South Florida Water Management Report

For

Puffin Road Commercial

Osceola County, Florida
August 2025

Prepared by:
Hanson, Walter & Associates, Inc.
104 Broadway, Suite 104
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FL Registration No. 73104
Date:

*Elevations in this report are based on NAVD' 88 Datum

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Puffin Road Commercial

Osceola County, Florida

Section 1

South Florida Water Management
Environmental Resource Permit Application

SECTION A

Prepared by:
Hanson, Walter & Associates, Inc.
104 Broadway, Suite 104
Kissimmee, FL 34741
(407) 847-9433

Application for
Individual and Conceptual Approval
Environmental Resource Permit,
State 404 Program Permit,
and Authorization to Use State-Owned
Submerged Lands

Florida Department of Environmental Protection/

Water Management Districts

Effective 12/22/2020

Instructions for Use of This Form:

This form is designed to assist you in submitting a complete application. All applications must include Section A-General Information for All Activities. Sections B through H list typical information that is needed based on the proposed activities and are only required as applicable. Part 1-C of Section A will guide you to the correct sections needed based on your proposed activities. Applicants are advised to consult Chapter 62-330, F.A.C., and the Environmental Resource Permit Applicant's Handbook Volumes I and II for information regarding the ERP permitting process and requirements while preparing their application. Internet addresses for Chapter 62-330, F.A.C., and the Applicant's Handbook, Agency contact information, and additional instructions for this form can be found in Attachment 1.

What Sections of the Application Must I Fill Out?

Type of Activity	Section A	Section B	Section C	Section D	Section E	Section F	Section G	Section H	Section I
Fill in wetlands or waters for a single family residence?	Y	Y	N	N	N	N	N	N	Y, if in assumed waters
Docks, shoreline stabilization, seawalls associated with a single family residence?	Y	Y	N	N	N	Y, as needed	N	N	Y, if in assumed waters
Wetland impacts (other than association with an individual residence)?	Y	N	Y	N	N	N	N	N	Y, if in assumed waters
Boating facilities, a marina, jetty, reef, or dredging?	Y	N	Y	Y	N	Y, as needed	N	N	Y, if in assumed waters
Any work on state owned submerged land?	Y	N	Y	N	N	Y	N	N	Y, if in assumed waters
Construction of a stormwater management system?	Y	N	Y, as needed	N	Y	N	N	N	N
Constructing a mitigation bank?	Y	N	Y	N	Y, as needed	N	Y	N	Y, if in assumed waters
Creating a mine?	Y	N	Y, as needed	N	N	N	N	Y	Y, if in assumed waters

If you have any questions, or would like assistance completing this form, please contact the staff of the nearest office of either the Florida Department of Environmental Protection (DEP) or a Water Management District (WMD) (see Attachment 2).

Section A:
General Information for All Activities

Part 1: Name, Application Type, Location, and Description of Activity

A. Name of project, including phase if applicable: **Puffin Road Commercial**

B. This is for (check all that apply):

☐ Construction and operation of **new** works, activities, and/ or a stormwater management system

☐ **Conceptual Approval** of proposed works, activities and/ or a stormwater management system

☒ Modification or alteration of **existing** works, activities, and/or a stormwater management system. Provide the existing DEP or WMD permit #, if known: **49-108320-P** Note: Minor modifications do not require completion of this form, and may instead be requested by letter in accordance with section 6.2 of Applicant's Handbook Volume I.

☐ **Maintenance or repair** of works, activities, and/ or a stormwater management system previously permitted by the DEP or WMD. Provide existing permit #, if known:

☐ Abandonment or removal of works, activities, and/ or a stormwater management system.

Provide existing DEP or WMD permit #, if known:

☐ Operation of an **existing unpermitted** work, activity, and/or stormwater management system.

☐ Construction of additional phases of a permitted work, activity, or system.

Provide the existing DEP or WMD permit #, if known:

☐ A State 404 Program authorization:

☐ Exemption ☐ General Permit ☐ Individual Permit

If requesting an Exemption or General Permit provide Rule #, if known:

☐ **By checking this box**, I hereby voluntarily waive, in accordance with Rule 62-330.090(8), F.A.C., the agency action deadlines in section 5.5.3 of Volume I in the event my project also requires a State 404 Program authorization (other than an exemption) under Chapter 62-331, F.A.C., and request that the agency actions for the ERP and State 404 Program authorizations be issued at the same time. (This is strongly recommended to ensure consistency, and to reduce the potential need for project modifications to resolve inconsistencies that may occur when the agency actions are issued at different times.) If this box is checked and the Agency(ies) determines that no State 404 Program authorization is required, the Agency will continue to abide by section 5.5.3 of Volume I.

C. **List the type of activities proposed. Check all that apply**, **and provide the supplemental information requested in each of the referenced application sections.** Please also reference Applicant's Handbook Volumes I and II for the type of information that may be needed.

☐ Activities associated with one single-family residence, duplex, triplex, or quadruplex that do not qualify for an exemption or a General Permit: **Provide the information requested in Section B. Do not complete Section C.**

☐ Activities within wetlands or surface waters, or within 25 feet of a wetland or surface water, (not including the activities associated with an individual single-family residence). Examples include dredging, filling, outfall structures, docks, piers, over-water structures, shoreline stabilization, mitigation, reclamation, and restoration/enhancement. **Provide the information requested in Section C.**

☐ Activities within navigable or flowing surface waters such as a multi-slip dock or marina, dry storage facility, dredging, bridge, breakwaters, reefs, or other offshore structures: **In addition to Section C, also provide the information requested in Section D.**

☐ Activities that are (or may be) located within, on, or over state-owned submerged lands (See Chapter 18-21, F.A.C. https://www.flrules.org/gateway/ChapterHome.asp?Chapter=18-21): **In addition to Section B or C, also provide the information requested in Section F.**

☒ Construction or alteration of a stormwater management system serving residential, commercial, transportation, industrial, agricultural, or other land uses, or a solid waste facility (excluding mines that are regulated by DEP). **Provide the information requested in Section E.**

☐ Creation or modification of a Mitigation Bank (refer to Chapter 62-342, F.A.C. https://www.flrules.org/gateway/ChapterHome.asp?Chapter=62-342): **Provide the information requested in Section G.**

☐ Mines (as defined in Section 2.0 of Applicant's Handbook Volume I) that are regulated by the DEP: **Provide the information requested in Section H.**

☐ Other, describe: Please contact the Agency to determine which additional sections of the application are needed. See Attachment 2 for Agency contacts.

D. Describe in general terms the proposed project, system, works, or other activities. For permit modifications, please briefly describe the changes requested to the permit: **The proposed project will be a commercial retails instead of multi family residential.**

E. Project/Activity Street/Road Address or other location (if applicable): **E IRLO BRONSON MEM HWY**
City: **Saint Cloud** County(ies): **Osceola** Zip: **34771**

Note: For utility, road, or ditch/canal activities, provide a starting and ending point using street names and nearest house numbers or provide length of project in miles along named streets or highways.

F. Project location map and Section, Township, and Range information (use additional sheets if needed):

Please attach a location map showing the location and boundaries of the proposed activity in relation to major intersections or other landmarks. The map should also contain a north arrow and a graphic scale; show Section(s), Township(s), and Range(s); and must be of sufficient detail to allow a person unfamiliar with the site to find it.
Section(s): **05** Township: **26S** Range: **31E** Land Grant name, if applicable:
Section(s): Township: Range:

1. Section(s): Township: Range:

G. Latitude (DMS) **28**° **14**' **53.66**" **N** Longitude (DMS) **81**° **14**' **17.00**" **W** (Taken from central location of the activity). Explain source for obtaining latitude and longitude (i.e. U.S.G.S. Quadrangle Map, GPS, online resource): **Google Earth**

H. Tax Parcel Identification Number(s):

05-26-31-0105-0001-0010
05-26-31-0105-0001-0020

[Number may be obtained from property tax bill or from the county property appraiser's office; if on multiple parcels, provide multiple Tax Parcel Identification Numbers]

I. Directions to Site (from major roads; include distances and landmarks as applicable): **North-West of E IRLO BRONSON MEM HWY and Puffin Road intersection**.

J. Project area or phase area: **39.94** acres

K. Name of waterbody(ies) (if known) in which activities will occur or into which the system will discharge:

The following questions (M-O) are not applicable to activities related to an individual single-family residence, including a dock, pier, and/or seawall associated with that residence.

L. Is it part of a larger plan of development or sale? ☐ yes ☒ no

M. Impervious or semi-impervious area excluding wetlands and other surface waters (if applicable):

31.95 acres or **1,391,829** square feet

N. Volume of water the system is capable of impounding (if applicable):

Normal Pool: acre-feet. Depth ft.
Maximum Pool: acre-feet. Depth ft.

Part 2: Supplemental Information, and Permit History

A. Is this an application to modify an existing Environmental Resource Permit or to construct or implement part of a multi-phase project, such as a project with a Conceptual Approval permit? ☒ Yes ☐ No (If you answered "yes", please provide permit numbers below*):*

Agency	Date	Permit/Application No.	Project Name
SFWMD	**06/12/2023**	**49-108320-P / 220917-35991**	**Hathaway Development Multi-Family St Cloud**

B. Indicate if there have been any **pre-application meeting(s)** with the DEP, WMD, or delegated local government, or other discussions, meetings, or coordination with other stakeholders or agencies about the proposed project, system or activity. If so, please provide the date(s), location(s) of the meeting, and the name(s) of Agency staff that attended the meeting(s):

Agency	Date	Location	Meeting Attendees

C. **Attach a depiction (plan and section views), which clearly shows the works or other activities proposed to be constructed.** Use multiple sheets, if necessary, a scale sufficient to show the location and type of works, and include a north arrow and a key to any symbols used. **Specific information to be included in the plans is based on the activities proposed and is further described in Sections B-H**. However, supplemental information may be required based on the specific circumstances or location of the proposed works or other activies.

D. Processing Fee: **Please submit the application processing fee along with this application form and supplemental information.** Processing fees vary based on the size of the activity, the type of permit applied for, and the reviewing Agency. Please reference Appendix D of Applicant's Handbook Volume I to determine the appropriate fee.

Part 3: Applicant and Associated Parties Information

Instructions: Please complete the following sections. For corporations, list a person who is a registered agent or officer of the corporation who has the legal authority to bind the corporation.

A. Applicant (Entity Must Have Sufficient Real Property Interest)
☒ **This is a Contact Person for Additional Information**

Last Name: **Whitley** First Name: **Nim** Middle Initial:
Title: Company: **Southeast Investments, Inc (FERBER)**
Address: **100 SECOND AVENUE SOUTH, STE 201-N**
City: **ST. PETERSBURG** State: **FL** Zip: **33701**
Home Telephone: Work Telephone: **727-490-1779**
Cell Phone: E-mail Address: **nwhitley@ferbercompany.com**

Correspondence will be sent via email, unless you check here to receive it via US Mail: ☐

B. Land Owner(S) (If Different or in Addition to Applicant)
☐ **Check here if land owner is also a co-applicant**

Last Name: **Sheive** First Name: **Jolene** Middle Initial: **D**
Title: Company: **SLS INVESTMENTS OF CENTRAL FLORIDA LLLP**
Address: **2725 13TH STREET**
City: **ST. CLOUD** State: **FL** Zip: **34769**
Home Telephone: Work Telephone:
Cell Phone: E-mail Address:

Correspondence will be sent via email, unless you check here to receive it via US Mail: ☐

Last Name: **Gunter** First Name: **Thomas** Middle Initial:
Title: **AP** Company: **DD RETAIL ST CLOUD LLC**
Address: **3300 NE EXPRESSWAY BLDG 6**
City: **ATLANTA** State: **GA** Zip: **30341**
Home Telephone: Work Telephone:
Cell Phone: E-mail Address:

Correspondence will be sent via email, unless you check here to receive it via US Mail: ☐

C. Operation and Maintenance Entity(see Applicant's Handbook I, Section 12.3)

Last Name: **Ferber** First Name: **Paul** Middle Initial: **S**
Title: **Manager** Company: **2026 Puffin St Cloud LLC**
Address: **151 SAWGRASS CORNERS DRIVE SUITE 202**
City: **PONTE VEDRA BEACH** State: **FL** Zip: **32082**
Home Telephone: Work Telephone:
Cell Phone: E-mail Address:

Correspondence will be sent via email, unless you check here to receive it via US Mail: ☐

D. Co-Applicant (If Different or In Addition to Applicant and Owner)

Last Name: First Name: Middle Initial:
Title: Company:
Address:
City: State: Zip:
Home Telephone: Work Telephone:
Cell Phone:
E-mail Address:

Correspondence will be sent via email, unless you check here to receive it via US Mail: ☐

E. Registered Professional Consultant
☒**This is a contact person for additional information**

Last Name: **Newberry** First Name: **Robert** Middle Initial:
Title: **Project Engineer** Company: **Hanson, Walter & Associates**
Address: **8 Broadway Suite 104**
City: **Kissimmee** State: **FL** Zip: **34741**
Home Telephone: **N/A** Work Telephone: **407-847-9433**
Cell Phone: **N/A**
E-mail Address: **rnewberry@hansonwalter.com**

Correspondence will be sent via email, unless you check here to receive it via US Mail: ☐

F. Environmental Consultant
☐**This is a contact person for additional information**

Last Name: First Name: Middle Initial:
Title: Company:
Address:
City: State: Zip:
Home Telephone: Work Telephone:
Cell Phone:
E-mail Address:

Correspondence will be sent via email, unless you check here to receive it via US Mail: ☐

G. Agent Authorized to Secure Permit (If Different from Consultant)

Last Name: First Name: Middle Initial:
Title: Company:
Address:
City: State: Zip:
Home Telephone: Work Telephone:
Cell Phone:
E-mail Address:

Correspondence will be sent via email, unless you check here to receive it via US Mail: ☐

If necessary, please add additional pages for other contacts and property owners related to this project.

H. Real Property Interest

a. Permits are only issued to entities having sufficient real property interest as described in Section 4.2.3(d) of Applicant's Handbook Volume I**. Please attach evidence of the applicant's real property interest over the land upon which the activities subject to the application will be conducted, including mitigation areas (if applicable).** Refer to Sections 4.2.3(d)-(e) for sufficient real property interest documentation.

b. For activities that require a recorded notice in accordance with rule 62-330.090(7), F.A.C., please provide either the complete legal description of the property or a copy of the pages of the document recorded in the public records that contains the complete legal description. If the land upon which the proposed activities are to occur is not owned by the applicant, the applicant must also provide copies of any right-of-way, leases, easements, or other legal agreement which authorizes the applicant to perform the activities on those lands.

Part 4: Signatures and Authorization to Access Property

Instructions: For multiple applicants please provide a separate Part 4 for each applicant. For corporations, the application must be signed by a person authorized to bind the corporation. A person who has sufficient real property interest (see Section 4.2.3(d) of Applicant's Handbook Volume I) is required in (B) to authorize access to the property, except when the applicant has the power of eminent domain.

A. By signing this application form, I am applying for the permit and any proprietary authorizations identified above, according to the supporting data and other incidental information filed with this application. I am familiar with the information contained in this application and represent that such information is true, complete and accurate. I understand this is an application and not a permit, and that work prior to approval is a violation. I understand that this application and any permit issued or proprietary authorization issued pursuant thereto does not relieve me of any obligation for obtaining any other required federal, state, water management district, or local permit prior to commencement of construction. I agree to operate and maintain the permitted system unless the permitting agency authorizes transfer of the permit to a different responsible operation and maintenance entity. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

Jolene Sheive
Typed/Printed Name of Applicant or Applicant's Authorized Agent

_____
Signature of Applicant or Applicant's Authorized Agent

Date

SLS INVESTMENTS OF CENTRAL FLORIDA LLLP
(Corporate Title if applicable)

B. Certification of Sufficient Real Property Interest And Authorization For Staff To Access The Property:

I certify that:

☒ **I possess sufficient real property interest in or control, as defined in Section 4.2.3 (d) of Applicant's Handbook Volume I,** over the land upon which the activities described in this application are proposed and I have legal authority to grant permission to access those lands. I hereby grant permission, evidenced by my signature below, for staff of the Agency to access, inspect, and sample the lands and waters of the property as necessary for the review of the proposed works and other activities specified in this application, upon advance notice. I authorize these agents or personnel to enter the property as many times as may be necessary to make such review, inspection, and/ or sampling. Further, if a permit is granted, upon advance notice, I agree to provide entry to the project site for such agents or personnel with proper identification to determine compliance with permit conditions and permitted plans and specifications.

OR

☐ I represent an entity having **the power of eminent domain and condemnation authority**, and I/we shall make appropriate arrangements to enable staff of the Agency to legally access, inspect, and sample the property as described above.

Jolene Sheive
Typed/Printed Name

_____
Signature

Date

SLS INVESTMENTS OF CENTRAL FLORIDA LLLP
(Corporate Title if applicable)

C. Designation of Authorized Agent (If Applicable):

I hereby designate and authorize **Hanson, Walter & Associates** to act on my behalf, or on behalf of my corporation, as the agent in the processing of this application for the permit and/or proprietary authorization indicated above and to furnish, on request, supplemental information in support of the application. In addition, I authorize the above-listed agent to bind me, or my corporation, to perform any requirements which may be necessary to procure the permit or authorization indicated above. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S., and 18 U.S.C. Section 1001.

Jolene Sheive _____

Typed/Printed Name of Applicant Signature of Applicant Date

SLS INVESTMENTS OF CENTRAL FLORIDA LLLP

(Corporate Title if applicable)

Part 4: Signatures and Authorization to Access Property

Instructions: For multiple applicants please provide a separate Part 4 for each applicant. For corporations, the application must be signed by a person authorized to bind the corporation. A person who has sufficient real property interest (see Section 4.2.3(d) of Applicant's Handbook Volume I) is required in (B) to authorize access to the property, except when the applicant has the power of eminent domain.

D. By signing this application form, I am applying for the permit and any proprietary authorizations identified above, according to the supporting data and other incidental information filed with this application. I am familiar with the information contained in this application and represent that such information is true, complete and accurate. I understand this is an application and not a permit, and that work prior to approval is a violation. I understand that this application and any permit issued or proprietary authorization issued pursuant thereto does not relieve me of any obligation for obtaining any other required federal, state, water management district, or local permit prior to commencement of construction. I agree to operate and maintain the permitted system unless the permitting agency authorizes transfer of the permit to a different responsible operation and maintenance entity. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

Thomas Gunter
Typed/Printed Name of Applicant or Applicant's Authorized Agent

Signature of Applicant or Applicant's Authorized Agent

8/22/25
Date

DD RETAIL ST CLOUD LLC
(Corporate Title if applicable)

E. Certification of Sufficient Real Property Interest And Authorization For Staff To Access The Property:

I certify that:

☒ **I possess sufficient real property interest in or control, as defined in Section 4.2.3 (d) of Applicant's Handbook Volume I,** over the land upon which the activities described in this application are proposed and I have legal authority to grant permission to access those lands. I hereby grant permission, evidenced by my signature below, for staff of the Agency to access, inspect, and sample the lands and waters of the property as necessary for the review of the proposed works and other activities specified in this application, upon advance notice. I authorize these agents or personnel to enter the property as many times as may be necessary to make such review, inspection, and/ or sampling. Further, if a permit is granted, upon advance notice, I agree to provide entry to the project site for such agents or personnel with proper identification to determine compliance with permit conditions and permitted plans and specifications.

OR

☐ I represent an entity having **the power of eminent domain and condemnation authority**, and I/we shall make appropriate arrangements to enable staff of the Agency to legally access, inspect, and sample the property as described above.

Thomas Gunter
Typed/Printed Name

Signature

8/22/25
Date

DD RETAIL ST CLOUD LLC
(Corporate Title if applicable)

F. Designation of Authorized Agent (If Applicable):

I hereby designate and authorize **Hanson, Walter & Associates** to act on my behalf, or on behalf of my corporation, as the agent in the processing of this application for the permit and/or proprietary authorization indicated above and to furnish, on request, supplemental information in support of the application. In addition, I authorize the above-listed agent to bind me, or my corporation, to perform any requirements which may be necessary to procure the permit or authorization indicated above. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S., and 18 U.S.C. Section 1001.

Thomas Gunter
Typed/Printed Name of Applicant

Signature of Applicant

8/22/25
Date

DD RETAIL ST CLOUD LLC
(Corporate Title if applicable)

Puffin Road Commercial

Osceola County, Florida

Section 2

South Florida Water Management
ERP Supplemental Information

SECTION E

Prepared by:
Hanson, Walter & Associates, Inc.
104 Broadway, Suite 104
Kissimmee, FL 34741
(407) 847-9433

Section E: Supplemental Information Required for Works or Other Activities Involving a Stormwater Management System
(Other Than a Single-Family Project)

Instructions: The information listed in the checklists below represents the level of information that is usually required to evaluate an application. Information can be provided within reports, plans, and documents. The level of information required for a specific project will vary depending on the nature and location of the site and the activity proposed. Conceptual approvals generally do not require the same level of detail as a construction permit. However, providing a greater level of detail will reduce the need to submit additional information at a later date. If an item does not apply to your project, proceed to the next item. The supplemental information required by this section is in addition to the information required by Section A of the application.

Part 1: Stormwater Management System Summary

Provide drainage calculations, signed and sealed by an appropriate registered professional, and supporting documentation demonstrating that the proposed project meets the conditions for issuance under 62-330.301(1)(a),(b),(c),(e), F.A.C. The drainage calculations should include, but not necessarily be limited to, the following:

1. General Site Information:

   a. ☒ Provide pre-development and post-development drainage map(s), as appropriate, that include drainage patterns and basin boundaries with acreage served by each hydraulically separate system, showing the direction of flows, including any off-site runoff being routed through or around the system; topographic information; and connections between wetlands and other surface waters. **See Included Calculations.**

   b. ☒ Provide the results of any percolation tests, where appropriate, and soil borings that are representative of the actual site conditions. Identify the wet season high water table elevations, soil profiles, and hydraulic conductivity. Include dates, datum, and methods used to determine these soil parameters. **See Included Geo Report.**

   c. ☒ Identify the onsite hydrologic soil classification (e.g. Type A, B/D, D). Reference the source, such as the USDA/NRCS Soil Survey, used in estimating the onsite hydrologic soil classification. Provide maps, as appropriate, with the project limits delineated. **See Included Calculations.**

   d. ☒ Identify the seasonal high water or mean high tide elevation for receiving waters/wetlands into which runoff will be discharged. Include dates, datum, and methods used to determine these elevations. **See Included Geo Report.**

   e. ☒ Identify the name of each receiving waterbody to which the proposed stormwater management system will discharge: **See Included Calculations.**.

   f. ☒ Indicate the existing land use and land cover. **See Included Environmental Report.**

   g. ☒ Provide the acreage and percentages of the total project, of the following:
      1. Impervious surfaces (excluding buildings, wetlands, and other surface waters);

2. Buildings;
3. Pervious surfaces (green areas not including wetlands);
4. Lakes, canals, retention areas, other open water areas; and
5. Wetlands (Please compare to Section C to ensure consistency in wetland acreages).
See Included Calculations.

h. ☒ Provide the location and description of any nearby existing offsite features (such as wetlands and other surface waters, stormwater management ponds, and buildings or other structures) which might be affected by or affect the proposed construction or development.
See Included Environmental Report.

2. Water Quality Analysis:

a. ☒ Provide a description of the proposed stormwater treatment methodology that addresses the type of treatment, pollution abatement volumes, and recovery analysis.
See Included Calculations.

b. ☐ Is the receiving waterbody known to be impaired and/or have an established Total Maximum Daily Load (TMDL) or Basin Management Action Plan (BMAP)? If so, please provide specific descriptions of all water quality parameters for which the waterbody is known to be impaired. For more information about water quality, impaired waters, and to determine whether a TMDL has been adopted in your project area, refer to: https://floridadep.gov/dear/water-quality-evaluation-tmdl/content/final-tmdl-reports. To determine whether a BMAP exists, or is being developed in your project area, refer to: https://floridadep.gov/dear/water-quality-restoration/content/basin-management-action-plans-bmaps.

☐ yes ☐ no ☐ don't know

If yes, provide calculations demonstrating that the proposed project will not contribute to violations of state water quality standards in accordance with the applicable Applicant's Handbook, Vol. II.

c. ☒ Does the project have a direct discharge to Class I or II waters; Outstanding Florida Waters (OFW); or Class III waters, which are approved, conditionally approved, restricted, or conditionally restricted for shellfish harvesting? *To determine whether your project is within or will discharge to an OFW, or for more information about OFWs in general, refer to: https://floridadep.gov/dear/water-quality-standards/content/outstanding-florida-waters.*

☐ yes ☒ no ☐ don't know

If yes, additional treatment in accordance with the applicable Applicant's Handbook, Vol. II, may be required.

d. ☒ Provide construction plans and calculations that address the required treatment volume and recovery, as well as stage-storage and design elevations, which demonstrate compliance with the appropriate water quality treatment criteria in the applicable Applicant's Handbook, Vol. II.
See Included Calculations and Construction plans.

e. ☒ Provide a description of the engineering methodology, assumptions, and references for the parameters listed above and a copy of all computations, engineering plans, and specifications used to analyze the system. If a computer program is used for the analysis, provide the name of the program, a description of the program, input and output data, and justification for model selection.
See Included Calculations.

3. Water Quantity Analysis:

Provide calculations and documentations demonstrating that the project, as proposed, meets the applicable design criteria as indicated in the applicable Applicant's Handbook, Vol. II. Typically, the information would include, at a minimum, but not necessarily limited to, the following:

a. ☒ For projects requiring pre-development analysis, provide an analysis of the pre-development peak rate of discharge and/or volume of runoff for all design storm events. Account for all onsite depressional storage and offsite contributing area. Please refer to the applicable Applicant's Handbook, Vol. II for the design storm event(s) that apply to your project.

b. ☒ Provide an analysis of the post-development peak rate of discharge and/or volume of runoff for all applicable design storm events. Account for all onsite storage and offsite contributing area. Please refer to the applicable Applicant's Handbook, Vol. II for the design storm event(s) and criteria that apply to your project. **See Included Calculations.**

These analyses should include:

1. ☒ Runoff characteristics, including area, runoff curve number or runoff coefficient, and time of concentration for each drainage basin in the pre-development and post-development condition;
2. ☒ Design storms used including rainfall depth, duration, frequency, and distribution;
3. ☒ Runoff hydrograph(s) for each drainage basin for all required design storm event(s);
4. ☒ Stage-storage computations for any area, such as a reservoir, closed basin, detention area, or channel, used in storage routing;
5. ☒ Stage-discharge computations for any storage areas at a selected control point, such as control structure or natural restriction;
6. ☒ Flood routings through on-site conveyance and storage areas;
7. ☒ Water surface profiles in the primary drainage system for each required design storm event(s);
8. ☒ Runoff peak rates and volumes discharged from the site for each required design storm event(s);
9. ☒ Design tailwater elevation(s) for each storm event at all points of discharge (include source or method of estimate); and
10. ☐ Pump specifications and operating curves for range of possible operating conditions (if used in system).

See Included Calculations for all that apply.

c. ☒ Provide a description of the engineering methodology, assumptions, and references for the parameters listed above, and a copy of all such computations, engineering plans, and specifications used to analyze the system. If a computer program is used for the analysis, provide the name of the program, input and output data, justification for model selection, and, if necessary, a description of the program.

4. Floodplain Analysis (where applicable).

a. ☐ If the project is in a known floodplain of a stream or other water course, identify the appropriate floodplain boundary and approximate flooding elevations of any lake, stream, or other watercourse located on or adjacent to the site.

b. ☐ For traversing works, in accordance with the applicable Applicant's Handbook, Vol. II, provide:
   1. ☐ Hydraulic calculations for all proposed traversing works; and
   2. ☐ Water surface profiles showing upstream impact of traversing works.

c. ☐ For impacts to regulated floodplains, in accordance with the applicable Applicant's Handbook, Vol. II, provide:

1. ☐ Location and volume of encroachment within regulated floodplain(s); and
2. ☐ Plans and calculations for compensating floodplain storage, if necessary, and calculations required for determining minimum building and road flood elevations.

Part 2: Construction Plans

1. Provide clear, construction level detailed plans for the system. The plans must be signed and sealed by an appropriate registered professional as required by law. These plans should include cumulative information from all applicable sections, as well as the following:
   a. ☒ Project area boundary and total land area (as defined in A.H. Vol. I, subsection 2.0(a)(107), including distances and orientation from roads or other landmarks.

   b. ☒ Existing topography extending at least 100 feet off the project area. All topography shall include location and description of benchmarks, reference to NGVD 1929 or NAVD 1988 along with the conversion factor.

   c. ☒ Proposed site plan with acreage, including the following:
      1. ☒ plan view of proposed development, including impervious surfaces and water management areas;
      2. ☐ land cover and natural communities*;
      3. ☐ wetlands and other surface waters*;
      4. ☐ undisturbed uplands*;
      5. ☐ aquatic communities*;
      6. ☐ proposed buffers*;
      7. ☐ proposed impacts to wetlands and other surface waters, and any proposed connections/outfalls to other surface waters or wetlands, (if applicable); and
      8. ☐ onsite wetland mitigation areas*.
      9. ☐ For phased projects, provide a master development plan clearly delineating the limits of each phase of construction.

      *Information should reflect that provided in Section C.
      See Included Calculations and Constructions plans for all that apply.

   d. ☒ Paving, Grading, and Drainage Information, which includes, but is not necessarily limited to, the following:
      1. ☒ Existing topography;
      2. ☐ Boundaries of wetlands and other surface waters and upland buffers (see Section C);
      3. ☒ Plan view of proposed development;
      4. ☒ Proposed elevations and/or profiles, including:
         a) ☒ roadway, parking, and pavement grades;
         b) ☒ floor slabs, walkways, and other paved surfaces;
         c) ☒ earthwork grades for pervious landscaped areas; and
         d) ☒ perimeter site grading, tying back into existing grades.
      5. ☒ Location of all water management areas, including elevations, dimensions, side slopes, and design water depths;
      6. ☒ Location, size, and invert elevations of existing and proposed stormwater conveyance systems;
      7. ☒ Vegetative cover plan for all on-site and off-site earth surfaces disturbed by construction; and
      8. ☒ Rights-of-way and easements for the system, including all on-site and off-site areas to be reserved for water management purposes (including access), and rights-of-way and easements for the existing drainage system, if any.

e. ☒ Stormwater detail information, including but not necessarily limited to, the following:
   1. ☒ Cross section of all stormwater management areas, including elevations, dimensions, side slopes, and proposed stabilization measures (with location of the cross section(s) shown on the corresponding plan view);
   2. ☒ Detail of all proposed control structures, including elevations, dimensions, and skimmer, where applicable; and
   3. ☒ Details of proposed stormwater management systems, such as underdrains, exfiltration trenches, vaults, and other proposed Best Management Practices (BMPs).

f. ☒ Location and description of any nearby existing offsite features (such as wetland and other surface waters, stormwater management ponds, and building or other structures) which might be affected by or affect the proposed construction or development.

Part 3: Construction Schedule and Techniques

Provide a construction schedule and a description of construction techniques, sequencing, and equipment. This information should include, as applicable, the following.

a. ☒ Access and staging of equipment; **Typical Construction equipment.**

b. ☒ Location and details of the erosion, sediment, and turbidity control measures to be implemented during each phase of construction and all permanent control measures to be implemented in post-development conditions. **See Included Plans.**

c. ☒ The location of disposal site(s) for any excavated material, including temporary and permanent disposal sites. **N/A**

d. ☒ A demolition plan for any existing structures to be removed. **See Included Plans.**

e. ☒ Dewatering plan details. If dewatering is required, detail the dewatering proposal including the methods that are proposed to contain the discharge, methods of isolating dewatering areas, and indicate the period dewatering structures will be in place. **Note: A Consumptive Use or Water Use permit may be required for dewatering.**

f. ☒ Methods for transporting equipment and materials to and from the work site. If barges are required for access, provide the low water depths and draft of the fully loaded barge;

Part 4: Operation and Maintenance and Legal Documentation:

a. ☒ Describe the overall maintenance and operation schedule for the proposed system.

b. ☒ Identify the entity (or entities) that will be responsible for operating and maintaining the system (or parts of the system) to demonstrate that the entity (or entities) meet(s) the requirements of section 12.3 of the Applicant's Handbook, Vol. I.
   1. ☐ If different from the permittee, provide a draft document enumerating the enforceable affirmative obligations on the entity to properly operate and maintain the system for its expected life and documentation of the entity's financial responsibility for long-term maintenance.
   2. ☐ If the proposed operation and maintenance entity is not a property owner's association, provide proof of the existence of an entity or the future acceptance of the system by an entity which will operate and maintain the system.

c. ☐ Provide drafts of all proposed conservation easements, stormwater management system easements, draft property owner's association documents, and plats for the property containing the proposed system.

d. ☐ Provide legal reservations for access to the treatment system for maintenance and operation by future maintenance entities for subdivided projects.

e. ☒ Provide indication of how water and wastewater service will be supplied. **Toho Water Authority will be responsible for water and wastewater services.**

f. ☒ Provide a copy of the boundary survey and/or legal description and acreage of the total land area of contiguous property owned/controlled by the applicant. **Please See Plans.**

g. ☐ If any associated land agreements are required to implement the proposed activities, such as flowage easements across lands not owned by the applicant, include such documentation. If negotiations are underway, but not yet concluded, regarding such land use agreements, please indicate that and provide an anticipated date for providing that documentation. A permit cannot be issued for an activity to use lands that are not owned by the applicant or for which the applicant does not hold a sufficient real property interest to use those lands.

Part 5: Water Use

a. ☒ Describe how irrigation will be provided to the project. Will the surface water system be used for water supply, including landscape irrigation, or recreation? **Irrigation service will be provided by Toho Water Authority. The surface water system will not be used for water supply, including landscape irrigation or recreation.**

b. ☐ If a Consumptive Use or Water Use permit has been issued for the project, state the permit number:

c. ☒ If a Consumptive Use or Water Use permit has not been issued for the project, indicate if such a permit will be required. ☐ yes ☐ no ☒ don't know
If yes, please indicate when the application for a permit will be submitted:

d. ☐ Indicate how any existing wells located within the project site will be utilized or abandoned.

Part 6: Special Basin Information

a. Is your project within a special basin as described in the applicable Applicant's Handbook, Vol. II?

☐ yes ☐ no ☐ don't know

b. If yes, please demonstrate that the project will meet the applicable special basin criteria.

Puffin Road Commercial

Osceola County, Florida

Section 3

Project Summary

Prepared by:
Hanson, Walter & Associates, Inc.
104 Broadway, Suite 104
Kissimmee, FL 34741
(407) 847-9433

August 28, 2025

Puffin Road Commercial (Previously called Hathaway)
SFWMD Permit No. 49-108320-P (Original Application No. 220917-35991)
Issued: June 12, 2023
HWA Project #5450-05
SFWMD Permit Modification
Previously Permitted Area: ± 25.81 acres.
Proposed Project Area: ± 41.71 acres.

Existing Site:

The existing permit for this site was issued on June 12, 2023. According to the original permit, the site was previously designed for an assumed percent impervious coverage of **45.64%**, water management coverage of **9.84%** and pervious coverage of **44.52%**. All water quality treatment and attenuation was provided within the proposed surface water pond. The allowable discharge rate for the combined system discharging to the crossing at Lilian Lee Road is **27.53 cfs** in the 10yr72hr storm event. Although the site permit was completed with all local and state agencies, it was never constructed.

Proposed Site:

We are requesting an individual modification to the above-mentioned permit. More specifically, we are proposing to add a new parcel with an area of **15.42 acres** (parcel id: 05-26-31-0105-0001-0020) and changing the future land use of the combined parcels to commercial.

The proposed will be a retail commercial project known as Puffin Road Commercial consisting of nine commercial lots that will be mass graded for future development with offsite operation improvements and utility connections. The proposed project will discharge to Pond A1 and A2 (Dry Portion) which overflows to Pond A (Wet Portion). The proposed site will be permitted to have a maximum of 80% impervious coverage. The proposed minimum finish floor elevation will be **75.35-ft**. In addition, the proposed internal minimum roadway grade will be **74.55-ft**. Please refer to the enclosed construction plans, updated basin map and the summary tables below for updated land use tabulation for the site.

Potable water, sewer and reuse water will be provided to the site by Toho Water Authority. A copy of utility availability letter has been attached within the drainage report.

The project area is located within Zone "X", indicated on the National Flood Insurance Rate Map, No. 12097C0280G. Please refer to the enclosed FEMA Flood exhibit in the appendix.

Summary Table 1: (Puffin Road Commercial) Site Specific Land Use Breakdown

	Proposed Improvements	**Land Use %**
Impervious	28.60 ac	68.57%
Pervious	13.11 ac	31.43%
TOTAL	**41.71 ac**	**100%**

Summary Table 2a: Project Proposed Basins (Discharges to Pond A)

	Pond A Basin	Pond A1 Basin	Pond A2 Basin	Lot 1	Lot 1A	Lot 2	Lot 3	Lot 4	Lot 5	Lot 6	Lot 7	Lot 8	Lot 9	Puffin Road	Total Proposed Basins
Building	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac
Pavement /Sidewalk	0.27 ac	0.18 ac	0.33 ac	11.82 ac	2.43 ac	1.45 ac	0.76 ac	0.72 ac	0.64 ac	1.52 ac	0.63 ac	0.71 ac	3.23 ac	1.36 ac	26.05 ac
Pervious	1.09 ac	2.01 ac	3.71 ac	3.15 ac	0.29 ac	0.37 ac	0.19 ac	0.18 ac	0.17 ac	0.38 ac	0.17 ac	0.18 ac	0.81 ac	0.41 ac	13.11 ac
Wet Pond	2.55 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	2.55 ac
TOTAL	**3.91 ac**	**2.19 ac**	**4.04 ac**	**14.97 ac**	**2.72 ac**	**1.82 ac**	**0.95 ac**	**0.90 ac**	**0.81 ac**	**1.90 ac**	**0.80 ac**	**0.89 ac**	**4.04 ac**	**1.77 ac**	**41.71 ac**

Summary Table 2b: Project (Permitted/Proposed (Discharges to Pond A)

	Total Previously Permitted Land Use (Site Basin) App# 220917-35991	Proposed Modification (Lots 1 to 9, Pond A, A1, A2 and Puffin Road Basins)	Total Land Used	Previously Permitted CN App# 220917-35991	Proposed CN
Building	2.77 ac	***-2.77 ac***	0.00 ac	**72**	**80**
Pavement /Sidewalk	9.01 ac	***+17.04 ac***	26.05 ac		
Pervious	11.49 ac	***+1.62 ac***	13.11 ac		
Wet Pond	2.54 ac	***+0.01 ac***	2.55 ac		
TOTAL	**25.81 ac**	***+15.90 ac***	**41.71 ac**	**-**	**-**

Summary Table 3: Pond A Stages (Blue Represents change from previous permit)

Storm Event	Rainfall Amount (inch)	Pond A Peak Stage (Proposed) (ft, NAVD 88)	Permitted (App. No 220917-35991) (ft, NAVD 88)
10 Yr/24 Hr	6.0	**74.55**	74.20
10 Yr/72 Hr	8.0	**74.69**	74.71
100 Yr /72 Hr	12.0	**75.35**	75.90

Pond A: TOB = 76.10-ft; CWL = 72.00-ft

Summary Table 4: Discharge Rate per 10 Year – 72 Hour Design Storm (8 inch of Rain)

Tail Water	Permitted Discharge Rate (1) (cfs)	Post Development Discharge Rate (cfs)
OUTFALL(TW)	27.53	27.42

(1) Discharge Rate is based upon SFWMD Permit 49-108320-P.

Summary Table 5: Pond A Control Structure (CS-A)

Proposed Pond	Control Elevation	Top of Bank	Pond Area
Pond A	72.00-ft	76.10-ft	2.55-ac

Control Structure Summary – **CS-A (Type-E Inlet)**

	Dimension	Elevation
Orifice (circular)	6” Diameter	72.00-ft
Weir	7.8” H x 50.40” W	74.00-ft
Grate	54”H x 36” W	74.65-ft

Puffin Road Commercial

Osceola County, Florida

Section 4

Post-Development Drainage Map & Calculations

Prepared by:
Hanson, Walter & Associates, Inc.
104 Broadway, Suite 104
Kissimmee, FL 34741
(407) 847-9433

Stormwater Wet Detention Pond A
CWL - 72.00
TOB - 76.10

Pond A Basin
Area: 3.91 AC
CN: 83
Tc: 10.00 min

Pond A1 Basin
Area: 2.19 AC
CN: 44
Tc: 10.00 min

Stormwater Dry Pond A1
BTM - 73.00
TOB - 76.00

Stormwater Dry Pond A2
BTM - 73.00
TOB - 76.00

Pond A2 Basin
Area: 4.04 AC
CN: 44
Tc: 10.00 min

Puffin Road Basin
AREA: 1.77 AC
CN: 85
Tc: 10.00 min

Lot 1A Basin
AREA: 2.72 AC
CN:92
Tc: 10.00 min

Lot 1 Basin
AREA: 14.97 AC
CN: 86
Tc: 10.00 min

Lot 9 Basin
Area: 4.04 AC
CN: 86
Tc: 10.00 min

Lot 8 Basin
Area: 0.89 AC
CN: 86
Tc: 10.00 min

Lot 7 Basin
Area: 0.80 AC
CN: 86
Tc: 10.00 min

Lot 6 Basin
Area: 1.90 AC
CN: 86
Tc: 10.00 min

Lot 5 Basin
Area: 0.81 AC
CN: 86
Tc: 10.00 min

Lot 4 Basin
AREA: 0.90 AC
CN: 86
Tc: 10.00 min

Lot 3 Basin
AREA: 0.95 AC
CN: 86
Tc: 10.00 min

Lot 2 Basin
AREA: 1.82 AC
CN: 86
Tc: 10.00 min

POND A (WET)

DESIGN STORM	STAGE FT.
10 YEAR – 24 HOUR	74.22
10 YEAR – 72 HOUR	74.69
100 YEAR – 72 HOUR	75.14

POND A (WET)
TOB 76.10
CWL 72.00
BTM 50.00

POND A1 (DRY)

DESIGN STORM	STAGE FT.
10 YEAR – 24 HOUR	74.55
10 YEAR – 72 HOUR	74.69
100 YEAR – 72 HOUR	75.35

POND A1 (DRY)
TOB 74.50
BTM 73.00

POND A2 (DRY)

DESIGN STORM	STAGE FT.
10 YEAR – 24 HOUR	74.51
10 YEAR – 72 HOUR	74.69
100 YEAR – 72 HOUR	75.35

POND A2 (DRY)
TOB 74.50
BTM 73.00

LOT 4 BASIN

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Dry Pond	0.00	or	0	or	0
Pervious	0.18	or	7,818	or	20
Impervious	0.72	or	31,271	or	80
Wetlands	0.00	or	0	or	0
TOTAL	0.90		39,089		100.0

LOT 5 BASIN

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Dry Pond	0.00	or	0	or	0
Pervious	0.16	or	7,023	or	20
Impervious	0.64	or	28,094	or	80
Wetlands	0.00	or	0	or	0
TOTAL	0.81		35,117		100.0

LOT 6 BASIN

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	0.38	or	16,581	or	20
Impervious	1.52	or	66,323	or	80
Wetlands	0.00	or	0	or	0
TOTAL	1.90		82,903		100.0

LOT 7 BASIN

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	0.16	or	6,899	or	20
Impervious	0.63	or	27,595	or	80
Wetlands	0.00	or	0	or	0
TOTAL	0.79		34,494		100.0

LOT 8 BASIN

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	0.18	or	7,763	or	20
Impervious	0.71	or	31,050	or	80
Wetlands	0.00	or	0	or	0
TOTAL	0.89		38,813		100.0

LOT 9 BASIN

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	0.81	or	35,142	or	20
Impervious	3.23	or	140,569	or	80
Wetlands	0.00	or	0	or	0
TOTAL	4.03		175,711		100.0

PUFFIN ROAD BASIN

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	0.40	or	17,631	or	22.87
Impervious	1.36	or	59,456	or	77.13
Wetlands	0.00	or	0	or	0
TOTAL	1.77		77,087		100.0

POND A BASIN

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	2.55	or	111,061	or	65.13
Pervious	1.10	or	47,759	or	28.01
Impervious	0.27	or	11,692	or	6.86
Wetlands	0.00	or	0	or	0
TOTAL	3.91		170,512		100.0

POND A1 BASIN

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	2.01	or	87,480	or	91.7
Impervious	0.18	or	7,915	or	8.3
Wetlands	0.00	or	0	or	0
TOTAL	2.19		95,395		100.0

POND A2 BASIN

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	3.71	or	161,430	or	91.71
Impervious	0.33	or	14,592	or	8.29
Wetlands	0.00	or	0	or	0
TOTAL	4.04		176,022		100.0

LOT 1 BASIN

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	3.14	or	136,886	or	21
Impervious	11.82	or	514,953	or	79
Wetlands	0.00	or	0	or	0
TOTAL	14.96		651,839		100.0

LOT 1A BASIN

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	0.29	or	12,691	or	10.72
Impervious	2.43	or	105,648	or	89.28
Wetlands	0.00	or	0	or	0
TOTAL	2.72		118,339		100.0

LOT 2 BASIN

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	0.36	or	15,734	or	20
Impervious	1.44	or	62,934	or	80
Wetlands	0.00	or	0	or	0
TOTAL	1.81		78,668		100.0

LOT 3 BASIN

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Dry Pond	0.00	or	0	or	0
Pervious	0.19	or	8,291	or	20
Impervious	0.76	or	33,163	or	80
Wetlands	0.00	or	0	or	0
TOTAL	0.95		41,454		100.0

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ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

POST-DEVELOPMENT BASIN MAP

SHEET Nº 01 of 01
JOB Nº 5450-05

I:\5450-05\ENGINEERING\SFWMD\Exhibit\5450-05 Post Development Basin Map.dwg • Aug 25, 2025 - 3:29pm • plotted by Mikeli

SUPPORT CALCULATIONS

Job Name: PUFFIN ROAD COMMERCIAL — Prepared By: MW
HWA Job Number: 5450-05 — Checked By: RN
Development (Bold one): Pre **Post**
Basin Name: LOT 1 BASIN — Outfall: Pond A2 (DRY)

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	3.14	or	136,886	or	21
Impervious	11.82	or	514,953	or	79
Wetlands	0.00	or	0	or	0
TOTAL	14.96		651,839		100.0

CURVE NUMBER

Land Use Description	Soil Group	CN	Area (acre)	CNxArea
Impervious (Pavement & Sidewalk)	A	98	11.82	1158.53
Impervious (Building)	A	98	0.00	0.00
Pervious (Open Space)	A	39	3.14	122.56
Wetland	A	98	0.00	0.00
Water Mananagement (dry)	A	39	0.00	0.00
		TOTAL	14.96	1281.08

CN (weighted) = Total Product / Total Area = 85.6 — **USE => 86**

TIME OF CONCENTRATION

Sheet Flow	
Surface Description:	Asphalt
Manning's Coefficient (n):	0.011
Flow Length (L):	300
Rainfall (P2):	**4.8**
Land Slope (ft/ft):	0.010
Tt = (hour)	**0.05**
Tt = (min)	**3**

Shallow Concentrated	
Surface Description:	PAVED
Flow Length (L):	705
Land Slope (ft/ft):	0.007
Average velocity (v):	1.7
Tt = (hour)	**0.12**
Tt = (min)	**7.2**

Channel Flow	
Surface Description:	N/A
Cross Sectional Flow Area (A):	0
Wetted Perimeter (P):	0
Hydraulic Radius (Rh):	0.00
Channel Slope (ft/ft):	0
Manning's Coefficient (n):	0
Velocity (ft/sec):	0
Flow Length (ft):	0
Tt = (hour)	**0**
Tt = (min)	**0**

For Sheet Flow

Manning's Coefficient	
Surface Description	
Smooth Surface (Concrete, asphalt, gravel, or bare soil)	0.011
Fallow (No Residue)	0.05
Cultivated Soils:	
Residue cover < or = 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short grass prairie	0.15
Dense grass	0.24
Bermuda grass	0.41
Range (Natural)	0.13
Woods:	
Ligt underbrush	0.4
Dense underbrush	0.8

For Shallow Flow

Velocity for unpaved:	1.35
Velocity for paved:	1.7

TOTAL Tc (hour):	**0.17**
TOTAL Tc (min):	**10.2**

USE Tc (min): 10.0

RUNOFF VOLUME

- Determine Soil Storage: S

S = (1000 / CN) - 10 = 1.68 inches

- Determine Runoff: R

R = (P - 0.2S)^2 / (P + 0.8S) = 5.80 inches

(where P = 7.5 inch per design storm)

- Determine Runoff Volume: Vr

Vr = R x AREA/12 = **7.23 acre-feet <== Runoff Volume**

SUPPORT CALCULATIONS

Job Name: PUFFIN ROAD COMMERCIAL — Prepared By: MW
HWA Job Number: 5450-05 — Checked By: RN
Development (Bold one): Pre **Post**
Basin Name: LOT 1A BASIN — Outfall: Pond A1 (DRY)

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	0.29	or	12,691	or	10.72
Impervious	2.43	or	105,648	or	89.28
Wetlands	0.00	or	0	or	0
TOTAL	2.72		118,339		100.0

CURVE NUMBER

Land Use Description	Soil Group	CN	Area (acre)	CNxArea
Impervious (Pavement & Sidewalk)	A	98	2.43	237.68
Impervious (Building)	A	98	0.00	0.00
Pervious (Open Space)	A	39	0.29	11.36
Wetland	A	98	0.00	0.00
Water Mananagement (dry)	A	39	0.00	0.00
		TOTAL	2.72	249.05

CN (weighted) = Total Product / Total Area = 91.7 — **USE => 92**

TIME OF CONCENTRATION

Sheet Flow	
Surface Description:	ASPHALT
Manning's Coefficient (n):	0.011
Flow Length (L):	300
Rainfall (P2):	**4.8**
Land Slope (ft/ft):	0.010
Tt = (hour)	**0.05**
Tt = (min)	**3**

Shallow Concentrated	
Surface Description:	PAVED
Flow Length (L):	1200
Land Slope (ft/ft):	0.007
Average velocity (v):	1.7
Tt = (hour)	**0.2**
Tt = (min)	**12**

Channel Flow	
Surface Description:	N/A
Cross Sectional Flow Area (A):	0
Wetted Perimeter (P):	0
Hydraulic Radius (Rh):	0.00
Channel Slope (ft/ft):	0
Manning's Coefficient (n):	0
Velocity (ft/sec):	0
Flow Length (ft):	0
Tt = (hour)	**0**
Tt = (min)	**0**

For Sheet Flow

Manning's Coefficient	
Surface Description	
Smooth Surface (Concrete, asphalt, gravel, or bare soil)	0.011
Fallow (No Residue)	0.05
Cultivated Soils:	
Residue cover < or = 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short grass prairie	0.15
Dense grass	0.24
Bermuda grass	0.41
Range (Natural)	0.13
Woods:	
Ligt underbrush	0.4
Dense underbrush	0.8

For Shallow Flow

Velocity for unpaved:	1.35
Velocity for paved:	1.7

TOTAL Tc (hour):	**0.25**
TOTAL Tc (min):	**15**

USE Tc (min): 10.0

RUNOFF VOLUME

- Determine Soil Storage: S

S = (1000 / CN) - 10 = 0.91 inches

- Determine Runoff: R

R = (P - 0.2S)^2 / (P + 0.8S) = 6.51 inches

(where P = 7.5 inch per design storm)

- Determine Runoff Volume: Vr

Vr = R x AREA/12 = **1.47 acre-feet <== Runoff Volume**

SUPPORT CALCULATIONS

Job Name: PUFFIN ROAD COMMERCIAL
HWA Job Number: 5450-05
Development (Bold one): Pre **Post**
Basin Name: LOT 2 BASIN

Prepared By: MW
Checked By: RN
Outfall: Pond A1 (DRY)

NFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	0.36	or	15,734	or	20
Impervious	1.44	or	62,934	or	80
Wetlands	0.00	or	0	or	0
TOTAL	1.81		78,668		100.0

CURVE NUMBER

Land Use Description	Soil Group	CN	Area (acre)	CNxArea
Impervious (Pavement & Sidewalk)	A	98	1.44	141.59
Impervious (Building)	A	98	0.00	0.00
Pervious (Open Space)	A	39	0.36	14.09
Wetland	A	98	0.00	0.00
Water Mananagement (dry)	A	39	0.00	0.00
		TOTAL	1.81	155.67

CN (weighted) = Total Product / Total Area = 86.2 **USE => 86**

TIME OF CONCENTRATION

Sheet Flow	
Surface Description:	ASPHALT
Manning's Coefficient (n):	0.011
Flow Length (L):	300
Rainfall (P2):	**4.8**
Land Slope (ft/ft):	0.010
Tt = (hour)	**0.05**
Tt = (min)	**3**

Shallow Concentrated	
Surface Description:	Paved
Flow Length (L):	1200
Land Slope (ft/ft):	0.007
Average velocity (v):	1.7
Tt = (hour)	**0.2**
Tt = (min)	**12**

Channel Flow	
Surface Description:	N/A
Cross Sectional Flow Area (A):	0
Wetted Perimeter (P):	0
Hydraulic Radius (Rh):	0.00
Channel Slope (ft/ft):	0
Manning's Coefficient (n):	0
Velocity (ft/sec):	0
Flow Length (ft):	0
Tt = (hour)	**0**
Tt = (min)	**0**

For Sheet Flow

Manning's Coefficient	
Surface Description	
Smooth Surface (Concrete, asphalt, gravel, or bare soil)	0.011
Fallow (No Residue)	0.05
Cultivated Soils:	
Residue cover < or = 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short grass prairie	0.15
Dense grass	0.24
Bermuda grass	0.41
Range (Natural)	0.13
Woods:	
Ligt underbrush	0.4
Dense underbrush	0.8

For Shallow Flow

Velocity for unpaved:	1.35
Velocity for paved:	1.7

TOTAL Tc (hour):	**0.25**
TOTAL Tc (min):	**15**

USE Tc (min): 10.0

RUNOFF VOLUME

- Determine Soil Storage: S

S = (1000 / CN) - 10 = 1.60 inches

- Determine Runoff: R

R = (P - 0.2S)^2 / (P + 0.8S) = 5.87 inches

(where P = 7.5 inch per design storm)

- Determine Runoff Volume: Vr

Vr = R x AREA/12 = **0.88 acre-feet <== Runoff Volume**

SUPPORT CALCULATIONS

Job Name: PUFFIN ROAD COMMERCIAL — Prepared By: MW
HWA Job Number: 5450-05 — Checked By: RN
Development (Bold one): Pre **Post**
Basin Name: LOT 3 BASIN — Outfall: Pond A1 (DRY)

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Dry Pond	0.00	or	0	or	0
Pervious	0.19	or	8,291	or	20
Impervious	0.76	or	33,163	or	80
Wetlands	0.00	or	0	or	0
TOTAL	0.95		41,454		100.0

CURVE NUMBER

Land Use Description	Soil Group	CN	Area (acre)	CNxArea
Impervious (Pavement & Sidewalk)	A	98	0.76	74.61
Impervious (Building)	A	98	0.00	0.00
Pervious (Open Space)	A	39	0.19	7.42
Wetland	A	98	0.00	0.00
Water Mananagement (dry)	A	39	0.00	0.00
		TOTAL	0.95	82.03

CN (weighted) = Total Product / Total Area = 86.2 — **USE => 86**

TIME OF CONCENTRATION

Sheet Flow	
Surface Description:	ASPHALT
Manning's Coefficient (n):	0.011
Flow Length (L):	300
Rainfall (P2):	**4.8**
Land Slope (ft/ft):	0.010
Tt = (hour)	**0.05**
Tt = (min)	**3**

Shallow Concentrated	
Surface Description:	Paved
Flow Length (L):	900
Land Slope (ft/ft):	0.007
Average velocity (v):	1.7
Tt = (hour)	**0.15**
Tt = (min)	**9**

Channel Flow	
Surface Description:	N/A
Cross Sectional Flow Area (A):	0
Wetted Perimeter (P):	0
Hydraulic Radius (Rh):	0.00
Channel Slope (ft/ft):	0
Manning's Coefficient (n):	0
Velocity (ft/sec):	0
Flow Length (ft):	0
Tt = (hour)	**0**
Tt = (min)	**0**

For Sheet Flow

Manning's Coefficient	
Surface Description	
Smooth Surface (Concrete, asphalt, gravel, or bare soil)	0.011
Fallow (No Residue)	0.05
Cultivated Soils:	
Residue cover < or = 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short grass prairie	0.15
Dense grass	0.24
Bermuda grass	0.41
Range (Natural)	0.13
Woods:	
Ligt underbrush	0.4
Dense underbrush	0.8

For Shallow Flow

Velocity for unpaved:	1.35
Velocity for paved:	1.7

TOTAL Tc (hour):	**0.2**
TOTAL Tc (min):	**12**

USE Tc (min): 10.0

RUNOFF VOLUME

- Determine Soil Storage: S

S = (1000 / CN) - 10 = 1.60 inches

- Determine Runoff: R

R = (P - 0.2S)^2 / (P + 0.8S) = 5.87 inches

(where P = 7.5 inch per design storm)

- Determine Runoff Volume: Vr

Vr = R x AREA/12 = **0.47 acre-feet <== Runoff Volume**

SUPPORT CALCULATIONS

Job Name: PUFFIN ROAD COMMERCIAL — Prepared By: MW
HWA Job Number: 5450-05 — Checked By: RN
Development (Bold one): Pre **Post**
Basin Name: LOT 4 BASIN — Outfall: Pond A1 (DRY)

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Dry Pond	0.00	or	0	or	0
Pervious	0.18	or	7,818	or	20
Impervious	0.72	or	31,271	or	80
Wetlands	0.00	or	0	or	0
TOTAL	0.90		39,089		100.0

CURVE NUMBER

Land Use Description	Soil Group	CN	Area (acre)	CNxArea
Impervious (Pavement & Sidewalk)	A	98	0.72	70.35
Impervious (Building)	A	98	0.00	0.00
Pervious (Open Space)	A	39	0.18	7.00
Wetland	A	98	0.00	0.00
Water Mananagement (dry)	A	39	0.00	0.00
		TOTAL	0.90	77.35

CN (weighted) = Total Product / Total Area = 86.2 — **USE => 86**

TIME OF CONCENTRATION

Sheet Flow	
Surface Description:	Asphalt
Manning's Coefficient (n):	0.011
Flow Length (L):	300
Rainfall (P2):	**4.8**
Land Slope (ft/ft):	0.010
Tt = (hour)	**0.05**
Tt = (min)	**3**

Shallow Concentrated	
Surface Description:	Paved
Flow Length (L):	750
Land Slope (ft/ft):	0.007
Average velocity (v):	1.7
Tt = (hour)	**0.12**
Tt = (min)	**7.2**

Channel Flow	
Surface Description:	N/A
Cross Sectional Flow Area (A):	0
Wetted Perimeter (P):	0
Hydraulic Radius (Rh):	0.00
Channel Slope (ft/ft):	0
Manning's Coefficient (n):	0
Velocity (ft/sec):	0
Flow Length (ft):	0
Tt = (hour)	**0**
Tt = (min)	**0**

For Sheet Flow

Manning's Coefficient	
Surface Description	
Smooth Surface (Concrete, asphalt, gravel, or bare soil)	0.011
Fallow (No Residue)	0.05
Cultivated Soils:	
Residue cover < or = 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short grass prairie	0.15
Dense grass	0.24
Bermuda grass	0.41
Range (Natural)	0.13
Woods:	
Ligt underbrush	0.4
Dense underbrush	0.8

For Shallow Flow

Velocity for unpaved:	1.35
Velocity for paved:	1.7

TOTAL Tc (hour):	**0.17**
TOTAL Tc (min):	**10.2**

USE Tc (min): 10.0

RUNOFF VOLUME

- Determine Soil Storage: S

S = (1000 / CN) - 10 = 1.60 inches

- Determine Runoff: R

R = (P - 0.2S)^2 / (P + 0.8S) = 5.87 inches

(where P = 7.5 inch per design storm)

- Determine Runoff Volume: Vr

Vr = R x AREA/12 = **0.44 acre-feet <== Runoff Volume**

SUPPORT CALCULATIONS

Job Name: PUFFIN ROAD COMMERCIAL — Prepared By: MW
HWA Job Number: 5450-05 — Checked By: RN
Development (Bold one): Pre **Post**
Basin Name: LOT 5 BASIN — Outfall: Pond A1 (DRY)

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Dry Pond	0.00	or	0	or	0
Pervious	0.16	or	7,023	or	20
Impervious	0.64	or	28,094	or	80
Wetlands	0.00	or	0	or	0
TOTAL	0.81		35,117		100.0

CURVE NUMBER

Land Use Description	Soil Group	CN	Area (acre)	CNxArea
Impervious (Pavement & Sidewalk)	A	98	0.64	63.20
Impervious (Building)	A	98	0.00	0.00
Pervious (Open Space)	A	39	0.16	6.29
Wetland	A	98	0.00	0.00
Water Mananagement (dry)	A	39	0.00	0.00
		TOTAL	0.81	69.49

CN (weighted) = Total Product / Total Area = 86.2 — **USE => 86**

TIME OF CONCENTRATION

Sheet Flow	
Surface Description:	Asphalt
Manning's Coefficient (n):	0.011
Flow Length (L):	300
Rainfall (P2):	**4.8**
Land Slope (ft/ft):	0.010
Tt = (hour)	**0.05**
Tt = (min)	**3**

Shallow Concentrated	
Surface Description:	Asphalt
Flow Length (L):	600
Land Slope (ft/ft):	0.007
Average velocity (v):	1.2
Tt = (hour)	**0.14**
Tt = (min)	**8.4**

Channel Flow	
Surface Description:	N/A
Cross Sectional Flow Area (A):	0
Wetted Perimeter (P):	0
Hydraulic Radius (Rh):	0.00
Channel Slope (ft/ft):	0
Manning's Coefficient (n):	0
Velocity (ft/sec):	0
Flow Length (ft):	0
Tt = (hour)	**0**
Tt = (min)	**0**

For Sheet Flow

Manning's Coefficient	
Surface Description	
Smooth Surface (Concrete, asphalt, gravel, or bare soil)	0.011
Fallow (No Residue)	0.05
Cultivated Soils:	
Residue cover < or = 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short grass prairie	0.15
Dense grass	0.24
Bermuda grass	0.41
Range (Natural)	0.13
Woods:	
Ligt underbrush	0.4
Dense underbrush	0.8

For Shallow Flow

Velocity for unpaved:	1.35
Velocity for paved:	1.7

TOTAL Tc (hour):	**0.19**
TOTAL Tc (min):	**11.4**

USE Tc (min): 10.0

RUNOFF VOLUME

- Determine Soil Storage: S

S = (1000 / CN) - 10 = 1.60 inches

- Determine Runoff: R

R = (P - 0.2S)^2 / (P + 0.8S) = 5.87 inches

(where P = 7.5 inch per design storm)

- Determine Runoff Volume: Vr

Vr = R x AREA/12 = **0.39 acre-feet <== Runoff Volume**

SUPPORT CALCULATIONS

Job Name: PUFFIN ROAD COMMERCIAL — Prepared By: MW
HWA Job Number: 5450-05 — Checked By: RN
Development (Bold one): Pre **Post**
Basin Name: LOT 6 BASIN — Outfall: Pond A1 (DRY)

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	0.38	or	16,581	or	20
Impervious	1.52	or	66,323	or	80
Wetlands	0.00	or	0	or	0
TOTAL	1.90		82,903		100.0

CURVE NUMBER

Land Use Description	Soil Group	CN	Area (acre)	CNxArea
Impervious (Pavement & Sidewalk)	A	98	1.52	149.21
Impervious (Building)	A	98	0.00	0.00
Pervious (Open Space)	A	39	0.38	14.84
Wetland	A	98	0.00	0.00
Water Mananagement (wet)	A	100	0.00	0.00
		TOTAL	1.90	164.06

CN (weighted) = Total Product / Total Area = 86.2 — **USE => 86**

TIME OF CONCENTRATION

Sheet Flow	
Surface Description:	Asphalt
Manning's Coefficient (n):	0.011
Flow Length (L):	300
Rainfall (P2):	**4.8**
Land Slope (ft/ft):	0.010
Tt = (hour)	**0.05**
Tt = (min)	**3**

Shallow Concentrated	
Surface Description:	Paved
Flow Length (L):	646
Land Slope (ft/ft):	0.007
Average velocity (v):	1.7
Tt = (hour)	**0.11**
Tt = (min)	**6.6**

Channel Flow	
Surface Description:	N/A
Cross Sectional Flow Area (A):	0
Wetted Perimeter (P):	0
Hydraulic Radius (Rh):	0.00
Channel Slope (ft/ft):	0
Manning's Coefficient (n):	0
Velocity (ft/sec):	0
Flow Length (ft):	0
Tt = (hour)	**0**
Tt = (min)	**0**

For Sheet Flow

Manning's Coefficient	
Surface Description	
Smooth Surface (Concrete, asphalt, gravel, or bare soil)	0.011
Fallow (No Residue)	0.05
Cultivated Soils:	
Residue cover < or = 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short grass prairie	0.15
Dense grass	0.24
Bermuda grass	0.41
Range (Natural)	0.13
Woods:	
Ligt underbrush	0.4
Dense underbrush	0.8

For Shallow Flow

Velocity for unpaved:	1.35
Velocity for paved:	1.7

TOTAL Tc (hour):	**0.16**
TOTAL Tc (min):	**9.6**

USE Tc (min): 10.0

RUNOFF VOLUME

- Determine Soil Storage: S

S = (1000 / CN) - 10 = 1.60 inches

- Determine Runoff: R

R = (P - 0.2S)^2 / (P + 0.8S) = 5.87 inches

(where P = 7.5 inch per design storm)

- Determine Runoff Volume: Vr

Vr = R x AREA/12 = **0.93 acre-feet <== Runoff Volume**

SUPPORT CALCULATIONS

Job Name: PUFFIN ROAD COMMERCIAL — Prepared By: MW
HWA Job Number: 5450-05 — Checked By: RN
Development (Bold one): Pre **Post**
Basin Name: LOT 7 BASIN — Outfall: Pond A1 (DRY)

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	0.16	or	6,899	or	20
Impervious	0.63	or	27,595	or	80
Wetlands	0.00	or	0	or	0
TOTAL	0.79		34,494		100.0

CURVE NUMBER

Land Use Description	Soil Group	CN	Area (acre)	CNxArea
Impervious (Pavement & Sidewalk)	A	98	0.63	62.08
Impervious (Building)	A	98	0.00	0.00
Pervious (Open Space)	A	39	0.16	6.18
Wetland	A	98	0.00	0.00
Water Mananagement (wet)	A	100	0.00	0.00
		TOTAL	0.79	68.26

CN (weighted) = Total Product / Total Area = 86.2 — **USE => 86**

TIME OF CONCENTRATION

Sheet Flow	
Surface Description:	Asphalt
Manning's Coefficient (n):	0.011
Flow Length (L):	300
Rainfall (P2):	**4.8**
Land Slope (ft/ft):	0.010
Tt = (hour)	**0.05**
Tt = (min)	**3**

Shallow Concentrated	
Surface Description:	Paved
Flow Length (L):	522
Land Slope (ft/ft):	0.007
Average velocity (v):	1.7
Tt = (hour)	**0.09**
Tt = (min)	**5.4**

Channel Flow	
Surface Description:	N/A
Cross Sectional Flow Area (A):	0
Wetted Perimeter (P):	0
Hydraulic Radius (Rh):	0.00
Channel Slope (ft/ft):	0
Manning's Coefficient (n):	0
Velocity (ft/sec):	0
Flow Length (ft):	0
Tt = (hour)	**0**
Tt = (min)	**0**

For Sheet Flow

Manning's Coefficient	
Surface Description	
Smooth Surface (Concrete, asphalt, gravel, or bare soil)	0.011
Fallow (No Residue)	0.05
Cultivated Soils:	
Residue cover < or = 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short grass prairie	0.15
Dense grass	0.24
Bermuda grass	0.41
Range (Natural)	0.13
Woods:	
Ligt underbrush	0.4
Dense underbrush	0.8

For Shallow Flow

Velocity for unpaved:	1.35
Velocity for paved:	1.7

TOTAL Tc (hour):	**0.14**
TOTAL Tc (min):	**8.4**

USE Tc (min): 10.0

RUNOFF VOLUME

- Determine Soil Storage: S

S = (1000 / CN) - 10 = 1.60 inches

- Determine Runoff: R

R = (P - 0.2S)^2 / (P + 0.8S) = 5.87 inches

(where P = 7.5 inch per design storm)

- Determine Runoff Volume: Vr

Vr = R x AREA/12 = **0.39 acre-feet <== Runoff Volume**

SUPPORT CALCULATIONS

Job Name: PUFFIN ROAD COMMERCIAL — Prepared By: MW
HWA Job Number: 5450-05 — Checked By: RN
Development (Bold one): Pre **Post**
Basin Name: LOT 8 BASIN — Outfall: Pond A1 (DRY)

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	0.18	or	7,763	or	20
Impervious	0.71	or	31,050	or	80
Wetlands	0.00	or	0	or	0
TOTAL	0.89		38,813		100.0

CURVE NUMBER

Land Use Description	Soil Group	CN	Area (acre)	CNxArea
Impervious (Pavement & Sidewalk)	A	98	0.71	69.86
Impervious (Building)	A	98	0.00	0.00
Pervious (Open Space)	A	39	0.18	6.95
Wetland	A	98	0.00	0.00
Water Mananagement (wet)	A	100	0.00	0.00
		TOTAL	0.89	76.81

CN (weighted) = Total Product / Total Area = 86.2 — **USE => 86**

TIME OF CONCENTRATION

Sheet Flow	
Surface Description:	Asphalt
Manning's Coefficient (n):	0.011
Flow Length (L):	300
Rainfall (P2):	**4.8**
Land Slope (ft/ft):	0.003
Tt = (hour)	**0.08**
Tt = (min)	**4.8**

Shallow Concentrated	
Surface Description:	Paved
Flow Length (L):	644
Land Slope (ft/ft):	0.007
Average velocity (v):	1.7
Tt = (hour)	**0.11**
Tt = (min)	**6.6**

Channel Flow	
Surface Description:	N/A
Cross Sectional Flow Area (A):	0
Wetted Perimeter (P):	0
Hydraulic Radius (Rh):	0.00
Channel Slope (ft/ft):	0.004
Manning's Coefficient (n):	0.013
Velocity (ft/sec):	0.00
Flow Length (ft):	0
Tt = (hour)	**0.00**
Tt = (min)	**0**

For Sheet Flow

Manning's Coefficient	
Surface Description	
Smooth Surface (Concrete, asphalt, gravel, or bare soil)	0.011
Fallow (No Residue)	0.05
Cultivated Soils:	
Residue cover < or = 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short grass prairie	0.15
Dense grass	0.24
Bermuda grass	0.41
Range (Natural)	0.13
Woods:	
Ligt underbrush	0.4
Dense underbrush	0.8

For Shallow Flow

Velocity for unpaved:	1.35
Velocity for paved:	1.7

TOTAL Tc (hour):	**0.19**
TOTAL Tc (min):	**11.40**

USE Tc (min): 10.0

RUNOFF VOLUME

- Determine Soil Storage: S

S = (1000 / CN) - 10 = 1.60 inches

- Determine Runoff: R

R = (P - 0.2S)^2 / (P + 0.8S) = 5.87 inches

(where P = 7.5 inch per design storm)

- Determine Runoff Volume: Vr

Vr = R x AREA/12 = **0.44 acre-feet <== Runoff Volume**

SUPPORT CALCULATIONS

Job Name: PUFFIN ROAD COMMERCIAL — Prepared By: MW
HWA Job Number: 5450-05 — Checked By: RN
Development (Bold one): Pre **Post**
Basin Name: LOT 9 BASIN — Outfall: Pond A1 (DRY)

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	0.81	or	35,142	or	20
Impervious	3.23	or	140,569	or	80
Wetlands	0.00	or	0	or	0
TOTAL	4.03		175,711		100.0

CURVE NUMBER

Land Use Description	Soil Group	CN	Area (acre)	CNxArea
Impervious (Pavement & Sidewalk)	A	98	3.23	316.25
Impervious (Building)	A	98	0.00	0.00
Pervious (Open Space)	A	39	0.81	31.46
Wetland	A	98	0.00	0.00
Water Mananagement (wet)	A	100	0.00	0.00
		TOTAL	4.03	347.71

CN (weighted) = Total Product / Total Area = 86.2 — **USE => 86**

TIME OF CONCENTRATION

Sheet Flow	
Surface Description:	Asphalt
Manning's Coefficient (n):	0.011
Flow Length (L):	300
Rainfall (P2):	**4.8**
Land Slope (ft/ft):	0.003
Tt = (hour)	**0.08**
Tt = (min)	**4.8**

Shallow Concentrated	
Surface Description:	Paved
Flow Length (L):	313
Land Slope (ft/ft):	0.007
Average velocity (v):	1.7
Tt = (hour)	**0.05**
Tt = (min)	**3**

Channel Flow	
Surface Description:	N/A
Cross Sectional Flow Area (A):	0
Wetted Perimeter (P):	0
Hydraulic Radius (Rh):	0.00
Channel Slope (ft/ft):	0
Manning's Coefficient (n):	0
Velocity (ft/sec):	0.00
Flow Length (ft):	0
Tt = (hour)	**0.00**
Tt = (min)	**0**

For Sheet Flow

Manning's Coefficient	
Surface Description	
Smooth Surface (Concrete, asphalt, gravel, or bare soil)	0.011
Fallow (No Residue)	0.05
Cultivated Soils:	
Residue cover < or = 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short grass prairie	0.15
Dense grass	0.24
Bermuda grass	0.41
Range (Natural)	0.13
Woods:	
Ligt underbrush	0.4
Dense underbrush	0.8

For Shallow Flow

Velocity for unpaved:	1.35
Velocity for paved:	1.7

TOTAL Tc (hour):	**0.13**
TOTAL Tc (min):	**7.80**

USE Tc (min): 10.0

RUNOFF VOLUME

- Determine Soil Storage: S

S = (1000 / CN) - 10 = 1.60 inches

- Determine Runoff: R

R = (P - 0.2S)^2 / (P + 0.8S) = 5.87 inches

(where P = 7.5 inch per design storm)

- Determine Runoff Volume: Vr

Vr = R x AREA/12 = **1.97 acre-feet <== Runoff Volume**

SUPPORT CALCULATIONS

Job Name: PUFFIN ROAD COMMERCIAL — Prepared By: MW
HWA Job Number: 5450-05 — Checked By: RN
Development (Bold one): Pre **Post**
Basin Name: PUFFIN ROAD BASIN — Outfall: Pond A2 (DRY)

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	0.40	or	17,631	or	22.87
Impervious	1.36	or	59,456	or	77.13
Wetlands	0.00	or	0	or	0
TOTAL	1.77		77,087		100.0

CURVE NUMBER

Land Use Description	Soil Group	CN	Area (acre)	CNxArea
Impervious (Pavement & Sidewalk)	A	98	1.36	133.76
Impervious (Building)	A	98	0.00	0.00
Pervious (Open Space)	A	39	0.40	15.79
Wetland	A	98	0.00	0.00
Water Mananagement (wet)	A	100	0.00	0.00
		TOTAL	1.77	149.55

CN (weighted) = Total Product / Total Area = 84.5 — **USE => 85**

TIME OF CONCENTRATION

Sheet Flow	
Surface Description:	Asphalt
Manning's Coefficient (n):	0.011
Flow Length (L):	200
Rainfall (P2):	**4.8**
Land Slope (ft/ft):	0.003
Tt = (hour)	**0.06**
Tt = (min)	**3.6**

Shallow Concentrated	
Surface Description:	Paved
Flow Length (L):	1108
Land Slope (ft/ft):	0.003
Average velocity (v):	1.2
Tt = (hour)	**0.26**
Tt = (min)	**15.6**

Channel Flow	
Surface Description:	N/A
Cross Sectional Flow Area (A):	0
Wetted Perimeter (P):	0
Hydraulic Radius (Rh):	0.00
Channel Slope (ft/ft):	0
Manning's Coefficient (n):	0
Velocity (ft/sec):	0
Flow Length (ft):	0
Tt = (hour)	**0**
Tt = (min)	**0**

For Sheet Flow

Manning's Coefficient	
Surface Description	
Smooth Surface (Concrete, asphalt, gravel, or bare soil)	0.011
Fallow (No Residue)	0.05
Cultivated Soils:	
Residue cover < or = 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short grass prairie	0.15
Dense grass	0.24
Bermuda grass	0.41
Range (Natural)	0.13
Woods:	
Ligt underbrush	0.4
Dense underbrush	0.8

For Shallow Flow

Velocity for unpaved:	0.95
Velocity for paved:	1.2

TOTAL Tc (hour):	**0.32**
TOTAL Tc (min):	**19.2**

USE Tc (min): 10.0

RUNOFF VOLUME

- Determine Soil Storage: S

S = (1000 / CN) - 10 = 1.83 inches

- Determine Runoff: R

R = (P - 0.2S)^2 / (P + 0.8S) = 5.67 inches

(where P = 7.5 inch per design storm)

- Determine Runoff Volume: Vr

Vr = R x AREA/12 = **0.84 acre-feet <== Runoff Volume**

SUPPORT CALCULATIONS

Job Name: PUFFIN ROAD COMMERCIAL — Prepared By: MW
HWA Job Number: 5450-05 — Checked By: RN
Development (Bold one): Pre **Post**
Basin Name: POND A BASIN — Outfall: Pond A (WET)

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	2.55	or	111,061	or	65.13
Pervious	1.10	or	47,759	or	28.01
Impervious	0.27	or	11,692	or	6.86
Wetlands	0.00	or	0	or	0
TOTAL	3.91		170,512		100.0

CURVE NUMBER

Land Use Description	Soil Group	CN	Area (acre)	CNxArea
Impervious (Pavement & Sidewalk)	A	98	0.27	26.30
Impervious (Building)	A	98	0.00	0.00
Pervious (Open Space)	A	39	1.10	42.76
Wetland	A	98	0.00	0.00
Water Mananagement (Wet)	A	100	2.55	254.96
		TOTAL	3.91	324.02

CN (weighted) = Total Product / Total Area = 82.8 — **USE => 83**

TIME OF CONCENTRATION

Sheet Flow	
Surface Description:	Grass
Manning's Coefficient (n):	0.13
Flow Length (L):	200
Rainfall (P2):	**4.8**
Land Slope (ft/ft):	0.010
Tt = (hour)	**0.27**
Tt = (min)	**16.2**

Shallow Concentrated	
Surface Description:	Paved
Flow Length (L):	0
Land Slope (ft/ft):	0.007
Average velocity (v):	1.2
Tt = (hour)	**0**
Tt = (min)	**0**

Channel Flow	
Surface Description:	N/A
Cross Sectional Flow Area (A):	0
Wetted Perimeter (P):	0
Hydraulic Radius (Rh):	0.00
Channel Slope (ft/ft):	0
Manning's Coefficient (n):	0
Velocity (ft/sec):	0
Flow Length (ft):	0
Tt = (hour)	**0**
Tt = (min)	**0**

For Sheet Flow

Manning's Coefficient	
Surface Description	
Smooth Surface (Concrete, asphalt, gravel, or bare soil)	0.011
Fallow (No Residue)	0.05
Cultivated Soils:	
Residue cover < or = 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short grass prairie	0.15
Dense grass	0.24
Bermuda grass	0.41
Range (Natural)	0.13
Woods:	
Ligt underbrush	0.4
Dense underbrush	0.8

For Shallow Flow

Velocity for unpaved:	0.95
Velocity for paved:	1.2

TOTAL Tc (hour):	**0.27**
TOTAL Tc (min):	**16.2**

USE Tc (min): 10.0

RUNOFF VOLUME

- Determine Soil Storage: S

S = (1000 / CN) - 10 = 2.08 inches

- Determine Runoff: R

R = (P - 0.2S)^2 / (P + 0.8S) = 5.48 inches

(where P = 7.5 inch per design storm)

- Determine Runoff Volume: Vr

Vr = R x AREA/12 = **1.79 acre-feet <== Runoff Volume**

SUPPORT CALCULATIONS

Job Name: PUFFIN ROAD COMMERCIAL — Prepared By: MW
HWA Job Number: 5450-05 — Checked By: RN
Development (Bold one): Pre **Post**
Basin Name: POND A1 BASIN — Outfall: Dry Pond A1

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	2.01	or	87,480	or	91.7
Impervious	0.18	or	7,915	or	8.3
Wetlands	0.00	or	0	or	0
TOTAL	2.19		95,395		100.0

CURVE NUMBER

Land Use Description	Soil Group	CN	Area (acre)	CNxArea
Impervious (Pavement & Sidewalk)	A	98	0.18	17.81
Impervious (Building)	A	98	0.00	0.00
Pervious (Open Space)	A	39	2.01	78.32
Wetland	A	98	0.00	0.00
Water Mananagement (Wet)	A	100	0.00	0.00
		TOTAL	2.19	96.13

CN (weighted) = Total Product / Total Area = 43.9 — **USE => 44**

TIME OF CONCENTRATION

Sheet Flow	
Surface Description:	Grass
Manning's Coefficient (n):	0.13
Flow Length (L):	300
Rainfall (P2):	**4.8**
Land Slope (ft/ft):	0.010
Tt = (hour)	**0.38**
Tt = (min)	**22.8**

Shallow Concentrated	
Surface Description:	Paved
Flow Length (L):	0
Land Slope (ft/ft):	0.007
Average velocity (v):	1.2
Tt = (hour)	**0**
Tt = (min)	**0**

Channel Flow	
Surface Description:	N/A
Cross Sectional Flow Area (A):	0
Wetted Perimeter (P):	0
Hydraulic Radius (Rh):	0.00
Channel Slope (ft/ft):	0
Manning's Coefficient (n):	0
Velocity (ft/sec):	0
Flow Length (ft):	0
Tt = (hour)	**0**
Tt = (min)	**0**

For Sheet Flow

Manning's Coefficient	
Surface Description	
Smooth Surface (Concrete, asphalt, gravel, or bare soil)	0.011
Fallow (No Residue)	0.05
Cultivated Soils:	
Residue cover < or = 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short grass prairie	0.15
Dense grass	0.24
Bermuda grass	0.41
Range (Natural)	0.13
Woods:	
Ligt underbrush	0.4
Dense underbrush	0.8

For Shallow Flow

Velocity for unpaved:	0.95
Velocity for paved:	1.2

TOTAL Tc (hour):	**0.38**
TOTAL Tc (min):	**22.8**

USE Tc (min): 10.0

RUNOFF VOLUME

- Determine Soil Storage: S

S = (1000 / CN) - 10 = 12.78 inches

- Determine Runoff: R

R = (P - 0.2S)^2 / (P + 0.8S) = 1.38 inches

(where P = 7.5 inch per design storm)

- Determine Runoff Volume: Vr

Vr = R x AREA/12 = **0.25 acre-feet <== Runoff Volume**

SUPPORT CALCULATIONS

Job Name: PUFFIN ROAD COMMERCIAL — Prepared By: MW
HWA Job Number: 5450-05 — Checked By: RN
Development (Bold one): Pre **Post**
Basin Name: POND A BASIN — Outfall: Dry Pond A2

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0	or	0
Wet Detention Pond	0.00	or	0	or	0
Pervious	3.71	or	161,430	or	91.71
Impervious	0.33	or	14,592	or	8.29
Wetlands	0.00	or	0	or	0
TOTAL	4.04		176,022		100.0

CURVE NUMBER

Land Use Description	Soil Group	CN	Area (acre)	CNxArea
Impervious (Pavement & Sidewalk)	A	98	0.33	32.83
Impervious (Building)	A	98	0.00	0.00
Pervious (Open Space)	A	39	3.71	144.53
Wetland	A	98	0.00	0.00
Water Mananagement (Wet)	A	100	0.00	0.00
		TOTAL	4.04	177.36

CN (weighted) = Total Product / Total Area = 43.9 — **USE => 44**

TIME OF CONCENTRATION

Sheet Flow	
Surface Description:	Grass
Manning's Coefficient (n):	0.13
Flow Length (L):	300
Rainfall (P2):	**4.8**
Land Slope (ft/ft):	0.010
Tt = (hour)	**0.38**
Tt = (min)	**22.8**

Shallow Concentrated	
Surface Description:	Paved
Flow Length (L):	0
Land Slope (ft/ft):	0.007
Average velocity (v):	1.2
Tt = (hour)	**0**
Tt = (min)	**0**

Channel Flow	
Surface Description:	N/A
Cross Sectional Flow Area (A):	0
Wetted Perimeter (P):	0
Hydraulic Radius (Rh):	0.00
Channel Slope (ft/ft):	0
Manning's Coefficient (n):	0
Velocity (ft/sec):	0
Flow Length (ft):	0
Tt = (hour)	**0**
Tt = (min)	**0**

For Sheet Flow

Manning's Coefficient	
Surface Description	
Smooth Surface (Concrete, asphalt, gravel, or bare soil)	0.011
Fallow (No Residue)	0.05
Cultivated Soils:	
Residue cover < or = 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short grass prairie	0.15
Dense grass	0.24
Bermuda grass	0.41
Range (Natural)	0.13
Woods:	
Ligt underbrush	0.4
Dense underbrush	0.8

For Shallow Flow

Velocity for unpaved:	0.95
Velocity for paved:	1.2

TOTAL Tc (hour):	**0.38**
TOTAL Tc (min):	**22.8**

USE Tc (min): 10.0

RUNOFF VOLUME

- Determine Soil Storage: S

S = (1000 / CN) - 10 = 12.78 inches

- Determine Runoff: R

R = (P - 0.2S)^2 / (P + 0.8S) = 1.38 inches

(where P = 7.5 inch per design storm)

- Determine Runoff Volume: Vr

Vr = R x AREA/12 = **0.46 acre-feet <== Runoff Volume**

SUPPORT CALCULATIONS

Job Name:	PUFFIN ROAD COMMERCIAL	Prepared By:	MW
HWA Job Number:	5450-05	Checked By:	RN
Development (Bold one):	Pre **Post**		
Pond Name:	POND A		

DRY POND STAGE / STORAGE CALCULATIONS

Stage	Area (sf)	Area (ac)	Average Area (ac)	Volume (ac-ft)	Volume (ac ft)
73.00	182,297	4.18	0.00	0.00	0.00
74.00	192,749	4.42	4.30	4.30	4.30
74.50	198,050	4.55	4.49	2.24	6.55

WET POND STAGE / STORAGE CALCULATIONS

Stage	Area (sf)	Area (ac)	Average Area (ac)	Volume (ac-ft)	Accumulated Volume (ac ft)
72.00	111,061	2.55	0.00	0.00	0.00
73.00	117,484	2.70	2.62	2.62	2.62
74.00	124,008	2.85	2.77	2.77	5.40
74.50	127,307	2.92	2.88	1.44	6.84
75.00	335,565	7.70	5.28	5.28	12.11
76.10	376,540	8.64	8.17	8.99	21.10

Water Quality

Runoff of 1" over entire site:

RUNOFF VOLUME (1" * Total Area):	41.71	ac-in
RUNOFF VOLUME:	3.48	ac-ft

Runoff of 2.5" over percent impervious:

Effective Area = Total Area - (Pond + Building):	39.16	
Impervious Area (Sidewalk, Pavement, Future Paved Parking etc.):	26.06	
(%) Percent Impervious = (Impervious Area / Effective Area):	66.55	
2.5" * Percent Impervious:	1.66	
RUNOFF VOLUME:	65.15	ac-in
RUNOFF VOLUME:	5.43	ac-ft

Required Water Quality for Basin:	**5.43**	**ac-ft**
SFWMD Request of 150% Times WQ:	**8.15**	**ac-ft**

Water Quality Required:	**8.15**	**ac-ft**
Min. Weir Elevation:	**73.49**	ft
Actual Weir Elevation:	**74.00**	**ft**
Actual Water Quality Provided:	**11.79**	**ac-ft**

SIZING ORIFICE

Per SFWMD Basis of Review: 1/2" half of detention in 24 hours

Runoff of 1/2" over entire site:

RUNOFF VOLUME (.5" * Total Area):	20.86	ac-in
RUNOFF VOLUME IN 24 HRS:	1.74	ac-ft
OR		
FLOW RATE:	**0.88**	**cfs**

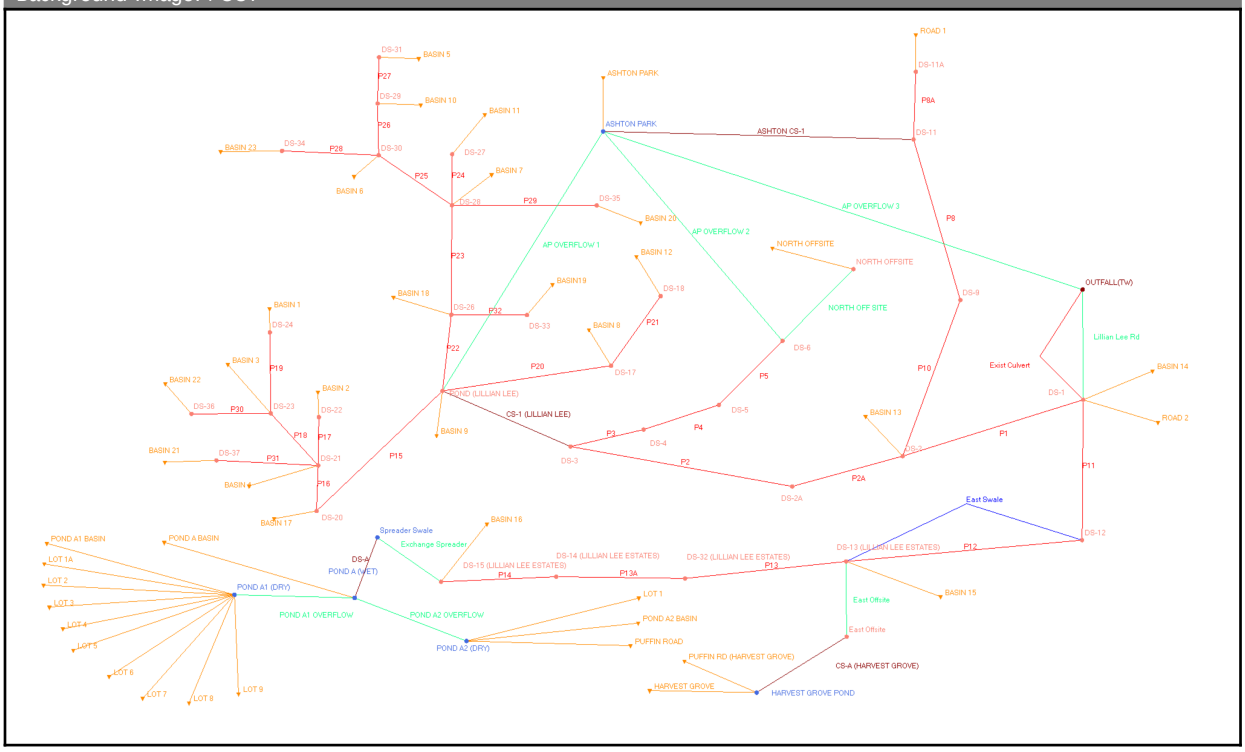
Existing Weir Elevation:	74.00	ft
Difference b/w Weir & Orifice:	2.00	ft
1/2 distance b/w Weir & Orifice (h):	1.00	ft

For a Circular Orifice:

Q = 0.6A(2gh)^0.5; so

A = Q / 0.6(2gh)^0.5 =>	0.18	sf
D = (4A/3.14159)^0.5 =>	0.48	ft
Orifice Diameter (D):	6	in
USE =>	6	in

Background Image: POST



Simple Basin: ASHTON PARK

Scenario:	post development
Node:	ASHTON PARK
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	39.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH484
Peaking Factor:	484.0
Area:	47.5600 ac
Curve Number:	44.9
Ia/S:	0.00
% Impervious:	26.50
% DCIA:	26.50
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 1

Scenario:	post development
Node:	DS-24
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	1.7600 ac
Curve Number:	77.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 10

Scenario:	post development
Node:	DS-29
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.7100 ac
Curve Number:	84.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 11

Scenario:	post development
Node:	DS-27
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number

Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.7100 ac
Curve Number:	83.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 12

Scenario:	post development
Node:	DS-18
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	1.0800 ac
Curve Number:	80.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 13

Scenario:	post development
Node:	DS-2
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	13.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0

Area:	0.0700 ac
Curve Number:	76.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 14

Scenario:	post development
Node:	DS-1
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	12.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0700 ac
Curve Number:	76.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 15

Scenario:	post development
Node:	DS-13 (LILLIAN LEE ESTATES)
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	28.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.7400 ac
Curve Number:	60.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00

% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 16

Scenario:	post development
Node:	DS-15 (LILLIAN LEE ESTATES)
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	23.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.3800 ac
Curve Number:	62.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 17

Scenario:	post development
Node:	DS-20
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.4100 ac
Curve Number:	82.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 18

Scenario:	post development
Node:	DS-26
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.4700 ac
Curve Number:	82.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 2

Scenario:	post development
Node:	DS-22
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	1.2600 ac
Curve Number:	80.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 20

Scenario:	post development
Node:	DS-35
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number

Time of Concentration:	12.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.2600 ac
Curve Number:	76.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 21

Scenario:	post development
Node:	DS-37
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	12.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.3400 ac
Curve Number:	76.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 22

Scenario:	post development
Node:	DS-36
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	12.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0

Area:	0.3400 ac
Curve Number:	76.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 23

Scenario:	post development
Node:	DS-34
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	12.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.2600 ac
Curve Number:	76.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 3

Scenario:	post development
Node:	DS-23
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.8400 ac
Curve Number:	83.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00

% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 4

Scenario:	post development
Node:	DS-21
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.8500 ac
Curve Number:	84.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 5

Scenario:	post development
Node:	DS-31
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.9100 ac
Curve Number:	81.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 6

Scenario:	post development
Node:	DS-30
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.9300 ac
Curve Number:	83.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 7

Scenario:	post development
Node:	DS-28
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	1.1900 ac
Curve Number:	83.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 8

Scenario:	post development
Node:	DS-17
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number

Time of Concentration:	13.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.5900 ac
Curve Number:	87.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN 9

Scenario:	post development
Node:	POND (LILLIAN LEE)
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.6400 ac
Curve Number:	83.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: BASIN19

Scenario:	post development
Node:	DS-33
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0

Area:	0.5600 ac
Curve Number:	81.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: HARVEST GROVE

Scenario:	post development
Node:	HARVEST GROVE POND
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	17.0700 ac
Curve Number:	90.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment: EAST OFFSITE

Simple Basin: LOT 1

Scenario:	post development
Node:	POND A2 (DRY)
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	99999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	14.9700 ac
Curve Number:	86.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00

% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: LOT 1A

Scenario:	post development
Node:	POND A1 (DRY)
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	99999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.7200 ac
Curve Number:	92.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: LOT 2

Scenario:	post development
Node:	POND A1 (DRY)
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	99999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	1.8200 ac
Curve Number:	86.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: LOT 3

Scenario:	post development
Node:	POND A1 (DRY)
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	99999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.9500 ac
Curve Number:	86.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: LOT 4

Scenario:	post development
Node:	POND A1 (DRY)
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	99999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.9000 ac
Curve Number:	86.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: LOT 5

Scenario:	post development
Node:	POND A1 (DRY)
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number

Time of Concentration:	10.0000 min
Max Allowable Q:	99999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.8100 ac
Curve Number:	86.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: LOT 6

Scenario:	post development
Node:	POND A1 (DRY)
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	99999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	1.9000 ac
Curve Number:	86.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: LOT 7

Scenario:	post development
Node:	POND A1 (DRY)
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	99999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0

Area:	0.8000 ac
Curve Number:	86.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: LOT 8

Scenario:	post development
Node:	POND A1 (DRY)
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	99999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.8900 ac
Curve Number:	86.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: LOT 9

Scenario:	post development
Node:	POND A1 (DRY)
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	99999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	4.0400 ac
Curve Number:	86.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00

% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: NORTH OFFSITE

Scenario:	post development
Node:	NORTH OFFSITE
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	24.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.4600 ac
Curve Number:	72.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: POND A BASIN

Scenario:	post development
Node:	POND A (WET)
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	99999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	3.9100 ac
Curve Number:	83.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: POND A1 BASIN

Scenario:	post development
Node:	POND A1 (DRY)
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	99999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.1900 ac
Curve Number:	44.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: POND A2 BASIN

Scenario:	post development
Node:	POND A2 (DRY)
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	99999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	4.0400 ac
Curve Number:	44.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: PUFFIN RD (HARVEST GROVE)

Scenario:	post development
Node:	HARVEST GROVE POND
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number

Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	1.4300 ac
Curve Number:	93.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: PUFFIN ROAD

Scenario:	post development
Node:	POND A2 (DRY)
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	1.7700 ac
Curve Number:	85.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: ROAD 1

Scenario:	post development
Node:	DS-11A
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0

Area:	0.3800 ac
Curve Number:	93.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Simple Basin: ROAD 2

Scenario:	post development
Node:	DS-1
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.1100 ac
Curve Number:	96.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Sfwmd72

Comment:

Node: ASHTON PARK

Scenario:	post development
Type:	Stage/Area
Base Flow:	0.00 cfs
Initial Stage:	71.06 ft
Warning Stage:	74.50 ft
Alert Stage:	0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
71.06	3.0620	133381
72.00	3.2510	141614
73.00	3.4460	150108
74.00	3.6460	158820

Comment: CONVERTED

Node: DS-1

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 63.50 ft
Warning Stage: 73.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
63.50	0.00	0
73.00	0.00	44
73.00	0.00	44

Comment: CONVERTED

Node: DS-11

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 64.12 ft
Warning Stage: 70.90 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
64.12	0.00	0
73.00	0.00	44
73.00	0.00	44

Comment: CONVERTED

Node: DS-11A

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 67.00 ft
Warning Stage: 71.02 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
67.00	0.00	44
71.02	0.00	87
71.02	0.00	87

Comment: CONVERTED

Node: DS-12

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 63.58 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
63.58	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-13 (LILLIAN LEE ESTATES)

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 63.76 ft
Warning Stage: 72.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
63.76	0.00	0
72.00	0.00	44
72.00	0.00	44

Comment: CONVERTED

Node: DS-14 (LILLIAN LEE ESTATES)

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 69.39 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
69.39	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-15 (LILLIAN LEE ESTATES)

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 69.69 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
69.69	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-17

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 67.70 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
67.70	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-18

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 67.83 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
67.83	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-2

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 63.64 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
63.64	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-20

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 62.76 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
62.76	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-21

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 63.14 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
63.14	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-22

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 64.52 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
64.52	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-23

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 63.80 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
63.80	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-24

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 64.18 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
64.18	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-26

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 65.60 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
65.60	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-27

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 67.45 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
67.45	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-28

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 66.92 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
66.92	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-29

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 68.32 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
68.32	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-2A

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 63.66 ft
Warning Stage: 73.50 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
63.66	0.00	44
73.50	0.00	87
73.50	0.00	87

Comment: CONVERTED

Node: DS-3

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 63.95 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
63.95	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-30

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 67.58 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
67.58	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-31

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 68.70 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
68.70	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-32 (LILLIAN LEE ESTATES)

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 65.56 ft
Warning Stage: 73.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
65.56	0.00	0
73.00	0.00	44
73.00	0.00	44

Comment: CONVERTED

Node: DS-33

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 66.85 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
66.85	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-34

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 68.36 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
68.36	0.00	44
74.00	0.00	87
74.00	0.00	87

Comment: CONVERTED

Node: DS-35

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 67.69 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
67.69	0.00	44
74.00	0.00	87
74.00	0.00	87

Comment: CONVERTED

Node: DS-36

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 67.65 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
67.65	0.00	44
74.00	0.00	87
74.00	0.00	87

Comment: CONVERTED

Node: DS-37

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 67.17 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
67.17	0.00	44
74.00	0.00	87
74.00	0.00	87

Comment: CONVERTED

Node: DS-4

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 64.36 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
64.36	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-5

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 64.66 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
64.66	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: DS-6

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 64.70 ft
Warning Stage: 73.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
64.70	0.00	0
73.00	0.00	44
73.00	0.00	44

Comment: CONVERTED

Node: DS-9

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 63.74 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
63.74	0.00	0
74.00	0.00	44
74.00	0.00	44

Comment: CONVERTED

Node: East Offsite

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 68.20 ft
Warning Stage: 72.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
68.20	0.00	0
70.00	1.81	79018
71.00	7.35	320297
72.00	17.96	782338

Comment: CONVERTED

Node: HARVEST GROVE POND

Scenario: post development
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 68.00 ft
Warning Stage: 72.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
68.00	1.1900	51836
69.00	1.3300	57935
70.00	1.4700	64033
71.00	1.6200	70567
72.00	1.7700	77101
73.00	1.9300	84071

Comment:

Node: NORTH OFFSITE

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 71.00 ft
Warning Stage: 72.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
71.00	0.00	44
72.00	0.00	87

Stage [ft]	Volume [ac-ft]	Volume [ft3]
72.00	0.00	87

Comment: CONVERTED

Node: OUTFALL(TW)

Scenario: post development
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 63.61 ft
Warning Stage: 69.00 ft
Alert Stage: 0.00 ft
Boundary Stage: OUTFALL(TW)

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	63.61
0	0	0	80.0000	63.61

Comment: Boundary Stage per SFWMD permit no.49-02368-P

CONVERTED

Node: POND (LILLIAN LEE)

Scenario: post development
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 69.50 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
69.50	0.00	0
70.00	0.74	32278
70.50	1.52	65993
71.00	2.32	101146
71.50	3.16	137780
72.00	4.04	175852
72.50	4.95	215448
73.00	5.89	256525
74.00	8.00	348654

Comment: CONVERTED FROM NGVD TO NAVD SUBTRACT 1-FT
LILLIAN LEE PERMIT (SFWMD 49-100468-P/APPL 180201-300) WAS IN NGVD
PERMITTED CONTROL WAS 70.5 NGVD

CONVERTED

Node: POND A (WET)

Scenario: post development
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 72.00 ft
Warning Stage: 76.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
72.00	2.5496	111061
73.00	2.6971	117486
74.00	2.8468	124007
74.50	2.9226	127308
75.00	7.7035	335564
76.10	8.6442	376541

Comment: 72 2.05
73 2.21
74 2.37
75 2.54

Node: POND A1 (DRY)

Scenario: post development
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 73.00 ft
Warning Stage: 76.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
73.00	1.5200	66211
74.00	1.6100	70132
74.50	1.6600	72310

Comment:

Node: POND A2 (DRY)

Scenario: post development
Type: Stage/Area
Base Flow: 0.00 cfs

Initial Stage: 73.00 ft
Warning Stage: 76.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
73.00	2.6700	116305
74.00	2.8100	122404
74.50	2.8900	125888

Comment:

Node: Spreader Swale

Scenario: post development
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 72.00 ft
Warning Stage: 74.00 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
72.00	0.0060	261
73.00	0.0180	784

Comment:

Weir Link: AP OVERFLOW 1

Scenario: post development
From Node: ASHTON PARK
To Node: POND (LILLIAN LEE)
Link Count: 1
Flow Direction: Both
Damping: 0.0000 ft
Weir Type: Sharp Crested Vertical
Geometry Type: Rectangular
Invert: 74.00 ft
Control Elevation: 74.00 ft
Max Depth: 83.25 ft
Max Width: 160.00 ft
Fillet: 0.00 ft

Bottom Clip
Default: 0.00 ft
Op Table:
Ref Node:

Top Clip
Default: 0.00 ft
Op Table:
Ref Node:

Discharge Coefficients
Weir Default: 3.000
Weir Table:
Orifice Default: 0.600
Orifice Table:

Comment: CONVERTED

Weir Link: AP OVERFLOW 2

Scenario:	post development
From Node:	ASHTON PARK
To Node:	DS-6
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Rectangular
Invert:	74.00 ft
Control Elevation:	74.00 ft
Max Depth:	83.25 ft
Max Width:	200.00 ft
Fillet:	0.00 ft

Bottom Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Top Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Discharge Coefficients	
Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment: CONVERTED

Weir Link: AP OVERFLOW 3

Scenario:	post development
From Node:	ASHTON PARK
To Node:	OUTFALL(TW)
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Rectangular
Invert:	74.00 ft
Control Elevation:	74.00 ft
Max Depth:	83.25 ft
Max Width:	400.00 ft
Fillet:	0.00 ft

Bottom Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Top Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Discharge Coefficients	
Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment: CONVERTED

Drop Structure Link: ASHTON CS-1

Scenario:	post development
From Node:	ASHTON PARK
To Node:	DS-11
Link Count:	1
Pipe Flow Direction:	Both
Solution:	Combine
Increments:	0
Pipe Count:	1
Damping:	0.0000 ft
Length:	85.00 ft
FHWA Code:	1
Entr Loss Coef:	1

Upstream Pipe	
Invert:	65.50 ft
Manning's N:	0.0120
Geometry: Circular	
Max Depth:	2.00 ft
Bottom Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Manning's N:	0.0000
Top Clip	
Default:	0.00 ft
Op Table:	

Downstream Pipe	
Invert:	65.12 ft
Manning's N:	0.0120
Geometry: Circular	
Max Depth:	2.00 ft
Bottom Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Manning's N:	0.0000
Top Clip	
Default:	0.00 ft
Op Table:	

Exit Loss Coef:	1	Ref Node:		Ref Node:	
Bend Loss Coef:	0	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Pipe Comment:

Weir Component		Bottom Clip	
Weir:	1	Default:	0.00 ft
Weir Count:	1	Op Table:	
Weir Flow Direction:	Both	Ref Node:	
Damping:	0.0000 ft	**Top Clip**	
Weir Type:	Sharp Crested Vertical	Default:	0.00 ft
Geometry Type:	Rectangular	Op Table:	
Invert:	71.63 ft	Ref Node:	
Control Elevation:	71.63 ft	**Discharge Coefficients**	
Max Depth:	0.35 ft	Weir Default:	3.200
Max Width:	8.00 ft	Weir Table:	
Fillet:	0.00 ft	Orifice Default:	0.600
		Orifice Table:	

Weir Comment: CONVERTED

Weir Component		Bottom Clip	
Weir:	2	Default:	0.00 ft
Weir Count:	1	Op Table:	
Weir Flow Direction:	Both	Ref Node:	
Damping:	0.0000 ft	**Top Clip**	
Weir Type:	Horizontal	Default:	0.00 ft
Geometry Type:	Rectangular	Op Table:	
Invert:	73.50 ft	Ref Node:	
Control Elevation:	73.50 ft	**Discharge Coefficients**	
Max Depth:	3.08 ft	Weir Default:	3.200
Max Width:	4.08 ft	Weir Table:	
Fillet:	0.00 ft	Orifice Default:	0.600
		Orifice Table:	

Weir Comment: CONVERTED

Drop Structure Comment:

Drop Structure Link: CS-1 (LILLIAN LEE)		Upstream Pipe		Downstream Pipe	
Scenario:	post development	Invert:	67.00 ft	Invert:	66.76 ft
From Node:	POND (LILLIAN LEE)	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DS-3	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Pipe Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft

Increments:	0	Op Table:		Op Table:	
Pipe Count:	1	Ref Node:		Ref Node:	
Damping:	0.0000 ft	Manning's N:	0.0000	Manning's N:	0.0000
Length:	20.00 ft	Top Clip			
FHWA Code:	1	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	1	Op Table:		Op Table:	
Exit Loss Coef:	1	Ref Node:		Ref Node:	
Bend Loss Coef:	0	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Pipe Comment: CONVERTED

Weir Component

Weir:	1	Bottom Clip	
Weir Count:	1	Default:	0.00 ft
Weir Flow Direction:	Both	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Weir Type:	Horizontal	Top Clip	
Geometry Type:	Rectangular	Default:	0.00 ft
Invert:	73.50 ft	Op Table:	
Control Elevation:	73.50 ft	Ref Node:	
Max Depth:	3.00 ft	Discharge Coefficients	
Max Width:	6.58 ft	Weir Default:	3.200
Fillet:	0.00 ft	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment: CONVERTED

Weir Component

Weir:	2	Bottom Clip	
Weir Count:	1	Default:	0.00 ft
Weir Flow Direction:	Both	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Weir Type:	Sharp Crested Vertical	Top Clip	
Geometry Type:	Circular	Default:	0.00 ft
Invert:	69.50 ft	Op Table:	
Control Elevation:	69.50 ft	Ref Node:	
Max Depth:	0.29 ft	Discharge Coefficients	
		Weir Default:	3.200
		Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment: CONVERTED

Weir Component

Weir:	3	Bottom Clip	
Weir Count:	1	Default:	0.00 ft
Weir Flow Direction:	Both	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Weir Type:	Sharp Crested Vertical	Top Clip	

Geometry Type:	Rectangular
Invert:	70.96 ft
Control Elevation:	70.96 ft
Max Depth:	0.17 ft
Max Width:	2.50 ft
Fillet:	0.00 ft

Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients

Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Weir Comment: CONVERTED

Drop Structure Comment:

Drop Structure Link: CS-A (HARVEST GROVE)		Upstream Pipe		Downstream Pipe	
Scenario:	post development	Invert:	68.00 ft	Invert:	67.80 ft
From Node:	HARVEST GROVE POND	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	East Offsite	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.50 ft	Max Depth:	2.50 ft
Pipe Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	0	Op Table:		Op Table:	
Pipe Count:	1	Ref Node:		Ref Node:	
Damping:	0.0000 ft	Manning's N:	0.0000	Manning's N:	0.0000
Length:	350.00 ft	Top Clip			
FHWA Code:	0	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	1	Op Table:		Op Table:	
Exit Loss Coef:	1	Ref Node:		Ref Node:	
Bend Loss Coef:	0	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Pipe Comment:

Weir Component

Weir:	1
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Circular
Invert:	68.00 ft
Control Elevation:	68.00 ft
Max Depth:	0.33 ft

Bottom Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients

Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Weir Comment: 4" Oriffice

Weir Component		Bottom Clip	
Weir:	2	Default:	0.00 ft
Weir Count:	1	Op Table:	
Weir Flow Direction:	Both	Ref Node:	
Damping:	0.0000 ft	Top Clip	
Weir Type:	Sharp Crested Vertical	Default:	0.00 ft
Geometry Type:	Rectangular	Op Table:	
Invert:	69.75 ft	Ref Node:	
Control Elevation:	69.75 ft	Discharge Coefficients	
Max Depth:	2.00 ft	Weir Default:	3.200
Max Width:	5.00 ft	Weir Table:	
Fillet:	0.00 ft	Orifice Default:	0.600
		Orifice Table:	

Weir Comment: 5' Front Weir

Weir Component		Bottom Clip	
Weir:	3	Default:	0.00 ft
Weir Count:	1	Op Table:	
Weir Flow Direction:	Both	Ref Node:	
Damping:	0.0000 ft	Top Clip	
Weir Type:	Horizontal	Default:	0.00 ft
Geometry Type:	Rectangular	Op Table:	
Invert:	71.75 ft	Ref Node:	
Control Elevation:	71.75 ft	Discharge Coefficients	
Max Depth:	3.00 ft	Weir Default:	3.200
Max Width:	6.58 ft	Weir Table:	
Fillet:	0.00 ft	Orifice Default:	0.600
		Orifice Table:	

Weir Comment: Type H Inlet

Drop Structure Comment:

Drop Structure Link: DS-A		Upstream Pipe		Downstream Pipe	
Scenario:	post development	Invert:	68.66 ft	Invert:	68.50 ft
From Node:	POND A (WET)	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	Spreader Swale	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.50 ft	Max Depth:	2.50 ft
Pipe Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	0	Op Table:		Op Table:	
Pipe Count:	1	Ref Node:		Ref Node:	
Damping:	0.0000 ft	Manning's N:	0.0000	Manning's N:	0.0000
Length:	40.00 ft	Top Clip			
FHWA Code:	0	Default:	0.00 ft	Default:	0.00 ft

Entr Loss Coef:	1	Op Table:		Op Table:	
Exit Loss Coef:	1	Ref Node:		Ref Node:	
Bend Loss Coef:	0	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Pipe Comment:

Weir Component

Weir:	1
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Horizontal
Geometry Type:	Rectangular
Invert:	74.65 ft
Control Elevation:	74.65 ft
Max Depth:	4.50 ft
Max Width:	3.00 ft
Fillet:	0.00 ft

Bottom Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients

Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Weir Comment: Type E inlet
4.5
73 invert. depth 3

Weir Component

Weir:	2
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Circular
Invert:	72.00 ft
Control Elevation:	72.00 ft
Max Depth:	0.50 ft

Bottom Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients

Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Weir Comment:

Weir Component

Weir:	3
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Rectangular
Invert:	74.00 ft
Control Elevation:	74.00 ft

Bottom Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Max Depth:	0.65 ft
Max Width:	4.20 ft
Fillet:	0.00 ft

Discharge Coefficients	
Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Weir Comment:

Drop Structure Comment:

Weir Link: East Offsite

Scenario:	post development
From Node:	East Offsite
To Node:	DS-13 (LILLIAN LEE ESTATES)
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Trapezoidal
Invert:	68.20 ft
Control Elevation:	68.20 ft
Max Depth:	9999.00 ft
Extrapolation Method:	Normal Projection
Bottom Width:	0.00 ft
Left Slope:	300.000 (h:v)
Right Slope:	230.000 (h:v)

Bottom Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients	
Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment: CONVERTED

Channel Link: East Swale

Scenario:	post development
From Node:	DS-12
To Node:	DS-13 (LILLIAN LEE ESTATES)
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Length:	345.00 ft
Contraction Coef:	0
Expansion Coef:	0
Entr Loss Coef:	0
Exit Loss Coef:	0
Bend Loss Coef:	0
Bend Location:	0.00 dec
Energy Switch:	Energy

Upstream	
Invert:	70.00 ft
Manning's N:	0.0000
Geometry:	Irregular
Cross Section:	East Swale 2

Downstream	
Invert:	68.00 ft
Manning's N:	0.0000
Geometry:	Irregular
Cross Section:	East Swale 1

Comment: CONVERTED

Weir Link: Exchange Spreader

Scenario:	post development	**Bottom Clip**	
From Node:	Spreader Swale	Default:	0.00 ft
To Node:	DS-15 (LILLIAN LEE ESTATES)	Op Table:	
		Ref Node:	
Link Count:	1	**Top Clip**	
Flow Direction:	Both	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:	
Weir Type:	Sharp Crested Vertical	Ref Node:	
Geometry Type:	Rectangular	**Discharge Coefficients**	
Invert:	73.50 ft	Weir Default:	3.200
Control Elevation:	73.50 ft	Weir Table:	
Max Depth:	999999.00 ft	Orifice Default:	0.600
Max Width:	63.00 ft	Orifice Table:	
Fillet:	0.00 ft		

Comment:

Pipe Link: Exist Culvert

		Upstream		Downstream	
Scenario:	post development	Invert:	63.50 ft	Invert:	63.61 ft
From Node:	DS-1	Manning's N:	0.0240	Manning's N:	0.0240
To Node:	OUTFALL(TW)	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	84.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Weir Link: Lillian Lee Rd

Scenario:	post development	**Bottom Clip**	
From Node:	DS-1	Default:	0.00 ft
To Node:	OUTFALL(TW)	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	

Damping:	0.0000 ft
Weir Type:	Paved Road Vertical
Geometry Type:	Rectangular
Invert:	70.90 ft
Control Elevation:	70.90 ft
Max Depth:	83.25 ft
Max Width:	100.00 ft
Fillet:	0.00 ft

Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients

Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment: CONVERTED

Weir Link: NORTH OFF SITE

Scenario:	post development
From Node:	NORTH OFFSITE
To Node:	DS-6
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Rectangular
Invert:	71.00 ft
Control Elevation:	71.00 ft
Max Depth:	1.00 ft
Max Width:	200.00 ft
Fillet:	0.00 ft

Bottom Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients

Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment: CONVERTED

Pipe Link: P1

Scenario:	post development
From Node:	DS-2
To Node:	DS-1
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Length:	288.00 ft
FHWA Code:	1
Entr Loss Coef:	0
Exit Loss Coef:	1
Bend Loss Coef:	0
Bend Location:	0.00 dec
Energy Switch:	Energy

Upstream

Invert:	63.64 ft
Manning's N:	0.0120

Geometry: Circular

Max Depth:	4.00 ft

Bottom Clip

Default:	0.00 ft
Op Table:	
Ref Node:	
Manning's N:	0.0000

Top Clip

Default:	0.00 ft
Op Table:	
Ref Node:	
Manning's N:	0.0000

Downstream

Invert:	63.50 ft
Manning's N:	0.0120

Geometry: Circular

Max Depth:	4.00 ft

Bottom Clip

Default:	0.00 ft
Op Table:	
Ref Node:	
Manning's N:	0.0000

Top Clip

Default:	0.00 ft
Op Table:	
Ref Node:	
Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P10		Upstream		Downstream	
Scenario:	post development	Invert:	63.74 ft	Invert:	63.70 ft
From Node:	DS-9	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DS-2	Geometry: Horizontal Ellipse		Geometry: Horizontal Ellipse	
Link Count:	1	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	8.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	1	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P11		Upstream		Downstream	
Scenario:	post development	Invert:	63.58 ft	Invert:	63.50 ft
From Node:	DS-12	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DS-1	Geometry: Circular		Geometry: Circular	
Link Count:	2	Max Depth:	3.00 ft	Max Depth:	3.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	69.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P12		Upstream		Downstream	
Scenario:	post development	Invert:	63.76 ft	Invert:	63.58 ft
From Node:	DS-13 (LILLIAN	Manning's N:	0.0120	Manning's N:	0.0120
	LEE ESTATES)	Geometry: Circular		Geometry: Circular	
To Node:	DS-12	Max Depth:	3.00 ft	Max Depth:	3.00 ft
Link Count:	2	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	345.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	0	Top Clip			

Exit Loss Coef:	1	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P13		Upstream		Downstream	
Scenario:	post development	Invert:	65.56 ft	Invert:	64.76 ft
From Node:	DS-32 (LILLIAN	Manning's N:	0.0120	Manning's N:	0.0120
	LEE ESTATES)	Geometry: Circular		Geometry: Circular	
To Node:	DS-13 (LILLIAN	Max Depth:	3.00 ft	Max Depth:	3.00 ft
	LEE ESTATES)	Bottom Clip			
Link Count:	1	Default:	0.00 ft	Default:	0.00 ft
Flow Direction:	Both	Op Table:		Op Table:	
Damping:	0.0000 ft	Ref Node:		Ref Node:	
Length:	400.00 ft	Manning's N:	0.0000	Manning's N:	0.0000
FHWA Code:	1	Top Clip			
Entr Loss Coef:	1	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	1	Op Table:		Op Table:	
Bend Loss Coef:	0	Ref Node:		Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0000	Manning's N:	0.0000
Energy Switch:	Energy				

Comment: CONVERTED

Pipe Link: P13A		Upstream		Downstream	
Scenario:	post development	Invert:	69.39 ft	Invert:	65.56 ft
From Node:	DS-14 (LILLIAN	Manning's N:	0.0120	Manning's N:	0.0120
	LEE ESTATES)	Geometry: Circular		Geometry: Circular	
To Node:	DS-32 (LILLIAN	Max Depth:	2.50 ft	Max Depth:	2.50 ft
	LEE ESTATES)	Bottom Clip			
Link Count:	1	Default:	0.00 ft	Default:	0.00 ft
Flow Direction:	Both	Op Table:		Op Table:	
Damping:	0.0000 ft	Ref Node:		Ref Node:	
Length:	465.00 ft	Manning's N:	0.0000	Manning's N:	0.0000
FHWA Code:	1	Top Clip			
Entr Loss Coef:	1	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	1	Op Table:		Op Table:	
Bend Loss Coef:	0	Ref Node:		Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0000	Manning's N:	0.0000
Energy Switch:	Energy				

Comment: CONVERTED

Pipe Link: P14		Upstream		Downstream	
Scenario:	post development	Invert:	69.69 ft	Invert:	69.39 ft
From Node:	DS-15 (LILLIAN	Manning's N:	0.0120	Manning's N:	0.0120
	LEE ESTATES)	Geometry: Circular		Geometry: Circular	
To Node:	DS-14 (LILLIAN	Max Depth:	2.50 ft	Max Depth:	2.50 ft
	LEE ESTATES)	Bottom Clip			
Link Count:	1	Default:	0.00 ft	Default:	0.00 ft
Flow Direction:	Both	Op Table:		Op Table:	
Damping:	0.0000 ft	Ref Node:		Ref Node:	
Length:	150.00 ft	Manning's N:	0.0000	Manning's N:	0.0000
FHWA Code:	1	Top Clip			
Entr Loss Coef:	1	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	1	Op Table:		Op Table:	
Bend Loss Coef:	0	Ref Node:		Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0000	Manning's N:	0.0000
Energy Switch:	Energy				
Comment: CONVERTED					

Pipe Link: P15		Upstream		Downstream	
Scenario:	post development	Invert:	62.76 ft	Invert:	62.50 ft
From Node:	DS-20	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	POND (LILLIAN	Geometry: Circular		Geometry: Circular	
	LEE)	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Positive	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	130.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	1	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment: CONVERTED					

Pipe Link: P16		Upstream		Downstream	
Scenario:	post development	Invert:	63.14 ft	Invert:	62.76 ft
From Node:	DS-21	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DS-20	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	190.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	1	Manning's N:	0.0000	Manning's N:	0.0000

Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P17		Upstream		Downstream	
Scenario:	post development	Invert:	64.52 ft	Invert:	64.39 ft
From Node:	DS-22	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	DS-21	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	1.25 ft	Max Depth:	1.25 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	25.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	1	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P18		Upstream		Downstream	
Scenario:	post development	Invert:	63.80 ft	Invert:	63.14 ft
From Node:	DS-23	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DS-21	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	265.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	1	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P19	Upstream	Downstream

Scenario:	post development	Invert:	64.18 ft	Invert:	64.05 ft
From Node:	DS-24	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	DS-23	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	25.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	1	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P2		Upstream		Downstream	
Scenario:	post development	Invert:	63.80 ft	Invert:	63.66 ft
From Node:	DS-3	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DS-2A	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.00 ft	Max Depth:	4.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	141.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P20		Upstream		Downstream	
Scenario:	post development	Invert:	67.70 ft	Invert:	67.50 ft
From Node:	DS-17	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	POND (LILLIAN	Geometry: Circular		Geometry: Circular	
	LEE)	Max Depth:	1.25 ft	Max Depth:	1.25 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Positive	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	40.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	1	Default:	0.00 ft	Default:	0.00 ft

Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P21		Upstream		Downstream	
Scenario:	post development	Invert:	67.83 ft	Invert:	67.70 ft
From Node:	DS-18	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	DS-17	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	1.25 ft	Max Depth:	1.25 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	25.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	1	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P22		Upstream		Downstream	
Scenario:	post development	Invert:	65.60 ft	Invert:	63.20 ft
From Node:	DS-26	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	POND (LILLIAN	Geometry: Circular		Geometry: Circular	
	LEE)	Max Depth:	2.50 ft	Max Depth:	2.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Positive	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	80.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	1	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P23		Upstream		Downstream	
Scenario:	post development	Invert:	66.92 ft	Invert:	66.39 ft
From Node:	DS-28	Manning's N:	0.0120	Manning's N:	0.0120

		Upstream		Downstream	
To Node:	DS-26	Geometry: Horizontal Ellipse		Geometry: Horizontal Ellipse	
Link Count:	1	Max Depth:	1.58 ft	Max Depth:	1.58 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	265.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	1	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P24		Upstream		Downstream	
Scenario:	post development	Invert:	67.45 ft	Invert:	67.32 ft
From Node:	DS-27	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	DS-28	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	1.25 ft	Max Depth:	1.25 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	25.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	1	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P25		Upstream		Downstream	
Scenario:	post development	Invert:	67.58 ft	Invert:	66.92 ft
From Node:	DS-30	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DS-28	Geometry: Horizontal Ellipse		Geometry: Horizontal Ellipse	
Link Count:	1	Max Depth:	1.58 ft	Max Depth:	1.58 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	265.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	1	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	

		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P26		Upstream		Downstream	
Scenario:	post development	Invert:	68.12 ft	Invert:	67.99 ft
From Node:	DS-29	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DS-30	Geometry: Horizontal Ellipse		Geometry: Horizontal Ellipse	
Link Count:	1	Max Depth:	1.17 ft	Max Depth:	1.17 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	25.00 ft	Op Table:		Op Table:	
FHWA Code:	30	Ref Node:		Ref Node:	
Entr Loss Coef:	1	Manning's N:	0.0130	Manning's N:	0.0130
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0130	Manning's N:	0.0130

Comment: CONVERTED

Pipe Link: P27		Upstream		Downstream	
Scenario:	post development	Invert:	68.70 ft	Invert:	68.32 ft
From Node:	DS-31	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	DS-29	Geometry: Horizontal Ellipse		Geometry: Horizontal Ellipse	
Link Count:	1	Max Depth:	1.00 ft	Max Depth:	1.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	150.00 ft	Op Table:		Op Table:	
FHWA Code:	30	Ref Node:		Ref Node:	
Entr Loss Coef:	1	Manning's N:	0.0130	Manning's N:	0.0130
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0130	Manning's N:	0.0130

Comment: CONVERTED

Pipe Link: P28		Upstream		Downstream	
Scenario:	post development	Invert:	68.36 ft	Invert:	67.99 ft
From Node:	DS-34	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	DS-30	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	1.00 ft	Max Depth:	1.00 ft

Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	74.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	1	Manning's N:	0.0120	Manning's N:	0.0120
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0120	Manning's N:	0.0120

Comment: CONVERTED

Pipe Link: P29		Upstream		Downstream	
Scenario:	post development	Invert:	67.69 ft	Invert:	67.32 ft
From Node:	DS-35	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	DS-28	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	1.00 ft	Max Depth:	1.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	74.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	1	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P2A		Upstream		Downstream	
Scenario:	post development	Invert:	63.66 ft	Invert:	63.64 ft
From Node:	DS-2A	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DS-2	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.00 ft	Max Depth:	4.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	23.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P3		Upstream		Downstream	
Scenario:	post development	Invert:	64.10 ft	Invert:	63.95 ft
From Node:	DS-4	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DS-3	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	3.50 ft	Max Depth:	3.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	150.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P30		Upstream		Downstream	
Scenario:	post development	Invert:	67.65 ft	Invert:	67.28 ft
From Node:	DS-36	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	DS-23	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	1.00 ft	Max Depth:	1.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	74.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	1	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P31		Upstream		Downstream	
Scenario:	post development	Invert:	67.17 ft	Invert:	66.80 ft
From Node:	DS-37	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	DS-21	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	1.00 ft	Max Depth:	1.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	74.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			

Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P32		Upstream		Downstream	
Scenario:	post development	Invert:	66.85 ft	Invert:	66.72 ft
From Node:	DS-33	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	DS-26	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	1.25 ft	Max Depth:	1.25 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	25.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	1	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P4		Upstream		Downstream	
Scenario:	post development	Invert:	64.41 ft	Invert:	64.10 ft
From Node:	DS-5	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DS-4	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	3.50 ft	Max Depth:	3.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	320.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P5		Upstream		Downstream	
Scenario:	post development	Invert:	64.70 ft	Invert:	64.66 ft

From Node:	DS-6	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DS-5	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	3.50 ft	Max Depth:	3.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	8.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P8		Upstream		Downstream	
Scenario:	post development	Invert:	64.12 ft	Invert:	63.74 ft
From Node:	DS-11	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DS-9	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.50 ft	Max Depth:	2.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	378.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	1	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Pipe Link: P8A		Upstream		Downstream	
Scenario:	post development	Invert:	67.00 ft	Invert:	66.86 ft
From Node:	DS-11A	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DS-11	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	28.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	1	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1	Top Clip			
Bend Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	

Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: CONVERTED

Weir Link: POND A1 OVERFLOW

Scenario:	post development	**Bottom Clip**	
From Node:	POND A1 (DRY)	Default:	0.00 ft
To Node:	POND A (WET)	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Sharp Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	74.50 ft	**Discharge Coefficients**	
Control Elevation:	74.50 ft	Weir Default:	2.800
Max Depth:	9999.00 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	1053.60 ft	Orifice Table:	
Left Slope:	4.000 (h:v)		
Right Slope:	4.000 (h:v)		

Comment:

Weir Link: POND A2 OVERFLOW

Scenario:	post development	**Bottom Clip**	
From Node:	POND A2 (DRY)	Default:	0.00 ft
To Node:	POND A (WET)	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Sharp Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	74.50 ft	**Discharge Coefficients**	
Control Elevation:	74.50 ft	Weir Default:	2.800
Max Depth:	9999.00 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	1609.60 ft	Orifice Table:	
Left Slope:	4.000 (h:v)		
Right Slope:	4.000 (h:v)		

Comment:

Boundary Stage: OUTFALL(TW)

Boundary Stage Set: 100yr72hr

Year	Month	Day	Hour [hr]	Stage [ft]
0	0	0	0.0000	63.61
0	0	0	48.8500	63.81
0	0	0	54.1500	63.97
0	0	0	62.3900	64.94
0	0	0	63.9600	65.50
0	0	0	68.3300	64.93
0	0	0	72.0000	64.89
0	0	0	80.0000	63.61

Comment: Boundary Stage per SFWMD Permit No. 49-100468-P

Boundary Stage: OUTFALL(TW)

Boundary Stage Set: 10yr24hr

Year	Month	Day	Hour [hr]	Stage [ft]
0	0	0	0.0000	63.61
0	0	0	6.8300	63.61
0	0	0	11.5300	64.24
0	0	0	13.5300	64.66
0	0	0	15.7000	64.84
0	0	0	17.1100	64.66
0	0	0	24.0000	64.00

Comment: Boundary Stage per SFWMD Permit No. 49-100468-P

CONVERTED

Boundary Stage: OUTFALL(TW)

Boundary Stage Set: 10yr72hr

Year	Month	Day	Hour [hr]	Stage [ft]
0	0	0	0.0000	63.61
0	0	0	48.8500	63.81
0	0	0	54.1500	63.97
0	0	0	62.3900	64.94
0	0	0	63.9600	65.15
0	0	0	68.3300	64.93
0	0	0	72.0000	64.89
0	0	0	360.0000	63.61

Comment: Boundary Stage per SFWMD Permit No. 49-100468-P

CONVERTED

Simulation: 100y72h

Scenario: post development
Run Date/Time: 8/28/2025 8:29:34 AM
Program Version: StormWise 4.08.02

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	150.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		60.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000
0	0	0	65.0000	15.0000
0	0	0	72.0000	60.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000
0	0	0	65.0000	15.0000
0	0	0	72.0000	60.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder: ICPR3
Unit Hydrograph Folder: ICPR3

Lookup Tables

Boundary Stage Set: 100yr72hr
Extern Hydrograph Set:
Curve Number Set: ICPR3
Green-Ampt Set: ICPR3
Vertical Layers Set:
Impervious Set: ICPR3

Tolerances & Options

Time Marching: SAOR
IA Recovery Time: 72.0000 hr

Max Iterations:	6		
Over-Relax Weight Fact:	0.5 dec	Ia/S:	0.20 dec
dZ Tolerance:	0.0010 ft		
Max dZ:	1.0000 ft	Smp/Man Basin Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft		
		Rainfall Name:	Sfwmd72
		Rainfall Amount:	12.00 in
		Storm Duration:	72.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: 10y24h

Scenario: post development
Run Date/Time: 8/28/2025 8:42:01 AM
Program Version: StormWise 4.08.02

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	80.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		60.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000
0	0	0	15.0000	15.0000
0	0	0	24.0000	60.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	15.0000	15.0000
0	0	0	24.0000	60.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder: ICPR3

Unit Hydrograph Folder: ICPR3

Lookup Tables

Boundary Stage Set: 10yr24hr
Extern Hydrograph Set:
Curve Number Set: ICPR3
Green-Ampt Set: ICPR3
Vertical Layers Set:
Impervious Set: ICPR3

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft
Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft

IA Recovery Time: 24.0000 hr
Ia/S: 0.20 dec
Smp/Man Basin Rain Opt: Global
Rainfall Name: Flmod
Rainfall Amount: 6.00 in
Storm Duration: 24.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

Simulation: 10y72h

Scenario: post development
Run Date/Time: 8/28/2025 8:44:31 AM
Program Version: StormWise 4.08.02

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	150.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		60.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000
0	0	0	50.0000	15.0000
0	0	0	65.0000	60.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000
0	0	0	50.0000	15.0000
0	0	0	65.0000	60.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder: ICPR3

Unit Hydrograph Folder: ICPR3

Lookup Tables

Boundary Stage Set: 10yr72hr
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft
Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft

IA Recovery Time: 72.0000 hr
Ia/S: 0.20 dec
Smp/Man Basin Rain Opt: Global
Rainfall Name: Sfwmd72

Rainfall Amount:	8.00 in
Storm Duration:	72.0000 hr
Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (1D):	100 ft2
Energy Switch (1D):	Energy

Comment:

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
ASHTON PARK	100y72h	135.71	60.2333	12.00	6.26	47.5600
ASHTON PARK	10y24h	46.39	12.3667	6.00	2.18	47.5600
ASHTON PARK	10y72h	71.14	60.2333	8.00	3.40	47.5600

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 1	100y72h	7.41	60.0667	12.00	9.03	1.7600
BASIN 1	10y24h	3.63	12.1000	6.00	3.48	1.7600
BASIN 1	10y72h	4.56	60.0667	8.00	5.27	1.7600

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 10	100y72h	3.61	60.0167	12.00	9.97	0.7100
BASIN 10	10y24h	2.08	12.0500	6.00	4.19	0.7100
BASIN 10	10y72h	2.31	60.0167	8.00	6.09	0.7100

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 11	100y72h	3.12	60.0500	12.00	9.85	0.7100
BASIN 11	10y24h	1.72	12.1000	6.00	4.09	0.7100
BASIN 11	10y72h	1.99	60.0667	8.00	5.98	0.7100

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 12	100y72h	4.66	60.0667	12.00	9.44	1.0800
BASIN 12	10y24h	2.42	12.1000	6.00	3.78	1.0800
BASIN 12	10y72h	2.91	60.0667	8.00	5.62	1.0800

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max	Total Rainfall	Total Runoff	Area [ac]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 13	100y72h	0.31	60.0333	12.00	8.89	0.0700
BASIN 13	10y24h	0.15	12.0833	6.00	3.38	0.0700
BASIN 13	10y72h	0.19	60.0500	8.00	5.16	0.0700

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 14	100y72h	0.32	60.0333	12.00	8.89	0.0700
BASIN 14	10y24h	0.15	12.0667	6.00	3.38	0.0700
BASIN 14	10y72h	0.19	60.0333	8.00	5.15	0.0700

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 15	100y72h	1.84	60.1833	12.00	6.56	0.7400
BASIN 15	10y24h	0.56	12.3500	6.00	1.92	0.7400
BASIN 15	10y72h	0.98	60.2000	8.00	3.33	0.7400

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 16	100y72h	1.09	60.1333	12.00	6.86	0.3800
BASIN 16	10y24h	0.35	12.2667	6.00	2.09	0.3800
BASIN 16	10y72h	0.59	60.1500	8.00	3.55	0.3800

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 17	100y72h	1.79	60.0500	12.00	9.71	0.4100
BASIN 17	10y24h	0.97	12.1000	6.00	3.99	0.4100
BASIN 17	10y72h	1.13	60.0667	8.00	5.86	0.4100

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 18	100y72h	2.06	60.0500	12.00	9.71	0.4700
BASIN 18	10y24h	1.11	12.1000	6.00	3.99	0.4700
BASIN 18	10y72h	1.30	60.0667	8.00	5.86	0.4700

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 2	100y72h	5.44	60.0667	12.00	9.44	1.2600
BASIN 2	10y24h	2.83	12.1000	6.00	3.78	1.2600
BASIN 2	10y72h	3.40	60.0667	8.00	5.62	1.2600

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 20	100y72h	1.18	60.0333	12.00	8.89	0.2600
BASIN 20	10y24h	0.57	12.0667	6.00	3.38	0.2600
BASIN 20	10y72h	0.72	60.0333	8.00	5.15	0.2600

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 21	100y72h	1.54	60.0333	12.00	8.89	0.3400
BASIN 21	10y24h	0.75	12.0667	6.00	3.38	0.3400
BASIN 21	10y72h	0.94	60.0333	8.00	5.15	0.3400

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 22	100y72h	1.54	60.0333	12.00	8.89	0.3400
BASIN 22	10y24h	0.75	12.0667	6.00	3.38	0.3400
BASIN 22	10y72h	0.94	60.0333	8.00	5.15	0.3400

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 23	100y72h	1.18	60.0333	12.00	8.89	0.2600
BASIN 23	10y24h	0.57	12.0667	6.00	3.38	0.2600
BASIN 23	10y72h	0.72	60.0333	8.00	5.15	0.2600

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 3	100y72h	3.70	60.0500	12.00	9.85	0.8400
BASIN 3	10y24h	2.03	12.1000	6.00	4.09	0.8400
BASIN 3	10y72h	2.35	60.0667	8.00	5.98	0.8400

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 4	100y72h	3.76	60.0500	12.00	9.98	0.8500
BASIN 4	10y24h	2.11	12.1000	6.00	4.20	0.8500
BASIN 4	10y72h	2.40	60.0667	8.00	6.09	0.8500

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 5	100y72h	3.95	60.0667	12.00	9.58	0.9100
BASIN 5	10y24h	2.10	12.1000	6.00	3.88	0.9100
BASIN 5	10y72h	2.49	60.0667	8.00	5.74	0.9100

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 6	100y72h	4.09	60.0500	12.00	9.85	0.9300
BASIN 6	10y24h	2.25	12.1000	6.00	4.09	0.9300
BASIN 6	10y72h	2.60	60.0667	8.00	5.98	0.9300

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 7	100y72h	5.24	60.0500	12.00	9.85	1.1900
BASIN 7	10y24h	2.88	12.1000	6.00	4.09	1.1900
BASIN 7	10y72h	3.33	60.0667	8.00	5.98	1.1900

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 8	100y72h	2.80	60.0333	12.00	10.37	0.5900
BASIN 8	10y24h	1.66	12.0833	6.00	4.52	0.5900
BASIN 8	10y72h	1.81	60.0333	8.00	6.45	0.5900

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN 9	100y72h	13.34	60.0167	12.00	9.84	2.6400
BASIN 9	10y24h	7.55	12.0500	6.00	4.09	2.6400
BASIN 9	10y72h	8.49	60.0167	8.00	5.97	2.6400

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
BASIN19	100y72h	2.43	60.0667	12.00	9.58	0.5600
BASIN19	10y24h	1.29	12.1000	6.00	3.88	0.5600
BASIN19	10y72h	1.53	60.0667	8.00	5.74	0.5600

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
HARVEST GROVE	100y72h	77.72	60.0500	12.00	10.76	17.0700
HARVEST GROVE	10y24h	47.66	12.1000	6.00	4.84	17.0700
HARVEST GROVE	10y72h	50.86	60.0500	8.00	6.80	17.0700

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
LOT 1	100y72h	76.85	60.0167	12.00	10.23	14.9700
LOT 1	10y24h	45.69	12.0500	6.00	4.40	14.9700
LOT 1	10y72h	49.57	60.0167	8.00	6.32	14.9700

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
LOT 1A	100y72h	14.28	60.0167	12.00	11.00	2.7200
LOT 1A	10y24h	9.20	12.0500	6.00	5.06	2.7200
LOT 1A	10y72h	9.41	60.0167	8.00	7.04	2.7200

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
LOT 2	100y72h	9.34	60.0167	12.00	10.23	1.8200
LOT 2	10y24h	5.55	12.0500	6.00	4.40	1.8200
LOT 2	10y72h	6.03	60.0167	8.00	6.32	1.8200

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
LOT 3	100y72h	4.88	60.0167	12.00	10.23	0.9500
LOT 3	10y24h	2.90	12.0500	6.00	4.40	0.9500
LOT 3	10y72h	3.15	60.0167	8.00	6.32	0.9500

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
LOT 4	100y72h	4.62	60.0167	12.00	10.23	0.9000
LOT 4	10y24h	2.75	12.0500	6.00	4.40	0.9000
LOT 4	10y72h	2.98	60.0167	8.00	6.32	0.9000

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max	Total Rainfall	Total Runoff	Area [ac]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
LOT 5	100y72h	4.16	60.0167	12.00	10.23	0.8100
LOT 5	10y24h	2.47	12.0500	6.00	4.40	0.8100
LOT 5	10y72h	2.68	60.0167	8.00	6.32	0.8100

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
LOT 6	100y72h	9.75	60.0167	12.00	10.23	1.9000
LOT 6	10y24h	5.80	12.0500	6.00	4.40	1.9000
LOT 6	10y72h	6.29	60.0167	8.00	6.32	1.9000

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
LOT 7	100y72h	4.11	60.0167	12.00	10.23	0.8000
LOT 7	10y24h	2.44	12.0500	6.00	4.40	0.8000
LOT 7	10y72h	2.65	60.0167	8.00	6.32	0.8000

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
LOT 8	100y72h	4.57	60.0167	12.00	10.23	0.8900
LOT 8	10y24h	2.72	12.0500	6.00	4.40	0.8900
LOT 8	10y72h	2.95	60.0167	8.00	6.32	0.8900

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
LOT 9	100y72h	20.74	60.0167	12.00	10.23	4.0400
LOT 9	10y24h	12.33	12.0500	6.00	4.40	4.0400
LOT 9	10y72h	13.38	60.0167	8.00	6.32	4.0400

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
NORTH OFFSITE	100y72h	7.91	60.1500	12.00	8.33	2.4600
NORTH OFFSITE	10y24h	3.41	12.2333	6.00	2.99	2.4600
NORTH OFFSITE	10y72h	4.69	60.1500	8.00	4.69	2.4600

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
POND A BASIN	100y72h	19.75	60.0167	12.00	9.84	3.9100
POND A BASIN	10y24h	11.19	12.0500	6.00	4.09	3.9100
POND A BASIN	10y72h	12.57	60.0167	8.00	5.97	3.9100

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
POND A1 BASIN	100y72h	5.78	60.0333	12.00	4.03	2.1900
POND A1 BASIN	10y24h	0.68	12.2833	6.00	0.74	2.1900
POND A1 BASIN	10y72h	2.44	60.0333	8.00	1.63	2.1900

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
POND A2 BASIN	100y72h	10.66	60.0333	12.00	4.03	4.0400
POND A2 BASIN	10y24h	1.25	12.2833	6.00	0.74	4.0400
POND A2 BASIN	10y72h	4.50	60.0333	8.00	1.63	4.0400

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
PUFFIN RD (HARVEST GROVE)	100y72h	6.57	60.0500	12.00	11.14	1.4300
PUFFIN RD (HARVEST GROVE)	10y24h	4.18	12.1000	6.00	5.18	1.4300
PUFFIN RD	10y72h	4.34	60.0500	8.00	7.16	1.4300

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
(HARVEST GROVE)						

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
PUFFIN ROAD	100y72h	9.04	60.0167	12.00	10.10	1.7700
PUFFIN ROAD	10y24h	5.29	12.0500	6.00	4.30	1.7700
PUFFIN ROAD	10y72h	5.81	60.0167	8.00	6.21	1.7700

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
ROAD 1	100y72h	2.00	60.0167	12.00	11.13	0.3800
ROAD 1	10y24h	1.30	12.0500	6.00	5.18	0.3800
ROAD 1	10y72h	1.32	60.0167	8.00	7.15	0.3800

Simple Basin Runoff Summary [post development]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
ROAD 2	100y72h	0.58	60.0167	12.00	11.50	0.1100
ROAD 2	10y24h	0.39	12.0500	6.00	5.52	0.1100
ROAD 2	10y72h	0.39	60.0167	8.00	7.51	0.1100

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
ASHTON PARK	100y72h	74.50	0.00	74.07	0.0003	135.71	67.39	158820
ASHTON PARK	10y24h	74.50	0.00	72.48	0.0005	46.39	11.04	145656
ASHTON PARK	10y72h	74.50	0.00	73.08	0.0002	71.14	15.23	150834

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-1	100y72h	73.00	0.00	71.10	0.0031	58.82	58.78	933
DS-1	10y24h	73.00	0.00	69.28	-0.0014	24.35	23.91	933
DS-1	10y72h	73.00	0.00	70.35	0.0013	28.93	27.42	932

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-11	100y72h	70.90	0.00	72.61	0.0009	22.99	22.91	485
DS-11	10y24h	70.90	0.00	69.68	0.0010	11.16	11.16	497
DS-11	10y72h	70.90	0.00	70.98	0.0008	15.36	15.35	490

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-11A	100y72h	71.02	0.00	72.62	-0.0009	2.00	1.90	100
DS-11A	10y24h	71.02	0.00	69.68	0.0009	1.30	1.30	100
DS-11A	10y72h	71.02	0.00	70.98	-0.0007	1.32	1.23	100

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-12	100y72h	74.00	0.00	71.20	-0.0038	34.23	34.33	19144

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-12	10y24h	74.00	0.00	69.29	-0.0015	11.65	11.55	1247
DS-12	10y72h	74.00	0.00	70.37	-0.0021	18.35	18.51	9727

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-13 (LILLIAN LEE ESTATES)	100y72h	72.00	0.00	71.22	-0.0021	50.80	45.09	28474
DS-13 (LILLIAN LEE ESTATES)	10y24h	72.00	0.00	69.31	0.0010	13.26	12.82	12403
DS-13 (LILLIAN LEE ESTATES)	10y72h	72.00	0.00	70.39	-0.0013	17.07	18.35	28422

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-14 (LILLIAN LEE ESTATES)	100y72h	74.00	0.00	73.68	0.0007	27.96	27.92	683
DS-14 (LILLIAN LEE ESTATES)	10y24h	74.00	0.00	70.04	-0.0008	2.18	2.18	684
DS-14 (LILLIAN LEE ESTATES)	10y72h	74.00	0.00	70.78	0.0003	8.90	8.90	758

Node Max Conditions [post development]

Node Name	Sim Name	Warning	Alert Stage	Max Stage	Min/Max	Max Total	Max Total	Max Surface

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-15 (LILLIAN LEE ESTATES)	100y72h	74.00	0.00	74.57	0.0009	29.20	27.96	200
DS-15 (LILLIAN LEE ESTATES)	10y24h	74.00	0.00	70.34	0.0002	2.18	2.18	178
DS-15 (LILLIAN LEE ESTATES)	10y72h	74.00	0.00	71.11	0.0002	8.90	8.90	200

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-17	100y72h	74.00	0.00	74.03	0.0010	7.35	7.27	100
DS-17	10y24h	74.00	0.00	71.67	0.0010	4.01	3.95	100
DS-17	10y72h	74.00	0.00	72.63	0.0010	4.66	4.60	100

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-18	100y72h	74.00	0.00	74.37	0.0010	4.66	4.58	100
DS-18	10y24h	74.00	0.00	71.67	0.0010	2.42	2.37	100
DS-18	10y72h	74.00	0.00	72.63	0.0010	2.91	2.86	100

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-2	100y72h	74.00	0.00	71.29	-0.0039	53.68	53.65	635
DS-2	10y24h	74.00	0.00	69.31	-0.0034	18.26	14.57	635
DS-2	10y72h	74.00	0.00	70.40	-0.0033	23.78	20.45	635

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-20	100y72h	74.00	0.00	75.25	-0.0010	23.90	23.82	224
DS-20	10y24h	74.00	0.00	71.67	0.0010	12.51	12.45	224
DS-20	10y72h	74.00	0.00	72.63	-0.0010	15.12	15.07	224

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-21	100y72h	74.00	0.00	77.56	0.0010	22.25	22.15	452
DS-21	10y24h	74.00	0.00	71.75	0.0010	11.61	11.55	452
DS-21	10y72h	74.00	0.00	73.52	-0.0010	14.07	14.00	452

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-22	100y72h	74.00	0.00	78.00	0.0009	5.44	5.23	100
DS-22	10y24h	74.00	0.00	71.86	0.0010	2.83	2.74	100
DS-22	10y72h	74.00	0.00	73.70	0.0009	3.40	3.30	100

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-23	100y72h	74.00	0.00	78.42	-0.0010	12.14	12.01	286
DS-23	10y24h	74.00	0.00	71.96	0.0010	6.20	6.14	286
DS-23	10y72h	74.00	0.00	73.86	-0.0010	7.62	7.55	286

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-24	100y72h	74.00	0.00	78.78	0.0010	7.41	7.18	100
DS-24	10y24h	74.00	0.00	72.05	0.0010	3.63	3.54	100
DS-24	10y72h	74.00	0.00	74.00	0.0010	4.56	4.45	100

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-26	100y72h	74.00	0.00	73.97	-0.0010	25.42	25.35	368
DS-26	10y24h	74.00	0.00	71.67	-0.0010	13.84	13.78	368
DS-26	10y72h	74.00	0.00	72.63	-0.0010	16.25	16.19	368

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-27	100y72h	74.00	0.00	76.51	0.0009	3.12	3.00	100
DS-27	10y24h	74.00	0.00	71.67	0.0009	1.72	1.65	100
DS-27	10y72h	74.00	0.00	73.13	0.0009	1.99	1.92	100

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-28	100y72h	74.00	0.00	76.36	-0.0010	21.16	21.07	694
DS-28	10y24h	74.00	0.00	71.67	-0.0010	11.56	11.50	694
DS-28	10y72h	74.00	0.00	73.07	-0.0010	13.55	13.49	693

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-29	100y72h	74.00	0.00	77.58	0.0010	7.24	7.02	148
DS-29	10y24h	74.00	0.00	71.85	0.0010	3.99	3.88	148
DS-29	10y72h	74.00	0.00	73.57	-0.0010	4.64	4.53	148

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-2A	100y72h	73.50	0.00	71.33	0.0041	32.53	32.51	334
DS-2A	10y24h	73.50	0.00	69.32	0.0039	7.10	7.06	334
DS-2A	10y72h	73.50	0.00	70.40	0.0036	8.04	9.54	334

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-3	100y72h	74.00	0.00	71.44	0.0032	32.56	32.53	550
DS-3	10y24h	74.00	0.00	69.32	0.0033	5.53	7.10	550
DS-3	10y72h	74.00	0.00	70.41	0.0035	7.64	8.22	550

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-30	100y72h	74.00	0.00	77.22	-0.0010	12.09	11.96	380
DS-30	10y24h	74.00	0.00	71.74	0.0010	6.61	6.55	381
DS-30	10y72h	74.00	0.00	73.42	-0.0010	7.76	7.68	380

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-31	100y72h	74.00	0.00	78.23	-0.0010	3.95	3.83	127
DS-31	10y24h	74.00	0.00	72.03	0.0010	2.10	2.03	153
DS-31	10y72h	74.00	0.00	73.83	0.0010	2.49	2.43	127

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-32 (LILLIAN LEE ESTATES)	100y72h	73.00	0.00	71.85	-0.0014	27.92	27.88	1172
DS-32 (LILLIAN LEE ESTATES)	10y24h	73.00	0.00	69.31	0.0010	3.80	2.18	1191
DS-32 (LILLIAN LEE ESTATES)	10y72h	73.00	0.00	70.46	-0.0010	8.90	8.89	1181

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-33	100y72h	74.00	0.00	73.98	-0.0010	2.43	2.34	100
DS-33	10y24h	74.00	0.00	71.67	0.0010	1.29	1.23	100
DS-33	10y72h	74.00	0.00	72.63	-0.0010	1.53	1.47	100

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-34	100y72h	74.00	0.00	77.32	0.0008	1.18	1.13	100
DS-34	10y24h	74.00	0.00	71.77	0.0009	0.57	0.52	100
DS-34	10y72h	74.00	0.00	73.46	0.0008	0.72	0.67	100

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-35	100y72h	74.00	0.00	76.45	-0.0007	1.18	1.08	100
DS-35	10y24h	74.00	0.00	71.67	0.0009	0.57	0.51	100
DS-35	10y72h	74.00	0.00	73.11	0.0007	0.72	0.65	100

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-36	100y72h	74.00	0.00	78.57	0.0010	1.54	1.45	100
DS-36	10y24h	74.00	0.00	72.00	0.0010	0.75	0.67	100
DS-36	10y72h	74.00	0.00	73.92	0.0009	0.94	0.86	100

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-37	100y72h	74.00	0.00	77.71	-0.0010	1.54	1.40	100
DS-37	10y24h	74.00	0.00	71.78	0.0010	0.75	0.67	100
DS-37	10y72h	74.00	0.00	73.58	0.0008	0.94	0.85	100

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-4	100y72h	74.00	0.00	71.47	0.0026	16.57	16.48	828
DS-4	10y24h	74.00	0.00	69.32	0.0024	3.57	4.02	828
DS-4	10y72h	74.00	0.00	70.41	0.0027	4.93	5.25	828

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-5	100y72h	74.00	0.00	71.53	-0.0030	17.30	16.57	579
DS-5	10y24h	74.00	0.00	69.32	-0.0024	4.88	3.57	579
DS-5	10y72h	74.00	0.00	70.41	-0.0025	7.31	4.93	579

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-6	100y72h	73.00	0.00	71.56	-0.0049	25.65	17.30	100
DS-6	10y24h	73.00	0.00	69.32	0.0015	3.41	4.88	100
DS-6	10y72h	73.00	0.00	70.41	0.0019	4.69	7.31	100

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
DS-9	100y72h	74.00	0.00	71.55	-0.0010	22.91	22.85	489
DS-9	10y24h	74.00	0.00	69.38	0.0010	11.16	11.28	490
DS-9	10y72h	74.00	0.00	70.50	-0.0010	15.35	15.41	489

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
East Offsite	100y72h	72.00	0.00	71.22	-0.0023	70.26	17.83	400125
East Offsite	10y24h	72.00	0.00	69.31	-0.0007	14.04	12.76	67465
East Offsite	10y72h	72.00	0.00	70.39	-0.0014	20.28	12.68	225075

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
HARVEST GROVE POND	100y72h	72.00	0.00	72.45	0.0003	84.29	26.77	80226
HARVEST GROVE POND	10y24h	72.00	0.00	70.92	0.0008	51.84	14.04	70030
HARVEST GROVE POND	10y72h	72.00	0.00	71.53	0.0002	55.19	19.90	73999

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
NORTH OFFSITE	100y72h	72.00	0.00	71.56	0.0048	7.91	13.69	100
NORTH OFFSITE	10y24h	72.00	0.00	71.03	0.0000	3.41	3.41	100
NORTH OFFSITE	10y72h	72.00	0.00	71.04	0.0000	4.69	4.69	100

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
OUTFALL(TW)	100y72h	69.00	0.00	65.50	0.0001	58.78	0.00	0
OUTFALL(TW)	10y24h	69.00	0.00	64.84	0.0002	23.91	0.00	0
OUTFALL(TW)	10y72h	69.00	0.00	65.15	0.0001	27.42	0.00	0

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
POND (LILLIAN	100y72h	74.00	0.00	73.92	0.0003	68.84	19.97	96361

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
LEE)								
POND (LILLIAN LEE)	10y24h	74.00	0.00	71.67	0.0006	37.14	2.04	75689
POND (LILLIAN LEE)	10y72h	74.00	0.00	72.63	0.0002	43.91	3.02	82324

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
POND A (WET)	100y72h	76.00	0.00	75.34	0.0002	131.27	27.56	348231
POND A (WET)	10y24h	76.00	0.00	74.22	0.0003	43.93	2.16	125462
POND A (WET)	10y72h	76.00	0.00	74.69	0.0003	123.76	8.81	204702

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
POND A1 (DRY)	100y72h	76.00	0.00	75.34	0.0001	82.21	57.68	72310
POND A1 (DRY)	10y24h	76.00	0.00	74.55	0.0006	46.73	35.40	72310
POND A1 (DRY)	10y72h	76.00	0.00	74.69	0.0001	51.93	51.74	72310

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
POND A2 (DRY)	100y72h	76.00	0.00	75.34	0.0001	96.51	54.19	125888
POND A2 (DRY)	10y24h	76.00	0.00	74.51	0.0004	52.04	6.72	125888
POND A2	10y72h	76.00	0.00	74.69	0.0002	59.84	59.51	125888

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
(DRY)								

Node Max Conditions [post development]

Node Name	Sim Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
Spreader Swale	100y72h	74.00	0.00	74.59	0.0002	27.56	28.55	784
Spreader Swale	10y24h	74.00	0.00	73.55	0.0002	2.16	2.16	784
Spreader Swale	10y72h	74.00	0.00	73.62	0.0004	8.81	8.81	784

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
AP OVERFLOW 1	100y72h	9.24	0.00	0.02	0.80	0.80	0.80
AP OVERFLOW 1	10y24h	0.00	0.00	0.00	0.00	0.00	0.00
AP OVERFLOW 1	10y72h	0.00	0.00	0.00	0.00	0.00	0.00

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
AP OVERFLOW 2	100y72h	12.31	0.00	0.02	0.86	0.86	0.86
AP OVERFLOW 2	10y24h	0.00	0.00	0.00	0.00	0.00	0.00
AP OVERFLOW 2	10y72h	0.00	0.00	0.00	0.00	0.00	0.00

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
AP OVERFLOW 3	100y72h	24.63	0.00	0.04	0.86	0.86	0.86
AP OVERFLOW 3	10y24h	0.00	0.00	0.00	0.00	0.00	0.00
AP OVERFLOW 3	10y72h	0.00	0.00	0.00	0.00	0.00	0.00

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
ASHTON CS-1 - Pipe	100y72h	22.46	0.00	0.01	0.00	0.00	0.00
ASHTON CS-1 - Weir: 1	100y72h	16.93	0.00	0.02	6.05	6.05	6.05
ASHTON CS-1	100y72h	15.33	0.00	0.01	2.12	2.12	2.12

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
- Weir: 2							
ASHTON CS-1 - Pipe	10y24h	11.04	0.00	0.01	0.00	0.00	0.00
ASHTON CS-1 - Weir: 1	10y24h	11.04	0.00	0.00	3.94	3.94	3.94
ASHTON CS-1 - Weir: 2	10y24h	0.00	0.00	0.00	0.00	0.00	0.00
ASHTON CS-1 - Pipe	10y72h	15.23	0.00	-0.09	0.00	0.00	0.00
ASHTON CS-1 - Weir: 1	10y72h	15.23	0.00	-0.18	5.44	5.44	5.44
ASHTON CS-1 - Weir: 2	10y72h	0.00	0.00	0.00	0.00	0.00	0.00

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
CS-1 (LILLIAN LEE) - Pipe	100y72h	19.97	0.00	-0.01	0.00	0.00	0.00
CS-1 (LILLIAN LEE) - Weir: 1	100y72h	16.91	0.00	0.01	2.08	2.08	2.08
CS-1 (LILLIAN LEE) - Weir: 2	100y72h	0.59	0.00	0.00	8.76	8.76	8.76
CS-1 (LILLIAN LEE) - Weir: 3	100y72h	3.31	0.00	0.00	7.92	7.92	7.92
CS-1 (LILLIAN LEE) - Pipe	10y24h	2.04	0.00	0.00	0.00	0.00	0.00
CS-1 (LILLIAN LEE) - Weir: 1	10y24h	0.00	0.00	0.00	0.00	0.00	0.00
CS-1 (LILLIAN LEE) - Weir: 2	10y24h	0.46	0.00	0.00	6.84	6.84	6.84
CS-1 (LILLIAN LEE) - Weir: 3	10y24h	1.58	0.00	0.00	3.79	3.79	3.79
CS-1 (LILLIAN LEE)	10y72h	3.02	0.00	0.00	0.00	0.00	0.00

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
- Pipe							
CS-1 (LILLIAN LEE) - Weir: 1	10y72h	0.00	0.00	0.00	0.00	0.00	0.00
CS-1 (LILLIAN LEE) - Weir: 2	10y72h	0.53	0.00	0.00	7.95	7.95	7.95
CS-1 (LILLIAN LEE) - Weir: 3	10y72h	2.53	0.00	0.00	6.06	6.06	6.06

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
CS-A (HARVEST GROVE) - Pipe	100y72h	26.77	-0.07	-0.39	0.00	0.00	0.00
CS-A (HARVEST GROVE) - Weir: 1	100y72h	0.48	-0.07	0.04	5.61	5.61	5.61
CS-A (HARVEST GROVE) - Weir: 2	100y72h	20.95	0.00	0.97	2.57	2.57	2.57
CS-A (HARVEST GROVE) - Weir: 3	100y72h	13.80	0.00	-0.47	1.45	1.45	1.45
CS-A (HARVEST GROVE) - Pipe	10y24h	14.04	-0.07	-0.07	0.00	0.00	0.00
CS-A (HARVEST GROVE) - Weir: 1	10y24h	0.48	-0.07	0.01	5.61	5.61	5.61
CS-A (HARVEST GROVE) - Weir: 2	10y24h	13.80	0.00	-0.13	2.65	2.65	2.65
CS-A	10y24h	0.00	0.00	0.00	0.00	0.00	0.00

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
(HARVEST GROVE) - Weir: 3							
CS-A (HARVEST GROVE) - Pipe	10y72h	19.90	-0.07	-0.07	0.00	0.00	0.00
CS-A (HARVEST GROVE) - Weir: 1	10y72h	0.48	-0.07	0.01	5.61	5.61	5.61
CS-A (HARVEST GROVE) - Weir: 2	10y72h	19.68	0.00	-0.13	2.56	2.56	2.56
CS-A (HARVEST GROVE) - Weir: 3	10y72h	0.00	0.00	0.00	0.00	0.00	0.00

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
DS-A - Pipe	100y72h	27.56	0.00	-0.04	0.00	0.00	0.00
DS-A - Weir: 1	100y72h	19.90	0.00	0.01	2.29	2.29	2.29
DS-A - Weir: 2	100y72h	0.95	0.00	0.05	4.83	4.83	4.83
DS-A - Weir: 3	100y72h	11.44	0.00	-0.06	4.19	4.19	4.19
DS-A - Pipe	10y24h	2.16	0.00	0.03	0.00	0.00	0.00
DS-A - Weir: 1	10y24h	0.00	0.00	0.00	0.00	0.00	0.00
DS-A - Weir: 2	10y24h	0.77	0.00	0.06	3.93	3.93	3.93
DS-A - Weir: 3	10y24h	1.39	0.00	0.00	1.50	1.50	1.50
DS-A - Pipe	10y72h	8.81	0.00	0.03	0.00	0.00	0.00
DS-A - Weir: 1	10y72h	0.32	0.00	0.00	0.00	0.00	0.00
DS-A - Weir: 2	10y72h	0.94	0.00	0.07	4.80	4.80	4.80
DS-A - Weir:	10y72h	7.54	0.00	-0.01	2.76	2.76	2.76

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
3							

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
East Offsite	100y72h	17.83	-45.09	-3.06	1.04	1.04	1.04
East Offsite	10y24h	12.76	0.00	-0.46	1.15	1.15	1.15
East Offsite	10y72h	12.68	-0.41	-1.21	1.15	1.15	1.15

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
East Swale	100y72h	0.96	-25.04	-0.32	0.41	-2.31	-1.16
East Swale	10y24h	0.00	0.00	0.00	0.00	0.00	0.00
East Swale	10y72h	0.00	-0.69	0.00	0.00	-1.74	-0.87

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
Exchange Spreader	100y72h	28.55	0.00	3.22	1.62	1.62	1.62
Exchange Spreader	10y24h	2.16	0.00	0.00	0.00	0.00	0.00
Exchange Spreader	10y72h	8.81	0.00	0.00	1.13	1.13	1.13

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
Exist Culvert	100y72h	29.56	0.00	-0.02	9.41	9.72	9.56
Exist Culvert	10y24h	23.91	0.00	-0.02	7.61	8.27	7.94
Exist Culvert	10y72h	27.42	0.00	0.05	8.73	9.14	8.94

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
Lillian Lee Rd	100y72h	29.23	0.00	-0.05	1.44	1.44	1.44
Lillian Lee Rd	10y24h	0.00	0.00	0.00	0.00	0.00	0.00
Lillian Lee Rd	10y72h	0.00	0.00	0.00	0.00	0.00	0.00

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
NORTH OFF SITE	100y72h	13.69	-0.33	-13.69	0.74	0.74	0.74
NORTH OFF SITE	10y24h	3.41	0.00	0.00	0.00	0.00	0.00
NORTH OFF SITE	10y72h	4.69	0.00	0.00	0.00	0.00	0.00

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P1	100y72h	53.65	0.00	-4.47	4.27	4.27	4.27
P1	10y24h	14.57	0.00	-1.12	1.21	1.44	1.16
P1	10y72h	20.45	0.00	2.19	1.63	1.63	1.63

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P10	100y72h	22.85	-0.05	2.42	4.52	4.52	4.52
P10	10y24h	11.28	-0.04	1.71	2.23	2.23	2.23
P10	10y72h	15.41	-0.05	2.28	3.04	3.04	3.04

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P11	100y72h	34.33	-25.69	-6.59	2.43	2.43	2.43

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P11	10y24h	11.55	-0.34	6.95	0.82	0.82	0.82
P11	10y72h	18.51	-0.05	6.74	1.31	1.31	1.31

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P12	100y72h	21.87	-22.17	-3.15	-1.57	-1.57	-1.57
P12	10y24h	11.65	-0.01	3.16	0.82	0.82	0.82
P12	10y72h	18.35	0.00	2.42	1.30	1.30	1.30

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P13	100y72h	27.88	-0.28	0.23	3.94	3.94	3.94
P13	10y24h	2.18	-3.48	0.31	2.08	2.74	2.30
P13	10y72h	8.89	-3.95	0.08	2.27	2.64	2.22

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P13A	100y72h	27.92	0.00	0.03	5.69	5.69	5.69
P13A	10y24h	2.18	0.00	0.02	2.16	2.32	2.24
P13A	10y72h	8.90	0.00	-0.02	3.16	2.46	2.49

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P14	100y72h	27.96	0.00	-0.04	5.70	5.70	5.70
P14	10y24h	2.18	0.00	0.00	2.14	2.16	2.15
P14	10y72h	8.90	0.00	0.00	3.10	3.16	3.13

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P15	100y72h	23.82	0.00	0.71	7.58	7.58	7.58
P15	10y24h	12.45	0.00	0.67	3.96	3.96	3.96
P15	10y72h	15.07	0.00	-0.68	4.80	4.80	4.80

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P16	100y72h	22.15	-0.01	0.95	7.05	7.05	7.05
P16	10y24h	11.55	-0.01	0.96	3.68	3.68	3.68
P16	10y72h	14.00	0.00	0.97	4.46	4.46	4.46

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P17	100y72h	5.23	-0.03	0.48	4.26	4.26	4.26
P17	10y24h	2.74	-0.01	0.44	2.23	2.23	2.23
P17	10y72h	3.30	-0.01	-0.42	2.69	2.69	2.69

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P18	100y72h	12.01	-0.04	0.77	3.82	3.82	3.82
P18	10y24h	6.14	-0.03	-0.75	1.95	1.95	1.95
P18	10y72h	7.55	-0.01	-0.77	2.40	2.40	2.40

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P19	100y72h	7.18	-0.01	0.72	4.06	4.06	4.06
P19	10y24h	3.54	0.00	-0.70	2.00	2.00	2.00
P19	10y72h	4.45	0.00	0.72	2.52	2.52	2.52

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P2	100y72h	32.53	0.00	7.13	2.59	2.59	2.59
P2	10y24h	7.10	-0.73	7.10	0.97	1.77	1.30
P2	10y72h	8.04	0.00	7.42	0.97	1.77	1.30

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P20	100y72h	7.27	0.00	0.25	5.92	5.92	5.92
P20	10y24h	3.95	0.00	0.23	3.22	3.22	3.22
P20	10y72h	4.60	0.00	0.23	3.75	3.75	3.75

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P21	100y72h	4.58	-0.03	-0.38	3.73	3.73	3.73
P21	10y24h	2.37	-0.01	0.35	1.93	1.93	1.93
P21	10y72h	2.86	-0.02	0.39	2.33	2.33	2.33

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P22	100y72h	25.35	0.00	-1.51	5.16	5.16	5.16
P22	10y24h	13.78	0.00	-1.40	2.81	2.81	2.81
P22	10y72h	16.19	0.00	-1.53	3.30	3.30	3.30

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P23	100y72h	21.07	-0.03	0.79	6.65	6.65	6.65
P23	10y24h	11.50	-0.01	0.80	3.63	3.63	3.63
P23	10y72h	13.49	-0.01	0.76	4.26	4.26	4.26

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P24	100y72h	3.00	-0.03	0.34	2.45	2.45	2.45
P24	10y24h	1.65	-0.01	0.37	1.35	1.35	1.35
P24	10y72h	1.92	-0.01	0.43	1.57	1.57	1.57

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P25	100y72h	11.96	-0.02	0.83	3.77	3.77	3.77
P25	10y24h	6.55	-0.04	0.77	2.07	2.07	2.07
P25	10y72h	7.68	-0.01	0.83	2.42	2.42	2.42

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P26	100y72h	7.02	0.00	0.71	4.08	4.08	4.08
P26	10y24h	3.88	0.00	0.73	2.25	2.25	2.25
P26	10y72h	4.53	0.00	-0.70	2.63	2.63	2.63

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P27	100y72h	3.83	0.00	0.23	3.03	3.03	3.03
P27	10y24h	2.03	0.00	-0.23	1.61	1.61	1.61
P27	10y72h	2.43	0.00	-0.22	1.92	1.92	1.92

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P28	100y72h	1.13	-0.01	-0.13	1.44	1.44	1.44
P28	10y24h	0.52	-0.05	-0.12	0.66	-0.67	0.66
P28	10y72h	0.67	-0.01	-0.13	0.86	0.86	0.86

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P29	100y72h	1.08	-0.01	-0.11	1.38	1.38	1.38
P29	10y24h	0.51	-0.05	-0.13	0.65	0.65	0.65
P29	10y72h	0.65	-0.01	-0.15	0.83	0.83	0.83

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P2A	100y72h	32.51	0.00	7.72	2.59	2.59	2.59
P2A	10y24h	7.06	-1.46	-7.00	0.95	1.68	1.29
P2A	10y72h	9.54	-0.08	7.60	0.95	1.68	1.29

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P3	100y72h	16.48	-1.57	-4.15	1.71	1.87	1.71
P3	10y24h	4.02	-0.39	3.99	1.36	1.87	1.41
P3	10y72h	5.25	-1.17	-4.10	0.98	1.87	1.41

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P30	100y72h	1.45	-0.02	-0.14	1.84	1.84	1.84
P30	10y24h	0.67	-0.09	-0.15	0.86	-0.97	0.86
P30	10y72h	0.86	-0.02	0.16	1.10	1.10	1.10

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P31	100y72h	1.40	-0.02	-0.15	1.78	1.78	1.78
P31	10y24h	0.67	-0.09	0.17	0.85	-1.06	0.85
P31	10y72h	0.85	-0.02	0.15	1.08	1.08	1.08

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P32	100y72h	2.34	-0.07	-0.28	1.90	1.90	1.90
P32	10y24h	1.23	-0.03	-0.40	1.00	1.00	1.00
P32	10y72h	1.47	-0.06	-0.32	1.20	1.20	1.20

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P4	100y72h	16.57	-0.23	3.08	1.72	1.72	1.72
P4	10y24h	3.57	0.00	3.29	1.91	1.60	1.75
P4	10y72h	4.93	0.00	3.35	1.15	1.08	1.11

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P5	100y72h	17.30	0.00	5.63	1.80	1.80	1.80
P5	10y24h	4.88	0.00	-4.44	2.34	3.42	2.83
P5	10y72h	7.31	0.00	6.15	1.27	1.80	1.52

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P8	100y72h	22.91	0.00	0.87	4.67	4.67	4.67
P8	10y24h	11.16	0.00	0.08	2.27	2.27	2.27
P8	10y72h	15.35	0.00	0.25	3.13	3.13	3.13

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
P8A	100y72h	1.90	0.00	0.43	1.39	1.76	1.46
P8A	10y24h	1.30	0.00	0.04	2.05	3.35	2.70
P8A	10y72h	1.23	0.00	0.04	2.02	3.23	2.60

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
POND A1 OVERFLOW	100y72h	57.68	0.00	-0.03	0.70	0.70	0.70
POND A1 OVERFLOW	10y24h	35.40	0.00	0.23	0.64	0.64	0.64
POND A1 OVERFLOW	10y72h	51.74	0.00	0.04	0.73	0.73	0.73

Link Min/Max Conditions [post development]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
POND A2 OVERFLOW	100y72h	54.19	0.00	-0.16	0.63	0.63	0.63
POND A2 OVERFLOW	10y24h	6.72	0.00	0.01	0.00	0.00	0.00
POND A2 OVERFLOW	10y72h	59.51	0.00	0.12	0.66	0.66	0.66

Puffin Road Commercial

Osceola County, Florida

Section 5

Residence Time Calculations

Prepared by:
Hanson, Walter & Associates, Inc.
104 Broadway, Suite 104
Kissimmee, FL 34741
(407) 847-9433

SUPPORT CALCULATIONS

Job Name:	Puffin Road Commrcial		Prepared By: MW
HWA Job Number:	5450-05		Checked By: RN
Development (Bold one):	Pre	**Post**	
Basin Name:	POND A		

POND STAGE / STORAGE CALCULATIONS [1]

(Below Bleeder for Permanent Pool Volume)

	Stage	Area (sf)	Area (ac)	Average Area (ac)	Volume (ac-ft)	Accumulated Volume (ac-ft)
	56.00	55,915	1.28	0	0	0
	69.00	92,394	2.12	1.70	22.13	22.13
CWL	72.00	111,061	2.55	2.34	7.01	**29.14**

***56.00 ft (6-FT DEPTH - To ensure not to create Anoxic Conditions)**

1) Stage / Storage Calculations is only for Residence Time & Permanent Pool Volume. This calculation (stage/storage) is NOT valid for establishing the necessary elevation for the treatment water quality volume.

RESIDENCE TIME

Runoff Coefficient:

Land Use Description	C	Area (acre)	CxArea
Building	0.98	0.00	0.00
Wet Pond	0.98	2.55	2.50
Impervious	0.98	26.05	25.53
Wetland	0.8	0.00	0.00
Open Space	0.8	13.11	10.49
	TOTAL	41.71	38.52

C (weighted) = $\frac{\text{Total Product}}{\text{Total Area}}$ = **0.92**

Minimum Permanent Pool Volume:

Area (acre)	Weighted Runoff Coefficient	Residence Time (days)	Wet Season Regional Rainfall (in) [2]	Days of Wet Season (June - October)	Months
41.71	0.92	21	31.2	153	June - October

Minimum Required Permanent Pool Volume: 13.74 ac-ft

Actual Provided Permanent Pool Volume:	**29.14**	**ac-ft**
Actual Residence Time (days):	**45**	**days**

(ADEQUATE PERMANENT VOLUME PROVIDED)

2) Technical Publication WRE #380 - Regional Rainfall Frequency Analysis for Central and South Florida; Hydrologic Reporting Unity Resource Assessment Division-Water Resources evaluation Department South Florida Water Management District; Dated July 1999.

Puffin Road Commercial

Osceola County, Florida

Section 6

Phosphorus Loading Calculations (BMP Trains)

Prepared by:
Hanson, Walter & Associates, Inc.
104 Broadway, Suite 104
Kissimmee, FL 34741
(407) 847-9433

SUPPORT CALCULATIONS

Job Name:	Puffin Road Commercial	Prepared By:	MW
HWA Job Number:	5450-05	Checked By:	RN
Development (Bold one):	**Pre** Post		
Basin Name:	SITE (PRE)	Outfall:	POND A (DRY)

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0.00	or	0
Wet Detention Pond	0.00	or	-	or	0
Pervious	39.47	or	1,719,287.60	or	94.63
Impervious	0.00	or	0	or	0
Wetlands	2.24	or	97,600	or	5.37
TOTAL	41.71		1,816,887.60		100.00

CURVE NUMBER

Land Use Description	Soil Group	CN	Area (acre)	CNxArea
Impervious (Pavement & Sidewalk)	A/D	98	0.00	0.00
Impervious (Building)	A/D	98	0.00	0.00
Pervious (Open Space)	A/D	39	39.47	1539.31
Wetland	D	98	2.24	219.58
Water Mananagement (wet)	D	98	0.00	0.00
		TOTAL	41.71	1758.88

CN (weighted) = Total Product / Total Area = 42.2 **USE => 42**

---

1 Catchment DCIA/Non-DCIA Calculation

Total Project Area	41.71	ac
Impervious Area	2.24	ac
DCIA Area	0.00	ac
DCIA %	**-**	**%**

Pervious Area	41.71	ac
CN (Pervious Area)	39	
Impervious Area which is not DCIA (Non-DCIA Area)	2.24	ac
Non-DCIA CN	**42.01**	

SUPPORT CALCULATIONS

Job Name:	Puffin Road Commercial	Prepared By:	MW
HWA Job Number:	5450-05	Checked By:	RN
Development (Bold one):	Pre **Post**		
Basin Name:	SITE (POST)	Outfall:	POND A (DRY)

BASIN INFORMATION

Land Use	Area (ac)		Area (sf)		Percent (%)
Building Roof Area	0.00	or	0.00	or	0
Wet Detention Pond	6.73	or	293,358.80	or	16.15
Pervious	9.46	or	411,877.60	or	22.67
Impervious	25.52	or	1,111,651	or	61.18
Wetlands	0.00	or	0	or	0
TOTAL	41.71		1,816,887.60		100.00

CURVE NUMBER

Land Use Description	Soil Group	CN	Area (acre)	CNxArea
Impervious (Pavement & Sidewalk)	A/D	98	25.52	2500.96
Impervious (Building)	A/D	98	0.00	0.00
Pervious (Open Space)	A/D	39	9.46	368.76
Wetland	D	80	0.00	0.00
Water Mananagement (wet)	D	98	6.73	659.99
		TOTAL	41.71	3529.71

CN (weighted) = Total Product / Total Area = 84.6 **USE => 85**

1 Catchment DCIA/Non-DCIA Calculation

Total Project Area	41.71	ac
Impervious Area	25.52	ac
DCIA Area	25.52	ac
DCIA %	**61.18**	**%**

Pervious Area	9.46	ac
CN (Pervious Area)	39	
Impervious Area which is not DCIA (Non-DCIA Area)	0.00	ac
Non-DCIA CN	**39.00**	

SUPPORT CALCULATIONS

Job Name:	Puffin Road Commrcial	Prepared By: MW
HWA Job Number:	5450-05	Checked By: RN
Development (Bold one):	Pre **Post**	
Basin Name:	POND A (DRY)	

POND STAGE / STORAGE CALCULATIONS

Stage	Area (sf)	Area (ac)	Average Area (ac)	Volume (ac-ft)	Accumulated Volume (ac-ft)
73.00	182,297	4.18	0	0	0
74.00	192,749	4.42	4.30	4.30	4.30
74.50	198,050	4.55	4.49	2.24	**6.55**

Actual Provided Dry Volume:	**6.55**	**ac-ft**
Catchment Area:	**33.62**	**ac**
Retention Depth:	**0.19**	**ft**
Retention Depth:	**2.34**	**inches**

Catchment Area (acre) = Total Site Area (acre) - Ponds Area (acre)

Retention Depth (ft) = Actual Provided Dry Volume (ac-ft) / Catchment Area (acre)

SUPPORT CALCULATIONS

Job Name:	Puffin Road Commrcial		Prepared By: MW
HWA Job Number:	5450-05		Checked By: RN
Development (Bold one):	Pre	**Post**	
Basin Name:	POND A		

POND STAGE / STORAGE CALCULATIONS [1]

(Below Bleeder for Permanent Pool Volume)

	Stage	Area (sf)	Area (ac)	Average Area (ac)	Volume (ac-ft)	Accumulated Volume (ac-ft)
	56.00	55,915	1.28	0	0	0
	69.00	92,394	2.12	1.70	22.13	22.13
CWL	72.00	111,061	2.55	2.34	7.01	**29.14**

***56.00 ft (6-FT DEPTH - To ensure not to create Anoxic Conditions)**

1) Stage / Storage Calculations is only for Residence Time & Permanent Pool Volume. This calculation (stage/storage) is NOT valid for establishing the necessary elevation for the treatment water quality volume.

RESIDENCE TIME

Runoff Coefficient:

Land Use Description	C	Area (acre)	CxArea
Building	0.98	0.00	0.00
Wet Pond	0.98	2.55	2.50
Impervious	0.98	26.05	25.53
Wetland	0.8	0.00	0.00
Open Space	0.8	13.11	10.49
	TOTAL	41.71	38.52

C (weighted) = $\frac{\text{Total Product}}{\text{Total Area}}$ = **0.92**

Minimum Permanent Pool Volume:

Area (acre)	Weighted Runoff Coefficient	Residence Time (days)	Wet Season Regional Rainfall (in) [2]	Days of Wet Season (June - October)	Months
41.71	0.92	21	31.2	153	June - October

Minimum Required Permanent Pool Volume: 13.74 ac-ft

Actual Provided Permanent Pool Volume:	**29.14**	**ac-ft**
Actual Residence Time (days):	**45**	**days**

(ADEQUATE PERMANENT VOLUME PROVIDED)

2) Technical Publication WRE #380 - Regional Rainfall Frequency Analysis for Central and South Florida; Hydrologic Reporting Unity Resource Assessment Division-Water Resources evaluation Department South Florida Water Management District; Dated July 1999.

Complete Report (not including cost) Ver 4.3.5

Project: Puffin Road Commercial
Date: 8/25/2025 8:22:21 AM

Site and Catchment Information

Analysis: Net Improvement

Catchment Name	Puffin Road Commercial
Rainfall Zone	Florida Zone 2
Annual Mean Rainfall	50.00

Pre-Condition Landuse Information

Landuse	Agricultural - General: TN=2.800 TP=0.487
Area (acres)	41.71
Rational Coefficient (0-1)	0.01
Non DCIA Curve Number	42.01
DCIA Percent (0-100)	0.00
Nitrogen EMC (mg/l)	2.800
Phosphorus EMC (mg/l)	0.487
Runoff Volume (ac-ft/yr)	1.426
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	4.924
Phosphorus Loading (kg/yr)	0.856

Post-Condition Landuse Information

Landuse	High-Intensity Commercial: TN=2.40 TP=0.345
Area (acres)	41.71
Rational Coefficient (0-1)	0.50
Non DCIA Curve Number	39.00
DCIA Percent (0-100)	61.18
Wet Pond Area (ac)	6.73
Nitrogen EMC (mg/l)	2.400
Phosphorus EMC (mg/l)	0.345
Runoff Volume (ac-ft/yr)	72.480
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000

Nitrogen Loading (kg/yr)	214.482
Phosphorus Loading (kg/yr)	30.832

Catchment Number: 1 Name: Puffin Road Commercial

Project: Puffin Road Commercial
Date: 8/25/2025

Multiple BMP in Series Design Parameters

BMP in Series Number: 1
BMP Type: Retention

Retention Depth (in)	2.340
Retention Volume (ac-ft)	6.821

BMP in Series Number: 2
BMP Type: Wet Detention

Permanent Pool Volume (ac-ft)	29.140
Permanent Pool Volume (ac-ft) for 31 days residence	6.156
Annual Residence Time (days)	147
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

BMP in Series Number: 3
BMP Type: None

BMP in Series Number: 4
BMP Type: None

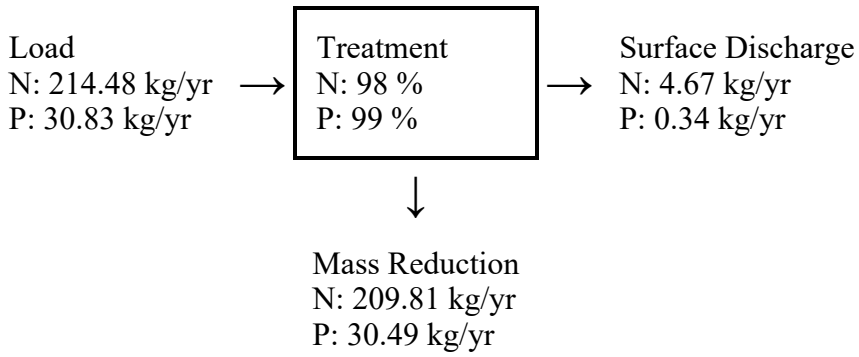
Watershed Characteristics

Catchment Area (acres)	41.71
Contributing Area (acres)	34.980
Non-DCIA Curve Number	39.00
DCIA Percent	61.18
Rainfall Zone	Florida Zone 2
Rainfall (in)	50.00

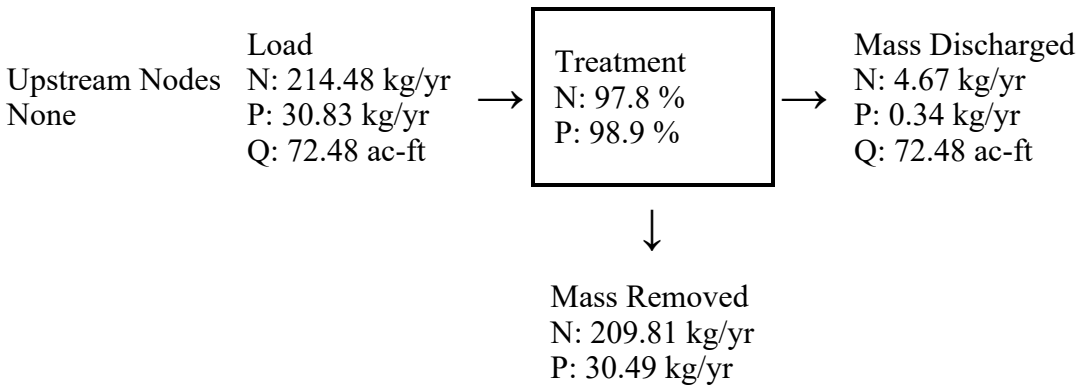
Surface Water Discharge

Required TN Treatment Efficiency (%)	98
Provided TN Treatment Efficiency (%)	98
Required TP Treatment Efficiency (%)	97
Provided TP Treatment Efficiency (%)	99

Load for Multiple BMP in Series



Load Diagram for Multiple BMP (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: Puffin Road Commercial

Analysis Type: Net Improvement
Date:8/25/2025

BMP Types:

Catchment 1 - (Puffin Road Commercial) Multiple BMP
Based on % removal values to the nearest percent

Routing Summary
Catchment 1 Routed to Outlet

Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	4.92 kg/yr	
Total N post load	214.48 kg/yr	
Target N load reduction	98 %	
Target N discharge load	4.92 kg/yr	
Percent N load reduction	98 %	
Provided N discharge load	4.67 kg/yr	10.3 lb/yr
Provided N load removed	209.81 kg/yr	462.63 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	.856 kg/yr	
Total P post load	30.832 kg/yr	
Target P load reduction	97 %	
Target P discharge load	.856 kg/yr	
Percent P load reduction	99 %	
Provided P discharge load	.342 kg/yr	.75 lb/yr
Provided P load removed	30.489 kg/yr	67.229 lb/yr

Puffin Road Commercial

Osceola County, Florida

Section 7

Supporting Documents

- **Warranty Deeds**
- **Osceola County Property Appraiser Report**
- **Letter of Authorization**

Prepared by:
Hanson, Walter & Associates, Inc.
104 Broadway, Suite 104
Kissimmee, FL 34741
(407) 847-9433

Katrina S. Scarborough, CFA, CCF, MCF
Osceola County Property Appraiser
www.property-appraiser.org
Osceola County Government Center
2505 East Irlo Bronson Memprial Hwy, Kissimmee, FL 34744
Ph:(407) 742-5000 Fax:(407) 742-4900

Owner Information

Parcel ID:	05-26-31-0105-0001-0010
Owner(S):	SLS INVESTMENTS OF CENTRAL FLORIDA LLLP
Mailing Address:	2725 13TH ST SAINT CLOUD FL 34769
Property Address:	0 PUFFIN RD SAINT CLOUD FL 34771
Primary Use:	TIMBERLAND 80-90-VAC (Code: 5501)
Tax District:	100 - ST CLOUD

Legal Description

Legal Description: EXCHANGE AT SAINT CLOUD PB 33 PG 159 LOT 1

Land (Total Records: 2) Total Acres: 24.52

Land	Units	Unit Type	Depth	Value
TIMBER / PINE	AC	24.52	0	$9,318
MARKET VALUE	AC	24.52	0	$1,471,200

Property Values (Total Records: 3)

This Is An Agriculture Property.

Values Shown Below Represents Working Appraised Values As Of 07/27/2025, Which Are Subject To Change Prior To Certification

Tax Year	Land	Building(S)	Feature(S)	Market	AG-Benefit	Assessed	Exemption	Taxable
2025	$1,471,200	$0	$0	$1,471,200	1461900	$9,300	$0	$9,300

Values Shown Below Represents Certified Values That Appeared On The Tax Roll As Of 10/04/2024

Tax Year	Land	Building(S)	Feature(S)	Market	AG-Benefit	Assessed	Exemption	Taxable
2024	$1,471,200	$0	$0	$1,471,200	1461900	$9,300	$0	$9,300

Values Shown Below Represents Historic Values

Tax Year	Land	Building(S)	Feature(S)	Market	AG-Benefit	Assessed	Exemption	Taxable
2023	$1,471,200	$0	$0	$1,471,200	1461900	$9,300	$0	$9,300

Exemptions (Total Exemption: 0)

No Records To Display.

Parcel Sales History

No Records To Display.

Sales In Subdivision Within Last 1 Year (Total Records: 0)

No Records To Display.

Buildings (Total Records: 0)

No Records To Display.

Extra Features

No Records To Display.

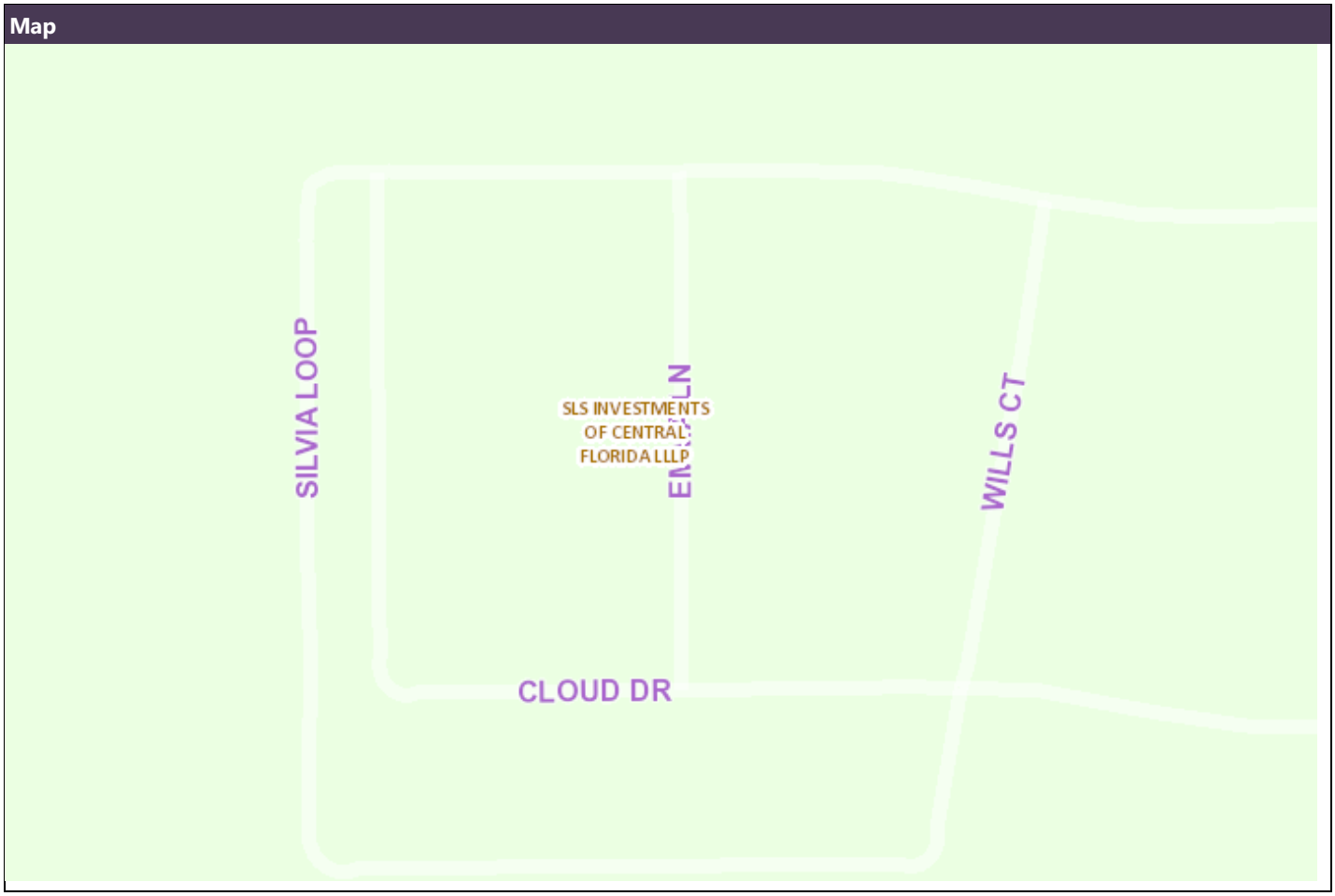
School Info

Category	Description
ELEMENTARY SCHOOLS	HICKORY TREE ELEMENTARY
MIDDLE SCHOOLS	NARCOOSSEE MIDDLE
HIGH SCHOOLS	HARMONY HIGH

TPP Info

No Records To Display.

Map


SILVIA LOOP
SLS INVESTMENTS OF CENTRAL FLORIDA LLLP
WILLS CT
CLOUD DR

Katrina S. Scarborough, CFA, CCF, MCF
Osceola County Property Appraiser
www.property-appraiser.org
Osceola County Government Center
2505 East Irlo Bronson Memprial Hwy, Kissimmee, FL 34744
Ph:(407) 742-5000 Fax:(407) 742-4900

Owner Information

Parcel ID:	05-26-31-0105-0001-0020
Owner(S):	DD RETAIL ST CLOUD LLC
Mailing Address:	3300 NE EXPRESSWAY BLDG 6 ATLANTA GA 30341
Property Address:	0 PUFFIN RD SAINT CLOUD FL 34771
Primary Use:	TIMBERLAND 80-90-VAC (Code: 5501)
Tax District:	100 - ST CLOUD

Legal Description

Legal Description: EXCHANGE AT SAINT CLOUD PB 33 PG 159 LOT 2

Land (Total Records: 2) Total Acres: 15.42

Land	Units	Unit Type	Depth	Value
TIMBER / PINE	AC	15.42	0	$1,542
MARKET VALUE	AC	15.42	0	$123,360

Property Values (Total Records: 3)

This Is An Agriculture Property.

Values Shown Below Represents Working Appraised Values As Of 07/27/2025, Which Are Subject To Change Prior To Certification

Tax Year	Land	Building(S)	Feature(S)	Market	AG-Benefit	Assessed	Exemption	Taxable
2025	$123,400	$0	$0	$123,400	121900	$1,500	$0	$1,500

Values Shown Below Represents Certified Values That Appeared On The Tax Roll As Of 10/04/2024

Tax Year	Land	Building(S)	Feature(S)	Market	AG-Benefit	Assessed	Exemption	Taxable
2024	$925,200	$0	$0	$925,200	919300	$5,900	$0	$5,900

Values Shown Below Represents Historic Values

Tax Year	Land	Building(S)	Feature(S)	Market	AG-Benefit	Assessed	Exemption	Taxable
2023	$925,200	$0	$0	$925,200	919300	$5,900	$0	$5,900

Exemptions (Total Exemption: 0)

No Records To Display.

Parcel Sales History

Sale Date	Price	Book-Page	Seller(S)	Buyer(S)	Vacant / Improved	Deed Code
2023-04-18	$4,250,000	6392-2431	SLS INVESTMENTS OF CENTRAL FLORIDA LLLP	DD RETAIL ST CLOUD LLC	VACANT	SPECIAL WARRANTY DEED

Sales In Subdivision Within Last 1 Year (Total Records: 0)

No Records To Display.

Buildings (Total Records: 0)

No Records To Display.

Extra Features

No Records To Display.

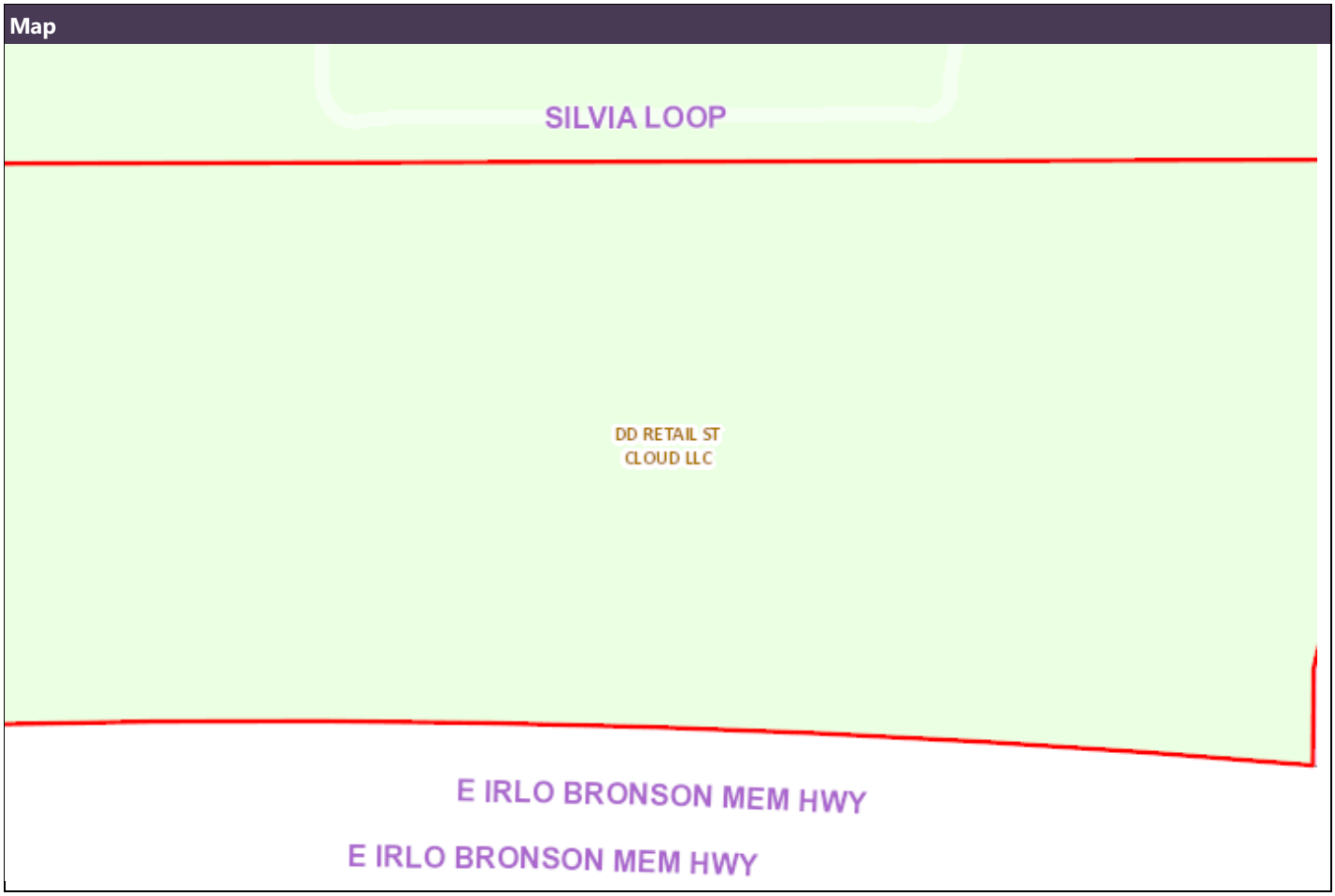
School Info

Category	Description
ELEMENTARY SCHOOLS	HICKORY TREE ELEMENTARY
MIDDLE SCHOOLS	NARCOOSSEE MIDDLE
HIGH SCHOOLS	HARMONY HIGH

TPP Info

No Records To Display.

Map


SILVIA LOOP
DD RETAIL ST
CLOUD LLC
E IRLO BRONSON MEM HWY
E IRLO BRONSON MEM HWY

This Instrument Prepared By
and Should be Returned To:

Atkinson Ferguson, LLC
Attn: Chris H. Atkinson, Esq.
118 Court Street
Monroe, Georgia 30655

Tax Parcel I.D. No: 05-26-31-00U0-0065-0000
Consideration: $4,250,000.00
Documentary Stamp Tax: $29,750.00

STATE OF FLORIDA

ORANGE COUNTY

SPECIAL WARRANTY DEED

THIS SPECIAL WARRANTY DEED is made the 18th day of April, 2023, by **SLS INVESTMENTS OF CENTRAL FLORIDA, LLLP**, a Florida limited liability limited partnership, whose address is 2725 13th Street, Saint Cloud, Florida 34769 (hereinafter referred to as the "Grantor"), to **DD RETAIL ST. CLOUD, LLC**, a Georgia limited liability company, whose address is 3300 NE Expressway, Building 6, Atlanta, GA 30341 (hereinafter referred to as the "Grantee").

(Whenever used herein, the terms "Grantor" and "Grantee" shall be deemed to include the parties to this Special Warranty Deed and the heirs, legal representatives and assigns of individuals, and the successors and assigns of corporations. The singular shall be deemed to include the plural, and vice versa, where the context so permits.)

WITNESSETH:

WITNESSETH, that the Grantor, for and in consideration of the sum of Ten Dollars ($10.00) and other good and valuable consideration, receipt of which is hereby acknowledged, has granted, bargained, sold, conveyed and confirmed, and by these presents does grant, bargain, sell, convey and confirm, unto Grantee, all that certain land situated in Osceola County, Florida, more particularly described in **Exhibit "A"** attached hereto (the "Property"), together with all the easements, tenements, hereditaments, and appurtenances thereto belonging or in anywise appertaining.

TO HAVE AND TO HOLD the Property, and all the estate, right, title, interest, lien, and equity whatsoever of Grantor either in law or in equity or both, to the proper use, benefit and behoof of Grantee and Grantee's successors and assigns in fee simple forever.

AND THE GRANTOR hereby covenants with Grantee that Grantor will warrant and defend the Property against the lawful claims and demands of all persons claiming by, through or under Grantor, but against none other, and that the Property is free of all encumbrances, except those matters described in **Exhibit "B"** attached hereto (the "Permitted Encumbrances"), provided that this reference shall not serve to reimpose same.

Recorded in Osceola County, FL KELVIN SOTO, ESQ., CLERK OF COURT 04/21/2023 02:42:29 PM RECEIPT # 2749431
Rec Fees 35.50 DEED DOC 29,750.00 EXTRA NAMES
CFN# 2023048380 BK 6392 PG 2431 PAGE 1 OF 4

IN WITNESS WHEREOF, Grantor has executed this Special Warranty Deed as of the day and year first above written.

Signed, sealed, and delivered
in the presence of:

Print Name: Marcy B. Kast

Print Name:

GRANTOR:

SLS INVESTMENTS OF CENTRAL FLORIDA, LLLP, a Florida limited liability limited partnership

By: _____
Jolene Sheive
Authorized Manager

STATE OF Florida

COUNTY OF Orange

The foregoing instrument was acknowledged before me by means of physical presence this 17th day of April, 2023, by Jolene Sheive, as Authorized Manager of **SLS INVESTMENTS OF CENTRAL FLORIDA, LLLP**, a Florida limited liability limited partnership, on behalf of such limited liability limited partnership. She ☐ is personally known to me, OR ☑ has produced FL D/L (type of identification) as identification.

NOTARY STAMP OR SEAL:

MARCY B. KAST
MY COMMISSION # HH 151206
EXPIRES: July 14, 2025
Bonded Thru Notary Public Underwriters

_____
Notary Public

Print Name: _____

Commission No.: _____

My Commission Expires: _____

CFN# 2023048380 OFFICIAL RECORDS O DOC_TYPE DEED BK 6392 PG 2432 PAGE 2 OF 4

EXHIBIT "A"

Property

All that certain piece, parcel, lot or tract of land, situate, lying and being in the City of Saint Cloud, County of Osceola, State of Florida, being shown as **Lot 2**, containing 15.346 acres, on plat entitled "Exchange at Saint Cloud," prepared by John M. Hughes, Registration No. 6367, of Hanson, Walter & Associates, Inc., recorded April 17, 2023 in **Plat Book 33, Page 159**, Osceola County, Florida Records, which recorded plat is incorporated herein by reference and made a part of this description.

CFN# 2023048380 OFFICIAL RECORDS O DOC_TYPE DEED BK 6392 PG 2433 PAGE 3 OF 4

EXHIBIT "B"

Permitted Encumbrances

1. Taxes for the year 2023 and subsequent years, which are not yet due and payable.

2. City of St. Cloud, Florida Resolution No. 85-14, as more fully set forth in the document recorded in Official Records Book 781, Page 2898, of the Public Records of Osceola County, Florida.

3. City of St. Cloud, Florida Resolution No. 85-Q, as more fully set forth in the document recorded in Official Records Book 783, Page 2351, of the Public Records of Osceola County, Florida.

4. City of St. Cloud, Florida Resolution No. 2005-112, as more fully set forth in the document recorded in Official Records Book 3108, Page 1667, of the Public Records of Osceola County, Florida.

5. St. Cloud, Florida Resolution No. 2022-184R recorded in Official Records Book 6295, Page 2021, of the Public Records of Osceola County, Florida.

6. Master Easement Agreement by and between SLS Investments of Central Florida, LLLP and DD Retail St. Cloud, LLC, dated as of April 18, 2023 and recorded in Official Records Book ____, Page ____, of the Public Records of Osceola County, Florida.

7. Plat entitled "Exchange at Saint Cloud," prepared by John M. Hughes, Registration No. 6367, of Hanson, Walter & Associates, Inc., recorded April 17, 2023 in Plat Book 33, Page 159, Osceola County, Florida Records.

CFN# 2023048380 OFFICIAL RECORDS O DOC_TYPE DEED BK 6392 PG 2434 PAGE 4 OF 4

St. Cloud FLORIDA Your Centerplace for Life

AGENT AUTHORIZATION FORM

An authorized applicant is defined as:
- The property owner of record; or
- An agent of said property owner (power or attorney to represent and bind the property owner must be submitted with the application).

The undersigned (print property owner name) DD RETAIL ST CLOUD LLC (Thomas Gunter), as the owner of the real property described as follows (Tax/Parcel ID Number(s) 05-26-31-0105-0001-0020 do hereby authorize to act as the Owner's representative and/or agent: (print agent's name) Hanson Walter & Associates, to execute any petitions or other documents required or submitted in support of the following application for approval:

☐ Abandonment of Easement or ROW	☐ Annexation / CPA / Zoning	☐ Change of Use ☐ Conditional Use	☐ COA / BOA
■ Final Plat	☐ Lot Split / Reconfiguration	■ Preliminary Subdivision Plan	☐ PUD Amendment Major / Minor
☐ PUD Final Master Plan	☐ PUD Subdivision Construction Plans	☐ PUD Zoning / Preliminary Master Plan	■ Site Development Plan
☐ Site Development Plan – Mini	☐ Site Development Plan Modification	☐ Subdivision Construction Plans / Amendment	☐ Variance

Including appearing on behalf of the Owner before any appointed or elected administrative, legislative or quasi-judicial body of the city considering this application, and to act in all respects as Owner's representative and/or agent in all matters pertaining to the application.

Date: 7/17/25 Signature of Property Owner

Thomas Gunter
Print Name of Property Owner

STATE OF ~~FLORIDA~~ Georgia

COUNTY OF Gwinnett:

The foregoing instrument was acknowledged before me by means of [✓] physical presence or [ ] online notarization, this 17th day of July, 2025 by Thomas Gunter, who is personally known to me or has produced _____ as identification.

MARZENA DEMKO NOTARY PUBLIC GWINNETT COUNTY, GA MY COMMISSION EXPIRES NOVEMBER 15 2028

(Notary Seal)

Signature of Notary Public M Demko

My Commission Expires: 11/15/2028

AGENT AUTHORIZATION FORM

An authorized applicant is defined as:
- The property owner of record; or
- An agent of said property owner (power or attorney to represent and bind the property owner must be submitted with the application).

The undersigned (print property owner name) DD RETAIL ST CLOUD LLC (Thomas Gunter), as the owner of the real property described as follows (Tax/Parcel ID Number(s) 05-26-31-0105-0001-0020 do hereby authorize to act as the Owner's representative and/or agent: (print agent's name) Southeast Investments, Inc., to execute any petitions or other documents required or submitted in support of the following application for approval:

☐ Abandonment of Easement or ROW	☐ Annexation / CPA / Zoning	☐ Change of Use ☐ Conditional Use	☐ COA / BOA
■ Final Plat	☐ Lot Split / Reconfiguration	■ Preliminary Subdivision Plan	☐ PUD Amendment Major / Minor
☐ PUD Final Master Plan	☐ PUD Subdivision Construction Plans	☐ PUD Zoning / Preliminary Master Plan	■ Site Development Plan
☐ Site Development Plan – Mini	☐ Site Development Plan Modification	☐ Subdivision Construction Plans / Amendment	☐ Variance

Including appearing on behalf of the Owner before any appointed or elected administrative, legislative or quasi-judicial body of the city considering this application, and to act in all respects as Owner's representative and/or agent in all matters pertaining to the application.

Date: 7/17/25 Signature of Property Owner

Thomas Gunter
Print Name of Property Owner

STATE OF ~~FLORIDA~~ Georgia
COUNTY OF Gwinnett:

The foregoing instrument was acknowledged before me by means of [✓] physical presence or [ ] online notarization, this 17th day of July, 2025 by Thomas Gunter, who is personally known to me or has produced _____ as identification.

(Notary Stamp) MARZENA DEMKO NOTARY PUBLIC GWINNETT COUNTY, GA MY COMMISSION EXPIRES NOVEMBER 15 2028

Signature of Notary Public M Demko

My Commission Expires: 11/15/2028

AGENT AUTHORIZATION FORM

An authorized applicant is defined as:
- The property owner of record; or
- An agent of said property owner (power or attorney to represent and bind the property owner must be submitted with the application).

The undersigned (print property owner name) SLS INVESTMENTS OF CENTRAL FLORIDA LLLP, as the owner of the real property described as follows (Tax/Parcel ID Number(s) 05-26-31-0105-0001-0010 do hereby authorize to act as the Owner's representative and/or agent: (print agent's name) Hanson Walter & Associates, to execute any petitions or other documents required or submitted in support of the following application for approval:

□ Abandonment of Easement or ROW	□ Annexation / CPA / Zoning	□ Change of Use □ Conditional Use	□ COA / BOA
■ Final Plat	□ Lot Split / Reconfiguration	■ Preliminary Subdivision Plan	□ PUD Amendment Major / Minor
□ PUD Final Master Plan	□ PUD Subdivision Construction Plans	□ PUD Zoning / Preliminary Master Plan	■ Site Development Plan
□ Site Development Plan – Mini	□ Site Development Plan Modification	□ Subdivision Construction Plans / Amendment	□ Variance

Including appearing on behalf of the Owner before any appointed or elected administrative, legislative or quasi-judicial body of the city considering this application, and to act in all respects as Owner's representative and/or agent in all matters pertaining to the application.

Date: 7/16/25 Signature of Property Owner

Jolene Sleive Print Name of Property Owner

STATE OF FLORIDA :
COUNTY OF Osceola :

The foregoing instrument was acknowledged before me by means of [ ] physical presence or [ ] online notarization, this 16th day of July, 2025 by Jolene Sleive, who is personally known to me or has produced N/A as identification.

Signature of Notary Public

My Commission Expires: 6/1/29

(Notary Stamp)

Notary Public State of Florida
Nelida Rivera
My Commission HH 673748
Expires 6/1/2029

AGENT AUTHORIZATION FORM

An authorized applicant is defined as:
- The property owner of record; or
- An agent of said property owner (power or attorney to represent and bind the property owner must be submitted with the application).

The undersigned (print property owner name) SLS INVESTMENTS OF CENTRAL FLORIDA LLLP, as the owner of the real property described as follows (Tax/Parcel ID Number(s) 05-26-31-0105-0001-0010 do hereby authorize to act as the Owner's representative and/or agent: (print agent's name) Southeast Investments, Inc., to execute any petitions or other documents required or submitted in support of the following application for approval:

□ Abandonment of Easement or ROW	□ Annexation / CPA / Zoning	□ Change of Use □ Conditional Use	□ COA / BOA
■ Final Plat	□ Lot Split / Reconfiguration	■ Preliminary Subdivision Plan	□ PUD Amendment Major / Minor
□ PUD Final Master Plan	□ PUD Subdivision Construction Plans	□ PUD Zoning / Preliminary Master Plan	■ Site Development Plan
□ Site Development Plan – Mini	□ Site Development Plan Modification	□ Subdivision Construction Plans / Amendment	□ Variance

Including appearing on behalf of the Owner before any appointed or elected administrative, legislative or quasi-judicial body of the city considering this application, and to act in all respects as Owner's representative and/or agent in all matters pertaining to the application.

Date: 7/16/25 Signature of Property Owner

Jolene Sheive
Print Name of Property Owner

STATE OF FLORIDA :
COUNTY OF Florida :

The foregoing instrument was acknowledged before me by means of [ ] physical presence or [ ] online notarization, this 16th day of July, 2025 by Jolene Sheive, who is personally known to me or has produced DHA as identification.

Signature of Notary Public

My Commission Expires: 6/1/29

(Notary Stamp)

Notary Public State of Florida
Nelida Rivera
My Commission HH 673748
Expires 6/1/2029

Puffin Road Commercial

Osceola County, Florida

Section 8

Appendix A

- **Location Map**
- **USGS Soils Map**
- **FEMA Flood Map**
- **Utility Availability Letter**

Prepared by:
Hanson, Walter & Associates, Inc.
104 Broadway, Suite 104
Kissimmee, FL 34741
(407) 847-9433



GRAPHIC SCALE

100 0 50 100 200

(IN FEET)
1 inch = 100 ft.

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CHECKED CZ	SCALE AS SHOWN	RANGE 31 E			
CAD# (see stamp)	DATE 7/30/25		DATE	BY	REVISIONS

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
PHONE: (407) 847-9433
ENGINEERING FAX: (321) 442-1045 SURVEY FAX: (407) 847-2499
ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

LOCATION MAP

SHEET NO 01 of 01
JOB NO 5450-05

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GRAPHIC SCALE

150 0 75 150 300

(IN FEET)
1 inch = 150 ft.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI
22	Myakka fine sand, 0 to 2 percent slopes	13.2
34	Pomello fine sand, 0 to 5 percent slopes	3.0
43	St. Lucie fine sand, 0 to 5 percent slopes	0.4
44	Tavares fine sand, 0 to 5 percent slopes	25.5
Totals for Area of Interest		**42.0**

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CHECKED CZ | SCALE AS SHOWN | RANGE 31 E
CAD# (see stamp) | DATE 7/30/25

DATE	BY	REVISIONS

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PHONE: (407) 847-9433
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ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

SOIL MAP

SHEET Nº 01 of 01
JOB Nº 5450-05

I:\5450-05\ENGINEERING\SFWMD\Exhibit\5450-05 USGS Map.dwg • Jul 30, 2025-1:35pm • plotted by MWakil

PROJECT LOCATION



GRAPHIC SCALE

150 0 75 150 300

(IN FEET)
1 inch = 150 ft.

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CAD# (see stamp)	DATE 7/30/25		DATE	BY	REVISIONS

8 BROADWAY, SUITE 104, KISSIMMEE, FLORIDA 34741-5708
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ENG. CERT. OF AUTHOR. No. 3265/SUR. CERT. OF AUTHOR. No. 3270
ENGINEERING, SURVEYING AND PLANNING
Hanson, Walter & Associates, Inc.

PUFFIN ROAD COMMERCIAL

FEMA MAP

SHEET NO
01 of 01
JOB NO 5450-05

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951 Martin Luther King Blvd. Kissimmee, FL 34741
Tel: (407) 944-5000
tohowater.com

July 21, 2025

Toho Request Number: 466

Parcel ID & Address: 05-26-31-0105-0001-0020, 05-26-31-0105-0001-0010 / 0 Puffin Court, St. Cloud

Tohopekaliga Water Authority (Toho) has reviewed your request for a water, reuse and sewer service availability determination and the Parcel ID referenced is within the Toho service area.

Toho staff has determined that Toho has potable water, reuse and sewer capacity with existing facilities and expansions as part of planned improvements contained in its Capital Improvement Plan to serve the referenced project. As noted in the attached document, extension and/or upsizing of infrastructure at the Owner's expense may also be required to serve the property.

Not a Capacity Commitment - The owner/ developer has not yet reserved capacity and this letter does not constitute a reservation of capacity. However, subject to a fully executed Development Service Agreement (DSA), approved construction plans, and Florida Department of Environmental Protection permits, the Executive Director or his designee will ensure public facility capacity is reserved for the development in the amounts stated in the System Development Charge (SDC) Assessment letter and subject to the terms of the DSA, including any conditions associated with planned capital improvements serving the property and payment of SDCs.

Main and Service Line Extensions Responsibility of Owner - Service to the site is the customer's responsibility and may require offsite utility improvements performed by a private contractor hired by the customer. Toho does not typically install main or service extensions, please contact a civil engineer to obtain design and cost information. For projects requiring installation of a main or services for more than three (3) residential units, a hydraulic analysis is required prior to initiating service. The hydraulic analysis is the responsibility of the Owner and could result in required main improvements by the Owner.

Utility Locations are Approximate and Not Guaranteed - Utility locations shown on the attached map are approximate and based upon Toho's available information (i.e. GIS, as-built, record drawings). Toho does not guarantee the accuracy of the information. Toho recommends field verification of utilities by soft dig prior to design. Soft digs should be

performed by a licensed underground utility contractor and coordinated with Toho's inspection team.

Meter Requests - If water and sewer infrastructure is not available, **do not** request a meter set until the installation has been completed.

Limited Time Validity - Please note this letter of availability is only valid for one year from the date of this letter. Should the project not have received Toho approval and reserved capacity by July 21, 2026, they must request a new Letter of Availability from Toho. Toho looks forward to working with you on this project. If you have any questions, please do not hesitate to contact us. More specific infrastructure information is enclosed.

Service in Poinciana and Other Residential Infill Areas – Connection to infrastructure as part of the CIAC program can require significant costs above those normally associated with SDCs and connection fees. Please refer to Toho's website to check applicability for your property.

Questions and Additional Information

- For any Residential questions or extensions in Poinciana, please contact ciacbuilder@tohowater.com
- For all other Residential questions or extensions, please contact Latoya Hanson at lhanson@tohowater.com
- For any Commercial questions or extensions, please contact Ray Biron at rbiron@tohowater.com
- For any inspection requests, please request through Toho's development portal
- If you would like to speak with someone regarding potential fees or System Development Charges, please contact meterfees@tohowater.com or 407-944-5000 and a Toho representative will be happy to assist.

Please be sure to have your address and request number included in your email.

Sincerely,

Assets and Infrastructure
Toho Water Authority

Toho Water Authority

951 Martin Luther King Blvd. Kissimmee, FL 34741
Tel: (407) 944-5000
tohowater.com

WATER

- Water main installed.
- Water service line needs to be installed. Service line must be installed on property line.
- 16" Water main approx. 30’ south of property. This water service will require a tap.
- 8" Water main approx. 30’ south of property. This water service will require a tap.

SEWER

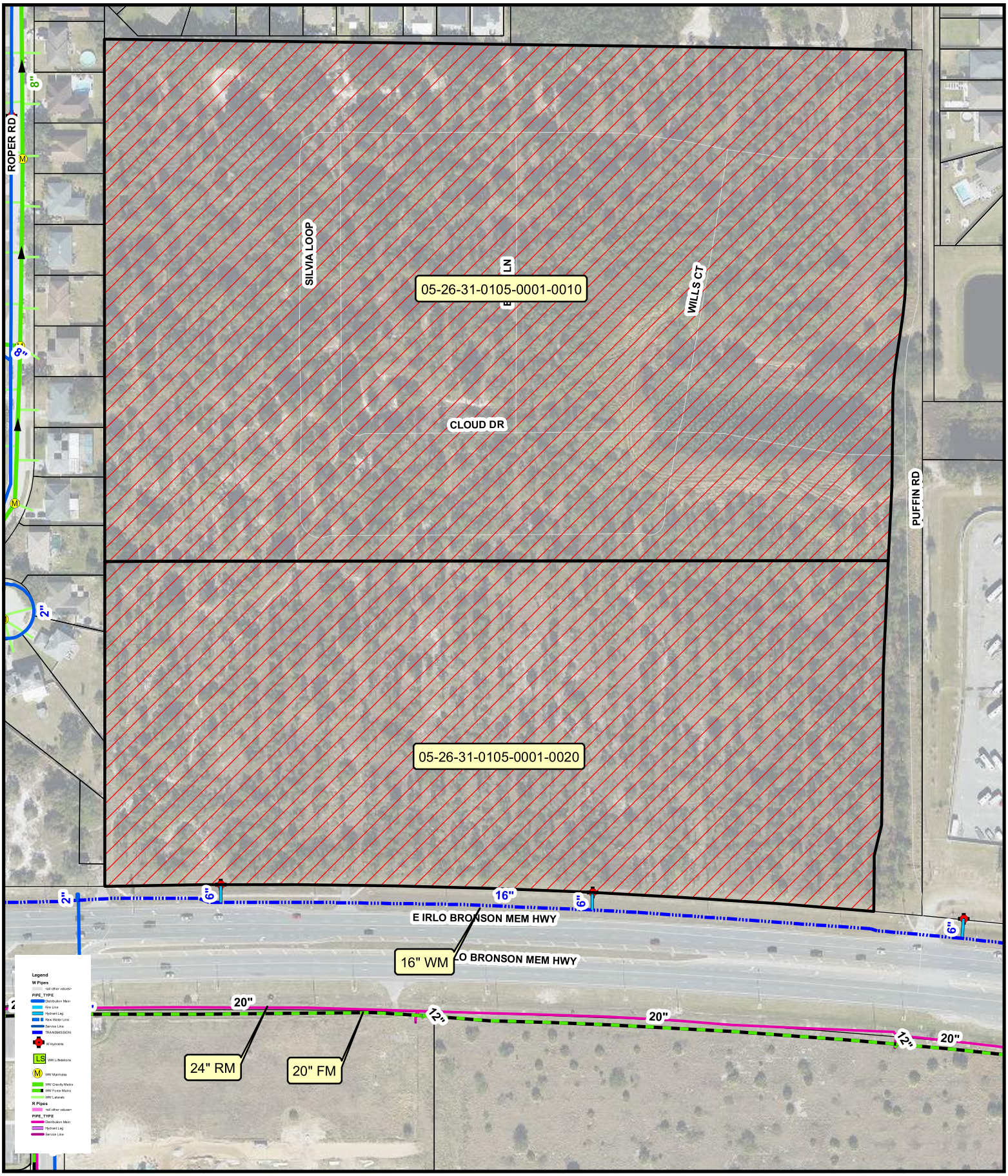
- Gravity main not installed.
- Force main extension required.
- 20" Force main approx. 220’ south of property.

REUSE

- Reuse main extension required.
- 24" Reuse main approx. 200’ south of property.

MISCELLANEOUS/EXCEPTIONS

- Two (2) Fire hydrants approx. 5' south side of property.



N

1 inch = 200 feet

05-26-31-0105-0001-0020
05-26-31-0105-0001-0010

THE TOHOPEKALIGA WATER AUTHORITY MAKES NO WARRANTIES, GUARANTEES OR REPRESENTATIONS AS TO THE TRUTH, ACCURACY, OR COMPLETENESS OF THE DATA ON THIS MAP. THIS IS NOT A SURVEY PRODUCT AND IS A VISUAL REFERENCE TOOL ONLY. The Tohopekaliga Water Authority makes no warranty, express or implied with respect to its ownership of any rights relating to trademarks and trade names described herein. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF. Any questions or concerns should be directed to Toho Water Authority, Information Technology (IT) Department at 407-944-5190.

C:\Users\Fsantos\Desktop\Availability Map July.mxd

Toho Water Authority

Puffin Road Commercial

Osceola County, Florida

Section 9

Appendix B

- Geotechnical Report

Prepared by:
Hanson, Walter & Associates, Inc.
104 Broadway, Suite 104
Kissimmee, FL 34741
(407) 847-9433

Geotechnical and Environmental Consultants, Inc.

Report of Geotechnical Engineering Evaluation

EXCHANGE APARTMENTS AT ST. CLOUD

Osceola County, Florida

GEC Project No. 4847G

Geotechnical and Environmental Consultants, Inc.

September 29, 2021

Hathaway
3300 Northeast Expressway, Building 6
Atlanta, Georgia 30341

Attention: Mr. Jack Shelton

cc: Mr. Shawn Hindle, P.E. (Hanson, Walter & Associates, Inc.)

Subject: Report of Geotechnical Engineering Evaluation
EXCHANGE APARTMENTS AT ST. CLOUD
Osceola County, Florida
GEC Project No. 4847G

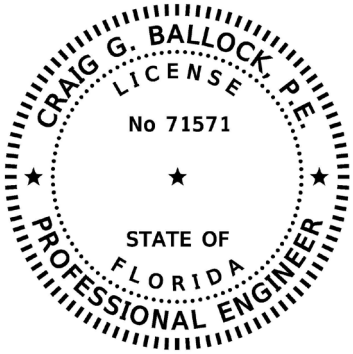
Dear Mr. Shelton:

Geotechnical and Environmental Consultants, Inc. (GEC) has completed our geotechnical engineering evaluation for the Exchange Apartments at St. Cloud and prepared this report in accordance with our Proposal No. 10635G dated August 19, 2021. The purpose of this study was to develop recommendations to guide site preparation and design and construction of the building foundations, pavements, and the stormwater pond. This report describes our methodology, documents our field and laboratory test results and presents our recommendations regarding the geotechnical engineering aspects of the project.

GEC appreciates the opportunity to be of service to you on this project. If you have any questions concerning the contents of this report, or if we may be of further assistance, please contact us.

Sincerely,

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.



Brett Durrance, E.I.
Engineer Intern

Craig G. Ballock, P.E.
Geotechnical Services Manager
Florida License No. 71571

This Report has been digitally signed and sealed by Craig G. Ballock, P.E. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

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Figure 2: Boring and Muck Probe Location Plan

Figure 3: Boring Location Plan and Preliminary Site Plan

Figures 4 – 9: Soil Boring Results

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Table 1: Summary of NRCS Soil Survey Soil Units
Table 2: Site Exploration Summary
Table 3: Summary of Laboratory Testing Program
Table 4: General Subsurface Profile - Structure Areas
Table 5: Recommended Pavement Designs
Table 6: Groundwater Levels in Pond Borings

APPENDIX

A. Exploration Method Descriptions
A.1 SPT Borings
A.2 Machine Auger Borings
A.3 Manual Auger Borings
A.4 Groundwater Measurement
A.5 Manual Muck Probes
B. Construction Recommendations
B.1 Groundwater and Surface Water Control
B.2 General Site Preparation
B.3 Fill Selection, Placement and Compaction
B.4 Foundation Subgrade Preparation
B.5 Pavement Subgrade Preparation
B.6 Excavation Safety
B.7 Reclaimed Concrete Aggregate Base Material

1.0 SITE LOCATION AND DESCRIPTION

The site is located on the southwest quadrant of the East Irlo Bronson Memorial Highway (US 192) and Puffin Road intersection in St. Cloud, Florida as shown on **Figure 1**. More specifically, the project site is Parcel 05-26-31-00U0-0060-0000, a 41.6-acre parcel. The parcel is currently undeveloped with planted pine trees and an approximately 1-acre wet pond on the east-central side of the parcel.

The site topography can be described as relatively flat, with a gentle slope downward from west to east across the site. The USGS Ashton, Florida Quadrangle Map, shown on **Figure 1**, indicates site ground surface elevations range from approximately +74 to +78 feet NGVD.

2.0 PROJECT DESCRIPTION

We understand that project plans include the construction of a multi-family apartment complex on the northern 25 acres of the parcel. Project components include 11 three-story apartment buildings, six single-story garage structures, a clubhouse complex with associated fitness building and pool complex, two stormwater ponds and associated paved, interior roadways. In addition, an access roadway is proposed along the eastern property boundary to connect the site to US 192. A reproduction of the site concept plans is included on **Figure 3.**

If any of the above project information is incorrect, please notify us so that we can evaluate whether the changes in design affect our recommendations.

3.0 NRCS SOIL SURVEY

The Natural Resources Conservation Service (NRCS) Soil Survey of Osceola County, Florida was reviewed for near-surface soil and groundwater information. The NRCS Soil Survey map is shown on **Figure 1**. The soils near the project site are summarized in **Table 1**.

Table 1: Summary of NRCS Soil Survey Soil Units

Soil Unit No.	Soil Name	Depth (inches)	Soil Description	Unified Classification Symbol	Depth to Seasonal High Groundwater (feet)	Hydrologic Group
22	Myakka fine sand, 0 to 2 percent slopes	0 – 6 6 – 20 20 – 36 36 – 80	Fine sand Fine sand, sand Fine sand, sand Fine sand, sand	SP-SM, SM SP-SM, SM SP-SM, SM SP-SM, SM	0.5 – 1.5	A/D
44	Tavares fine sand, 0 to 5 percent slopes	0 – 6 6 – 80	Fine sand Fine sand, sand	SM, SP-SM SP-SM, SM	1.5 – 3.5	A

The NRCS soil survey depicts Myakka fine sand, 0 to 2 percent slopes (Soil Unit No. 22) and Tavares fine sand, 0 to 5 percent slopes (Soil Unit No. 44) at the site. These soils are generally classified as poorly to moderately well drained sands with varying silt content (SP-SM, SM). The NRCS predicts seasonal high groundwater levels for these soil types to generally range from 0.5 to 3.5 feet below the natural ground surface.

Information contained in the NRCS Soil Survey is very general and may be outdated. Therefore, it may not be reflective of actual soil and groundwater conditions, particularly if recent development in the site vicinity has modified soil conditions or surface/subsurface drainage. The information obtained from recent soil borings provides a better characterization of actual site conditions.

4.0 POTENTIOMETRIC MAP DATA

Artesian groundwater conditions can be predicted based on comparison of the Floridan aquifer potentiometric surface and ground surface elevations. The Florida Geological Survey map entitled *The Upper Floridan Aquifer Potentiometric Surface Contours, September, 2017* (the most recent map available) indicates the potentiometric surface of the Floridan aquifer at the site is approximately +46 feet NGVD. Since the existing ground surface at the site ranges from approximately +74 to +78 feet NGVD, artesian flow conditions are not anticipated.

5.0 SUBSURFACE EXPLORATION

In addition to consulting published sources, GEC conducted an exploration of the project site to evaluate subsurface conditions. Our field exploration is summarized in **Table 2**. Please refer to **Appendix A** for a description of the field exploration methods used for this investigation.

Table 2: Site Exploration Summary

Project Element	[1]Exploration Method	Quantity	Test ID No.	Depth Explored (feet)	Figure No.
Apartment Buildings	SPT Borings	13	SPT-1 to SPT-13	30	7 - 8
Garage/Clubhouse	SPT Borings	7	SPT-14 to SPT-20	15	8 - 9
Ponds	MA Borings	4	PB-1 to PB-4	20	4
Pavement Areas/Dog Park	HA Borings	28	AB-1 to AB-28	5	5 -6
Existing Stormwater Pond	Manual Muck Probes	75	MP-1 to MP-75	---	2

1. SPT = Standard Penetration Test; MA = Machine Auger; HA = Hand Auger

The locations of the field activities listed in **Table 2** are shown on the site plan on **Figures 2 and 3**. These locations were not surveyed; they were estimated by using Global Positioning System (GPS) coordinates and a handheld GPS unit. The approximate method used to locate them is sufficient to meet the intent of our study. If greater accuracy is desired, a registered Professional Land Surveyor should survey the locations.

6.0 LABORATORY TESTING

Selected soil samples retrieved from the borings were tested in accordance with the Florida Standard Testing Methods (FM) and American Association of State Highway Transportation Officials (AASHTO) testing methods. Our laboratory testing program is summarized on the following table:

Table 3: Summary of Laboratory Testing Program

Test	Test No.	Quantity
Percent Fines	AASHTO T88	26
Organic Content	FM 1 - T267	5
Natural Moisture Content	AASHTO - T265	5

The results of our laboratory tests are shown adjacent to the soil profiles on the Soil Boring Result sheets (**Figures 4 to 9**).

7.0 SUBSURFACE CONDITIONS

GEC's field exploration was conducted from August 30, 2021 to September 8, 2021. The soil and groundwater conditions encountered are summarized in this section. Please refer to **Figures 4 through 9** for a detailed description of the subsurface profile at each boring location shown on **Figures 2 and 3**. The results of selected laboratory tests are shown adjacent to the subsurface profiles at the depth the samples were obtained.

7.1 Subsurface Profile

Table 4 summarizes the subsurface conditions encountered in the SPT borings (SPT-1 to SPT-20) performed within the proposed structure areas:

Table 4: General Subsurface Profile – Structure Areas

Layer Depth (feet)	Soil Description	Stratum No.	SPT Resistance (blows/foot)
0 to 10	Very loose to medium dense fine sand (SP) and fine sand with silt (SP-SM)	1, 2	2 to 12

Layer Depth (feet)	Soil Description	Stratum No.	SPT Resistance (blows/foot)
10 to 18.5	Loose to very dense fine sand with silt (SP-SM) to silty fine sand (SM)	2, 3	5 to 45
18.5 to 30	Medium dense to very dense fine sand with silt (SP-SM) to silty fine sand (SM)	2, 3	10 to 61

Manual auger borings (AB-1 to AB-28) performed in the pavement and dog park areas typically encountered fine sand to fine sand with silt (SP, SP-SM) (Strata Nos. 1 and 2) to the maximum boring termination depth of 6 feet. However, a layer of silty fine sand (SM) was encountered from the ground surface to a depth of 2.5 feet at boring location AB-17.

Subsurface conditions at the stormwater pond areas are discussed in **Section 8.7** of this report.

7.2 Manual Muck Probe Results

Manual muck probes performed within the existing stormwater pond on the site generally encountered 1 to 12 feet of water and 0.2 to 1.5 feet of surficial organic material. Manual probe results are depicted on **Figure 2.**

7.3 Groundwater Levels

Groundwater levels were measured at least 24 hours after completion of the borings. Measured groundwater levels ranged from 1.3 to 6.2 feet below the ground surface and seasonal high groundwater levels are estimated to range from 0.5 to 5.2 feet below the ground surface.

Please refer to **Figures 4 through 9** for measured and estimated seasonal high groundwater levels at each boring location shown on **Figure 2**. Groundwater conditions at the stormwater pond locations are discussed further in **Section 8.7** of this report.

8.0 DESIGN RECOMMENDATIONS

GEC developed the following recommendations based on the results of our field and laboratory testing program. These recommendations are only applicable if the site is prepared in accordance with the construction requirements provided in **Section 9.0** of this report and **Appendix B**.

8.1 Foundation Design

A maximum net soil bearing pressure of 3,000 psf can be used in footing design.

The site is suitable for support of the proposed three-story apartment buildings, single-story garage structures, and clubhouse complex on conventional shallow isolated spread footings, continuous strip footings, or a monolithic slab with thickened edges. A maximum net soil bearing pressure of 3,000 psf can be used in footing design. However, footing dimensions should be a minimum of 24 inches for isolated spread footings and 18 inches for strip footings.

Footings should bear a minimum of 18 inches below the adjacent finished exterior grade. Design monolithic slabs so that the bottom of the thickened slab sections bear at least 12 inches below the adjacent finished exterior grade.

8.2 Pavement Design

Our investigation indicates that the site can be made suitable for support of conventional flexible (asphalt) or rigid (concrete) pavement sections. **Table 5** presents our recommended pavement sections. These pavement sections are typical of similar projects in Central Florida and are not based on traffic loading information, which was not available when this report was prepared.

Table 5: Recommended Pavement Designs

Traffic Type	Surface Course	Base Course	Stabilized Subgrade
Light Duty – parking stalls	1.5 inches Asphalt Surface Course	6 inches limerock (LBR 100 min)	12 inches (LBR=40)
		7 inches reclaimed concrete aggregate (LBR 150 min)	12 inches (LBR=40)
		8 inches soil-cement (300 psi min)	Stabilization not required*
Medium Duty – parking lot drive lanes and perimeter roads	2.0 inches Asphalt Surface Course	8 inches limerock (LBR 100 min)	12 inches (LBR=40)
		7 inches reclaimed concrete aggregate (LBR 150 min)	12 inches (LBR=40)
		10 inches soil-cement (300 psi min)	Stabilization not required*
Heavy Duty – truck turning movements, loading areas	6.0 inches concrete (4,000 psi, 28-day min)	Base course not required	12 inches (95% Modified Proctor Compaction only) Stabilization not required*

'*' Free draining subgrade soils (e.g. sands with <12% fines) are recommended to promote drainage of infiltrating water.

Additional recommendations for using reclaimed concrete aggregate (RCA) are provided in **Appendix B.**

8.3 Pavement Base Clearance

Vertical separation of the base from the water table is required to prevent pavement damage created by inundation of the base course during periods of heavy rainfall. We recommend a minimum of 24 inches of separation between the bottom of the pavement base and the estimated seasonal high groundwater level. If this vertical clearance cannot be provided, limerock should not be used for the base material. A soil-cement base course or asphalt base course (black base) can be constructed with a minimum vertical base clearance of 12 inches. Underdrains will be required to artificially lower the water table where the seasonal high groundwater level is within 12 inches of the bottom of the base.

These conclusions are contingent upon preparation of proposed pavement areas in accordance with the requirements of **Appendix B**.

8.4 Stormwater Ponds

Pond sites with relatively shallow surficial groundwater levels, less than about 6 feet deep, typically necessitate wet detention pond systems. However, dry retention pond systems may be feasible on pond sites with relatively deep groundwater, i.e., deeper than 6 feet. As a result of our measured and estimated seasonal high groundwater levels, we anticipate the ponds will be designed as wet retention ponds.

Pond borings (PB-1 to PB-4) encountered fine sand (SP) to fine sand with silt (SP-SM) (Stratum Nos. 1 and 2) to the boring termination depth of 20 feet.

The measured and estimated groundwater levels in the pond borings are summarized in **Table 6.**

Table 6: Groundwater Levels in Pond Borings

Location	Boring ID Nos.	Measured Depths (ft)	Estimated Seasonal High Depths (ft)	Pond Seasonal High Depth (ft)	Pond Average Wet Season Depth (ft)
Pond 1	PB-1 to PB-2	5.4 – 6.2	4.4 – 5.2	4.8	5.8
Pond 2	PB-3 to PB-4	3.0 – 3.4	2.0 – 2.4	2.2	3.2

8.5 Suitability of Soil Excavated From Ponds for Use as Fill

The following are our recommendations for the encountered soils within the proposed pond areas used as fill material:

- Soils indicated as fine sand and fine sand with silt (SP, SP-SM) (Strata Nos. 1 and 2) are suitable for use as engineered fill in structure and pavement areas.

- Soils indicated as silty sand (SM) (Stratum No. 3), with fines less than 15% and plastic index less than 10, are adaptable for use as fill, but will require drying to near optimum moisture content prior to compaction. Special procedures such as aeriating or mixing with fine sand (SP) may be required to achieve minimum compaction criteria.

- Soil with fines content greater than 15% and/or a plastic index greater than 10 (SM) are not suitable for use as engineered fill and should be placed in landscaped areas or removed from the site.

9.0 CONSTRUCTION RECOMMENDATIONS

9.1 General Site Preparation

Our recommendations for general construction activities are presented in **Appendix B**, which addresses the following requirements:

- **Groundwater and Surface Water Control**
- **General Site Preparation**
- **Fill Selection, Placement and Compaction**
- **Foundation Subgrade Preparation**
- **Pavement Subgrade Preparation**
- **Excavation Safety**
- **Reclaimed Concrete Aggregate Base Material**

9.2 Construction Materials Quality Control Testing

A comprehensive quality control program is required to verify that site preparation and foundation, pavement and pond construction is conducted in accordance with the recommendations in this report including **Appendix B**. Materials testing and inspection services should be provided by **Geotechnical and Environmental Consultants, Inc.** due to our knowledge of the site conditions and understanding of the intent of our recommendations.

10.0 REPORT USE AND LIMITATIONS

This section of the report presents important information regarding the proper use of this report, our investigative methods and the limitations of this study. The test data, conclusions and recommendations presented in this report should be reviewed and applied with these limitations in mind.

Subsurface Variability. The analyses and recommendations contained in this report are based in part on the data obtained from a limited number of soil samples and groundwater measurements obtained from widely-spaced borings. The sampling methods used indicate subsurface conditions only at the specific boring locations where samples were obtained, only at the time they were obtained, and only to the depths penetrated. Borings cannot be relied upon to accurately reflect the variations that usually exist between boring locations and these variations may not become evident until construction. Conditions at the boring locations can change over time. Groundwater levels fluctuate seasonally, and soil conditions can be altered by earthmoving operations.

Manual Probes. Manual muck probes were performed by pushing a slender metal rod into the surficial soil and evaluating the relative resistance of the soil to manual penetration. Highly organic soils, such as muck and/or peat, are characteristically very soft and will easily yield to the manual probe. Manual probes, however, cannot detect peat or muck layers which are present beneath layers of sand or dense soils which cannot be penetrated by the probe. The probes can also penetrate to some extent in very loose sands which may be present beneath peat or muck layers. No soil samples are obtained for visual examination or laboratory testing when using this exploratory technique. The soil type being penetrated is inferred solely by evaluating the relative resistance of the soil to penetration. These limitations can lead to some under-estimation or over-estimation of peat or muck layer thicknesses. The probe data presented in this report should be evaluated with these limitations in mind.

Soil Stratification. The depths and thicknesses of the subsurface strata indicated on the boring logs were interpolated between samples obtained at different depths in the borings. The actual transition between soil layers may be different than indicated. *These stratification lines were used for our analytical purposes. Earthwork quantity estimates based on the results of the borings will vary from the actual quantities measured during construction.*

Groundwater Measurements. Groundwater levels can vary seasonally and with changes in subsurface conditions between boring and/or piezometer locations. Alterations in surface and/or subsurface drainage brought about by site development can also affect groundwater levels.

Therefore, groundwater depths measured at different times or at different locations on the site can be expected to vary from those measured by GEC during this investigation.

Groundwater Predictions. For purposes of this report, estimated seasonal high groundwater levels are defined as groundwater levels that are anticipated at the end of the wet season during a "normal rainfall" year under pre-development site conditions. We define a "normal rainfall" year as a year in which rainfall quantity and distribution were at or near historical averages.

Construction Variations. If variations from the subsurface conditions described in this report do become evident during construction, GEC should be retained to reevaluate this report's conclusions and recommendations, and modify the recommendations included in this report, if needed, in light of such changes.

Plans/Specifications Review. GEC should be provided with the construction plans and specifications prior to bidding so that we can verify that the recommendations presented in this report were correctly interpreted and incorporated into the plans and specifications. The recommendations in this report were not written in specification language and are not intended to be used verbatim as a part of the plans and specifications. This report should not be wholly incorporated into the project contract documents.

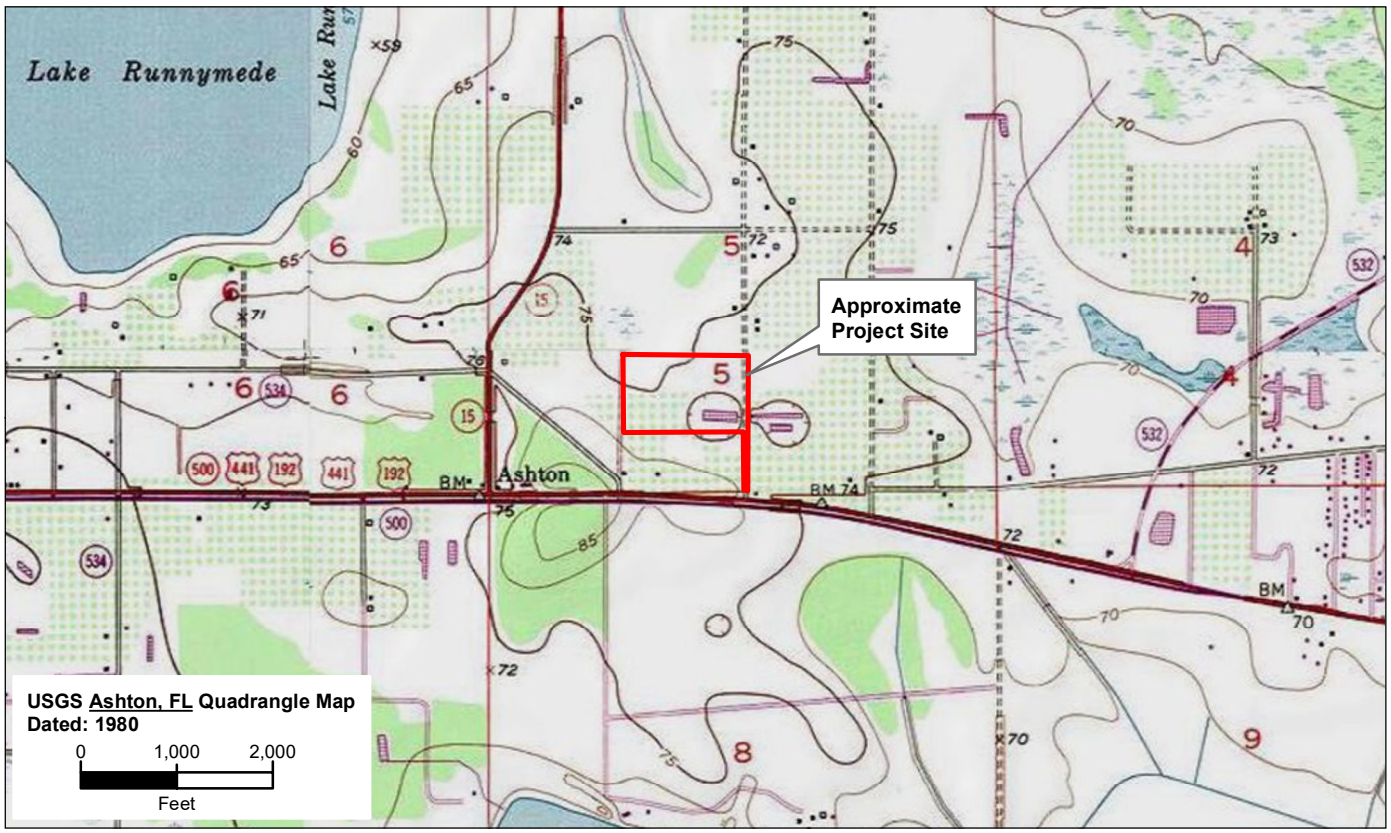
Design Changes. The conclusions or recommendations of this report should be disregarded if the nature, design, or location of the facilities is changed. If such changes are contemplated, GEC should be retained to review the new plans to assess the applicability of this report in light of the proposed changes.

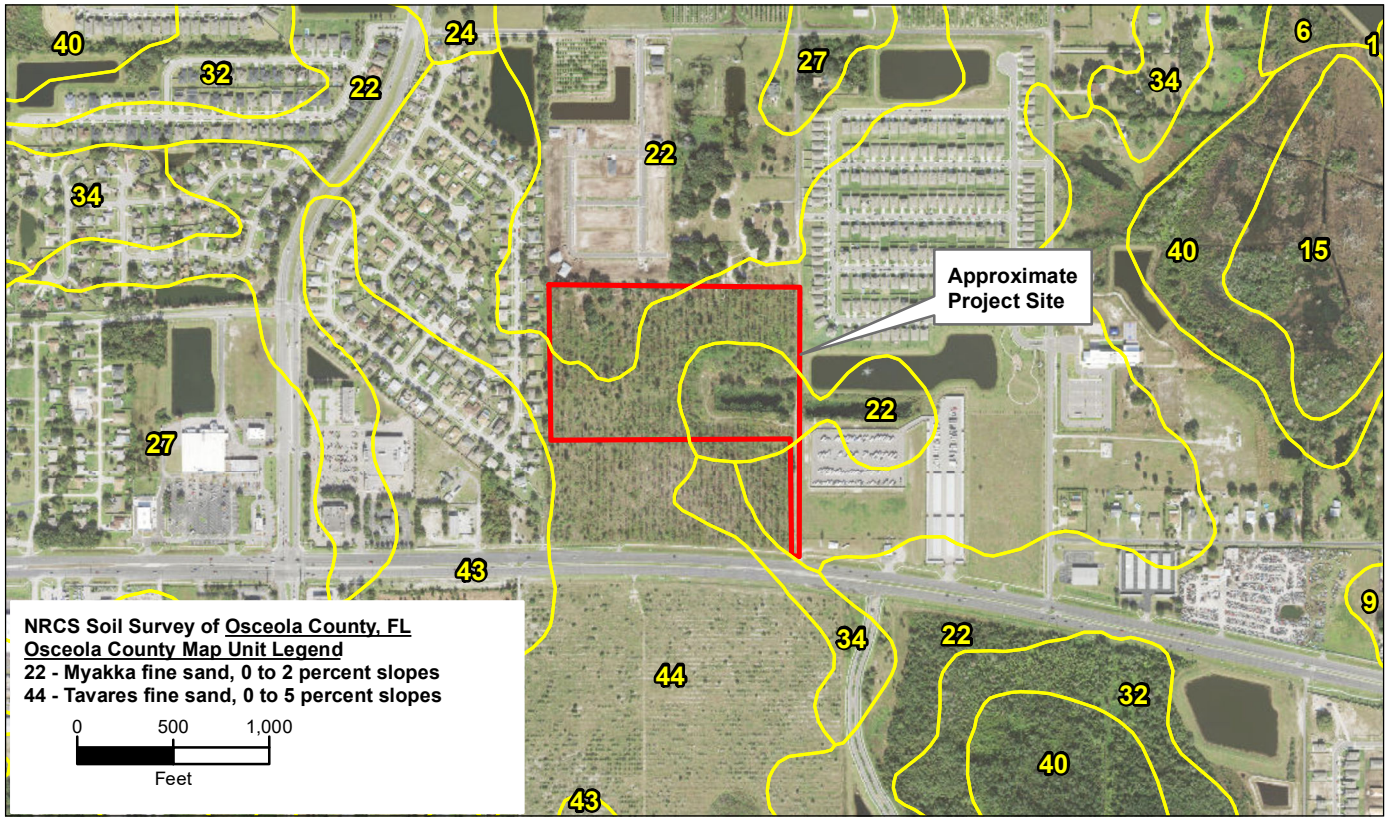
Contamination Exclusion. The sole purpose of the borings performed by GEC at this site was to obtain indications of subsurface conditions as part of a geotechnical exploration program. GEC has not evaluated the site for the potential presence of contaminated soil or groundwater, nor have we subjected any soil samples to analysis for contaminants.

Report Reliance. GEC has prepared this report for the exclusive use of our client, Hathaway, and for specific application to this project. GEC is not responsible for any third party's interpretation or use of this report's subsurface data, engineering analysis or recommendations without our written authorization.

Standard of Care. GEC has performed the services described in this report in a manner consistent with that level of care and skill ordinarily exercised by members of our profession currently practicing in Central Florida. No other representation is made or implied in this document.

FIGURES





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EXCHANGE APARTMENTS AT ST. CLOUD

USGS QUADRANGLE AND NRCS SOIL SURVEY MAPS

FIGURE NO. 1

W:\Projects\J4847GE Exchange Apartments at St Cloud_Hathaway\Geotechnical\7 CADD Files\4847G QUAD.mxd 9/28/2021



SURFICIAL MUCK THICKNESS (FT.)
STANDING WATER DEPTH (FT.)
0.5 | 1.3

APPROXIMATE SPT BORING LOCATION
APPROXIMATE AUGER BORING LOCATION
APPROXIMATE MUCK PROBE LOCATION

0 100 200
Feet

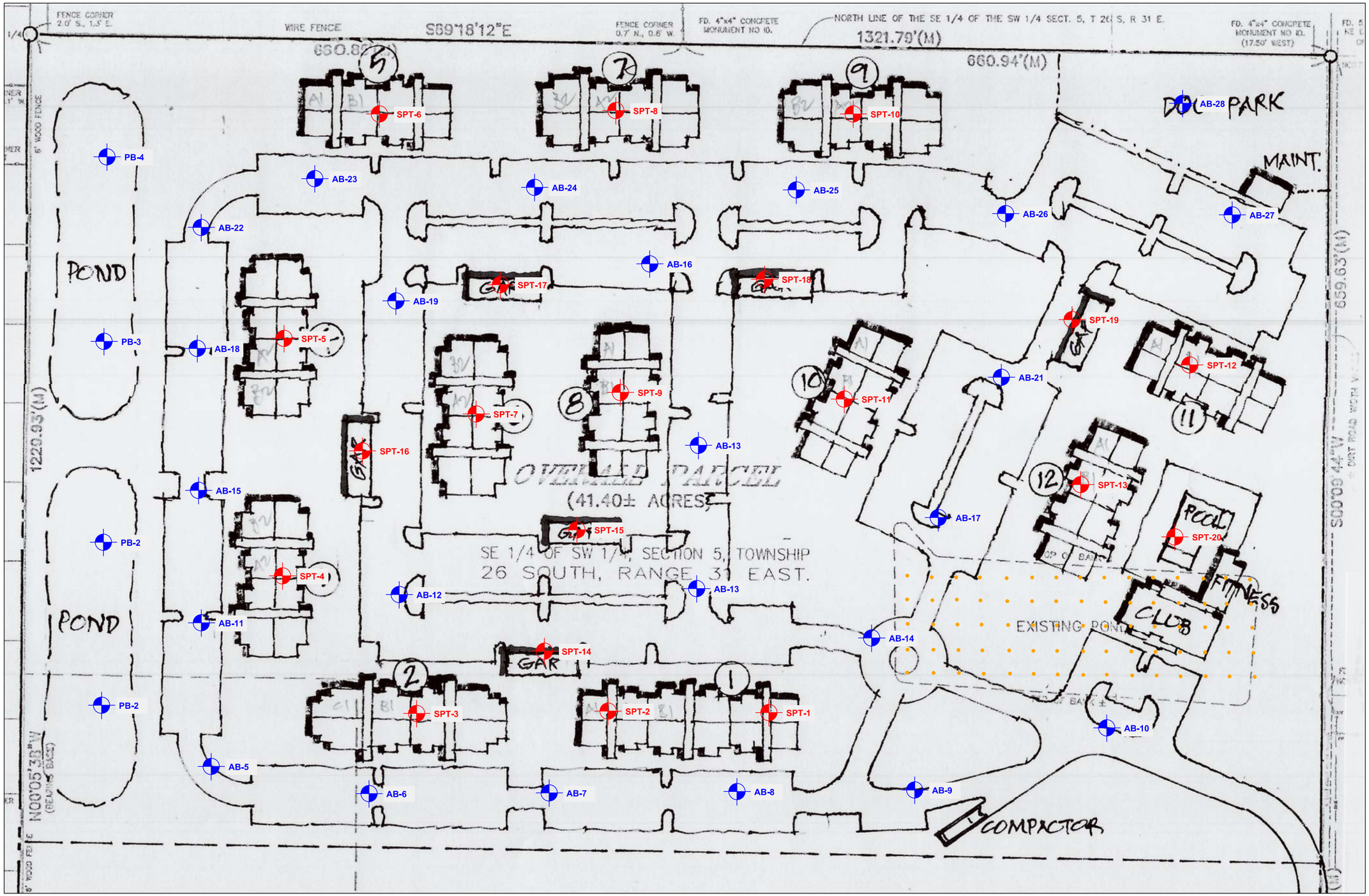
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EXCHANGE APARTMENTS AT ST. CLOUD

BORING AND MUCK PROBE LOCATION PLAN

FIGURE NO. 2

W:\Projects\J4847GE Exchange Apartments at St Cloud_Hathaway\Geotechnical\7 CADD Files\4847G plan.mxd 9/28/2021



APPROXIMTE SPT BORING LOCATION

APPROXIMATE AUGER BORING LOCATION

APPROXIMATE MUCK PROBE LOCATION

0 20 100

Feet

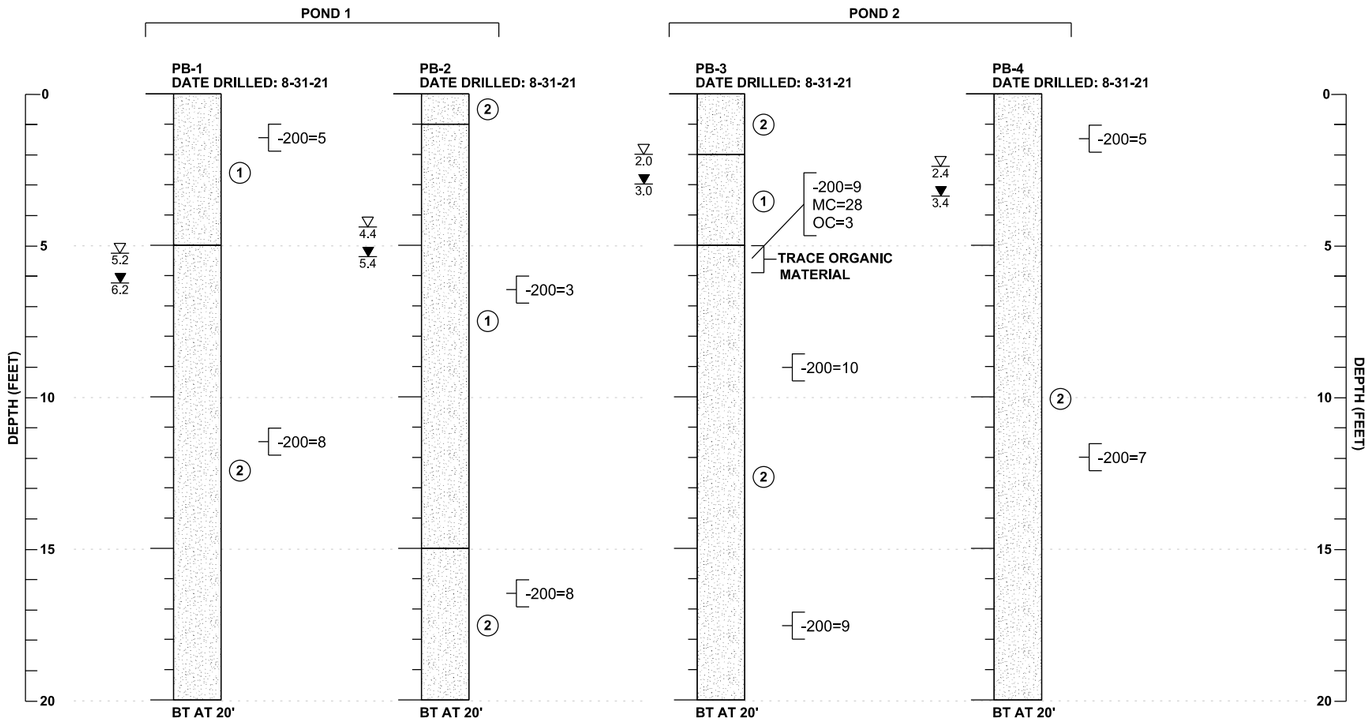
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EXCHANGE APARTMENTS AT ST. CLOUD

BORING LOCATION PLAN AND PRELIMINARY SITE PLAN

FIGURE NO. 3

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STRATUM NO.	UNIFIED CLASSIFICATION	HATCHING	SOIL DESCRIPTION
(1)	SP		LIGHT BROWN TO BROWN FINE SAND
(2)	SP-SM		LIGHT BROWN TO DARK BROWN TO GRAY FINE SAND WITH SILT
(3)	SM		LIGHT BROWN TO DARK BROWN SILTY FINE SAND

LEGEND

- $\frac{\nabla}{5.2}$ ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH (FT.)
- $\frac{\blacktriangledown}{6.2}$ ENCOUNTERED GROUNDWATER DEPTH (FT.) 24 HRS. AFTER DATE DRILLED
- BT BORING TERMINATED AT DEPTH INDICATED
- -200= PERCENT PASSING NO. 200 U.S. STANDARD SIEVE
- MC= PERCENT NATURAL MOISTURE CONTENT
- OC= PERCENT ORGANIC CONTENT

GENERAL NOTES

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN THE BORINGS MAY VARY FROM THOSE SHOWN. UNIFIED SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUALEXAMINATION AND THE LABORATORY TESTING SHOWN.

BORING LOCATIONS WERE ESTABLISHED IN THE FIELD USING A SUB-METER ACCURACY TRIMBLE GPS UNIT.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

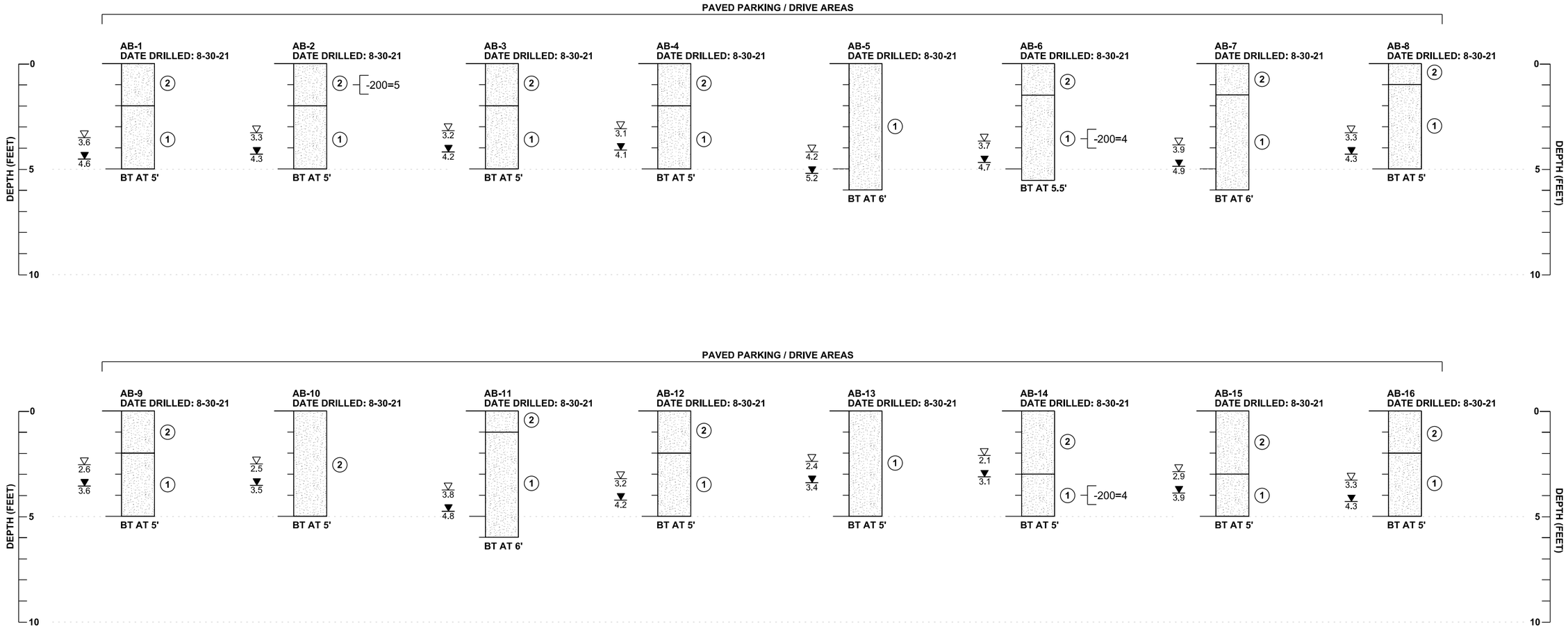
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EXCHANGE APARTMENTS AT ST. CLOUD

SOIL BORING RESULTS

FIGURE NO. 4

$USER$ 9/29/2021 $TIME$ W:\Projects\J4847GE Exchange Apartments at St Cloud_Hathaway\Geotechnical\7 CADD Files\blborIng01.dgn



STRATUM NO.	UNIFIED CLASSIFICATION	HATCHING	SOIL DESCRIPTION
(1)	SP		LIGHT BROWN TO BROWN FINE SAND
(2)	SP-SM		LIGHT BROWN TO DARK BROWN TO GRAY FINE SAND WITH SILT
(3)	SM		LIGHT BROWN TO DARK BROWN SILTY FINE SAND

LEGEND

- $\frac{\nabla}{3.6}$ ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH (FT.)
- $\frac{\blacktriangledown}{4.6}$ ENCOUNTERED GROUNDWATER DEPTH (FT.) 24 HRS. AFTER DATE DRILLED
- BT BORING TERMINATED AT DEPTH INDICATED
- -200= PERCENT PASSING NO. 200 U.S. STANDARD SIEVE

GENERAL NOTES

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN THE BORINGS MAY VARY FROM THOSE SHOWN. UNIFIED SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUALEXAMINATION AND THE LABORATORY TESTING SHOWN.

BORING LOCATIONS WERE ESTABLISHED IN THE FIELD USING A SUB-METER ACCURACY TRIMBLE GPS UNIT.

REVISIONS			
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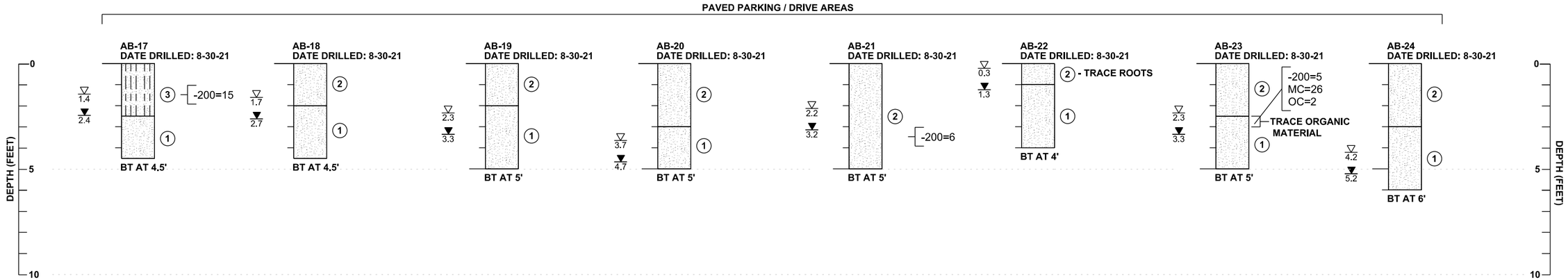
EXCHANGE APARTMENTS AT ST. CLOUD

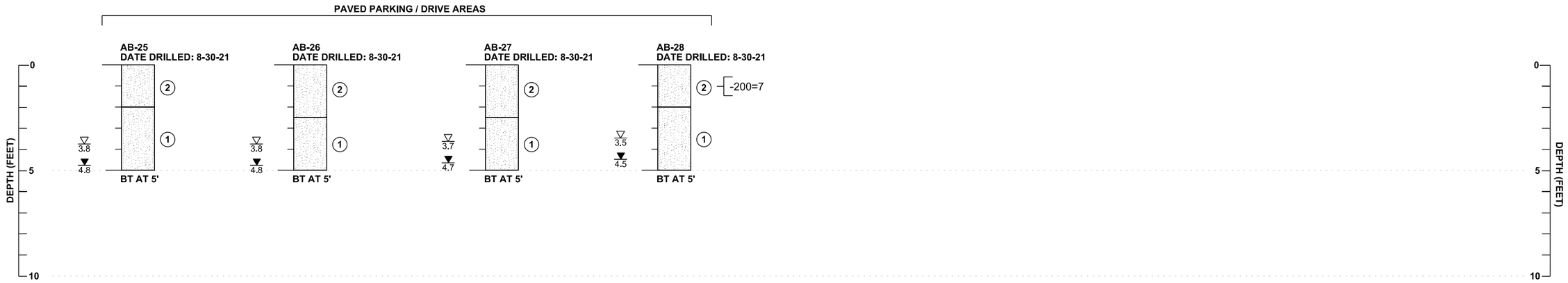
SOIL BORING RESULTS

FIGURE NO. 5

$USER$ 9/29/2021 $TIME$

W:\Projects\J4847GE Exchange Apartments at St Cloud_Hathaway\Geotechnical\7 CADD Files\blborIng01.dgn





STRATUM NO.	UNIFIED CLASSIFICATION	HATCHING	SOIL DESCRIPTION
(1)	SP		LIGHT BROWN TO BROWN FINE SAND
(2)	SP-SM		LIGHT BROWN TO DARK BROWN TO GRAY FINE SAND WITH SILT
(3)	SM		LIGHT BROWN TO DARK BROWN SILTY FINE SAND

LEGEND

- ▽ 1.4 — ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH (FT.)
- ▼ 2.4 — ENCOUNTERED GROUNDWATER DEPTH (FT.) 24 HRS. AFTER DATE DRILLED
- BT — BORING TERMINATED AT DEPTH INDICATED
- -200= — PERCENT PASSING NO. 200 U.S. STANDARD SIEVE
- MC= — PERCENT NATURAL MOISTURE CONTENT
- OC= — PERCENT ORGANIC CONTENT

GENERAL NOTES

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN THE BORINGS MAY VARY FROM THOSE SHOWN. UNIFIED SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUALEXAMINATION AND THE LABORATORY TESTING SHOWN.

BORING LOCATIONS WERE ESTABLISHED IN THE FIELD USING A SUB-METER ACCURACY TRIMBLE GPS UNIT.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

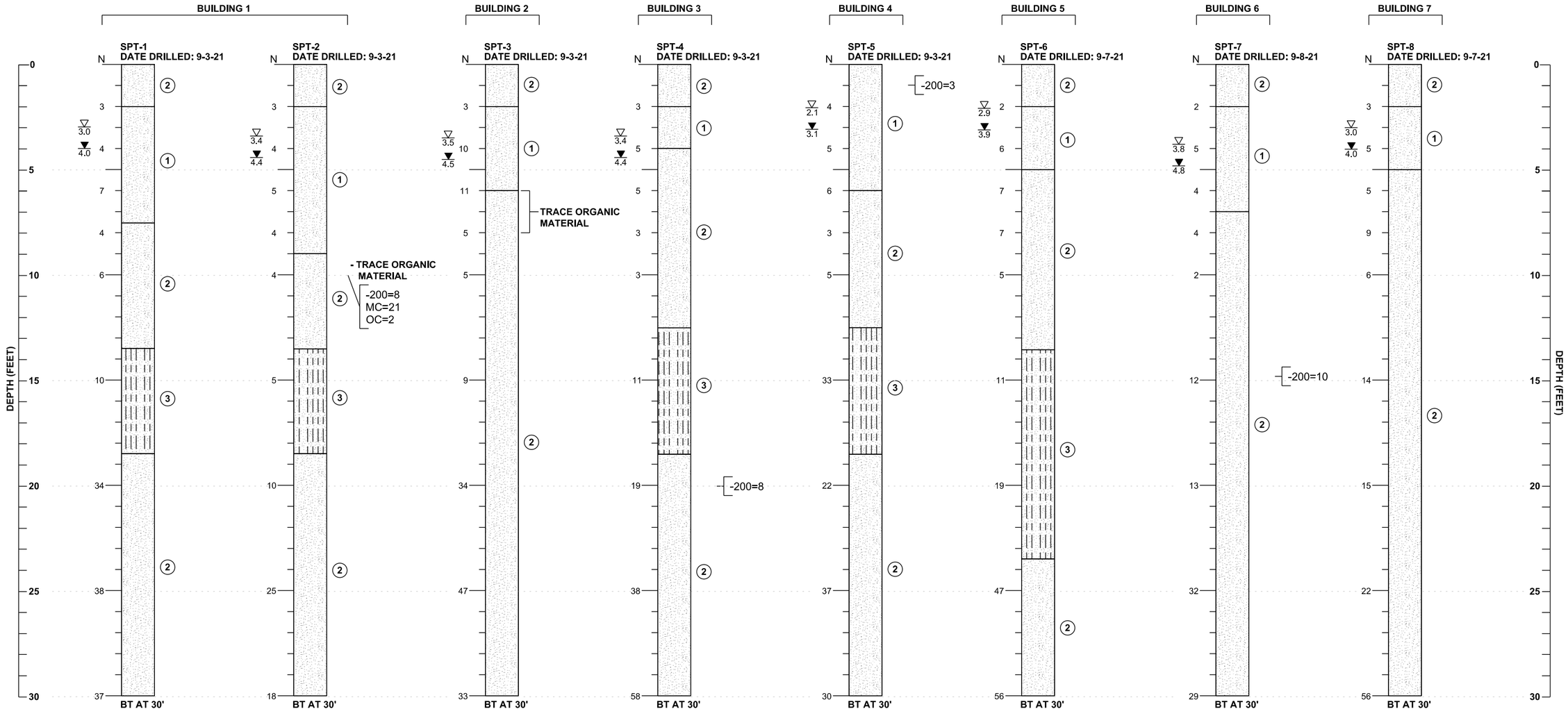
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EXCHANGE APARTMENTS AT ST. CLOUD

SOIL BORING RESULTS

FIGURE NO. 6

$USER$ 9/29/2021 $TIME$ W:\Projects\J4847GE Exchange Apartments at St Cloud_Hathaway\Geotechnical\7 CADD Files\bborIng01.dgn



AUTOMATIC HAMMER			
GRANULAR SOILS: SANDS		NON-GRANULAR SOILS: SILTS, CLAYS, MUCK	
N VALUE (BLOWS/FT)	RELATIVE DENSITY	N VALUE (BLOWS/FT)	CONSISTENCY
0-3	VERY LOOSE	0-1	VERY SOFT
3-8	LOOSE	1-3	SOFT
8-24	MEDIUM DENSE	3-6	FIRM
24-40	DENSE	6-12	STIFF
OVER 40	VERY DENSE	12-24	VERY STIFF
		OVER 24	HARD

STRATUM NO.	UNIFIED CLASSIFICATION	HATCHING	SOIL DESCRIPTION
1	SP		LIGHT BROWN TO BROWN FINE SAND
2	SP-SM		LIGHT BROWN TO DARK BROWN TO GRAY FINE SAND WITH SILT
3	SM		LIGHT BROWN TO DARK BROWN SILTY FINE SAND

LEGEND

- N — STANDARD PENETRATION RESISTANCE, BLOWS PER FOOT
- ▽ 3.0 — ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH (FT.)
- ▼ 4.0 — ENCOUNTERED GROUNDWATER DEPTH (FT.) 24 HRS. AFTER DATE DRILLED
- BT — BORING TERMINATED AT DEPTH INDICATED
- -200= — PERCENT PASSING NO. 200 U.S. STANDARD SIEVE
- MC= — PERCENT NATURAL MOISTURE CONTENT
- OC= — PERCENT ORGANIC CONTENT

GENERAL NOTES

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN THE BORINGS MAY VARY FROM THOSE SHOWN. UNIFIED SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUALEXAMINATION AND THE LABORATORY TESTING SHOWN.

STANDARD PENETRATION TEST BORINGS WERE PERFORMED IN ACCORDANCE WITH ASTM D-1586. STANDARD PENETRATION RESISTANCES ARE SHOWN ON THE BORINGS AT THE TEST DEPTHS IN BLOWS PER FOOT UNLESS OTHERWISE NOTED.

BORING LOCATIONS WERE ESTABLISHED IN THE FIELD USING A SUB-METER ACCURACY TRIMBLE GPS UNIT.

SPLIT SPOON SAMPLER:
INSIDE DIAMETER: 1.375 IN.
OUTSIDE DIAMETER: 2.0 IN.
AVERAGE HAMMER DROP: 30 IN.
HAMMER WEIGHT: 140 LBS.

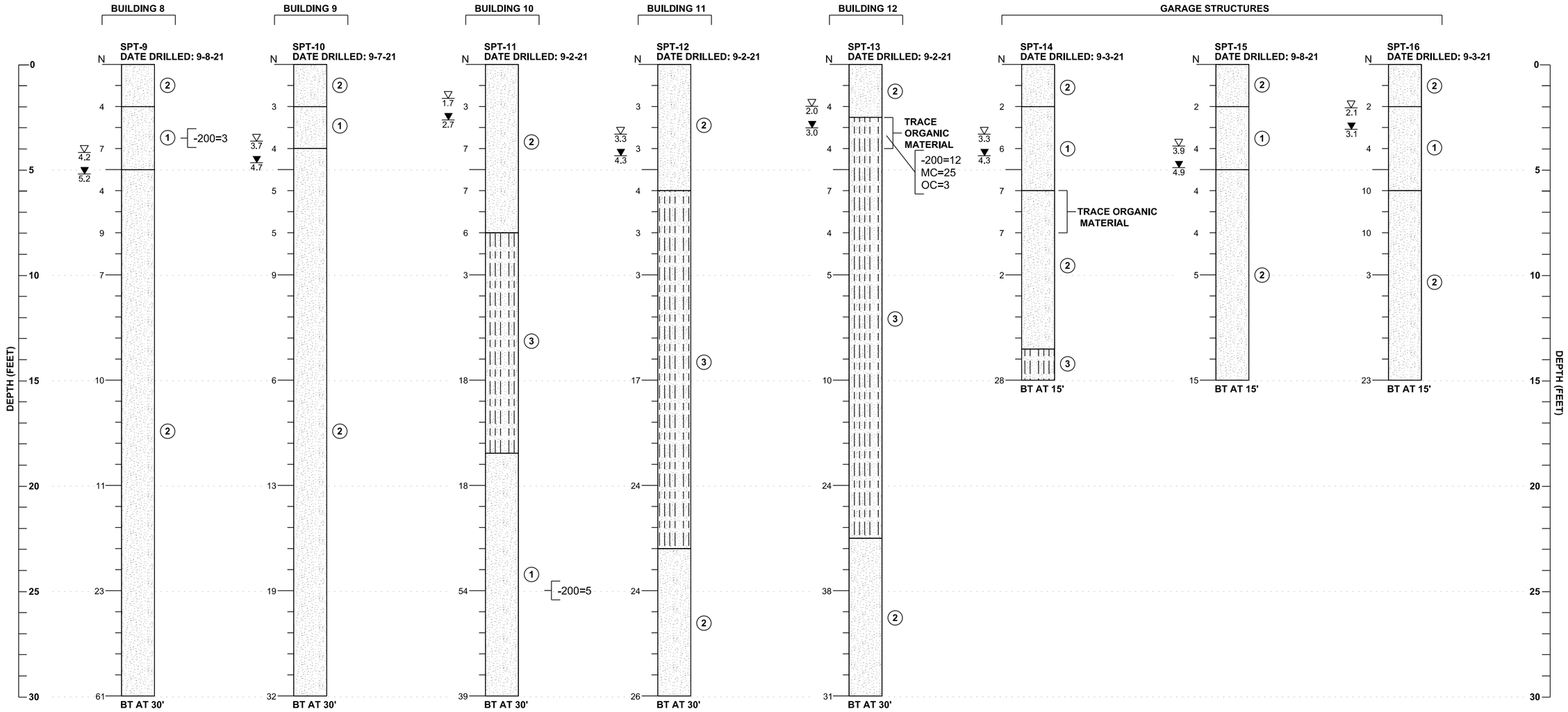
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EXCHANGE APARTMENTS AT ST. CLOUD

SOIL BORING RESULTS

FIGURE NO. 7



AUTOMATIC HAMMER			
GRANULAR SOILS: SANDS		NON-GRANULAR SOILS: SILTS, CLAYS, MUCK	
N VALUE (BLOWS/FT)	RELATIVE DENSITY	N VALUE (BLOWS/FT)	CONSISTENCY
0-3	VERY LOOSE	0-1	VERY SOFT
3-8	LOOSE	1-3	SOFT
8-24	MEDIUM DENSE	3-6	FIRM
24-40	DENSE	6-12	STIFF
OVER 40	VERY DENSE	12-24	VERY STIFF
		OVER 24	HARD

STRATUM NO.	UNIFIED CLASSIFICATION	HATCHING	SOIL DESCRIPTION
1	SP		LIGHT BROWN TO BROWN FINE SAND
2	SP-SM		LIGHT BROWN TO DARK BROWN TO GRAY FINE SAND WITH SILT
3	SM		LIGHT BROWN TO DARK BROWN SILTY FINE SAND

LEGEND

- N — STANDARD PENETRATION RESISTANCE, BLOWS PER FOOT
- ▽ 4.2 — ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH (FT.)
- ▼ 5.2 — ENCOUNTERED GROUNDWATER DEPTH (FT.) 24 HRS. AFTER DATE DRILLED
- BT — BORING TERMINATED AT DEPTH INDICATED
- -200= — PERCENT PASSING NO. 200 U.S. STANDARD SIEVE
- MC= — PERCENT NATURAL MOISTURE CONTENT
- OC= — PERCENT ORGANIC CONTENT

GENERAL NOTES

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN THE BORINGS MAY VARY FROM THOSE SHOWN. UNIFIED SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUALEXAMINATION AND THE LABORATORY TESTING SHOWN.

STANDARD PENETRATION TEST BORINGS WERE PERFORMED IN ACCORDANCE WITH ASTM D-1586. STANDARD PENETRATION RESISTANCES ARE SHOWN ON THE BORINGS AT THE TEST DEPTHS IN BLOWS PER FOOT UNLESS OTHERWISE NOTED.

BORING LOCATIONS WERE ESTABLISHED IN THE FIELD USING A SUB-METER ACCURACY TRIMBLE GPS UNIT.

SPLIT SPOON SAMPLER:
INSIDE DIAMETER: 1.375 IN.
OUTSIDE DIAMETER: 2.0 IN.
AVERAGE HAMMER DROP: 30 IN.
HAMMER WEIGHT: 140 LBS.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

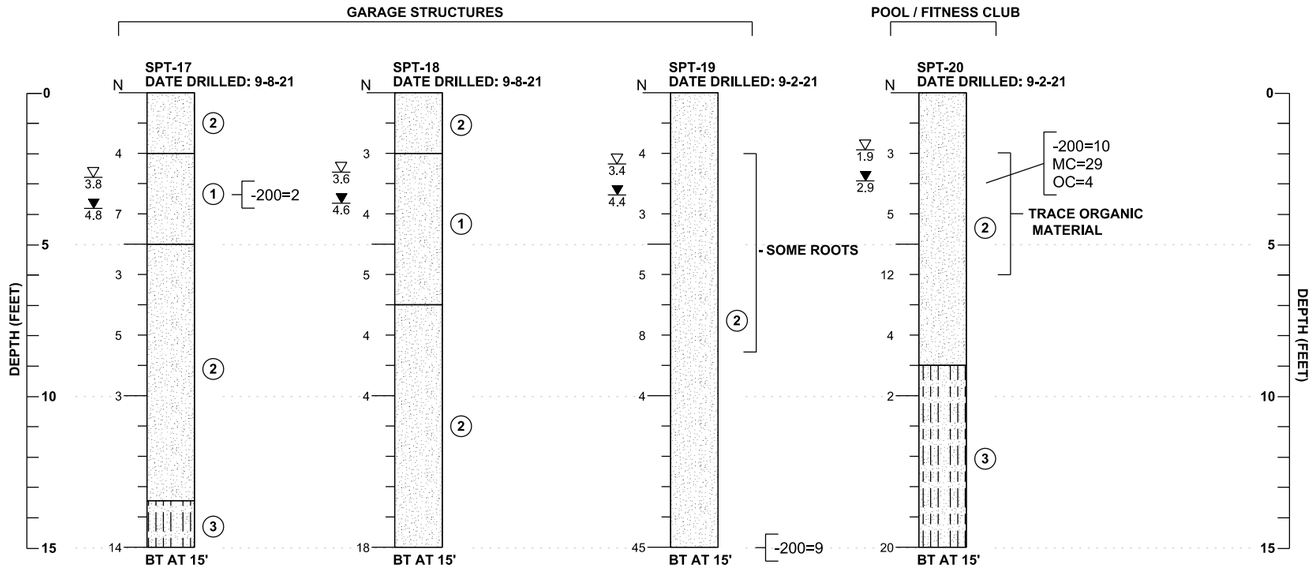
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EXCHANGE APARTMENTS AT ST. CLOUD

SOIL BORING RESULTS

FIGURE NO. 8

$USER$ 9/29/2021 $TIME$ W:\Projects\J4847GE Exchange Apartments at St Cloud_Hathaway\Geotechnical\7 CADD Files\BlboringOl.dgn



AUTOMATIC HAMMER			
GRANULAR SOILS: SANDS		NON-GRANULAR SOILS: SILTS, CLAYS, MUCK	
N VALUE (BLOWS/FT)	RELATIVE DENSITY	N VALUE (BLOWS/FT)	CONSISTENCY
0-3	VERY LOOSE	0-1	VERY SOFT
3-8	LOOSE	1-3	SOFT
8-24	MEDIUM DENSE	3-6	FIRM
24-40	DENSE	6-12	STIFF
OVER 40	VERY DENSE	12-24	VERY STIFF
		OVER 24	HARD

STRATUM NO.	UNIFIED CLASSIFICATION	HATCHING	SOIL DESCRIPTION
(1)	SP		LIGHT BROWN TO BROWN FINE SAND
(2)	SP-SM		LIGHT BROWN TO DARK BROWN TO GRAY FINE SAND WITH SILT
(3)	SM		LIGHT BROWN TO DARK BROWN SILTY FINE SAND

LEGEND

- N — STANDARD PENETRATION RESISTANCE, BLOWS PER FOOT
- $\overline{3.8}$ — ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH (FT.)
- $\blacktriangledown\overline{4.8}$ — ENCOUNTERED GROUNDWATER DEPTH (FT.) 24 HRS. AFTER DATE DRILLED
- BT — BORING TERMINATED AT DEPTH INDICATED
- -200= — PERCENT PASSING NO. 200 U.S. STANDARD SIEVE
- MC= — PERCENT NATURAL MOISTURE CONTENT
- OC= — PERCENT ORGANIC CONTENT

GENERAL NOTES

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN THE BORINGS MAY VARY FROM THOSE SHOWN. UNIFIED SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUALEXAMINATION AND THE LABORATORY TESTING SHOWN.

STANDARD PENETRATION TEST BORINGS WERE PERFORMED IN ACCORDANCE WITH ASTM D-1586. STANDARD PENETRATION RESISTANCES ARE SHOWN ON THE BORINGS AT THE TEST DEPTHS IN BLOWS PER FOOT UNLESS OTHERWISE NOTED.

BORING LOCATIONS WERE ESTABLISHED IN THE FIELD USING A SUB-METER ACCURACY TRIMBLE GPS UNIT.

SPLIT SPOON SAMPLER:
INSIDE DIAMETER: 1.375 IN.
OUTSIDE DIAMETER: 2.0 IN.
AVERAGE HAMMER DROP: 30 IN.
HAMMER WEIGHT: 140 LBS.

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION

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P.E. LICENSE NUMBER 71571

EXCHANGE APARTMENTS AT ST. CLOUD

SOIL BORING RESULTS

FIGURE NO. 9

APPENDIX A
FIELD EXPLORATION METHODS

A. FIELD EXPLORATION METHODS

A.1 Standard Penetration Test Borings

Standard Penetration Test (SPT) borings were drilled in general accordance with ASTM Standard D1586. The boreholes were advanced by the rotary wash method with bentonite-based mud used as the circulating fluid to help remove cuttings and stabilize the borehole. Casing was used as necessary to further stabilize the borehole and prevent loose surficial sands from raveling into the lower more stable portions of the borehole. GEC's field crew obtained SPT samples continuously in the borings to a depth of 10 feet and at 5-foot depth intervals thereafter. A GEC engineering technician supervised the drilling operation, and collected, examined and visually classified each sample. Representative samples were collected for further visual examination and classification in the GEC laboratory. SPT borings that penetrate the Hawthorn Group are grout-sealed upon completion.

A.2 Machine Auger Borings

Machine auger borings were performed in general accordance with ASTM Standard D1452. Machine auger borings were performed by hydraulically turning a continuous flight, solid-stem, auger into the ground in 5-foot increments until the desired boring termination depth was achieved. The auger flights were retrieved in 5-foot increments, without further rotation of the auger, and the retrieved soil was examined by our technician prior to collection of representative samples. Representative samples were collected for further visual examination and classification in the GEC laboratory.

A.3 Manual Auger Borings

Standard barrel manual auger borings were performed in general accordance with ASTM Standard D1452. Manual auger borings were performed by manually turning a 3-inch diameter, 6-inch long sampler into the soil until it was full, then retrieving the sampler and soil for visual classification. This procedure was repeated until the desired termination depth was achieved. Representative samples were collected for further visual examination and classification in the GEC laboratory.

A.4 Groundwater Measurement

A GEC engineering technician measured the depth to groundwater in the boreholes at the time of drilling and again after approximately 24 hours. A manual auger boring was performed adjacent to SPT borings that were grout sealed upon completion to record the groundwater depth. Once the 24-hour groundwater measurement was recorded, the boreholes were then backfilled with soil cuttings to prevailing ground surface.

A.5 Manual Muck Probes

Manual muck probes were performed by pushing a slender metal rod into the surficial soil and evaluating the relative resistance of the soil to manual penetration. Highly organic soils, such as muck and/or peat, are characteristically very soft and will easily yield to the manual probe. Manual probes, however, cannot detect peat or muck layers which are present beneath layers of sand or dense soils which cannot be penetrated by the probe. The probes can also penetrate to some extent in very loose sands which may be present beneath peat or muck layers. No soil samples are obtained for visual examination or laboratory testing when using this exploratory technique. The soil type being penetrated is inferred solely by evaluating the relative resistance of the soil to penetration. These limitations can lead to some under-estimation or over-estimation of peat or muck layer thicknesses. The probe data presented in this report should be evaluated with these limitations in mind.

APPENDIX B
CONSTRUCTION RECOMMENDATIONS

B. CONSTRUCTION RECOMMENDATIONS

The following sections include comments on issues related to the geotechnical aspects of the proposed construction. *These recommendations are not intended to dictate construction methods or sequences.* Instead, they are furnished as an aid to design professionals and to identify important construction issues related to foundation and earthwork plans and specifications. These recommendations may also be useful to personnel who observe construction activity.

Prospective contractors for this project should evaluate potential construction problems on the basis of their review of the contract documents, their own knowledge and experience in the local area, and on the basis of similar projects in other localities, taking into account their own proposed means and methods.

B.1 Groundwater and Surface Water Control

Depending on groundwater levels at the time of construction, excavation depths and final design grades, temporary dewatering may be required to facilitate stable excavations and placement and compaction of fill. The contractor should be required to provide a dewatering system which maintains groundwater levels at least 2 feet below compaction surfaces, including the bottom of all excavations. A system of ditches and sumps may be sufficient in some instances to achieve adequate dewatering, but the contractor should be prepared to install well-point or other dewatering systems, as necessary.

We do not recommend allowing the contractor to use gravel (e.g.; #57 stone) in excavation bottoms when soils are too wet to achieve the required compaction. Gravel contains small voids that may allow soil raveling to occur, resulting in ground subsidence. Instead the contractor should be made aware, in the plans and again at the pre-construction meeting, that adequate dewatering will be required where groundwater levels are within 2 feet of compaction surfaces and that the use of gravel in excavation bottoms is not allowed. Where wet conditions are such that dewatering by normal pumping methods would not be effective, the use of gravel will be permitted when specifically authorized by GEC in writing. Gravel shall be fully wrapped in a filter fabric layer and placed such that it will be stable and firm.

Additionally, the contractor must provide positive site drainage during site preparation and fill placement. Surface runoff should not be allowed to accumulate on compaction surfaces. Temporary rim ditches may be required to facilitate site preparation by routing drainage away from active construction operations.

B.2 General Site Preparation

Our recommendations regarding routine site preparation of the structure and pavement areas can be summarized as follows:

- Remove all concrete, asphalt, vegetation and organic topsoil, major root systems, buried utilities, sprinkler systems and other deleterious materials from beneath the proposed structure and pavement limits for the cut sections of the site or when no fill is required. For areas where fill is required to achieve final grade, deleterious materials need to be removed from the entire filled area to the toe of the fill slope. Standard clearing, grubbing, and topsoil stripping procedures should be appropriate for this site.

- Perform temporary dewatering as required to achieve proper site preparation, fill placement and compaction.

- Allow a Geotechnical Engineer to inspect the site after it has been stripped to verify adequate topsoil and vegetation removal and to observe subsequent proofrolling.

- In structure and pavement areas where fill is required, proofroll the stripped ground surface using a large vibratory roller (Dynapac CA-25 or equivalent). Proofroll cut areas after excavation to proposed grade to allow adequate compaction of the exposed subsoil.

- ***Exercise extreme caution when operating vibratory equipment near existing structures.*** Nearby structures may be adversely affected by vibratory rolling operations. Operate roller in the static mode if excessive vibrations are experienced by any structures or if the soil subgrade becomes unstable. Preconstruction surveys of nearby structures should be conducted to document baseline conditions. Sensitive structures should be monitored for vibrations during construction operations.

- Proofroll the structure and pavement areas with a minimum of 10 overlapping passes in each of two perpendicular directions. Allow a Geotechnical Engineer, or his representative, to observe proofrolling operations. The purposes of the proofrolling will be to detect unstable soils that yield when subjected to compaction and to densify the near-surface loose sands for support of shallow foundations, soil supported floor slabs, and new pavements.

- Remove material that yields excessively during proofrolling and replace with fill selected and compacted as described in the next section of this report. The Geotechnical Engineer, based on his observations, should recommend the nature and extent of any remedial work.

If the soil subgrade is saturated, or if the fill is at a moisture content over "optimum", then instability may occur, and the contractor may be required to implement remedial measures to successfully place and compact the fill.

- Organic soil (Muck, Pt, and A-8) should be removed from all structure and pavement areas to a minimum of 5 feet beyond the proposed structure and pavement limits.

- Silty or clayey sands (SM, SC) may be exposed at the compaction surface during site preparation. These soils can be unstable during proofrolling if they contain excess moisture. The contractor should be prepared to manipulate the moisture content of unstable subgrade soils as necessary to achieve stability and compaction requirements.

- Continue proofrolling until the soil at a depth of 12 inches below the compaction surface has attained a minimum of 95% of the soil's modified Proctor maximum dry density as determined by ASTM Standard D-1557.

- Sand excavated above the water table may have to be wetted to attain the moisture content needed to achieve the required degree of compaction.

- Allow an Engineering Technician, working under the direction of a Geotechnical Engineer registered in the State of Florida, to perform in-place density tests to verify that the required degree of compaction has been achieved.

B.3 Fill Selection, Placement and Compaction

After the contractor proofrolls the site in accordance with the above recommendations, the contractor should place and compact fill required to bring the site to final grade. We recommend that all fill be selected, placed and compacted as follows:

- Use fill material comprised of non-plastic sands with 12% or less fines content. The fill should not contain any significant amount of organic soil (less than 3% by weight) and should be substantially free from roots or other organic or deleterious materials.

- Sands excavated above the water table may have to be wetted to attain the moisture content needed to achieve the required degree of compaction.

- Place fill in level lifts no thicker than 12 inches. Thinner lifts may be needed to achieve compaction in silty or clayey sands.

- Compact fill to a minimum of 95% of the soil's modified Proctor maximum dry density as determined by ASTM Standard D-1557 for each lift of fill placed.

- Allow an Engineering Technician, working under the direction of a registered Geotechnical Engineer, to perform in-place density tests to verify that the recommended degree of compaction has been achieved.

- Extend fill a minimum of 10 feet beyond building limits to prevent possible erosion or undermining of footing bearing soils.

- Provide fill slopes no steeper than 2 horizontal to 1 vertical.

- Compact fill placed in utility trenches to the specifications stated above. However, in restricted working areas, where use of a large vibratory roller is not feasible, compact fill with lightweight, hand-guided compaction equipment and limit lift thicknesses to a maximum of 6 inches.

- All excavations including utility trenches, should comply with the recommendations included in the **Excavation Safety** section of this report.

B.4 Foundation Subgrade Preparation

We recommend the following steps be taken during footing excavation and subgrade preparation:

- Excavate footings in accordance with the recommendations presented in the **Excavation Safety** section of this report.

- Compact footing/slab subgrade soils to a depth of 12 inches below footing bearing elevations to a minimum of 95% of the soil's modified Proctor maximum dry density as determined by ASTM Standard D-1557.

- Perform in-place density tests at 12 inches below the footing/slab bearing elevation to verify footing subgrade density.

- Overexcavate excessively loose or disturbed soils encountered in footing/slab areas and replace with sands selected and compacted in accordance with these recommendations.

- Allow a Geotechnical Engineer, or his representative, to observe footing excavation conditions prior to placement of reinforcing steel or concrete.

- On the basis of the Geotechnical Engineer's observations, remove any unsuitable material encountered in the footing excavations and replace with sand selected and compacted in accordance with the **Fill Selection, Placement and Compaction** section of this report.

B.5 Pavement Subgrade Preparation

- Our general recommendations for the pavement subgrade are as follows:

- Prepare pavement areas in accordance with the **General Site Preparation and Fill Selection, Placement and Compaction** sections of this report.

- Compact the 12-inch subgrade beneath the base to a minimum of 98% of ASTM D-1557 maximum density.

- Perform in-place density tests to verify pavement subgrade density.

- Stabilize the subgrade beneath a limerock base to a minimum Limerock Bearing Ratio (LBR) of 40.

- Stabilization is not required beneath a soil-cement base or rigid (concrete) pavement. However, the lack of subgrade stabilization should be considered in the pavement design.

B.6 Excavation Safety

The owner and the contractor should be familiar with local, state and federal safety regulations, including current Occupational Safety and Health Administration (OSHA) excavation and trench safety standards. Construction site safety is the responsibility of the contractor. The contractor should also be responsible for the means, methods, techniques, sequences, and operations of the construction.

The contractor should be aware that slope height, slope inclination, and excavation depths (including utility trench excavations) should not exceed those specified in local, state, or federal safety regulations; e.g., OSHA Health and Safety Standards for Excavations, 29 CFR Part 1926. *OSHA regulations are strictly enforced and, if not followed, the owner, contractor, earthwork subcontractor or utility subcontractor could be liable for substantial penalties.*

The soil encountered in the borings performed by GEC at this site is primarily sand with varying amounts of silt. We anticipate that OSHA will classify these materials as Type C. OSHA

recommends a maximum temporary slope inclination of 1.5 horizontal to 1 vertical for this soil type. Soils encountered in the construction excavations may vary significantly across the site. Our soil classifications are based on the materials encountered in widely-spaced borings. The contractor should verify that similar conditions exist throughout the proposed excavation area. If different subsurface conditions are encountered at the time of construction, GEC should be contacted immediately to evaluate the conditions encountered.

If any excavation, including a utility trench, is extended to a depth of more than 20 feet, OSHA requires that the side slopes of such excavation be designed by a Professional Engineer registered in the State of Florida. As an alternative to temporary slopes, vertical excavations can be temporarily shored. The contractor or the specialty subcontractor should be responsible for the design of the temporary shoring in accordance with applicable regulatory requirements.

B.7 Reclaimed Concrete Aggregate Base Material

Reclaimed concrete aggregate base material should meet the specifications of the state or local jurisdiction. If a specification for reclaimed concrete aggregate base is not available, GEC recommends the following minimum specifications be included in the project specifications:

- Reclaimed concrete aggregate base material should meet the following gradation requirement:

Sieve Size	Percent by Weight Passing
2 inch	100
3/4 inch	65 to 95
3/8 inch	40 to 85
No. 4	25 to 65
No. 10	20 to 50
No. 50	5 to 25
No. 200	0 to 10

- The reclaimed concrete aggregate base should consist of crushed concrete material derived from the crushing of hard Portland cement concrete.
- Reclaimed concrete aggregate base should not contain plastic soils (i.e.; the minus 0.425 mm (No. 40) sieve material should be non-plastic).
- Reclaimed concrete aggregate base should have a minimum limerock bearing ratio (LBR) of 150.
- Reclaimed concrete aggregate base should be free of all materials that fall under the category of solid waste or hazardous materials as defined by the state or local jurisdiction and should meet all Department of Environmental Protection (DEP) permit requirements

which pertain to construction, demolition and recycling of these materials. Reclaimed concrete aggregate base should also be substantially free from other deleterious materials which are not classified as solid waste or hazardous materials and be asbestos free. The following limits should not be exceeded:

Deleterious Material	Percent by Weight
Bituminous Concrete	1
Bricks	1
Wood and other Organic Substances	0.1
Heavy Metals (except Lead)	0.1
Lead	5 ppm
Reinforcing Steel and Welded Wire Fabric	0.1
Plaster and Gypsum Board	0.1

- The reclaimed concrete aggregate base supplier should have DEP permit requirements section 62-701.73

Puffin Road Commercial

Osceola County, Florida

Section 10

Appendix C

- Environmental Report

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PRELIMINARY ECOLOGICAL ASSESSMENT REPORT

FERBER CONSTRUCTION MANAGEMENT, LLC
NWC OF US192 & PUFFIN ROAD
OSCEOLA COUNTY, FLORIDA

JULY 2025

Engineers
Architects
Planners
Surveyors
Landscape Architects
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JULY 2025

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1.0 INTRODUCTION

CPH Consulting, LLC (CPH), Environmental Services, conducted a preliminary ecological assessment on the NWC US192 & Puffin Road Project area. The subject project area is identified by the Osceola County Property Appraiser by Parcel Nos. 05-26-31-0105-0001-0010, 05-26-31-0105-0001-0020, and 05-26-31-0105-0001-00B0. Ferber Construction Management, LLC is proposing to develop the 41.49 subject project area. The purpose of this preliminary assessment is to: 1) provide a general estimate of the type and extent of upland habitat types and confirm the approximate extent and configuration of areas expected to fall within the wetland regulatory jurisdiction of the South Florida Water Management District (SFWMD) and U.S. Army Corps of Engineers (ACOE); 2) conduct a public database search for the known or probable geographic distribution of protected species within these habitat types; 3) conduct a preliminary review for protected wildlife and plant species occurrence based on direct observation during the field investigation; 4) assess on-site wetland habitats, if applicable; and 5) identify special environmental designations on, or within proximity to, the subject project area.

The 41.49-acre subject project is located at East Irlo Bronson Memorial Highway in Section 5, Township 26 South, Range 31 East, City of St. Cloud, Osceola County, Florida (**Figure 1, Appendix A**). Vegetation associations and landscape descriptions were identified from aerial photography and site observations, the Soil Conservation Service (SCS) *Soil Survey of Osceola County, Florida* and ground truthing. There are two (2) vegetation and land use classifications and four (4) soil types mapped within the subject project. Vegetation and land uses are generally classified following the *Florida Land Use, Cover and Forms Classification System* (FLUCFCS) (FDOT 1999). CPH's field investigation was conducted on June 26, 2025.

2.0 METHODOLOGY

On June 26, 2025, scientists performed pedestrian surveys of the subject project for the presence of protected flora and fauna and regulated wetlands and surface waters. Pedestrian transects were sufficient to cover the subject project area. Before the reconnaissance-level survey, a list of

potentially occurring protected flora and fauna was compiled based upon on-site habitat types and known or probable geographic distribution of protected species within these habitat types.

3.0 EXISTING SITE CONDITIONS

The 41.49-acre project area is located north of East Irlo Bronson Memorial Highway and west of Puffin Road in the City of St. Cloud, Florida. The subject project area is undeveloped and surrounded by commercial, residential and transportation land uses.

3.1 Soils

The *Soil Survey of Osceola County, Florida,* identifies four (4) soil map units within the subject project (**Figure 2**). A summary of the characteristics of these soil types, as described by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), formerly Soil Conservation Service (SCS) Soil Survey Geographic (SSURGO) database, is as follows:

Myakkka fine sand, 0 to 2 percent slopes

The subject project area is mapped by the SCS as having Myakka fine sands. *The Hydric Soils of Florida Handbook, Fourth Edition* (Carlisle, 2007) lists the Myakka fine sands as having 30% hydric inclusions. The soils in this map unit are poorly drained, nearly level soil in broad areas in the flatwoods. Slopes range from 0 to 2 percent. The water table is at a depth of less than 10 inches for 1 to 4 months in most years and a depth of more than 40 inches during very dry seasons. Permeability is rapid in the surface and subsurface layers, moderate to moderately rapid in the subsoil, and rapid in the substratum. Available water capacity is very low above the subsoil, medium in the subsoil, and very low below the subsoil. Natural fertility and organic matter content are low.

Pomello fine sand, 0 to 5 percent slopes

This is a moderately well drained, nearly level to gently sloping soil. It occurs in areas transitional between the high sand ridges and the flatwoods and on slight knolls and low ridges throughout the flatwoods. This soil has a water table at a depth of 24 to 40 inches for periods of about 1 to 4 months during normal wet seasons. During dry seasons, the water table is at a depth of about 40 to 60 inches. Permeability is very rapid in the surface to subsurface layers, moderately rapid in the subsoil, and rapid to a depth of 80 inches or more. Available water capacity is very low in the surface and subsurface layers, medium in the subsoil, and very low below. Organic matter content and natural fertility are very low.

St. Lucie fine sand, 0 to 5 percent slopes

This is an excessively drained, nearly level to gently sloping soil on narrow, discontinuous ridges in the sandy uplands and flatwoods. This soil has a seasonal water table at a depth of 72 to 120 inches. Permeability is very rapid throughout, and available water capacity is very low. Natural fertility is very low, and organic matter content is low.

Tavares fine sand, 0 to 5 percent slopes

This is a moderately well drained, nearly level to gently sloping soil on low ridges in the flatwoods. The soil has a water table at a depth of 40 to 60 inches during droughty periods. This soil has very low available water capacity to a depth of more than 80 inches. Permeability is very rapid throughout. Natural fertility and organic matter content are low throughout.

3.2 Vegetation and Land Use Types

Two (2) vegetation and land use classifications are mapped within the subject project boundaries. Vegetation and land use classifications are generally classified in accordance with the *Florida Land Use, Cover and Forms Classification System* (FLUCFCS) (FDOT 1999). The following descriptive titles and FLUCFCS numbers assess the project area's vegetation and land uses and are presented on **Figure 3**. Select photographs of the subject project area are provided in **Appendix B**.

Upland Coniferous Pine (FLUCFCS No. 410)

This habitat classification describes any forest with a canopy that is atleast 66 percent dominated by coniferous species. Vegetation observed included slash pine (*Pinus elliottii*), scrub oak (*Quercus inopina*), saw palmetto (*Serenoa repens*), camphor tree (*Camphora officinarum*), live oak (*Quercus virginiana*), Brazilian pepper (*Schinus terebinthifolia*), wax myrtle (*Morella cerifera*), winged sumac (*Rhus copallinum*), black cherry (*Prunus serotina*), rattlebox (*Crotalaria* sp.), plains snakecotton (*Froelichia floridana*), cogon grass (*Imperata cylindrica*), ragweed (*Ambrosia artemisiifolia*), dog fennel (*Eupatorium capillifolium*). Caesar weed (*Urena lobata*), bahia grass (*Paspalum notatum*), lantana (*Lantana strigocamara*), Paraguayan purslane (*Portulaca amilis*), rust weed (*Polypremum procumbens*), bracken fern (*Pteridium aquilinum*), toothed midsorus fern (*Telmatoblechnum serrulatum*), rosary pea (*Abrus precatorius*), green brier (*Smilax* sp.), grape vine (*Vitis* sp.), Japanese climbing fern (*Lygodium japonicum*), passion fruit (*Passiflora incarnata*) and various grasses and weeds.

Reservoir (FLUCFCS No. 530)

This land classification encompasses reservoirs and artificial impoundments of water used for irrigation, flood control, municipal and rural supply. The upland cut reservoir is found on the western project boundary.

3.3 Wetlands & Surface Waters

According to wetland delineation methodologies outlined in the *Corps of Engineers Wetland Delineation Manual* (1987), the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic & Gulf Coastal Plain Region* and the State of Florida Unified Wetland Delineation Methodology (Section 62-340, F.A.C.), one (1) habitat (FLUCFCS No. 530) meeting the definition of jurisdictional wetlands and surface waters was observed within the project area during the field investigation (**Figure 3**). There is an upland cut reservoir located on the western project boundary.

4.0 REGULATORY CONSIDERATIONS

4.1 South Florida Water Management District

The SFWMD regulates isolated wetlands and those considered within or connected to "Waters of the State" pursuant to Chapter 403 of the Florida Statues, Rules 62-302 and 62-330 of the Florida Administrative Code (F.A.C.). Development activities altering wetlands and/or drainage require a Statewide Environmental Resource Permit (SWERP) from the SJRWMD. Different SWERP Permits for various activities, General Permits, and exemptions can be found in the *State of Florida Environmental Resource Permit Applicant's Handbook, Volume I*. Specific design standards, basin-specific criteria, and procedures can be found in the *State of Florida Environmental Resource Permit Applicant's Handbook, Volume II*. Typically, SFWMD representative will review and approve the delineated wetland limits subsequent to the submittal of a permit application for construction.

Applicants must provide reasonable assurances that a regulated activity will not cause adverse secondary impacts to the water resources, specifically aquatic or wetland dependent fish and wildlife that are listed as threatened, endangered or of special concern. Secondary impacts to the habitat functions of wetlands associated with adjacent upland activities will not be considered adverse if upland buffers with a minimum width of 15 feet and an average width of 25 feet are provided abutting those wetlands to remain under the permitted design.

In most cases, SFWMD will require mitigation to compensate for direct and secondary impacts to the water resource (wetland and surface water). There are exceptions to this requirement which is evaluated and case-by-case basis.

4.2 U.S. Army Corps of Engineers

The ACOE regulates wetlands and other waters under Section 404 of the Clean Water Act (CWA), specifically those that qualify as "Waters of the United States" (WOTUS). Following the U.S. Supreme Court's decision in *Sackett v. EPA, 598 U.S. 651 (2023)*, and as clarified

in the March 2025 Memorandum to the Field, the Corps' jurisdiction over wetlands is limited to those that have a continuous surface connection to a relatively permanent body of water that is itself a water of the United States. The 2025 Memorandum clarifies that a "continuous surface connection" means a direct and unbroken surface linkage between a wetland and a relatively permanent waterbody, such that the wetland is indistinguishable from the adjacent water during ordinary conditions. Features such as man-made barriers, berms, or disconnected drainage swales do not meet this standard if they interrupt surface hydrology in a manner that severs the physical connection.

As a result of the Sackett decision, wetlands that are adjacent but hydrologically separated from jurisdictional waters—such as those connected only through subsurface flow, intermittent or ephemeral features, or indirect hydrological connections—no longer fall under federal jurisdiction. This interpretation supersedes previous reliance on broader connectivity standards established in *Rapanos v. United States, 547 U.S. 715 (2006)*, and *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC), 531 U.S. 159 (2001)*, which allowed for jurisdiction based on significant nexus or isolated interstate commerce connections. Accordingly, isolated wetlands or wetlands lacking a continuous surface connection to a relatively permanent waterbody are considered non-jurisdictional for purposes of Clean Water Act Section 404 permitting.

After a review of the subject project area, areas meeting the jurisdictional definition of "Waters of the United States" pursuant to Section 404 of the Clean Water Act were not observed within the subject project area. Based on current regulatory requirements, Federal wetland permitting authorization is not required for the subject project.

5.0 PROTECTED FAUNA AND FLORA

Preliminary ecological investigations included a review of published and unpublished literature concerning the subject project and surrounding area, solicitation of databases on protected species,

field investigation to generally delineate and characterize the habitats and a preliminary field survey for the occurrence of protected flora and fauna.

5.1 Records Search

Prior to the initiation of fieldwork, a records review of documented wildlife observations (Wildlife Occurrence Database System) maintained by the Florida Fish and Wildlife Conservation Commission (FFWCC) was conducted. Other resources used as aids included the following: aerials, *Soil Survey of Osceola County, Florida*; U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) database, Florida Natural Areas Inventory (FNAI) Biodiversity Matrix database; and Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida (FFWCC). **The records review did not indicate recorded observations or occurrences of protected species on the subject project (Figure 4).**

5.2 Field Investigation

CPH biologists conducted a field investigation of the subject project on June 26, 2025. General reconnaissance of the project area was conducted, during which scientists searched for evidence of the occurrence of federal or state-listed flora and fauna and general wildlife utilization. Regulatory oversight for protected fauna and flora is the responsibility of the USFWS, FFWCC, and the Florida Department of Agriculture and Consumer Services (FDACS). The USFWS is the federal agency responsible for protecting the nation's fish and wildlife resources through the implementation of the Endangered Species Act of 1973, as amended ("ESA," 16 U.S.C. 1513-1543). **Species (or their signs) protected under the ESA were not observed on, or adjacent to, the subject project area during the field investigation.**

The FFWCC regulates the taking of species listed as endangered, threatened, or of special concern and their nests through Rules listed in 68A-27 Florida Administrative Code. The FFWCC also provides technical assistance to other agencies with regulatory authority over

activities that may affect fish and wildlife and their habitat. **Species protected under 68A-27 Florida Administrative Code were not observed on, or adjacent to, the subject project area during the field investigation.**

Section 581.185, Florida Statutes and Chapter 5B-40, F.A.C., delegates authority to FDACS to designate and regulate plants listed as "endangered," "commercially exploited," and "threatened." It is unlawful for an individual to harvest endangered or commercially exploited plants from the private land of another or any public land without first obtaining written permission from the landowner and a permit from FDACS. It is unlawful for an individual to harvest a threatened plant from private or public land without first obtaining the written permission of the landowner. **FDACS-listed endangered and threatened species were not observed within the subject project area during the field investigation.**

Wildlife utilization is a measure of direct observations or evidence of animals' presence (e.g. scat, tracks, dens, etc.). Potential wildlife utilization was evaluated on food sources, nesting areas, roosting areas, den areas and protective covering. The potential for wildlife utilization of the subject project area is considered low due to the proximity to surrounding transportation corridors and urban development. During the field investigation, direct observations or signs of wildlife on the subject project included an eastern gray squirrel (*Sciurus carolinensis*), cat (*Felis catus*), brown anole (*Anolis sagrei*), boat tailed grackle (*Quiscalus major*), northern mockingbird (*Mimus polyglottos*), morning dove (*Zenaida macroura*), common pigeon (*Columba livia*), southeastern five lined skink (*Plestiodon inexpectatus*) and multiple songbirds.

5.3 Protected Fauna and Flora Regulatory Considerations

Below is a discussion of select species or groups of wildlife that frequently affect development sites or can affect a project even though these species are not physically located on the project site.

5.3.1 Migratory Bird Treaty Act

The USFWS also administers and enforces the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 USC 703-712), which makes it unlawful to pursue, hunt, take, capture, kill or sell birds listed therein ("migratory birds"). The statute does not discriminate between live or dead birds and grants full protection to any bird parts, including feathers, eggs, and nests. A migratory bird is any species or family of birds that live, reproduce, or migrate within or across international borders at some point during their annual life cycle. The current list of birds protected under the MBTA was published in the *Federal Register* on July 31, 2023, and became effective on August 30, 2023. In total, 1,106 bird species are protected by the MBTA. Several species protected under the MBTA were identified on, or within the vicinity of, the subject project during the field investigation. **Provided the construction activities do not directly kill or harm birds, their nests or eggs, or cause nest failure due to disturbance, the proposed development of the subject project has a low probability of violating the MBTA.**

5.3.2 Bald Eagle

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) and the regulations derived therefrom (50 CFR 22) state, in part, that no person shall take any bald eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof (with "take" meaning to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb). Federal and State laws and regulations make it unlawful to take any listed species (with "take" meaning to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect) or to attempt to engage in any such conduct.

According to the Florida Audubon Society Eagle Watch Program database, active nests are not documented as occurring within the subject project boundary (**Figure 4**). The closest documented bald eagle nest (Nest OS132) is located approximately 0.32 miles north of the subject project area. **The presence of this nest will not adversely affect development of the subject project area due to the distance between the nest and the project area.**

5.3.3 USFWS Wood Stork Core Foraging Area

The wood stork (*Mycteria americana*) is listed as Threatened by the USFWS and the FFWCC. The wood stork is protected under the Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 *et seq.* and Florida Chapter 68A, Florida Administrative Code. Inundated forested wetlands, cypress strands and domes, mixed hardwood swamps, and sloughs provide nesting habitat. Nest sites are generally in woody vegetation over standing water or on islands surrounded by broad expanses of open water. Shallow freshwater marshes, ponds, flooded pastures, and ditches provide suitable foraging habitat. Wood storks nest in colonies and will return to the same colony site for many years so long as the site and the surrounding foraging habitat continue to supply the needs of the birds. The USFWS has determined the extent of the Core Foraging Area (CFA) as approximately 18.6 miles, for south Florida counties, from the nesting colony. **The subject project area is located within the CFA of a wood stork colony** (**Figure 4**)**.**

USFWS and FFWCC regulate impacts to the wood stork by requiring a one-to-one mitigation ratio and the mitigation wetlands need to mimic the historical hydroperiod of the impacted wetland to provide habitat compensation for the wood stork. Typically, habitat compensation is provided for as part of the project's wetland mitigation plan either through the purchase of mitigation bank credits or on-site and off-site mitigation plans during the state and federal permitting process.

5.3.4 Gopher Tortoise

The gopher tortoise (*Gopherus polyphemus*) is listed as a "Threatened" species by the FFWCC and is protected by state law under Chapter 68A-27, Florida Administrative Code. The gopher tortoise is found throughout Florida and is generally associated with longleaf pine and xeric oak sand hills but is also located in scrub, xeric hammock, pine flatwoods, dry prairie, coastal grasslands and dunes, mixed hardwood-pine, and a variety of disturbed habitats. If the gopher tortoise or signs of the tortoise, such as burrows, is observed, their presence must be addressed before on-site construction activities. The FFWCC is the state agency

responsible for overseeing the management of this species, including permitting. **Gopher tortoises and their signs (burrows and scat) were not observed on, or within 25 feet of, the subject project area during the field investigation. According to FFWCC regulations, gopher tortoise surveys are valid for 90 days. CPH recommends conducting another gopher tortoise survey at least 120 days prior to the start of construction. If tortoises, or their burrows are observed and permitting is required, 120 days should be sufficient to address tortoise permitting and relocation activities.**

5.3.5 USFWS Florida Scrub-jay Consultation Area

The Florida scrub-jay (*Aphelocoma coerulescens*) is listed as a Threatened species by the USFWS through the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq*.). Following consultation, the USFWS issues a Biological Opinion (BO) for projects and their effects on the threatened Florida scrub-jay per Section 7 or Section 10 of the Endangered Species Act of 1973, as amended (ESA) (87 stat. 884; 16 U.S.C. 1531 *et seq*.). The BO will spell out the negotiated mitigation measures taken by the project proponent to ensure the listed species is not adversely affected.

According to the USFWS database, the subject project is within the USFWS Florida Scrub-jay Consultation Area and is within ¼ mile of known scrub-jay territory (Figure 4). The closest mapped USFWS scrub-jay territory is approximately 0.05 miles southwest of the subject project which is now developed for residential and commercial land use. The USFWS public database has not yet been updated since 1993 and does not reflect the current status of territory mapping adjacent to the subject project. Scrub-jays and scrub-jay habitat were not observed within, or adjacent to, the subject project during the field investigation. **Based on field observations and current regulatory guidance, further action to address the Florida scrub-jay should not be a consideration for this project.**

5.3.6 USFWS Everglade Snail Kite Consultation Area

The Everglade snail kite (*Rostrhamus sociabilis plumbeus*) is listed as Endangered by the USFWS and the FFWCC. The Everglade snail kite is protected under the Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 *et seq*. The subject project area is located within the USGWS Everglades Snail Kite Consultation Area (**Figure 4**). Typical Everglade snail kite habitat consists of freshwater marshes and the shallow vegetated edges of lakes (natural and man-made) where apple snails (*Pomacea paludosa*) can be found. Everglade snail kites require suitable foraging areas that are relatively clear and open to visually search for their specialized diet (apple snails). If suitable habitat is present or snail kites are reported on-site, the survey procedures should be conducted from January to May during the breeding season**. Based upon field observations, snail kites and snail kite habitat were not observed on the subject project. Based on current regulatory guidance, further action to address the Everglade snail kite is not a consideration for this project.**

5.3.7 USFWS Crested Caracara Consultation Area

The Audubon's crested caracara (*Caracara cheriway audubonii*) (caracara) is listed as Threatened by the USFWS and FFWCC. The caracara is protected under the U.S. ESA of 1973, as amended, 16 U.S.C. 1531 *et seq*. and Florida Chapter 68A, F.A.C. **The subject project area is located within the USFWS Crested Caracara Consultation Area (Figure 4)**. According to the public database, the closest documented caracara nest is located approximately 0.31 miles northwest of the subject project area within a developed area of St. Cloud. Large expanses of pastures, grasslands, or prairies dotted with numerous shallow ponds and sloughs and single clumps of live oaks, cabbage palms, and cypress provide nesting habitat. Improved pastures, extensive networks of drainage canals, stock ponds, agricultural ditches, and marshes provide foraging habitat.

The crested caracara is non-migratory. Adult pairs stay year-round on territory which may be maintained for years. The presence of adult individuals in an area can

usually be assumed to indicate the existence of a breeding territory. Should the caracara reside in the subject project area, a development plan should be designed to buffer disturbance activities. Should it become necessary to provide caracara nest protection during development activities, protection of caracara nests is described in the FFWCC *Recommended Management Practices and Survey Protocols for Audubon's Crested Caracara (Caracara cheriway audobonii) in Florida Technical Report No. 18.*

The USFWS and the FFWCC typically require a property owner to conduct surveys prior to development to ensure the crested caracara receive sufficient protection in the development plan. These surveys should occur every two (2) weeks during January through April, starting by January 10th. Once these surveys are conducted, and the extent of caracara use (if any) is determined, measures can be taken to incorporate management of the caracara within the development plan.

Based upon field observations, suitable crested caracara habitat was not observed in the subject project area. Due to lack of caracara habitat in the subject project area, proposed development has a low probability of adversely affecting this species. Based on current regulatory guidance, further action to address the caracara is not a consideration for this project.

5.3.8 USFWS Florida Grasshopper Sparrow Consultation Area

The Florida grasshopper sparrow (*Ammodramus savannarum floridanus*) is listed as Endangered by the USFWS and FFWCC. The grasshopper sparrow is protected under the U.S. ESA of 1973, as amended, 16 U.S.C. 1531 *et seq*. and Florida Chapter 68A-27, F.A.C. The project area is located in the USFWS Florida Grasshopper Sparrow Consultation Area (**Figure 4**). Suitable habitat for the grasshopper sparrow is dry prairie that is relatively open and low in stature, treeless, relatively poorly-drained grasslands that have a history of frequent fires. The optimum time to survey for Florida grasshopper sparrows is between April and June when peak nesting activity occurs. The recommended survey protocol for

determining presence is a three-event survey during the nesting season (April 1 through June 15). The minimum time between events is two weeks. Surveys outside of the nesting season may be non-conclusive and not acceptable to the USFWS.

The USFWS and the FFWCC typically require a property owner to conduct surveys prior to development to ensure the grasshopper sparrow receives sufficient protection in the development plan. Once these surveys are conducted, and the extent of sparrow use (if any) is determined, measures can be taken to obtain a Biological Opinion or incorporate management of the sparrow within the development plan if appropriate.

Development of the subject project area has a low probability of adversely affecting the Florida grasshopper sparrow due to lack of suitable habitat. Based on field observations, dry prairie habitat needed for sparrow population sustainability is not within the project area. According to current regulatory guidance, further action to address the grasshopper sparrow is not a consideration for this project.

5.3.9 USFWS Red-cockaded Woodpecker Consultation Area

The Red-cockaded woodpecker (RCW) (*Picoides borealis*) is endangered under the ESA and Florida Chapter 68A-27, FAC. The USFWS considers suitable habitat for RCWs "to include pine stands, or pine-dominated pine/hardwood stands, with a low or sparse understory and ample old-growth pines. Trees must be more than 60 years old to be suitable for cavity construction." Old-growth pine stands were not observed within the project boundaries. **The subject project is in the USFWS Red cockaded -woodpecker Consultation Area (Figure 4). Further action regarding the RCW should not be a consideration for the subject project based on lack of suitable habitat (mature pine) observed on the project and current regulatory guidance.**

6.0 PRELIMINARY WETLAND MITIGATION ASSESSMENT

As part of the permitting process, avoidance and minimization criteria must be addressed. Before mitigation to compensate for wetland impacts is accepted, an applicant must clearly show that all alternatives to avoid and minimize impacts to wetlands are exhausted. If it is determined that impacts to wetlands are unavoidable, then proposed mitigation options will be evaluated by the regulatory agencies. The upland cut reservoir in the project area is located within the Lake Hart Watershed. The southern half of the project is located in the Lake Gentry Watershed.

Table No. 1: Mitigation Bank Options in the Lake Hart Watershed

Mitigation Bank Name	State Credits Availability & Type	Federal Credits Availability & Type	Price per Credit	Comments
In Basin Mitigation Bank				
Lake X Ranch Mitigation Bank	Yes / UMAM	N/A	$150,000 Forested $200,000 Herbaceous	Herbaceous & Forested Credits
Out of Basin Mitigation Banks				
Bullfrog Bay	Yes / UMAM*	N/A	$125,000	Forested & Herbaceous
Southport Ranch	Yes / UMAM	Yes/ UMAM	$150,000 State Forested $175,000 Dual Forested $175,000 State Herbaceous $200,000 Dual Herbaceous	Forested & Herbaceous
Collany	Yes / UMAM	Yes / UMAM	$100,000	Herbaceous credits only
Hatchineha Ranch	Yes / UMAM	N/A	$150,000 State Forested $175,000 State Herbaceous	Forested & Herbaceous
Shingle Creek	Yes / UMAM	N/A	$145,000 Forested $215,000 Herbaceous	Forested & Herbaceous
Twin Oaks	Yes / UMAM	N/A	$200,000	Herbaceous State Only
Reedy Creek	Yes / UMAM	N/A	$145,000 Forested $215,000 Herbaceous	Forested & Herbaceous

* = Uniform Mitigation Assessment Method (UMAM)

Credit prices may vary depending on supply and demand. Proposed impacts to wetlands or other surface waters shall be reviewed during the permitting process by evaluating the impacts to water quality along with other factors, such as fish, wildlife and protected species and their associated habitats.

A preliminary evaluation was conducted for the subject property to provide a compensatory mitigation plan through the purchase of mitigation bank credits. This preliminary evaluation is based upon the

observed quality of the wetland areas and functions the system provides using the Unified Mitigation Assessment Methodology (UMAM) scoring. The Lake X Ranch Mitigation Bank appears to be the readily available mitigation option based on credit type and availability for mitigation bank credits. The Lake X Ranch Mitigation Bank is located in the same drainage basin as the subject project. As long as the proposed wetland impact and mitigation bank are located within the same drainage basin, the SFWMD will not require a Cumulative Impact Assessment based on current regulatory guidance. If mitigation is provided outside of the drainage basin, the SFWMD may require additional mitigation to comply with the cumulative impact rule.

7.0 PAST REGULATORY AUTHORIZATIONS

A public search of readily available records at the SFWMD was conducted for the subject project area to discover what previous and/or existing regulatory approvals had occurred. An Environmental Resource Permit (ERP) #49-108320-P was found for Parcels Nos. 05-26-31-0105-0001-0010 and 05-26-31-0105-0001-00B0 for the Hathaway Development Multi-Family St. Cloud project. The ERP was issued on June 12, 2023, by the SFWMD to Hathaway Development LLC and expires June 12, 2028. The project proposed a multi-family development with a wet detention pond and a dry detention pond on the 25.81-acre project area. The Hathaway Development project includes the north portion of the subject project area to immediately south of the upland cut 0.98-acre reservoir. SFWMD did not require Hathaway Development to provide mitigation for the 0.98-acre direct impact to the surface water (upland cut reservoir). Mitigation was not provided pursuant to Section 10.2.2.2. *Applicants Handbook, Volume I* as the surface water was upland cut and is less than one acre in size.

8.0 SUMMARY & RECOMMENDATIONS

The 41.49-acre subject project area is located at north of East Irlo Bronson Memorial Highway and west of Puffin Road in City of St. Cloud, Osceola County, Florida. Ferber Construction Management, LLC is proposing to develop the subject project area. The subject project area is undeveloped and surrounded by residential, commercial, and transportation land uses.

According to wetland delineation methodologies outlined in the *Corps of Engineers Wetland Delineation Manual* (1987), the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic & Gulf Coastal Plain Region* and the State of Florida Unified Wetland Delineation Methodology (Section 62-340, F.A.C.), one (1) surface water meeting the definition of jurisdictional wetlands and surface waters was observed within the project area during the field investigation.

Development activities altering wetlands and/or drainage require a Statewide Environmental Resource Permit (SWERP) from the SFWMD. Different SWERP Permits for various activities, General Permits, and exemptions can be found in the *State of Florida Environmental Resource Permit Applicant's Handbook, Volume I*. Specific design standards, basin-specific criteria, and procedures can be found in the *State of Florida Environmental Resource Permit Applicant's Handbook, Volume II*. Typically, the SFWMD will review the delineated limits of wetland and surface waters subsequent to the submittal of a permit application.

After a review of the subject project area, areas meeting the jurisdictional definition of "Waters of the United States" pursuant to Section 404 of the Clean Water Act were not observed within the subject project area. Based on current regulatory permitting requirements, Federal wetland impact authorization is not required for the subject project.

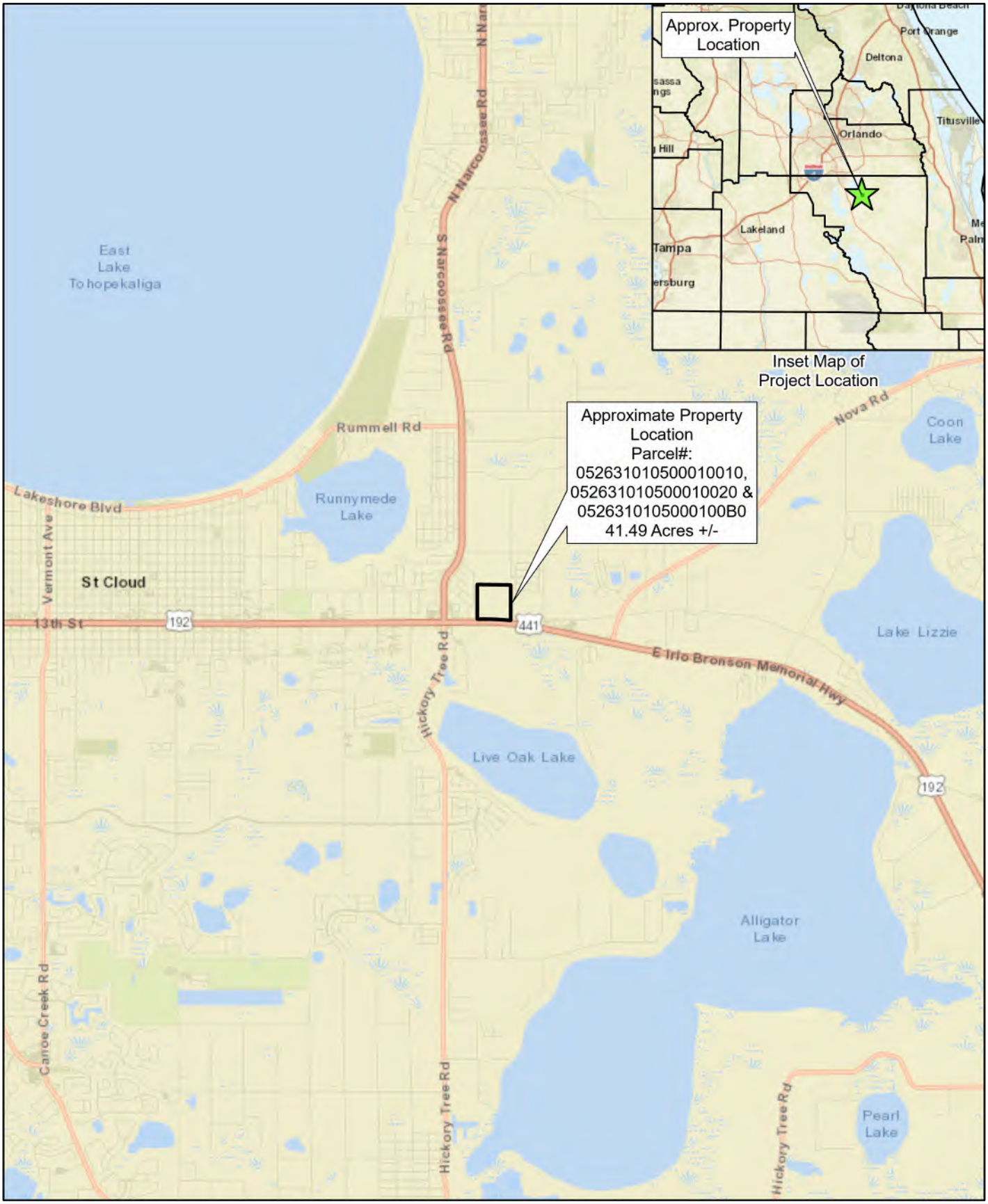
Preliminary ecological investigations included a review of published and unpublished literature concerning the project area for protected species and a preliminary field survey for the occurrence of protected flora and fauna. Protected species were not observed within, or adjacent to, the project area during the field investigation.

A public search of readily available records at the SFWMD was conducted for the subject project area to discover what previous and/or existing regulatory approvals had occurred. An Environmental Resource Permit (ERP) (Permit No. 49-108320-P) which included the northern portion of the subject project. The upland cut reservoir was included in the Hathaway Development project area and mitigation for the 0.98 acre surface water (reservoir) was not required pursuant to section 10.2.2.2, *Applicant's Handbook, Volume I.* Permit No. 49-108302-P expires on June 12, 2028.

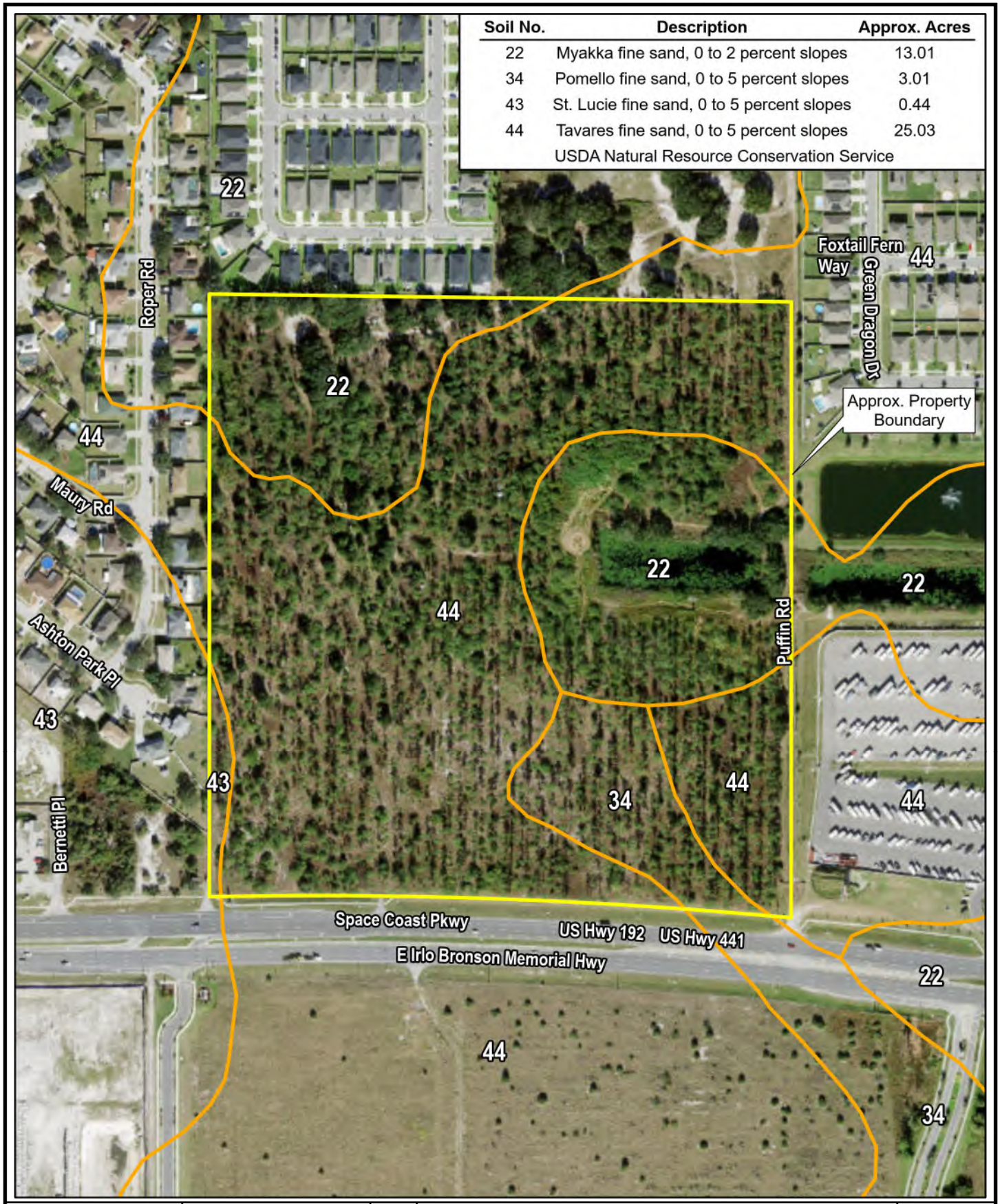
As a preliminary assessment, the findings of this report concerning native vegetation and land use may be subject to change upon more detailed analysis. Additionally, failure to detect a listed species does not necessarily infer species absence as wildlife are mobile, exhibit seasonality of occurrence, and generally have low population levels. Further, nothing in this report regarding environmental laws, rules, and regulations is intended to be a legal interpretation or opinion., Thus, readers of this report should contact an attorney concerning any matters of law.

APPENDIX A
Figures

Preliminary Ecological Assessment Report
Ferber Construction Management, LLC
NWC of US192 & Puffin Road
Osceola County, Florida



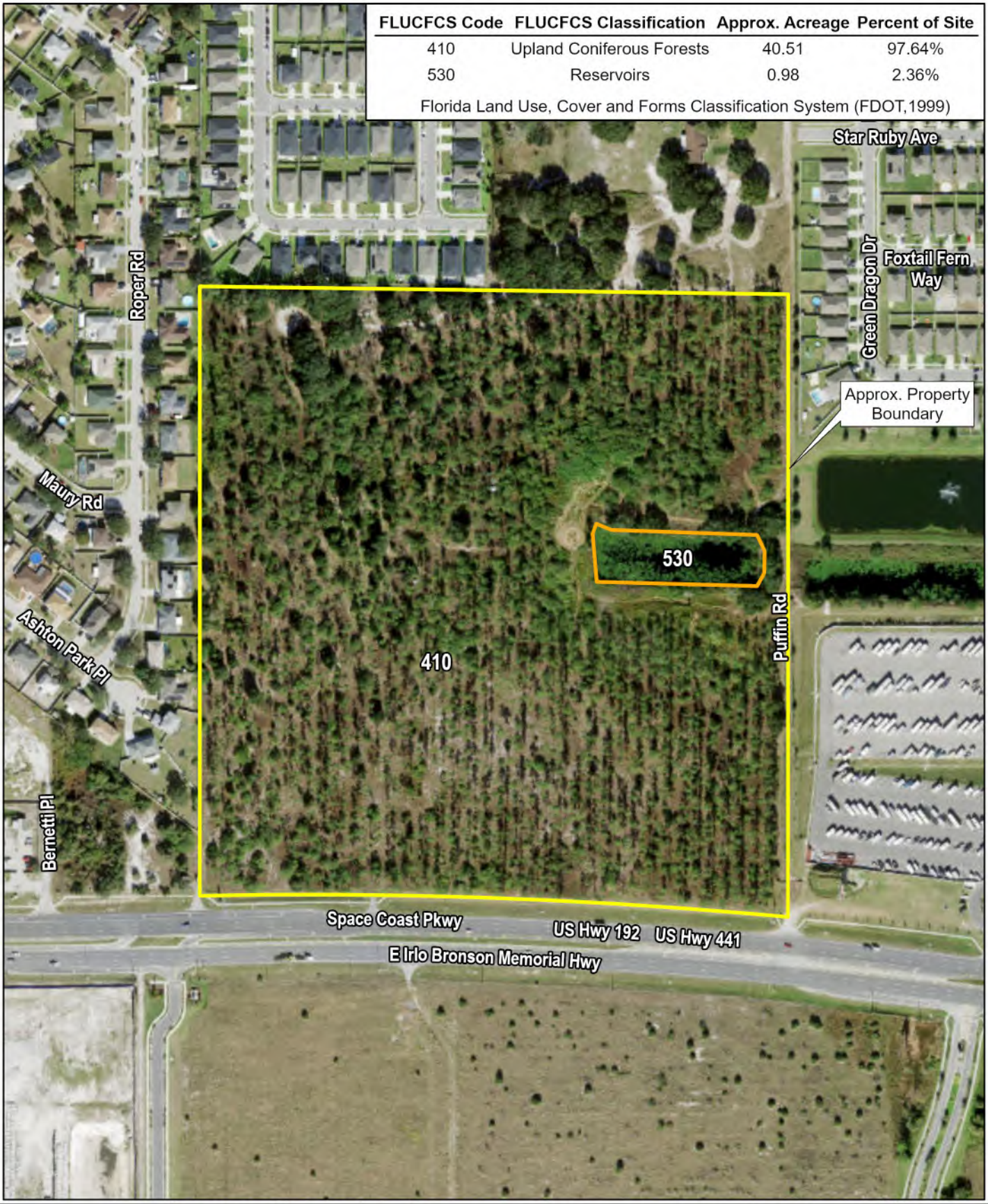
cph	Scale: 1 inch = 1 mile Date: 6/27/2025 Photo Date: N/A Project No. 2501037 Biologist: GO GIS: LEC	N	LOCATION MAP NWC OF US192 & PUFFIN ROAD SECTION 5, TOWNSHIP 26 SOUTH, RANGE 31 EAST OSCEOLA COUNTY, FLORIDA	FIGURE 1



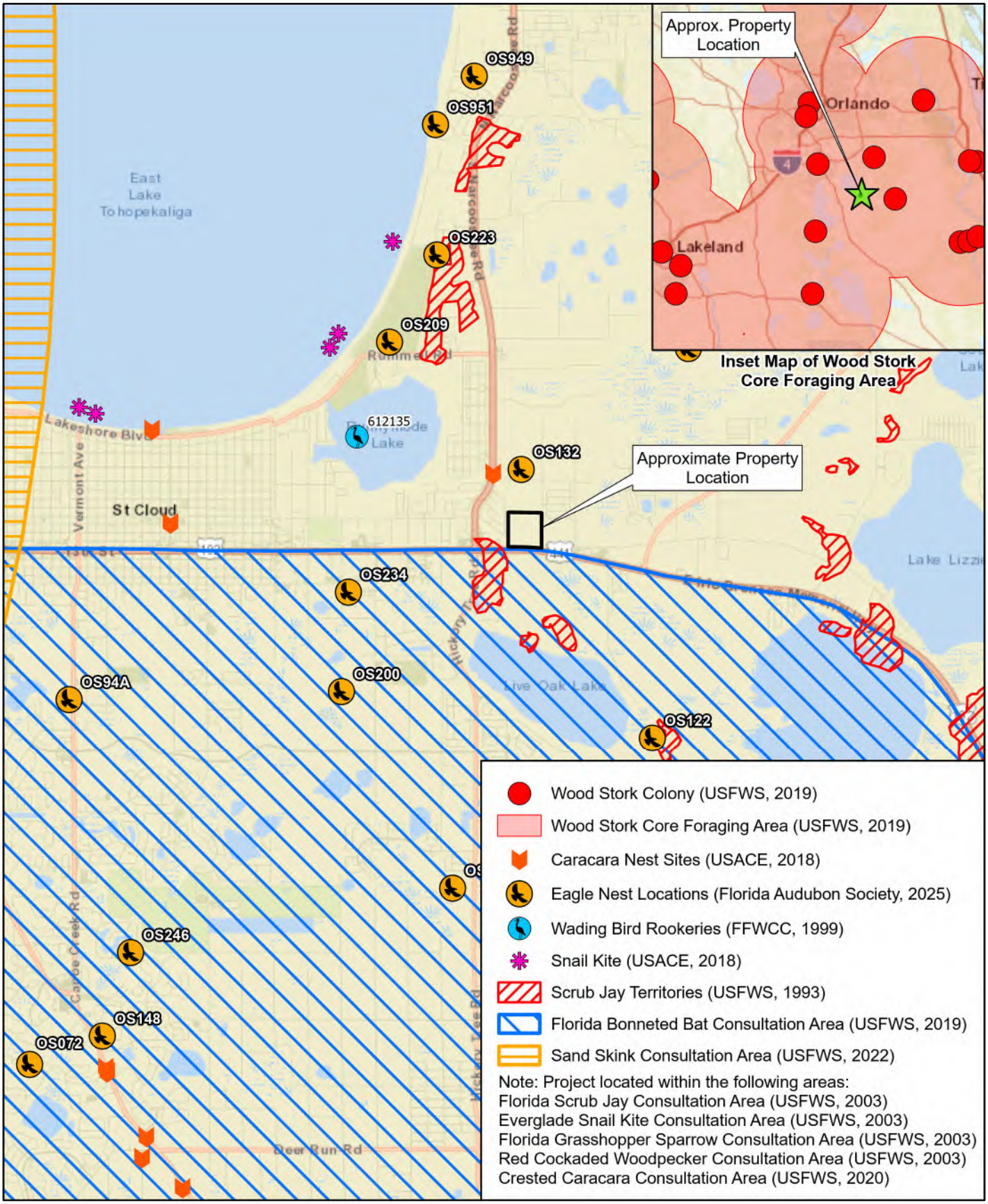
cph	Scale: 1 inch = 300 feet Date: 6/27/2025 Photo Date: 2023 Project No. 2501037 Biologist: GO GIS: LEC	N	SOILS MAP NWC OF US192 & PUFFIN ROAD SECTION 5, TOWNSHIP 26 SOUTH, RANGE 31 EAST OSCEOLA COUNTY, FLORIDA	FIGURE 2

FLUCFCS Code	FLUCFCS Classification	Approx. Acreage	Percent of Site
410	Upland Coniferous Forests	40.51	97.64%
530	Reservoirs	0.98	2.36%

Florida Land Use, Cover and Forms Classification System (FDOT,1999)



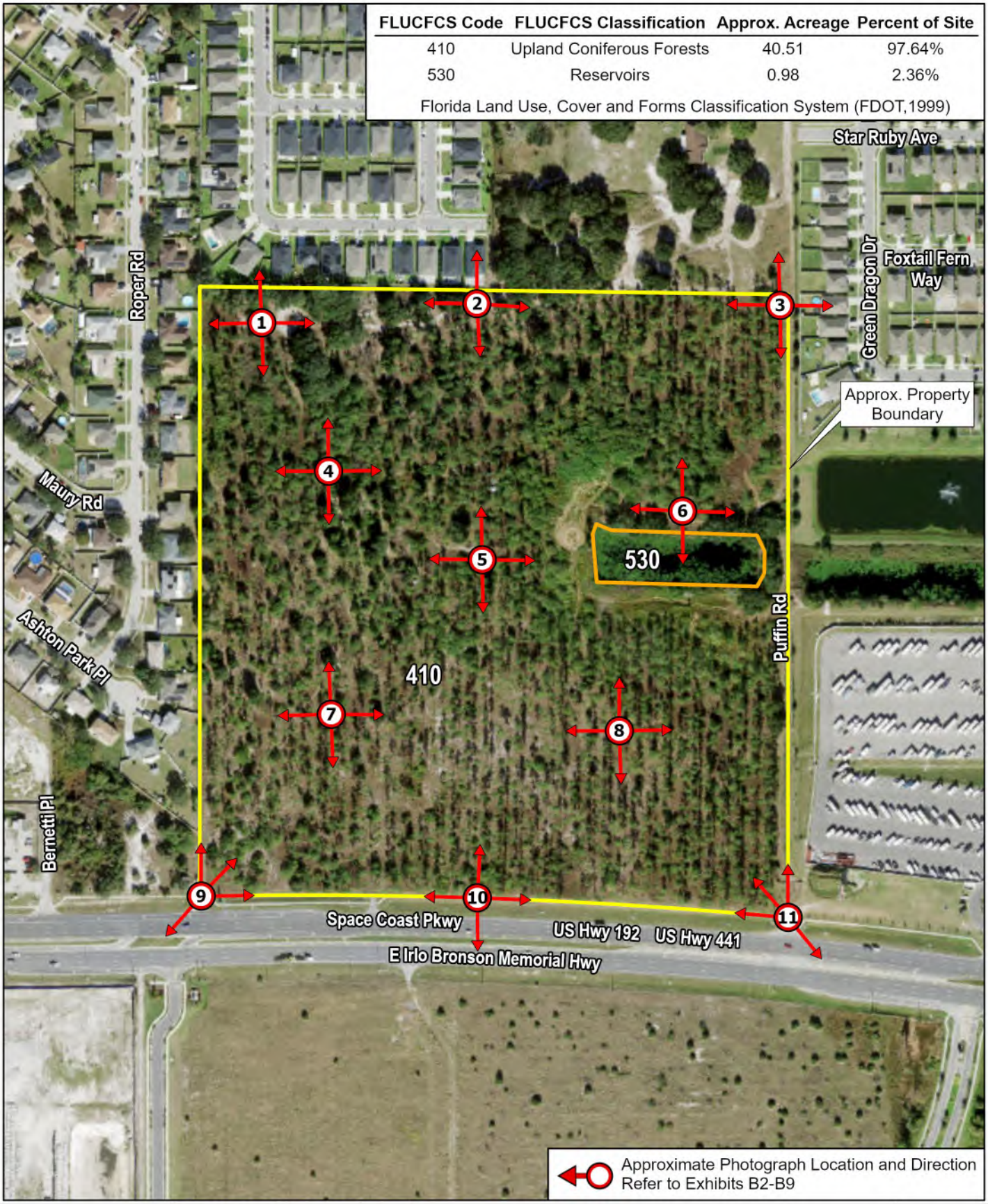
cph	Scale: 1 inch = 300 feet Date: 7/3/2025 Photo Date: 2023 Project No. 2501037 Biologist: GO GIS: LEC	N	PRELIMINARY VEGETATION AND LAND USE MAP NWC OF US192 & PUFFIN ROAD SECTION 5, TOWNSHIP 26 SOUTH, RANGE 31 EAST OSCEOLA COUNTY, FLORIDA	FIGURE 3



cph	Scale: 1 inch = 1 mile Date: 6/27/2025 Photo Date: N/A Project No. 2501037 Biologist: GO GIS: LEC	N	SPECIES MAP NWC OF US192 & PUFFIN ROAD SECTION 5, TOWNSHIP 26 SOUTH, RANGE 31 EAST OSCEOLA COUNTY, FLORIDA	FIGURE 4

APPENDIX B
Photographs

Preliminary Ecological Assessment Report
Ferber Construction Management, LLC
NWC of US192 & Puffin Road
Osceola County, Florida



cph

Scale: 1 inch = 300 feet
Date: 7/3/2025
Photo Date: 2023
Project No. 2501037
Biologist: GO GIS: LEC

N

PHOTOGRAPH LOCATION MAP

NWC OF US192 & PUFFIN ROAD
SECTION 5, TOWNSHIP 26 SOUTH, RANGE 31 EAST
OSCEOLA COUNTY, FLORIDA

EXHIBIT B1



Photograph #1A - Facing East



Photograph #1B - Facing North



Photograph #1C - Facing South



Photograph #1D - Facing West



Photograph #2A - Facing North



Photograph #2B - Facing South

Refer to Exhibit B1 for photograph location.

cph	Scale: N/A Date: 6/30/2025 Photo Date: June 2025 Project No. 2501037 Biologist: GO GIS: LEC	PHOTOGRAPHS NWC OF US192 & PUFFIN ROAD SECTION 5, TOWNSHIP 26 SOUTH, RANGE 31 EAST OSCEOLA COUNTY, FLORIDA	**EXHIBIT B2**



Photograph #2C - Facing East



Photograph #2D - Facing West



Photograph #3A - Facing East



Photograph #3B - Facing North



Photograph #3C - Facing South



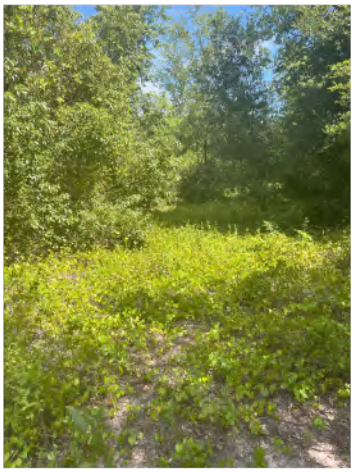
Photograph #3D - Facing West

Refer to Exhibit B1 for photograph location.

cph	Scale: N/A Date: 6/30/2025 Photo Date: June 2025 Project No. 2501037 Biologist: GO GIS: LEC	PHOTOGRAPHS NWC OF US192 & PUFFIN ROAD SECTION 5, TOWNSHIP 26 SOUTH, RANGE 31 EAST OSCEOLA COUNTY, FLORIDA	**EXHIBIT B3**



Photograph #4A - Facing East



Photograph #4B - Facing North



Photograph #4C - Facing South



Photograph #4D - Facing West



Photograph #5A - Facing East



Photograph #5B - Facing North

Refer to Exhibit B1 for photograph location.

cph	Scale: N/A Date: 6/30/2025 Photo Date: June 2025 Project No. 2501037 Biologist: GO GIS: LEC	PHOTOGRAPHS NWC OF US192 & PUFFIN ROAD SECTION 5, TOWNSHIP 26 SOUTH, RANGE 31 EAST OSCEOLA COUNTY, FLORIDA	**EXHIBIT B4**



Photograph #5C - Facing South



Photograph #5D - Facing West



Photograph #6A - Facing East



Photograph #6B - Facing North



Photograph #6C - Facing South



Photograph #6D - Facing West

Refer to Exhibit B1 for photograph location.

cph	Scale: N/A Date: 6/30/2025 Photo Date: June 2025 Project No. 2501037 Biologist: GO GIS: LEC	PHOTOGRAPHS NWC OF US192 & PUFFIN ROAD SECTION 5, TOWNSHIP 26 SOUTH, RANGE 31 EAST OSCEOLA COUNTY, FLORIDA	**EXHIBIT B5**



Photograph #7A - Facing East



Photograph #7B - Facing North



Photograph #7C - Facing South



Photograph #7D - Facing West



Photograph #8A - Facing East



Photograph #8B - Facing North

Refer to Exhibit B1 for photograph location.

cph	Scale: N/A Date: 6/30/2025 Photo Date: June 2025 Project No. 2501037 Biologist: GO GIS: LEC	PHOTOGRAPHS NWC OF US192 & PUFFIN ROAD SECTION 5, TOWNSHIP 26 SOUTH, RANGE 31 EAST OSCEOLA COUNTY, FLORIDA	**EXHIBIT B6**



Photograph #8C - Facing South



Photograph #8D - Facing West



Photograph #9A - Facing East



Photograph #9B - Facing North



Photograph #9C - Facing Northeast



Photograph #9D - Facing Southwest

Refer to Exhibit B1 for photograph location.

cph	Scale: N/A Date: 6/30/2025 Photo Date: June 2025 Project No. 2501037 Biologist: GO GIS: LEC	PHOTOGRAPHS NWC OF US192 & PUFFIN ROAD SECTION 5, TOWNSHIP 26 SOUTH, RANGE 31 EAST OSCEOLA COUNTY, FLORIDA	**EXHIBIT B7**



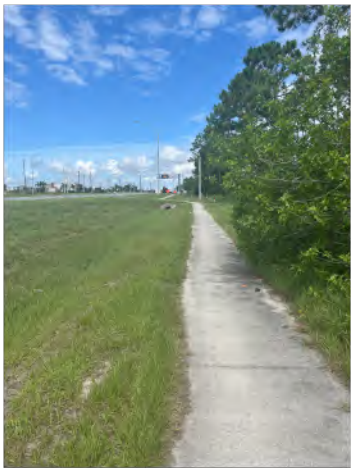
Photograph #10A- Facing East



Photograph #10B - Facing North



Photograph #10C - Facing South



Photograph #10D- Facing West



Photograph #11A - Facing North



Photograph #11B - Facing Northwest

Refer to Exhibit B1 for photograph location.

cph	Scale: N/A Date: 6/30/2025 Photo Date: June 2025 Project No. 2501037 Biologist: GO GIS: LEC	PHOTOGRAPHS NWC OF US192 & PUFFIN ROAD SECTION 5, TOWNSHIP 26 SOUTH, RANGE 31 EAST OSCEOLA COUNTY, FLORIDA	**EXHIBIT B8**



Photograph #11C- Facing Southeast



Photograph #11D - Facing West

Refer to Exhibit B1 for photograph location.

cph	Scale: N/A Date: 6/30/2025 Photo Date: June 2025 Project No. 2501037 Biologist: GO GIS: LEC	PHOTOGRAPHS NWC OF US192 & PUFFIN ROAD SECTION 5, TOWNSHIP 26 SOUTH, RANGE 31 EAST OSCEOLA COUNTY, FLORIDA	**EXHIBIT B9**