

5.1 **COASTAL LEGACY HOMES, LLC, LOTS 4 & 5 S. 3RD STREET, LOTS 23-26 S. 4TH STREET, 314 ELM STREET**
Site Plan Review of roadway and drainage improvement requirements for the construction of 5 single-family homes.

5.2 **TRC 2025-0008 - BUTTERFLY PROJEKT LLC, 2959 BUTTERFLY TRAIL**
David Brown
Site Plan Review for the construction of a single-family residential subdivision.

6. OLD BUSINESS

7. NEW BUSINESS

8. DEVELOPMENT INQUIRIES FROM APPLICANTS NOT ON THE AGENDA - DISCUSSION ONLY, NO ACTION TO BE TAKEN.

9. COMMITTEE BUSINESS

10. ADJOURNMENT

NEXT REGULAR TRC MEETING IS SCHEDULED FOR NOVEMBER 20, 2025.

Persons with disabilities requiring accommodations in order to participate in this program or activity should contact 310-3115, TTY 711, or through the Florida Relay Services at 1-800-955-8771 (TTY number for all City offices) at least 24 hours in advance to request such accommodations.

DRAFT

MINUTES
TECHNICAL REVIEW COMMITTEE
REGULAR MEETING
OCTOBER 23, 2025
10:00 AM
CITY HALL COMMISSION CHAMBERS
204 ASH STREET
FERNANDINA BEACH, FL 32034

1. CALL TO ORDER 10:00 AM

2. ROLL CALL

Jacob Platt, Project Coordinator
Michelle Forstrom, Code Enforcement
Victoria Guadagnino, Stormwater/Utilities/Street
Cathy Sabatini, Public Works Operation
Jimmy Parr, Building
Jason Higginbotham, Fire
Margaret Pearson, Planning & Conservation

3. PLEDGE OF ALLEGIANCE

4. APPROVAL OF MINUTES

4.1 Approval of Minutes from the Regular Meeting of October 9, 2025.

ACTION TAKEN: A motion was made by Member Forstrom, seconded by Member Sabatini, to approve the Minutes for the Regular Meeting of October 9, 2025, as presented.

Vote upon passage of the motion was taken by voice vote, and being all ayes, carried.

5. FIRST STEP REVIEW (PRE-APPLICATION ITEMS)

5.1 WD PARTNERS, 1126 S. 14TH STREET SUITE 18- New Medical Office Clinic

Seth Dorman
Site Plan Review for new tenancy, demolition, new construction, and signage. (C-2)

Dustin Brown, agent for the owner, explained the scope of the work to relocate their walk-in clinic from an adjacent suite, which will still be under the same business name. It was noted that the previous use for that suite was for retail space and that the application is for a change of use and that there will be no impact on the parking count.

Member Guadagnino addressed possible additional capacity fees and asked the applicant to fill out the Water/Sewer Connection application, inquired if the applicant knew how many doctors would occupy the space, and the current number of bathrooms. The applicant noted that there would be 2 doctors and a member in the audience answered that there are currently 2 bathrooms. Member Guadagnino said she would analyze this information and would advise if additional capacity fees are necessary. She also confirmed with the applicant that there is a separate meter (which he voiced the desire for it to stay separate), and to make a change of ownership through the Utility Department.

Member Sabatini asked to make sure to adjust the need for additional sanitation with totes or dumpsters if needed.

Member Pearson addressed the need to apply for a separate permit for signage.

With no other comments, Chair Platt summarized that the applicant could proceed to permitting.

5.2 RELAY TERMINALS, 315 N. 2ND STREET
Patrick Marler
Relocation of fabric warehouses at the Marine Terminal. (IW)

Travis Zittrauer,from Relay Terminals, stated he is new to the team and introduced the project explaining the scope of the work to relocate 2 fabric warehouses side by side and further up at the terminal.

Member Guadagnino noted no comments.

Member Higginbotham explained that a full set of plans will be required since any structure above 12,000 sqft requires fire sprinkler system and fire separation between permanent structures. Mr. Zittrauer mentioned that his earlier discussions about the current project showed that there is a 2 feet separation between buildings because of the anchoring and that a permit for the relocation of the structure would be submitted first and that a fire suppression permit would be submitted separately if needed.

Member Parr explained that the installation of these 2 structures was done without a permit initially and that the documents that are now provided are outdated within an expired Florida Building code version. He commented that a new set of plans including sprinkler systems would have to be provided. It was confirmed that these are permanent structures.

Member Sabatini noted that a fire backflow would also be required.

Member Guadagnino added that adding those elements to the plans would trigger additional requirements from the Utilities Department.

Chair Platt commented that this location is in the 100-year flood plain and needs to be designed to ASCE 24-14 for flood loads, flood openings, and that plans have to be certified by an engineer. He added that these changes would satisfy the buffer issue.

Member Pearson asked that any adjacent parking needs and/or vehicular circulation be shown on the plans.

Chair Platt explained that a summary of all discussed requirements will be sent with all contacts if any questions arise and that Formal TRC submission is the next step.

6. OLD BUSINESS

7. NEW BUSINESS

8. SIGN OFF

8.1 2025-0007_SHAYCORE LLC, AGENT FOR OCEAN COAST FERNANDINA, LLC, 2707 SADLER ROAD

Chair Platt noted that all comments were addressed.

ACTION TAKEN: A motion was made by Member Guadagnino, seconded by Member Forstrom, to approve Sign off for case TRC 2025-0007.

Vote upon passage of the motion was taken by voice vote, and being all ayes, carried.

9. DEVELOPMENT INQUIRIES FROM APPLICANTS NOT ON THE AGENDA - DISCUSSION ONLY, NO ACTION TO BE TAKEN.

No member of the public wished to speak.

10. COMMITTEE BUSINESS

11. ADJOURNMENT 10:14 AM

_____
Sylvie McCann, Recording Secretary

_____
Jacob Platt, Chair

ELM ST
S 3RD ST
S 4TH ST
25
50
300
304
314
400
514
100
1
34
33
32
31
30
29
28
27
City of Fernandina Beach
2
3
4
5
6
7
22
23
24
25
26
281
125
B
A
C

From: noreply@civicplus.com
To: TRC Info
Subject: Online Form Submittal: Technical Review Committee (TRC): First Step Review Request
Date: Friday, October 24, 2025 3:08:45 PM

CAUTION: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender, were expecting this email, and know the content is safe.

Technical Review Committee (TRC): First Step Review Request

Technical Review Committee (TRC) First Step Review
USE THIS FORM TO Submit a project for input and guidance from the Technical Review Committee, the City group responsible for reviewing site plans and commercial projects. First Step reviews are a free service provided by the City of Fernandina Beach to help guide a project through the development review and permitting process. The First Step review is a meeting between an applicant and representatives of City departments responsible for reviewing applications for the purpose of exchanging information on the potential development of a site. This may include providing information on permissible uses of the site; required improvements; infrastructure requirements; any applicable design standards; any potential regional, state or federal standards; requirements for supporting plans, documents and studies; and any applicable design standards.

Fees
None

IMPORTANT NOTES
A change of use occurs when an existing use is replaced by a different use, as listed in table 2.03.02. A proposed change of use will require a First Step Review as set forth in 11.01.02. A change of use shall not require a local development order when all the conditions of 11.00.05 are met. The determination that a proposed use or development constitutes a change of use is an administrative decision subject to appeal. When a local development order is required due to a proposed change of use, all standards and procedures of the Comprehensive Plan and LDC shall apply to the proposed new use.

****Please note that effective immediately, agendas will include First Step items to be reviewed as Discussion Items at the beginning of each TRC**

meeting followed by Formal Review items.**

Please see the Land Development Code (LDC) for detailed information:	*Field not completed.*
The LDC is available for review at	www.fbfl.us/LDC
Application Requirements	*Field not completed.*
PROPERTY INFORMATION	Property information can be found at the Nassau County Property Appraiser's Website → Map Search
Site Address	314 Elm St
City	Fernandina Beach
State	FL
Zip	32034
Parcel ID #(s)	00-00-31-1800-0281-0002
Lot	23-29
Block	281
Subdivision	*Field not completed.*
Zoning District	R-2
Future Land Use Designation	Medium Density Residential
Overlay District	*Field not completed.*
Size of Property (acres)	.69
Present Property Use	Residential home and wooded lots.
Wetlands	No
Flood Zone	AE
Coastal Construction	No

Control Line (CCCL)

CONTACT INFORMATION
Applicant or interested party who will be present at the meeting.

First Name	David
Last Name	Williams
Company (if applicable)	Coastal Legacy Homes, LLC
Telephone Number	904-548-7035
E-mail Address	David@coastallegacyhomes.com

PROJECT INFORMATION

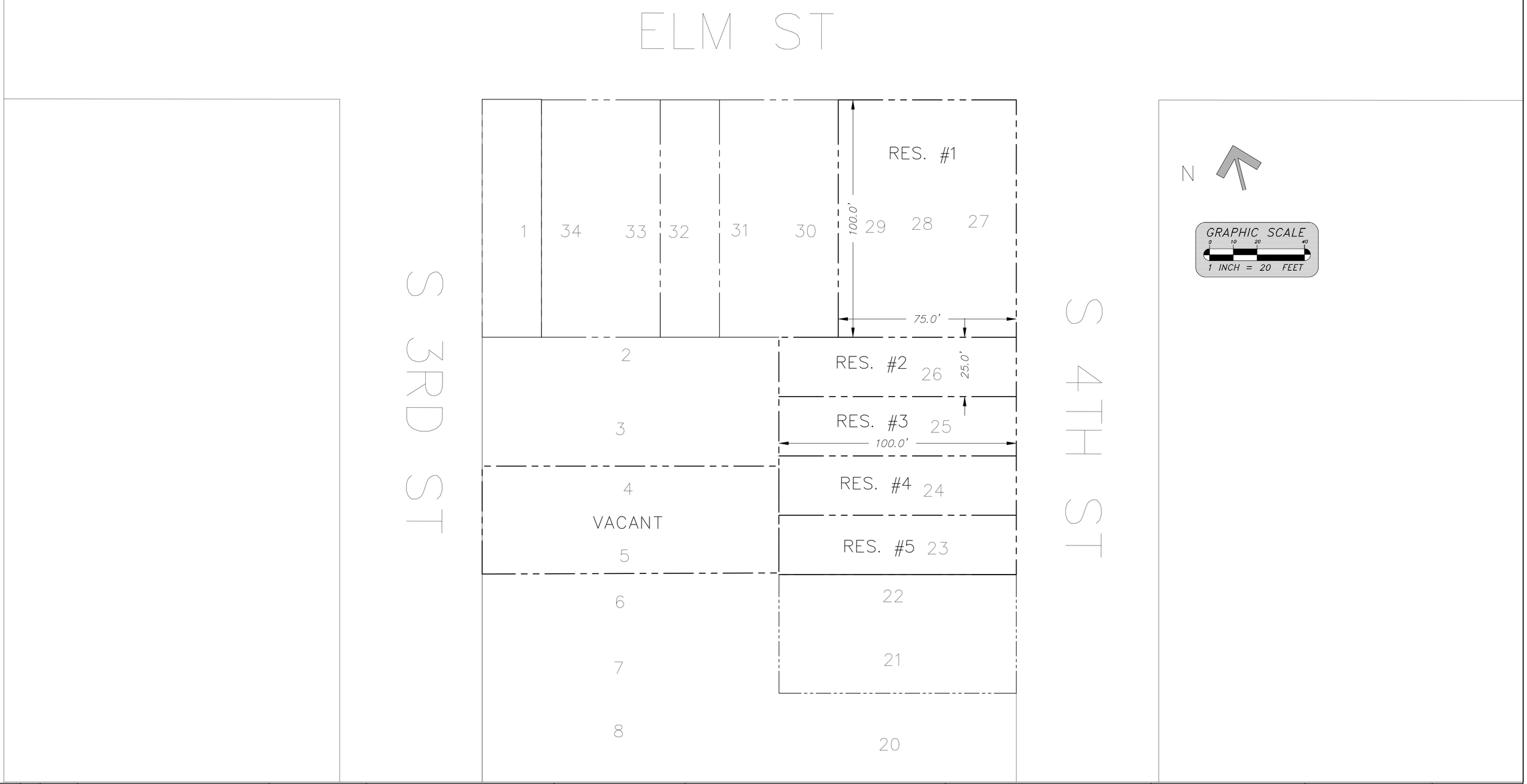
Project Name	Elm and S. 4th St
Project Type	Residential
Please choose your preferred method of conducting your First Step Review	In-person (at City Hall Chambers, 204 Ash St.)
Project Description	Hello, We currently have lots 4,5, 23-29 under contract. Our plan is to build up to 5 residential homes. 1 home will face Elm and 4 will face S.4th St - S.4th St is currently gravel. We are looking for direction from the City on what will be required from a roadway and drainage improvement position.
Proposed Access Road	S. 4th St
Rd Maintenance Jurisdiction	City Maintained
Certification	By signing below, I certify that the information contained in this application is true and correct to the best of my knowledge at the time of the application., I acknowledge that I understand and have complied with all of the submittal requirements and procedures.
Applicant First Name	David
Applicant Last Name	Williams
Today's Date	10/24/2025

Upload Supporting Documentation	Elm S 4th.jpg
Upload 2	*Field not completed.*
Upload 3	*Field not completed.*
Upload 4	*Field not completed.*
Upload 5	*Field not completed.*

DEPARTMENT OF PLANNING & CONSERVATION
204 Ash Street | Fernandina Beach, Florida 32034 | 904 310-3480 | www.fbfl.us/planning

Email not displaying correctly? View it in your browser.

NOT FOR CONSTRUCTION



No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B			
A	BS	10/29/25	OWNER REVIEW

Scale: 1"–20'
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

ARTISAN
FERNANDINA BEACH, FLORIDA

ELM & S. 4TH

PRELIMINARY SITE PLAN

REGISTERED DESIGN PROFESSIONAL

ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/29/25

Sheet
PSP–1

Page 1 of X

Project No. XX–XX–XX

From: noreply@civicplus.com
To: TRC Info
Subject: Online Form Submittal: Technical Review Committee: Formal Review Request
Date: Thursday, October 16, 2025 4:06:36 PM

CAUTION: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender, were expecting this email, and know the content is safe.

Technical Review Committee: Formal Review Request

Technical Review Committee: Formal Review
USE THIS FORM TO To apply for review of site plans, preliminary subdivision plats, final subdivision plats, minor subdivisions, and amendments to previously issued local development orders, change of use, and nonresidential building expansions.

Fees	*Field not completed.*

IMPORTANT NOTES
This application will be routed to the various departments for review of the applicable codes and design standards.

****Please note that, unless otherwise indicated, TRC meetings are scheduled as follows:**

The 2nd and 4th Thursday of each month at 10:00 AM in the City Hall Chambers located at 204 Ash Street.

Agenda order includes First Step Reviews followed by Formal Reviews.**

Please see the Land Development Code (LDC) for detailed information:	*Field not completed.*
The LDC is available for review at	www.fbfl.us/LDC
Application Requirements	*Field not completed.*

Key Contacts
TRC will guide your application from start to finish, engaging other City departments as needed.

PROJECT INFORMATION	
Submission Type	Initial Submittal

NOTICE
3rd and all subsequent resubmittals will be charged a fee of 1/2 the original application fees.

DATE OF YOUR FIRST STEP REVIEW (if you have not attended a First Step Review, return to the application page and choose the TRC First Step Review application)	4/25/2025
PROPERTY INFORMATION	Property information can be found at the Nassau County Property Appraiser's Website → Map Search
Site Address	2959 Butterfly Trail
City	Fernandina Beach
State	FL
Zip	32034
Parcel ID #(s)	00-00-30-044B-0068-0010; 00-00-30-044B-0068-0020; 00-00-30-044B-0068-0030; 00-00-30-044B-0068-0040; 00-00-30-0560-00RW-0010
Lot	*Field not completed.*
Block	*Field not completed.*
Subdivision	*Field not completed.*
Zoning District	*Field not completed.*
Future Land Use Designation	Low Density Residential
Overlay District	None
Size of Property (acres)	4.37

Present Property Use	single family
Wetlands	No
Flood Zone	X, area of minimal flood hazard
Coastal Construction Control Line (CCCL)	No

OWNER OF RECORD
As recorded with the Nassau County Property Appraiser

First Name	David
Last Name	Brown
Company (if applicable)	Butterfly Projekt,LLC
Mailing Address	313 Datura Street, Ste. 2
City	West Palm Beach
State	FL
Zip	33401
Telephone Number	917--692-0073
Email Address	dbrown@portierservices.com

OWNER'S AGENT
If other than owner. If an agent will be representing the owner, an Owner's Authorization For Agent Representation form must be included.

First Name	Asa
Last Name	Gillette
Company (if applicable)	Gillette & Associates, Inc.
Mailing Address	31 South 4th Street, Suite 1
City	Fernandina Beach
State	FL
Zip	32034

Telephone Number	904-261-8819
Email Address	asa@gilletteassociates.com
PROJECT INFORMATION	
Project Type	Site Plan Review
Project Name	Butterfly Trail Subdivision
Proposed Access Road	Butterfly Trail
Rd Maintenance Jurisdiction	Unimproved ROW
Project Estimated Cost	2,000,000.00
Description of Request	Single family residential subdivision
Site Plan Review Checklist	*Field not completed.*

School Concurrency
New residential development is required to demonstrate compliance with school concurrency as regulated in the City of Fernandina Beach through the City of Fernandina Beach's Comprehensive Plan Intergovernmental Coordination Element and the Interlocal Agreement Amendment for Public School Facility Planning adopted by the City on May 21, 2019. No new residential rezoning, preliminary plat, site plan or functional equivalent may be approved by the City unless the residential development is exempt from requirements outlined in Section 9.13 of the Amended Interlocal Agreement OR a School Concurrency Reservation Letter has been issued by the School Board indicating that adequate school facilities exist.

Certification	By signing below, I certify that the information contained in this application is true and correct to the best of my knowledge at the time of the application. , I acknowledge that I understand and have complied with all of the submittal requirements and procedures.
Applicant First Name	Asa
Applicant Last Name	Gillette
Today's Date	10/16/2025
Upload Supporting Documentation	Butterfly_site_10-8-25_signed.pdf
Upload 2	butterfly_drainage report_101025_signed.pdf

Upload 3	agent authorization butterfly.pdf
Upload 4	*Field not completed.*
Upload 5	*Field not completed.*
Upload 6	*Field not completed.*
Upload 7	*Field not completed.*

DEPARTMENT OF PLANNING & CONSERVATION
204 Ash Street | Fernandina Beach, FL 32034 | 904 310-3480 | www.fbfl.us/planning

Email not displaying correctly? View it in your browser.

NOT FOR CONSTRUCTION

Engineering Plans

For

BUTTERFLY TRAIL SUBDIVISION

For

BUTTERFLY PROJEKT, LLC

BUTTERFLY TRAIL SUBDIVISION
For
BUTTERFLY PROJEKT, LLC
Released for Construction ___ by ___

Gillette & Associates, Inc.

Civil & Environmental Engineering
Mechanical & Structural Engineering
Permitting & Construction Management

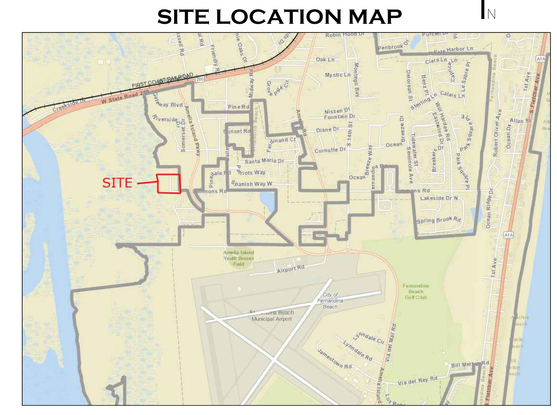
31 South 4th Street Amelia Island, Florida 32034
Phone: 904/261-8819

PERMITTING AGENCIES
CITY OF FERNANDINA BEACH
NASSAU COUNTY, FLORIDA
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
ST. JOHN'S RIVER WATER MANAGEMENT

G & A

ISSUE DATE: OCTOBER 8, 2025

SITE LOCATION MAP



No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: NONE
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 South 4th Street
Fernandina Beach, FL 32034
Phone: (904) 261-8819

BUTTERFLY PROJEKT
BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

COVER SHEET

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, c=US, o=Gillette & Associates, Inc., ou=Owner, email=asa@gaei.net
Date: 2025.10.08 14:25:29 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25
Sheet
CVR
Page 1 of X
Project No. XX–XX–XX

NOT FOR CONSTRUCTION

SITE / GEOMETRY NOTES

1. ALL WORK SHALL BE PERFORMED IN A SAFE MANNER. ALL SAFETY RULES AND GUIDELINES OF O.S.H.A. SHALL BE FOLLOWED. THE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR ANY INJURIES OF HIS EMPLOYEES, AND ANY DAMAGE TO PRIVATE PROPERTY OR PERSONS DURING THE COURSE OF THIS PROJECT. ALL COSTS ASSOCIATED WITH COMPLYING WITH REGULATIONS AND THE FLORIDA TRENCH SAFETY ACT MUST BE INCLUDED IN THE CONTRACTOR'S PRICE FOR PERFORMING THE WORK.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE JOB SITE PRIOR TO PREPARING THE BID FOR THE PURPOSE OF FAMILIARIZING HIMSELF WITH THE NATURE AND THE EXTENT OF THE WORK AND LOCAL CONDITIONS, EITHER SURFACE OR SUBSURFACE, WHICH MAY AFFECT THE WORK TO BE PERFORMED, AND THE EQUIPMENT, LABOR AND MATERIALS REQUIRED. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF COMPLETE PERFORMANCE UNDER THIS CONTRACT. THE CONTRACTOR IS URGED TO TAKE COLOR PHOTOGRAPHS ALONG THE ROUTE OF THIS PROJECT TO RECORD EXISTING CONDITIONS PRIOR TO CONSTRUCTION, AND TO AID IN RESOLVING POSSIBLE FUTURE COMPLAINTS THAT MAY OCCUR DUE TO CONSTRUCTION OF THE PROJECT. ALL COSTS ASSOCIATED WITH PRELIMINARY INVESTIGATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

3. ALL IMPROVEMENTS SHOWN ARE TO BE WARRANTED BY THE CONTRACTOR TO THE DEVELOPER.

4. ELEVATIONS ARE BASED ON NAVD DATUM OF 1988.

5. TOPOGRAPHIC AND BOUNDARY INFORMATION WAS PROVIDED BY: MANZIE & DRAKE (902-491-4700)

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY BUILDING, RIGHT-OF-WAY PERMITS NOT PROVIDED AND INSURANCE REQUIRED FOR THE PROJECT.

7. THE CONTRACTOR SHALL COORDINATE THE WORK WITHIN COUNTY OR STATE RIGHT-OF-WAY WITH THE PROPER AGENCIES FOR MAINTENANCE OF TRAFFIC AND METHOD OF CONSTRUCTION & REPAIR.

8. THE CONTRACTOR SHALL ADVISE THE OWNER'S AUTHORIZED REPRESENTATIVE OF PLANNED WORK SCEDULE. THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION WITH ALL OTHER CONTRACTORS. IN THE EVENT OF ANY CONFLICT WHATSOEVER, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD, AND THE OWNER PRIOR TO PROCEEDING WITH CONSTRUCTION.

9. "AS-BUILT" DRAWINGS – AS-BUILTS ARE REQUIRED TO BE SIGNED AND SEALED BY A FLORIDA REGISTERED LAND SURVEYOR. THEREFORE, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTRACT WITH A LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA FOR THE PREPARATION, FIELD LOCATIONS, CERTIFICATION, AND SUBMITTAL OF AS-BUILT DRAWINGS.

10. "AS-BUILT" RECORD DATA AND INFORMATION SHALL BE MAINTAINED BY THE CONTRACTOR. RECORD DRAWINGS SHALL BE SUPPLIED TO THE ENGINEER.

11. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL SURVEY AND PROPERTY MONUMENTS. IF A MONUMENT IS DISTURBED, THE CONTRACTOR SHALL CONTRACT WITH THE SURVEYOR OF RECORD FOR REINSTALLATION OF THE MONUMENT.

12. ALL DEBRIS RESULTING FROM ALL ACTIVITIES SHALL BE DISPOSED OF OFF-SITE BY CONTRACTOR ON A DAILY BASIS.

13. ALL EXCESS SUITABLE AND UNSUITABLE MATERIALS SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

14. ALL EXISTING TREES LISTED TO REMAIN SHALL BE PRESERVED AND PROTECTED.

15. THE LOCATION OF ALL EXISTING UTILITIES, STRUCTURES, AND IMPROVEMENTS ON THE DRAWINGS ARE BASED ON LIMITED INFORMATION AND MAY NOT HAVE BEEN FIELD VERIFIED. THE LOCATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL NOTIFY RESPECTIVE UTILITY OWNERS AND FIELD VERIFY LOCATIONS OF EXISTING UTILITIES AND

SITE / GEOMETRY NOTES CONT.

OTHER IMPROVEMENTS PRIOR TO COMMENCING ANY CONSTRUCTION. IF THE LOCATIONS SHOWN ARE CONTRARY TO ACTUAL FIELD LOCATIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER OF THE DISCREPANCY. THE DISCREPANCY SHOULD BE RESOLVED PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING IN AREAS NEAR EXISTING UTILITY IMPROVEMENTS AND SHALL BE RESPONSIBLE FOR REPAIRS OR PAYMENTS FOR ALL DAMAGE MADE TO EXISTING UTILITIES OR OTHER IMPROVEMENTS. PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY ALL GRADES, INVERTS, AND TYPE OF MATERIAL OF EXISTING UTILITIES TO WHICH THEY SHALL CONNECT.

16. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER ON ALL MATERIALS, FOR REVIEW AND APPROVAL, PRIOR TO PURCHASE OR CONSTRUCTION OF ANY UTILITY OR STRUCTURE.

17A. UNSUITABLE MATERIALS UNDER WATER, SEWER, OR STORM PIPE AND/OR STRUCTURES SHALL BE REMOVED AND REPLACED WITH SELECTED BACKFILL COMPACTED TO 98% OF IT'S MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED PROCTOR TEST (ASTM D1557).

17B. ALL FINISH FLOORS SHOWN ON THE PLANS ARE MINIMUM ELEVATIONS

18. GRADES SHOWN ON PLANS ARE EDGE OF PAVEMENT FINISHED GRADES UNLESS OTHERWISE NOTED.

19. SHOULD THE SURFACE OR SUBSURFACE CONDITIONS VARY FROM WHAT IS SHOWN ON THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

20. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE SEEDED AND MULCHED UNLESS OTHERWISE SPECIFICALLY STATED. ALL DISTURBED AREAS WITHIN THE NASSAU COUNTY RIGHT OF WAY SHALL BE COVERED WITH BERMUDA SOD.

21. THE CONTRACTOR IS RESPONSIBLE FOR THE CONTROL OF SEDIMENT-LADEN RUNOFF RESULTING FROM STORM EVENTS DURING THE CONSTRUCTION PHASE. EROSION CONTROL FACILITIES SHOULD BE INSTALLED EARLY DURING THE CONSTRUCTION PERIOD SO AS TO PREVENT THE TRANSPORT OF SEDIMENT INTO SURFACE WATERS. RE-VEGETATION AND STABILIZATION OF DISTURBED AREAS SHOULD BE ACCOMPLISHED IMMEDIATELY TO REDUCE THE POTENTIAL FOR FURTHER SOIL EROSION.

22. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND COUNTY BEFORE COMMENCING WORK.
23. MINIMUM COVER OVER PIPES SHALL BE 36" UNLESS OTHERWISE INDICATED.

24. ALL UNDERGROUND UTILITY COMPANIES SHALL BE CONTACTED AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.

25. IN ADDITION TO THE SPECIFICATIONS AND DETAILS PROVIDED FOR THIS CONTRACT, THE NASSAU COUNTY STANDARD DETAILS AND SPECIFICATIONS (LATEST REVISION) SHALL ALSO BE USED FOR ANY ITEMS NOT COVERED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A SET OF STANDARD DETAILS AND SPECIFICATIONS FROM NASSAU COUNTY.

26. BACKFILL MATERIAL SHALL BE COMPACTED TO 100% (2%) UNDER EXISTING AND PROPOSED ROADWAYS.

27. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN TO BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.

28. STATIONING REFERS TO THE CENTERLINE OF THE ROADWAY EXCEPT AS NOTED ON PLANS. WHERE PAVEMENT SPLITS, THE STATIONING FOLLOWS THE INSIDE EDGE OF PAVEMENT UNTIL ROADWAY TRANSITIONS BACK TO THE TYPICAL ROADWAY SECTION

29. ALL CONSTRUCTION, MATERIAL, AND WORKMANSHIP ARE TO BE IN ACCORDANCE WITH COUNTY STANDARDS.

30. A PRECONSTRUCTION MEETING WITH NASSAU COUNTY ENGINEERING SERVICES CONSTRUCTION INSPECTOR IS REQUIRED (904-530-6225).

SEWER NOTES

1. THE CONTRACTOR SHALL PROVIDE, TO THE ENGINEER OF RECORD , A SCHEDULE OF INVERT ELEVATIONS OF ALL SANITARY MANHOLES PRIOR TO THE PLACEMENT OF THE LIME ROCK BASE COURSE. THIS SCHEDULE TO BE PROVIDED BY THE REGISTERED LAND SURVEYOR SUBMITTING THE "AS-BUILT" DRAWINGS FOR THIS PROJECT.

2. SANITARY SEWER SERVICES SHALL BE 6"PVC WITH A MINIMUM SLOPE OF 0.006 FEET PER FOOT AND SHALL BE TERMINATED AT THE RIGHT-OF-WAY LINE WITH A DEPTH OF 24" TO 48" FROM THE FINAL FINISHED GRADE OF THE DEVELOPED LOTS. DEPTHS GREATER THAN 48" FROM FINAL FINISHED GRADE SHALL BE READJUSTED BY THE DEVELOPER AT HIS COST.

3. GRAVITY SEWER TO BE CLEANED & TV TESTED BY DEVELOPER AT DEVELOPER'S EXPENSE

4. ALL MANHOLE FRAMES AND COVERS TO BE ADJUSTED TO FINAL FINISHED GRADE.

5. A SEPARATE SEWER SERVICE (6" MIN.) SHALL BE PROVIDED TO THE RIGHT-OF-WAY FOR EACH LOT BEING SERVED. AN "S" SHALL BE ETCHED INTO THE CURB DIRECTLY OVER EACH SERVICE LINE OR IN THE STREET SIDE OF A SIDEWALK IN LINE WITH THE CLEANOUT.

6. GRAVITY SEWER TO BE GREEN IN COLOR

7. NEW GRAVITY SEWER SYSTEM SHALL BE PLUGGED AT NEAREST EXISTING DOWNSTREAM MANHOLE AND SHALL NOT BE REMOVED WITHOUT AUTHORIZATION FROM THE UTLITY COMPANY. EXISTING MANHOLES TO BE COREBORED AND ARRANGEMENTS MADE TO BE REFURBISHED WITH COMPATIBLE MATERIALS IF THE EXISTING MANHOLE IS ALLOWED TO BE USED.

8. FINISHED FLOOR ELEVATIONS SHALL BE GREATER (HIGHER) THAN THE ELEVATION OF THE MANHOLE NEAREST THE SERVICE LATERAL IN ORDER TO AVOID A POTENTIAL BACKUP OF SEWERAGE IN THE HOUSE OR BUILDING.

9. ALL GRAVITY SEWER PIPE TO A 10 FOOT DEPTH OF COVER SHALL BE SDR-26 PVC PIPE (MINIMUM). GRAVITY SEWER PIPE WITH COVER OF 15 FEET (AND IN EASEMENTS) AND GREATER SHALL BE C900 – DR18. JOINT SHALL BE OF THE BELL AND SPIGOT TYPE AND MEET THE REQUIREMENTS OF THE PIPE REFERRED BEING USED.

10. WHEN A PROPERTY LINE CAN NOT BE DEFINED, THE SEWER CLEANOUT SHALL BE PLACED IN AN UNPAVED AREA AT A DISTANCE NO GREATER THAN 30 FEET FROM THE SEWER MAIN.

13. SEWER PLUGS USED DURING THE CONSTRUCTION OR CONNECTION TO A SYSTEM SHALL HAVE THE CONTRACTOR'S NAME PERMANENTLY STAMPED.

14. THE MANHOLE LINER SHALL BE SPECTRA SHIELD OR APPROVED EQUIVALENT.

15. IN ACCORDANCE WITH THE DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) REQUIREMENTS, LEAKAGE TESTING SHALL BE PERFORMED ON ALL SEGMENTS OF THE SEWER SYSTEM. TESTING MAY INCLUDE APPROPRIATE WATER OR LOW PRESSURE AIR TESTING. TEST METHODS SHALL TAKE INTO CONSIDERATION THE RANGE IN GROUNDWATER ELEVATIONS DURING THE TEST AND ANTICIPATED DURING THE DESIGNED LIFE OF THE SEWER. NO LEAKAGE ALLOWED IN SYSTEM.

16. COORDINATE ALL UTILITY WORK W/THE CITY OF FERNANDINA BEACH, ANDRE DESILET, UTILITY DIRECTOR

INDEX

	SHEET	DESCRIPTION
ALL PERMITTING ENTITIES	CVR	COVER SHEET
	IN-1	INDEX SHEET
	IN-2	NASSAU COUNTY STANDARD NOTES
	PRE-1	PREDEVELOPED ON-SITE PLAN
	PRE-2	PREDEVELOPED OFF-SITE PLAN
	GE-1	GEOMETRY PLAN
	GE-2	GEOMETRY PLAN
	DR-1	DRAINAGE PLAN
	DR-2	DRAINAGE PLAN
	UT-1	UTILITY PLAN
	UT-2	UTILITY PLAN
	UT-3	OFFSITE UTILITY PLAN
	PP-1	PLAN AND PROFILE
	PP-2	PLAN AND PROFILE
	LS-1	ONSITE TREE REMOVAL PLAN
	LS-2	ONSITE TREE REMOVAL PLAN
	LS-3	ONSITE TREE REMOVAL PLAN
	TM-1	TREE MITIGATION TABLES
	TM-2	ONSITE TREE MITIGATION PLANS
	TM-3	WT TREE MITIGATION PLANS
	TM-4	WT TREE MITIGATION PLANS
	TM-5	OFFSITE TREE MITIGATION PLANS
	DT-1	MISCELLANEOUS DETAILS
	DT-2	MISCELLANEOUS DETAILS
	DT-3	MISCELLANEOUS DETAILS

WATER NOTES

1. ALL WATER & SEWER CONSTRUCTION SHALL BE ACCOMPLISHED BY AN UNDERGROUND UTILITY CONTRACTOR LICENSED UNDER THE PROVISIONS OF CHAPTER 489 FLORIDA STATUTES.

2. WHEN DEWATERING CAPACITY REQUIRES A PERMIT (CUP), IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE PERMIT THROUGH THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT.

3. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SANITARY HAZARD. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. WHERE PARALLEL WATER AND SEWER MAINS HAVE LESS THAN 10 FOOT HORIZONTAL SEPARATION, 20 FOOT LENGTHS OF C900 (DR18) WATER QUALITY PIPE SHALL BE USED WITH THE JOINTS STAGGERED AT 10 FOOT INTERVALS. THE PIPES SHALL BE PLACED IN SEPARATE TRENCHES WITH THE WATER MAIN AT LEAST 18 INCHES ABOVE THE SEWER.

4. WATER MAINS CROSSING SANITARY HAZARDS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER MAIN. WHERE WATER AND SEWER MAINS CROSS WITH BETWEEN 18 INCHES AND 6 INCHES OF VERTICAL CLEARANCE, A 20 FOOT SECTION OF C900 (DR18) WATER QUALITY PIPE SHALL BE CENTERED ON THE POINT OF THE CROSSING. THE CONTRACTOR SHALL FIELD VERIFY THE VERTICAL SEPARATION. THE MINIMUM SEPARATION BETWEEN WATER AND SEWER PIPES IS TO BE 6 INCHES OUTSIDE DIAMETER TO OUTSIDE DIAMETER.

5. NO WATER MAIN PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SEWER MANHOLE.

6. TRACER WIRE SHALL BE PROVIDED ON ALL WATER MAINS AND FORCE MAINS. TRACER WIRE SHALL BE #10 UF SOLID COPPER WIRE, COATED, AND SUITABLE FOR BURIAL. COATING SHALL BE BLUE FOR WATER AND GREEN FOR SEWER MAIN CONNECTIONS. WIRE SHALL BE ATTACHED DIRECTLY TO TOP OF PIPE AND BROUGHT INTO EACH VALVE BOX AND COILED TO ALLOW FOR EASY ACCESS AND EXTENSION ABOVE FINISHED GRADE FOR ATTACHMENT OF LOCATING EQUIPMENT.

7. ALL PIPE LENGTHS ARE APPROXIMATE DIMENSIONS, ALL DRAINAGE STRUCTURES SHALL BE CONSTRUCTED TO CONFORM WITH TYPICAL SECTIONS AND DETAILS AS SHOWN ON THE MISCELLANEOUS DETAILS SHEET AND IN ACCORDANCE WITH THE SPECIFICATIONS.

8. WATER MAINS TO HAVE AT MINIMUM 12" OF VERTICAL CLEARANCE FROM FORCE MAINS.

9. ALL UNDERGROUND UTILITIES MUST BE INSTALLED PRIOR TO PREPARATION OF SUBGRADE FOR PAVEMENT.

10. COORDINATE ALL UTILITY WORK W/THE CITY OF FERNANDINA BEACH, ANDRE DESILET, UTILITY DIRECTOR

LEGEND

	EXISTING VALVE	15.3	PROPOSED SPOT ELEVATION
WM	EXISTING WATER LINE	WM	PROPOSED WATER LINE
	EXISTING FIRE HYDRANT	SAN	PROPOSED SANITARY SEWER
	EXISTING PROPERTY LINE		PROPOSED FIRE HYDRANT
			PROPOSED LOT LINE

FIRE NOTES

1. WHERE UNDERGROUND WATER MAINS AND HYDRANTS ARE TO BE PROVIDED, THEY SHALL BE INSTALLED, COMPLETED, AND IN SERVICE PRIOR TO COMMENCING CONSTRUCTION WORK ON ANY STRUCTURE. (NFPA 1, 16.4.3.1.3, 2021 EDITION)

2. CLEARANCES OF SEVEN AND ONE HALF FEET (7 FT-6 IN.) IN FRONT OF AND TO THE SIDES OF THE FIRE HYDRANT, WITH A FOUR FOOT CLEARANCE TO THE REAR OF THE HYDRANT. (NFPA 1, 18.3.4.1, 2021)

3. NEW FIRE HYDRANT(S) SHALL BE INSTALLED SO THAT POSITIONED NOT MORE THAN 7 FEET 6 INCHES AWAY FROM CURB OR BERM OF THE ROADWAY.

No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: NONE
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034
Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

INDEX SHEET

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, o=US
Date: 2025.10.10 14:25:58 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25

Sheet
IN-1

Project No. XX-XX-XX

NOT FOR CONSTRUCTION

Nassau County Development Review General Notes:

1. Engineering Plans approval does not constitute permission to violate any adopted Federal, State, or Local law, code, or ordinance.
2. All work within the public streets and right-of-ways shall conform to Nassau County Land Development Codes (LDC), FDOT Standard Indices, Florida Greenbook, Nassau County Roadway and Drainage Standards, and Nassau County Standard Details as necessary. For any discrepancy between standards, the most stringent shall prevail.
3. Per Nassau County Roadway and Drainage Standards, Ordinance 99-17 Section 6.2.4, site shall be constructed per approved construction drawings. Any substantial deviation shall be concurrently reviewed by Engineer of Record and Nassau County Development Review Committee prior to field changes.
4. A pre-construction meeting with Nassau County Engineering Services Construction Inspector is required. Attendees shall be Nassau County, Engineer of Record, Contractor, Testing firm, Paving firm, and utility companies per Nassau County Ordinance 99-17 Section 7.2.3. Nassau County may cancel pre-construction meeting if attendee list is inadequate. Nassau County Engineering Services can be reached at 904-530-6225.
5. The contractor shall schedule and coordinate all work with the appropriate Nassau County Construction Inspector assigned to the project per Nassau County Ordinance 99-17 Section 7.2.
6. All work shall be performed in a safe manner. All safety rules and guidelines of O.S.H.A. shall be followed. The contractor shall be wholly responsible for any injuries to his employees and any damage to private property or persons during the course of this project.
7. Per Nassau County Roadway and Drainage Standards, Ordinance 99-17 Section 11.8.1, any disturbed areas within Nassau County Right-of-Way shall be sodded.
8. Per Nassau County Roadway and Drainage Standards, Ordinance 99-17 Section 7.4.1, at the time of final inspection, grassing shall be a minimum of seventy percent coverage and fully established and/or sodding to be one hundred percent coverage and stabilized.
9. Engineer of Record approved shop drawings shall be provided to Nassau County Construction Inspector a minimum of one week before beginning structure installation.
10. Parking at mail kiosks is required per Nassau County Roadway and Drainage Standards, Ordinance 99-17 Section 8.4. Mail kiosk locations are subject to USPS Postmaster approval.
11. The developer's contractor is the single responsible party for the proper implementation of an Erosion Protection Sediment Control (EPSC) within each lot or construction site. This includes the responsibility for the actions/inactions of employees, subcontractors, and/or suppliers.
12. Sidewalks to be provided and built in accordance Florida Building Code. All proposed sidewalks shall meet ADA requirements.
13. The Contractor shall comply with current Florida accessibility standards for all work on this project.
14. Per Ordinance 99-17 Section 8.5.1, minimum cover for water lines and force mains under pavement shall 42" and 36" in green areas.
15. All water, sewer, and storm water construction within Nassau County ROW shall be accomplished by an underground utility contractor licensed under the provisions of Chapter 409 of the Florida Statutes.
16. No work shall be permitted between the hours of 7:00 PM - 7:00AM without prior approval from Nassau County Engineering Services.
17. All trees required to be protected shall be flagged for protection prior to clearing.
18. All grading and placement of compacted fill shall be in accordance with the latest Nassau County Specifications.
19. Any damages (sidewalk, curb, asphalt, ditch grading, et cetera) within Public Right-of-Way shall be repaired or replaced in accordance with Nassau County Specifications. Proposed repair method shall be approved by Nassau County Engineering Services.
20. Any asphalt millings from Nassau County ROW shall be delivered to the Road Department Laydown yard located on Gene Lasserre Boulevard or Pea Farm Road. Please contact the Road Department at (904) 530-6175.
21. Per Nassau County Ordinance 99-17 Section 7.4.2 and 7.4.4, as-built drawings shall be submitted to Nassau County before a final inspection can be scheduled. As-builts submittals will be in accordance with Nassau County as-built requirement checklist. As-built drawings shall be certified by required licensed surveyor and approved by Engineer of Record.

Nassau County Stormwater Drainage Notes:

1. All stormwater drainage facilities within Public Right-of-Way and paved areas, including Nassau County Right-of-Way, turn lanes, residential roadways, drive aisles for multi-family developments, and major drive aisles for commercial developments shall be laser profiled per FDOT Section 430.
2. A builder cannot modify the County's storm water management system including the pipes, inlets, area drains, ditches and related elements typically within the street or within a drainage easement without the prior written approval of the County Engineer or designee.
3. Drainage easements and ditches should remain free of stockpiled soil, sediment, mud, construction materials/waste, et cetera at all times. Positive stormwater flow must be maintained throughout construction.
4. The contractor shall temporarily or permanently stabilize bare soil areas and soil stockpiles when the area is inactive for fourteen days or more or has reached finished grade.
5. Per Ordinance 99-17 Section 11.11.5.4, all gravity flow pipe installations shall have a soil tight joint performance unless specific site factors warrant watertight joint performance.
6. Per Ordinance 99-17 Section 10.6.5.1, immediately install additional Erosion Protection Sediment Control measures if sediment is leaving your site. Failure to contain sediment to your site may result in delayed inspections, notices of violation, citations, fines, penalties, and/or stop work orders.
7. Per 99-17 Section 10.1.2.a-e, stormwater management for a project shall not have adverse effects on adjacent properties, downstream structures, or rights of other landowners.

Nassau County Paving Notes:

1. Per Nassau County Roadway and Drainage Standards, Ordinance 99-17 Section 12.2 and 12.4, a construction bond and 26-month maintenance bond will be required for all work within Nassau County Right-of-Way.
2. A pre-pave meeting is required prior to any paving operations within Nassau County ROW, residential subdivisions, or multi-family developments.
3. Approved mix designs shall be provided to Nassau County Construction Inspector 48 hours prior to pre-pave meeting or placement of concrete.
4. Contractor is required to have a Certified QC Asphalt Level II Technician during any asphalt operations within Nassau County ROW, residential subdivision, or multi-family developments.
5. All bases shall be primed in accordance with Ordinance 99-17 Section 11.5.2.3, Nassau County Standard Details, and FDOT Standard Specifications.
6. Signage and pavement markings shall be in compliance with Nassau County Standards, Manual on Uniform Traffic Control Devices (MUTCD), and FDOT Standard Plans.
7. Maintenance of Traffic (MOT) shall be in compliance with FDOT Standard Index 600 Series.
8. All work, materials, and testing performed within Nassau County right-of-way and single-family/multi-family developments shall be in accordance with the current revision of Nassau County's Ordinance 99-17 and all current Nassau County Standard Details.
9. Per Ordinance 99-17 Section 11.9.2, all pavement markings within Nassau County ROW shall be lead free thermoplastic meeting Nassau County and FDOT Standard Specification Latest Edition.
10. Removing pavement markings within Nassau County ROW shall be:
    a. Grinding or hydro-blasting on weathered asphalt surfaces.
    b. Hydro-blasting only on new asphalt surfaces.
    c. Paint Blackout is prohibited.
11. Per Ordinance 99-17 Section 8.5.5, any damage to pavement resulting from construction or pavement marking removal withinPublic ROW not planned as part of the project shall be milled and overlaid for entire width of roadway and length of damage plus 50' in each direction.
12. All underground utilities, or appropriate conduit sleeves, that are to be installed under pavement must be installed prior to preparation of the subgrade for pavement.
13. Single Vertical Joints in roadway construction shall be avoided in Nassau County Right-of-Way using Nassau County Standard Detail #26.
14. All drainage structures shall have traffic bearing grates that meet or exceed the rating for the facilities expected traffic.
15. All concrete shall be a minimum of 3000 psi within Public Right-of-Way.

No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: NONE
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034
Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT
BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

NASSAU COUNTY
OFFSITE NOTES

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, c=US, email=asa@gilletteassociates.com
Date: 2025.10.14 14:24:22 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25
Sheet IN–2

Project No. XX–XX–XX

NOT FOR CONSTRUCTION

PROPERTY INFORMATION:

- PID#: 00-00-30-044B-0068-0010
  00-00-30-044B-0068-0020
  00-00-30-044B-0068-0030
  00-00-30-044B-0068-0040
  00-00-30-0560-00RW-0010
- TOTAL PARCEL(S) ACREAGE: 4.37 AC. (190,358 SF)
- LOCATION: FERNANDINA BEACH, FL
- FLOOD ZONE: AE-8, X-SHADED
- ZONING: R-1
- FUTURE LAND USE: LOW DENSITY RESIDENTIAL
- PROPOSED USE: SINGLE-FAMILY RESIDENTIAL

DEVELOPMENT REQUIREMENTS:

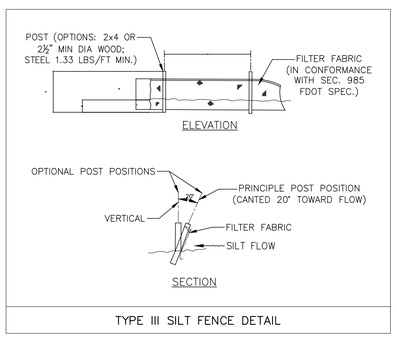
- MAX IMPERVIOUS AREA: 60%
- MAX F.A.R.: 50%
- MAX BUILDING HEIGHT: 35-FT
- DENSITY ALLOWED: 4 UNITS/ACRE
- OFFSITE R.O.W. FOR DENSITY: ____
- CALC. DENSITY: (4.37AC+__AC)*(4D.U./AC.)=__D.U.

SETBACK REQUIREMENTS:

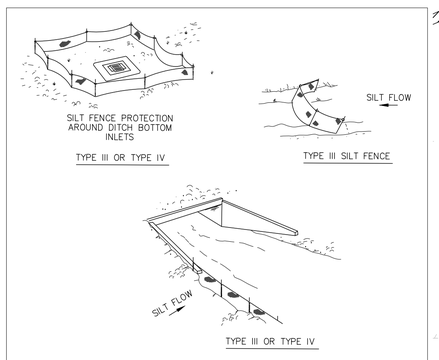
- FRONT: 25 FEET
- REAR: 25 FEET
- SIDES: 10% OF LOT WIDTH

UTILITIES:

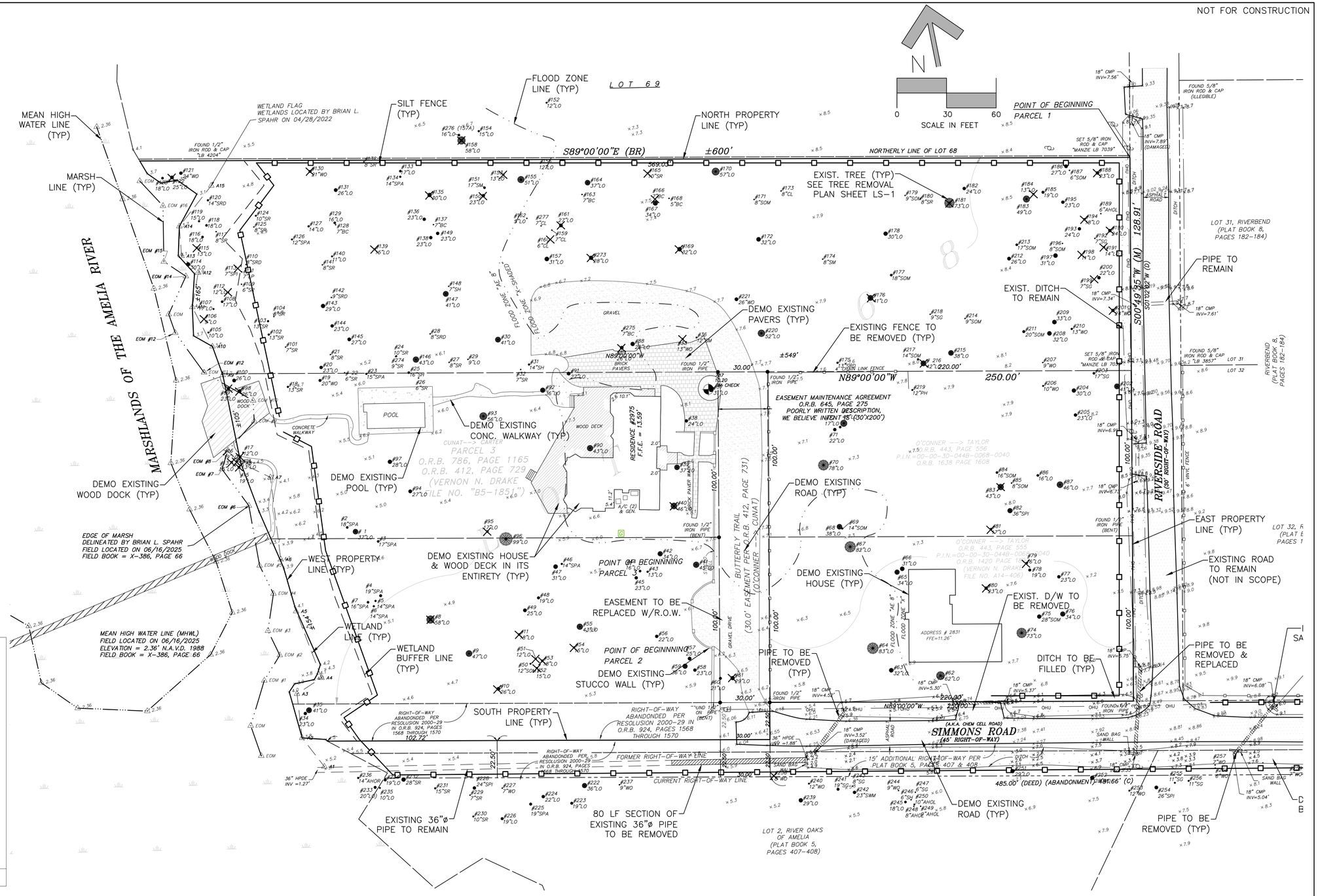
- WATER: CITY OF FERNANDINA BEACH
- SEWER: CITY OF FERNANDINA BEACH
- POWER: F.P.U.



TYPE III SILT FENCE DETAIL



SILT FENCE APPLICATIONS



No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

PREDEVELOPED SITE PLAN

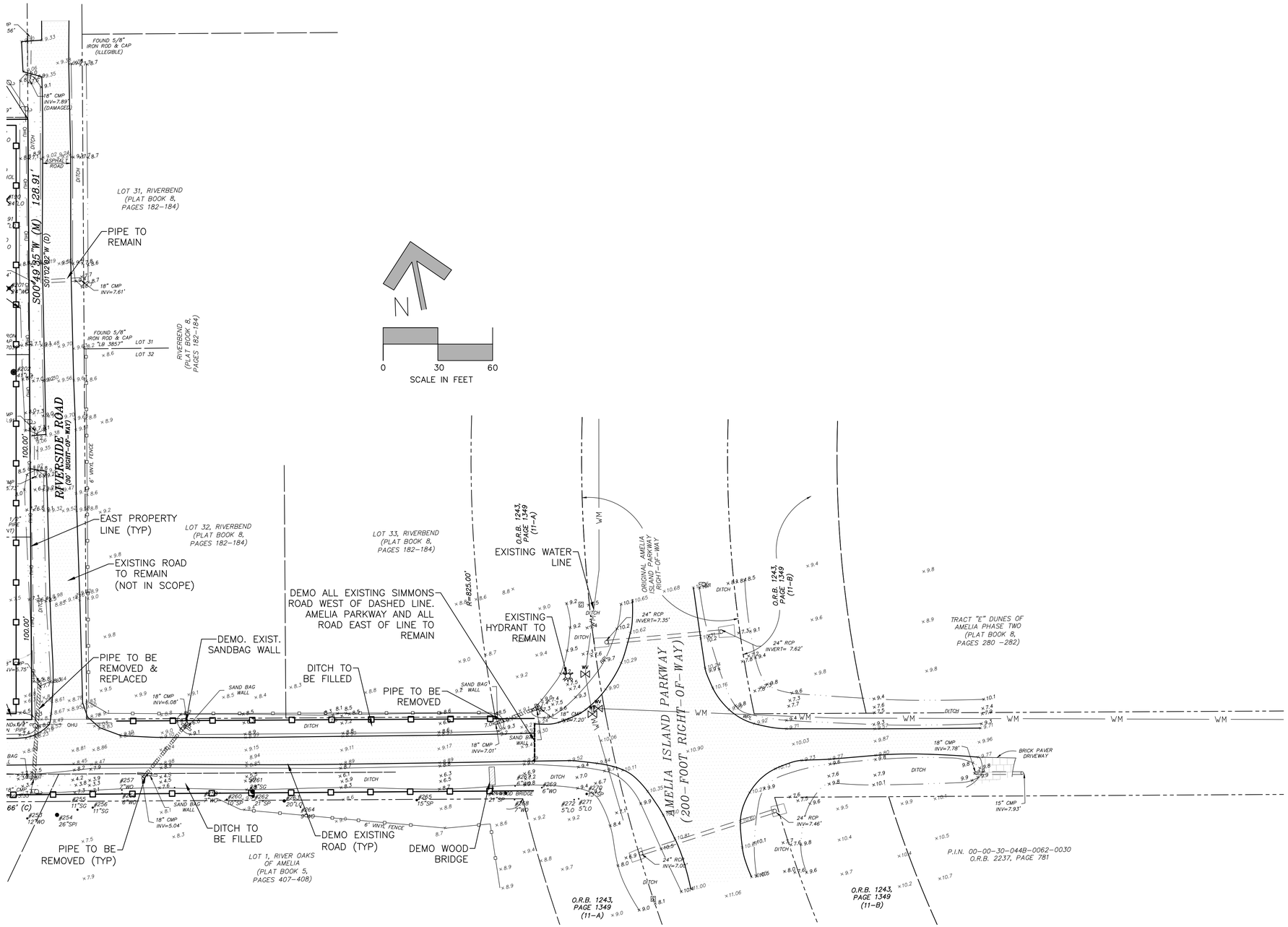
REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III, o=US, cn=Asa Ray Gillette III, c=US, email=asa@gillettesociates.com
Date: 2025.10.10 14:26:48 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25

Sheet
PRE-1

Project No. XX-XX-XX

NOT FOR CONSTRUCTION



No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

PREDEVELOPED OFF-SITE PLAN

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, o=US, ou=Gillette & Associates, Inc., email=asa@gillettelaw.com, c=US
Date: 2025.10.10 14:27:05 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25

Sheet
PRE-2

Page 5 of X

Project No. XX-XX-XX

NOT FOR CONSTRUCTION

PROPERTY INFORMATION:

- PID#: 00-00-30-044B-0068-0010
  00-00-30-044B-0068-0020
  00-00-30-044B-0068-0030
  00-00-30-044B-0068-0040
  00-00-30-0560-00RW-0010
- TOTAL PARCEL(S) ACREAGE: 4.37 AC. (190,358 SF)
- LOCATION: FERNANDINA BEACH, FL
- FLOOD ZONE: AE-8, X-SHADED
- ZONING: R-1
- FUTURE LAND USE: LOW DENSITY RESIDENTIAL
- PROPOSED USE: SINGLE-FAMILY RESIDENTIAL

DEVELOPMENT REQUIREMENTS:

- MAX IMPERVIOUS AREA: 60%
- MAX F.A.R.: 50%
- MAX BUILDING HEIGHT: 35-FT
- DENSITY ALLOWED: 4 UNITS/ACRE
- OFFSITE R.O.W. FOR DENSITY: ____
- CALC. DENSITY: (4.37AC+__AC)*(4D.U./AC.)=__D.U.

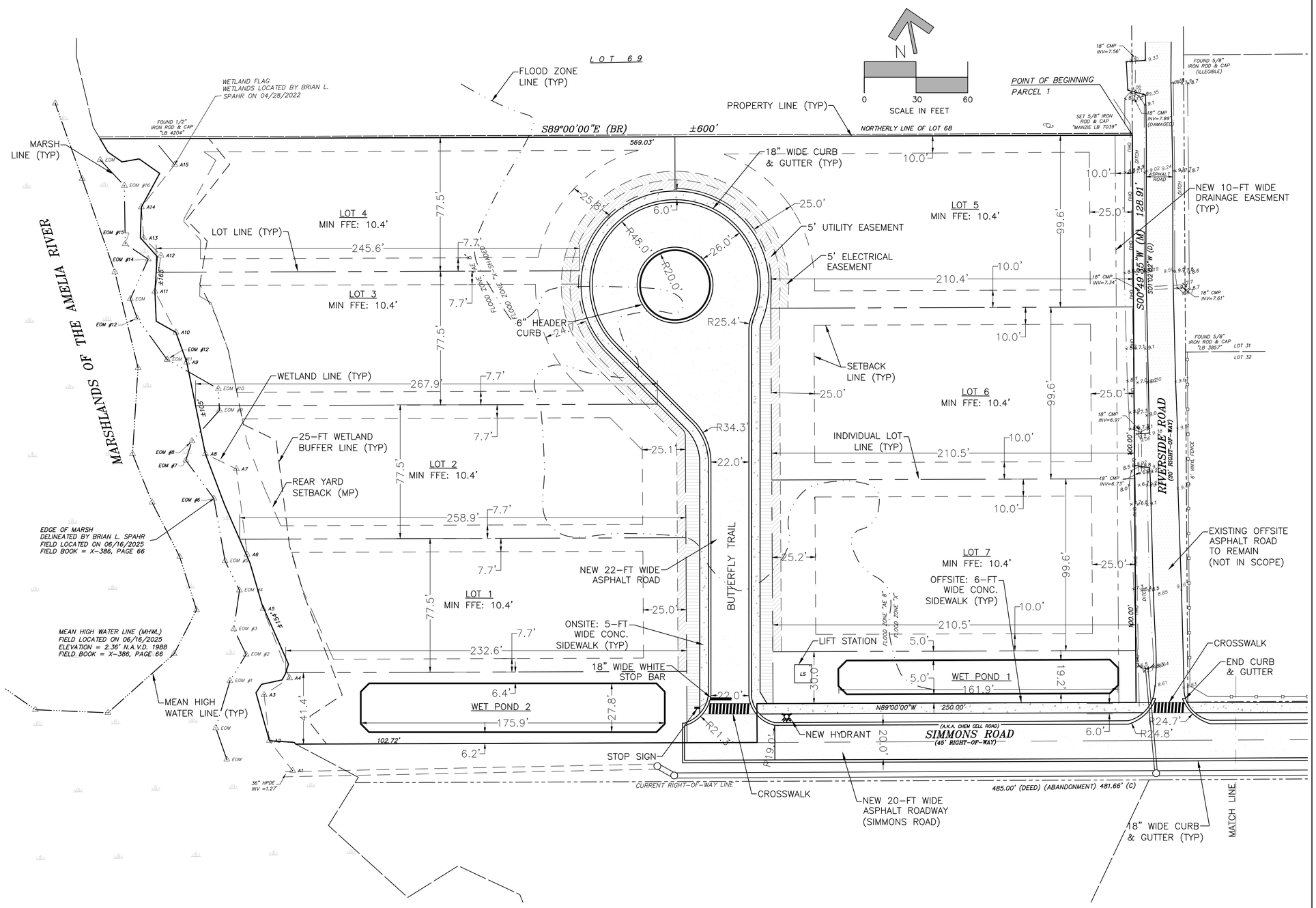
SETBACK REQUIREMENTS:

- FRONT: 25 FEET
- REAR: 25 FEET
- SIDES: 10% OF LOT WIDTH

UTILITIES:

- WATER: CITY OF FERNANDINA BEACH
- SEWER: CITY OF FERNANDINA BEACH
- POWER: F.P.U.

NOTE: SEE GE-2 FOR LOT TABLE.



HATCH LEGEND	
HATCH	DESCRIPTION
	SIDEWALK
	ELECTRICAL EASEMENT
	ROADWAY
	UTILITY EASEMENT
	EXISTING OFFSITE ROAD

No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

GEOMETRY PLAN

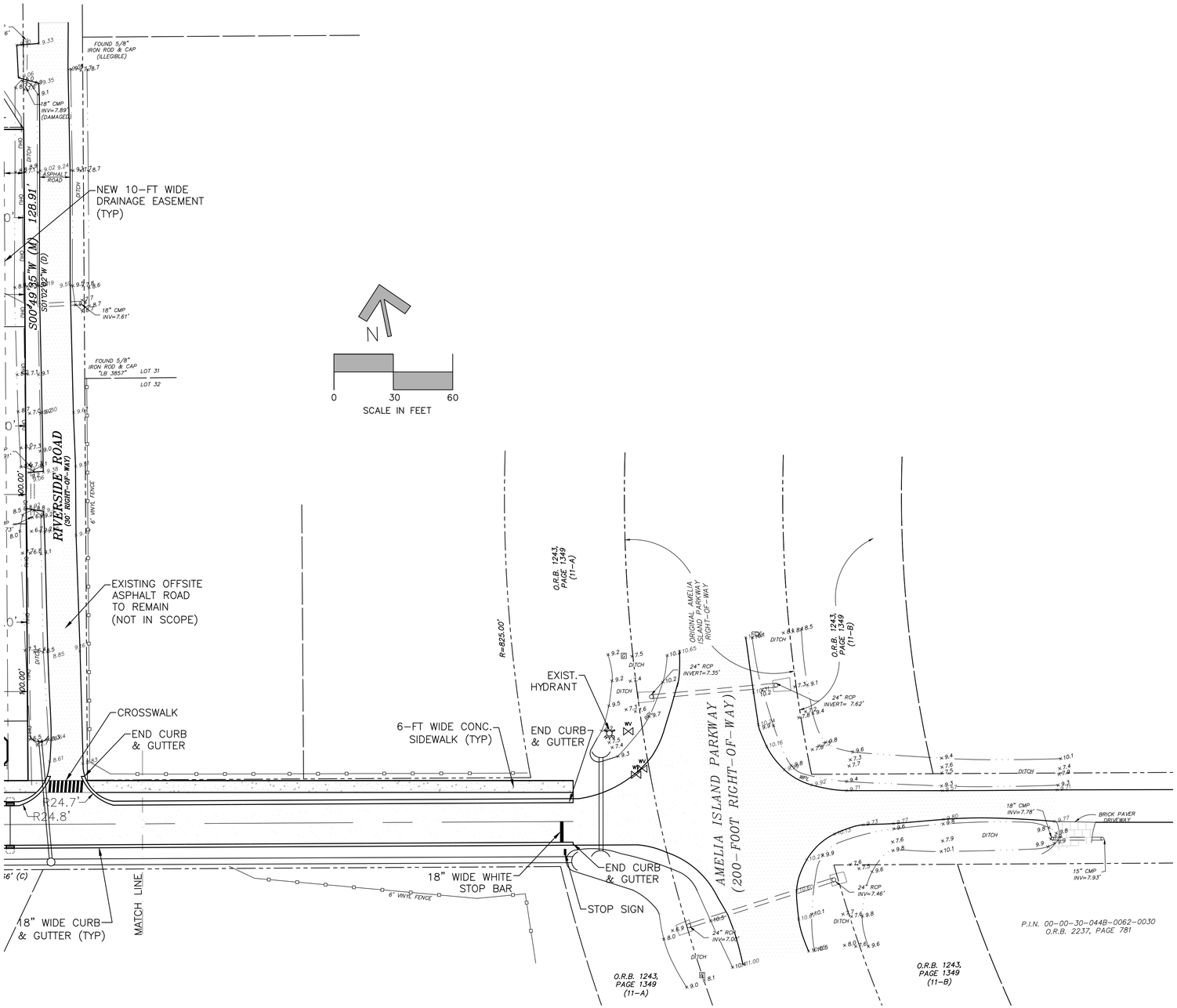
REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, o=US, email=asa@gillettesociates.com, c=US
Date: 2025.10.10 14:27:19 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25

Sheet
GE-1

Project No. XX-XX-XX

NOT FOR CONSTRUCTION



LOT TABLE									
LOT #	LOT WIDTH	LOT LENGTH	LOT AREA (SF)	MAX IMPERVIOUS AREA (%)	MAX IMPERVIOUS AREA (SF)	EST. IMP. AREA (SF)	EST. IMP. AREA (%)	MAX FLOOR AREA RATIO (%)	MAX ALLOWABLE FLOOR AREA (SF)
1	77.5'	232.6'	18,981	60.0%	11,389	6,000	31.6%	50.0%	9,491
2	77.5'	258.9'	20,979	60.0%	12,587	6,000	28.6%	50.0%	10,490
3	77.5'	267.9'	19,308	60.0%	11,585	6,000	31.1%	50.0%	9,654
4	77.5'	245.6'	21,937	60.0%	13,162	6,000	27.4%	50.0%	10,969
5	99.6'	210.4'	23,184	60.0%	13,910	6,000	25.9%	50.0%	11,592
6	99.6'	210.5'	21,016	60.0%	12,610	6,000	28.5%	50.0%	10,508
7	99.6'	210.5'	21,026	60.0%	12,616	6,000	28.5%	50.0%	10,513

No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

GEOMETRY PLAN

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, o=n/a, ou=n/a, email=agillette@gillettecivil.com, c=US
Date: 2025.10.14 14:29:06 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25

Sheet
GE-2

Project No. XX-XX-XX

NOT FOR CONSTRUCTION

PROPERTY INFORMATION:

- PID#: 00-00-30-044B-0068-0010
  00-00-30-044B-0068-0020
  00-00-30-044B-0068-0030
  00-00-30-044B-0068-0040
  00-00-30-0560-00RW-0010
- TOTAL PARCEL(S) ACREAGE: 4.37 AC. (190,358 SF)
- LOCATION: FERNANDINA BEACH, FL
- FLOOD ZONE: AE-8, X-SHADED
- ZONING: R-1
- FUTURE LAND USE: LOW DENSITY RESIDENTIAL
- PROPOSED USE: SINGLE-FAMILY RESIDENTIAL

DEVELOPMENT REQUIREMENTS:

- MAX IMPERVIOUS AREA: 60%
- MAX F.A.R.: 50%
- MAX BUILDING HEIGHT: 35-FT
- DENSITY ALLOWED: 4 UNITS/ACRE
- OFFSITE R.O.W. FOR DENSITY: ___
- CALC. DENSITY: (4.37AC+__AC)*(4D.U./AC.)=__D.U.

SETBACK REQUIREMENTS:

- FRONT: 25 FEET
- REAR: 25 FEET
- SIDES: 10% OF LOT WIDTH

UTILITIES:

- WATER: CITY OF FERNANDINA BEACH
- SEWER: CITY OF FERNANDINA BEACH
- POWER: F.P.U.

DRAINAGE NOTES:

- WET POND 1 & WET POND 2 DESIGNED TO FACILITATE DRAINAGE FOR THE NEW ROAD "BUTTERFLY TRAIL" AND NEW SECTION OF ROAD NOTED "SIMMONS ROAD".
- WET POND 1 & WET POND 2 ARE DESIGNED TO BE HYDRAULICALLY CONNECTED

DRAINAGE CALCULATIONS:

DRAINAGE AREA: SEE LOT DRAINAGE TABLE
IMPERVIOUS AREA: *SEE LOT DRAINAGE TABLE

TOTAL LOT RUNOFF:
(X SF)*(0.5")*(1/12 FT/IN) = *SEE LOT TABLE

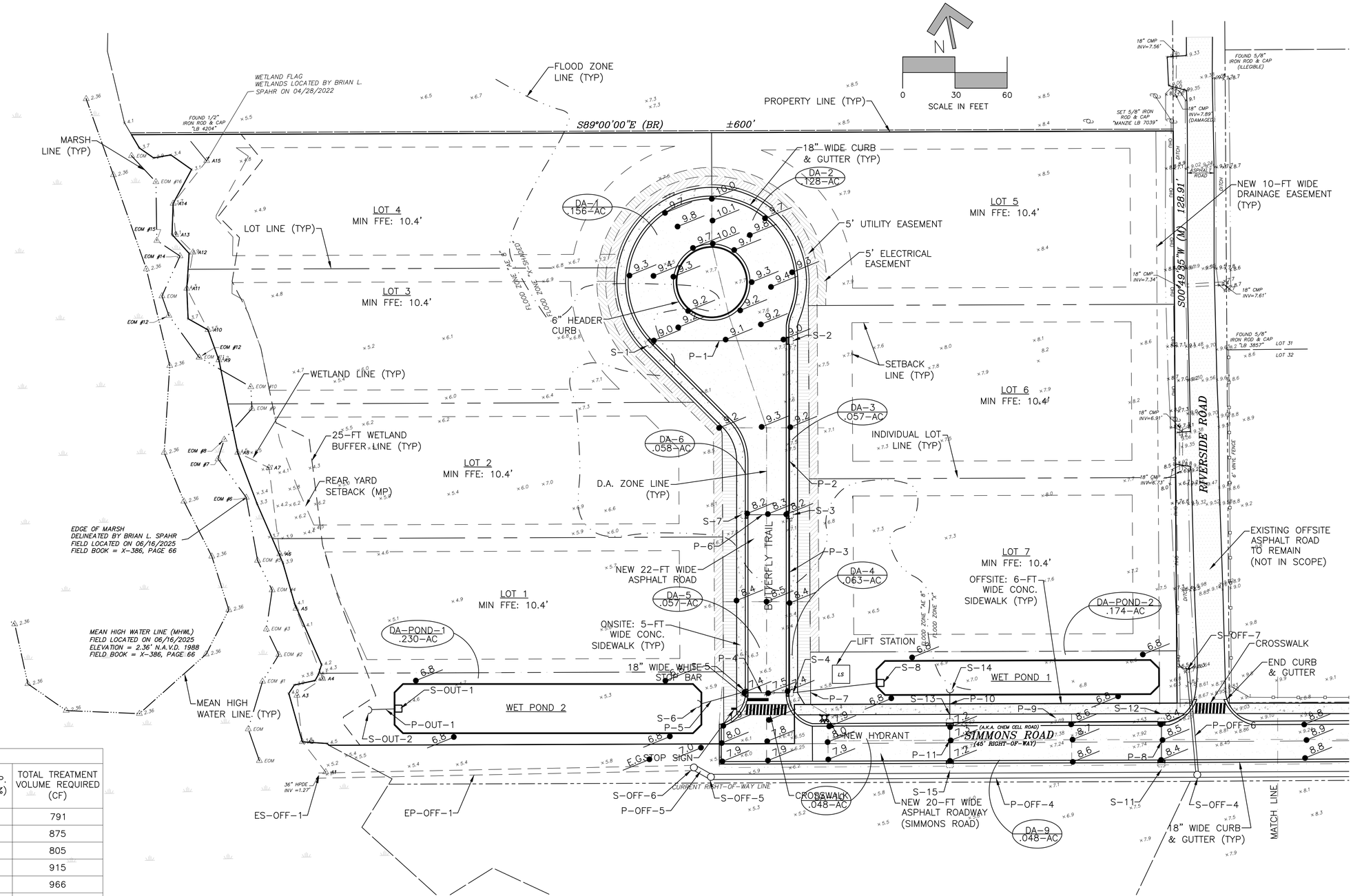
TOTAL IMPERVIOUS AREA RUNOFF:
(X SF)*(1.0")*(1/12 FT/IN) = *SEE LOT TABLE

*NOTE: EACH LOT TO BE DESIGNED ACCORDING TO FINAL FOOTPRINT LAYOUT

WET POND NOTES:

WET POND 1:
T.O.B. EL. 6.80'
25-YEAR EL. 6.54'
WEIR EL. 5.25'
NWL EL. 4.50'
B.O.P. EL. 1.50'

WET POND 2:
T.O.B. EL. 6.80'
25-YEAR EL. 6.54'
WEIR EL. 5.25'
NWL EL. 4.50'
B.O.P. EL. 1.50'



LOT TABLE						
LOT #	LOT AREA (SF)	MAX IMPERVIOUS AREA (%)	MAX IMPERVIOUS AREA (SF)	EST. IMP. AREA (SF)	EST. IMP. AREA (%)	TOTAL TREATMENT VOLUME REQUIRED (CF)
1	18,981	60.0%	11,389	6,000	31.6%	791
2	20,979	60.0%	12,587	6,000	28.6%	875
3	19,308	60.0%	11,585	6,000	31.1%	805
4	21,937	60.0%	13,162	6,000	27.4%	915
5	23,184	60.0%	13,910	6,000	25.9%	966
6	21,016	60.0%	12,610	6,000	28.5%	876
7	21,026	60.0%	12,616	6,000	28.5%	877

No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW - PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING - DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

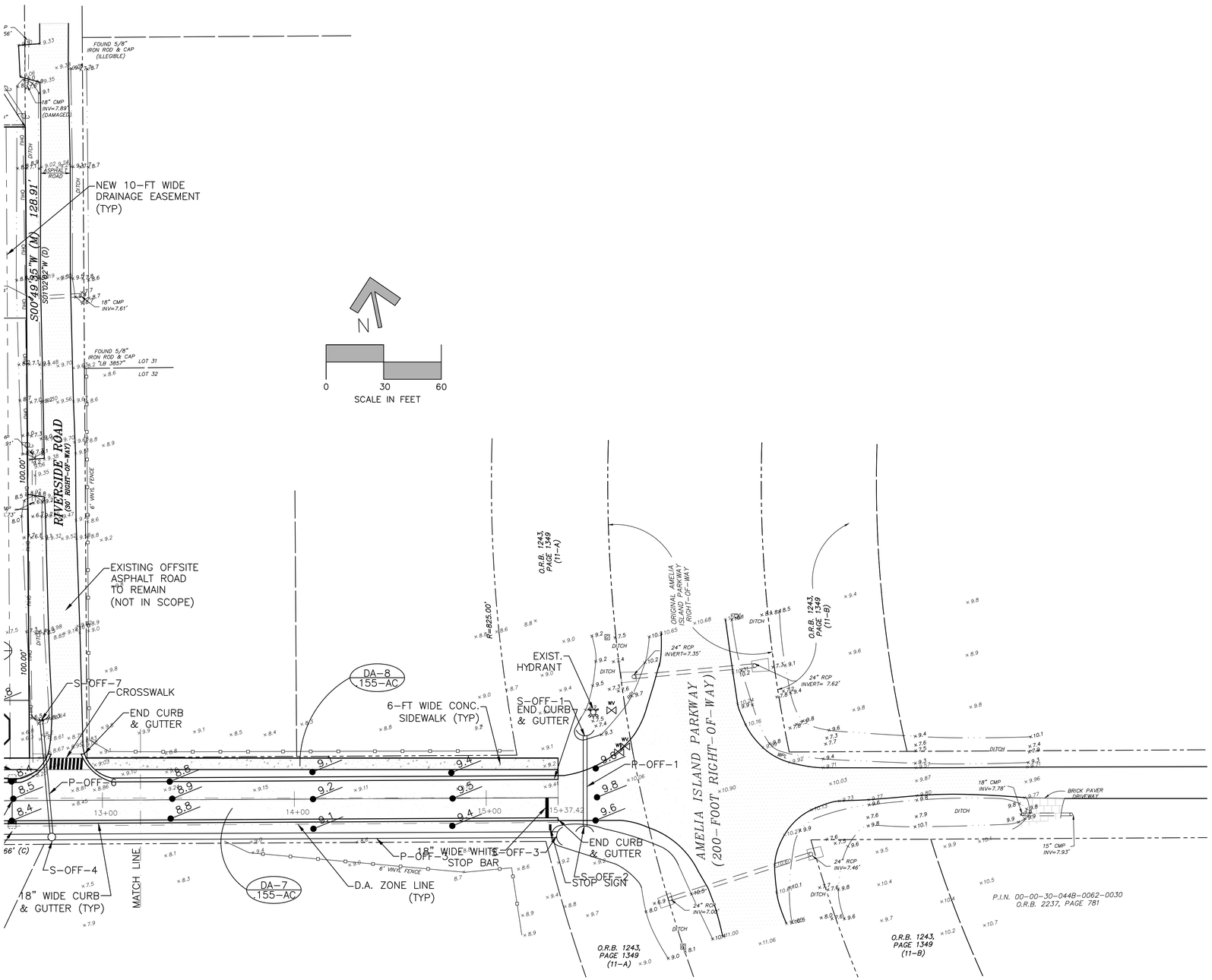
BUTTERFLY PROJEKT, LLC

ONSITE & OFF-SITE DRAINAGE PLAN

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, c=US, email=asa@gillettesurveyor.com
Date: 2025.10.12 14:28:25 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25
Sheet
DR-1
Page 8 of X
Project No. XX-XX-XX

NOT FOR CONSTRUCTION



STRUCTURE TABLE							
NAME	TYPE	TOP/INLET ELEV.	INVERT ELEVATION				DRAINAGE AREA (AC)
			N	S	E	W	
S-1	CURB INLET	9.00	–	–	5.50	–	0.156
S-2	CURB INLET	9.00	–	5.30	–	5.30	0.128
S-3	CURB INLET	8.20	5.05	5.05	–	5.19	0.057
S-4	CURB INLET	7.40	4.80	–	–	4.80	0.063
S-5	CURB INLET	7.40		–	4.30	4.26	0.057
S-6	CURB INLET	7.40	–	–	4.20	–	0.058
S-7	CURB INLET	8.20	–	–	5.25	–	0.031
S-8	TYPE "C"	6.80	–	–	–	3.60	0.155
S-11	CURB INLET	8.40	5.65	–	–	–	0.155
S-12	CURB INLET	8.40	–	8.40	–	4.40	0.049
S-13	CURB INLET	7.20	4.19	4.37	4.19	–	0.048
S-14	CURB INLET	7.20	–	4.17	–	–	0.048
S-15	CURB INLET	7.20	4.45	–	–	–	–
S-OUT-1*	MOD. TYPE E	6.80	–	–	3.60	–	–
S-OUT-2	MES	–	–	–	–	3.50	–
S-OFF-1	MES	–	7.40	–	–	–	–
S-OFF-2	MES	–	–	–	–	7.40	–
S-OFF-3	MES	–	–	–	7.20	–	–
S-OFF-4	M/H	5.10	4.99	–	5.83	2.92	–
S-OFF-5	M/H	5.00	–	–	1.83	1.83	–
S-OFF-6	M/H	–	–	–	1.82	1.81	–
S-OFF-7	MES	–	6.50	–	–	–	–
ES-OFF-1	MES	–	–	–	–	1.77	–

* SEE OUTFALL STRUCTURE DETAIL, SHEET DT-1

PIPE TABLE					
NAME	FROM	TO	SIZE	LENGTH	MATERIAL
P-1	S-1	S-2	18"	77'	HP
P-2	S-2	S-3	18"	175'	HP
P-3	S-3	S-4	18"	99'	HP
P-4	S-4	S-5	24"	22'	HP
P-5	S-5	S-6	24"	36'	HP
P-6	S-7	S-3	18"	22'	HP
P-7	S-4	S-8	18"	49'	HP
P-8	S-11	S-12	15"	20'	HP
P-9	S-12	S-13	24"	118'	HP
P-10	S-13	S-14	25"	15'	HP
P-11	S-15	S-13	15"	20'	HP
P-OUT-1	S-OUT-1	S-OUT-2	24"	13'	HP
P-OFF-1	S-OFF-1	S-OFF-2	36"	48'	HP
P-OFF-3	S-OFF-3	S-OFF-4	36"	263'	HP
P-OFF-4	S-OFF-4	S-OFF-5	36"	277'	HP
P-OFF-5	S-OFF-5	S-OFF-6	36"	9'	HP
EP-OFF-1	S-OFF-6	ES-OFF-1	36"	215'	HP
P-OFF-6	S-OFF-7	S-OFF-4	36"	60'	HP

No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034
Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

OFFSITE DRAINAGE PLAN

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, c=US, o=Gillette & Associates, Inc., ou=PE
Date: 2025.10.14 14:28:41 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25

Sheet DR-2

Project No. XX-XX-XX

NOT FOR CONSTRUCTION

PROPERTY INFORMATION:

- PID#: 00-00-30-044B-0068-0010
  00-00-30-044B-0068-0020
  00-00-30-044B-0068-0030
  00-00-30-044B-0068-0040
  00-00-30-0560-00RW-0010
- TOTAL PARCEL(S) ACREAGE: 4.37 AC. (190,358 SF)
- LOCATION: FERNANDINA BEACH, FL
- FLOOD ZONE: AE-8, X-SHADED
- ZONING: R-1
- FUTURE LAND USE: LOW DENSITY RESIDENTIAL
- PROPOSED USE: SINGLE-FAMILY RESIDENTIAL

DEVELOPMENT REQUIREMENTS:

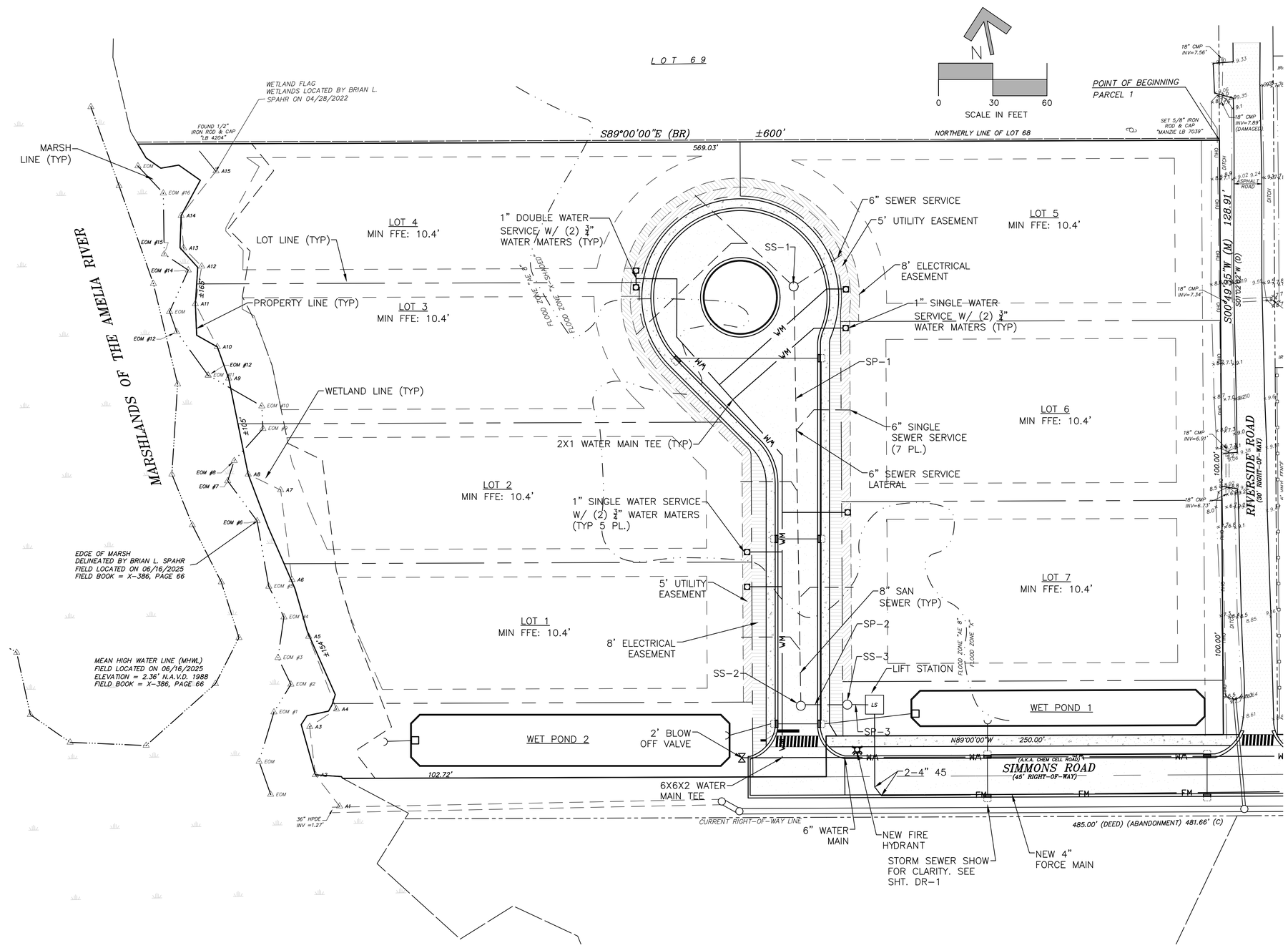
- MAX IMPERVIOUS AREA: 60%
- MAX F.A.R.: 50%
- MAX BUILDING HEIGHT: 35-FT
- DENSITY ALLOWED: 4 UNITS/ACRE
- OFFSITE R.O.W. FOR DENSITY: ____
- CALC. DENSITY: (4.37AC+__AC)*(4D.U./AC.)=__D.U.

SETBACK REQUIREMENTS:

- FRONT: 25 FEET
- REAR: 25 FEET
- SIDES: 10% OF LOT WIDTH

UTILITIES:

- WATER: CITY OF FERNANDINA BEACH
- SEWER: CITY OF FERNANDINA BEACH
- POWER: F.P.U.



SANITARY STRUCTURE TABLE						
NAME	TYPE	TOP ELEV.	INVERT ELEVATION			
			N	S	E	W
SS-1	M/H	9.50	4.32	4.32	4.32	–
SS-2	M/H	7.60	3.40	–	3.40	–
SS-3	M/H	5.80	–	–	3.31	3.31

SANITARY PIPE TABLE					
NAME	SIZE	TYPE	LENGTH	FROM	TO
SP-1	8"	PVC	228'	SS-1	SS-2
SP-2	8"	PVC	21'	SS-2	SS-3
SP-3	8"	PVC	9'	SS-3	LS

No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

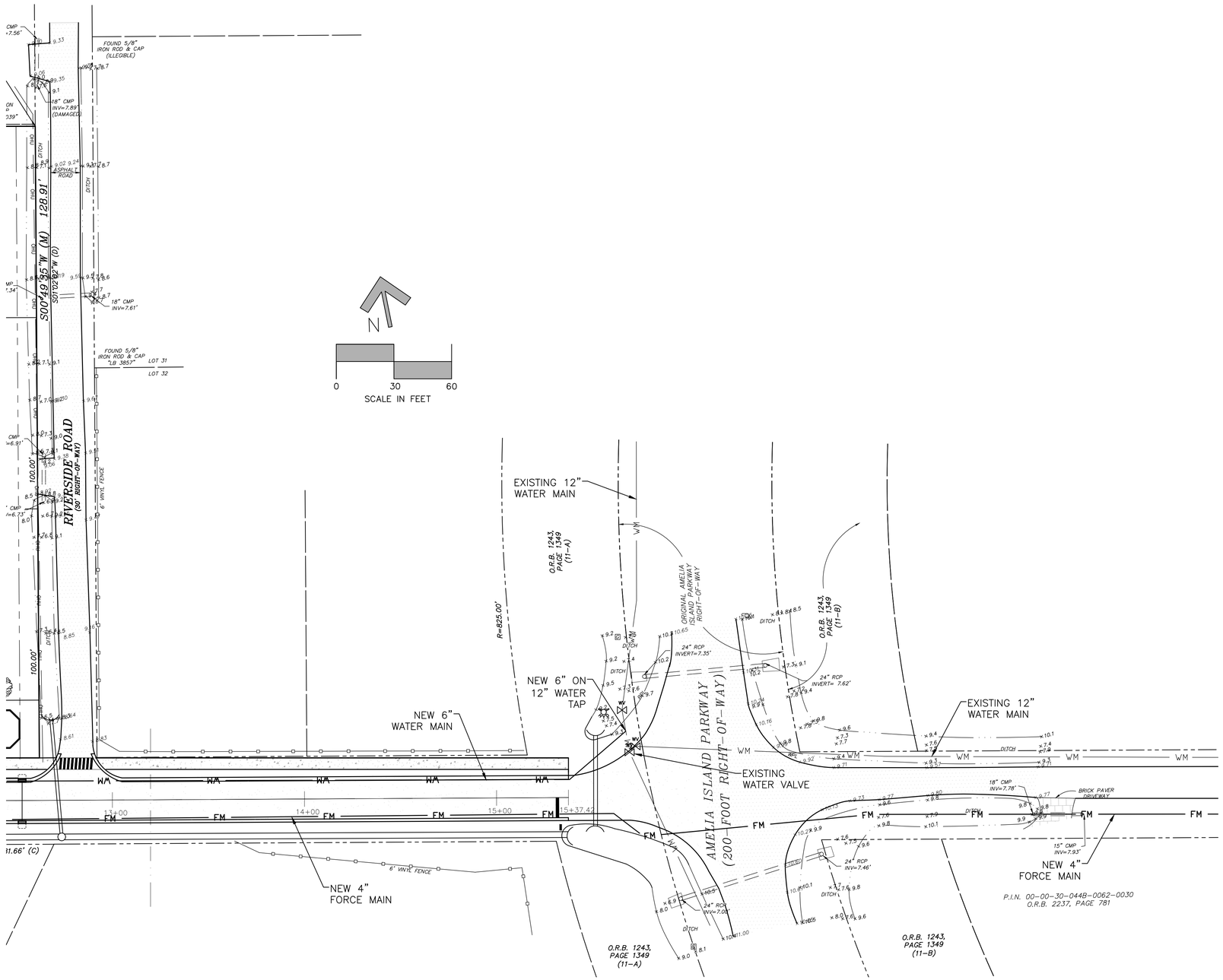
BUTTERFLY PROJEKT, LLC

UTILITY PLAN

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, c=US, email=asa@gillettesociates.com
Date: 2025.10.10 14:19:34 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25
Sheet
UT-1
Page 10 of X
Project No. XX-XX-XX

NOT FOR CONSTRUCTION



No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

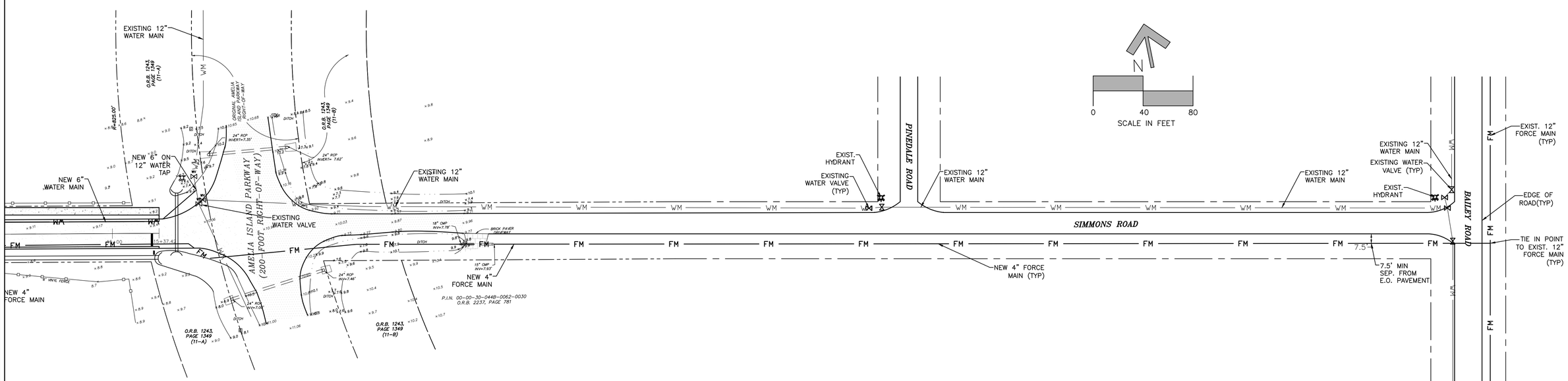
BUTTERFLY PROJEKT, LLC

UTILITY PLAN

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, o=US, ou=Gillette & Associates, Inc., c=US
Date: 2025.10.14 14:29:52 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25
Sheet UT-2
Page 11 of X
Project No. XX-XX-XX

NOT FOR CONSTRUCTION



No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:40
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

UTILITY PLAN

OFFSITE EXTENSION

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, o=G&A, ou=Engineering, email=asa@gandassociates.net
Date: 2025.10.14 09:43 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

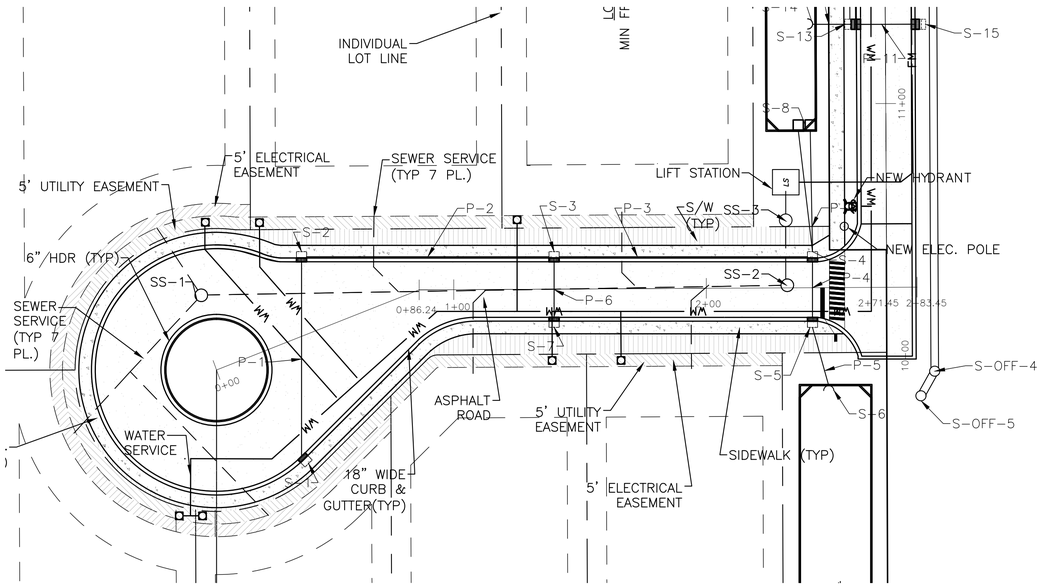
ISSUE DATE: 10/8/25

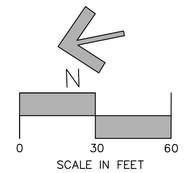
Sheet
UT-3

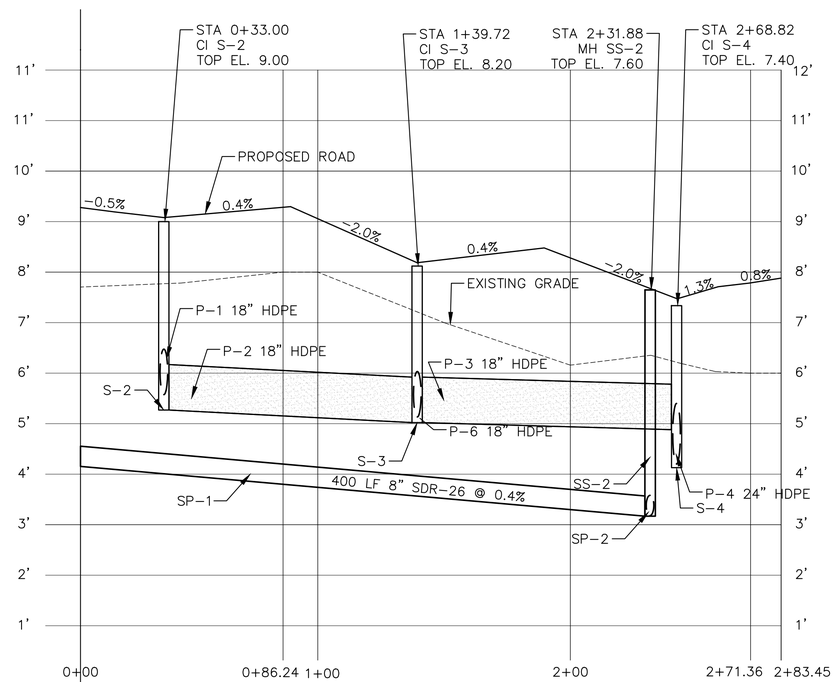
Page 12 of X

Project No. XX-XX-XX

NOT FOR CONSTRUCTION







STRUCTURE TABLE							
NAME	TYPE	TOP/INLET ELEV.	INVERT ELEVATION				DRAINAGE AREA (AC)
			N	S	E	W	
S-1	CURB INLET	9.00	–	–	5.50	–	0.156
S-2	CURB INLET	9.00	–	5.30	–	5.30	0.128
S-3	CURB INLET	8.20	5.05	5.05	–	5.19	0.057
S-4	CURB INLET	7.40	4.80	–	–	4.80	0.063
S-5	CURB INLET	7.40		–	4.30	4.26	0.057
S-6	CURB INLET	7.40	–	–	4.20	–	0.058
S-7	CURB INLET	8.20	–	–	5.25	–	0.031
S-8	TYPE "C"	6.80	–	–	–	3.60	0.155
S-11	CURB INLET	8.40	5.65	–	–	–	0.155
S-12	CURB INLET	8.40	–	8.40	–	4.40	0.049
S-13	CURB INLET	7.20	4.19	4.37	4.19	–	0.048
S-14	CURB INLET	7.20	–	4.17	–	–	0.048
S-15	CURB INLET	7.20	4.45	–	–	–	–
S-OUT-1*	MOD. TYPE E	6.80	–	–	3.60	–	–
S-OUT-2	MES	–	–	–	–	3.50	–
S-OFF-1	MES	–	7.40	–	–	–	–
S-OFF-2	MES	–	–	–	–	7.40	–
S-OFF-3	MES	–	–	–	7.20	–	–
S-OFF-4	M/H	5.10	4.99	–	5.83	2.92	–
S-OFF-5	M/H	5.00	–	–	1.83	1.83	–
S-OFF-6	M/H	–	–	–	1.82	1.81	–
S-OFF-7	MES	–	6.50	–	–	–	–
ES-OFF-1	MES	–	–	–	–	1.77	–

* SEE OUTFALL STRUCTURE DETAIL, SHEET DT-1

PIPE TABLE					
NAME	FROM	TO	SIZE	LENGTH	MATERIAL
P-1	S-1	S-2	18"	77'	HP
P-2	S-2	S-3	18"	175'	HP
P-3	S-3	S-4	18"	99'	HP
P-4	S-4	S-5	24"	22'	HP
P-5	S-5	S-6	24"	36'	HP
P-6	S-7	S-3	18"	22'	HP
P-7	S-4	S-8	18"	49'	HP
P-8	S-11	S-12	15"	20'	HP
P-9	S-12	S-13	24"	118'	HP
P-10	S-13	S-14	25"	15'	HP
P-11	S-15	S-13	15"	20'	HP
P-OUT-1	S-OUT-1	S-OUT-2	24"	13'	HP
P-OFF-1	S-OFF-1	S-OFF-2	36"	48'	HP
P-OFF-3	S-OFF-3	S-OFF-4	36"	263'	HP
P-OFF-4	S-OFF-4	S-OFF-5	36"	277'	HP
P-OFF-5	S-OFF-5	S-OFF-6	36"	9'	HP
EP-OFF-1	S-OFF-6	ES-OFF-1	36"	215'	HP
P-OFF-6	S-OFF-7	S-OFF-4	36"	60'	HP

SANITARY STRUCTURE TABLE						
NAME	TYPE	TOP ELEV.	INVERT ELEVATION			
			N	S	E	W
SS-1	M/H	9.50	4.32	4.32	4.32	–
SS-2	M/H	7.60	3.40	–	3.40	–
SS-3	M/H	5.80	–	–	3.31	3.31

SANITARY PIPE TABLE					
NAME	SIZE	TYPE	LENGTH	FROM	TO
SP-1	8"	PVC	228'	SS-1	SS-2
SP-2	8"	PVC	21'	SS-2	SS-3
SP-3	8"	PVC	9'	SS-3	LS

No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

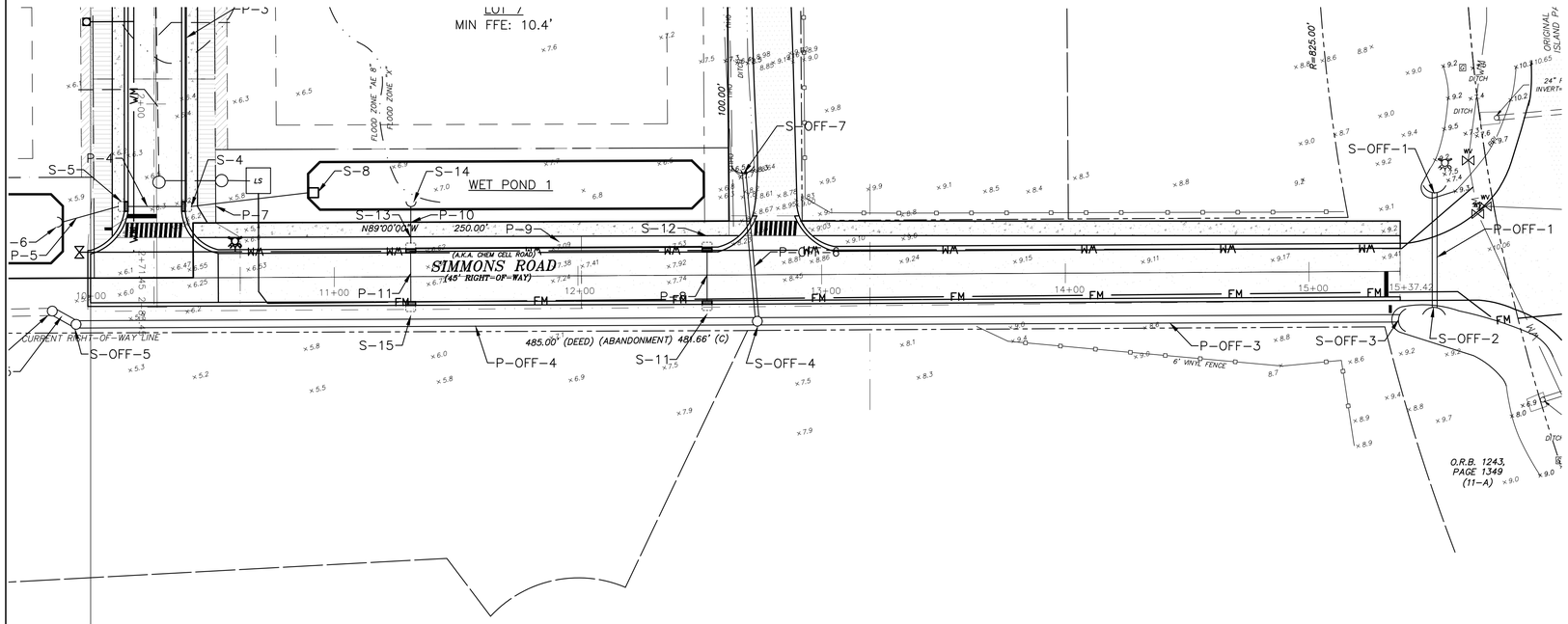
BUTTERFLY PROJEKT, LLC

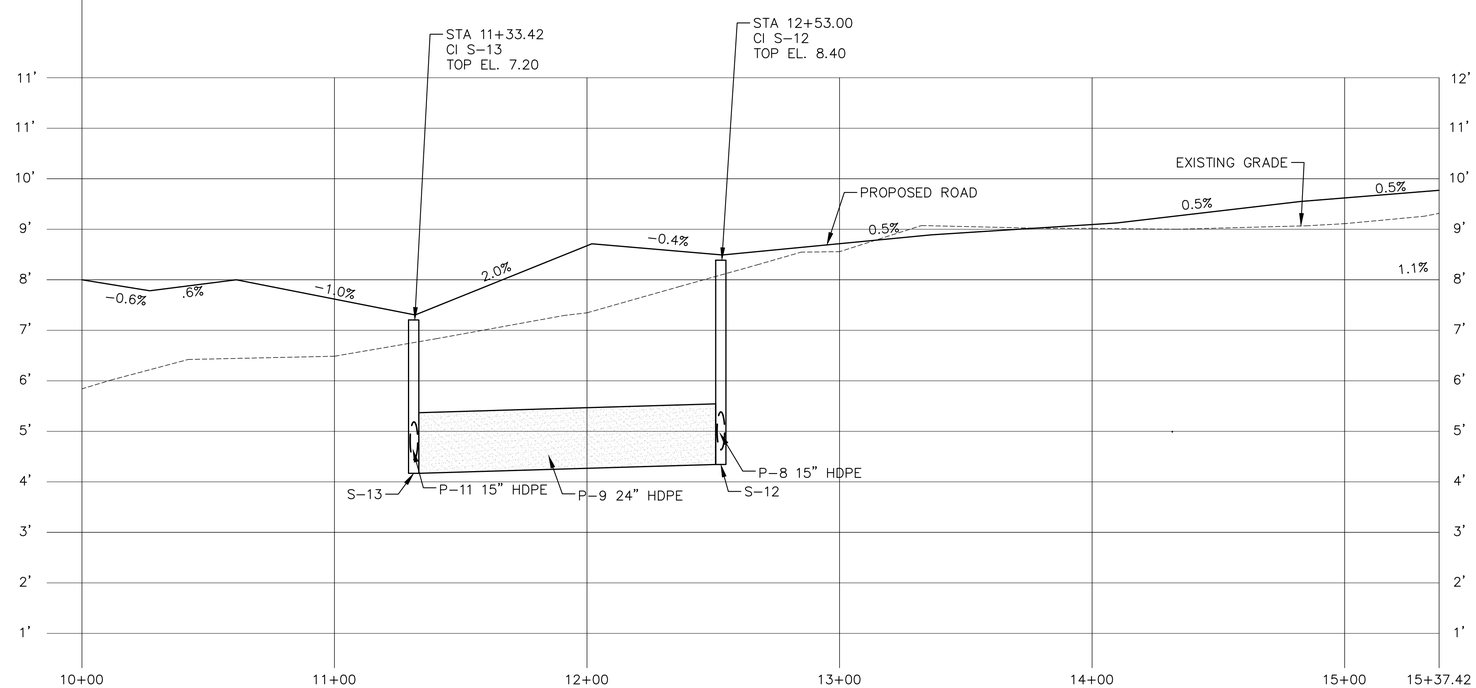
ON SITE
ROAD PLAN
& PROFILE

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, o=GA, email=asag@gillettesociates.com
Date: 2025.10.10 14:31:01 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25
Sheet
PP-1
Page 13 of X
Project No. XX-XX-XX

NOT FOR CONSTRUCTION





STRUCTURE TABLE							
NAME	TYPE	TOP/INLET ELEV.	INVERT ELEVATION				DRAINAGE AREA (AC)
			N	S	E	W	
S-1	CURB INLET	9.00	–	–	5.50	–	0.156
S-2	CURB INLET	9.00	–	5.30	–	5.30	0.128
S-3	CURB INLET	8.20	5.05	5.05	–	5.19	0.057
S-4	CURB INLET	7.40	4.80	–	–	4.80	0.063
S-5	CURB INLET	7.40		–	4.30	4.26	0.057
S-6	CURB INLET	7.40	–	–	4.20	–	0.058
S-7	CURB INLET	8.20	–	–	5.25	–	0.031
S-8	TYPE "C"	6.80	–	–	–	3.60	0.155
S-11	CURB INLET	8.40	5.65	–	–	–	0.155
S-12	CURB INLET	8.40	–	8.40	–	4.40	0.049
S-13	CURB INLET	7.20	4.19	4.37	4.19	–	0.048
S-14	CURB INLET	7.20	–	4.17	–	–	0.048
S-15	CURB INLET	7.20	4.45	–	–	–	–
S-OUT-1*	MOD. TYPE E	6.80	–	–	3.60	–	–
S-OUT-2	MES	–	–	–	–	3.50	–
S-OFF-1	MES	–	7.40	–	–	–	–
S-OFF-2	MES	–	–	–	–	7.40	–
S-OFF-3	MES	–	–	–	7.20	–	–
S-OFF-4	M/H	5.10	4.99	–	5.83	2.92	–
S-OFF-5	M/H	5.00	–	–	1.83	1.83	–
S-OFF-6	M/H	–	–	–	1.82	1.81	–
S-OFF-7	MES	–	6.50	–	–	–	–
ES-OFF-1	MES	–	–	–	–	1.77	–

* SEE OUTFALL STRUCTURE DETAIL, SHEET DT-1

PIPE TABLE					
NAME	FROM	TO	SIZE	LENGTH	MATERIAL
P-1	S-1	S-2	18"	77'	HP
P-2	S-2	S-3	18"	175'	HP
P-3	S-3	S-4	18"	99'	HP
P-4	S-4	S-5	24"	22'	HP
P-5	S-5	S-6	24"	36'	HP
P-6	S-7	S-3	18"	22'	HP
P-7	S-4	S-8	18"	49'	HP
P-8	S-11	S-12	15"	20'	HP
P-9	S-12	S-13	24"	118'	HP
P-10	S-13	S-14	25"	15'	HP
P-11	S-15	S-13	15"	20'	HP
P-OUT-1	S-OUT-1	S-OUT-2	24"	13'	HP
P-OFF-1	S-OFF-1	S-OFF-2	36"	48'	HP
P-OFF-3	S-OFF-3	S-OFF-4	36"	263'	HP
P-OFF-4	S-OFF-4	S-OFF-5	36"	277'	HP
P-OFF-5	S-OFF-5	S-OFF-6	36"	9'	HP
EP-OFF-1	S-OFF-6	ES-OFF-1	36"	215'	HP
P-OFF-6	S-OFF-7	S-OFF-4	36"	60'	HP

SANITARY STRUCTURE TABLE						
NAME	TYPE	TOP ELEV.	INVERT ELEVATION			
			N	S	E	W
SS-1	M/H	9.50	4.32	4.32	4.32	–
SS-2	M/H	7.60	3.40	–	3.40	–
SS-3	M/H	5.80	–	–	3.31	3.31

SANITARY PIPE TABLE					
NAME	SIZE	TYPE	LENGTH	FROM	TO
SP-1	8"	PVC	228'	SS-1	SS-2
SP-2	8"	PVC	21'	SS-2	SS-3
SP-3	8"	PVC	9'	SS-3	LS

No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

OFF SITE
ROAD PLAN
& PROFILE

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, o=US
Reason: I am the author of this document
Date: 2025.25.10 14:52:36 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25
Sheet
PP-2
Page 14 of X
Project No. XX-XX-XX

NOT FOR CONSTRUCTION

PROPERTY INFORMATION:

- PID#: 00-00-30-044B-0068-0010
  00-00-30-044B-0068-0020
  00-00-30-044B-0068-0030
  00-00-30-044B-0068-0040
  00-00-30-0560-00RW-0010
- TOTAL PARCEL(S) ACREAGE: 4.37 AC. (190,358 SF)
- LOCATION: FERNANDINA BEACH, FL
- FLOOD ZONE: AE-8, X-SHADED
- ZONING: R-1
- FUTURE LAND USE: LOW DENSITY RESIDENTIAL
- PROPOSED USE: SINGLE-FAMILY RESIDENTIAL

DEVELOPMENT REQUIREMENTS:

- MAX IMPERVIOUS AREA: 60%
- MAX F.A.R.: 50%
- MAX BUILDING HEIGHT: 35-FT
- DENSITY ALLOWED: 4 UNITS/ACRE
- OFFSITE R.O.W. FOR DENSITY: ____
- CALC. DENSITY: (4.37AC+__AC)*(4D.U./AC.)=__D.U.

SETBACK REQUIREMENTS:

- FRONT: 25 FEET
- REAR: 25 FEET
- SIDES: 10% OF LOT WIDTH

UTILITIES:

- WATER: CITY OF FERNANDINA BEACH
- SEWER: CITY OF FERNANDINA BEACH
- POWER: F.P.U.

LANDSCAPE NOTES

BUFFERS

NORTH: R-3
REQUIRED BUFFER: NONE

SOUTH: RG-1
REQUIRED BUFFER: NONE

EAST: R-3
REQUIRED BUFFER: NONE

WEST: N/A
REQUIRED BUFFER: NONE

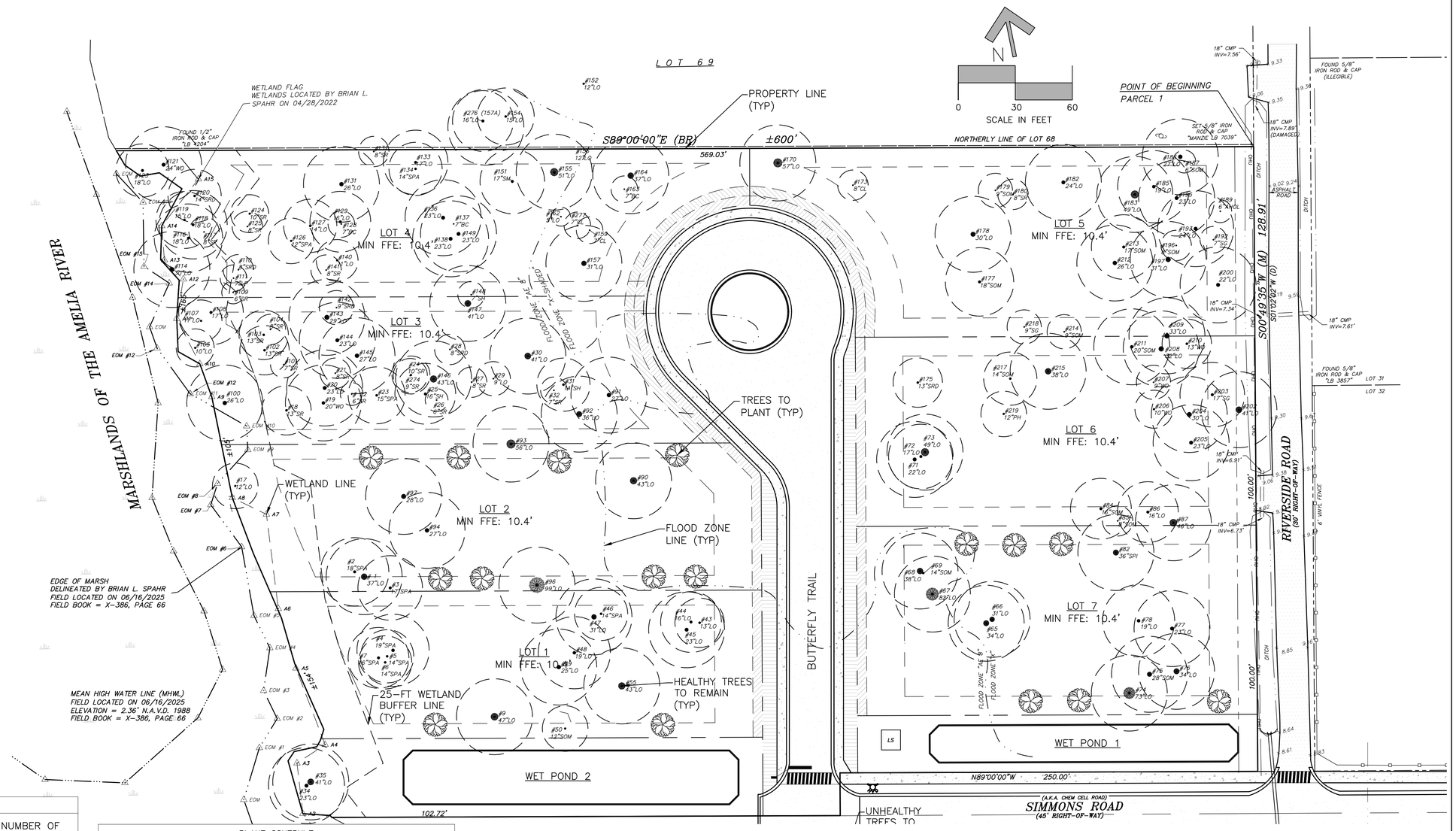
SINGLE-FAMILY LOTS

REQUIRED TREES: 2 SHADE TREE/2,500 SF
PROPOSED TREES: PRESERVE EXISTING TREES & PLANT NEW SHADE TREES AS SHOWN

NOTE: FINAL PLACEMENT TO VARY PER LOT DESIGN

STREET TREES

REQUIRED TREES: 1 SHADE TREE/50 FT = 13 TREES
PROPOSED TREES: X SHADE TREES IN ROW



LOT TABLE – LANDSCAPING				
LOT #	LOT AREA (SF)	MIN LOT TREES REQUIRED (2TREES/2,500SF)	NUMBER OF EXISTING TREES	NUMBER OF TREES PLANTED (3" MIN. DBH)
1	18,981	16	14	2
2	20,979	17	9	8
3	19,308	16	33	0
4	21,937	18	36	0
5	23,184	19	23	0
6	21,016	17	21	0
7	21,026	17	11	6

PLANT SCHEDULE				
SYMBOL	QTY.	KEY	SPECIES COMMON NAME	SIZE/REMARKS
SHADE TREE	31	SM	MAGNOLIA GRANDIFLORA SOUTHERN MAGNOLIA	3" CAL MIN.
	31	LO	QUERCUS VIRGINIANA LIVE OAK	3" CAL MIN.
	31	RM	ACER RUBRUM RED MAPLE	3" CAL MIN.
	30	RC	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	3" CAL MIN.
	1,826 L.F.	-	VIBURNUM DBOVATUM WALTER'S VIBURNUM	18" HT & 30" O.C. MAX SPACING WITH A HEIGHT OF 4-FT AFTER 24 MONTHS

I, _____, am a certified arborist through the International Society of Arboriculture and my certification number is _____. I hereby attest that I have approved this tree protection and/or replacement plan. This includes not only the evaluation of individual trees, but also review of the complete construction plan set and the techniques that will be utilized to mitigate impacts to protected trees. Further, I attest that best practices, as supported by the International Society of Arboriculture, are being implemented to avoid and mitigate impacts to protected trees.

Signed,

_____

No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034
Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

ONSITE
LANDSCAPE PLAN

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, o=G&A, email=asa@gillettearch.com, c=US
Date: 2025.10.10 14:32:39 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25

Sheet
LS-1

Project No. XX-XX-XX

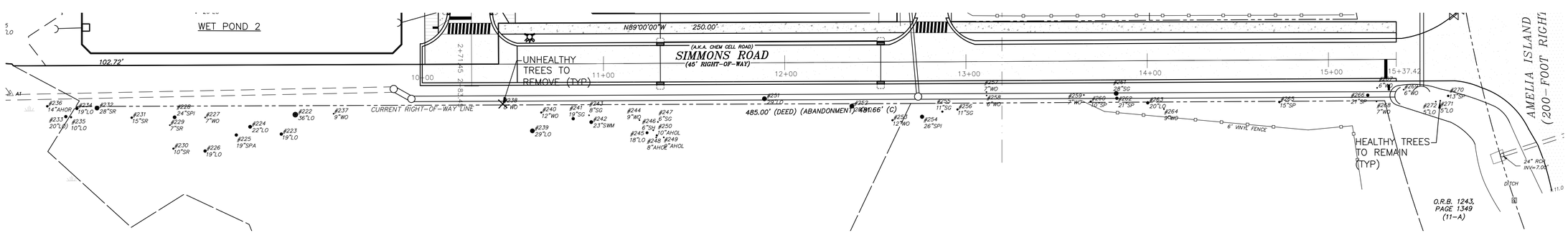
NOT FOR CONSTRUCTION

I, _____, am a certified arborist through the International Society of Arboriculture and my certification number is _____. I hereby attest that I have approved this tree protection and/or replacement plan. This includes not only the evaluation of individual trees, but also review of the complete construction plan set and the techniques that will be utilized to mitigate impacts to protected trees. Further, I attest that best practices, as supported by the International Society of Arboriculture, are being implemented to avoid and mitigate impacts to protected trees.

Signed,

_____

SURVEY TREE LEGEND	
SYMBOL	DESCRIPTION
LO	Live Oak (Quercus virginiana)
SOM	Southern Magnolia (Magnolia grandiflora)
SR	Southern Red Cedar (Juniperus Siliciola)
WO	Water Oak (Quercus nigra)
SPA	Sabal palm (sabal palmetto)
SH	Southern Hackberry (Celtis laevigata)
BC	Black Cherry (Prunus serotina)
AHOL	American Holly (Ilex opaca)
SG	Sweetgum (Liquidambar styraciflua)
PH	Pignut Hickory (Carya glabra)
SPI	Slash Pine (Pinus elliottii)
AHOR	American Hornbeam (Carpinus caroliniana)
SWM	Sweetbay Magnolia (Magnolia virginiana)
LP	Longleaf Pine (Pinus palustris)
CL	Cherry Laurel (Prunus caroliniana)
▩	HEALTHY TREE TO BE REMOVED
×	POOR HEALTH TREE TO BE REMOVED



No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

OFFSITE
TREE REMOVAL PLAN

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, o=US, email=asa@gillettesurveyors.com
Date: 2025.10.10 14:33:00 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25
Sheet
LS-3
Page 17 of X
Project No. XX-XX-XX

NOT FOR CONSTRUCTION

TREE NO.	ACTUAL SPECIES	DBH	HEALTH STATUS	PROTECTED DBH	PRESERVED? (Y/N)	PRESERVED DBH	ARBORIST COMMENT
1	Live Oak (Quercus virginiana)	37	3	37	Y	37	
2	Sabal palm(Sabal palmetto)	18	3	18	Y	18	
3	Sabal palm(Sabal palmetto)	17	3	17	Y	17	
4	Sabal palm(Sabal palmetto)	19	3	19	Y	19	
5	Sabal palm(Sabal palmetto)	14	3	14	Y	14	
6	Sabal palm(Sabal palmetto)	14	3	14	Y	14	
7	Sabal palm(Sabal palmetto)	16	3	16	Y	16	
8	Live Oak (Quercus virginiana)	58	4	0	N	0	Major rot in Bole|Excessive Sap Flow or Bleeding from the Trunk|Cavities or Decay in the Trunk or Branches
9	Live Oak (Quercus virginiana)	47	2	47	Y	47	
10	Live Oak (Quercus virginiana)	26	4	0	N	0	Excessive Sap Flow or Bleeding from the Trunk|Codominate Branching with included bark|Excessive Leaning|Weak Branch Unions (Branches forming at sharp angles)
11	Live Oak (Quercus virginiana)	18	4	0	N	0	Dead or Dying Branches|Excessive Leaning|Canopy Dieback|Cavities or Decay in the Trunk or Branches|Root Damage or Exposed Roots|Unbalanced Canopy (One side significantly heavier than the other)
13	Live Oak (Quercus virginiana)	16	4	0	N	0	Dead or Dying Branches|Excessive Storm/Wind Damage|Excessive Leaning|Canopy Dieback|Cavities or Decay in the Trunk or Branches
14	Live Oak (Quercus virginiana)	13	4	0	N	0	Dead or Dying Branches|Excessive Storm/Wind Damage|Canopy Dieback|Peeling or Missing Bark
15	Live Oak (Quercus virginiana)	19	5	0	N	0	Rot in major limbs|Cracks or Splits in the Trunk|Dead or Dying Branches|Excessive Leaning
16	Live Oak (Quercus virginiana)	19	4	0	N	0	Dead or Dying Branches|Canopy Dieback|Cavities or Decay in the Trunk or Branches|Peeling or Missing Bark
17	Live Oak (Quercus virginiana)	12	3	12	Y	12	
18	Southern Red Cedar (Juniperus silicicola)	13	3	13	Y	13	
19	Water Oak (Quercus nigra)	20	3	20	Y	20	
20	Live Oak (Quercus virginiana)	23	3	23	Y	23	
21	Southern Red Cedar (Juniperus silicicola)	8	2	8	Y	8	
22	Southern Red Cedar (Juniperus silicicola)	6	3	6	Y	6	
23	Sabal palm(Sabal palmetto)	15	3	15	Y	15	
24	Southern Red Cedar (Juniperus silicicola)	10	2	10	Y	10	
24A	Southern Red Cedar (Juniperus silicicola)	9	2	9	Y	9	
25	Southern Hackberry (Celtis laevigata)	16	3	16	Y	16	
26	Southern Red Cedar (Juniperus silicicola)	6	2	6	Y	6	
27	Southern Red Cedar (Juniperus silicicola)	8	2	8	Y	8	
28	Southern Red Cedar (Juniperus silicicola)	8	2	8	Y	8	
29	Live Oak (Quercus virginiana)	9	3	9	Y	9	
30	Live Oak (Quercus virginiana)	41	2	41	Y	41	
31	Southern Hackberry (Celtis laevigata)	14	2	14	Y	14	
32	Southern Red Cedar (Juniperus silicicola)	7	2	7	Y	7	
32A	Black Cherry (Prunus serotina)	7	3	7	Y	7	
33	Water Oak (Quercus nigra)	13	4	0	N	0	Major rot in Bole
34	Live Oak (Quercus virginiana)	23	3	23	Y	23	
35	Live Oak (Quercus virginiana)	41	3	41	Y	41	
36	Southern Magnolia (Magnolia grandiflora)	12	2	12	N	0	
37	Live Oak (Quercus virginiana)	31	2	31	N	0	
38	Live Oak (Quercus virginiana)	24	3	24	N	0	
39	Live Oak (Quercus virginiana)	37	3	37	N	0	
40	Live Oak (Quercus virginiana)	46	4	0	N	0	Codominate Branching with included bark|Epicormic Shoots (Sprouts from the Trunk or Base)|Mechanical Damage (From mowers, vehicles, or improper pruning)
41	Live Oak (Quercus virginiana)	45	3	45	N	0	
42	Live Oak (Quercus virginiana)	34	3	34	Y	34	
43	Live Oak (Quercus virginiana)	13	3	13	Y	13	
44	Live Oak (Quercus virginiana)	16	3	16	Y	16	
45	Live Oak (Quercus virginiana)	23	2	23	Y	23	
46	Sabal palm(Sabal palmetto)	14	2	14	Y	14	
47	Live Oak (Quercus virginiana)	31	2	31	Y	31	
48	Live Oak (Quercus virginiana)	19	2	19	Y	19	
49	Live Oak (Quercus virginiana)	25	3	25	Y	25	
50	Southern Magnolia (Magnolia grandiflora)	12	2	12	Y	12	
51	Live Oak (Quercus virginiana)	12	4	0	N	0	Excessive Leaning
52	Live Oak (Quercus virginiana)	15	4	0	N	0	Excessive Leaning
53	Live Oak (Quercus virginiana)	18	4	0	N	0	Excessive Leaning
54	Live Oak (Quercus virginiana)	15	4	0	N	0	Excessive Leaning
55	Live Oak (Quercus virginiana)	43	2	43	Y	43	
56	Live Oak (Quercus virginiana)	22	3	22	Y	22	
57	Live Oak (Quercus virginiana)	25	3	25	N	0	
58	Live Oak (Quercus virginiana)	23	2	23	N	0	
59	Live Oak (Quercus virginiana)	36	3	36	N	0	
60	Live Oak (Quercus virginiana)	21	3	21	N	0	
61	Live Oak (Quercus virginiana)	29	4	0	N	0	Excessive Leaning
62	Live Oak (Quercus virginiana)	62	2	62	N	0	
63	Live Oak (Quercus virginiana)	32	3	32	N	0	
64	Live Oak (Quercus virginiana)	83	2	83	N	0	
65	Live Oak (Quercus virginiana)	34	3	34	Y	34	
66	Live Oak (Quercus virginiana)	31	3	31	Y	31	
67	Live Oak (Quercus virginiana)	82	2	82	Y	82	
68	Live Oak (Quercus virginiana)	38	3	38	Y	38	
69	Southern Magnolia (Magnolia grandiflora)	14	2	14	Y	14	
70	Live Oak (Quercus virginiana)	78	3	78	Y	78	
71	Live Oak (Quercus virginiana)	22	3	22	Y	22	
72	Live Oak (Quercus virginiana)	17	3	17	Y	17	
73	Live Oak (Quercus virginiana)	49	3	49	Y	49	
74	Live Oak (Quercus virginiana)	73	2	73	Y	73	
75	Southern Magnolia (Magnolia grandiflora)	28	2	28	Y	28	
76	Live Oak (Quercus virginiana)	34	2	34	Y	34	
77	Live Oak (Quercus virginiana)	23	3	23	Y	23	
78	Live Oak (Quercus virginiana)	19	3	19	Y	19	
79	Live Oak (Quercus virginiana)	16	4	0	N	0	Excessive Leaning
80	Live Oak (Quercus virginiana)	23	4	0	N	0	Excessive Leaning|Mechanical Damage (From mowers, vehicles, or improper pruning)
81	Live Oak (Quercus virginiana)	17	4	0	N	0	Excessive Leaning
82	Slash Pine (Pinus elliottii)	36	2	36	Y	36	
83	Live Oak (Quercus virginiana)	43	4	0	N	0	Dead or Dying Branches|Peeling or Missing Bark|Mechanical Damage (From mowers, vehicles, or improper pruning)
84	Southern Magnolia (Magnolia grandiflora)	16	3	16	Y	16	
85	Southern Magnolia (Magnolia grandiflora)	8	3	8	N	0	
86	Live Oak (Quercus virginiana)	16	3	16	Y	16	
87	Live Oak (Quercus virginiana)	46	3	46	Y	46	
88	Live Oak (Quercus virginiana)	28	3	28	Y	28	
89	Live Oak (Quercus virginiana)	26	4	0	N	0	Excessive Leaning|Mechanical Damage (From mowers, vehicles, or improper pruning)
90	Live Oak (Quercus virginiana)	43	3	43	Y	43	
91	Live Oak (Quercus virginiana)	27	3	27	Y	27	
92	Live Oak (Quercus virginiana)	36	2	36	Y	36	
93	Live Oak (Quercus virginiana)	56	2	56	Y	56	
94	Live Oak (Quercus virginiana)	27	3	27	Y	27	
95	Live Oak (Quercus virginiana)	17	4	0	N	0	Dead or Dying Branches|Excessive Leaning
96	Live Oak (Quercus virginiana)	99	2	99	Y	99	
97	Live Oak (Quercus virginiana)	28	3	28	Y	28	
98	Live Oak (Quercus virginiana)	26	4	0	N	0	Excessive Leaning|Mechanical Damage (From mowers, vehicles, or improper pruning)
99	Live Oak (Quercus virginiana)	23	4	0	N	0	Mechanical Damage (From mowers, vehicles, or improper pruning)
100	Live Oak (Quercus virginiana)	26	3	26	Y	26	
101	Southern Red Cedar (Juniperus silicicola)	7	2	7	Y	7	
102	Southern Red Cedar (Juniperus silicicola)	13	3	13	Y	13	
103	Southern Red Cedar (Juniperus silicicola)	13	3	13	Y	13	
104	Southern Red Cedar (Juniperus silicicola)	8	3	8	Y	8	
105	Live Oak (Quercus virginiana)	10	3	10	Y	10	
106	Live Oak (Quercus virginiana)	9	4	0	N	0	Canopy Dieback, Shaded
107	Live Oak (Quercus virginiana)	11	3	11	Y	11	
108	Live Oak (Quercus virginiana)	17	3	17	Y	17	
109	Southern Red Cedar (Juniperus silicicola)	6	2	6	Y	6	
110	Southern Red Cedar (Juniperus silicicola)	8	3	8	Y	8	
111	Longleaf Pine (Pinus palustris)	7	2	7	Y	7	
112	Live Oak (Quercus virginiana)	12	4	0	N	0	Dead or Dying Branches|Excessive Leaning|Unbalanced Canopy (One side significantly heavier than the other)
113	Slash Pine (Pinus elliottii)	7	4	0	N	0	Unbalanced Canopy (One side significantly heavier than the other)
114	Live Oak (Quercus virginiana)	30	2	30	Y	30	
115	Live Oak (Quercus virginiana)	13	4	0	N	0	Excessive Leaning
116	Live Oak (Quercus virginiana)	18	3	18	Y	18	
117	Southern Red Cedar (Juniperus silicicola)	8	2	8	Y	8	
118	Live Oak (Quercus virginiana)	18	3	18	Y	18	
119	Live Oak (Quercus virginiana)	15	3	15	Y	15	
120	Southern Red Cedar (Juniperus silicicola)	14	2	14	Y	14	
121	Water Oak (Quercus nigra)	24	3	24	Y	24	
122	Live Oak (Quercus virginiana)	25	4	0	N	0	Decay, with Dead and Dying Branches
123	Live Oak (Quercus virginiana)	18	3	18	Y	18	
124	Southern Red Cedar (Juniperus silicicola)	10	3	10	Y	10	
125	Southern Red Cedar (Juniperus silicicola)	8	2	8	Y	8	
126	Sabal palm(Sabal palmetto)	12	3	12	Y	12	
127	Live Oak (Quercus virginiana)	14	3	14	Y	14	
128	Black Cherry (Prunus serotina)	7	2	7	Y	7	
129	Live Oak (Quercus virginiana)	16	2	16	Y	16	
130	Water Oak (Quercus nigra)	21	4	0	N	0	Excessive Leaning|Epicormic Shoots (Sprouts from the Trunk or Base), in Decline
131	Live Oak (Quercus virginiana)	26	3	26	Y	26	
132	Southern Red Cedar (Juniperus silicicola)	8	3	8	Y	8	
133	Live Oak (Quercus virginiana)	17	2	17	Y	17	
134	Sabal palm(Sabal palmetto)	14	2	14	Y	14	
135	Live Oak (Quercus virginiana)	30	4	0	N	0	Cracks or Splits in the Trunk|Dead and Dying Branches
136	Live Oak (Quercus virginiana)	23	3	23	Y	23	
137	Black Cherry (Prunus serotina)	7	3	7	Y	7	
138	Live Oak (Quercus virginiana)	23	3	23	Y	23	
139	Live Oak (Quercus virginiana)	15	4	0	N	0	Dead or Dying Branches|Cavities and Decay in the Trunk or Branches
140	Live Oak (Quercus virginiana)	11	3	11	Y	11	
141	Southern Red Cedar (Juniperus silicicola)	8	2	8	Y	8	
142	Southern Red Cedar (Juniperus silicicola)	9	3	9	Y	9	
143	Live Oak (Quercus virginiana)	29	2	29	Y	29	
144	Live Oak (Quercus virginiana)	23	2	23	Y	23	
145	Live Oak (Quercus virginiana)	27	3	27	Y	27	
146	Live Oak (Quercus virginiana)	43	2	0	N	0	
147	Live Oak (Quercus virginiana)	41	3	41	Y	41	
148	Southern Hackberry (Celtis laevigata)	7	2	7	Y	7	
149	Live Oak (Quercus virginiana)	23	3	23	Y	23	
150	Live Oak (Quercus virginiana)	23	4	0	N	0	Dead or Dying Branches|Excessive Leaning|Canopy Dieback|Unbalanced Canopy (One side significantly heavier than the other)|Moss
151	Southern Magnolia (Magnolia grandiflora)	17	3	17	Y	17	
152	Live Oak (Quercus virginiana)	12	3	12	Y	12	
153	Live Oak (Quercus virginiana)	13	4	0	N	0	Dead or Dying Branches|Excessive Leaning|Canopy Dieback|Cavities or Decay in the Trunk or Branches
154	Live Oak (Quercus virginiana)	15	3	15	Y	15	
155	Live Oak (Quercus virginiana)	51	3	51	Y	51	
156	Live Oak (Quercus virginiana)	12	3	12	Y	12	
157	Live Oak (Quercus virginiana)	31	3	31	Y	31	
157A	Live Oak (Quercus virginiana)	16	3	16	Y	16	
158	Live Oak (Quercus virginiana)	58	3	58	Y	58	
158A	Cherry Laurel (Prunus caroliniana)	7	5	0	N	0	Major rot in Bole|Excessive Sap Flow or Bleeding from the Trunk|Excessive Leaning|Unbalanced Canopy (One side significantly heavier than the other)
159	Cherry Laurel (Prunus caroliniana)	7	3	7	Y	7	
160	Cherry Laurel (Prunus caroliniana)	6	4	0	N	0	Excessive Leaning|Canopy Dieback|Unbalanced Canopy (One side significantly heavier than the other)
161	Live Oak (Quercus virginiana)	27	4	0	N	0	Rot in major limbs|Major rot in Bole|Excessive Sap Flow or Bleeding from the Trunk
162	Live Oak (Quercus virginiana)	5	2	5	Y	5	
163	Black Cherry (Prunus serotina)	7	2	7	Y	7	
164	Live Oak (Quercus virginiana)	37	2	37	Y	37	
165	Southern Red Cedar (Juniperus silicicola)	10	4	0	N	0	Cracks or Splits in the Trunk|Dead or Dying Branches|Peeling or Missing Bark|shaded
166	Black Cherry (Prunus serotina)	7	4	0	N	0	Major rot in Bole|Excessive Leaning|Unbalanced Canopy (One side significantly heavier than the other)
167	Live Oak (Quercus virginiana)	34	3	34	N	0	
168	Black Cherry (Prunus serotina)	5	3	5	N	0	
169	Live Oak (Quercus virginiana)	32	4	0	N	0	Rot in major limbs|Major rot in Bole|Cracks or Splits in the Trunk|Dead or Dying Branches|Canopy Dieback|Cavities or Decay in the Trunk or Branches|Unbalanced Canopy (One side significantly heavier than the other)|Water-Soaked or Decaying Wood
170	Live Oak (Quercus virginiana)	57	3	57	Y	57	
171	Southern Magnolia (Magnolia grandiflora)	8	2	8	N	0	
172	Live Oak (Quercus virginiana)	32	2	32	N	0	
173	Cherry Laurel (Prunus caroliniana)	8	3	8	Y	8	
174	Southern Magnolia (Magnolia grandiflora)	8	2	8	Y	8	
175	Southern Red Cedar (Juniperus silicicola)	13	3	13	Y	13	
176	Live Oak (Quercus virginiana)	41	4	0	N	0	Rot in major limbs|Major rot in Bole|Dead or Dying Branches|Cavities or Decay in the Trunk or Branches|Water-Soaked or Decaying Wood
177	Southern Magnolia (Magnolia grandiflora)	18	3	18	Y	18	
178	Live Oak (Quercus virginiana)	30	3	30	Y	30	
179	Southern Magnolia (Magnolia grandiflora)	9	2	9	Y	9	
180	Southern Red Cedar (Juniperus silicicola)	8	2	8	Y	8	
181	Live Oak (Quercus virginiana)	73	4	0	N	0	Dead or Dying Branches|Excessive Leaning|Cavities or Decay in the Trunk or Branches|Unbalanced Canopy (One side significantly heavier than the other)
182	Live Oak (Quercus virginiana)	24	3	24	Y	24	
183	Live Oak (Quercus virginiana)	49	3	49	Y	49	
184	Live Oak (Quercus virginiana)	13	4	0	N	0	Dead or Dying Branches|Excessive Leaning|Unbalanced Canopy (One side significantly heavier than the other)
185	Live Oak (Quercus virginiana)	19	3	19	Y	19	
186	Live Oak (Quercus virginiana)	27	2	27	Y	27	
187	Southern Magnolia (Magnolia grandiflora)	6	2	6	Y	6	
188	Live Oak (Quercus virginiana)	23	4	0	N	0	Excessive Leaning|Unbalanced Canopy (One side significantly heavier than the other)
189	American Holly (Ilex opaca)	6	2	6	Y	6	
190	Live Oak (Quercus virginiana)	24	5	0	N	0	Cankers (Sunken, dead areas of bark)|Excessive Leaning|Cavities or Decay in the Trunk or Branches|Peeling or Missing Bark|Unbalanced Canopy (One side significantly heavier than the other)
191	Live Oak (Quercus virginiana)	14	4	0	N	0	Excessive Leaning|Unbalanced Canopy (One side significantly heavier than the other)
192	Sweetgum (Liquidambar styraciflua)	7	3	7	Y	7	
193	Live Oak (Quercus virginiana)	24	3	24	Y	24	
194	Live Oak (Quercus virginiana)	18	4	0	N	0	Excessive Leaning|Unbalanced Canopy (One side significantly heavier than the other)
195	Live Oak (Quercus virginiana)	23	3	23	Y	23	
196	Southern Magnolia (Magnolia grandiflora)	8	2	8	Y	8	
197	Live Oak (Quercus virginiana)	31	2	31	Y	31	
198	Live Oak (Quercus virginiana)	11	5	0	N	0	Cankers (Sunken, dead areas of bark)|Cavities or Decay in the Trunk or Branches|Unbalanced Canopy (One side significantly heavier than the other)
199	Sweetgum (Liquidambar styraciflua)	7	4	0	N	0	Excessive Leaning|Peeling or Missing Bark
200	Live Oak (Quercus virginiana)	22	3	22	Y	22	
201	Water Oak (Quercus nigra)	24	5	0	N	0	Major rot in Bole|Excessive Leaning|Unbalanced Canopy (One side significantly heavier than the other)
202	Live Oak (Quercus virginiana)	41	2	41	Y	41	
203	Sweetgum (Liquidambar styraciflua)	17	3	17	Y	17	
204	Live Oak (Quercus virginiana)	30	2	30	Y	30	
205	Live Oak (Quercus virginiana)	23	2	23	Y	23	
206	Water Oak (Quercus nigra)	10	3	10	Y	10	
207	Water Oak (Quercus nigra)	9	3	9	Y	9	
208	Live Oak (Quercus virginiana)	32	2	32	Y	32	
209	Live Oak (Quercus virginiana)	33	2	33	Y	33	
210	Water Oak (Quercus nigra)	13	3	13	Y	13	
211	Southern Magnolia (Magnolia grandiflora)	20	3	20	Y	20	
212	Live Oak (Quercus virginiana)	26	2	26	Y	26	
213	Southern Magnolia (Magnolia grandiflora)	17	2	17	Y	17	
214	Southern Magnolia (Magnolia grandiflora)	9	2	9	Y	9	
215	Live Oak (Quercus virginiana)	38	2	38	Y	38	
216	Live Oak (Quercus virginiana)	42	4	0	N	0	Cankers (Sunken, dead areas of bark)|Excessive Leaning|Cavities or Decay in the Trunk or Branches|Unbalanced Canopy (One side significantly heavier than the other)
217	Southern Magnolia (Magnolia grandiflora)	14	2	14	Y	14	
218	Sweetgum (Liquidambar styraciflua)	9	3	9	Y	9	
219	Pignut Hickory (Carya glabra)	12	2	12	Y	12	
220	Live Oak (Quercus virginiana)	52	3	52	N	0	
221	Water Oak (Quercus nigra)	26	2	26	N	0	
222	Live Oak (Quercus virginiana)	36	2	36	Y	36	
223	Live Oak (Quercus virginiana)	19	2	19	Y	19	
224	Live Oak (Quercus virginiana)	22	4	0	N	0	Excessive Leaning|Unbalanced Canopy (One side significantly heavier than the other)
225	Sabal palm(Sabal palmetto)	19	2	19	Y	19	
226	Live Oak (Quercus virginiana)	19	2	19	Y	19	
227	Water Oak (Quercus nigra)	7	4	0	N	0	Dead or Dying Branches|Canopy Dieback
228	Slash Pine (Pinus elliottii)	24	2	24	Y	24	
229	Southern Red Cedar (Juniperus silicicola)	7	2	7	Y	7	
230	Southern Red Cedar (Juniperus silicicola)	10	2	10	Y	10	
231	Southern Red Cedar (Juniperus silicicola)	15	2	15	Y	15	
232	Southern Red Cedar (Juniperus silicicola)	28	4	0	N	0	Codominate Branching with included bark|poor form
233	Live Oak (Quercus virginiana)	20	5	0	N	0	Cracks or Splits in the Trunk|Excessive Leaning|Cavities or Decay in the Trunk or Branches|Unbalanced Canopy (One side significantly heavier than the other)
234	Live Oak (Quercus virginiana)	19	4	0	N	0	Cracks or Splits in the Trunk|Cavities or Decay in the Trunk or Branches|Unbalanced Canopy (One side significantly heavier than the other)
235	Live Oak (Quercus virginiana)	10	3	10	Y	10	
236	American Hornbeam (Carpinus caroliniana)	14	4	0	N	0	Dead or Dying Branches|Wilted, Discolored, or Sparse Leaves
237	Water Oak (Quercus nigra)	9	4	0	N	0	Major rot in Bole|Excessive Leaning|Unbalanced Canopy (One side significantly heavier than the other)
238	Water Oak (Quercus nigra)	8	5	0	N	0	Dead or Dying Branches|Excessive Leaning|Unbalanced Canopy (One side significantly heavier than the other)
239	Live Oak (Quercus virginiana)	29	3	29	Y	29	
240	Water Oak (Quercus nigra)	12	5	0	N	0	Major rot in Bole|Excessive Leaning
241	Sweetgum (Liquidambar styraciflua)	19	3	19	Y	19	
242	Sweetbay Magnolia (Magnolia virginiana)	23	5	0	N	0	Cankers (Sunken, dead areas of bark)|Dead or Dying Branches|Fungal Growth on the Trunk or Base
243	Sweetgum (Liquidambar styraciflua)	8	3	8	Y	8	
244	Water Oak (Quercus nigra)	9	3	9	Y	9	
245	Live Oak (Quercus virginiana)	18	2	18	Y	18	
246	Sweetgum (Liquidambar styraciflua)	6	2	6	Y	6	
247	Sweetgum (Liquidambar styraciflua)	6	3	6	Y	6	
248	American Holly (Ilex opaca)	8	2	8	Y	8	
249	American Holly (Ilex opaca)	9	2	9	Y	9	
250	American Holly (Ilex opaca)	10	3	10	Y	10	
251	Live Oak (Quercus virginiana)	29	2	29	Y	29	
252	Water Oak (Quercus nigra)	28	5	0	N	0	Major rot in Bole|Codominate Branching with included bark|Cracks or Splits in the Trunk
253	Water Oak (Quercus nigra)	12	3	12	Y	12	
254	Slash Pine (Pinus elliottii)	26	2	26	Y	26	
255	Sweetgum (Liquidambar styraciflua)	11	2	11	Y	11	
256	Sweetgum (Liquidambar styraciflua)	11	4	0	N	0	Major rot in Bole
257	Water Oak (Quercus nigra)	7	2	7	Y	7	
258	Water Oak (Quercus nigra)	6	3	6	Y	6	
259	Water Oak (Quercus nigra)	7	3	7	Y	7	
260	Slash Pine (Pinus elliottii)	10	2	10	Y	10	
261	Sweetgum (Liquidambar styraciflua)	28	2	28	Y	28	
262	Slash Pine (Pinus elliottii)	21	2	21	Y	21	
263	Live Oak (Quercus virginiana)	20	2	20	Y	20	
264	Water Oak (Quercus nigra)	9	4	0	N	0	Major rot in Bole
265	Slash Pine (Pinus elliottii)	15	2	15	Y	15	
266	Slash Pine (Pinus elliottii)	21	2	21	Y	21	
267	Water Oak (Quercus nigra)	6	2	6	Y	6	
268	Water Oak (Quercus nigra)	7	3	7	Y	7	
269	Water Oak (Quercus nigra)	6	3	6	Y	6	
270	Slash Pine (Pinus elliottii)	13	2	13	Y	13	
271	Live Oak (Quercus virginiana)	5	3	5	Y	5	
272	Live Oak (Quercus virginiana)	5	3	5	Y	5	
273	Live Oak (Quercus virginiana)	28	4	0	N	0	Major rot in Bole|Unbalanced Canopy (One side significantly heavier than the other)|Water-Soaked or Decaying Wood|Mechanical Damage (From mowers, vehicles, or improper pruning)
TOTAL VALUES:				4514		3918	

PREDEVELOPMENT PROTECTED DBH	4514
REQUIRED PRESERVATION (50% DBH)	2257
PRESERVED TOTAL (DBH)	3918
DEFICIT (DBH)	1661
PROPOSED # OF PLANTINGS (3.0" TREES)	0
PROPOSED PLANTINGS (DBH)	0
DBH MITIGATED THRU CITY TREE FUND	1661
PROPOSED MITGATION (DBH)	1661

SURVEY TREE LEGEND	
SYMBOL	DESCRIPTION
LO	Live Oak (Quercus virginiana)
SOM	Southern Magnolia (Magnolia grandiflora)
SR	Southern Red Cedar (Juniperus Siliciola)
WO	Water Oak (Quercus nigra)
SPA	Sabal palm (sabal palmetto)
SH	Southern Hackberry (Celtis laevigata)
BC	Black Cherry (Prunus serotina)
AHOL	American Holly (Ilex opaca)
SG	Sweetgum (Liquidambar styraciflua)
PH	Pignut Hickory (Carya glabra)
SPI	Slash Pine (Pinus elliottii)
AHOR	American Hornbeam (Carpinus caroliniana)
SWM	Sweetbay Magnolia (Magnolia virginiana)
LP	Longleaf Pine (Pinus palustris)
CL	Cherry Laurel (Prunus caroliniana)

I, ____________________________, am a certified arborist through the International Society of Arboriculture and my certification number is ____________________________. I hereby attest that I have approved this tree protection and/or replacement plan. This includes not only the evaluation of individual trees, but also review of the complete construction plan set and the techniques that will be utilized to mitigate impacts to protected trees. Further, I attest that best practices, as supported by the International Society of Arboriculture, are being implemented to avoid and mitigate impacts to protected trees.

Signed,

____

HEALTH STATUS CODES		
STATUS CODE	MITIGABLE? (Y/N)	HEALTH STATUS
1	Y	NO APPARENT DEFECT
2	Y	MINOR DEFECT
3	Y	COULD KEEP TREE BUT HAS DEFECTS
4	N	POOR HEALTH AND SUGGEST REMOVAL
5	N	SEVERE DEFECT AND SHOULD BE REMOVED

No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

TREE MITIGATION TABLES
ON-SITE & OFF-SITE

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, c=US, email=asa@gilletteassociates.com
Date: 2025.10.10 14:33:23 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25

Sheet
TM-1

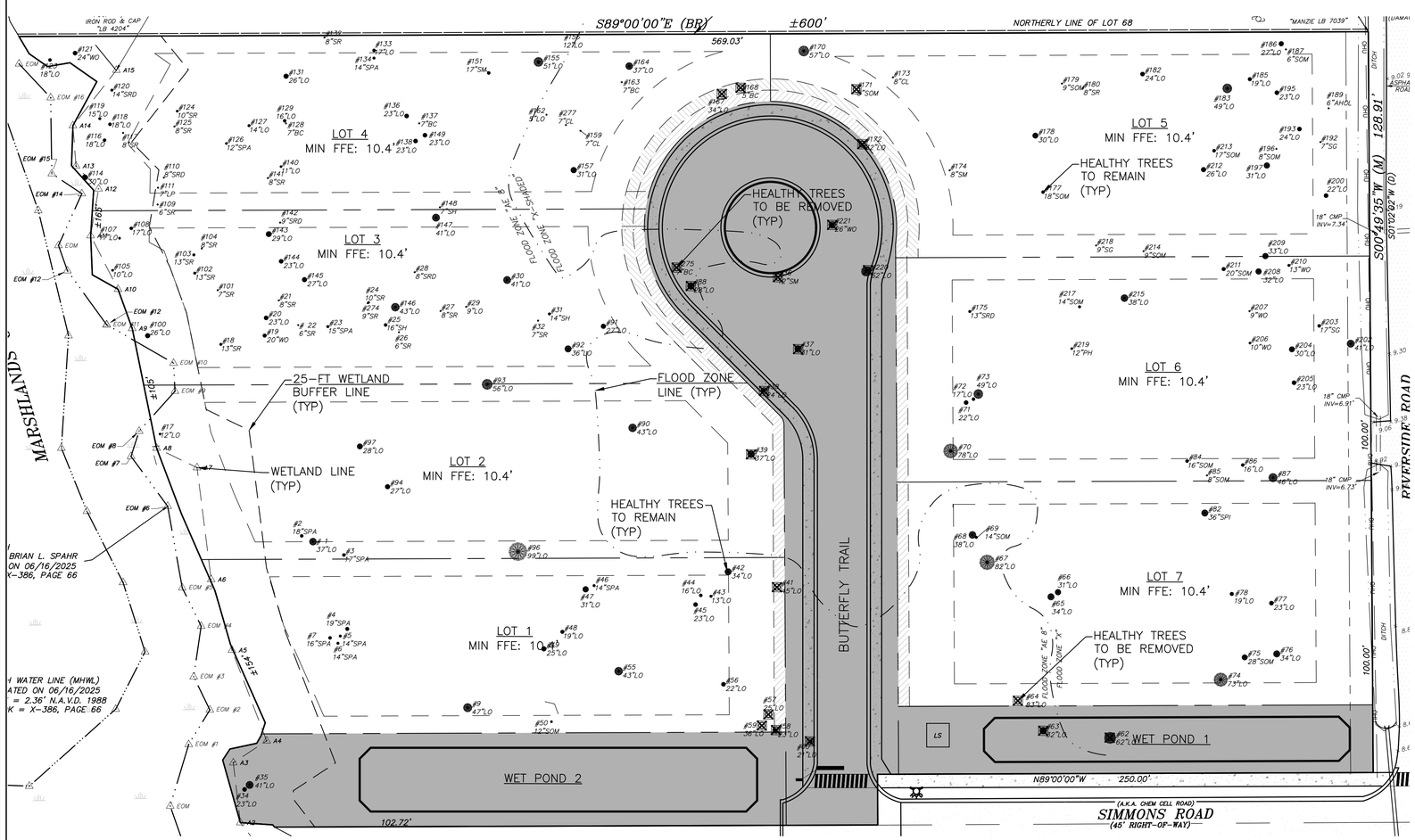
Project No. XX-XX-XX

NOT FOR CONSTRUCTION

I, _____, am a certified arborist through the International Society of Arboriculture and my certification number is _____. I hereby attest that I have approved this tree protection and/or replacement plan. This includes not only the evaluation of individual trees, but also review of the complete construction plan set and the techniques that will be utilized to mitigate impacts to protected trees. Further, I attest that best practices, as supported by the International Society of Arboriculture, are being implemented to avoid and mitigate impacts to protected trees.

Signed,

_____



ON SITE

TREE NO.	ACTUAL SPECIES	DBH	HEALTH STATUS	PROTECTED DBH	PRESERVED? (Y/N)	PRESERVED DBH
34	Live Oak (Quercus virginiana)	23	3	23	Y	23
35	Live Oak (Quercus virginiana)	41	3	41	Y	41
36	Southern Magnolia (Magnolia grandiflora)	12	2	12	N	0
37	Live Oak (Quercus virginiana)	31	2	31	N	0
38	Live Oak (Quercus virginiana)	24	3	24	N	0
60	Live Oak (Quercus virginiana)	21	3	21	N	0
62	Live Oak (Quercus virginiana)	62	2	62	N	0
63	Live Oak (Quercus virginiana)	32	3	32	N	0
88	Live Oak (Quercus virginiana)	28	3	28	N	0
172	Live Oak (Quercus virginiana)	32	2	32	N	0
220	Live Oak (Quercus virginiana)	52	3	52	N	0
221	Water Oak (Quercus nigra)	26	2	26	N	0
272	Live Oak (Quercus virginiana)	5	3	5	Y	0
	TOTAL VALUES:			389		64

PREDEVELOPMENT PROTECTED DBH	389
REQUIRED PRESERVATION (50% DBH)	194.5
PRESERVED TOTAL (DBH)	64
DEFICIT (DBH)	130.5
PROPOSED # OF PLANTINGS (3.0" TREES)	
PROPOSED PLANTINGS (DBH)	0
DBH MITIGATED THRU CITY TREE FUND	130.5
PROPOSED MITGATION (DBH)	130.5

HEALTH STATUS CODES		
STATUS CODE	MITIGABLE? (Y/N)	HEALTH STATUS
1	Y	NO APPARENT DEFECT
2	Y	MINOR DEFECT
3	Y	COULD KEEP TREE BUT HAS DEFECTS
4	N	POOR HEALTH AND SUGGEST REMOVAL
5	N	SEVERE DEFECT AND SHOULD BE REMOVED

NC EXISTING TREE LEGEND	
SYMBOL	DESCRIPTION
LO	Live Oak (Quercus virginiana)
SR	Southern Red Cedar (Juniperus Siliciola)
WO	Water Oak (Quercus nigra)
SPA	Sabal palm (sabal palmetto)
AHOL	American Holly (Ilex opaca)
SWG	Sweetgum (Liquidambar styraciflua)
SPI	Slash Pine (Pinus elliottii)
AHOR	American Hornbeam (Carpinus caroliniana)
SWM	Sweetbay Magnolia (Magnolia virginiana)
⊠	HEALTHY TREE TO BE REMOVED

No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034
Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

ONSITE COMMON AREA/R.O.W. TREE MITIGATION DATA

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, o=n/a, email=asa@gillettesociates.com, date: 2025.10.10 14:33:42 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25

Sheet
TM–2

Project No. XX–XX–XX

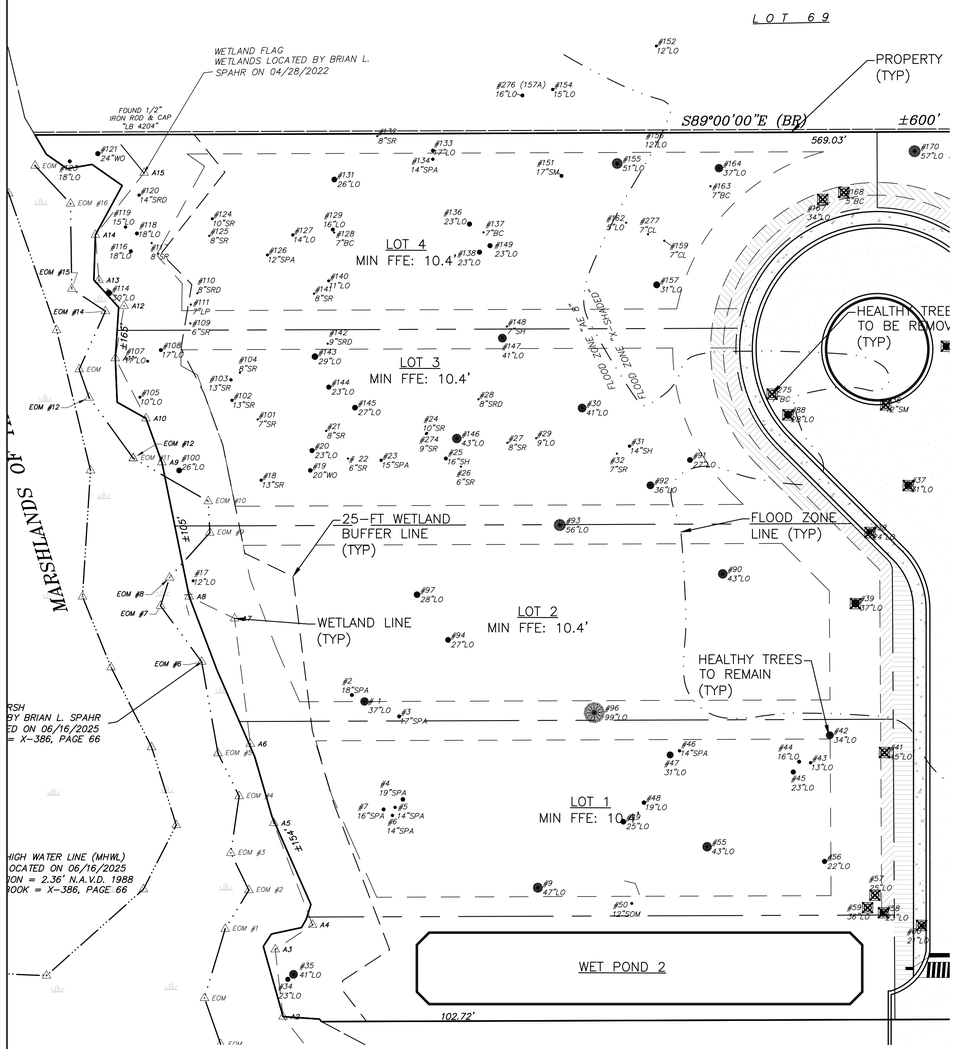
NOT FOR CONSTRUCTION

HEALTH STATUS CODES		
STATUS CODE	MITIGABLE? (Y/N)	HEALTH STATUS
1	Y	NO APPARENT DEFECT
2	Y	MINOR DEFECT
3	Y	COULD KEEP TREE BUT HAS DEFECTS
4	N	POOR HEALTH AND SUGGEST REMOVAL
5	N	SEVERE DEFECT AND SHOULD BE REMOVED

I, _____, am a certified arborist through the International Society of Arboriculture and my certification number is _____. I hereby attest that I have approved this tree protection and/or replacement plan. This includes not only the evaluation of individual trees, but also review of the complete construction plan set and the techniques that will be utilized to mitigate impacts to protected trees. Further, I attest that best practices, as supported by the International Society of Arboriculture, are being implemented to avoid and mitigate impacts to protected trees.

Signed,

_____



LOT 1

TREE NO.	ACTUAL SPECIES	DBH	HEALTH STATUS	PROTECTED DBH	PRESERVED? (Y/N)	PRESERVED DBH
4	Sabal palm(Sabal palmetto)	19	3	19	Y	19
5	Sabal palm(Sabal palmetto)	14	3	14	Y	14
6	Sabal palm(Sabal palmetto)	14	3	14	Y	14
7	Sabal palm(Sabal palmetto)	16	3	16	Y	16
9	Live Oak (Quercus virginiana)	47	2	47	Y	47
41	Live Oak (Quercus virginiana)	45	3	45	N	0
42	Live Oak (Quercus virginiana)	34	3	34	Y	34
43	Live Oak (Quercus virginiana)	13	3	13	Y	13
44	Live Oak (Quercus virginiana)	16	3	16	Y	16
45	Live Oak (Quercus virginiana)	23	2	23	Y	23
46	Sabal palm(Sabal palmetto)	14	2	14	Y	14
47	Live Oak (Quercus virginiana)	31	2	31	Y	31
48	Live Oak (Quercus virginiana)	19	2	19	Y	19
49	Live Oak (Quercus virginiana)	25	3	25	Y	25
50	Southern Magnolia (Magnolia grandiflora)	12	2	12	Y	12
55	Live Oak (Quercus virginiana)	43	2	43	Y	43
56	Live Oak (Quercus virginiana)	22	3	22	Y	22
57	Live Oak (Quercus virginiana)	25	3	0	N	0
58	Live Oak (Quercus virginiana)	23	2	23	N	0
59	Live Oak (Quercus virginiana)	36	3	36	N	0
TOTAL VALUES:				466		362

PREDEVELOPMENT PROTECTED DBH	466
REQUIRED PRESERVATION (50% DBH)	233
PRESERVED TOTAL (DBH)	362
DEFICIT (DBH)	-129
PROPOSED # OF PLANTINGS (3.0" TREES)	
PROPOSED PLANTINGS (DBH)	0
DBH MITIGATED THRU CITY TREE FUND	-129
PROPOSED MITGATION (DBH)	-129

LOT1 EXISTING TREE LEGEND	
SYMBOL	DESCRIPTION
LO	Live Oak (Quercus virginiana)
SOM	Southern Magnolia (Magnolia grandiflora)
SPA	Sabal palm (sabal palmetto)
⊠	HEALTHY TREE TO BE REMOVED

LOT 2

TREE NO.	ACTUAL SPECIES	DBH	HEALTH STATUS	PROTECTED DBH	PRESERVED? (Y/N)	PRESERVED DBH
1	Live Oak (Quercus virginiana)	37	3	37	Y	37
2	Sabal palm(Sabal palmetto)	18	3	18	Y	18
3	Sabal palm(Sabal palmetto)	17	3	17	Y	17
17	Live Oak (Quercus virginiana)	12	3	12	Y	12
39	Live Oak (Quercus virginiana)	37	3	37	N	0
90	Live Oak (Quercus virginiana)	43	3	43	Y	43
91	Live Oak (Quercus virginiana)	27	3	27	Y	27
92	Live Oak (Quercus virginiana)	36	2	36	Y	36
93	Live Oak (Quercus virginiana)	56	2	56	Y	56
94	Live Oak (Quercus virginiana)	27	3	27	Y	27
96	Live Oak (Quercus virginiana)	99	2	99	Y	99
97	Live Oak (Quercus virginiana)	28	3	28	Y	28
TOTAL VALUES:				437		400

PREDEVELOPMENT PROTECTED DBH	437
REQUIRED PRESERVATION (50% DBH)	218.5
PRESERVED TOTAL (DBH)	400
DEFICIT (DBH)	-181.5
PROPOSED # OF PLANTINGS (3.0" TREES)	
PROPOSED PLANTINGS (DBH)	0
DBH MITIGATED THRU CITY TREE FUND	-181.5
PROPOSED MITGATION (DBH)	-181.5

LOT2 EXISTING TREE LEGEND	
SYMBOL	DESCRIPTION
LO	Live Oak (Quercus virginiana)
SPA	Sabal palm (sabal palmetto)
⊠	HEALTHY TREE TO BE REMOVED

LOT 3

TREE NO.	ACTUAL SPECIES	DBH	HEALTH STATUS	PROTECTED DBH	PRESERVED? (Y/N)	PRESERVED DBH
18	Southern Red Cedar (Juniperus silicicola)	13	3	13	Y	13
19	Water Oak (Quercus nigra)	20	3	20	Y	20
20	Live Oak (Quercus virginiana)	23	3	23	Y	23
21	Southern Red Cedar (Juniperus silicicola)	8	2	8	Y	8
22	Southern Red Cedar (Juniperus silicicola)	6	3	6	Y	6
23	Sabal palm(Sabal palmetto)	15	3	15	Y	15
24	Southern Red Cedar (Juniperus silicicola)	10	2	10	Y	10
24A	Southern Red Cedar (Juniperus silicicola)	9	2	9	Y	9
25	Southern Hackberry (Celtis laevigata)	16	3	16	Y	16
26	Southern Red Cedar (Juniperus silicicola)	6	2	6	Y	6
27	Southern Red Cedar (Juniperus silicicola)	8	2	8	Y	8
28	Southern Red Cedar (Juniperus silicicola)	8	2	8	Y	8
29	Live Oak (Quercus virginiana)	9	3	9	Y	9
30	Live Oak (Quercus virginiana)	41	2	41	Y	41
31	Southern Hackberry (Celtis laevigata)	14	2	14	Y	14
32	Southern Red Cedar (Juniperus silicicola)	7	2	7	Y	7
32A	Black Cherry (Prunus serotina)	7	3	7	Y	7
91	Live Oak (Quercus virginiana)	27	3	27	Y	27
92	Live Oak (Quercus virginiana)	36	2	36	Y	36
93	Live Oak (Quercus virginiana)	56	2	56	Y	56
100	Live Oak (Quercus virginiana)	26	3	26	Y	26
101	Southern Red Cedar (Juniperus silicicola)	7	2	7	Y	7
102	Southern Red Cedar (Juniperus silicicola)	13	3	13	Y	13
103	Southern Red Cedar (Juniperus silicicola)	13	3	13	Y	13
104	Southern Red Cedar (Juniperus silicicola)	8	3	8	Y	8
105	Live Oak (Quercus virginiana)	10	3	10	Y	10
107	Live Oak (Quercus virginiana)	11	3	11	Y	11
108	Live Oak (Quercus virginiana)	17	3	17	Y	17
142	Southern Red Cedar (Juniperus silicicola)	9	3	9	Y	9
143	Live Oak (Quercus virginiana)	29	2	29	Y	29
144	Live Oak (Quercus virginiana)	23	2	23	Y	23
145	Live Oak (Quercus virginiana)	27	3	27	Y	27
147	Live Oak (Quercus virginiana)	41	3	41	Y	41
TOTAL VALUES:				573		573

PREDEVELOPMENT PROTECTED DBH	573
REQUIRED PRESERVATION (50% DBH)	286.5
PRESERVED TOTAL (DBH)	573
DEFICIT (DBH)	-286.5
PROPOSED # OF PLANTINGS (3.0" TREES)	
PROPOSED PLANTINGS (DBH)	0
DBH MITIGATED THRU CITY TREE FUND	-286.5
PROPOSED MITGATION (DBH)	-286.5

LOT 3 EXISTING TREE LEGEND	
SYMBOL	DESCRIPTION
LO	Live Oak (Quercus virginiana)
SR	Southern Red Cedar (Juniperus Siliciola)
WO	Water Oak (Quercus nigra)
SPA	Sabal palm (sabal palmetto)
SH	Southern Hackberry (Celtis laevigata)
BC	Black Cherry (Prunus serotina)
⊠	HEALTHY TREE TO BE REMOVED

LOT 4

TREE NO.	ACTUAL SPECIES	DBH	HEALTH STATUS	PROTECTED DBH	PRESERVED? (Y/N)	PRESERVED DBH
109	Southern Red Cedar (Juniperus silicicola)	6	2	6	Y	6
110	Southern Red Cedar (Juniperus silicicola)	8	3	8	Y	8
111	Longleaf Pine (Pinus palustris)	7	2	7	Y	7
114	Live Oak (Quercus virginiana)	30	2	30	Y	30
116	Live Oak (Quercus virginiana)	18	3	18	Y	18
117	Southern Red Cedar (Juniperus silicicola)	8	2	8	Y	8
118	Live Oak (Quercus virginiana)	18	3	18	Y	18
119	Live Oak (Quercus virginiana)	15	3	15	Y	15
120	Southern Red Cedar (Juniperus silicicola)	14	2	14	Y	14
121	Water Oak (Quercus nigra)	24	3	24	Y	24
123	Live Oak (Quercus virginiana)	18	3	18	Y	18
124	Southern Red Cedar (Juniperus silicicola)	10	3	10	Y	10
125	Southern Red Cedar (Juniperus silicicola)	8	2	8	Y	8
126	Sabal palm(Sabal palmetto)	12	3	12	Y	12
127	Live Oak (Quercus virginiana)	14	3	14	Y	14
128	Black Cherry (Prunus serotina)	7	2	7	Y	7
129	Live Oak (Quercus virginiana)	16	2	16	Y	16
131	Live Oak (Quercus virginiana)	26	3	26	Y	26
132	Southern Red Cedar (Juniperus silicicola)	8	3	8	Y	8
133	Live Oak (Quercus virginiana)	17	2	17	Y	17
134	Sabal palm(Sabal palmetto)	14	2	14	Y	14
136	Live Oak (Quercus virginiana)	23	3	23	Y	23
137	Black Cherry (Prunus serotina)	7	3	7	Y	7
138	Live Oak (Quercus virginiana)	23	3	23	Y	23
140	Live Oak (Quercus virginiana)	11	3	11	Y	11
141	Southern Red Cedar (Juniperus silicicola)	8	2	8	Y	8
148	Southern Hackberry (Celtis laevigata)	7	2	7	Y	7
149	Live Oak (Quercus virginiana)	23	3	23	Y	23
151	Southern Magnolia (Magnolia grandiflora)	17	3	17	Y	17
152	Live Oak (Quercus virginiana)	12	3	12	Y	12
155	Live Oak (Quercus virginiana)	51	3	51	Y	51
156	Live Oak (Quercus virginiana)	12	3	12	Y	12
157	Live Oak (Quercus virginiana)	31	3	31	Y	31
157A	Live Oak (Quercus virginiana)	16	3	16	Y	16
159	Cherry Laurel (Prunus caroliniana)	7	3	7	Y	7
162	Live Oak (Quercus virginiana)	5	2	5	Y	5
163	Black Cherry (Prunus serotina)	7	2	7	Y	7
164	Live Oak (Quercus virginiana)	37	2	37	Y	37
167	Live Oak (Quercus virginiana)	34	3	34	N	0
168	Black Cherry (Prunus serotina)	5	3	5	N	0
TOTAL VALUES:				634		595

PREDEVELOPMENT PROTECTED DBH	634
REQUIRED PRESERVATION (50% DBH)	317
PRESERVED TOTAL (DBH)	595
DEFICIT (DBH)	-278
PROPOSED # OF PLANTINGS (3.0" TREES)	
PROPOSED PLANTINGS (DBH)	0
DBH MITIGATED THRU CITY TREE FUND	-278
PROPOSED MITGATION (DBH)	-278

LOT 4 EXISTING TREE LEGEND	
SYMBOL	DESCRIPTION
LO	Live Oak (Quercus virginiana)
SOM	Southern Magnolia (Magnolia grandiflora)
SR	Southern Red Cedar (Juniperus Siliciola)
WO	Water Oak (Quercus nigra)
SPA	Sabal palm (sabal palmetto)
SH	Southern Hackberry (Celtis laevigata)
BC	Black Cherry (Prunus serotina)
SPI	Slash Pine (Pinus elliottii)
LP	Longleaf Pine (Pinus palustris)
CL	Cherry Laurel (Prunus caroliniana)
⊠	HEALTHY TREE TO BE REMOVED

No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

LOTS 1, 2, 3, & 4
TREE MITIGATION DATA

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, o=G&A, email=asa@gillettesociates.com, c=US
Date: 2025.10.10 14:34:28 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25
Sheet
TM–3
Page 20 of X
Project No. XX–XX–XX

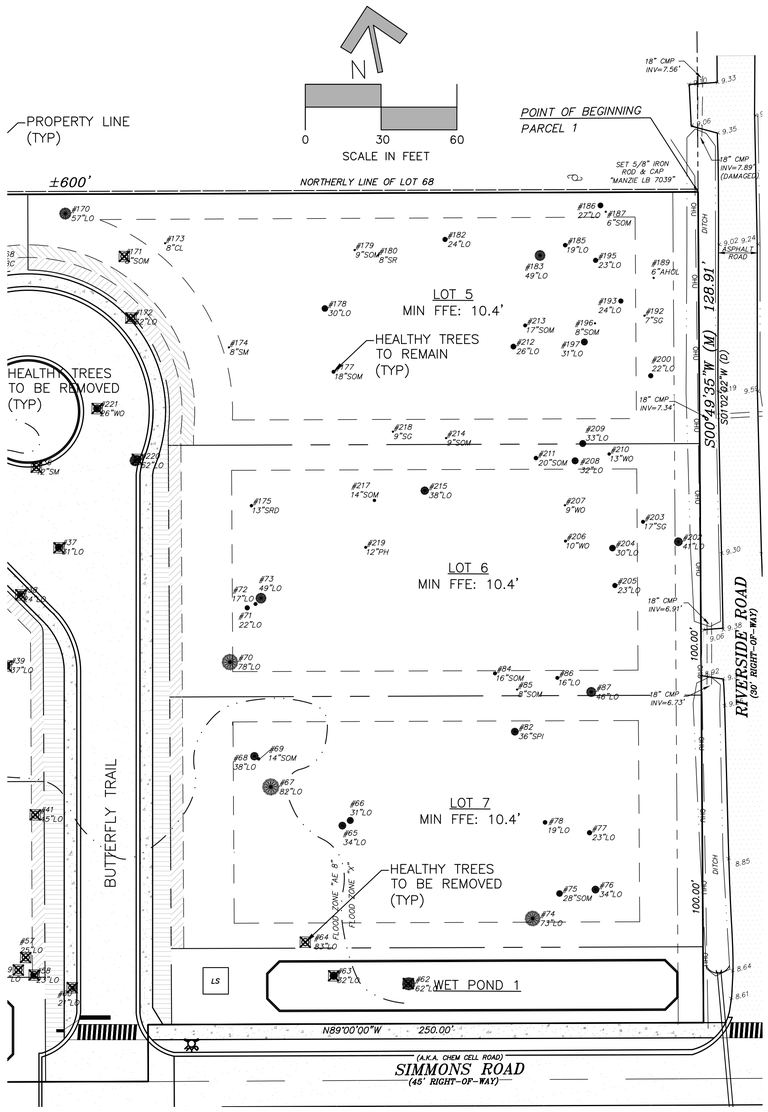
NOT FOR CONSTRUCTION

HEALTH STATUS CODES		
STATUS CODE	MITIGABLE? (Y/N)	HEALTH STATUS
1	Y	NO APPARENT DEFECT
2	Y	MINOR DEFECT
3	Y	COULD KEEP TREE BUT HAS DEFECTS
4	N	POOR HEALTH AND SUGGEST REMOVAL
5	N	SEVERE DEFECT AND SHOULD BE REMOVED

I, _____, am a certified arborist through the International Society of Arboriculture and my certification number is _____. I hereby attest that I have approved this tree protection and/or replacement plan. This includes not only the evaluation of individual trees, but also review of the complete construction plan set and the techniques that will be utilized to mitigate impacts to protected trees. Further, I attest that best practices, as supported by the International Society of Arboriculture, are being implemented to avoid and mitigate impacts to protected trees.

Signed,

_____



LOT 5

TREE NO.	ACTUAL SPECIES	DBH	HEALTH STATUS	PROTECTED DBH	PRESERVED? (Y/N)	PRESERVED DBH
170	Live Oak (Quercus virginiana)	57	3	57	Y	57
171	Southern Magnolia (Magnolia grandiflora)	8	2	8	N	0
172	Live Oak (Quercus virginiana)	32	2	32	N	0
173	Cherry Laurel (Prunus caroliniana)	8	3	8	Y	8
174	Southern Magnolia (Magnolia grandiflora)	8	2	8	Y	8
177	Southern Magnolia (Magnolia grandiflora)	18	3	18	Y	18
178	Live Oak (Quercus virginiana)	30	3	30	Y	30
179	Southern Magnolia (Magnolia grandiflora)	9	2	9	Y	9
180	Southern Red Cedar (Juniperus silicicola)	8	2	8	Y	8
182	Live Oak (Quercus virginiana)	24	3	24	Y	24
183	Live Oak (Quercus virginiana)	49	3	49	Y	49
185	Live Oak (Quercus virginiana)	19	3	19	Y	19
186	Live Oak (Quercus virginiana)	27	2	27	Y	27
187	Southern Magnolia (Magnolia grandiflora)	6	2	6	Y	6
189	American Holly (Ilex opaca)	6	2	6	Y	6
192	Sweetgum (Liquidambar styraciflua)	7	3	7	Y	7
193	Live Oak (Quercus virginiana)	24	3	24	Y	24
195	Live Oak (Quercus virginiana)	23	3	23	Y	23
196	Southern Magnolia (Magnolia grandiflora)	8	2	8	Y	8
197	Live Oak (Quercus virginiana)	31	2	31	Y	31
200	Live Oak (Quercus virginiana)	22	3	22	Y	22
212	Live Oak (Quercus virginiana)	26	2	26	Y	26
213	Southern Magnolia (Magnolia grandiflora)	17	2	17	Y	17
214	Southern Magnolia (Magnolia grandiflora)	9	2	9	Y	9
218	Sweetgum (Liquidambar styraciflua)	9	3	9	Y	9
	TOTAL VALUES:			485		445

PREDEVELOPMENT PROTECTED DBH	485
REQUIRED PRESERVATION (50% DBH)	242.5
PRESERVED TOTAL (DBH)	445
DEFICIT (DBH)	-202.5
PROPOSED # OF PLANTINGS (3.0" TREES)	
PROPOSED PLANTINGS (DBH)	0
DBH MITIGATED THRU CITY TREE FUND	-202.5
PROPOSED MITGATION (DBH)	-202.5

LOT 5 EXISTING TREE LEGEND	
SYMBOL	DESCRIPTION
LO	Live Oak (Quercus virginiana)
SOM	Southern Magnolia (Magnolia grandiflora)
SR	Southern Red Cedar (Juniperus Siliciola)
WO	Water Oak (Quercus nigra)
AHOL	American Holly (Ilex opaca)
SWG	Sweetgum (Liquidambar styraciflua)
CL	Cherry Laurel (Prunus caroliniana)
⊠	HEALTHY TREE TO BE REMOVED

LOT 6

TREE NO.	ACTUAL SPECIES	DBH	HEALTH STATUS	PROTECTED DBH	PRESERVED? (Y/N)	PRESERVED DBH
70	Live Oak (Quercus virginiana)	78	3	78	Y	78
71	Live Oak (Quercus virginiana)	22	3	22	Y	22
72	Live Oak (Quercus virginiana)	17	3	17	Y	17
73	Live Oak (Quercus virginiana)	49	3	49	Y	49
84	Southern Magnolia (Magnolia grandiflora)	16	3	16	Y	16
85	Southern Magnolia (Magnolia grandiflora)	8	3	8	Y	8
86	Live Oak (Quercus virginiana)	16	3	16	Y	16
87	Live Oak (Quercus virginiana)	46	3	46	Y	46
175	Southern Red Cedar (Juniperus silicicola)	13	3	13	Y	13
202	Live Oak (Quercus virginiana)	41	2	41	Y	41
203	Sweetgum (Liquidambar styraciflua)	17	3	17	Y	17
204	Live Oak (Quercus virginiana)	30	2	30	Y	30
205	Live Oak (Quercus virginiana)	23	2	23	Y	23
206	Water Oak (Quercus nigra)	10	3	10	Y	10
207	Water Oak (Quercus nigra)	9	3	9	Y	9
208	Live Oak (Quercus virginiana)	32	2	32	Y	32
209	Live Oak (Quercus virginiana)	33	2	33	Y	33
210	Water Oak (Quercus nigra)	13	3	13	Y	13
211	Southern Magnolia (Magnolia grandiflora)	20	3	20	Y	20
212	Live Oak (Quercus virginiana)	26	2	26	Y	26
213	Southern Magnolia (Magnolia grandiflora)	17	2	17	Y	17
214	Southern Magnolia (Magnolia grandiflora)	9	2	9	Y	9
215	Live Oak (Quercus virginiana)	38	2	38	Y	38
217	Southern Magnolia (Magnolia grandiflora)	14	2	14	Y	14
218	Sweetgum (Liquidambar styraciflua)	9	3	9	Y	9
219	Pignut Hickory (Carya glabra)	12	2	12	Y	12
	TOTAL VALUES:			618		618

PREDEVELOPMENT PROTECTED DBH	618
REQUIRED PRESERVATION (50% DBH)	309
PRESERVED TOTAL (DBH)	618
DEFICIT (DBH)	-309
PROPOSED # OF PLANTINGS (3.0" TREES)	
PROPOSED PLANTINGS (DBH)	0
DBH MITIGATED THRU CITY TREE FUND	-309
PROPOSED MITGATION (DBH)	-309

LOT 6 EXISTING TREE LEGEND	
SYMBOL	DESCRIPTION
LO	Live Oak (Quercus virginiana)
SOM	Southern Magnolia (Magnolia grandiflora)
SR	Southern Red Cedar (Juniperus Siliciola)
WO	Water Oak (Quercus nigra)
SWG	Sweetgum (Liquidambar styraciflua)
PH	Pignut Hickory (Carya glabra)
⊠	HEALTHY TREE TO BE REMOVED

LOT 7

TREE NO.	ACTUAL SPECIES	DBH	HEALTH STATUS	PROTECTED DBH	PRESERVED? (Y/N)	PRESERVED DBH
64	Live Oak (Quercus virginiana)	83	2	83	N	0
65	Live Oak (Quercus virginiana)	34	3	34	Y	34
66	Live Oak (Quercus virginiana)	31	3	31	Y	31
67	Live Oak (Quercus virginiana)	82	2	82	Y	82
68	Live Oak (Quercus virginiana)	38	3	38	Y	38
69	Southern Magnolia (Magnolia grandiflora)	14	2	14	Y	14
74	Live Oak (Quercus virginiana)	73	2	73	Y	73
75	Southern Magnolia (Magnolia grandiflora)	28	2	28	Y	28
76	Live Oak (Quercus virginiana)	34	2	34	Y	34
77	Live Oak (Quercus virginiana)	23	3	23	Y	23
78	Live Oak (Quercus virginiana)	19	3	19	Y	19
82	Slash Pine (Pinus elliottii)	36	2	36	Y	36
	TOTAL VALUES:			495		412

PREDEVELOPMENT PROTECTED DBH	495
REQUIRED PRESERVATION (50% DBH)	247.5
PRESERVED TOTAL (DBH)	412
DEFICIT (DBH)	-164.5
PROPOSED # OF PLANTINGS (3.0" TREES)	
PROPOSED PLANTINGS (DBH)	0
DBH MITIGATED THRU CITY TREE FUND	-164.5
PROPOSED MITGATION (DBH)	-164.5

LOT 7 EXISTING TREE LEGEND	
SYMBOL	DESCRIPTION
LO	Live Oak (Quercus virginiana)
SOM	Southern Magnolia (Magnolia grandiflora)
SPI	Slash Pine (Pinus elliottii)
⊠	HEALTHY TREE TO BE REMOVED

No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

LOTS 5, 6 & 7
TREE MITIGATION DATA

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, o=G&A, email=asa@gillettesociates.com, c=US
Date: 2025.10.14 14:34:40 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25
Sheet
TM–4
Page 21 of X
Project No. XX–XX–XX

NOT FOR CONSTRUCTION

I, _____, am a certified arborist through the International Society of Arboriculture and my certification number is _____. I hereby attest that I have approved this tree protection and/or replacement plan. This includes not only the evaluation of individual trees, but also review of the complete construction plan set and the techniques that will be utilized to mitigate impacts to protected trees. Further, I attest that best practices, as supported by the International Society of Arboriculture, are being implemented to avoid and mitigate impacts to protected trees.

Signed,

_____

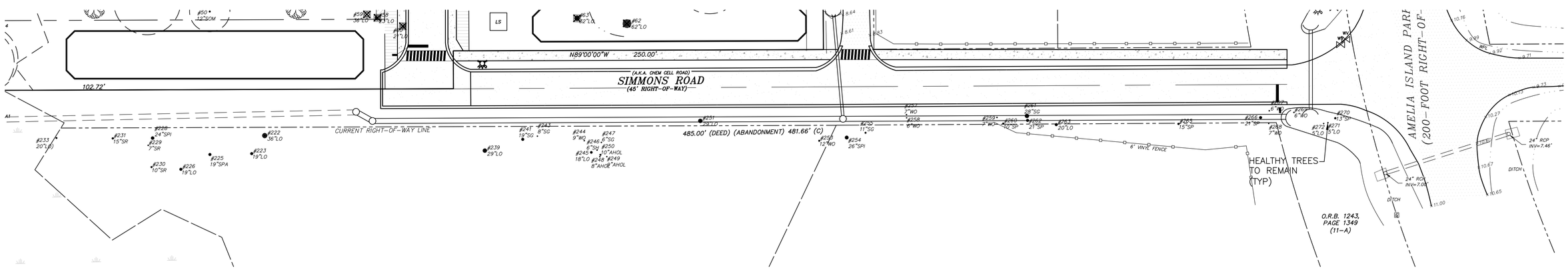
HEALTH STATUS CODES		
STATUS CODE	MITIGABLE? (Y/N)	HEALTH STATUS
1	Y	NO APPARENT DEFECT
2	Y	MINOR DEFECT
3	Y	COULD KEEP TREE BUT HAS DEFECTS
4	N	POOR HEALTH AND SUGGEST REMOVAL
5	N	SEVERE DEFECT AND SHOULD BE REMOVED

NC EXISTING TREE LEGEND	
SYMBOL	DESCRIPTION
LO	Live Oak (Quercus virginiana)
SR	Southern Red Cedar (Juniperus Siliciola)
WO	Water Oak (Quercus nigra)
SPA	Sabal palm (sabal palmetto)
AHOL	American Holly (Ilex opaca)
SWG	Sweetgum (Liquidambar styraciflua)
SPI	Slash Pine (Pinus elliottii)
AHOR	American Hornbeam (Carpinus caroliniana)
SWM	Sweetbay Magnolia (Magnolia virginiana)
☒	HEALTHY TREE TO BE REMOVED

OFF SITE

TREE NO.	ACTUAL SPECIES	DBH	HEALTH STATUS	PROTECTED DBH	PRESERVED? (Y/N)	PRESERVED DBH	ARBORIST COMMENT
251	Live Oak (Quercus virginiana)	29	2	29	Y	29	
257	Water Oak (Quercus nigra)	7	2	7	Y	7	
258	Water Oak (Quercus nigra)	6	3	6	Y	6	
259	Water Oak (Quercus nigra)	7	3	7	Y	7	
260	Slash Pine (Pinus elliottii)	10	2	10	Y	10	
261	Sweetgum (Liquidambar styraciflua)	28	2	28	Y	28	
262	Slash Pine (Pinus elliottii)	21	2	21	Y	21	
263	Live Oak (Quercus virginiana)	20	2	20	Y	20	
265	Slash Pine (Pinus elliottii)	15	2	15	Y	15	
266	Slash Pine (Pinus elliottii)	21	2	21	Y	21	
267	Water Oak (Quercus nigra)	6	2	6	Y	6	
269	Water Oak (Quercus nigra)	6	3	6	Y	6	
270	Slash Pine (Pinus elliottii)	13	2	13	Y	13	
271	Live Oak (Quercus virginiana)	5	3	5	Y	5	
272	Live Oak (Quercus virginiana)	5	3	5	Y	5	
	TOTAL VALUES:			199		199	
	TOTAL PREZERVED:			199	TOTAL REMOVED:	199	

PREDEVELOPMENT PROTECTED DBH	199
REQUIRED PRESERVATION (50% DBH)	49.75
PRESERVED TOTAL (DBH)	199
DEFICIT (DBH)	-149.25
PROPOSED # OF PLANTINGS (3.0" TREES)	
PROPOSED PLANTINGS (DBH)	0
DBH MITIGATED THRU CITY TREE FUND	-149.25
PROPOSED MITGATION (DBH)	-149.25



No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

NASSAU COUNTY
RIGHT OF WAY
TREE MITIGATION DATA

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, o=US, email=asa@gilletteassociates.com
Date: 2025.10.10 14:05:02 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

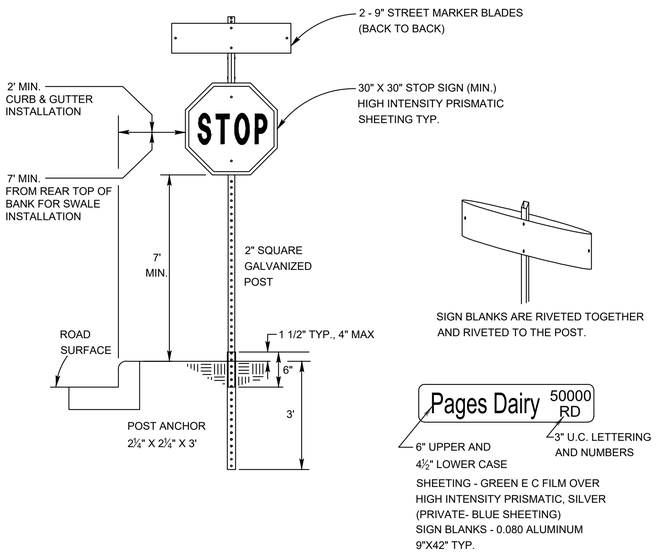
ISSUE DATE: 10/8/25
Sheet
TM-5
Page 22 of X
Project No. XX-XX-XX

NOT FOR CONSTRUCTION

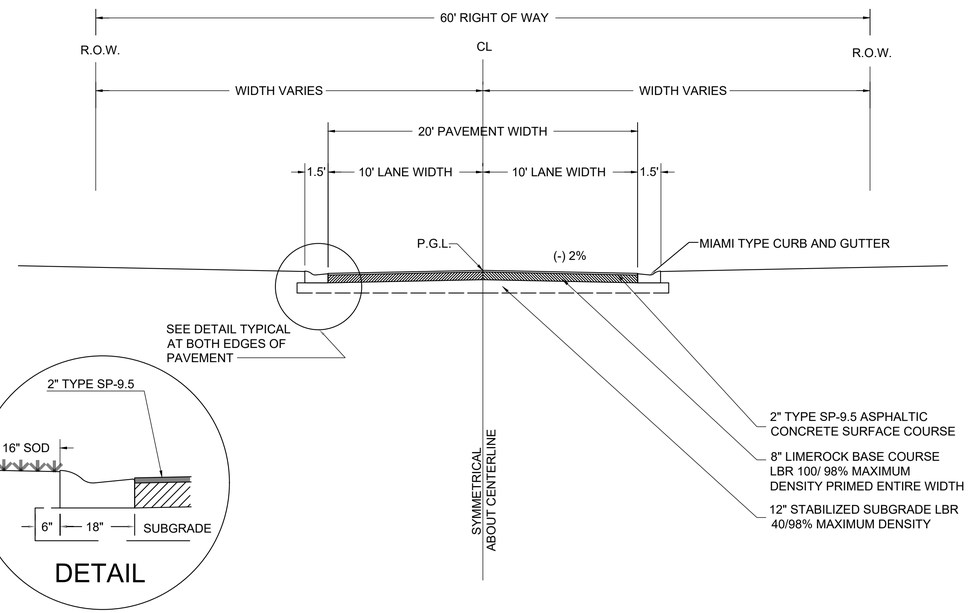
NOTES:
GALVANIZED STEEL SQUARE TUBE POSTS SHALL MEET THE REQUIREMENTS OF FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS, INDEX NO. 11860

SIGN PLACEMENT SHALL MEET THE REQUIREMENTS OF FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS, INDEX NO. 17302.

NOTE: LEAVE 2 HOLES FROM TOP OF POST FOR THE INSTALLATION OF CAPS, DEAD END AND NO OUTLET SIGN IF NEEDED.

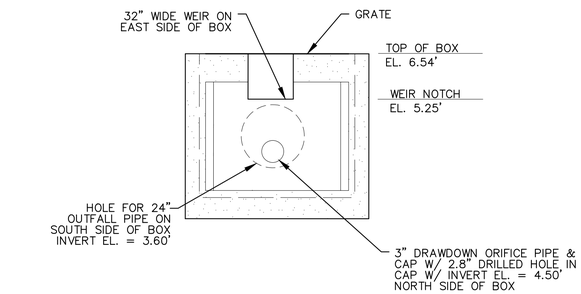


STOP AND STREET MARKER DETAIL

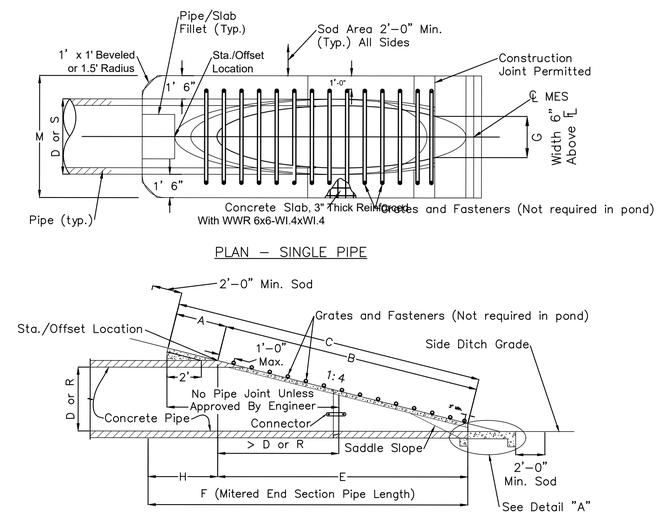


OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE CITY OF FERNANDINA BEACH

TYPICAL ROAD SECTION

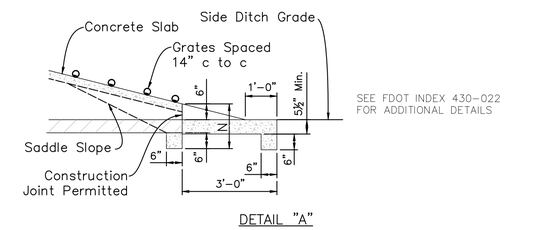


DROP STRUCTURE DETAIL

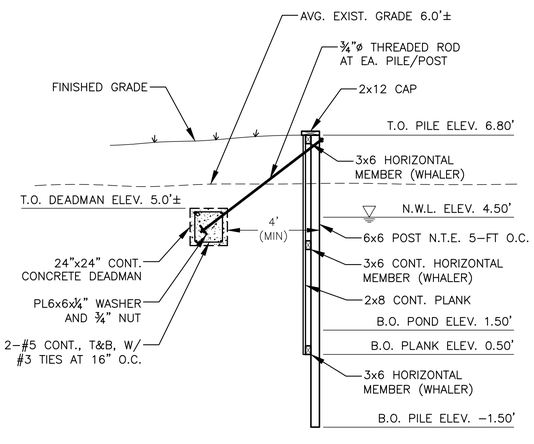


DIMENSIONS FOR SINGLE 24" CONCRETE PIPE												
DIA. D	X	A	B	C	E	F	G	H	M	N	3" CONC. SLAB (CY)	SODDING (SY)
24"	3'-5"	2.53'	7.18'*	9.71'	7.03'*	11'	1.73'	4.0'	5.50'	1.25'	1.02	10

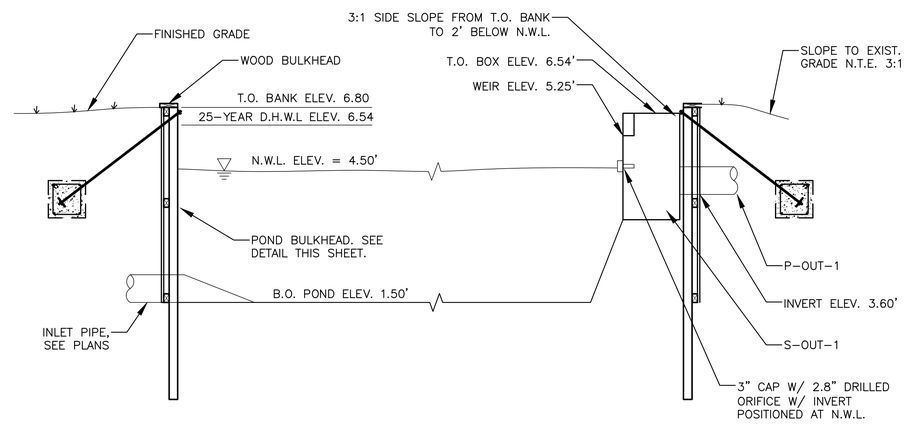
*6.42' *6.25' DIMENSIONS PERMITTED TO ALLOW USE OF 8' STANDARD PIPE LENGTHS.



MES DETAIL



POND BULKHEAD DETAIL



POND CROSS-SECTION DETAIL

No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

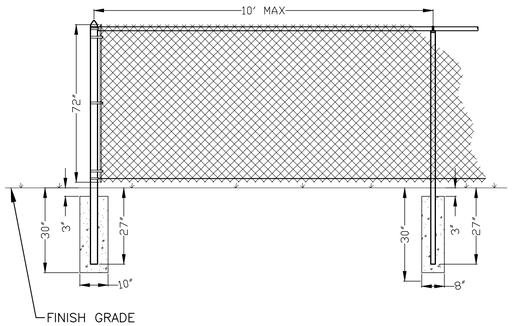
BUTTERFLY PROJEKT, LLC

MISCELLANEOUS DETAILS

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, c=US, email=asa@gillettesecoders.com
Date: 2025.09.18 14:35:31 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25
Sheet DT-1
Page 23 of X
Project No. XX-XX-XX

NOT FOR CONSTRUCTION



FENCE DETAIL

BARRIER TO BE PLACED AROUND TREE SHALL BE PLACED AROUND TREE PROTECTION ZONE AND BE CONSISTENT WITH SPECIFICATIONS DEFINED IN SECTION 4.05.14(E) OF THE CITY OF FERNANDINA BEACH LAND DEVELOPMENT CODE.

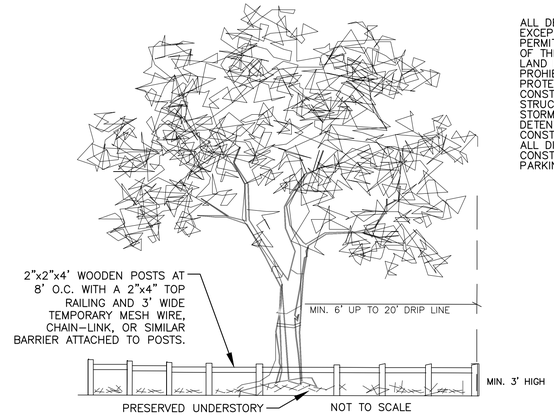
UNLESS NOTED OTHERWISE, THE TREE PROTECTION ZONE IS AT MINIMUM A CIRCULAR ZONE AROUND THE TREE TRUNK OF A RADIUS:

1) 6 FEET, IF THE DRIP LINE OF THE TREE IS LESS THAN 6 FEET FROM THE TRUNK OF THE TREE.

2) 6–20 FEET ENCOMPASSING THE FULL DRIP LINE OF THE TREE, IF THE DRIP LINE OF THE TREE IS BETWEEN 6 AD 20 FEET FROM THE TRUNK OF THE TREE.

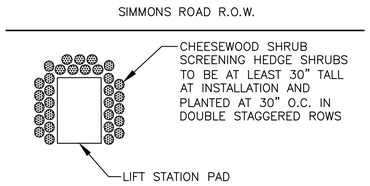
3) 20 FEET, IF THE DRIP LINE OF THE TREE IS GREATER THAN 20 FEET FROM THE TRUNK OF THE TREE. 3" MULCH LAYER SHALL BE APPLIED TO THE REMAINING AREA BETWEEN THE TREE PROTECTION ZONE AND DRIP LINE.

SEE SHEET TM–1 FOR ISA–CERTIFIED ARBORIST APPROVED TREE PROTECTION ZONES.

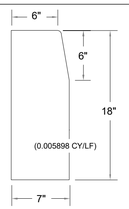


ALL DEVELOPMENT ACTIVITIES, EXCEPT THOSE SPECIFICALLY PERMITTED BY SECTION 4.05.14(F)(4) OF THE CITY OF FERNANDINA BEACH LAND DEVELOPMENT CODE, SHALL BE PROHIBITED WITHIN THE TREE PROTECTION ZONE, INCLUDING ANY CONSTRUCTION OF BUILDINGS, STRUCTURES, PAVING SURFACES, STORMWATER RETENTION OR DETENTION PONDS, AND TEMPORARY CONSTRUCTION ACTIVITIES, INCLUDING ALL DIGGING, STORAGE OF CONSTRUCTION MATERIAL, AND PARKING OF CONSTRUCTION VEHICLES.

TREE PROTECTION DETAIL

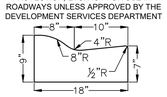


LIFT STATION SCREENING



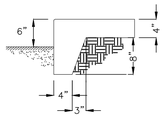
HEADER CURB

SPECIFIC USE: PARKING LOTS, TREE PROTECTION, ETC. NOT FOR USE IN ROADWAYS UNLESS APPROVED BY THE DEVELOPMENT SERVICES DEPARTMENT

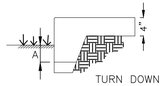


18" MIAMI CURB & GUTTER

CURB AND GUTTER DETAILS



AT ASPHALT PAVEMENT

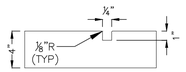


TURN DOWN AS REQUIRED TO KEEP "A" ≥ 3"

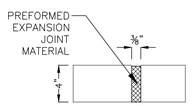
AT GRADE

NOTE: SIDEWALK THROUGH EXISTING DRIVEWAYS TO BE 6" 3,000 PSI CONCRETE W/ 6x6xW1.4 WWM W/ TURNDOWN EDGE

SIDEWALK TURNDOWN DETAILS

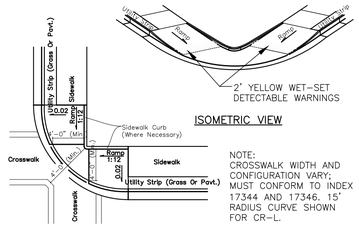


DUMMY JOINT



EXPANSION JOINT

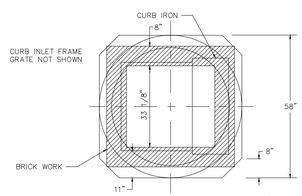
SIDEWALK JOINT DETAILS

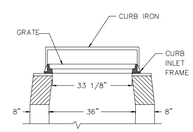


ISOMETRIC VIEW

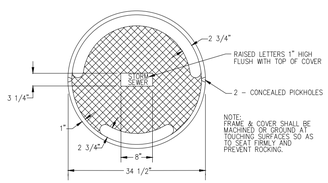
PLAN VIEW

NOTE: CROSSWALK WIDTH AND CONFIGURATION VARY; MUST CONFORM TO INDEX 17344 AND 17346. 15' RADIUS CURVE SHOWN FOR CR–L.

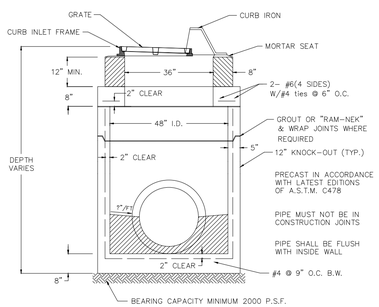


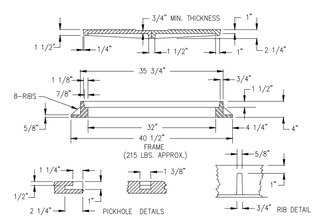


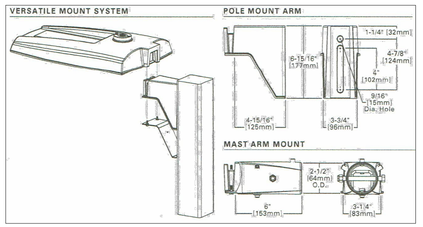
NOTE: CONC. DESIGN STRENGTH 4,000 PSI



NOTE: FRAME & COVER SHALL BE MACHINED OR GROUND AT TOUCHING SURFACES SO AS TO SEAT FIRMLY AND PREVENT ROCKING.

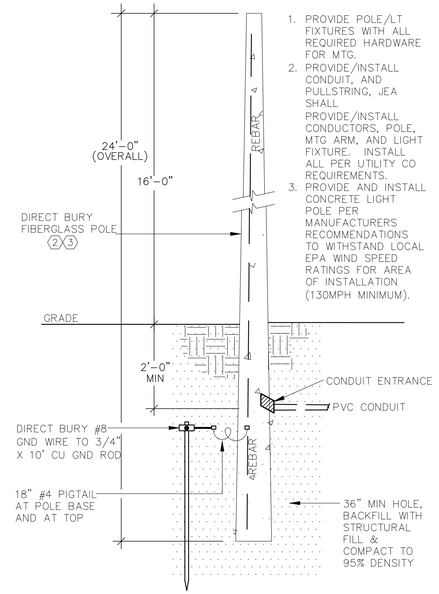




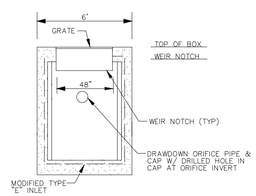


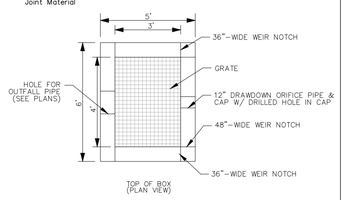
POLE NOTES:

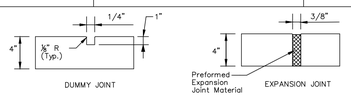
1. PROVIDE POLE/LT FIXTURES WITH ALL REQUIRED HARDWARE FOR MTG.
2. PROVIDE/INSTALL CONDUIT, AND PULLSTRING, JEA SHALL PROVIDE/INSTALL CONDUCTORS, POLE, MTG ARM, AND LIGHT FIXTURE. INSTALL ALL PER UTILITY CO REQUIREMENTS.
3. PROVIDE AND INSTALL CONCRETE LIGHT POLE PER MANUFACTURERS RECOMMENDATIONS TO WITHSTAND LOCAL EPA WIND SPEED RATINGS FOR AREA OF INSTALLATION (130MPH MINIMUM).



SITE LIGHTING DETAIL







DROP STRUCTURE DATA TABLE

POND	TOP OF BOX EL.	WEIR NOTCH EL.	ORIFICE PIPE	ORIFICE HOLE INVERT EL.	48"–WIDE WEIR NOTCH SIDE	36"–WIDE WEIR NOTCH SIDES
1	17.00	14.50	8" PVC	13.75	NORTH	EAST, WEST
2	18.00	15.00	8" PVC	13.75	WEST	NORTH, SOUTH
3	20.74	18.25	6" PVC	16.75	WEST	NORTH, SOUTH
4	20.55	18.00	6" PVC	17.00	WEST	NORTH, SOUTH

TREE WELL RETAINING WALL PLAN

No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034
Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

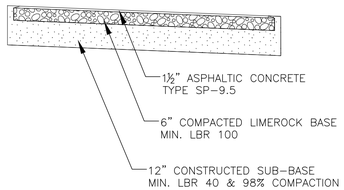
MISCELLANEOUS DETAILS

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, o=n/a, email=asa@gilletteassociates.com
Date: 2025.10.10 14:35:42 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25

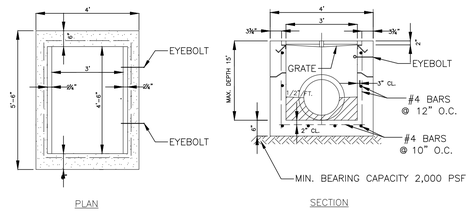
Sheet
DT–2

Project No. XX–XX–XX



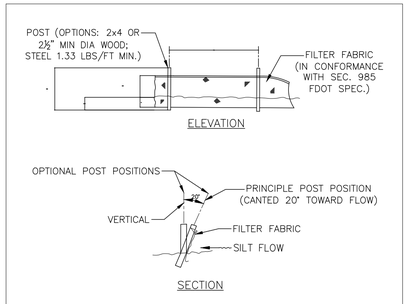
NOTE:
SOIL ANALYSIS MAY INDICATE THE NEED FOR A THICKER BASE COURSE THAN SHOWN HEREIN. THE PAVEMENT THICKNESSES SHOWN HEREIN ARE NOT INTENDED TO BE ABSOLUTE, BUT ARE PRELIMINARY CRITERIA AND MAY BE MODIFIED TO ACCOMMODATE THE BEARING CAPACITIES OF VARIOUS SUBGRADES.

TYPICAL PAVEMENT DETAIL

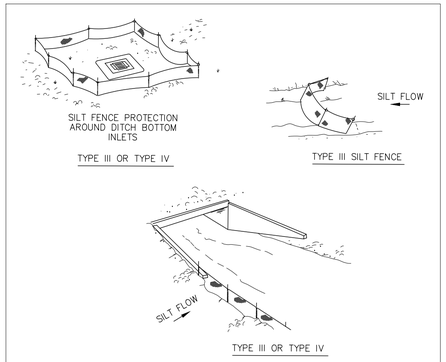


NOTES:
1. CONCRETE DESIGN STRENGTH 4,000 PSI
2. PIPES SHALL BE FLUSH WITH INSIDE WALL
3. SLOT OPENING SHALL NOT BE IN WALLS WITH RATE SEAT

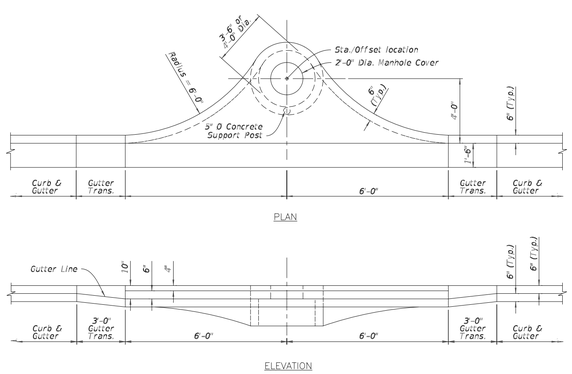
TYPE E INLET DETAIL



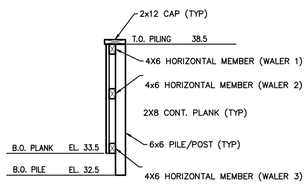
TYPE III SILT FENCE DETAIL

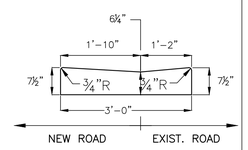


SILT FENCE APPLICATIONS

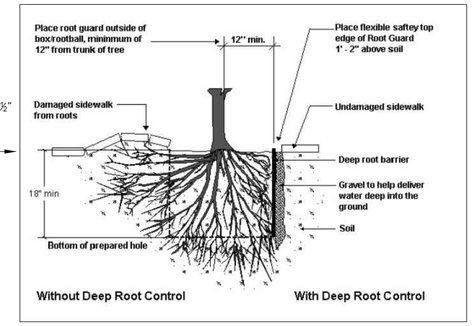


FDOT TYPE 4 CURB INLET DETAIL

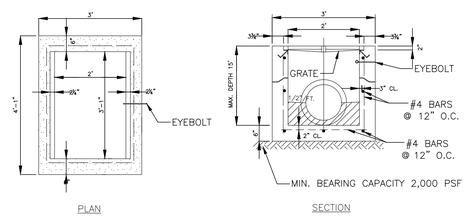




VALLEY GUTTER

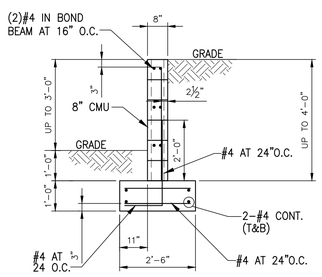


ROOT BARRIER DETAIL

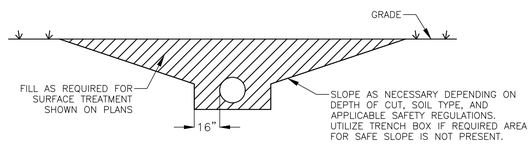


NOTES:
1. CONCRETE DESIGN STRENGTH 4,000 PSI
2. PIPES SHALL BE FLUSH WITH INSIDE WALL
3. SLOT OPENING SHALL NOT BE IN WALLS WITH RATE SEAT

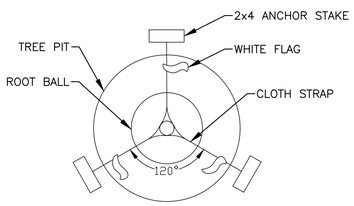
FDOT TYPE C INLET DETAIL



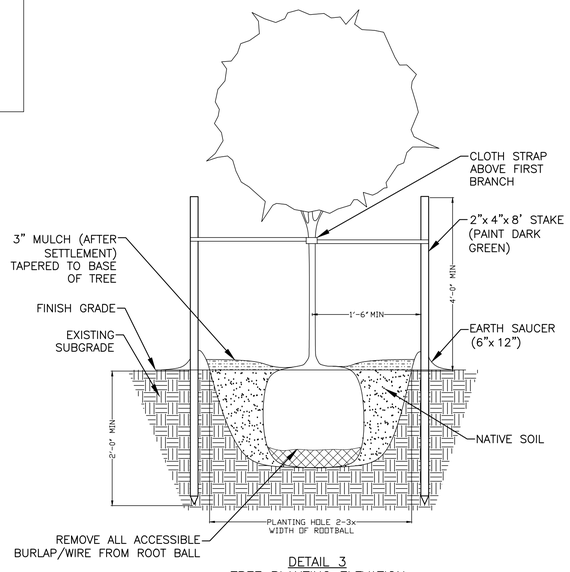
MASONRY RETAINING
WALL DETAIL



PIPE TRENCH INSTALLATION DETAIL



DETAIL 2
TREE STAKING PLAN



DETAIL 3
TREE PLANTING ELEVATION

No.	By	Date	Revision
L			
K			
J			
H			
G			
F			
E			
D			
C			
B	AB	10/8/25	TRC SUBMITTAL #1
A	AB	09/16/25	OWNER REVIEW – PROGRESS SET

Scale: 1:30
Project Mgr: AG
Designed by: AG
Drawn by: AG/BS
QA/QC: NG

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL 32034

Certificate of Authorization No. 9332

DO NOT SCALE THIS DRAWING – DIMENSIONS AND NOTES TAKE PREFERENCE. DRAWING IS REDUCED IF LESS THAN 22" x 34"

G & A
GILLETTE & ASSOCIATES, INC
31 SOUTH 4TH STREET
FERNANDINA BEACH, FL 32034
PHONE: (904) 261-8819

BUTTERFLY PROJEKT

BUTTERFLY TRAIL ROAD
FERNANDINA BEACH, FLORIDA

BUTTERFLY PROJEKT, LLC

MISCELLANEOUS DETAILS

REGISTERED DESIGN PROFESSIONAL
Asa Ray Gillette III
Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, o=US, email=asa@gillettesociates.com
Date: 2025.10.14 04:36:04 -04'00'
ASA R. GILLETTE, P.E.
FLORIDA P.E. NO. 56177

ISSUE DATE: 10/8/25
Sheet
DT-3
Page 25 of X
Project No. XX-XX-XX

STORMWATER MANAGEMENT EVALUATION

Butterfly Projekt
Seven Lot Subdivision
Fernandina Beach, Florida

BY

Gillette & Associates, Inc.
31 South 4th Street
Fernandina Beach, FL

Issue Date: October 10, 2025

Asa Ray Gillette III

Digitally signed by Asa Ray Gillette III
DN: cn=Asa Ray Gillette III, c=US, email=asa@gilletteassociates.com
Date: 2025.10.16 12:46:20 -04'00'

PROJECT DESCRIPTION

The proposed project consists of seven single family residential lots from five parcels, which combine to form a total of 4.37 acres. Each parcel is approximately 0.45-acres in size. The subdivision will contain a single road with a cul-de-sac at the end, which is served by an onsite stormwater management system. The existing roadway serving the property will be upgraded and its runoff will be treated by the onsite stormwater management system.

EXISTING CONDITIONS

The existing site is 4.37 acres in size and consists of multiple properties. There are two existing residences on the site that will be demolished in their entirety. The predeveloped site ranges in elevation from 8.0′ to 5.0′, sloping from east to west toward the Amelia River.

DRAINAGE ANALYSIS

The drainage analysis for the site consists of a central, onsite stormwater management system for the onsite and offsite roadways. Impervious area for each lot is treated via a small, on-site dry pond treatment swale located on each lot, near the new structure and driveway. Impervious runoff to be directed to each individual swale. Estimated swale requirements are shown in the lot table on Sheet DR-2

The central pond system (onsite and offsite roadways) was modeled using ICPR software for a 25-year, 24-hour storm event. The central system consists of two ponds hydraulically connected with an average normal water level taken from the geotechnical analysis. The pond will contain a bulkhead from the top of pond to the bottom of pond. The average normal water level resides at elevation 4.50-feet with a top of bank of 6.80-feet and a 25-year, 24-hour storm elevation of 6.54-feet.

Stormwater runoff from the proposed improvements is routed to the ponds through a series of storm water pipes and inlet structures. The proposed outfall for the pond is a weir within the east side of the pond. The weir resides at elevation 5.75-ft, which is required to minimize the discharge to the boundary and meet the pre-vs-post condition for the project. The drawdown orifice was modeled with the weir structure and is located at the normal water level.

A composite curve number of 85.8 was used in the ICPR analysis based on a weighted average of the curve numbers for the impervious area, pervious area, and pond area. This calculation is shown in the pond spreadsheet within this report.

A Time of Concentration of 17 minutes was used in the ICPR model for the post-developed analysis. The factors considered for this calculation are a Minimum Time of Concentration of 10

minutes, an average of 300 feet of overland flow at 1 foot per second, and 200 feet of pipe flow at 2.5 feet per second. The calculation is shown below. ToC formula is calculated as follows:

ToC = Min. ToC + [(Length of Overland Flow/1 fps) + (Length of Pipe flow/2.5 fps)]/60 s

Summary of Pond Design:	**Post-Development**
Total Drainage Area	1.32 Acres
Top of Bank Elevation	6.80 ft
25-yr Storm Elevation	6.54 ft
Weir Elevation	5.75 ft
Bottom of Pond Elevation	1.50 ft

Summary of Design – Mean Annual Storm Event

Predevelopment Discharge (Total):	3.418 cfs
Post Development Discharge (Total):	1.713 cfs
Max Stage Elevation Pond:	6.059 ft
Top of Bank Elevation Pond:	6.80 ft

Summary of Design – 5 year Storm Event

Predevelopment Discharge (Total):	4.125 cfs
Post Development Discharge (Total):	2.779 cfs
Max Stage Elevation Pond:	6.194 ft
Top of Bank Elevation Pond:	6.80 ft

Summary of Design – 10 year Storm Event

Predevelopment Discharge (Total):	5.107 cfs
Post Development Discharge (Total):	4.170 cfs
Max Stage Elevation Pond:	6.344 ft
Top of Bank Elevation Pond:	6.80 ft

Summary of Design – 25 year Storm Event

Predevelopment Discharge (Total):	6.591 cfs
Post Development Discharge (Total):	6.197 cfs
Max Stage Elevation Pond:	6.535 ft
Top of Bank Elevation Pond:	6.80 ft

Summary of Design – 100 year Storm Event

Predevelopment Discharge (Total):	9.201 cfs
Post Development Discharge (Total):	9.194 cfs
Max Stage Elevation Pond:	6.788 ft
Top of Bank Elevation Pond:	6.80 ft

WET POND CALCULATIONS

Butterfly Trail Onsite & Offite Road
Post Developed Wet Pond

Basin Calculations

Basin 1

Composite Cn

Total Drainage Area =	1.32	Ac.	
Impervious Area =	0.91	Ac.	69% (not including pond area)
Pond Area =	0.20	Ac.	89% (including pond area)
Pervious Area =	0.21	Ac.	
Impervious Cn =	98.0		
Pond Cn =	100.0		
Pervious Cn =	72.0		
Composite Cn =	85.8		

Time of Concentration, Tc

Minimum Time of Concentration =	10	min.
Length of Overland Flow @ 1ft/sec. =	300	ft.
Length of Pipe Flow @ 2.5 ft/sec. =	200	ft.
Tc =	17	min.

Equivalent Runoff Coefficient, Ct

Soil Storage, S = 1000/Cn -10 =	1.66	in.
Precipitation Depth, Pt =	7.68	(Zone 5)
Ct = 1 - S/Pt * (1.2 - S/(Pt + .8S)) =	0.78	

Pond Information

El. (ft.)		Area (Ac.)	Volume (Ac.-ft.)
6.80	**T.O.B.**	0.18	0.98
5.75	**weir**	0.18	0.79
4.50	**NWL**	0.18	0.55
3.50		0.18	0.37
2.50		0.18	0.18
1.50	**BOP**	0.18	0.00

Treatment Volume Required, TVR

TVR = 1" * (1'/12")*Total Drainage Area =	0.11	Ac.-ft.	
or			
TVR = 2.5" * (1'/12")*Total Impervious Drainage Area =	0.23	Ac.-ft.	
TVR =	0.23	Ac.-ft.	

Treatment Volume Provided, TVP

TVP = Vol @ Weir - Vol @ NWL =	0.23	Ac.-ft.	OK

Permanent Pool Volume Required, PPV

Drainage Area, Da =	1.32	Ac.	
Ct =	0.65		
Wet Season Rainfall Depth, R =	28	in.	
Residence Time, RT =	21	days	OK
Length of Wet Season, WS =	153	days	
PPV Required = Da*Ct*R*RT/(WS*12) =	0.28	Ac.-ft.	

Permanent Pool Volume Provided, PPV

PPV Provided = Vol @ NWL =	0.55	Ac.-ft.	OK

Pond Geometry Checks

Depth =	5.30	ft.	OK
Mean Depth =	4.53	ft.	OK
Average length =	175	ft.	
Average width =	25	ft.	
Ave Length to Width Ratio	7.0	:1	

Sizing Bleed-Down Orifice for Residency Time

Formulas:

Q=.6*A(2*32.2*h)^(1/2)

A = D^2 * Pi /4

t = TV/(2*Q*3600)

h = (h1 + h2)/2

Where

Q=Rate of Discharge (cfs)
A=Orifice Area (ft^2)
D = Orifice Diameter (ft)
Pi = 3.14159
h = Depth of Water Above the Flowline of the Orifice (ft)
t = Recovery Time (hrs)
TV = Treatment Volume Required (ft^3)
h1 = elevation @ TV - NWL Elevation
h2 = elevation when 1/2 TV has been released - NWL Elevation

Treatment Volume (Ac.-ft.)	0.23	<-- TV = TVP/3		
Weir Elevation (ft.)	5.75	(minimum diameter for 6 in^2 area is 2.8 inches)		
NWL Elevation (ft.)	4.50	is value < 2.8 " in diameter?		YES
Orifice Diameter (in.)	1.5	Orifice Diameter	2.8	

Calculated Values:

h (ft)	0.68
A (ft^2)	0.01
Q (cfs)	0.05
t	28.70

t Should be between 24 and 30 hrs. TRUE (minimum diameter for 6 in^2 area is 2.8 inches)

STORMWATER PIPE CALCULATIONS

Gillette & Associates, Inc.

STORM SEWER TABULATION FORM

PROJ #:

PROJECT: Butterfly Trail

COUNTY: Nassau

DATE: 04/23/24

BY: AB

SHEET 1

OF 1

MINOR LOSSES HAVE BEEN CONSIDERED

STRUCT. NO.	STRUCT. TYPE	LINE TYPE	LINE LENGTH (FT)	DRAINAGE AREA (ACRES) C= 0.90 C= 0.90 C= 0.90 INCRMNT	SUBTOTAL	SUBTOTAL CA	TIME OF CONC. (MIN)	TIME OF FLOW IN SECTION (MIN)	i (IN/HR)	TOTAL CA	TOTAL RUNOFF (CFS)	INLET ELEV. (FT)	H.G. ELEV. / CROWN ELEV. / INVERT ELEV. UPPER END	LOWER END	FALL (FT.)	DIA. (IN.)	SLOPE (%)	V (FPS)	CAPACITY (CFS)	NOTES & REMARKS n= 0.013 ZONE: 4 FREQUENCY: 10
													6.82	6.80	0.02		0.01	0.6	1.0	
S-1	C.B.	HDPE	78	0.16	0.16	0.14	10.00	0.43	7.01	0.14	1.00	9.00	7.00	6.80	0.20	18				
S-2													5.50	5.30	0.20		0.25	3.0	5.3	
													6.58	6.55	0.03		0.02	0.8	1.4	
S-2	C.B.	HDPE	97	0.06	0.22	0.20	10.43	0.54	6.91	0.20	1.38	9.00	6.80	6.55	0.25	18				
S-3													5.30	5.05	0.25		0.25	3.0	5.3	
													6.37	6.30	0.07		0.04	1.2	2.1	
S-3	C.B.	HDPE	99	0.06	0.34	0.31	10.97	0.55	6.78	0.31	2.09	8.50	6.55	6.30	0.25	18				
S-4													5.05	4.80	0.25		0.25	3.0	5.3	
													6.27	6.26	0.01		0.01	0.8	2.4	
S-4	C.B.	HDPE	22	0.06	0.41	0.36	11.52	0.12	6.66	0.36	2.43	7.40	6.30	6.26	0.04	24				
S-5													4.30	4.26	0.04		0.17	3.0	9.4	
													6.23	6.20	0.03		0.01	0.9	2.8	
S-5	C.B.	HDPE	36	0.06	0.46	0.42	11.64	0.20	6.64	0.42	2.76	7.40	6.26	6.20	0.06	24				
S-6													4.26	4.20	0.06		0.17	3.0	9.4	Tailwater 6.0
													6.69	6.69	0.00		0.00	0.2	0.3	
S-7	C.B.	HDPE	22	0.06	0.06	0.05	10.97	0.12	6.78	0.05	0.35	8.50	6.75	6.69	0.06	18				
S-3													5.25	5.19	0.06		0.25	3.0	5.3	
													6.29	6.22	0.07		0.03	1.2	3.9	
S-12	C.B.	HDPE	120	0.31	0.62	0.56	10.00	0.67	7.01	0.56	3.91	8.40	6.40	6.19	0.21	24				
S-13													4.40	4.19	0.21		0.17	3.0	9.4	
													6.22	6.17	0.05		0.04	1.4	4.4	
S-13	C.B.	HDPE	13	0.05	0.72	0.64	10.67	0.07	6.85	0.64	4.41	7.20	6.19	6.17	0.02	24				
S-14													4.19	4.17	0.02		0.17	3.0	9.4	Tailwater 6.0
													6.90	6.82	0.08		0.09	1.6	1.9	
S-11	C.B.	HDPE	24	0.31	0.31	0.28	10.67	0.13	6.85	0.28	1.91	8.40	6.90	6.82	0.08	15				
S-12													5.65	5.57	0.08		0.32	3.0	3.7	
													5.62	5.62	0.00		0.00	0.2	0.3	
S-15	C.B.	HDPE	24	0.05	0.05	0.04	10.74	0.13	6.84	0.04	0.30	7.20	5.70	5.62	0.08	15				
S-13													4.45	4.37	0.08		0.32	3.0	3.7	

ICPR STORMWATER MODEL

100-year Storm Event
25-year Storm Event
10-year Storm Event
5-year Storm Event
Mean Annual Storm Event

```
==========================================================================================
==== Basins ==============================================================================
==========================================================================================

         Name: DA-1                    Node: pond 1                Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File: Flmod               Storm Duration(hrs): 24.00
    Rainfall Amount(in): 9.790                 Time of Conc(min): 20.00
               Area(ac): 1.320                   Time Shift(hrs): 0.00
          Curve Number: 91.00              Max Allowable Q(cfs): 999999.000
               DCIA(%): 89.00


-------------------------------------------------------------------------------------------------
         Name: pre-1                   Node: BNDY                  Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh323                   Peaking Factor: 323.0
          Rainfall File: Flmod               Storm Duration(hrs): 24.00
    Rainfall Amount(in): 9.790                 Time of Conc(min): 18.00
               Area(ac): 1.320                   Time Shift(hrs): 0.00
          Curve Number: 81.00              Max Allowable Q(cfs): 999999.000
               DCIA(%): 62.00


==========================================================================================
==== Nodes ===============================================================================
==========================================================================================

      Name: BNDY                Base Flow(cfs): 0.000         Init Stage(ft): 3.800
     Group: BASE                                              Warn Stage(ft): 10.000
      Type: Time/Stage


      Time(hrs)       Stage(ft)
--------------- ---------------
           0.00           3.800
          50.00           6.900
         100.00          10.000

------------------------------------------------------------------------------------------
      Name: pond 1              Base Flow(cfs): 0.000         Init Stage(ft): 4.500
     Group: BASE                                              Warn Stage(ft): 6.800
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
          1.500          0.1850
          2.500          0.1850
          3.500          0.1850
          4.500          0.1850
          5.750          0.1850
          6.800          0.1850

==========================================================================================
==== Cross Sections ======================================================================
==========================================================================================

              Name:                                Group: BASE
      Encroachment: No


    Station(ft)   Elevation(ft)     Manning's N
--------------- --------------- ---------------

==========================================================================================
==== Operating Tables ====================================================================
==========================================================================================

      Name:                      Group: BASE
      Type: Bottom Clip
  Function: Time vs. Depth of Clip


      Time(hrs)  Clip Depth(in)
--------------- ---------------

==========================================================================================
==== Pipes ===============================================================================
==========================================================================================

         Name:                     From Node:                   Length(ft): 0.00
        Group: BASE                  To Node:                        Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                  Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 0.00           0.00                       Entrance Loss Coef: 0.00
     Rise(in): 0.00           0.00                           Exit Loss Coef: 1.00
   Invert(ft): 0.000          0.000                          Bend Loss Coef: 0.00
  Manning's N: 0.000000       0.000000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                        Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
```

```
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall


==========================================================================================
==== Channels ============================================================================
==========================================================================================

          Name:                     From Node:                   Length(ft): 0.00
         Group: BASE                  To Node:                        Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 0.000          0.000                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.000
   Manning's N: 0.000000       0.000000                      Expansion Coef: 0.000
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dn
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 0.000          0.000
  LtSdSlp(h/v): 0.00           0.00
  RtSdSlp(h/v): 0.00           0.00


==========================================================================================
==== Drop Structures =====================================================================
==========================================================================================

         Name: S-OUT-1             From Node: pond 1             Length(ft): 25.00
        Group: BASE                  To Node: BNDY                    Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 24.00          24.00                                  Flow: Both
     Rise(in): 24.00          24.00                     Entrance Loss Coef: 0.000
   Invert(ft): 3.600          3.500                         Exit Loss Coef: 1.000
  Manning's N: 0.013000       0.013000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall


*** Weir 1 of 2 for Drop Structure S-OUT-1 ***
                                                                                   TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Vertical: Mavis           Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.200
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 32.00                       Invert(ft): 5.750
               Rise(in): 12.00                  Control Elev(ft): 5.750

*** Weir 2 of 2 for Drop Structure S-OUT-1 ***
                                                                                   TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Vertical: Mavis           Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.200
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 2.80                        Invert(ft): 4.500
               Rise(in): 2.80                   Control Elev(ft): 4.500


==========================================================================================
==== Weirs ===============================================================================
==========================================================================================

         Name:                     From Node:
        Group: BASE                  To Node:
         Flow: Both                     Count: 1
         Type: Horizontal           Geometry: Circular

                   Span(in): 0.00
                   Rise(in): 0.00
                 Invert(ft): 0.000
       Control Elevation(ft): 0.000
                                          TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
        Weir Discharge Coef: 3.200
      Orifice Discharge Coef: 0.600


==========================================================================================
==== Percolation Links ===================================================================
==========================================================================================

         Name:                     From Node:                          Flow: Both
        Group: BASE                  To Node:                         Count: 1
```

```
        Surface Area Option: Use 1st Point in Stage/Area Table
   Vertical Flow Termination: Horizontal Flow Algorithm
       Aquifer Base Elev(ft): 0.000                        Perimeter 1(ft): 0.000
        Water Table Elev(ft): 0.000                        Perimeter 2(ft): 0.000
  Ann Recharge Rate(in/year): 0.000                        Perimeter 3(ft): 0.000
  Horiz Conductivity(ft/day): 0.000                    Distance 1 to 2(ft): 0.000
   Vert Conductivity(ft/day): 0.000                    Distance 2 to 3(ft): 0.000
     Effective Porosity(dec): 0.000                       Num Cells 1 to 2: 0
           Suction Head(in): 0.000                        Num Cells 2 to 3: 0
        Layer Thickness(ft): 0.000



==========================================================================================
==== Hydrology Simulations ===============================================================
==========================================================================================

         Name: 10-year
     Filename: X:\CIVIL\Butterfly\Drainage\ICPR\10year.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 7.74

Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          5.00

-----------------------------------------------------------------------------------------------
         Name: 100-year
     Filename: X:\CIVIL\Butterfly\Drainage\ICPR\100-year.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 13.40

Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          5.00

-----------------------------------------------------------------------------------------------
         Name: 25-year
     Filename: X:\CIVIL\Butterfly\Drainage\ICPR\25-year.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 9.79

Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          5.00

-----------------------------------------------------------------------------------------------
         Name: 5-year
     Filename: X:\CIVIL\Butterfly\Drainage\ICPR\5-year.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 6.42

Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          5.00

-----------------------------------------------------------------------------------------------
         Name: mean
     Filename: X:\CIVIL\Butterfly\Drainage\ICPR\mean.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 5.40

Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          5.00

==========================================================================================
==== Routing Simulations =================================================================
==========================================================================================

         Name: 10-year             Hydrology Sim: 10-year
     Filename: X:\CIVIL\Butterfly\Drainage\ICPR\10year.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 0.000
        Start Time(hrs): 0.000                     End Time(hrs): 30.00
     Min Calc Time(sec): 0.2500               Max Calc Time(sec): 300.0000
        Boundary Stages:                          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
11.000          30.000
16.000          5.000
24.000          15.000
```

```
30.000          30.000

Group           Run
--------------- -----
BASE            Yes


-----------------------------------------------------------------------------------------------------
         Name: 100-year            Hydrology Sim: 100-year
     Filename: X:\CIVIL\Butterfly\Drainage\ICPR\100-year.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 0.000
        Start Time(hrs): 0.000                     End Time(hrs): 30.00
     Min Calc Time(sec): 0.2500               Max Calc Time(sec): 300.0000
        Boundary Stages:                          Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
11.000          30.000
16.000          5.000
24.000          15.000
30.000          30.000

Group           Run
--------------- -----
BASE            Yes


-----------------------------------------------------------------------------------------------------
         Name: 25-year             Hydrology Sim: 25-year
     Filename: X:\CIVIL\Butterfly\Drainage\ICPR\25-year.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 0.000
        Start Time(hrs): 0.000                     End Time(hrs): 30.00
     Min Calc Time(sec): 0.2500               Max Calc Time(sec): 300.0000
        Boundary Stages:                          Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
11.000          30.000
16.000          5.000
24.000          15.000
30.000          30.000

Group           Run
--------------- -----
BASE            Yes


-----------------------------------------------------------------------------------------------------
         Name: 5-year              Hydrology Sim: 5-year
     Filename: X:\CIVIL\Butterfly\Drainage\ICPR\5-year.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 0.000
        Start Time(hrs): 0.000                     End Time(hrs): 30.00
     Min Calc Time(sec): 0.2500               Max Calc Time(sec): 300.0000
        Boundary Stages:                          Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
11.000          30.000
16.000          5.000
24.000          15.000
30.000          30.000

Group           Run
--------------- -----
BASE            Yes


-----------------------------------------------------------------------------------------------------
         Name: mean                Hydrology Sim: mean
     Filename: X:\CIVIL\Butterfly\Drainage\ICPR\mean.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 0.000
        Start Time(hrs): 0.000                     End Time(hrs): 30.00
     Min Calc Time(sec): 0.2500               Max Calc Time(sec): 300.0000
        Boundary Stages:                          Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
11.000          30.000
```

16.000	5.000
24.000	15.000
30.000	30.000

Group	Run
BASE	Yes

Name	Group	Simulation	Max Time Flow hrs	Max Flow cfs	Max Delta Q cfs	Max Time US Stage hrs	Max US Stage ft	Max Time DS Stage hrs	Max DS Stage ft
S-OUT-1	BASE	10-year	12.32	4.170	-0.036	12.32	6.344	29.99	5.659
S-OUT-1	BASE	100-year	12.23	9.194	-0.062	12.23	6.788	29.97	5.658
S-OUT-1	BASE	25-year	12.26	6.197	-0.053	12.26	6.535	29.98	5.659
S-OUT-1	BASE	5-year	12.41	2.779	-0.027	12.41	6.194	30.00	5.660
S-OUT-1	BASE	mean	12.51	1.713	-0.018	12.51	6.059	30.03	5.662

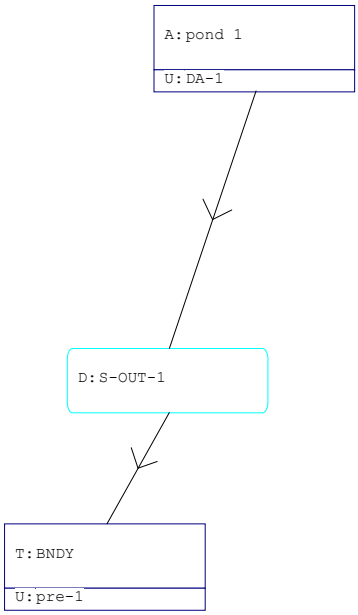
Simulation	Basin	Group	Time Max hrs	Flow Max cfs	Volume in	Volume ft3
10-year	DA-1	BASE	12.09	6.525	7.523	36047.244
10-year	pre-1	BASE	12.08	5.107	6.829	32720.393
100-year	DA-1	BASE	12.09	11.333	13.170	63107.434
100-year	pre-1	BASE	12.08	9.201	12.411	59466.261
25-year	DA-1	BASE	12.09	8.267	9.568	45845.222
25-year	pre-1	BASE	12.08	6.591	8.841	42364.223
5-year	DA-1	BASE	12.09	5.402	6.207	29741.820
5-year	pre-1	BASE	12.12	4.152	5.543	26558.607
mean	DA-1	BASE	12.09	4.534	5.191	24872.674
mean	pre-1	BASE	12.12	3.418	4.558	21838.434

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BNDY	BASE	10-year	29.99	5.659	10.000	0.0052	0	12.23	8.436	0.00	0.000
pond 1	BASE	10-year	12.32	6.344	6.800	0.0050	8059	12.08	6.506	12.32	4.170
BNDY	BASE	100-year	29.97	5.658	10.000	0.0052	0	12.17	17.778	0.00	0.000
pond 1	BASE	100-year	12.23	6.788	6.800	0.0050	8059	12.08	11.296	12.23	9.194
BNDY	BASE	25-year	29.98	5.659	10.000	0.0052	0	12.18	12.126	0.00	0.000
pond 1	BASE	25-year	12.26	6.535	6.800	0.0050	8059	12.08	8.239	12.26	6.197
BNDY	BASE	5-year	30.00	5.660	10.000	0.0052	0	12.29	5.945	0.00	0.000
pond 1	BASE	5-year	12.41	6.194	6.800	0.0050	8059	12.08	5.383	12.41	2.779
BNDY	BASE	mean	30.03	5.662	10.000	0.0052	0	12.34	4.017	0.00	0.000
pond 1	BASE	mean	12.51	6.059	6.800	0.0050	8059	12.08	4.521	12.51	1.713

Nodes
A Stage/Area
V Stage/Volume
T Time/Stage
M Manhole

Basins
O Overland Flow
U SCS Unit CN
S SBUH CN
Y SCS Unit GA
Z SBUH GA

Links
P Pipe
W Weir
C Channel
D Drop Structure
B Bridge
R Rating Curve
H Breach
E Percolation
F Filter
X Exfil Trench



GEOTECHNICAL REPORT

ECS Florida, LLC

Geotechnical Engineering Report

Butterfly Trail

Simmons Road and Butterfly Trail
Fernandina Beach, Florida

ECS Project Number 35:35446

May 3, 2024

May 3, 2024

Mr. Joe Lucin
Mistral Architectural Metal + Glass Inc.
37-19 56th Street
Woodside, New York 11377

ECS Project No. 35:35446

Reference: Geotechnical Engineering Report
Butterfly Trail
Simmons Road and Butterfly Trail
Fernandina Beach, Florida

Dear Mr. Lucin:

ECS Florida, LLC. (ECS) has completed the subsurface exploration, laboratory testing, and geotechnical engineering analyses for the above-referenced project. Our services were performed in general accordance with our agreed to scope of work. This report presents our understanding of the geotechnical aspects of the project along with the results of the field exploration and laboratory testing conducted, and our design and construction recommendations.

It has been our pleasure to be of service to Mistral Architectural Metal + Glass Inc. during the design phase of this project. We would appreciate the opportunity to remain involved during the continuation of the design phase, and we would like to provide our services during construction phase operations as well to verify the assumptions of subsurface conditions made for this report. Should you have any questions concerning the information contained in this report, or if we can be of further assistance to you, please contact us.

Respectfully submitted,
ECS Florida, LLC.

Jared Pitts, State of Florida Professional Engineer, License No. 92090

This item has been digitally signed and sealed by Jared Pitts on the date indicated here.

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

2024.05.03 13:37:32 -04'00'

Jared Pitts, P.E.
Geotechnical Department Manager
Registered, Florida No. 92090
JPitts@ecslimited.com

Chris M. Egan, P.E.
Principal Engineer
Registered, Florida No. 79645
CEgan@ecslimited.com

TABLE OF CONTENTS

EXECUTIVE SUMMARY 1
1.0 INTRODUCTION 2
2.0 PROJECT INFORMATION 2
2.1 Project Location/Current Site Use 2
2.2 Proposed Construction 3
3.0 FIELD EXPLORATION AND LABORATORY TESTING 4
3.1 Subsurface Characterization 4
3.2 Groundwater Observations 5
3.2.1 Encountered Groundwater 5
3.2.2 Estimated Seasonal High Groundwater 5
3.3 Visual Classification 5
4.0 DESIGN RECOMMENDATIONS 5
4.1 Foundations 5
4.2 Slabs On Grade 6
4.3 Pavements 7
4.3.1 Flexible Pavement Recommendations 7
4.3.2 Rigid Pavement Recommendations 8
4.4 Stormwater Management Facilities 8
4.4.1 Soil Infiltration Rate 8
5.0 SITE CONSTRUCTION RECOMMENDATIONS 9
5.1 Subgrade Preparation 9
5.1.1 Stripping and Grubbing 9
5.1.2 Proofrolling 9
5.1.3 Temporary Groundwater Control 9
5.1.4 Subgrade Compaction 10
5.2 Earthwork Operations 10
5.2.1 Engineered Backfill and Fill Soils 10
5.2.2 Preload if More Than Four Feet of Fill is Placed 11
5.2.3 Foundation Areas 11
5.2.4 Flexible Pavement Areas 12
5.2.4 Rigid Pavement Areas 12
5.3 Utility Installations 12
5.4 General Construction Considerations 13
6.0 CLOSING 14

APPENDICES

Appendix A – Drawings & Reports

- Figure 1 - Site Location Diagram
- Figure 2 - Field Exploration Diagram
- Subsurface Cross-Section(s)

Appendix B – Field Operations

- Reference Notes for Boring Logs
- Subsurface Exploration Procedure: Standard Penetration Testing (SPT)
- Subsurface Exploration Procedure: Hand Auger
- Boring Logs

EXECUTIVE SUMMARY

This Executive Summary is intended as a very brief overview of the primary geotechnical conditions that are expected to affect design and construction. Information gleaned from the Executive Summary should not be utilized in lieu of reading the entire geotechnical report.

- The borings encountered very soft clay and very loose clayey soils at intermittent depths. Due to the presence of these very soft/loose soils, it is our opinion that the loading imposed by placing more than four feet of fill could cause consolidation of these soils, which could result in intolerable settlements of the proposed structures. If more than four feet of fill is placed in the building areas, we recommend that a waiting period be allowed to elapse prior to the start of vertical construction.

- Based on the results of our exploration, we consider the subsurface conditions at the site adaptable for support of the proposed structures on a properly designed conventional shallow foundation system with a maximum allowable bearing pressure of 2,500 psf. Provided the site preparation and earthwork construction recommendations outlined in Section 5.0 of this report are performed, the parameters presented in Section 4.0 of this report may be used for foundation design.

- We consider the subsurface conditions at the site adaptable for support of a flexible or rigid pavement section when constructed on properly prepared subgrade soils as outlined in Section 5.0 of this report.

- The borings encountered groundwater at depths varying from 1.5 feet to 3.5 feet below the existing ground surface at the time of our exploration. Because of the need for densification of the soils within the upper 2 feet below the stripped surface, temporary groundwater control measures may be required if the groundwater level is within 2 feet below the stripped and grubbed surface at the time of construction.

- We recommend that ECS be provided the opportunity to review the foundation plans and earthwork specifications to verify that our recommendations have been properly interpreted and implemented. ECS should also be retained to perform the construction materials testing and observations required for this project, to verify that our recommendations have been implemented.

1.0 INTRODUCTION

The purpose of this study was to provide geotechnical information for the design of foundations, pavements, and stormwater management facilities for the proposed residential development. The project will include five single-family lots, paved roadways, and stormwater treatment. The recommendations developed for this report are based on project information supplied by Mr. David Brown of Portiere Services.

Our services were provided in accordance with our Proposal No. 35:21977-GP dated March 22, 2024 and Change Order No. 01 dated April 9, 2024 as authorized by Mr. Joe Lucin on March 25, 2024 and April 9, 2024, respectively, which includes our Terms and Conditions of Service.

This report contains the procedures and results of our subsurface exploration and laboratory testing programs, review of existing site conditions, engineering analyses, and recommendations for the design and construction of the project.

The report includes the following items:

- A brief review and description of our field and laboratory test procedures and the results of testing conducted.
- A review of surface topographical features and site conditions.
- A review of subsurface soil stratigraphy with pertinent available physical properties.
- Final copies of our soil boring logs.
- Recommendations for foundation design.
- General recommendations for pavement design.
- Evaluation and recommendations relative to groundwater control.
- Recommended parameters for stormwater treatment system design.
- Recommendations for site preparation and construction of compacted fills.

2.0 PROJECT INFORMATION

2.1 PROJECT LOCATION/CURRENT SITE USE

The project site is located at the northwest quadrant of the intersection of Chem Cell Road and Riverside Road in Fernandina Beach, Florida. The site is bordered by existing residential properties to the north and south, to the west by the Intracoastal Waterway, and to the east by Riverside Road. The general site location is shown on Figure 1 in Appendix A and Figure 2.1.1 following.

Figure 2.1.1. Site Location

At the time of our exploration, the site was partially developed, with an existing home and pool. The undeveloped portions of the site were wooded. A site survey was not available to our office at the time of this report preparation. However, based on publicly available information, we understand that the site generally slopes downward to the west. Surface water was not observed near planned structural areas at the time of our exploration.

2.2 PROPOSED CONSTRUCTION

The following information explains our understanding of the planned development including proposed buildings and related infrastructure.

SUBJECT	DESIGN INFORMATION / UNDERSTANDINGS
# of Stories	1-2 stories above grade
Usage	Residential
Framing	Timber or CMU
Column Loads(1)	50 kips (Full Dead and Factored Live), expected
Wall Loads(1)	3 kips per linear foot (klf) maximum, expected
Floor Loads(1)	150 pounds per square foot (psf) maximum, expected

SUBJECT	DESIGN INFORMATION / UNDERSTANDINGS
Fill and Cut Heights	Expect a maximum of 4 feet of fill and only minor cuts, from existing site grades

(1) If actual structural loads differ from these expected loads ECS must be contacted immediately in order to revise building foundation recommendations and settlement calculations, as needed.

We understand improvements will be made to the existing roadways as part of the development. A stormwater treatment system will also be required.

If actual project information varies from these conditions, then the recommendations in this report may need to be re-evaluated. We should be contacted if any of the above project information is incorrect so that we may reevaluate our recommendations.

3.0 FIELD EXPLORATION AND LABORATORY TESTING

Our exploration procedures are explained in greater detail in Appendix B including the insert titled Subsurface Exploration Procedures. Our scope of work included drilling five Standard Penetration Test (SPT) borings, four auger borings, and one Double Ring Infiltration (DRI) test. Our borings were located with a handheld GPS unit and their approximate locations are shown on the Field Exploration Diagram (Figure 2) in Appendix A.

3.1 SUBSURFACE CHARACTERIZATION

The subsurface conditions encountered were generally consistent with published geological mapping. The following sections provide generalized characterizations of the soil strata. Please refer to the boring logs in Appendix B.

Typical Depth (ft)		Stratum	Description
From	To		
Existing Ground Surface	0.5 -1	n/a	Topsoil, Gravel, or Asphalt with Limerock Base
0.5 - 1	12.5-22.5	I	Very Loose to very Dense Fine SAND (SP) and Fine SAND with Silt (SP-SM)
12.5-22.5	20-40	II	Very Loose to Medium Dense Clayey to Very Clayey Fine SAND (SC), Silty Fine SAND (SM), Fine SAND (SP), and Fine SAND with Silt (SP-SM), and Very Soft to Firm Clay (CH)

A graphical presentation of the subsurface conditions is shown on the Generalized Subsurface Profiles included in Appendix A.

3.2 GROUNDWATER OBSERVATIONS

3.2.1 Encountered Groundwater

Water levels were measured during our field exploration and are presented in our boring logs in Appendix B. Groundwater depths measured at the time of drilling ranged from 1.5 feet to 3.5 feet below the ground surface. Variations in the long-term water table may occur as a result of changes in precipitation, evaporation, surface water runoff, construction activities, and other factors.

3.2.2 Estimated Seasonal High Groundwater

The normal seasonal high groundwater level is affected by a number of factors. The drainage characteristics of the soils, land surface elevation, relief points such as drainage ditches, lakes, rivers, swamp areas, etc., and distance to relief points are some of the more important factors influencing the seasonal high groundwater level.

Based on our interpretation of the site conditions, including the boring logs and Web Soil Survey, we estimate the normal seasonal high groundwater level at the boring locations to be approximately at the depths shown on the Generalized Subsurface Profiles. It is possible that groundwater levels may exceed the estimated normal seasonal high groundwater level as a result of significant or prolonged rains.

3.3 VISUAL CLASSIFICATION

Each sample was visually classified on the basis of texture and plasticity in accordance with ASTM D2488 Standard Practice for Description and Identification of Soils (Visual-Manual Procedures) and including USCS classification symbols. After classification, the samples were grouped in the major zones noted on the boring logs in Appendix B. The group symbols for each soil type are indicated in parentheses along with the soil descriptions. The stratification lines between strata on the logs are approximate; in situ, the transitions may be gradual.

4.0 DESIGN RECOMMENDATIONS

4.1 FOUNDATIONS

The borings encountered very soft clay and very loose clayey soils at intermittent depths. Due to the presence of these loose/soft soils, we recommend a waiting period be allowed to elapse prior to the start of vertical construction if more than four feet of fill is placed. To determine when the majority of the anticipated settlement has occurred and vertical construction can continue, settlement plates should be placed within the building footprint areas. The project surveyor should monitor the plates weekly and provide us with the information. This is described in more detail in Section 5. We estimate that the waiting period will be in the range of 4 to 8 weeks from the completion of elevating fill placement.

Provided subgrades and engineered fills are prepared as recommended in this report, the proposed structure can be supported by shallow foundations including column footings and continuous wall footings. We recommend the foundation design use the following parameters:

Design Parameter	Column Footing	Wall Footing
Minimum Width	24 inches	18 inches
Minimum Footing Embedment Depth (below slab or finished grade)	12 inches	12 inches
Estimated Maximum Total Settlement[1]	1 inch	1 inch
Estimated Maximum Differential Settlement[2]	Less than ½ inch between columns	Less than ½ inch over 50 feet
Maximum Net Allowable Soil Bearing Pressure[3]	2,500 psf	
Acceptable Bearing Soil Material	Compacted Stratum I or Compacted Fill	

1. Based on expected structural loads. If final loads are different, ECS must be contacted to update foundation recommendations and settlement calculations.
2. Based on maximum column/wall loads and variability in borings. Differential settlement can be re-evaluated once the foundation plans are more complete.
3. Net allowable bearing pressure is the applied pressure in excess of the surrounding overburden soils above the base of the foundation.

Depending on the final floor elevations of the buildings, we anticipate that most of the soils at the foundation bearing elevation are generally anticipated to be suitable for support of the proposed structure, after prepared in accordance with Section 5.0 of this report. The bearing level soils, after compaction, should exhibit densities equivalent to at least 95 percent of the modified Proctor maximum dry density (ASTM D 1557) to a depth of at least one foot below foundation bearing levels.

For turn down slabs and interior wall footings the minimum width should also be 18 inches, however the sloped transition portion of the turn-down may be included when determining the footing width. Even though the maximum allowable soil bearing pressure may not be achieved, these width recommendations should control the size of the foundations.

4.2 SLABS ON GRADE

The floor slabs can be constructed as a slab-on-ground, provided the site is prepared as outlined in Section 5.0. It is recommended the floor slab bearing soils be covered with an impervious membrane to reduce moisture entry and floor dampness. A 6-mil thick plastic membrane is commonly used for this purpose. Care should be exercised not to tear large sections of the membrane during placement of reinforcing steel and concrete. In addition, we recommend that a minimum separation of two feet be maintained between the finished floor levels and the estimated normal seasonal high groundwater level.

Subgrade Modulus: Provided the placement of engineered fill per the recommendations discussed herein, the slab may be designed assuming a modulus of subgrade reaction, k_1 of 150 pci (lbs/cu. inch). The modulus of subgrade reaction value is based on a 1 ft by 1 ft plate load test basis.

4.3 PAVEMENTS

Based on the results of our exploration, we consider the subsurface conditions at the site favorable for support of a flexible or rigid pavement sections when constructed on properly prepared subgrade soils as outlined in Section 5.0 of this report. Typical pavement sections used in northeast Florida are presented in the following sections. If requested, we can prepare a project-specific pavement design if specific traffic data is provided.

In general, heavy duty sections are areas that will be subjected to trucks, buses, or other similar vehicles including main drive lanes of the development. Light duty sections are appropriate for vehicular traffic and parking areas.

4.3.1 Flexible Pavement Recommendations

TYPICAL PAVEMENT SECTIONS		
MATERIAL	**LIGHT DUTY**	**HEAVY DUTY**
Asphaltic Concrete Surface Course (SP-9.5 or Type S)	1.5 inches	2 inches
Limerock Base	6 inches	8 inches
Stabilized Subgrade	12 inches	12 inches

Base and Subgrade: The limerock base course should have a minimum Limerock Bearing Ratio (LBR) of 100 and should be compacted to at least 98 percent of the modified Proctor maximum dry density (ASTM D 1557) value.

The subgrade material should have a minimum LBR of 40 and be compacted to at least 98 percent of the modified Proctor maximum dry density (ASTM D 1557) value.

Underdrains: Pavement life is dependent on dry/stable pavement support provided by the base and subgrade courses. Accordingly, a minimum clearance of 18 inches must be maintained between the normal seasonal high groundwater table and the bottom of the base layer. Depending on final pavement grades, underdrains may be required to maintain a relatively dry base and subgrade materials.

4.3.2 Rigid Pavement Recommendations

Our recommendations for slab thickness for standard duty and heavy duty concrete pavements are based on a) subgrade soils densified to 98 percent of the modified Proctor maximum dry density (ASTM D 1557) b) modulus of subgrade reaction (k) equal to 200 pounds per cubic inch, c) a 20 year design life.

TYPICAL PAVEMENT SECTIONS		
	LIGHT DUTY	**HEAVY DUTY**
Minimum Concrete Thickness	5 inches	6 inches
Maximum Control Joint Spacing	10 feet x 10 feet	12 feet x 12 feet
Recommended Sawcut Depth	1 ¼ inches	1 ½ inches

We recommend using concrete with a minimum 28-day compressive strength of 4,000 psi and a minimum 28-day flexural strength (modulus of rupture) of at least 600 pounds per square inch, based on 3rd point loading of concrete beam test samples. Layout of the sawcut control joints should form square panels. The joints should be sawed within six hours of concrete placement or as soon as the concrete has developed sufficient strength to support workers and equipment. We recommend allowing ECS to review and comment on the final concrete pavement design, including section and joint details (type of joints, joint spacing, etc.), prior to the start of construction.

For further details on concrete pavement construction, please reference the "Guide to jointing unreinforced pavements" by William Yrjanson of the American Concrete Pavement Association, and "Building Quality Concrete Parking Areas", published by the Portland Cement Association.

4.4 STORMWATER MANAGEMENT FACILITIES

4.4.1 Soil Infiltration Rate

The results of the infiltration test indicated the following vertical infiltration rate:

Infiltration Results

Test Location	Groundwater Depth (feet)	Test Depth (feet)	Measured Permeability (feet/day)
DRI-01	1.5	0.5	3.2

The measured vertical infiltration rate should not be construed to represent the actual pond exfiltration rate. For pond recovery calculations, we recommend an appropriate factor of safety be applied to the above vertical infiltration rate value.

5.0 SITE CONSTRUCTION RECOMMENDATIONS

5.1 SUBGRADE PREPARATION

5.1.1 Stripping and Grubbing

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

The "footprint" of the proposed building plus a minimum additional horizontal margin of 5 feet, and of the hardscape areas (parking/driveway) plus a minimum additional horizontal margin of 3 feet, should be stripped of all demolition debris, surface vegetation, stumps, debris, organic topsoil, or other deleterious materials. During grubbing operations, roots with a diameter greater than 0.5-inch, stumps, or small roots in a concentrated state, should be grubbed and completely removed.

Based on the results of our field exploration, it should be anticipated that 6 inches to 12 inches of topsoil and soils containing significant amounts of organic materials may be encountered across the site. The actual depths of unsuitable soils and materials should be determined by ECS using visual observation and judgment during earthwork operations. Any topsoil removed from the building and parking/drive areas can be stockpiled and used subsequently in non-structural areas.

5.1.2 Proofrolling

After removing unsuitable surface materials, cutting to the proposed grade, and prior to the placement of any engineered fill or other construction materials, the exposed subgrade should be evaluated by an ECS authorized representative. The exposed subgrade should be proofrolled with previously approved construction equipment having a minimum axle load of 10 tons (e.g. fully loaded tandem-axle dump truck). The areas subject to proofrolling should be traversed by the equipment in two perpendicular (orthogonal) directions with overlapping passes of the vehicle under the observation of ECS' authorized representative. This procedure is intended to assist in identifying any localized yielding materials. In the event that unstable or "pumping" subgrade is identified by the proofrolling, those areas should be marked for repair prior to the placement of any subsequent engineered fill or other construction materials. Methods of repair of unstable subgrade, such as undercutting or moisture conditioning or chemical stabilization, should be discussed with ECS to determine the appropriate procedure with regard to the existing conditions causing the instability. A test pit(s) may be excavated to explore the shallow subsurface materials in the area(s) of the instability to help in determined the cause of the observed unstable materials and to assist in the evaluation of the appropriate remedial action to stabilize the subgrade.

5.1.3 Temporary Groundwater Control

Because of the need for densification of the soils within the upper 2 feet below the stripped surface, temporary groundwater control measures may be required if the groundwater level is within 2 feet below the stripped and grubbed surface at the time of construction. Should groundwater control

measures become necessary, dewatering methods should be determined by the contractor. We recommend the groundwater control measures, if necessary; remain in place until compaction of the existing soils is completed. The dewatering method should be maintained until 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.

5.1.4 Subgrade Compaction

Subgrade Compaction: After completing the clearing and stripping operations and installing the temporary groundwater control measures (if required), the exposed surface should be compacted with a vibratory drum roller having a minimum static, at-drum weight, on the order of 4 tons to 6 tons. Typically, the material should exhibit moisture contents within ±2 percentage points of the modified Proctor optimum moisture content (ASTM D 1557) during the compaction operations. Compaction should continue until densities of at least 95 percent of the modified Proctor maximum dry density (ASTM D 1557) have been achieved within the upper one foot of the compacted natural soils at the site.

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

Care should be exercised to avoid damaging any nearby structures while the compaction operation is underway. Prior to commencing compaction, occupants of adjacent structures should be notified, and the existing conditions of the structures should be documented with photographs and survey (if deemed necessary). Compaction should cease if deemed detrimental to adjacent structures, and ECS should be contacted immediately. We recommend the vibratory roller remain a minimum of 50 feet from existing structures. Within this zone, use of a track-mounted bulldozer, or a vibratory roller operating in the static mode, is recommended.

5.2 EARTHWORK OPERATIONS

5.2.1 Engineered Backfill and Fill Soils

Engineered fill is defined as a non-plastic, inorganic, granular soil having less than 15 percent material passing the No. 200 mesh sieve and containing less than 4 percent organic material. In landscape and lot areas, we recommend the upper 1 foot of material be engineered fill with less than 10 percent material passing the No. 200 mesh sieve to facilitate drainage. The fine sand and fine sand with silt or fine sand with clay, without roots, as encountered in the borings, are generally suitable as fill materials and, with proper moisture control, should densify using conventional compaction methods. Soils with more than 10 to 12 percent passing the No. 200 sieve will be more difficult to compact, due to their nature to retain soil moisture, and may require drying.

Engineered Fill Compaction Requirements: Materials satisfactory for use as engineered fill should consist of soils with the following compaction requirements.

ENGINEERED FILL COMPACTION REQUIREMENTS	
Subject	**Requirement**
Compaction Standard	Modified Proctor, ASTM D1557
Required Compaction	95% of Max. Dry Density (general engineered fill) 98% of Max. Dry Density (upper one foot below the proposed pavement base course)
Loose Thickness prior to compaction	12 inches if vibratory drum roller compaction equipment is used 8 inches if vibratory drum roller is used in static mode 8 inches if track-mounted compaction equipment is used 6 inches if hand-held compaction equipment is used

Fill materials should not be placed on excessively wet soils. Excessively wet soils should be moisture conditioned, which may include scarifying and aerating. Proper drainage should be maintained during the earthwork phases of construction in an attempt to prevent ponding of water which has a tendency to degrade subgrade soils. The contractor should minimize dusting or implement dust control measures, as required.

We recommend that the grading contractor have equipment on site during earthwork for both drying and wetting fill soils. Moisture control may be difficult during extended periods of rain. The control of moisture content of soils containing more than 10% fines may be difficult when these soils become wet. Further, such soils are easily degraded by construction traffic when the moisture content is elevated.

5.2.2 Preload if More Than Four Feet of Fill is Placed

Subsequent to achieving final grades, a waiting period of on the order of 4 to 8 weeks is anticipated to be required prior to proceeding with vertical construction. We recommend that we install at least three settlement plates (per building) prior to the fill placement to monitor the settlements resulting from the structural fill to better determine when the vertical construction can proceed. The settlement plates should be placed within the building area subsequent to completing the initial clearing/stripping operations and compaction of the existing ground surface, and prior to placement of any structural fill. Elevation readings of the settlement plates should be obtained by optical survey on the day of placement, on a weekly basis. The elevation readings should be provided to us in a timely manner so we can determine when vertical construction can proceed.

5.2.3 Foundation Areas

After satisfactory placement and compaction of the required engineered fill, the foundation areas may be excavated to the planned bearing levels. The foundation bearing level soils, after compaction, should exhibit densities equivalent to at least 95 percent of the modified Proctor maximum dry density (ASTM D 1557) to a depth of one foot below the bearing level. For confined areas, such as the footing excavations, any compactive effort should be provided by a lightweight vibratory sled or roller having a total weight on the order of 500 to 2,000 pounds.

5.2.4 Flexible Pavement Areas

After completing the clearing/stripping operations in the pavement areas, any underlying clayey sands and sandy clays that are within 2 feet of the bottom of the pavement base should be over-excavated from within the pavement areas. Structural backfill and fill required to achieve the finish pavement grades then can be placed and compacted as described in Sections 5.2.1.

5.2.4 Rigid Pavement Areas

For a concrete pavement subgrade, we recommend using clean fine sand (SP), compacted to at least 98 percent of modified Proctor test maximum dry density (ASTM D 1557) without additional stabilization, with the following stipulations:

1. Subgrade soils must be compacted to at least 98 percent of the modified Proctor test maximum dry density (ASTM D 1557) to a depth of at least 2 feet prior to placement of concrete.
2. The surface of the subgrade soils must be smooth, and any disturbances or wheel rutting corrected prior to placement of concrete.
3. The subgrade soils must be moistened prior to placement of concrete.
4. Concrete pavement thickness should be uniform throughout, with exception to thickened edges (curb or footing).

5.3 UTILITY INSTALLATIONS

Utility Subgrades: The soil borings along the proposed roadways encountered fine sands (SP), fine sand with silt (SP-SM), fine sand with clay (SP-SC), and silty fine sand (SM). It is our opinion that the fine sands and fine sand with silt (SP, SP-SM) soils will generally be suitable for bedding soils for pipelines and utility structures. The silty fine sand (SM) soils may also be adequate if they can be compacted to the required density (typically 98 percent of the soil's Modified Proctor (ASTM D 1557) maximum dry density). If the SM soils cannot be compacted to the required density, then we recommend these soils be overexcavated a minimum of 12 inches below the pipe invert elevation (24 inches below the manhole base elevation) and replaced with compacted engineered fill as described in Section 5.2.1 above.

Alternatively, a medium-duty woven geotextile, such as Mirafi 600X or equivalent, may be used as a separation barrier between the compacted backfill and the silty soils. If a woven geotextile is used, then no overexcavation is necessary for the pipeline, and the depth of overexcavation for the utility manholes may be reduced to 12 inches. The geotextile should be placed in the excavation bottom and along the sides above the silty soils creating a separation between these soils and the sand backfill to preclude contamination of the backfill.

Utility Backfilling: Backfill material should meet the recommendations as described in Section 5.2.1, except backfill placed around the pipe, and to a height of 2 feet above the top of pipe, should be placed in 6-inch lifts. Backfill placed above the 2-foot zone above the top of pipe elevation may be placed in 12-inch lifts and compacted with heavier equipment.

Backfill placed around utility structures should be placed in 6-inch thick lifts, and compacted with hand-held equipment to the same in-place soil density stated above. Heavy equipment should not be used within 5 feet of the structures to prevent overstressing of the structure walls.

Utility Excavation Dewatering: Based on the groundwater depths encountered in our borings, groundwater will likely be encountered by utility excavations which extend below existing grades. It is expected that removal of groundwater will be required, especially for deeper utility excavations. If required by the jurisdiction, the contractor should submit a dewatering plan prior to installing the site utilities.

5.4 GENERAL CONSTRUCTION CONSIDERATIONS

Moisture Conditioning: We anticipate that typical moisture conditioning for soils in this area should be anticipated. The sandy surface soils may require wetting during dry periods or periods of high heat. Drying of soils containing more than 10% fines or excavated from below the water table may be required to be within ±2 percentage points of the modified Proctor optimum moisture content (ASTM D 1557).

Subgrade Protection: Measures should also be taken to limit site disturbance, especially from rubber-tired heavy construction equipment, and to control and remove surface water from development areas, including structural and pavement areas. It would be advisable to designate a haul road and construction staging area to limit the areas of disturbance and to prevent construction traffic from excessively degrading sensitive subgrade soils and existing pavement areas. Haul roads and construction staging areas could be covered with excess depths of aggregate to protect those subgrades. The aggregate can later be removed and can likely be used in pavement areas.

Surface Drainage: Surface drainage conditions should be properly maintained. Surface water should be directed away from the construction area, and the work area should be sloped away from the construction area at a gradient of at least 1 percent or greater to reduce the potential of ponding water and the subsequent saturation of the surface soils. At the end of each work day, the subgrade soils should be sealed by rolling the surface with a smooth drum roller to limit infiltration of surface water.

Excavation Safety: All excavations and slopes should be made and maintained in accordance with OSHA excavation safety standards. The contractor is solely responsible for designing and constructing stable, temporary excavations and slopes and should shore, slope, or bench the sides of the excavations and slopes as required to maintain stability of both the excavation sides and bottom. The contractor's responsible person, as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations. ECS is providing this information solely as a service to our client. ECS is not assuming responsibility for construction site safety or the contractor's activities; such responsibility is not being implied and should not be inferred.

Erosion Control: The surface soils may be erodible. Therefore, the Contractor should provide and maintain good site drainage during earthwork operations to maintain the integrity of the surface soils.

All erosion and sedimentation controls should be in accordance with sound engineering practices and local requirements.

6.0 CLOSING

Our geotechnical exploration has been performed, our findings presented, and our recommendations prepared, in accordance with generally accepted geotechnical engineering principles and practices. ECS is not responsible for any independent conclusions, interpretation, opinions, or recommendations made by others based on the data contained in this report.

Our scope of services was intended to evaluate the soil conditions within the zone of soil influenced by the foundation system. Our scope of services does not address geologic conditions, such as sinkholes or soil conditions existing below the depth of the soil borings.

If any of the project description information discussed in this report is inaccurate, either due to our interpretation of the documents provided or site or design changes that may occur later, ECS should be contacted immediately in order that we can review the report in light of the changes and provide additional or alternate recommendations as may be required to reflect the proposed construction.

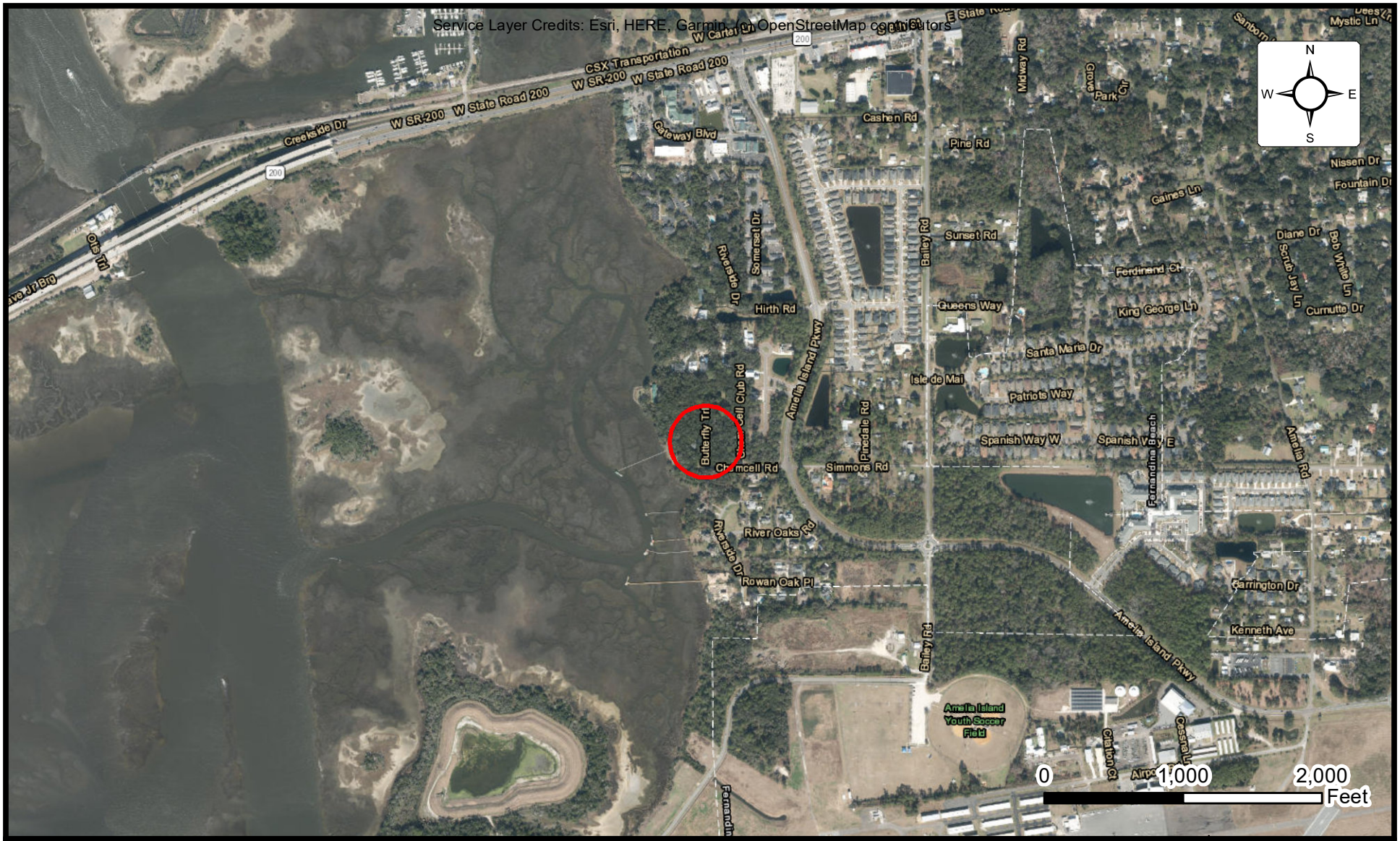
We recommend that ECS be retained to review the project's plans and specifications pertaining to our work so that we may ascertain consistency of those plans/specifications with the intent of the geotechnical report.

Field observations, monitoring, and quality assurance testing during earthwork and foundation installation are an extension of and integral to the geotechnical design recommendation. We recommend that the owner retain these quality assurance services and that ECS be retained to continue our involvement throughout these critical phases of construction to provide general consultation as issues arise.

ECS is not responsible for the conclusions, opinions, or recommendations of others based on the data in this report.

Appendix A - Drawings and Reports

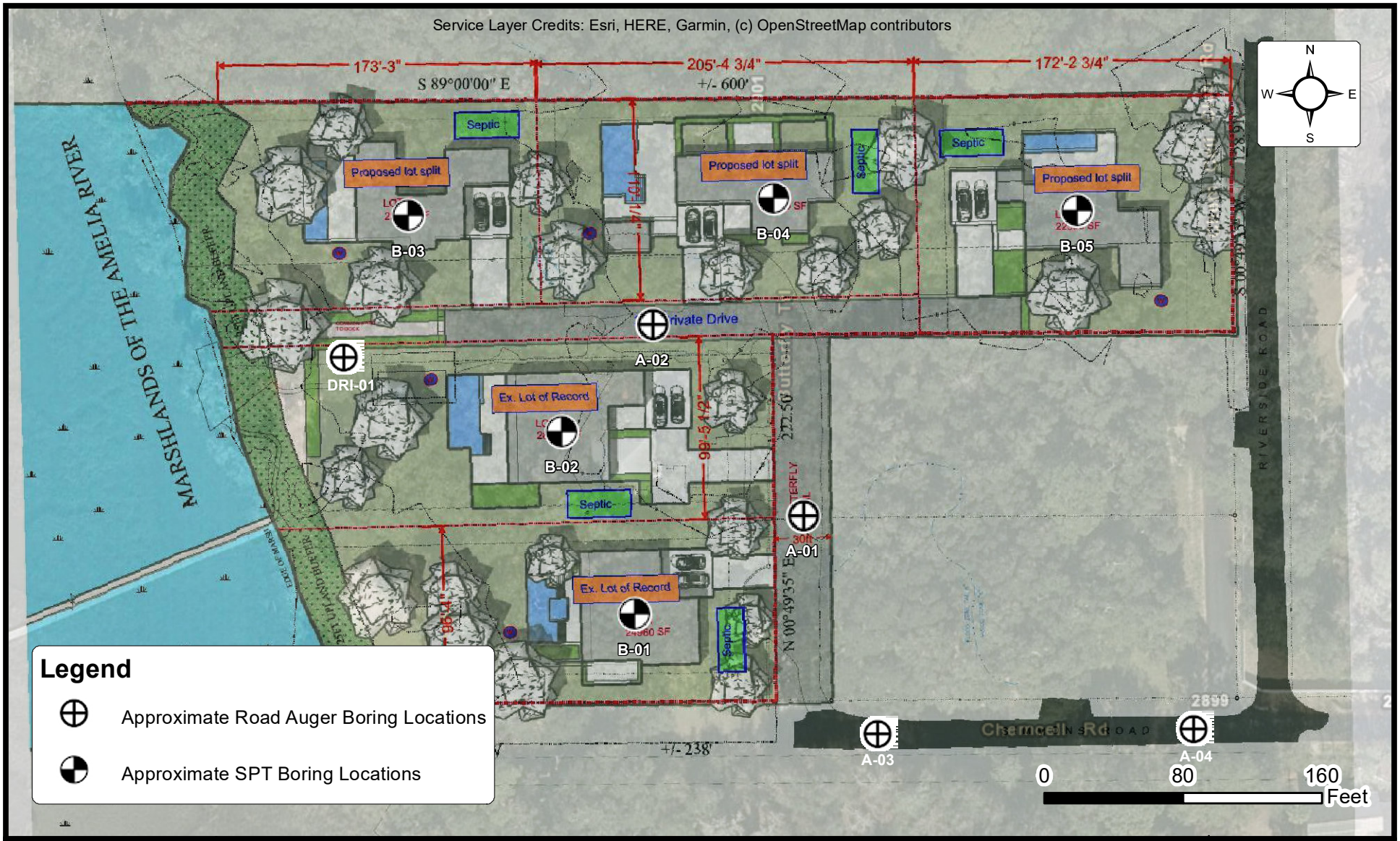
Site Location Diagram
Exploration Location Diagram(s)
Subsurface Cross-Section(s)



SITE LOCATION DIAGRAM
BUTTERFLY TRAIL

SIMMONS ROAD, FERNANDINA BEACH, FLORIDA
MISTRAL ARCHITECTURAL METAL + GLASS INC.

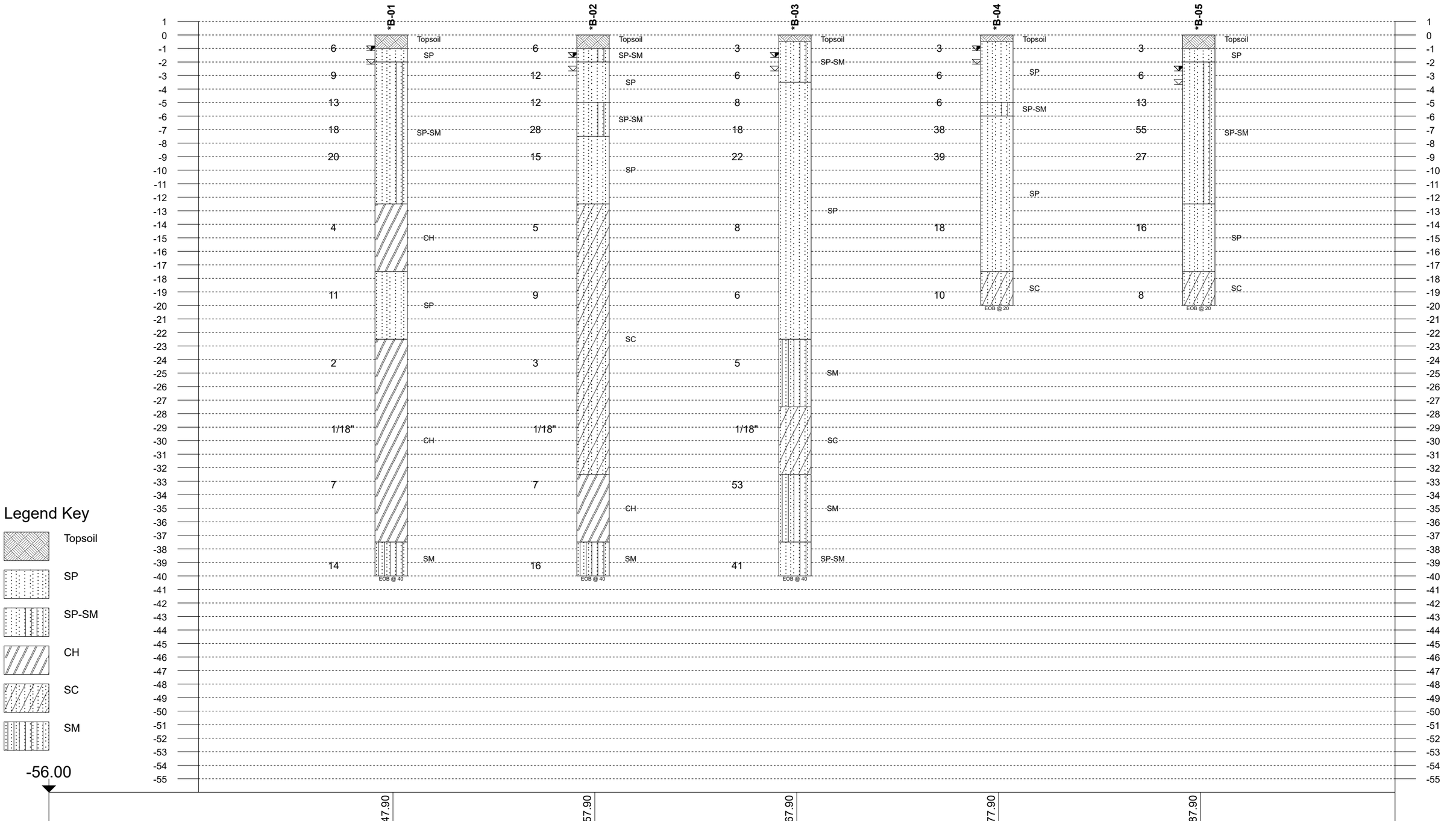
ENGINEER	JP18
SCALE	AS NOTED
PROJECT NO.	35:35446
FIGURE	1
DATE	5/2/2024



BORING LOCATION DIAGRAM
BUTTERFLY TRAIL

SIMMONS ROAD, FERNANDINA BEACH, FLORIDA

ENGINEER	JP18
SCALE	AS NOTED
PROJECT NO.	35:35446
FIGURE	2
DATE	3/22/2024



Notes:

1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).

Plastic Limit Water Content Liquid Limit X——●——△	WL (First Encountered)		Fill
[FINES CONTENT %]	WL (Completion)		Possible Fill
BOTTOM OF CASING	WL (Seasonal High Water)		Probable Fill
LOSS OF CIRCULATION	WL (Stabilized)		Rock

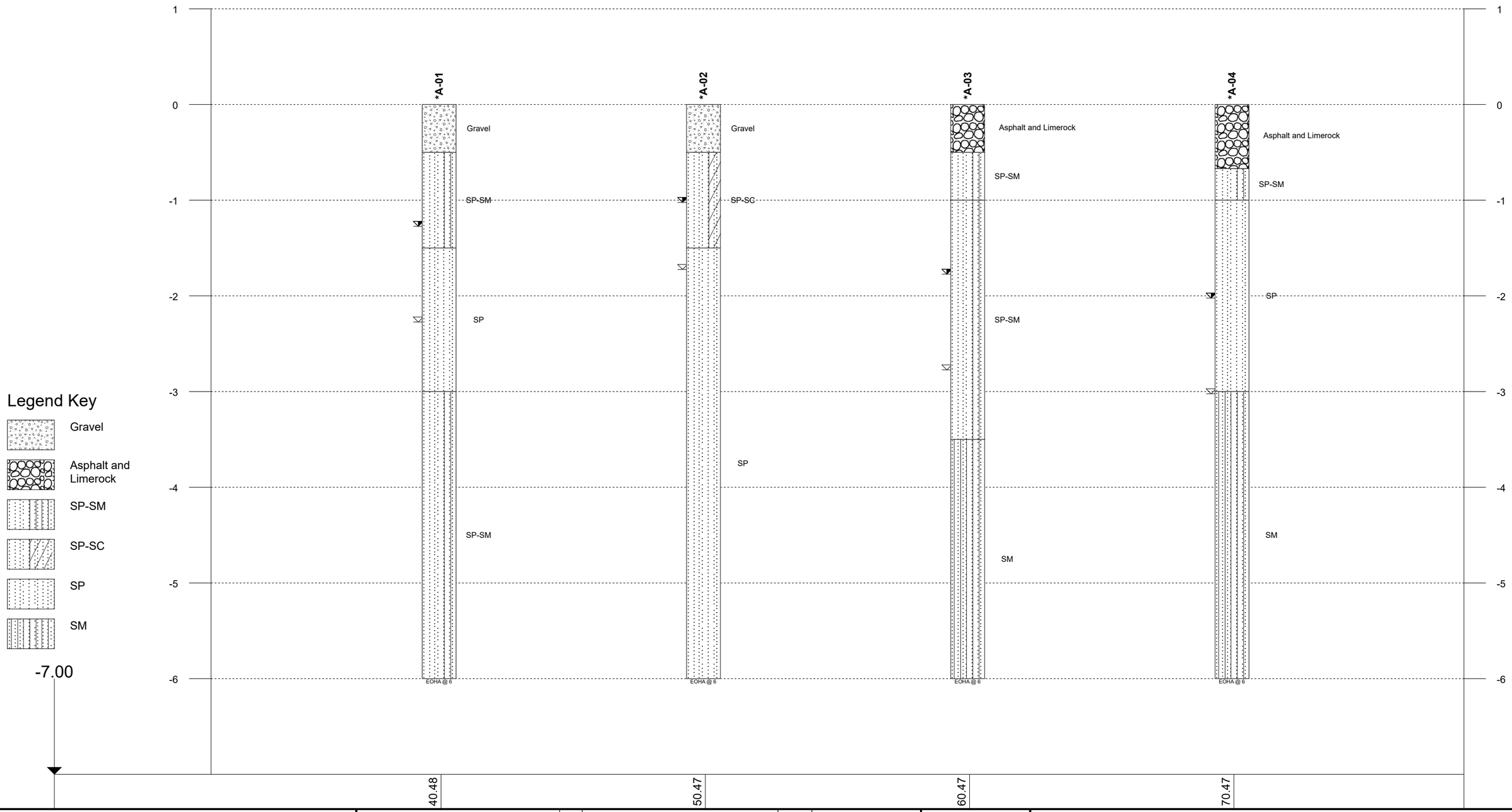
GENERALIZED SUBSURFACE PROFILE Figure 3

Butterfly Trail

Mistral Architectural Metal + Glass Inc.

Simmons Road, Fernandina Beach, Florida, 32034

Project No: 35:35446 Date: 05/02/2024



Notes:

1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).

Plastic Limit Water Content Liquid Limit X——●——△ [FINES CONTENT %]	WL (First Encountered)	Fill	
	WL (Completion)	Possible Fill	
BOTTOM OF CASING	WL (Seasonal High Water)	Probable Fill	
LOSS OF CIRCULATION	WL (Stabilized)	Rock	

GENERALIZED SUBSURFACE PROFILE Figure 4

Butterfly Trail

Mistral Architectural Metal + Glass Inc.

Simmons Road, Fernandina Beach, Florida, 32034

Project No: 35:35446 Date: 05/02/2024

Appendix B – Field Operations

Reference Notes
Exploration Procedures
Boring Logs

REFERENCE NOTES FOR BORING LOGS

MATERIAL[1,2]

		ASPHALT
		CONCRETE
		GRAVEL
		TOPSOIL
		VOID
		BRICK
		AGGREGATE BASE COURSE
	GW	WELL-GRADED GRAVEL gravel-sand mixtures, little or no fines
	GP	POORLY-GRADED GRAVEL gravel-sand mixtures, little or no fines
	GM	SILTY GRAVEL gravel-sand-silt mixtures
	GC	CLAYEY GRAVEL gravel-sand-clay mixtures
	SW	WELL-GRADED SAND gravelly sand, little or no fines
	SP	POORLY-GRADED SAND gravelly sand, little or no fines
	SM	SILTY SAND sand-silt mixtures
	SC	CLAYEY SAND sand-clay mixtures
	ML	SILT non-plastic to medium plasticity
	MH	ELASTIC SILT high plasticity
	CL	LEAN CLAY low to medium plasticity
	CH	FAT CLAY high plasticity
	OL	ORGANIC SILT or CLAY non-plastic to low plasticity
	OH	ORGANIC SILT or CLAY high plasticity
	PT	PEAT highly organic soils

DRILLING SAMPLING SYMBOLS & ABBREVIATIONS

SS	Split Spoon Sampler	PM	Pressuremeter Test
ST	Shelby Tube Sampler	RD	Rock Bit Drilling
WS	Wash Sample	RC	Rock Core, NX, BX, AX
BS	Bulk Sample of Cuttings	REC	Rock Sample Recovery %
PA	Power Auger (no sample)	RQD	Rock Quality Designation %
HSA	Hollow Stem Auger		

PARTICLE SIZE IDENTIFICATION

DESIGNATION		PARTICLE SIZES
Boulders		12 inches (300 mm) or larger
Cobbles		3 inches to 12 inches (75 mm to 300 mm)
Gravel:	Coarse	¾ inch to 3 inches (19 mm to 75 mm)
	Fine	4.75 mm to 19 mm (No. 4 sieve to ¾ inch)
Sand:	Coarse	2.00 mm to 4.75 mm (No. 10 to No. 4 sieve)
	Medium	0.425 mm to 2.00 mm (No. 40 to No. 10 sieve)
	Fine	0.074 mm to 0.425 mm (No. 200 to No. 40 sieve)
Silt & Clay ("Fines")		<0.074 mm (smaller than a No. 200 sieve)

COHESIVE SILTS & CLAYS

UNCONFINED COMPRESSIVE STRENGTH, QP[4]	SPT[5] (BPF)	CONSISTENCY[7] (COHESIVE)
<0.25	<2	Very Soft
0.25 - <0.50	2 - 4	Soft
0.50 - <1.00	5 - 8	Firm
1.00 - <2.00	9 - 15	Stiff
2.00 - <4.00	16 - 30	Very Stiff
4.00 - 8.00	31 - 50	Hard
>8.00	>50	Very Hard

RELATIVE AMOUNT[7]	COARSE GRAINED (%)[8]	FINE GRAINED (%)[8]
Trace	≤5	≤5
With	10 - 20	10 - 25
Adjective *(ex: "Silty")*	25 - 45	30 - 45

GRAVELS, SANDS & NON-COHESIVE SILTS

SPT[5]	DENSITY
<5	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
>50	Very Dense

WATER LEVELS[6]

- WL (First Encountered)
- WL (Completion)
- WL (Seasonal High Water)
- WL (Stabilized)

FILL AND ROCK

FILL | POSSIBLE FILL | PROBABLE FILL | ROCK

[1]Classifications and symbols per ASTM D 2488-17 (Visual-Manual Procedure) unless noted otherwise.

[2]To be consistent with general practice, "POORLY GRADED" has been removed from GP, GP-GM, GP-GC, SP, SP-SM, SP-SC soil types on the boring logs.

[3]Non-ASTM designations are included in soil descriptions and symbols along with ASTM symbol [Ex: (SM-FILL)].

[4]Typically estimated via pocket penetrometer or Torvane shear test and expressed in tons per square foot (tsf).

[5]Standard Penetration Test (SPT) refers to the number of hammer blows (blow count) of a 140 lb. hammer falling 30 inches on a 2 inch OD split spoon sampler required to drive the sampler 12 inches (ASTM D 1586). "N-value" is another term for "blow count" and is expressed in blows per foot (bpf). SPT correlations per 7.4.2 Method B and need to be corrected if using an auto hammer.

[6]The water levels are those levels actually measured in the borehole at the times indicated by the symbol. The measurements are relatively reliable when augering, without adding fluids, in granular soils. In clay and cohesive silts, the determination of water levels may require several days for the water level to stabilize. In such cases, additional methods of measurement are generally employed.

[7]Minor deviation from ASTM D 2488-17 Note 14.

[8]Percentages are estimated to the nearest 5% per ASTM D 2488-17.

© 2021 ECS Corporate Services, LLC. All Rights Reserved

SUBSURFACE EXPLORATION PROCEDURE: STANDARD PENETRATION TESTING (SPT) ASTM D 1586 Split-Barrel Sampling

Standard Penetration Testing, or **SPT**, is the most frequently used subsurface exploration test performed worldwide. This test provides samples for identification purposes, as well as a measure of penetration resistance, or N-value. The N-Value, or blow counts, when corrected and correlated, can approximate engineering properties of soils used for geotechnical design and engineering purposes.

SPT Procedure:

- Involves driving a hollow tube (split-spoon) into the ground by dropping a 140-lb hammer a height of 30-inches at desired depth

- Recording the number of hammer blows required to drive split-spoon a distance of 18-24 inches (in 3 or 4 Increments of 6 inches each)

- Auger is advanced* and an additional SPT is performed

- One SPT typically performed for every two to five feet. An approximate 1.5 inch diameter soil sample is recovered.

**Drilling Methods May Vary*— The predominant drilling methods used for SPT are open hole fluid rotary drilling and hollow-stem auger drilling.

SUBSURFACE EXPLORATION PROCEDURE:
Hand Auger Borings
ASTM D1452

In this procedure, a shallow depth boring is made by manually rotating and advancing an auger to the desired depths while periodically removing the auger from the hole to clear and examine the auger cuttings. The auger cuttings are visually classified in the field in accordance with ASTM D2488. Disturbed samples are collected in each soil stratum and sealed in an airtight container and labeled appropriately.

Hand Auger Procedure:

- Involves manually rotating a tube or barrel type auger to the desired sample depth
- Recording the depth of changes in strata
- Describing soil in each major stratum in accordance with ASTM D2488
- Recording groundwater depth and location of seepage zones, when/if found
- Describing condition of augered hole (i.e. whether the hole remains open or the sides cave)

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Mistral Architectural Metal + Glass Inc.	**35:35446**	**B-01**	**1 of 2**
PROJECT NAME: **Butterfly Trail**	DRILLER/CONTRACTOR: **ECS**		

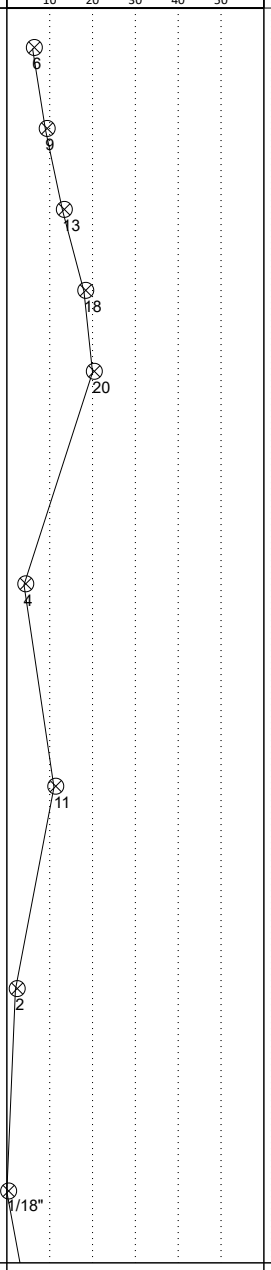
SITE LOCATION: **Simmons Road, Fernandina Beach, Florida, 32034**

LOSS OF CIRCULATION

LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)*
	S-1	SS	24	24	Topsoil Thickness[12.00"]			1-2-4-4 (6)
					(SP) FINE SAND, gray, moist, loose			
	S-2	SS	24	24	(SP-SM) FINE SAND WITH SILT, grayish brown, moist to saturated, loose to medium dense			3-4-5-11 (9)
5	S-3	SS	24	24			-5	5-5-8-6 (13)
	S-4	SS	24	24				6-8-10-10 (18)
	S-5	SS	24	24				6-10-10-13 (20)
10							-10	
	S-6	SS	18	18	(CH) SANDY FAT CLAY, gray, saturated, soft			5-2-2 (4)
15							-15	
	S-7	SS	18	18	(SP) FINE SAND, brown, saturated, medium dense			7-4-7 (11)
20							-20	
	S-8	SS	18	18	(CH) SANDY FAT CLAY, gray, saturated, very soft to firm			3-1-1 (2)
25							-25	
	S-9	SS	18	18				1/18" (1/18")
30							-30	



LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF
1 2 3 4 5
WATER CONTENT %
[FINES CONTENT] %
10 20 30 40 50

CONTINUED ON NEXT PAGE

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **2.00**	BORING STARTED: **Apr 22 2024**		CAVE IN DEPTH:
WL (Completion)	BORING COMPLETED: **Apr 23 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water) **1.00**	EQUIPMENT: **ATV**	LOGGED BY:	DRILLING METHOD: **Mud rotary**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Mistral Architectural Metal + Glass Inc.	**35:35446**	**B-01**	**2 of 2**
PROJECT NAME: **Butterfly Trail**	DRILLER/CONTRACTOR: **ECS**		

SITE LOCATION: **Simmons Road, Fernandina Beach, Florida, 32034**

LOSS OF CIRCULATION

LATITUDE: | LONGITUDE: | STATION: | SURFACE ELEVATION:

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)*
					(CH) SANDY FAT CLAY, gray, saturated, very soft to firm			
	S-10	SS	18	18				2-3-4 (7)
35							-35	
					(SM) SILTY FINE SAND, gray, saturated, medium dense			
	S-11	SS	18	18				3-4-10 (14)
40					**END OF BORING AT 40 FT**		-40	
45							-45	
50							-50	
55							-55	
60							-60	

STANDARD PENETRATION BLOWS/FT: 10 20 30 40 50

ROCK QUALITY DESIGNATION & RECOVERY: 20 40 60 80 100

RQD

REC

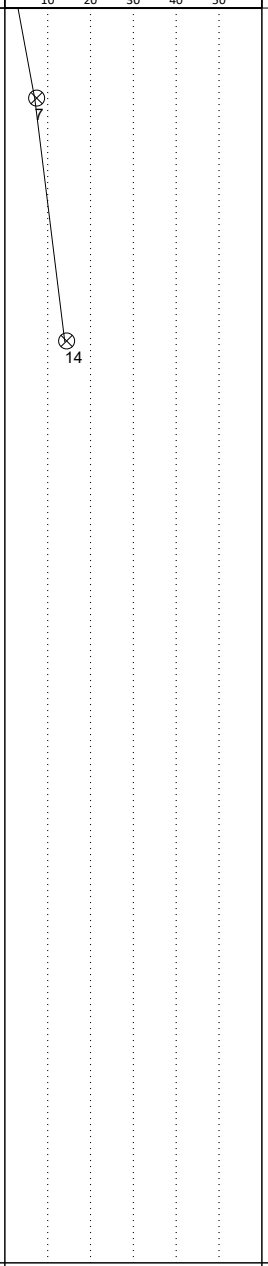
MODIFIED CALIFORNIA SAMPLER BLOWS/FT: 10 20 30 40 50

LIQUID LIMIT

PLASTIC LIMIT

CALIBRATED PENETROMETER TSF: 1 2 3 4 5

WATER CONTENT % [FINES CONTENT] %: 10 20 30 40 50



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **2.00**	BORING STARTED: **Apr 22 2024**		CAVE IN DEPTH:
WL (Completion)	BORING COMPLETED: **Apr 23 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water) **1.00**	EQUIPMENT: **ATV**	LOGGED BY:	DRILLING METHOD: **Mud rotary**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Mistral Architectural Metal + Glass Inc.	**35:35446**	**B-02**	**1 of 2**
PROJECT NAME: **Butterfly Trail**	DRILLER/CONTRACTOR: **ECS**		

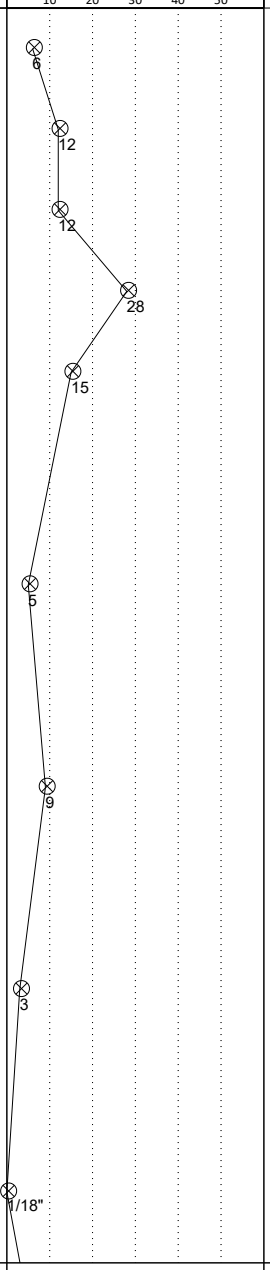
SITE LOCATION: **Simmons Road, Fernandina Beach, Florida, 32034**

LOSS OF CIRCULATION

LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)*
	S-1	SS	24	24	Topsoil Thickness[12.00"]			1-3-3-4 (6)
					(SP-SM) FINE SAND WITH SILT, gray, moist, loose			
	S-2	SS	24	24	(SP) FINE SAND, brown, moist to saturated, medium dense			5-5-7-4 (12)
5	S-3	SS	24	24			-5	3-5-7-9 (12)
					(SP-SM) FINE SAND WITH SILT, dark brown, saturated, medium dense			
	S-4	SS	24	24				8-12-16-20 (28)
					(SP) FINE SAND, brown, saturated, medium dense			
	S-5	SS	24	24				4-4-11-15 (15)
10							-10	
					(SC) CLAYEY TO VERY CLAYEY FINE SAND, gray, saturated, very loose to loose			
	S-6	SS	18	18				4-3-2 (5)
15							-15	
	S-7	SS	18	18				4-3-6 (9)
20							-20	
	S-8	SS	18	18				1-1-2 (3)
25							-25	
	S-9	SS	18	18				1/18" (1/18")
30							-30	



LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF
1 2 3 4 5
WATER CONTENT %
[FINES CONTENT] %
10 20 30 40 50

CONTINUED ON NEXT PAGE

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **2.50**	BORING STARTED: **Apr 22 2024**		CAVE IN DEPTH:
WL (Completion)	BORING COMPLETED: **Apr 22 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water) **1.50**	EQUIPMENT: **ATV**	LOGGED BY:	DRILLING METHOD: **Mud rotary**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Mistral Architectural Metal + Glass Inc.	**35:35446**	**B-02**	**2 of 2**
PROJECT NAME: **Butterfly Trail**	DRILLER/CONTRACTOR: **ECS**		

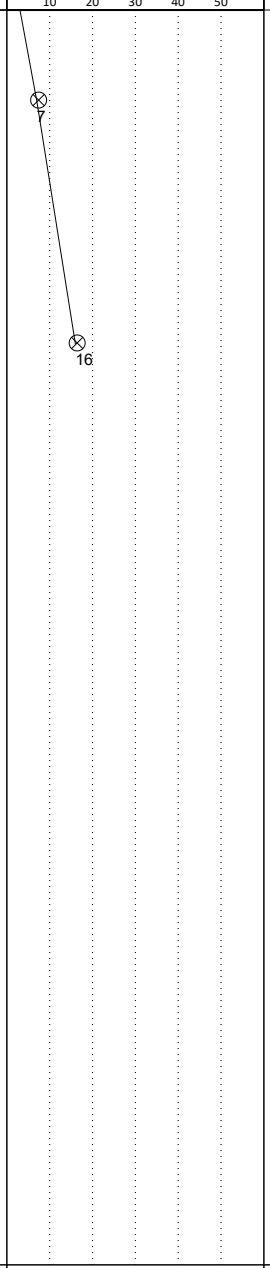
SITE LOCATION: **Simmons Road, Fernandina Beach, Florida, 32034**

LOSS OF CIRCULATION

LATITUDE: | LONGITUDE: | STATION: | SURFACE ELEVATION:

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)*
					(SC) CLAYEY FINE SAND, gray, saturated, very loose to loose, VERY			
	S-10	SS	18	18	(CH) SANDY FAT CLAY, gray, saturated, firm			3-3-4 (7)
35							-35	
					(SM) SILTY FINE SAND, gray, saturated, medium dense, trace of shell			
	S-11	SS	18	18				15-7-9 (16)
40					**END OF BORING AT 40 FT**		-40	
45							-45	
50							-50	
55							-55	
60							-60	



LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF
1 2 3 4 5
WATER CONTENT %
[FINES CONTENT] %
10 20 30 40 50

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **2.50**	BORING STARTED: **Apr 22 2024**		CAVE IN DEPTH:
WL (Completion)	BORING COMPLETED: **Apr 22 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water) **1.50**	EQUIPMENT: **ATV**	LOGGED BY:	DRILLING METHOD: **Mud rotary**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Mistral Architectural Metal + Glass Inc.	**35:35446**	**B-03**	**1 of 2**
PROJECT NAME: **Butterfly Trail**	DRILLER/CONTRACTOR: **ECS**		

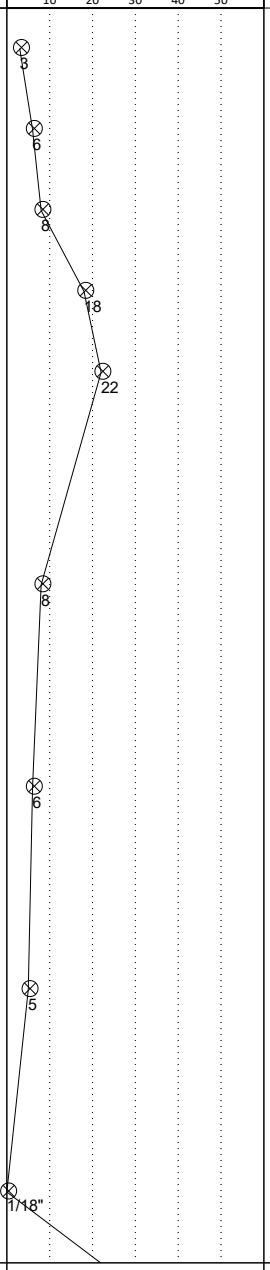
SITE LOCATION: **Simmons Road, Fernandina Beach, Florida, 32034**

LOSS OF CIRCULATION

LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6" (N - Value)*
	S-1	SS	24	24	Topsoil Thickness[6.00"] (SP-SM) FINE SAND WITH SILT, gray, moist, very loose to loose		1-1-2-3 (3)
	S-2	SS	24	24			4-3-3-2 (6)
5	S-3	SS	24	24	(SP) FINE SAND, brown, moist to saturated, loose to medium dense	-5	3-3-5-6 (8)
	S-4	SS	24	24			6-8-10-13 (18)
	S-5	SS	24	24			10-10-12-14 (22)
10						-10	
	S-6	SS	18	18			3-6-2 (8)
15						-15	
	S-7	SS	18	18			5-3-3 (6)
20						-20	
					(SM) SILTY FINE SAND, gray, saturated, loose		
	S-8	SS	18	18			2-3-2 (5)
25						-25	
					(SC) CLAYEY FINE SAND, gray, saturated, very loose		
	S-9	SS	18	18			1/18" (1/18")
30						-30	



LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF
1 2 3 4 5
WATER CONTENT %
[FINES CONTENT] %
10 20 30 40 50

CONTINUED ON NEXT PAGE

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **2.50**	BORING STARTED: **Apr 22 2024**		CAVE IN DEPTH:
WL (Completion)	BORING COMPLETED: **Apr 22 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water) **1.50**	EQUIPMENT: **ATV**	LOGGED BY:	DRILLING METHOD: **Mud rotary**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Mistral Architectural Metal + Glass Inc.	**35:35446**	**B-03**	**2 of 2**
PROJECT NAME: **Butterfly Trail**	DRILLER/CONTRACTOR: **ECS**		

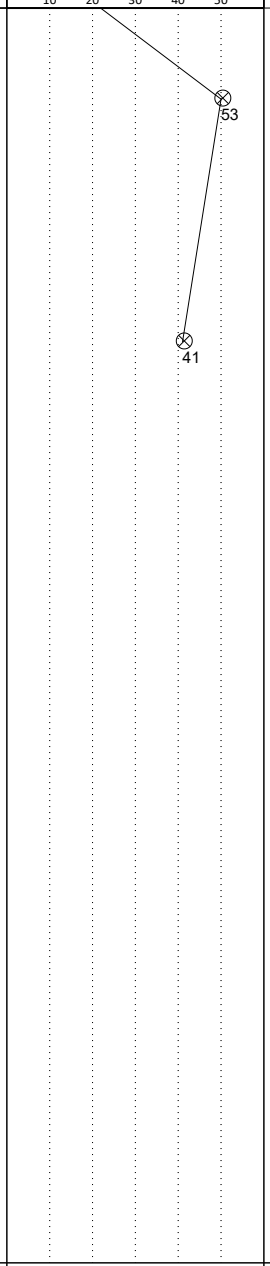
SITE LOCATION: **Simmons Road, Fernandina Beach, Florida, 32034**

LOSS OF CIRCULATION

LATITUDE: | LONGITUDE: | STATION: | SURFACE ELEVATION:

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)*
					(SC) CLAYEY FINE SAND, gray, saturated, very loose			
	S-10	SS	18	18	(SM) SILTY FINE SAND, gray, saturated, very dense			8-21-32 (53)
35							-35	
					(SP-SM) FINE SAND WITH SILT, gray, saturated, dense			
	S-11	SS	18	18				17-25-16 (41)
40					**END OF BORING AT 40 FT**		-40	
45							-45	
50							-50	
55							-55	
60							-60	



LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF
1 2 3 4 5
WATER CONTENT %
[FINES CONTENT] %
10 20 30 40 50

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **2.50**	BORING STARTED: **Apr 22 2024**		CAVE IN DEPTH:
WL (Completion)	BORING COMPLETED: **Apr 22 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water) **1.50**	EQUIPMENT: **ATV**	LOGGED BY:	DRILLING METHOD: **Mud rotary**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Mistral Architectural Metal + Glass Inc.	**35:35446**	**B-04**	**1 of 1**
PROJECT NAME: **Butterfly Trail**	DRILLER/CONTRACTOR: **ECS**		

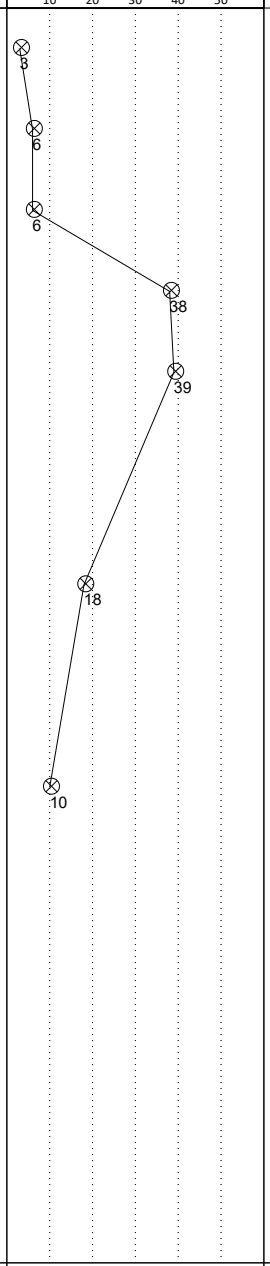
SITE LOCATION: **Simmons Road, Fernandina Beach, Florida, 32034**

LOSS OF CIRCULATION

LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)*
	S-1	SS	24	24	Topsoil Thickness[6.00"] (SP) FINE SAND, brown, moist to saturated, very loose to loose			1-1-2-2 (3)
	S-2	SS	24	24				1-3-3-3 (6)
5	S-3	SS	24	24	(SP-SM) FINE SAND WITH SILT, dark brown, saturated, loose		-5	2-2-4-4 (6)
	S-4	SS	24	24	(SP) FINE SAND, dark brown, saturated, dense to medium dense			5-15-23-30 (38)
	S-5	SS	24	24				10-10-29-40 (39)
10							-10	
	S-6	SS	18	18				6-8-10 (18)
15							-15	
	S-7	SS	18	18	(SC) CLAYEY FINE SAND, grayish brown, saturated, loose			7-6-4 (10)
20					**END OF BORING AT 20 FT**		-20	
25							-25	
30							-30	



LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF
1 2 3 4 5
WATER CONTENT %
[FINES CONTENT] %
10 20 30 40 50

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **2.00**	BORING STARTED: **Apr 22 2024**		CAVE IN DEPTH:
WL (Completion)	BORING COMPLETED: **Apr 22 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water) **1.00**	EQUIPMENT: **ATV**	LOGGED BY:	DRILLING METHOD: **Mud rotary**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Mistral Architectural Metal + Glass Inc.	**35:35446**	**B-05**	**1 of 1**
PROJECT NAME: **Butterfly Trail**	DRILLER/CONTRACTOR: **ECS**		

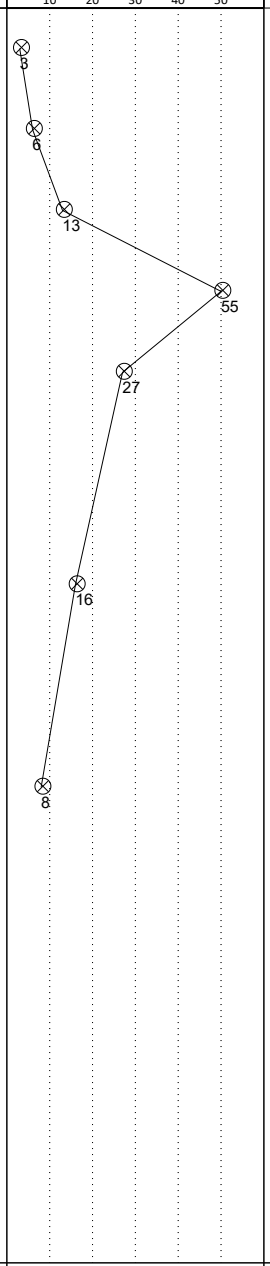
SITE LOCATION: **Simmons Road, Fernandina Beach, Florida, 32034**

LOSS OF CIRCULATION

LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)*
	S-1	SS	24	24	Topsoil Thickness[12.00"]			1-1-2-2 (3)
					(SP) FINE SAND, gray, moist, very loose			
	S-2	SS	24	24	(SP-SM) FINE SAND WITH SILT, brown, moist to saturated, loose to very dense			2-3-3-4 (6)
5	S-3	SS	24	24			-5	2-6-7-13 (13)
	S-4	SS	24	24				16-22-33-34 (55)
	S-5	SS	24	24				10-10-17-25 (27)
10							-10	
					(SP) FINE SAND, brown, saturated, medium dense			
	S-6	SS	18	18				6-7-9 (16)
15							-15	
					(SC) CLAYEY FINE SAND, gray, saturated, loose			
	S-7	SS	18	18				1-4-4 (8)
20					**END OF BORING AT 20 FT**		-20	
25							-25	
30							-30	



LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF
1 2 3 4 5
WATER CONTENT %
[FINES CONTENT] %
10 20 30 40 50

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **3.50**	BORING STARTED: **Apr 23 2024**		CAVE IN DEPTH:
WL (Completion)	BORING COMPLETED: **Apr 23 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water) **2.50**	EQUIPMENT: **ATV**	LOGGED BY:	DRILLING METHOD: **Mud rotary**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	SHEET:
Mistral Architectural Metal + Glass Inc.	**35:35446**	**1 of 1**
PROJECT NAME:	HAND AUGER NO.:	SURFACE ELEVATION:
Butterfly Trail	**A-01**	
SITE LOCATION:		STATION:
Simmons Road, Fernandina Beach, Florida, 32034		
LATITUDE:	LONGITUDE:	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	SAMPLE NUMBER	FINES CONTENT (%)	MOISTURE CONTENT (%)
			Gravel Thickness[6.00"]					
			(SP-SM) FINE SAND WITH SILT, dark gray, moist, some shell fragments			S-1		
			(SP) FINE SAND, gray, moist to saturated			S-2		
			(SP-SM) FINE SAND WITH SILT, dark brown, saturated			S-3		
5		-5						
			END OF HAND AUGER AT 6 FT					
10		-10						
15								

REMARKS:

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

WL (First Encountered) **2.25**	WL (Seasonal High) **1.25**	ECS REP:	DATE COMPLETED:	UNITS:	CAVE-IN-DEPTH:
WL (Completion)			**Apr 23 2024**	**English**	

HAND AUGER LOG

CLIENT:	PROJECT NO.:	SHEET:
Mistral Architectural Metal + Glass Inc.	**35:35446**	**1 of 1**
PROJECT NAME:	HAND AUGER NO.:	SURFACE ELEVATION:
Butterfly Trail	**A-02**	
SITE LOCATION:		STATION:
Simmons Road, Fernandina Beach, Florida, 32034		
LATITUDE:	LONGITUDE:	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	SAMPLE NUMBER	FINES CONTENT (%)	MOISTURE CONTENT (%)
			Gravel Thickness[6.00"]					
			(SP-SC) FINE SAND WITH CLAY, dark gray, moist, trace gravel			S-1		
			(SP) FINE SAND, grayish brown, moist to saturated			S-2		
5		-5				S-3		
			END OF HAND AUGER AT 6 FT					
10		-10						
15								

REMARKS:

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

WL (First Encountered) **1.70**	WL (Seasonal High) **1.00**	ECS REP:	DATE COMPLETED:	UNITS:	CAVE-IN-DEPTH:
WL (Completion)			**Apr 23 2024**	**English**	

HAND AUGER LOG

CLIENT:	PROJECT NO.:	SHEET:
Mistral Architectural Metal + Glass Inc.	**35:35446**	**1 of 1**
PROJECT NAME:	HAND AUGER NO.:	SURFACE ELEVATION:
Butterfly Trail	**A-03**	
SITE LOCATION:		STATION:
Simmons Road, Fernandina Beach, Florida, 32034		
LATITUDE:	LONGITUDE:	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	SAMPLE NUMBER	FINES CONTENT (%)	MOISTURE CONTENT (%)
			1/2" ASPHALT WITH 6" LIMEROCK BASE					
			(SP-SM) FINE SAND WITH SILT, gray, moist, trace limerock					
			(SP-SM) FINE SAND WITH SILT, dark brown, moist to saturated			S-1		
						S-2		
			(SM) SILTY FINE SAND, dark brown, saturated					
5		-5				S-3		
			END OF HAND AUGER AT 6 FT					
10		-10						
15								

REMARKS:

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

WL (First Encountered) **2.75**	WL (Seasonal High) **1.75**	ECS REP:	DATE COMPLETED:	UNITS:	CAVE-IN-DEPTH:
WL (Completion)			**Apr 23 2024**	**English**	

HAND AUGER LOG

CLIENT:	PROJECT NO.:	SHEET:
Mistral Architectural Metal + Glass Inc.	**35:35446**	**1 of 1**
PROJECT NAME:	HAND AUGER NO.:	SURFACE ELEVATION:
Butterfly Trail	**A-04**	
SITE LOCATION:		STATION:
Simmons Road, Fernandina Beach, Florida, 32034		
LATITUDE:	LONGITUDE:	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	SAMPLE NUMBER	FINES CONTENT (%)	MOISTURE CONTENT (%)
			1/2" ASPHALT WITH 8" LIMEROCK BASE					
			(SP-SM) FINE SAND WITH SILT, gray, moist, trace limerock			S-1		
			(SP) FINE SAND, gray, moist to saturated					
	▼					S-2		
	▽		(SM) SILTY FINE SAND, dark brown, saturated					
5		-5				S-3		
			END OF HAND AUGER AT 6 FT					
10		-10						
15								

REMARKS:

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

▽ WL (First Encountered) **3.00**	▼ WL (Seasonal High) **2.00**	ECS REP:	DATE COMPLETED:	UNITS:	CAVE-IN-DEPTH:
▼ WL (Completion)			**Apr 23 2024**	**English**	

HAND AUGER LOG