CITY OF PORT WENTWORTH

PLANNING COMMISSION

MAY 8, 2023

Council Meeting Room	**Regular Meeting**	**3:30 PM**

7224 GA HIGHWAY 21
PORT WENTWORTH, GA 31407

1. CALL MEETING TO ORDER

2. PRAYER AND PLEDGE OF ALLEGIANCE

3. ROLL CALL - SECRETARY

4. APPROVAL OF AGENDA

5. ADOPTION OF MINUTES

A. Planning Commission - Regular Meeting - Apr 10, 2023 3:30 PM

6. ZONING MAP AMENDMENTS (REZONING)

7. ZONING TEXT AMENDMENTS (ORDINANCES)

8. SITE PLAN/SUBDIVISION APPROVAL

A. Site Plan Review Application submitted by Forestar (USA) Real Estate Group Inc., for PIN # 7-0906-04-042 (Lakeside Blvd.) for a Specific Development Site Plan to allow a Single-Family Subdivision Development (Rice Hope Lakeside Phase 24) in a M-P-O (Master Plan Overlay) Zoning District

- Public Hearing
- Action

9. NEW BUSINESS

10. ADJOURNMENT

CITY OF PORT WENTWORTH

PLANNING COMMISSION

APRIL 10, 2023

Council Meeting Room | **Regular Meeting** | **3:30 PM**

7224 GA HIGHWAY 21
PORT WENTWORTH, GA 31407

1. CALL MEETING TO ORDER

Chairman Stewart called the meeting to order.

2. PRAYER AND PLEDGE OF ALLEGIANCE

Commissioner Register led the Prayer and Pledge of Allegiance.

3. ROLL CALL - SECRETARY

Attendee Name	Title	Status	Arrived
Lance Moore	Planning Commissioner	Present	
Omar Senati-Martinez	Planning Commissioner	Present	
Abby Brown	Planning Commissioner	Present	
Jason Stewart	Chairman	Present	
John Holland	Planning Commissioner	Present	
Christopher Gray	Planning Commissioner	Absent	
Nishant Randerwala	Planning Commissioner	Absent	
Charlene Middleton	Planning Commissioner	Present	
Sean Register	Planning Commissioner	Present	
Brian Harvey	Director of Development Services	Present	
Melanie Ellis	Building Inspector	Present	

4. APPROVAL OF AGENDA

1. Approval of Agenda

RESULT:	**ADOPTED [UNANIMOUS]**
MOVER:	Sean Register, Planning Commissioner
SECONDER:	John Holland, Planning Commissioner
AYES:	Moore, Senati-Martinez, Brown, Holland, Middleton, Register
ABSENT:	Gray, Randerwala

5. ADOPTION OF MINUTES

A. Planning Commission - Regular Meeting - Mar 13, 2023 3:30 PM

Minutes Acceptance: Minutes of Apr 10, 2023 3:30 PM (ADOPTION OF MINUTES)

RESULT:	**ACCEPTED [UNANIMOUS]**
MOVER:	Charlene Middleton, Planning Commissioner
SECONDER:	Abby Brown, Planning Commissioner
AYES:	Moore, Senati-Martinez, Brown, Holland, Middleton, Register
ABSENT:	Gray, Randerwala

6. ZONING MAP AMENDMENTS (REZONING)

7. ZONING TEXT AMENDMENTS (ORDINANCES)

8. SITE PLAN/SUBDIVISION APPROVAL

A. Subdivision Application submitted by Jessica Vick, Roberts Civil Engineering, LLC., on behalf of Landmark 24 Homes of Savannah, LLC., for PIN # 7-0906-01-031(Miller Park Circle) located in a P-R-M (Planned Residential Multifamily) Zoning District for a Final Plat of a Major Subdivision (Rice Creek Tract C-1 Phase V) for the purpose of Single-Family Homes

The applicant was not present at the meeting. There were no public comments. After discussion, Commissioner Senati-Martinez made a motion to approve the item. Commissioner Register seconded the motion. The vote was unanimous.

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Omar Senati-Martinez, Planning Commissioner
SECONDER:	Sean Register, Planning Commissioner
AYES:	Moore, Senati-Martinez, Brown, Holland, Middleton, Register
ABSENT:	Gray, Randerwala

B. Site Plan Review Application submitted by Claret Communities, LLC., for PIN # 7-0976-02-027 (Highway 30) for a Specific Development Site Plan to allow a Multi-family Development (Noble Vines Phase 2) in a P-RIP (Planned Residential Institutional) Zoning District

Nathan Long, Thomas & Hutton, was present on behalf of the applicant. Mr. Long gave a brief overview of the project.

Public Hearing:
- Avril Roy Smith - Roseberry Cir - spoke about traffic concerns.

After the public hearing was closed, Commissioner Holland asked if a traffic study had been done. Mr. Long responded that a traffic study was done under phase 1 of the project. Commissioner Register asked if the project was the same as the concept presented with the rezoning application for the property. Mr. Long responded that there was actually a reduction in units from the concept plan. Commissioner Register made a motion to approve the application. Commissioner Moore seconded the motion to approve. The vote was unanimous.

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Sean Register, Planning Commissioner
SECONDER:	Lance Moore, Planning Commissioner
AYES:	Moore, Senati-Martinez, Brown, Holland, Middleton, Register
ABSENT:	Gray, Randerwala

9. NEW BUSINESS

Minutes Acceptance: Minutes of Apr 10, 2023 3:30 PM (ADOPTION OF MINUTES)

10. ADJOURNMENT

A. Adjournment

RESULT:	**ADOPTED [UNANIMOUS]**
MOVER:	Abby Brown, Planning Commissioner
SECONDER:	Lance Moore, Planning Commissioner
AYES:	Moore, Senati-Martinez, Brown, Holland, Middleton, Register
ABSENT:	Gray, Randerwala

_____
Chairman

The foregoing minutes are true and correct and approved by me on this _____ day of _____, 2023.

_____
Secretary

Minutes Acceptance: Minutes of Apr 10, 2023 3:30 PM (ADOPTION OF MINUTES)

Planning Commission
305 South Coastal Highway
Port Wentworth, GA 31407

SCHEDULED

Meeting: 05/08/23 03:30 PM
Department: Development Services
Category: Planning/Zoning Item
Prepared By: Stephanie Cook
Department Head: Melanie Ellis

AGENDA ITEM (ID # 2822)

DOC ID: 2822

Site Plan Review Application submitted by Forestar (USA) Real Estate Group Inc., for PIN # 7-0906-04-042 (Lakeside Blvd.) for a Specific Development Site Plan to allow a Single-Family Subdivision Development (Rice Hope Lakeside Phase 24) in a M-P-O (Master Plan Overlay) Zoning District

Issue/Item: Site Plan Review Application has been submitted by Forestar (USA) Real Estate Group Inc., for PIN # 7-0906-04-042 (Lakeside Blvd.) for a Specific Development Site Plan to allow a Single-Family Subdivision Development (Rice Hope Lakeside Phase 24) in a M-P-O (Master Plan Overlay) Zoning District

Background: The subject property is currently vacant woodland. There are no buildings or structures on the subject property. A general development plan for this property was approved during the September 23, 2021 City Council meeting. The preliminary plat for this phase was approved during the September 22, 2022 City Council Meeting.

Facts and Findings: This is specific site development plan for Phase 24 of the Lakeside at Rice Hope subdivision. The site plan consist of 110 Residential Lots. The main entrance for the development will be Lakeside Dr. The site plan also includes associated parking, utilities, drainage and infrastructure improvements. This application received Engineer Concurrence by the City Engineer's Thomas & Hutton on April 07, 2023. This project is located in Council District 1. The parcel is located in the Suburban character area as defined in the 2021-2041 City of Port Wentworth Comprehensive Plan.

Funding: N/A

Recommendation: The Planning Commission will hear this application on Monday, May 08, 2023 at 3:30 PM.

ATTACHMENTS:

- Site Plan Review RH Lakeside Ph 24 2022 - Application (PDF)
- Site Plan Review RH Lakeside Ph 24 2022 - Final Letter T&H 4.7.23 (PDF)
- Site Plan Review RH Lakeside Ph 24 2022 - Timeline (DOCX)
- Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (PDF)
- Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (PDF)

220357

RECEIVED
JUN 27 2022
BY:

City of Port Wentworth
▪7224 Highway 21 ▪ Port Wentworth ▪ Georgia ▪ 31407 ▪ 912-999-2084

Site Plan Review Application

Site Plan Application is required for all new construction in a "P" or "MPO" zone as defined in the Zoning Ordinance of the City of Port Wentworth.

Site Plan Type (*Check One*): ☐ General / Concept ☒ Specific Development

Site Plan Address: Lakeside Blvd., Port Wentworth, GA 31407

PIN #(s): 70906 04042

Zoning: M-P-O Estimated Cost of Construction: $ 5,500,000

Type of Construction: Residential - 110 Lots

Project Name: Rice Hope Lakeside Phase 24

Applicant's Name: Forestar (USA) Real Estate Group Inc.

Mailing Address: 2221 E. Lamar Blvd. Suite 790
Arlington, TX 76006

Phone #: 843-535-8188 Email: annalewis@forestar.com

Owner's Name (If Different form Applicant): Same as Applicant

Mailing Address:

Phone #: Email:

I hereby acknowledge that the above information is true and correct.

Kurt A. Sand
Applicant's Signature

6/27/2022
Date

Same as Applicant
Owner's Signature (If Different form Applicant)

June 27, 2022
Date

Please see page 2 for required submittal checklist

Updated 10/19/2021

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Application (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope

City of Port Wentworth
▪7224 Highway 21 ▪ Port Wentworth ▪ Georgia ▪ 31407 ▪ 912-999-2084

Site Plan Review Application Submittal Checklist

Documentation below is required for a complete submittal.

- ☑ Signed and Completed Application
- ☑ 3 Full size sets of site plan civil drawings or concept plan (depending on type of site plan)
- ☑ 15 half size (11" X 17") sets of site plan civil drawings or concept plan (depending on type of site plan)
- ☑ 2 copies of hydrology reports (if applicable)
- ☑ Names, mailing address, and PIN number of all property owners within 250 feet of all property lines
- ☑ 1 8 ½" X 11" of site plan civil drawings or concept plan (depending on type of site plan)
- ☑ PDF of entire submittal on a flash drive or download link ONLY (NO CD'S)
- ☑ Other Engineering details or reports may be required once submittal has been received
- ☒ Site plan review fee check
  - ○ No Land Disturbance- $206.00 Site Plan Fee + $50.00 Admin Fee = Total $256.00
  - ☒ With Land Disturbance - $836.00 Site Plan Fee + $50.00 Admin Fee = Total $886.00

Additional Fee Statement: If engineer review cost to the City exceeds the site plan review fee that is paid at the time of initial application submittal, you may be required to pay additional review cost.

I have read and agree to the above additional fee statement

Jason Bryan
Applicant's Signature

6/20/2022
Date

Updated 10/19/2021

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Application (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope

	PIN #	Owner Name	Mailing Address	City	State	Zip
1	70906A01001	Denise Stone-Raguckas	303 Lakeside Blvd	Port Wentworth	GA	31407
2	70906A01002	Cortice Jackson	305 Lakeside Blvd	Port Wentworth	GA	31407
3	70906A01003	Freddy & Lena Meeks	307 Lakeside Dr	Port Wentworth	GA	31407
4	70906A01004	Derrick Barnes	309 Lakeside Dr	Port Wentworth	GA	31407
5	70906A01005	Kino & Shawndreia Deas	311 Lakeside Dr	Port Wentworth	GA	31407
6	70906A01006	Eugene & Ponda Showalter	313 Lakeside Blvd	Port Wentworth	GA	31407
7	70906A01007	AMH Development, LLC	315 Lakeside Blvd	Port Wentworth	GA	31407
8	70906A02001	Gary & Patricia Conway	403 Lakeside Blvd	Port Wentworth	GA	31407
9	70906A02002	Erin Lewis	405 Lakeside Blvd	Port Wentworth	GA	31407
10	70906A02003	Billie & Rod Cassidy	407 Lakeside Blvd	Port Wentworth	GA	31407
11	70906A02004	Herman & Sheree Rogers	409 Lakeside Blvd	Port Wentworth	GA	31407
12	70906A03001	Tiffany Brown-Corbin	503 Lakeside Blvd	Port Wentworth	GA	31407
13	70906A03002	George Bridgewell	505 Lakeside Blvd	Port Wentworth	GA	31407
14	70906A03003	Village Park Homes, LLC	507 Lakeside Blvd	Port Wentworth	GA	31407
15	70906A03004	James Millard	509 Lakeside Blvd	Port Wentworth	GA	31407
16	70906A03005	John Duncan	511 Lakeside Blvd	Port Wentworth	GA	31407
17	70906A05047	Martin Savarese	2 Lakeside Dr	Port Wentworth	GA	31407
18	70906A05046	Guardian DFH III LLC	4 Lakeside Dr	Port Wentworth	GA	31407
19	70906A05045	Cythnia Camp	6 Lakeside Dr	Port Wentworth	GA	31407
20	70906A05044	Cristina & Christopher Pace	8 Lakeside Dr	Port Wentworth	GA	31407
21	70906A05043	AMH Development, LLC	10 Lakeside Dr	Port Wentworth	GA	31407
22	70906A05042	William Benson	12 Lakeside Dr	Port Wentworth	GA	31407
23	70906A05041	Donald Hodges	14 Lakeside Dr	Port Wentworth	GA	31407
24	70906A05040	Phillip Sermprungsuk & Slinda Kalasz	16 Lakeside Dr	Port Wentworth	GA	31407
25	70906A05039	David & Sylvia Dix	18 Lakeside Dr	Port Wentworth	GA	31407
26	70906A05038	Village Park Homes, LLC	20 Lakeside Dr	Port Wentworth	GA	31407
27	70906A05037	Michael Bowling	22 Lakeside Dr	Port Wentworth	GA	31407
28	70906A05036	Village Park Homes, LLC	24 Lakeside Dr	Port Wentworth	GA	31407
29	70906A05035	Ralph Duxbury	26 Lakeside Dr	Port Wentworth	GA	31407
30	70906A11001	Richard & Jonnie Gilardi	102 Lakeside Dr	Port Wentworth	GA	31407
31	70906A11002	Daniel O'Connor	104 Lakeside Dr	Port Wentworth	GA	31407
32	70906A11003	Michael Johnson	106 Lakeside Dr	Port Wentworth	GA	31407
33	70906A11004	Jennifer Morgart	108 Lakeside Dr	Port Wentworth	GA	31407
34	70906A11005	Sean & Melanie Munton	4 Moonlight Trl	Port Wentworth	GA	31407
35	70906A11014	Rice Hope Plantation Community	100 Lakeside Blvd	Port Wentworth	GA	31407
36	70906A11013	Joseph Kearns	5 Night Heron Way	Port Wentworth	GA	31407
37	70906A11012	Marcus & Felecia Austin	7 Night Heron Way	Port Wentworth	GA	31407
38	70906A11007	Dustin & Sharon Brown	8 Moonlight Trl	Port Wentworth	GA	31407
39	70906A11006	Philip Hall	6 Moonlight Trl	Port Wentworth	GA	31407
40	70906A05034	Jennifer Whittaker	4 Night Heron Way	Port Wentworth	GA	31407
41	70906A05021	Boyce Slayman SR	233 Clearwater Cir	Port Wentworth	GA	31407
42	70906A05020	John & Esmeralda Adams	231 Clearwater Cir	Port Wentworth	GA	31407
43	70906A05019	Phillip & Amy Emili	229 Clearwater Cir	Port Wentworth	GA	31407
44	70906A05018	Arthur Sanders	227 Clearwater Cir	Port Wentworth	GA	31407
45	70906A05017	Johnny & Marcia Shinsato	225 Clearwater Cir	Port Wentworth	GA	31407
46	70906A05016	Tori Burnette	223 Clearwater Cir	Port Wentworth	GA	31407
47	70906A05015	Rajah Jenkins	221 Clearwater Cir	Port Wentworth	GA	31407
48	70906A05014	Christopher Rodriguez	219 Clearwater Cir	Port Wentworth	GA	31407
49	70906A05013	Kyle & Lizbeth Balk	217 Clearwater Cir	Port Wentworth	GA	31407
50	70906A05012	Jason & Jessica Schneider	215 Clearwater Cir	Port Wentworth	GA	31407
51	70906A05011	John & Katheryn Bohannon	213 Clearwater Cir	Port Wentworth	GA	31407
52	70906A05010	Anna & Enriquez Velazquez	211 Clearwater Cir	Port Wentworth	GA	31407
53	70906A05005	Alan Kennedy	510 Lakeside Blvd	Port Wentworth	GA	31407
54	70906 04041	BEP RH TRACT 2 LLC	100 Lakeside Blvd	Port Wentworth	GA	31407
55	70906 04077	BEP RICE HOPE LLC	300 Lakeside Blvd	Port Wentworth	GA	31407
56	70906 04063	BEP RH TRACT 2 LLC	100 Lakeside Blvd	Port Wentworth	GA	31407
57	70906 04091	BEP RH TRACT 2 LLC	100 Lakeside Blvd	Port Wentworth	GA	31407
58	70906 04012	John Hill	8547 Heatherwood Dr	Savannah	GA	31406
59	70906 04042	BEP RICE HOPE LLC	100 Lakeside Blvd	Port Wentworth	GA	31407
61	70906A09054	Beacon New Homes, LLC	7370 Hodgson Memorial Drive	Savannah	GA	31405
62	70906A09053	Beacon New Homes, LLC	7370 Hodgson Memorial Drive	Savannah	GA	31405
63	70906A09052	Beacon New Homes, LLC	7370 Hodgson Memorial Drive	Savannah	GA	31405

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Application (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope

CITY OF PORT WENTWORTH

(912) 964-4379

REC#: 00359969 6/27/2022 1:43 P

OPER: KS TERM: 055

REF#: 33535

TRAN: 112.0000 BLDG PERMIT

220357 886.00CR

FORESTAR (USA) REAL ESTATE GI

7-0906-04-042

DEV-SPR 886.00CR

TENDERED: 886.00 CHECK

APPLIED: 886.00-

CHANGE: 0.00

WWW.CITYOFPORTWENTWORTH.COM

Attachment: Site Plan Review RH

THOMAS & HUTTON
50 PARK OF COMMERCE WAY
SAVANNAH, GA 31405 | 912.234.5300
WWW.THOMASANDHUTTON.COM

April 7, 2023

Mr. Brian Harvey
Development Service Administrator
City of Port Wentworth
7224 GA Highway 21
Port Wentworth, GA 31407

Re: Lakeside at Rice Hope - Phase 24
City of Port Wentworth, Georgia
J–25412.0035

Dear Mr. Harvey:

This site plan review was completed based on our interpretation of the latest City of Port Wentworth zoning ordinance and development regulations. Thomas & Hutton's review was performed in an effort to assess if the application package for the proposed improvements is in general conformance with City of Port Wentworth regulations. Our review shall not be interpreted as a detailed technical analysis of the design or for verification of technical sufficiency for elements of design. Under no circumstances shall our review and comments related to the site plans relieve the Applicant's Design Professional of their professional obligations and professional standards of care. As such, the design submitted by the Applicant's Design Professional shall be the sole responsibility of the Applicant's Design Professional. Thomas & Hutton shall not accept any responsibility for any liability due to design and construction, in whole or in part, for any aspect of the design and construction of design documents.

We have reviewed the submittal package for conformance with City of Port Wentworth regulations of the following:

1. Please provide complete signed and sealed stormwater calculations and site development plans.
   - **Applicant addressed.**

2. Please provide vertical and horizontal utility separation for all utilities in accordance with Section 3.01(e) of the Port Wentworth CDM as well as applicable CDM sections and details. The City of Port Wentworth Public Works Department has indicated it is acceptable to use a 7.5' utility easement in locations where no alternative is feasible.
   - **Water, sewer, and stormwater utilities shall conform to Section 3.01(e) of the Port Wentworth CDM as well as applicable CDM sections and details when feasible. Due to the MPO zoning on this property, development is allowed to occur with narrower rights-of-way, thereby making the standard City separation requirements not feasible in two locations noted by the applicant. The design of the utilities at these locations has been reviewed with City staff and acknowledged as acceptable for this specific development plan only.**

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Final Letter T&H 4.7.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042

3. Please show all stormwater maintenance easements or rights-of-way intended to be owned by public or private entities on the plans.
    - **Applicant addressed.**

The Applicant's latest submittal received on March 27, 2023, addressed comments 1-3 above. All site plan comments have been satisfied and appear to be in general conformance with the City of Port Wentworth's zoning ordinance and development regulations with the exception of the following. The City of Port Wentworth retains the right to issue a development permit at their discretion prior to the below comments being addressed. However, these comments must be addressed prior to project closeout:

4. Two benchmarks should be added to the final plat per Section 15.3–8 of Appendix B of the City Port Wentworth Zoning Ordinance.
5. A final plat for recording of public or private easements or rights–of–way should be provided per Section 3.4.2(i) of the City of Port Wentworth Comprehensive Design Manual.
6. A finalized site lighting plan, details, and supporting documentation must be submitted per Sections 20–64 and 20–65 of the City of Port Wentworth Code of Ordinances. In the past, the City has issued a development permit prior to receiving this information, with the stipulation that a certificate of occupancy will not be issued for any structure until the lighting plan and agreement are received by the City, and lighting is installed within the phase of development.
7. A performance bond should be provided prior to any building and/or grading permit for any land development activity requiring a permanent stormwater management system per section 7–80(h) of the City of Port Wentworth Code of Ordinances.

The Applicant has satisfied items 1–3 prior to proceeding with the City's development permit process. If the City chooses to proceed with the issuance of a development permit prior to the resolution of items 4–7, the City may include these conditions with the development permit. Please call us with any questions or comments at (912) 234–5300.

Sincerely,

THOMAS & HUTTON

Jessica L. Routt, P.E.

JLR/wr

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Final Letter T&H 4.7.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042

Project Timeline

Project Number: 220357

Project Name: Rice Hope Lakeside Phase 24, Specific Site Plan Application

Applicant / Engineer: Jason Bryant, Pittman Engineering

Owner: Forestar (USA) Real Estate Group, Inc.

City Review Engineer: Thomas & Hutton

- 6/27/22 - received; application complete.
- 6/27/22 – sent to Thomas & Hutton for review.
- 7/22/2022 – received email from Kevin Smith (T&H) stating that once the Comprehensive Stormwater Master Plan has been received they should be able to complete the initial site plan review.
- 7/22/2022 – received email from Ray Pittman (Pittman Engineering) that they are working on the revisions and should take a week to update the Master Drainage Plan & Exhibits.
- 7/27/2022 – sent email to Jason Bryant (Pittman Engineering) that the site plan application would not be on the August 2022 agendas due to not having any review comments.
- 8/8/2022 – sent email to Kevin Smith & Jennifer Roach (T&H) asking if they had received the information that was requested from Pittman Engineering.
- 8/18/2022 – received 1st review comment letter from T&H. Pittman copied on email.
- 10/18/2022 – received 1st resubmittal from Pittman. T&H Copied on email
- 11/7/2022 – received 2nd comment letter from T&H. Pittman Copied on email.
- 11/21/2022 – received 2nd resubmittal from Pittman. T&H copied on email.
- 12/5/2022 – received 3rd comment letter from T&H. Pittman copied on email.
- 1/31/2023 – received final letter from T&H that included comments that would need to be accepted by City of Port Wentworth. [ME]
- 2/17/2023 – email sent from Omar Senati to Jason Bryant stating that we would not accept the location of sewer / water easements shown on the plans due to they must be a minimum of 7.5 fee from the property line. [ME]
- 2/17/2023 – Jason Bryant sent updated plans. [ME]
- 2/21/2023 – Omar Senati sent email stating he could not approve the plans as submitted. [ME]
- 2/23/2023 – Conference call scheduled to discuss issues [ME]
- 3/1/2023 – revised plans sent to T&H from Pittman. [ME]
- 3/27/2023 – resubmittal received from Pittman. T&H Copied. [ME]
- 4/7/2023 – Final letter received from T&H. Placed on next available Planning Commission agenda. [ME]
- 4/21/23 – Public Hearing notice letters mailed [SC]
- 4/26/23 – Public Hearing Notice published in the Savannah Morning News [SC]

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Timeline (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope

Monday, March 27, 2023 1:42:52 PM

CONSTRUCTION PLANS
FOR
RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA

I CERTIFY THAT I HAVE BEEN IN RESPONSIBLE CHARGE OF THE DESIGN OF THIS PROJECT IN ACCORDANCE WITH THE RULES OF THE GEORGIA STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS. I FURTHER CERTIFY, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT THESE PLANS AND SPECIFICATIONS WERE PREPARED IN ACCORDANCE WITH CURRENT STANDARD ENGINEERING PRACTICES AND ACCURATELY REFLECT THE DESIGN DEVELOPMENT REPORT (DDR) PREVIOUSLY REVIEWED AND CONCURRED IN BY EPD. I FURTHER CERTIFY THAT THE SYSTEM AS DESIGNED CAN REASONABLY BE EXPECTED TO CONSISTENTLY MEET ALL CURRENTLY APPLICABLE PERMIT LIMITS, CONDITIONS, AND REGULATORY REQUIREMENTS, PROVIDED THE FACILITY IS CONSTRUCTED AS DESIGNED AND PROPERLY OPERATED AND MAINTAINED.

THE PROPOSED DEVELOPMENT CONFORMS TO SECTION 7-54 OF THE PORT WENTWORTH CODE OF ORDINANCES AND WILL NOT INCREASE THE WATER SURFACE ELEVATION OF THE BASE FLOOD MORE THAN ONE FOOT AT ANY POINT WITHIN THE COMMUNITY, PROVIDED THE FACILITY IS CONSTRUCTED AS DESIGNED, PROPERLY OPERATED, AND MAINTAINED.

PREPARED FOR:

FORESTAR (USA)
REAL ESTATE GROUP, INC.

MARCH 1, 2022

JOB NUMBER: 21-255

PROJECT DATA

DEVELOPER:	FORESTAR (USA) REAL ESTATE GROUP, INC. ATTN: KURT SANDNESS 2221 E. LAMAR BLVD. SUITE 790 ARLINGTON , TX 76006 (843)535-8188
24 HOUR CONTACT:	ANNA LEWIS
TELEPHONE:	(843) 535-8188
JURISDICTION:	PORT WENTWORTH, GEORGIA
ZONING:	PHASE 2 MASTER PLAN OVERLAY (MPO)
PROPERTY OWNER OF RECORD:	BEP RICE HOPE, LLC
FEMA FLOOD ZONE:	X & AE BFE 13
FEMA FLOOD PANEL:	MAP NUMBER 13051C0035G MAP DATED 8/16/18
APPROXIMATE LOCATION OF SITE:	PORT WENTWORTH, GEORGIA 31407
LATITUDE: LONGITUDE:	N032.2171 W081.1777
VERTICAL DATUM:	NAVD 88

GEORGIA REGISTERED No. 38245 PROFESSIONAL ENGINEER JASON JOSEPH BRYANT

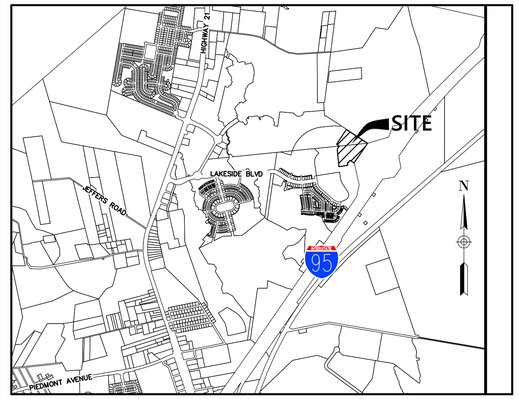
JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

PREPARED BY:

PITTMAN ENGINEERING

2591 HWY 17 SUITE 303
RICHMOND HILL, GA 31324
912-445-0578
WWW.PITTMANENGINEERINGCO.COM

811 Know what's below. Call before you dig.



VICINITY MAP

Sheet List Table

Sheet Number	Sheet Title
C0	COVER
C0.1	GENERAL NOTES
C0.2	EXISTING CONDITIONS
C1.0	LAYOUT PLAN
C2.0	WATER AND SEWER PLAN
C2.1	SEWER PROFILES
C2.2	SEWER PROFILES
C2.3	WATER AND SEWER DETAILS
C2.4	WATER AND SEWER DETAILS
C2.5	WATER AND SEWER DETAILS
C3.0	PAVING, GRADING AND DRAINAGE PLAN
C3.1	ROAD PROFILES
C3.2	ROAD PROFILES
C3.3	STORM DRAINAGE PROFILES
C3.4	STORM DRAINAGE PROFILES
C3.5	PAVING, GRADING AND DRAINAGE DETAILS
C3.6	PAVING, GRADING, AND DRAINAGE DETAILS
C3.7	PAVING GRADING AND DRAINAGE DETAILS
C4.0	NEIGHBORHOOD GRADING PLAN
EC1.0	INITIAL EROSION CONTROL PLAN
EC2.0	INTERMEDIATE EROSION CONTROL PLAN
EC3.0	FINAL EROSION CONTROL PLAN
EC4.0	EROSION CONTROL NOTES
EC4.1	EROSION CONTROL NOTES
EC4.2	EROSION CONTROL NOTES
EC5.0	EROSION CONTROL DETAILS
EC5.1	EROSION CONTROL DETAILS
EC5.2	EROSION CONTROL DETAILS
EC5.3	EROSION CONTROL DETAILS

REVISION LISTING

REV. NO.	REVISION	BY	DATE
5	REVISED PER CITY REVIEW COMMENTS	JJB	3/24/2023
4	RELOCATED STORM PER CITY OF PORT WENTWORTH	JAF	2/28/2023
3	REVISED PER CITY REVIEW COMMENTS	JAF	12/14/2022
2	REVISED PER CITY AND EPD REVIEW COMMENTS	JAF	11/10/2022
1	REVISED PER CITY REVIEW COMMENTS	JAF	10/11/2022

RICE HOPE LAKESIDE PHASE 24

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

g:\shared drives\Projects\rice hope\21-255 lakeside 24\Drawings\construction plans\21-255 - Lakeside PH24 Cover.dwg

Monday, March 27, 2023 1:43:00 PM

GENERAL NOTES:

OWNER/DEVELOPER:
FORESTAR (USA) REAL ESTATE GROUP, INC.
ATTN: KURT SANDNESS
2221 E. LAMAR BLVD. SUITE 790
ARLINGTON, TX 76006
KURTSANDNESS@FORESTAR.COM

ENGINEER:
PITTMAN ENGINEERING CO., LLC
2591 HWY 17S SUITE 303
RICHMOND HILL, GA 31324
912-445-0578
www.PittmanEngineeringCo.com

SITE DATA:

ZONE:	PHASE 2 MASTER PLAN OVERLAY (MPO)
TOTAL PROJECT ACREAGE:	20± AC.
DISTURBED AREA:	19.84 AC.
FLOOD MAP:	13051C0030G
FLOOD ZONE:	X AND AE 13

SURVEY INFORMATION:

THE TOPOGRAPHIC INFORMATION:
ALL ELEVATIONS BASED ON NAVD88

CONSTRUCTION NOTES & LEGEND

General Notes:

1. All elevations are based on NAVD88
2. Existing utility locations shown are generally schematic in nature and may not accurately reflect the size and location of each particular utility. Contractor shall field verify location of all existing utilities prior to beginning construction. All existing utilities may not be shown on these drawings. It is the contractor's responsibility to coordinate his operation with all utilities which may be in conflict with his work. The contractor must maintain and protect all utilities, or relocate utilities as needed.
3. Contractor is responsible for coordination with utility companies and adjustment of existing sanitary sewer cleanouts, manholes, water meters, storm inlets, manholes, and any other appurtenances to final grade as required.
4. Contractor is responsible for worksite safety. Occurrences at worksite shall be the complete responsibility of the contractor.
5. The contractor shall not begin construction until the proper permits have been issued.
6. The contractor shall be responsible for locating all existing utilities prior to beginning construction activities and for avoiding all conflicts with the same. Any damage to existing utilities shall be repaired at the contractor's expense.
7. The contractor shall completely clear and grub all areas within the limits of disturbance unless indicated otherwise.
8. All construction shall conform to the City of Port Wentworth Ordinances.
9. Contractor shall coordinate construction activities with local utility companies and adjacent property owners. Contractor shall be responsible for protection and any necessary repairs to existing utility lines.
10. Three days notice to city and local utility companies is required prior to each different construction activity.
11. Control of stormwater and groundwater throughout the construction period shall be the responsibility of the contractor. Existing drainage is not to be impeded during construction. All penalties, claims and fees imposed on owner as a result of damage caused by actions of the contractor, his employees or subcontractors shall be borne in full by the contractor. Storm drainage conveyance shall not be impeded and dewatering may be required for the contractor. These are considered "Means and Methods," and any and all cost associated with this activity shall be included in the respective pay category.
12. Contractor shall be responsible for repairs of damage to any existing infrastructure including but not limited to roads, sidewalk, curb & gutter, landscaping, structures, and all existing conditions.
13. All signs, mail boxes, shrubbery, fences, landscaping or existing structures interfering with construction shall be removed and replaced by the contractor at the contractor's expense.
14. Contractor shall be solely responsible for all construction means, methods, techniques, and procedures and shall at all times take all reasonable safety precautions for the safety of its employees on the project and shall comply with all applicable provisions of federal, state, and municipal safety laws and building construction codes.
15. Contractor shall comply to the fullest extent with the latest standards or OSHA directives or any other agency having jurisdiction for excavation and trenching procedures. The contractor shall provide support systems, sloping, benching and other means of protection. This shall include, but not be limited to, access and egress from all excavation and trenching. Contractor is responsible for his job site to be in complete compliance with all regulatory requirements.
16. All construction debris shall be removed from the site and disposed of in an approved waste disposal area. The contractor shall be responsible for disposal of all construction debris.
17. Contractor must provide proper traffic control devices for construction in accordance with "Manual of Uniform Traffic Control Devices" (latest edition).
18. Only new Reinforced Concrete Pipe Class III, shall be used in city road rights-of-ways or for drainage systems or if any storm runoff from adjoining properties drain through the proposed project.
19. Pipes up to thirty-six inches in diameter shall have flared end sections.
20. Pipes of dissimilar size shall be vertical aligned with their energy grade line or shall have crowns of the pipe converge at a manhole or other structure.
21. All pipe joints, in addition to the required rubber gaskets, shall be covered with approved geo-textile material of sufficient width to be secured to the pipe and completely encircle the joint with 50% overlap.
22. All pipe that crosses a road shall be imbedded in suitable material compacted to minimum 100% standard proctor. Suitable materials are GW, GP, GM, GC, SP, or SW soils as classified under the Unified System.
23. All stormwater inlets structures shall be of the standard design and shall have inverts built in bottoms.
24. Swales shall have a 5:1 side slopes or flatter.
25. All PVC pipe shall be stored out of the sunlight or appropriately covered with a UV resistant cover. All PVC pipe shall be properly supported so "sagging" of the pipe doesn't occur during storage. Any PVC pipe showing UV degradation or sagging shall be removed and replaced at the contractor's expense.

Staking Notes:

1. All dimensions are to the edge of pavement unless shown otherwise on the plans.
2. Layout for manholes, inlets, etc., is not shown on this plan.
3. The contractor shall verify existing benchmarks shown on the plans to establish vertical control on the site. The contractor shall be responsible for protecting these from unauthorized removal or replacement of benchmarks. When a permanent benchmark is located such that it must be removed to complete the project, the contractor shall establish such temporary benchmarks as he may require prior to removing the permanent benchmark. The contractor shall provide the location, identification and elevation of any temporary benchmark established to the owner and engineer.

Paving, Grading and Drainage Notes:

1. The contractor shall be responsible for locating all existing underground utilities prior to beginning construction activities and for avoiding all conflicts with the same. Any damage to existing utilities shall be repaired at the contractor's expense.
2. Contours shown on these plans are for general guidance and informational purposes. The contractor shall grade the site in accordance with spot elevations shown. In cases of conflict between spot elevations and contours the spot elevations will govern.
3. Load bearing and structural fills shall be approved suitable material as defined in the project specs, geotechnical report, Georgia Department of Transportation specifications and International Builder's Code. The most stringent requirement shall be adhered to. Waste material may be used for flushing of shoulder or construction of pedestrian or landscaped areas if they can be stabilized and will support plant growth and meet the required degree of compaction.
4. Contractor shall be responsible for ensuring proper drainage of any areas which are field adjusted during construction.
5. See details for requirements for control, construction and expansion joints in concrete sidewalks and curb and gutter.
6. Standard curb and gutter will be used where the drawings indicate that the gutter is to carry water. Pitched curb and gutter will be used where the drawings indicate the water will drain away from the gutter. Transitions between the two conditions shall be made as smoothly as possible.
7. Invert elevations shown on the plans are to the invert of the lowest pipe.
8. All storm drainage pipe shall be Class III Reinforced Concrete Pipe.

Signage and Striping Notes:

1. All traffic control measures shall conform to the latest edition of the "Manual on Uniform Traffic Control Devices." The manual identification and dimensions are shown on staking sheets for each required sign. The orientation of each sign from an approaching driver's point of view is also shown. Sign and support post material and installation shall conform to the pertinent sections of the current edition of the Georgia Department of Transportation specifications (latest edition).
2. Street name markers are required at all intersections.

Water and Sewer Notes:

1. The contractor shall be responsible for locating all existing underground utilities prior to beginning construction activities and for avoiding all conflicts with the same. Any damage to existing utilities shall be repaired at the contractor's expense.
2. All water and sewer connections to existing active systems are to be coordinated with City of Port Wentworth Public Works Departments a minimum of 72 hours prior to construction activities. Any damage to existing County utilities shall be repaired immediately at the Contractor's expense.
3. All construction shall be in accordance with the City of Port Wentworth Ordinances.
4. All water main pipe shall be AWWA C-900 Pressure Rated Pipe, Pressure Class 200, with dimension ratio 18 or lower and blue. If Ductile Iron water mains are necessary, they shall be Pressure Class 350, with cement interior lining in accordance with the latest revision of ANSI A-21.4 (AWWA C-104) and asphaltic exterior coating. The water service laterals shall be Polyethylene PE 3408 SDR 9 conforming to all requirements of AWWA C-901 and ASTM D-2737 latest revisions.
5. All sanitary sewer pipe shall be PVC and geeen, ASTM D-3034, SDR-26.
6. Minimum slope of 4-inch sewer laterals shall be 1.0%.
7. All PVC Water Main shall be blue and all PVC Sewer shall be green.
8. Sewer pipe deflection shall not exceed 5.0%. Deflection shall be verified using a spherical or cylindrical mandrel with a diameter no less than 95% of the inside pipe diameter.
9. All manhole and inlet castings shall be American made. Manufacturer's specification sheets shall be submitted for review and approval.
10. Manhole frame heights outside of paved areas shall be a minimum of 0.2 feet above finished grade.
11. Pipe, fittings, valves, and other accessories shall, unless otherwise directed, be unloaded at the point of delivery and stored where they will be protected and will not be hazardous to traffic. They shall at all times be handled with care to avoid damage. The interior of all pipes, fittings and other accessories shall be kept free from dirt and foreign matter at all times.
12. All water main and water lateral thrust restraint shall be handled by use of joint restraint/mechanical joints equivalent to Ebaa Iron Megalug or push-on joint type restrained joints equivalent to "Lok-Ring", "TR Flex", or "Super Lock". Concrete thrust block shall not be allowed.
13. All water mains shall have a minimum cover of 3 feet and a maximum cover of 5 feet measured from finished grade. Where the water main crosses other utility lines, the water main shall be installed 18" (pipe to pipe) below the other utility lines (if required) to avoid conflicts and maintain cover.
14. Maintain a minimum horizontal separation of 10 feet between water, sewer, and drainage lines unless otherwise shown.
15. When pipe laying is not in progress, a mechanical joint plug or cap will be used to form a water tight seal at both ends of the line being installed.
16. The following procedure shall be followed during flushing of the lines prior to connection to the water system:
    a. Flush the water mains using a full size flush having a minimum velocity of 2.5 feet per second.
    b. Continue flushing for a minimum time period of thirty minutes or until water line is purged of foreign matter and water runs clear.
9. All water used for construction, if obtained from an unmetered line, must be metered through an approved fire hydrant meter with a backflow prevention device obtained from the municipality's water department.
10. Water distribution pipe shall have a #12 Gauge Solid Copper Tracing Wire installed along its length, including laterals up to the meter or backflow preventer.
11. All connections of the #12 Gauge Solid Copper Tracing Wire shall be made with 3m brand splice kits.
12. Mylar detectable warning tape shall be installed in sanitary sewer trenches or as required by city.
13. Gate Valves & Valve Boxes: Gate Valves shall be cast iron or ductile iron body, bronze mounted, double disc, or resilient wedge design, with non-rising stems conforming to AWWA C-500, C-509, or C-515. Valves shall have a working pressure of 200 psi, and be tested at 400 psi.
14. Hydrants shall be Mueller or approved equal with traffic yellow enamel finish and be equipped with a 4-1/2" outlet facing the street side with two 2-1/2" outlets on either side. Hydrants shall be restrained with mechanical joint fittings and rodded. Hydrant legs shall be ductile iron pressure class 350 pipe. Tracer wire shall be extended along hydrant legs, to hydrant isolation valves and up outside of valve box, and shall also extend up hydrant base terminating above grade.

Special Notes:

1. All earthworks for roadways shall be in accordance with Georgia Department of Transportation requirements.
2. The engineer shall make periodic site visits to observe construction of the project infrastructure and furnish an engineer's letter of completion with qualifiers at project close-out.
3. All sidewalks shall have no more than 2% cross slope, including driveway crossings.
4. All earthworks for lot areas and building pads shall be in conformance with the geotechnical report prepared for owner by others. The contractor shall request this report from the owner if it has not been furnished in the bid documents. Any recommendations contested by the contractor shall be submitted to the owner prior to commencing. Failing to notify the owner and resolving any conflicts, the contractor will be considered to have proceeded at their own risk and expense.
5. Contractor shall furnish as-built data for the water, sewer and storm lines which are to be stamped by a registered land surveyor registered in the state of Georgia. The survey shall be delivered in AutoCAD format and be in compliance with the city requirements.
6. The roads and drainage in this project are public and shall be owned and maintained by City of Port Wentworth.

LEGEND

LINE STYLES

- CENTER LINE
- DEMOLITION/ABANDONMENT
- CONSTRUCTION LIMITS
- PROPOSED OVERHEAD COMMUNICATION
- EXISTING OVERHEAD COMMUNICATION
- PROPOSED UNDERGROUND COMMUNICATION
- EXISTING UNDERGROUND COMMUNICATION
- PROPOSED OVERHEAD ELECTRICAL
- EXISTING OVERHEAD ELECTRICAL
- PROPOSED UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND ELECTRICAL
- PROPOSED FORCE MAIN
- EXISTING FORCE MAIN
- PROPOSED NATURAL GAS MAIN
- EXISTING NATURAL GAS MAIN
- PROPOSED NON-POTABLE WATER
- EXISTING NON-POTABLE WATER
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED WATER MAIN
- EXISTING WATER MAIN
- RIGHT OF WAY
- PROPERTY LINE
- LIMITS OF FILL
- WELDED WIRE FABRIC
- TREE LINE
- RAIL ROAD
- DRAINAGE CHANNEL
- SILT FENCE
- PROPOSED FENCE
- EXISTING FENCE
- GAURD RAIL
- BREAK LINE
- STREAM BUFFER
- LIMITS OF 100 YEAR FLOOD PLANE
- SOIL BOUNDARY
- PROPOSED MAJOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MINOR CONTOUR

PATTERNS

- POROUS
- BLOCK WALL
- BRICK WALL
- CONCRETE (PLAN)
- CONCRETE (SECTION)
- ASPHALT (PLAN)
- ASPHALT (SECTION)
- GRATING
- GROUT
- RIP-RAP
- GRAVEL
- SWAMP
- UNDISTURBED EARTH
- DISTURBED EARTH
- SAND
- ROCK

VEGETATION

- GENERIC TREE
- DECIDUOUS TREE
- CONIFEROUS TREE
- DECIDUOUS SHRUB
- CONIFEROUS SHRUB

LEGEND

- CENTER LINE
- FIRE HYDRANT
- TAG
- WATER MANHOLE
- WATER METER
- SANITARY SEWER MANHOLE
- GREASE TRAP
- STORM DRAIN MANHOLE
- COMMUNICATION MANHOLE
- COMMUNICATION VAULT
- UTILITY POLE
- IN LINE VALVE
- HORIZONTAL CONTROL POINT
- GUY WIRE
- ELECTRICAL MANHOLE
- BENCHMARK
- VALVE IN MANHOLE
- GRATE INLET

REV.	DATE	BY	REVISIONS
3	12/14/22	JAF	REVISED PER CITY REVIEW COMMENTS
2	11/10/22	JAF	REVISED PER CITY AND EPD REVIEW COMMENTS
1	10/11/22	JAF	REVISED PER CITY REVIEW COMMENTS

JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

REGISTERED GEORGIA No. 38245 PROFESSIONAL ENGINEER JASON JOSEPH BRYANT

Pittman Engineering Co., LLC
2591 Hwy 17S Suite 303
Richmond Hill, GA 31324
912-445-0578
www.PittmanEngineeringCo.com

GENERAL NOTES

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA

Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No.	21-255
Drawn By:	JAF
Designed By:	JJB
Checked By:	RAP
Scale:	----
Date:	3/1/22

SHEET
C0.1

RICE HOPE LAKESIDE PHASE 24

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Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

Monday, March 27, 2023 1:44:09 PM

NOTE: A PORTION OF THE SITE LIES WITHIN AN EFFECTIVE FEMA ZONE AE WITH A BASE FLOOD ELEVATION OF 13, AS DOCUMENTED ON FEMA FIRM PANEL 13051C0035G, EFFECTIVE AUGUST 16, 2018

APPROXIMATE LOCATION OF FLOOD HAZARD LINE

ZONE AE BASE FLOOD ELEV. 13.0

ZONE X

RICE HOPE LAKESIDE
PHASE 24
ALSO REFERRED TO AS PHASE 1B
BUCK ISLAND AND BEP LAND INVESTORS, LLC
PIN: 70906 04042

TRACT C
REMAINING PORTION OF THE
JULIAN R. CHISHOLM TRACT
PRB 14P, PG 178
N/F: JOHM E. HILL
PIN: 7090604012

ZONE AE BASE FLOOD ELEV. 13.0

ZONE X

APPROXIMATE LOCATION OF FLOOD HAZARD LINE

EARTHEN ROAD

REV.	DATE	BY	REVISIONS
1	10/11/22	JAF	REVISED PER CITY REVIEW COMMENTS
2	11/10/22	JAF	REVISED PER CITY AND EPD REVIEW COMMENTS
3	12/14/22	JAF	REVISED PER CITY REVIEW COMMENTS

RICE HOPE LAKESIDE PHASE 24

JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

REGISTERED GEORGIA No. 38245 PROFESSIONAL ENGINEER JASON J. BRYANT

PITTMAN ENGINEERING
2591 Hwy 17S Suite 303
Richmond Hill, GA 31324
912-445-0578
www.PittmanEngineeringCo.com

EXISTING CONDITIONS

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA

Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No.	21-255
Drawn By:	JAF
Designed By:	JJB
Checked By:	RAP
Scale:	1"=50'
Date:	3/1/22

SHEET
C0.2

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Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

Monday, March 27, 2023 1:44:33 PM

NOTE: A PORTION OF THE SITE LIES WITHIN AN EFFECTIVE FEMA ZONE AE WITH A BASE FLOOD ELEVATION OF 13, AS DOCUMENTED ON FEMA FIRM PANEL 13051C0035G, EFFECTIVE AUGUST 16, 2018

RICE HOPE LAKESIDE
PHASE 24
ALSO REFERRED TO AS PHASE 1B
BUCK ISLAND AND BEP LAND INVESTORS, LLC
PIN: 70906 04042

TRACT C
REMAINING PORTION OF THE
JULIAN R. CHISHOLM TRACT
PRB 14P, PG 178
N/F: JOHM E. HILL
PIN: 7090604012

ZONE AE BASE FLOOD ELEV. 13.0

ZONE X

APPROXIMATE LOCATION OF FLOOD HAZARD LINE

COMMON AREA

Water Lilly Way

Ripple Drive

Lakeside Drive

Gentle Breeze Lane

50' PUBLIC RIGHT-OF-WAY

15' UTILITY EASEMENT, TYP.

5' WIDE SIDEWALK, TYP.

10' PRIVATE DRAINAGE EASEMENT

5' PRIVATE DRAINAGE EASEMENT

7.5' SEWER EASEMENT

7.5' WATER EASEMENT

40' UTILITY EASEMENT

STOP BAR AND STOP SIGN WITH STREET NAMES, TYP.

TRANSITION FROM 30' PAVEMENT WIDTH TO 24' PAVEMENT WIDTH IN 140'±

EP: 8+35.00
LAT:N032.2187
LONG:W081.1759

PI: 6+85.00
EP: 10+33.25
LAT:N032.2189
LONG:W081.1763

PI: 4+15.00
EP: 7+91.62
LAT:N032.2193
LONG:W081.1770

PI: 1+35.00
EP: 11+92.26
LAT:N032.2198
LONG:W081.1778

BP: 0+00.00
LAT:N032.2200
LONG:W081.1781

PT: 3+37.78
LAT:N032.2173
LONG:W081.1775

PC: 0+03.14
LAT:N032.2171
LONG:W081.1777

BP: 0+00.00
LAT:N032.2171
LONG:W081.1777
N8° 39' 53.66"W
3.14'

PT: 0+29.10
LAT:N032.2172
LONG:W081.1777
N23° 32' 10.58"W
9.65'

PC: 2+74.32
EP: 0+38.74
LAT:N032.2172
LONG:W081.1777

PC: 2+53.64
LAT:N032.2172
LONG:W081.1778

PT: 2+16.95
LAT:N032.2180
LONG:W081.1781

PC: 1+32.84
LAT:N032.2179
LONG:W081.1783

PT: 6+96.01
LAT:N032.2186
LONG:W081.1787

PC: 5+50.13
LAT:N032.2182
LONG:W081.1788

BP: 0+00.00
LAT:N032.2168
LONG:W081.1785

PI: 1+35.00
BP: 0+00.00
LAT:N032.2171
LONG:W081.1786

BP: 0+00.00
PI: 4+05.00
LAT:N032.2179
LONG:W081.1787

695.47'
N33° 07' 29.91"E

574.66'
N33° 07' 29.91"E

496.26'
N33° 07' 29.91"E

Curve Table: Alignments

Curve #	Radius	Length	Chord Direction	Chord Length	Delta
C1	100.00	25.96	N16° 06' 02.12"W	25.883	014.8714
C2	100.00	20.68	N75° 24' 39.33"E	20.642	011.8483
C3	100.00	63.46	N51° 18' 21.11"E	62.404	036.3618
C4	100.47	84.12	N57° 13' 48.13"E	81.682	047.9703
C5	200.00	145.87	N12° 13' 48.13"E	142.662	041.7899

811 Know what's below. Call before you dig.

50' 25' 0' 50'
GRAPHIC SCALE: 1"= 50'-0"

REV.	DATE	REVISIONS
5	3/24/23	REVISED PER CITY REVIEW COMMENTS
3	12/14/22	REVISED PER CITY REVIEW COMMENTS
2	11/10/22	REVISED PER CITY AND EPD REVIEW COMMENTS
1	10/11/22	REVISED PER CITY REVIEW COMMENTS

RICE HOPE LAKESIDE PHASE 24

JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

REGISTERED GEORGIA PROFESSIONAL ENGINEER No. 38245 JASON JOSEPH BRYANT

Pittman Engineering Co., LLC
2591 Hwy 17S Suite 303
Richmond Hill, GA 31324
912-445-0578
www.PittmanEngineeringCo.com

LAYOUT PLAN

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA

Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No.	21-255
Drawn By:	JAF
Designed By:	JJB
Checked By:	JJB
Scale:	1"=50'
Date:	3/1/22

SHEET
C1.0

g:\shared drives\Projects\rice hope\21-255 lakeside 24\Drawings\construction plans\21-255 - Lakeside PH24 Layout Plan.dwg

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

Monday, March 27, 2023 1:45:47 PM

NOTE: A PORTION OF THE SITE LIES WITHIN AN EFFECTIVE FEMA ZONE AE WITH A BASE FLOOD ELEVATION OF 13, AS DOCUMENTED ON FEMA FIRM PANEL 13051C0035G, EFFECTIVE AUGUST 16, 2018

NOTE: DURING INSTALLATION, WHEN PIPE LAYING IS NOT IN PROGRESS, A MECHANICAL JOINT PLUG OR CAP, OR APPROVED EQUAL, WILL BE USED TO FORM A WATERTIGHT SEAL AT BOTH ENDS OF LINE BEING LAID.

DISINFECTION OF NEWLY INSTALLED WATER MAINS

A. ALL NEW WATER MAINS SHALL BE DISINFECTED BEFORE THEY ARE PLACED IN OR RETURNED TO SERVICE.

B. DISINFECTION OF THE NEW MAINS AND THE DISPOSAL OF THE HEAVILY CHLORINATED WATER, FOLLOWING THE DISINFECTION, SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA STANDARD C651.

C. THE "TABLET METHOD" OF DISINFECTION WHICH CONSISTS OF PLACING CALCIUM HYPOCHLORITE GRANULES OR TABLETS IN THE WATER MAIN AS IT IS BEING INSTALLED AND THEN FILLING THE MAIN WITH POTABLE WATER WHEN INSTALLATION IS COMPLETE IS NOT ALLOWED.

D. BEFORE THE MAIN IS CHLORINATED, IT SHALL BE FILLED TO ELIMINATE AIR POCKETS AND SHALL BE FLUSHED TO REMOVE PARTICULATES. A FLUSHING VELOCITY OF NOT LESS THAN 2.5 FEET/SECOND IS USUALLY MAINTAINED IN PIPE SIZES LESS THAN 24 INCHES IN DIAMETER. FOR LARGER DIAMETER MAINS, AN ALTERNATIVE TO FLUSHING, SUCH AS BROOM-SWEEPING OF THE MAIN, IS ACCEPTABLE PRIOR TO CHLORINATING THE MAIN.

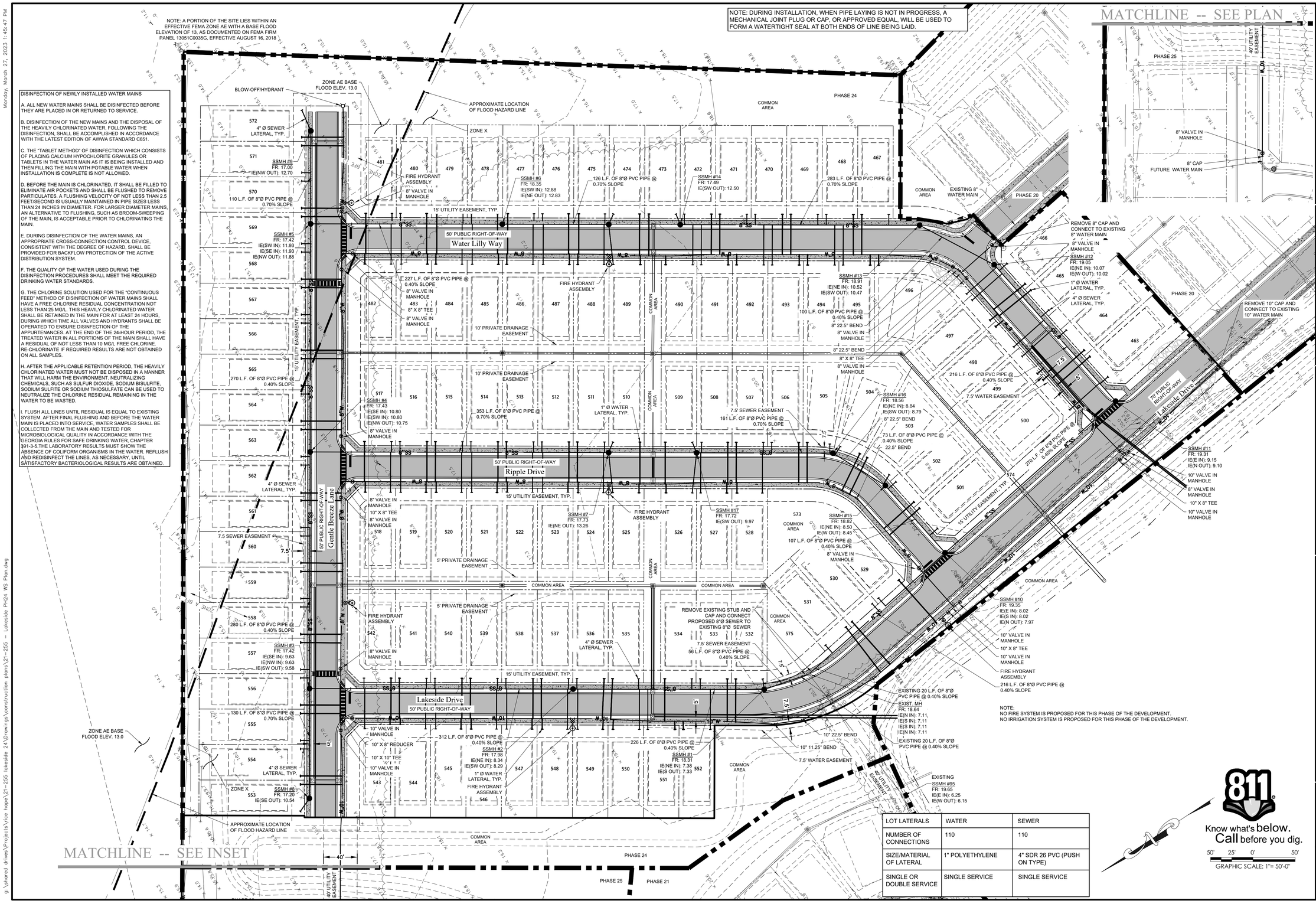
E. DURING DISINFECTION OF THE WATER MAINS, AN APPROPRIATE CROSS-CONNECTION CONTROL DEVICE, CONSISTENT WITH THE DEGREE OF HAZARD, SHALL BE PROVIDED FOR BACKFLOW PROTECTION OF THE ACTIVE DISTRIBUTION SYSTEM.

F. THE QUALITY OF THE WATER USED DURING THE DISINFECTION PROCEDURES SHALL MEET THE REQUIRED DRINKING WATER STANDARDS.

G. THE CHLORINE SOLUTION USED FOR THE "CONTINUOUS FEED" METHOD OF DISINFECTION OF WATER MAINS SHALL HAVE A FREE CHLORINE RESIDUAL CONCENTRATION NOT LESS THAN 25 MG/L. THIS HEAVILY CHLORINATED WATER SHALL BE RETAINED IN THE MAIN FOR AT LEAST 24 HOURS, DURING WHICH TIME ALL VALVES AND HYDRANTS SHALL BE OPERATED TO ENSURE DISINFECTION OF THE APPURTENANCES. AT THE END OF THE 24-HOUR PERIOD, THE TREATED WATER IN ALL PORTIONS OF THE MAIN SHALL HAVE A RESIDUAL OF NOT LESS THAN 10 MG/L FREE CHLORINE. RE-CHLORINATE IF REQUIRED RESULTS ARE NOT OBTAINED ON ALL SAMPLES.

H. AFTER THE APPLICABLE RETENTION PERIOD, THE HEAVILY CHLORINATED WATER MUST NOT BE DISPOSED IN A MANNER THAT WILL HARM THE ENVIRONMENT. NEUTRALIZING CHEMICALS, SUCH AS SULFUR DIOXIDE, SODIUM BISULFITE, SODIUM SULFITE OR SODIUM THIOSULFATE CAN BE USED TO NEUTRALIZE THE CHLORINE RESIDUAL REMAINING IN THE WATER TO BE WASTED.

I. FLUSH ALL LINES UNTIL RESIDUAL IS EQUAL TO EXISTING SYSTEM. AFTER FINAL FLUSHING AND BEFORE THE WATER MAIN IS PLACED INTO SERVICE, WATER SAMPLES SHALL BE COLLECTED FROM THE MAIN AND TESTED FOR MICROBIOLOGICAL QUALITY IN ACCORDANCE WITH THE GEORGIA RULES FOR SAFE DRINKING WATER, CHAPTER 391-3-5.THE LABORATORY RESULTS MUST SHOW THE ABSENCE OF COLIFORM ORGANISMS IN THE WATER. REFLUSH AND REDISINFECT THE LINES, AS NECESSARY, UNTIL SATISFACTORY BACTERIOLOGICAL RESULTS ARE OBTAINED.



LOT LATERALS	WATER	SEWER
NUMBER OF CONNECTIONS	110	110
SIZE/MATERIAL OF LATERAL	1" POLYETHYLENE	4" SDR 26 PVC (PUSH ON TYPE)
SINGLE OR DOUBLE SERVICE	SINGLE SERVICE	SINGLE SERVICE

Know what's below. Call before you dig.

GRAPHIC SCALE: 1"= 50'-0"

REV.	DATE	BY	REVISIONS
5	3/24/23	JJB	REVISED PER CITY REVIEW COMMENTS
3	12/14/22	JAF	REVISED PER CITY REVIEW COMMENTS
2	11/10/22	JAF	REVISED PER CITY AND EPD REVIEW COMMENTS
1	10/11/22	JAF	REVISED PER CITY REVIEW COMMENTS

RICE HOPE LAKESIDE PHASE 24

JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #7897

REGISTERED PROFESSIONAL ENGINEER No. 38245 GEORGIA JASON JOSEPH BRYANT

Pittman Engineering Co., LLC
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Richmond Hill, GA 31324
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www.PittmanEngineeringCo.com

WATER AND SEWER PLAN

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA

Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No.	21-255
Drawn By:	JAF
Designed By:	JJB
Checked By:	RAP
Scale:	----
Date:	3/1/22

SHEET
C2.0

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Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

Monday, March 27, 2023 1:46:23 PM

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3	12/14/22	JAF	REVISED PER CITY REVIEW COMMENTS
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1	10/11/22	JAF	REVISED PER CITY REVIEW COMMENTS

RICE HOPE LAKESIDE PHASE 24

JASON J. BRYANT, P.E.
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DESIGN PROFESSIONAL
CERTIFICATION #73897

REGISTERED PROFESSIONAL ENGINEER GEORGIA No. 38245 JASON JOSEPH BRYANT

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SEWER PROFILES

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA

Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No.	21-255
Drawn By:	JAF
Designed By:	JJB
Checked By:	JJB
Scale:	1"=50'
Date:	3/1/22

SHEET
C2.1

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Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

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2	11/10/22	JAF	REVISED PER CITY AND EPD REVIEW COMMENTS
3	12/14/22	JAF	REVISED PER CITY REVIEW COMMENTS

RICE HOPE LAKESIDE PHASE 24

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SEWER PROFILES

RICE HOPE LAKESIDE PHASE 24

PORT WENTWORTH, GEORGIA

Prepared For

FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No.	21-255
Drawn By:	JAF
Designed By:	JJB
Checked By:	JJB
Scale:	1"=50'
Date:	3/1/22

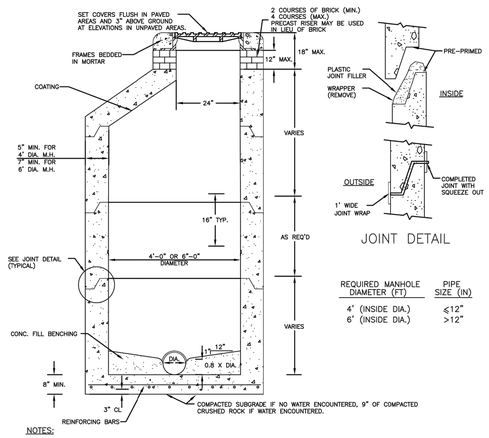
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Monday, March 27, 2023 1:46:40 PM



REQUIRED MANHOLE DIAMETER (FT)	PIPE SIZE (IN)
4' (INSIDE DIA.)	≤12"
6' (INSIDE DIA.)	>12"

NOTES:

1. PRECAST REINFORCED CONCRETE TOPS, RISERS, BASES AND REBARS SHALL CONFORM TO LATEST ASTM C-478 STD. SPECIFICATIONS.
2. INTERIOR OF MANHOLE SHALL BE COATED IN ACCORDANCE WITH CITY OF PORT WENTWORTH STD. SPECIFICATIONS. THE EXTERIOR OF MANHOLE SHALL BE COATED WITH CONSEAL CS-55 DAMP-PROOF COATING OR EQUAL.
3. MANUFACTURER CERTIFICATION THAT MANHOLE MEETS ASTM SPECIFICATION SHALL BE SUBMITTED TO CITY OF PORT WENTWORTH.
4. SEE DETAIL SHEET FOR MANHOLE COVER & FRAME.
6. BUOYANCY MAY NEED TO BE CHECKED IF NECESSARY
7. ALL PIPE PENETRATIONS SHALL HAVE A BOOT CONNECTION. SEE DETAIL S-6.

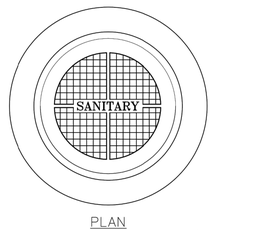
PRECAST CONCRETE MANHOLE

City of Port Wentworth
TECHNICAL DETAILS

S-1

PREPARED BY SAUSSY ENGINEERING, LLC.

SCALE: N.T.S.
DATED: FEBRUARY 2007



NOTE:

MANHOLE RING & COVER SHALL BE HEAVY DUTY RATED EQUAL TO U. S. FOUNDRY CO. USF 195-ORS. TOTAL WEIGHT 325# TYPE "C" LID TO HAVE MACHINED BEARING SURFACES. LID TO BE LETTERED 2 1/2" -3" LETTER HEIGHT "SANITARY" (NON VENTED). MANHOLE RING SHALL INCLUDE A WATERTIGHT GASKET. STACKING CLEATS ON THE BOTTOM OF THE COVER SHALL NOT BE ALLOWED.

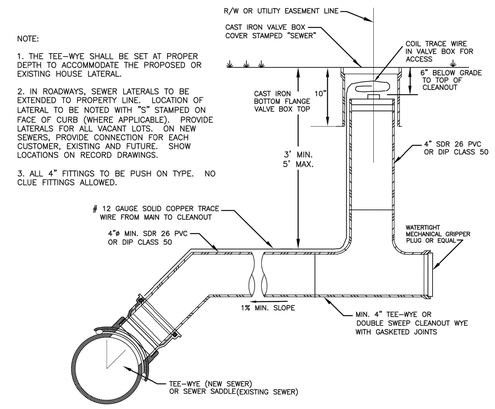
MANHOLE RING & COVER

City of Port Wentworth
TECHNICAL DETAILS

S-2

PREPARED BY SAUSSY ENGINEERING, LLC.

SCALE: N.T.S.
DATED: FEBRUARY 2007



NOTE:

1. THE TEE-WYE SHALL BE SET AT PROPER DEPTH TO ACCOMMODATE THE PROPOSED OR EXISTING HOUSE LATERAL.
2. IN ROADWAYS, SEWER LATERALS TO BE EXTENDED TO PROPERTY LINE. LOCATION OF LATERAL TO BE NOTED WITH "S" STAMPED ON FACE OF CURB (WHERE APPLICABLE). PROVIDE LATERALS FOR ALL VACANT LOTS. ON NEW SEWERS, PROVIDE CONNECTION FOR EACH CUSTOMER, EXISTING AND FUTURE. SHOW LOCATIONS ON RECORD DRAWINGS.
3. ALL 4" FITTINGS TO BE PUSH ON TYPE. NO CLUE FITTINGS ALLOWED.

SANITARY SEWER SERVICE CONNECTION

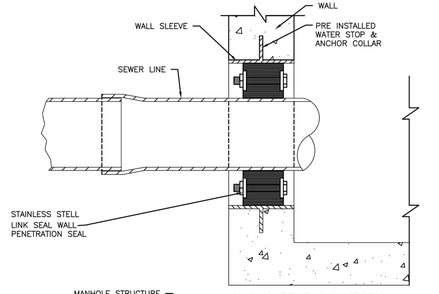
City of Port Wentworth
TECHNICAL DETAILS

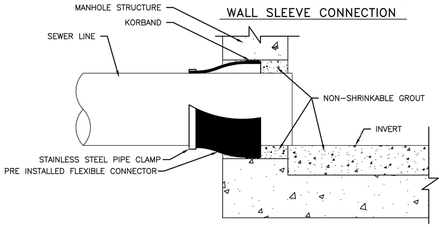
S-4

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SCALE: N.T.S.
DATED: FEBRUARY 2007

NOTE:
WALL SLEEVE CONNECTIONS ARE REQUIRED FOR VALVE PITS & WETWELLS





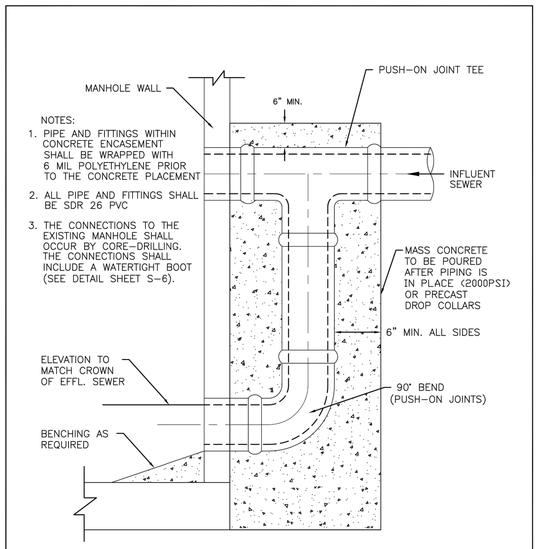
PRECAST STRUCTURE PIPE CONNECTION

City of Port Wentworth
TECHNICAL DETAILS

S-6

PREPARED BY SAUSSY ENGINEERING, LLC.

SCALE: N.T.S.
DATED: FEBRUARY 2007



NOTES:

1. PIPE AND FITTINGS WITHIN CONCRETE ENCASEMENT SHALL BE WRAPPED WITH 6 MIL POLYETHYLENE PRIOR TO THE CONCRETE PLACEMENT
2. ALL PIPE AND FITTINGS SHALL BE SDR 26 PVC
3. THE CONNECTIONS TO THE EXISTING MANHOLE SHALL OCCUR BY CORE-DRILLING. THE CONNECTIONS SHALL INCLUDE A WATERTIGHT BOOT (SEE DETAIL SHEET S-6).

DROP MANHOLE CONNECTION

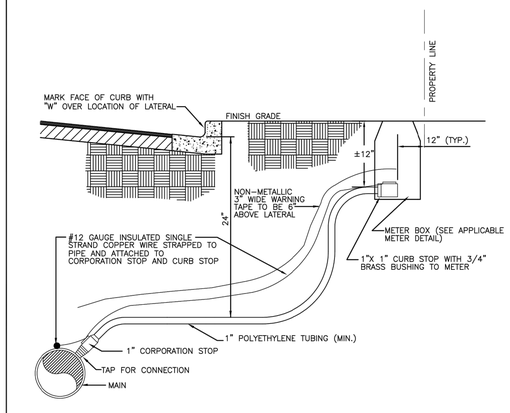
MATCHLINE -- SEE SHEET ###

City of Port Wentworth
TECHNICAL DETAILS

S-7

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SCALE: N.T.S.
DATED: FEBRUARY 2007



NOTE:
ALL FITTINGS IN LATERAL SHALL BE COMPRESSION TYPE.

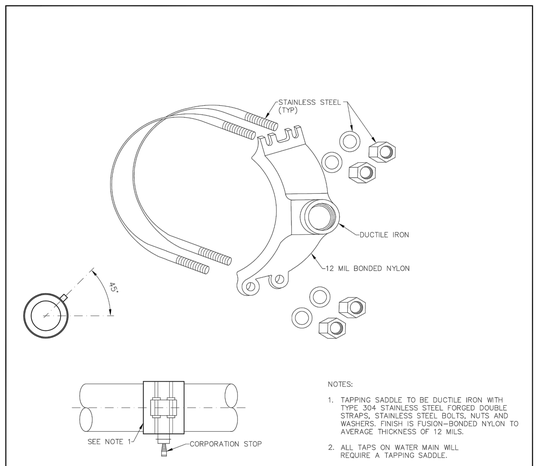
WATER SERVICE LATERAL

City of Port Wentworth
TECHNICAL DETAILS

W-1

PREPARED BY SAUSSY ENGINEERING, LLC.

SCALE: N.T.S.
DATED: FEBRUARY 2007



NOTES:

1. TAPPING SADDLE TO BE DUCTILE IRON WITH TYPE 304 STAINLESS STEEL FORGED DOUBLE STRAPS, STAINLESS STEEL BOLTS, NUTS AND WASHERS. FINISH IS FUSION-BONDED NYLON TO AVERAGE THICKNESS OF 12 MILS.
2. ALL TAPS ON WATER MAIN WILL REQUIRE A TAPPING SADDLE.

1" AND 2" TAPPING SADDLE

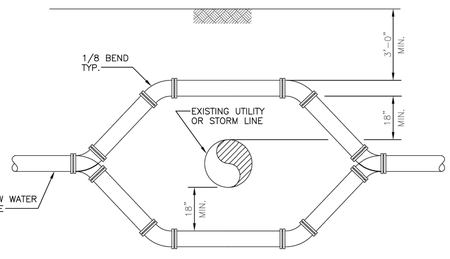
City of Port Wentworth
TECHNICAL DETAILS

W-2

PREPARED BY SAUSSY ENGINEERING, LLC.

SCALE: N.T.S.
DATED: FEBRUARY 2007

NOTES:
1. WATER LINE SHALL BE INSTALLED ABOVE SANITARY OR STORM LINE IF POSSIBLE.
2. STRAIGHT RUN OF WATER LINE DIRECTLY ABOVE OR BELOW EXISTING UTILITY LINE MUST BE 10' MINIMUM WITH NO JOINT.
3. IF WATER LINE IS INSTALLED BELOW SANITARY LINE WATER LINE SHALL BE DUCTILE IRON PIPE.
4. JOINTS SHALL BE RESTRAINED ON ACCORDANCE WITH CITY OF PORT WENTWORTH STANDARD DETAILS.



THE SEPARATION OF WATER MAINS, SEWERS AND URBAN REUSE MAINS SHALL COMPLY WITH THE GEORGIA ENVIRONMENTAL PROTECTION DIVISION MINIMUM STANDARDS FOR PUBLIC WATER SYSTEMS, WHICH ARE GENERALLY AS FOLLOWS:

A. PARALLEL INSTALLATION:
1. NORMAL CONDITIONS: THE INSIDE EDGE OF A WATER SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM THE INSIDE EDGE OF ANY SANITARY SEWER, STORM SEWER OR SEWER MANHOLE.
2. UNUSUAL CONDITIONS: WHEN LOCAL CONDITIONS PREVENT A HORIZONTAL SEPARATION OF 10 FEET, AND WHEN APPROVED BY THE ENGINEER, THE INSIDE EDGE OF A WATER MAIN MAY BE LAID A MINIMUM OF 5 FEET FROM THE INSIDE EDGE OF A SEWER PROVIDED THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES HIGHER THAT THE TOP OF THE SEWER (SEE DETAIL), AND THE WATER IS LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF.

B: CROSSING:
1. NORMAL CONDITIONS: WHENEVER POSSIBLE, THE BOTTOM OF THE WATER MAIN SHALL BE AT LEAST 18 INCHES HIGHER THAN THE TOP OF THE SEWER.
2. UNUSUAL CONDITIONS: IF A WATER MAIN MUST CROSS UNDER A SEWER OR REUSE MAIN, THE TOP OF THE WATER MAIN SHALL BE AT LEAST 18 INCHES LOWER THAN THE BOTTOM OF THE SEWER. THE WATER MAIN PIPE SHALL BE CENTERED AT THE CROSSING SO THAT THE JOINTS ARE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER, AND ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT EXCESSIVE DEFLECTION OF THE SEWER AT THE CROSSING. ADEQUATE STRUCTURAL SUPPORT SHALL INCLUDE BACKFILLING THE ENTIRE UTILITY CROSSING AREA WITH 3/4" CRUSHED STONE.

WHEN WATER MAINS AND WATER SERVICE LINES (BEFORE THE CURB STOP AND CUSTOMER METER) OWNED BY THE PUBLIC WATER SYSTEMS CROSS UNDER SEWERS, ADDITIONAL MEASURES SHALL BE TAKEN BY PROVIDING BOTH THE SEWER AND THE WATER MAIN SHALL BE CONSTRUCTED OF WATER MAIN MATERIALS EXTENDING ON EACH SIDE OF THE CROSSING UNTIL AT LEAST 10 FEET SEPARATES THE TWO PIPES AND SUBJECTED TO HYDROSTATIC TESTS, AS PRESCRIBED IN THIS DOCUMENT. OTHER OPTIONS THAT ARE ACCEPTABLE INCLUDE:

-ENCASEMENT OF THE WATER MAIN OR SEWER IN A CARRIER PIPE CONSTRUCTED OF WATER MAIN MATERIALS, EXTENDING ON EACH SIDE OF THE CROSSING UNTIL AT LEAST 10 FEET SEPARATES THE TWO PIPES.

-THE SEWER HAS A STRUCTURAL LINING THAT MEETS ASTM F1216 EXTENDING ON EACH SIDE OF THE CROSSING UNTIL AT LEAST 10 FEET SEPARATES THE TWO PIPES

STANDARD UTILITY CROSSING

City of Port Wentworth
TECHNICAL DETAILS

W-6

PREPARED BY SAUSSY ENGINEERING, LLC.

SCALE: N.T.S.
DATED: FEBRUARY 2007

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2	REVISED PER CITY AND EPD REVIEW COMMENTS	JAF	11/10/22
1	REVISED PER CITY REVIEW COMMENTS	JAF	10/11/22
REV.	REVISIONS	BY	DATE

RICE HOPE LAKESIDE PHASE 24

JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

REGISTERED GEORGIA No. 38245 PROFESSIONAL ENGINEER JASON J. BRYANT

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WATER AND SEWER DETAILS

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA
Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

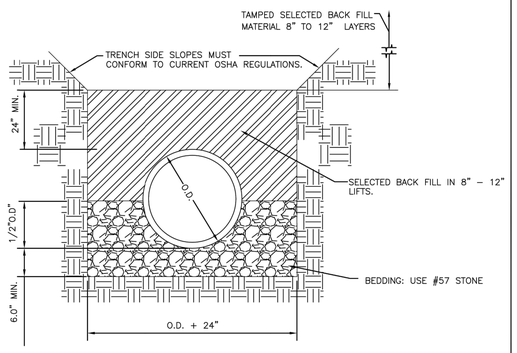
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Drawn By:	JAF
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Date:	3/1/22

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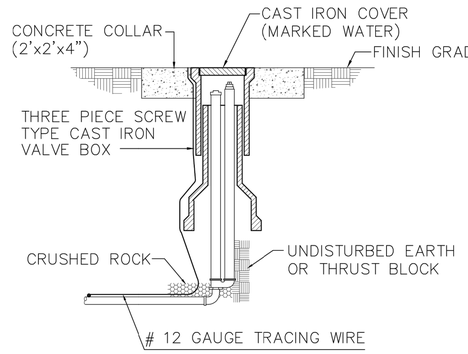
PIPE BEDDING

City of Port Wentworth
TECHNICAL DETAILS

W–8

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SCALE: N.T.S.
DATED: FEBRUARY 2007



NOTE:

1. MAINGUARD #79 BLOW–OFF HYDRANT BY THE KUPFERLE FOUNDRY COMPANY. SEE MANUFACTURER'S SPECIFICATION FOR FURTHER DETAIL.

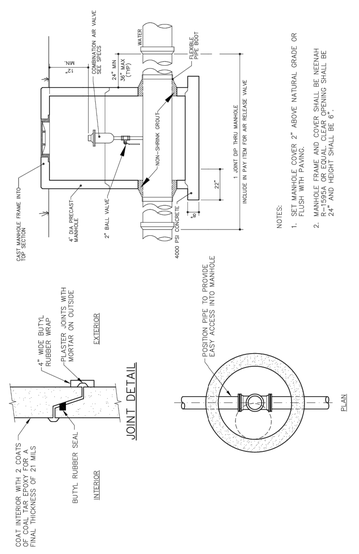
BLOW–OFF HYDRANT

City of Port Wentworth
TECHNICAL DETAILS

W–10

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DATED: FEBRUARY 2007



NOTES:

1. SET MANHOLE COVER 2" ABOVE NATURAL GRADE OR FINISH PAVEMENT.
2. MANHOLE FRAME AND COVER SHALL BE NEENAH R-1668-A OR EQUAL. CLEAR OPENING SHALL BE 24" AND HEIGHT SHALL BE 6".

COMBINATION AIR VALVE & MANHOLE

City of Port Wentworth
TECHNICAL DETAILS

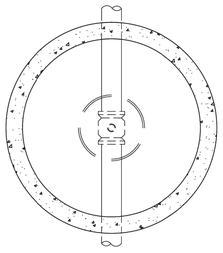
W–13

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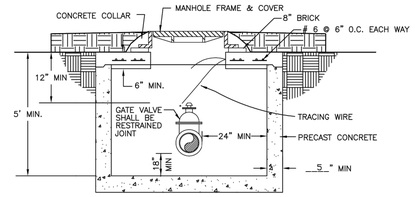
SCALE: N.T.S.
DATED: FEBRUARY 2007

NOTES:

1. MANHOLE FRAME AND COVER SHALL BE NEENAH FOUNDRY CO. CATALOG NO. R–1668, TYPE C, LABELED "WATER".
2. THE BOTTOM OF THE MANHOLE FRAME SHALL NOT BE MORE THAN 12" ABOVE THE TOP OF THE MANHOLE STRUCTURE.
3. PRECAST CONCENTRIC CONE RISERS MAY BE USED WHERE REQUIRED FOR DEPTH.
4. THE MANHOLE FRAME AND COVER MUST BE CENTERED OVER THE VALVE.



PLAN



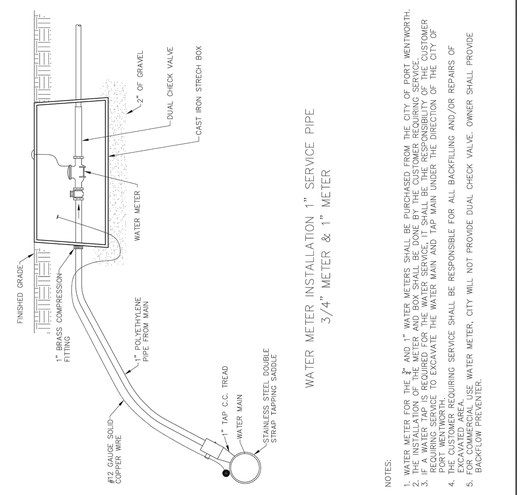
VALVE MANHOLE FOR 8" & GREATER GATE VALVE

City of Port Wentworth
TECHNICAL DETAILS

W–14

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WATER METER INSTALLATION 1" SERVICE PIPE
3/4" METER & 1" METER

NOTES:

1. WATER METER FOR THE ¾" AND 1" WATER METERS SHALL BE PURCHASED FROM THE CITY OF PORT WENTWORTH. THE INSTALLATION FEE SHALL BE PAID BY THE CUSTOMER AT THE TIME THE APPLICATION IS MADE.
2. IF A WATER METER IS REQUIRED FOR A LARGER SERVICE, THE CUSTOMER REQUIRING SERVICE SHALL BE RESPONSIBLE FOR ALL EXCAVATION AND BACKFILLING AND/OR REPAIRS OF PAVEMENT, CURB AND GUTTER, ETC.
3. THE CUSTOMER REQUIRING SERVICE SHALL BE RESPONSIBLE FOR ALL BACKFILLING AND/OR REPAIRS OF EXCAVATED AREA.
4. FOR COMMERCIAL USE WATER METER, CITY WILL NOT PROVIDE DUAL CHECK VALVE. OWNER SHALL PROVIDE BACKFLOW PREVENTER.

WATER METER

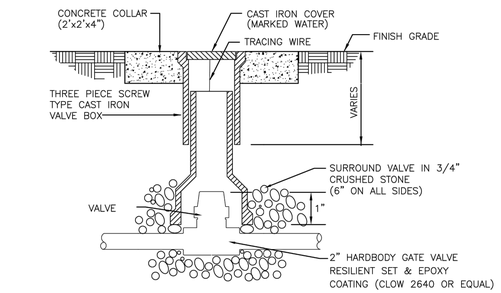
City of Port Wentworth
TECHNICAL DETAILS

W–17

ADDENDUM 01

PREPARED BY SAUSSY ENGINEERING, LLC.

SCALE: N.T.S.
DATED: FEBRUARY 2007



NOTE:

1. THIS DETAIL APPLIES TO VALVES.
2. IN UNPAVED AREAS, SET TOP OF CONC. COLLAR 1" ABOVE FINISHED GRADE. IN PAVED AREAS SET TOP OF BOX FLUSH W/ PAVEMENT. NO CONC. COLLAR REQUIRED.
3. VALVE BOX SHALL NOT REST ON THE VALVE

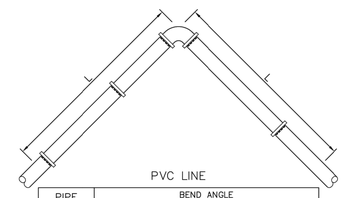
2" WATER VALVE

City of Port Wentworth
TECHNICAL DETAILS

W–18

PREPARED BY SAUSSY ENGINEERING, LLC.

SCALE: N.T.S.
DATED: FEBRUARY 2007



PVC LINE

PIPE DIA.	BEND ANGLE			
	11 1/4°	22 1/2°	45°	90°
4	3	6	12	29
6	4	8	17	41
8	5	11	22	53
10	6	13	26	64
12	7	15	31	75

DUCTILE IRON LINE

PIPE DIA.	BEND ANGLE			
	11 1/4°	22 1/2°	45°	90°
4	2	4	8	20
6	3	6	12	28
8	4	7	15	36
10	4	9	18	43
12	5	10	21	51
16	6	13	27	65
20	8	16	33	79
24	9	18	38	92

MINIMUM RESTRAINED LENGTH (L)

NOTES:

1. LENGTH OF RESTRAINT SHOWN IS IN FEET.
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.

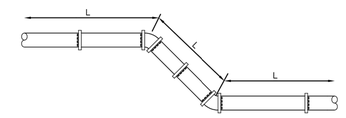
STANDARD HORIZONTAL BEND RESTRAINT

City of Port Wentworth
TECHNICAL DETAILS

W–27

PREPARED BY SAUSSY ENGINEERING, LLC.

SCALE: N.T.S.
DATED: FEBRUARY 2007



PVC LINE

PIPE DIA.	BEND ANGLE			
	11 1/4°	22 1/2°	45°	90°
4	5	10	22	52
6	7	15	30	74
8	9	19	40	96
10	11	23	48	115
12	13	27	56	136

DUCTILE IRON LINE

PIPE DIA.	BEND ANGLE			
	11 1/4°	22 1/2°	45°	90°
4	3	6	12	28
6	4	8	17	40
8	4	10	22	52
10	5	12	26	62
12	6	15	30	73
16	7	19	39	94
20	11	23	47	114
24	13	26	55	132

MINIMUM RESTRAINED LENGTH (L)

NOTES:

1. LENGTH OF RESTRAINT SHOWN IS IN FEET.
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.

STANDARD VERTICAL BEND RESTRAINT

City of Port Wentworth
TECHNICAL DETAILS

W–28

PREPARED BY SAUSSY ENGINEERING, LLC.

SCALE: N.T.S.
DATED: FEBRUARY 2007

REV.	DATE	BY	REVISIONS
3	12/14/22	JAF	REVISED PER CITY REVIEW COMMENTS
2	11/10/22	JAF	REVISED PER CITY AND EPD REVIEW COMMENTS
1	10/11/22	JAF	REVISED PER CITY REVIEW COMMENTS

RICE HOPE LAKESIDE PHASE 24

JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

REGISTERED GEORGIA No. 38245 PROFESSIONAL ENGINEER JASON JOSEPH BRYANT

Pittman Engineering Co., LLC
2591 Hwy 17S Suite 303
Richmond Hill, GA 31324
912-445-6578
www.PittmanEngineeringCo.com

WATER AND SEWER DETAILS

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA

Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

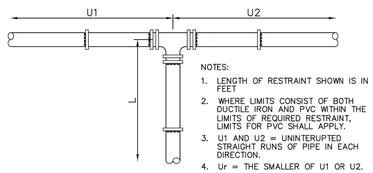
Project No. 21–255
Drawn By: JAF
Designed By: JJB
Checked By: RAP
Scale: ----
Date: 3/1/22

SHEET
C2.4

g:\shared drives\Projects\rice hope\21-255 lakeside 24\Drawings\construction plans\21-255 - Lakeside PH24 ws details.dwg

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

Monday, March 27, 2023 1:46:52 PM



NOTES:
1. LENGTH OF RESTRAINT SHOWN IS IN FEET
2. WHERE LIMITS CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
3. U1 AND U2 = UNINTERUPTED STRAIGHT RUNS OF PIPE IN EACH DIRECTION.
4. Ur = THE SMALLER OF U1 OR U2.
5. L = MINIMUM RESTRAINED LENGTH ALONG THE BRANCH
6. WHERE Ur IS LESS THAN 5', RESTRAIN TEE AS A 90° HORIZONTAL BEND.

TEE - Ur	5'-10"	11'-20"	21'-35"	> 35'
4x4	43	28	4	*
6x4	38	17	*	*
6x6	64	49	25	*
8x4	34	6	*	*
8x6	61	42	10	*
8x8	87	72	48	12
10x4	29	*	*	*
10x6	58	34	*	*
10x8	84	66	35	*
10x10	106	91	67	31
12x4	24	*	*	*
12x6	54	26	*	*
12x8	82	60	23	*
12x10	104	86	57	13
12x12	126	112	87	51

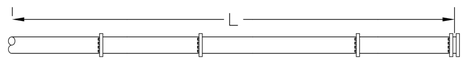
MINIMUM RESTRAINED LENGTH (L)

* RESTRAIN AT TEE ONLY

STANDARD TEE RESTRAINT (PVC LINE)

City of Port Wentworth
TECHNICAL DETAILS
W-29

PREPARED BY SAUSSY ENGINEERING, LLC.
SCALE: N.T.S.
DATED: FEBRUARY 2007



DUCTILE IRON LINE

PIPE DIA.	L
4	28
6	40
8	52
10	62
12	73
16	94
20	114
24	132

PVC LINE

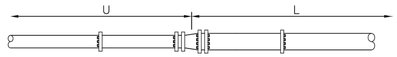
PIPE DIA.	L
4	52
6	74
8	96
10	115
12	136

NOTES:
1. LENGTH OF RESTRAINT SHOWN IS IN FEET.
2. WHERE LIMITS CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
3. FOR LINE STUBS (SEE DETAIL W39). THE LENGTH OF RESTRAINT (L) SHALL BE FROM THE VALVE AND NOT THE CAP.

STANDARD DEAD END RESTRAINT

City of Port Wentworth
TECHNICAL DETAILS
W-31

PREPARED BY SAUSSY ENGINEERING, LLC.
SCALE: N.T.S.
DATED: FEBRUARY 2007



DUCTILE IRON LINE

REDUCER	U	L
6x4	30	21
8x4	72	38
8x6	29	22
10x4	123	51
10x6	63	38
10x8	26	21
12x4	186	64
12x6	106	53
12x8	59	39
12X10	26	21
16x6	214	79
16x8	141	68
16x10	91	56
16x12	54	40
20x10	174	84
20x12	123	71
20x16	51	40
24x12	207	97
24x16	113	72
24x20	48	39

PVC LINE

REDUCER	U	L
6x4	56	38
8x4	134	69
8x6	53	40
10x4	227	94
10x6	117	71
10x8	49	39
12x4	343	118
12x6	196	99
12x8	109	72
12x10	48	40

U = MINIMUM UNITERRUPTED STRAIGHT RUN OF PIPE ON SMALL SIDE OF REDUCER.

L = MINIMUM RESTRAINED LENGTH.

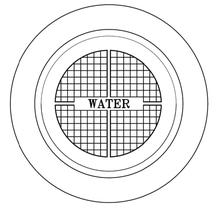
* WHERE MINIMUM "U" IS NOT MET, PIPE ON LARGE SIDE OF REDUCER SHALL BE RESTRAINED FOR A MINIMUM OF "L" FEET.

NOTES:
1. LENGTH OF RESTRAINT SHOWN IS IN FEET.
2. WHERE LIMITS CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.

STANDARD REDUCER RESTRAINT

City of Port Wentworth
TECHNICAL DETAILS
W-32

PREPARED BY SAUSSY ENGINEERING, LLC.
SCALE: N.T.S.
DATED: FEBRUARY 2007



PLAN

SECTION

NOTE:
MANHOLE RING & COVER SHALL BE HEAVY DUTY RATED EQUAL TO U. S. FOUNDRY CO. USF 195-ORS. TOTAL WEIGHT 325# TYPE "C" LID TO HAVE MACHINED BEARING SURFACES. LID TO BE LETTERED 2 1/2" -3" LETTER HEIGHT "WATER" (NON VENTED). MANHOLE RING SHALL INCLUDE A WATERTIGHT GASKET. STACKING CLEATS ON THE BOTTOM OF THE COVER SHALL NOT BE ALLOWED.

MANHOLE RING & COVER

City of Port Wentworth
TECHNICAL DETAILS
W-34

PREPARED BY SAUSSY ENGINEERING, LLC.
SCALE: N.T.S.
DATED: FEBRUARY 2007

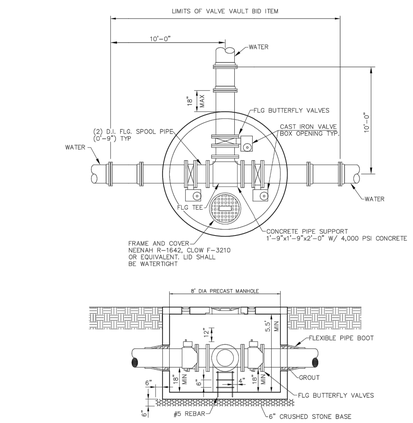
REV.	DATE	BY	REVISIONS
3	12/14/22	JAF	REVISED PER CITY REVIEW COMMENTS
2	11/10/22	JAF	REVISED PER CITY AND EPD REVIEW COMMENTS
1	10/11/22	JAF	REVISED PER CITY REVIEW COMMENTS

RICE HOPE LAKESIDE PHASE 24

JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

REGISTERED GEORGIA No. 38245 PROFESSIONAL ENGINEER JASON J. BRYANT

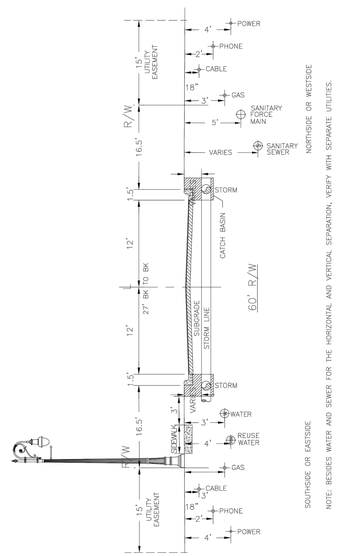
Pittman Engineering Co., LLC
2591 Hwy 17S Suite 303
Richmond Hill, GA 31324
912-445-6578
www.PittmanEngineeringCo.com



WATER VALVE VAULT

City of Port Wentworth
TECHNICAL DETAILS
W-35

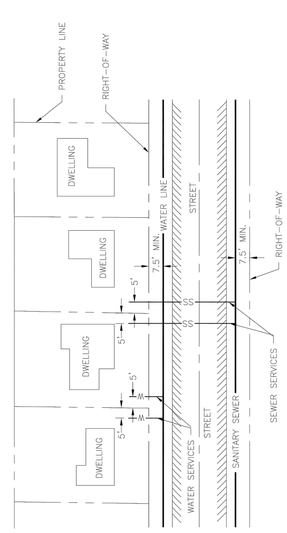
PREPARED BY SAUSSY ENGINEERING, LLC.
SCALE: N.T.S.
DATED: FEBRUARY 2007



TYP. SECTION UNDERGROUND UTILITY INSTALLATION

City of Port Wentworth
TECHNICAL DETAILS
U-1

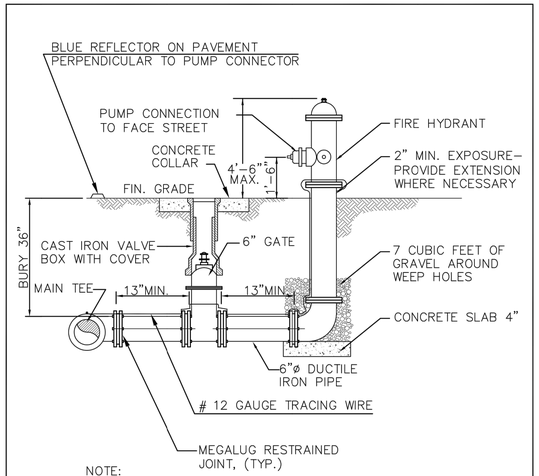
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SCALE: N.T.S.
DATED: FEBRUARY 2007



TYP. WATER & SEWER PLANNING

City of Port Wentworth
TECHNICAL DETAILS
U-2

PREPARED BY SAUSSY ENGINEERING, LLC.
SCALE: N.T.S.
DATED: FEBRUARY 2007



NOTE:
1. ALL JOINTS FROM MAIN TO HYDRANT SHALL BE RESTRAINED.
2. PROTECT BOLTS AND THREADS FROM CONCRETE.

STANDARD FIRE HYDRANT

City of Port Wentworth
TECHNICAL DETAILS
W-9

PREPARED BY SAUSSY ENGINEERING, LLC.
SCALE: N.T.S.
DATED: FEBRUARY 2007

WATER AND SEWER DETAILS

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA
Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No.	21-255
Drawn By:	JAF
Designed By:	JJB
Checked By:	RAP
Scale:	----
Date:	3/1/22

SHEET
C2.5

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Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

Monday, March 27, 2023 1:47:38 PM

NOTE: A PORTION OF THE SITE LIES WITHIN AN EFFECTIVE FEMA ZONE AE WITH A BASE FLOOD ELEVATION OF 13, AS DOCUMENTED ON FEMA FIRM PANEL 13051C0035G, EFFECTIVE AUGUST 16, 2018

NOTE: THE PROPOSED DEVELOPMENT CONFORMS TO SECTION 7-54 OF THE PORT WENTWORTH CODE OF ORDINANCE AND WILL NOT INCREASE THE WATER SURFACE ELEVATION OF THE BASE FLOOD MORE THAN ONE FOOT AT ANY POINT WITHIN THE COMMUNITY.

REV.	REVISIONS	BY	DATE
5	REVISED PER CITY REVIEW COMMENTS	JJB	3/24/23
4	RELOCATED STORM PER CITY OF PW	JAF	2/28/23
3	REVISED PER CITY REVIEW COMMENTS	JAF	12/14/22
2	REVISED PER CITY AND EPD REVIEW COMMENTS	JAF	11/10/22
1	REVISED PER CITY REVIEW COMMENTS	JAF	10/11/22

RICE HOPE LAKESIDE PHASE 24

JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #7897

REGISTERED GEORGIA No. 38245 PROFESSIONAL ENGINEER JASON J. BRYANT JOSEPH

Pittman Engineering Co., LLC
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Richmond Hill, GA 31324
912-445-0578
www.PittmanEngineeringCo.com

PAVING, GRADING AND DRAINAGE PLAN

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA

Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No.	21-255
Drawn By:	JAF
Designed By:	JJB
Checked By:	RAP
Scale:	----
Date:	3/1/22

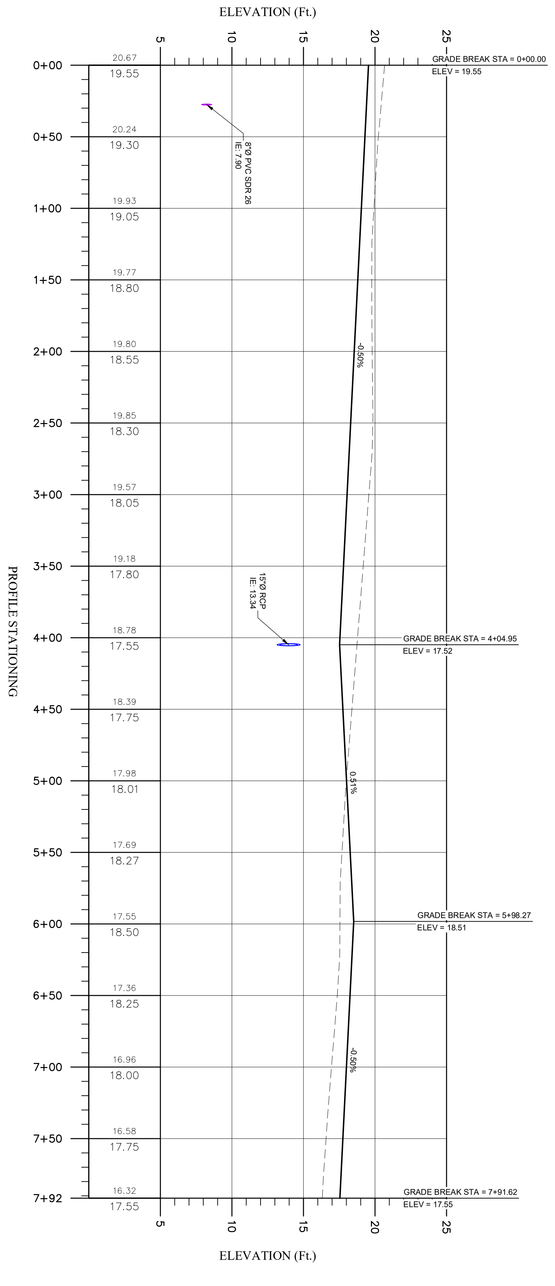
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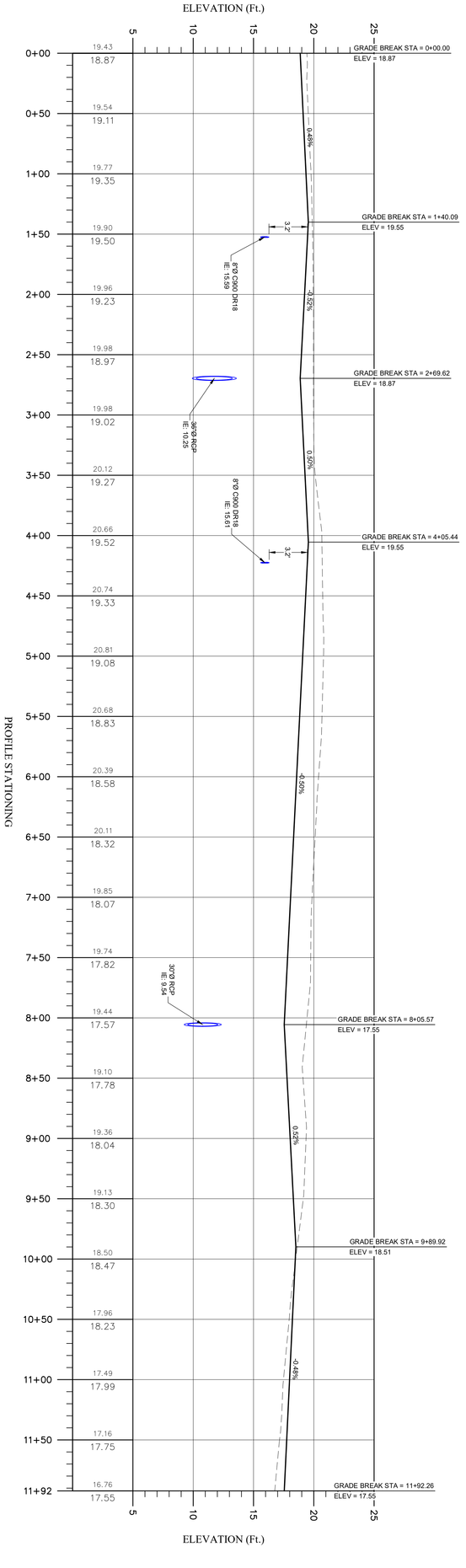
811 Know what's below. Call before you dig.

50' 25' 0' 50'
GRAPHIC SCALE: 1"= 50'-0"

G:\shared drives\Projects\rice hope\21-255 lakeside 24\Drawings\construction plans\21-255 - Lakeside PH24 PCD Plan.dwg

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)





ROAD PROFILES

RICE HOPE LAKESIDE PHASE 24

PORT WENTWORTH, GEORGIA

Prepared For

FORESTAR (USA) REAL ESTATE GROUP, INC.

Pittman Engineering Co., LLC

2591 Hwy 17S Suite 303
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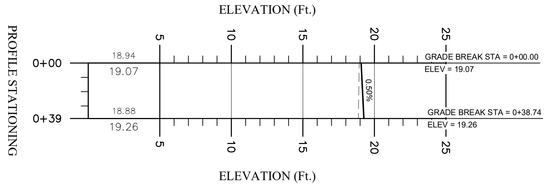
GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 38245 JASON JOSEPH BRYANT

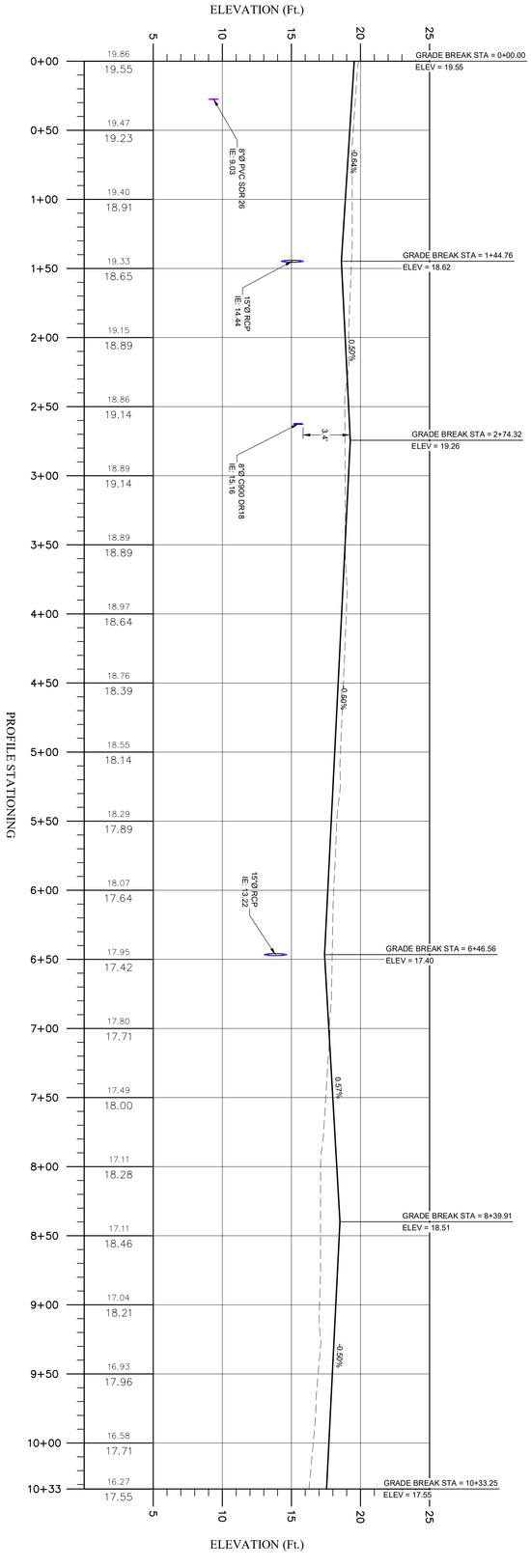
JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

REV.	REVISIONS	BY	DATE
3	REVISED PER CITY REVIEW COMMENTS	JAF	12/14/22
2	REVISED PER CITY AND EPD REVIEW COMMENTS	JAF	11/10/22
1	REVISED PER CITY REVIEW COMMENTS	JAF	10/11/22

Project No. 21-255
Drawn By: JAF
Designed By: JJB
Checked By: JJB
Scale: 1"=50'
Date: 3/1/22

SHEET C3.1





Project No.	21-255
Drawn By:	JAF
Designed By:	JJB
Checked By:	JJB
Scale:	1"=50'
Date:	3/1/22

SHEET C3.2

ROAD PROFILES

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA

Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Pittman Engineering Co., LLC
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GEORGIA REGISTERED No. 38245 PROFESSIONAL ENGINEER JASON JOSEPH BRYANT

JASON J. BRYANT, P.E.
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REV.	REVISIONS	BY	DATE
3	REVISED PER CITY REVIEW COMMENTS	JAF	12/14/22
2	REVISED PER CITY AND EPD REVIEW COMMENTS	JAF	11/10/22
1	REVISED PER CITY REVIEW COMMENTS	JAF	10/11/22

REV.	DATE	BY
4	RELOCATED STORM PER CITY OF PW	2/28/23	JAF
3	REVISED PER CITY REVIEW COMMENTS	12/14/22	JAF
2	REVISED PER CITY AND EPD REVIEW COMMENTS	11/10/22	JAF
1	REVISED PER CITY REVIEW COMMENTS	10/11/22	JAF

REVISIONS

RICE HOPE LAKESIDE PHASE 24

JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

REGISTERED PROFESSIONAL ENGINEER
GEORGIA
No. 38245
JASON JOSEPH BRYANT

Pittman Engineering Co., LLC
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Richmond Hill, GA 31324
912-445-0578
www.PittmanEngineeringCo.com

STORM DRAINAGE PROFILES

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA

Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No. 21-255
Drawn By: JAF
Designed By: JJB
Checked By: JJB
Scale: 1"=50'
Date: 3/1/22

SHEET
C3.3

Monday, March 27, 2023 1:48:46 PM
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Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

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REV.	DATE	BY	REVISIONS
4	2/28/23	JAF	RELOCATED STORM PER CITY OF PW
3	12/14/22	JAF	REVISED PER CITY REVIEW COMMENTS
2	11/10/22	JAF	REVISED PER CITY AND EPD REVIEW COMMENTS
1	10/11/22	JAF	REVISED PER CITY REVIEW COMMENTS

RICE HOPE LAKESIDE PHASE 24

JASON J. BRYANT, P.E.
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STORM DRAINAGE PROFILES

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA
Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

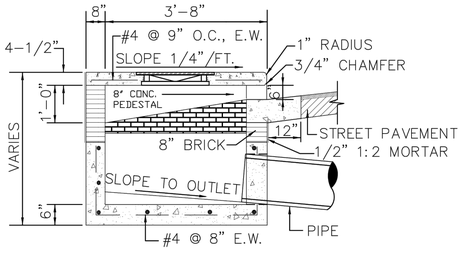
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Drawn By: JAF
Designed By: JJB
Checked By: JJB
Scale: 1"=50'
Date: 3/1/22

SHEET
C3.4

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Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

Monday, March 27, 2023 1:49:05 PM



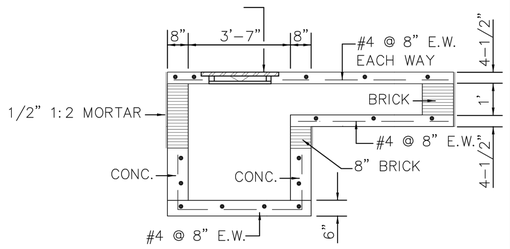
NOTES:
1. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4"
2. PIPE TIEING TO CURB INLET MUST BE SEALED INSIDE AND OUTSIDE OF STRUCTURE WITH BRICK AND MORTAR

CURB INLET SECTION A – A

City of Port Wentworth
TECHNICAL DETAILS
SD–3

PREPARED BY SAUSSY ENGINEERING, LLC.
SCALE: N.T.S.
DATED: FEBRUARY 2007

NOTE:
C.I. MANHOLE FRAME AND COVER EQUIVALENT TO NEENAH R–5900–F. FRAME AND COVER TO BE MACHINE FITTED PRIOR TO LEAVING SHOP. WEIGHT – 205 LBS.

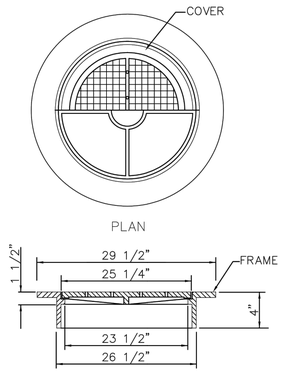


NOTES:
1. MATCH TOP OF PIPE ELEVATIONS WHEN DIFFERENT SIZE PIPES ARE CONSTRUCTED IN CURB INLET.
2. TYPE "B" INLET SHOWN

CURB INLET SECTION B – B

City of Port Wentworth
TECHNICAL DETAILS
SD–4

PREPARED BY SAUSSY ENGINEERING, LLC.
SCALE: N.T.S.
DATED: FEBRUARY 2007

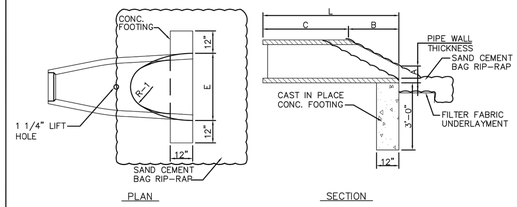


NOTES:
1. FRAME AND COVER TO BE NEENAH FOUNDRY COMPANY CATALOG NO. R–5900–F OR EQUIVALENT WEIGHT 205#.
2. COVER MUST HAVE FOUNDRY STAMP SHOWING THE UTILITY (DRAINAGE).

INLET FRAME & COVER

City of Port Wentworth
TECHNICAL DETAILS
SD–5

PREPARED BY SAUSSY ENGINEERING, LLC.
SCALE: N.T.S.
DATED: FEBRUARY 2007

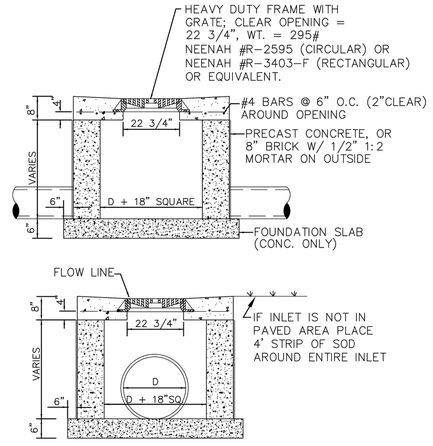


FLARE DIMENSIONS						
PIPE DIA.	A	B	C	L	E	R–1
15"	6"	2'–3"	3'–10"	6'–1"	2'–6"	1'–0"
18"	9"	2'–3"	3'–10"	6'–1"	3'–0"	1'–4"
24"	10"	3'–8"	2'–6"	6'–2"	4'–0"	1'–5"
30"	12"	4'–6"	1'–8"	6'–2"	5'–0"	1'–6"
36"	16"	5'–3"	2'–11"	8'–2"	6'–0"	2'–0"
42"	21"	5'–3"	2'–11"	8'–2"	6'–6"	2'–4"
REINFORCEMENT CONFORMS TO ASTM A–82						

FLARED END SECTION

City of Port Wentworth
TECHNICAL DETAILS
SD–11

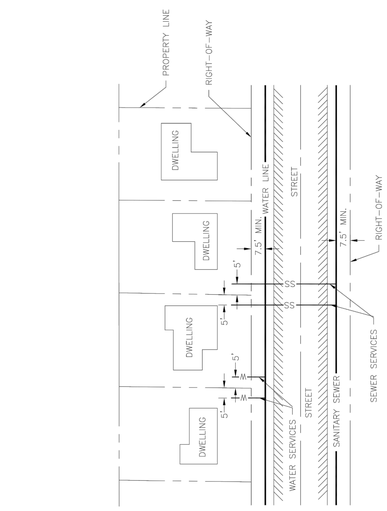
PREPARED BY SAUSSY ENGINEERING, LLC.
SCALE: N.T.S.
DATED: FEBRUARY 2007



GRATE INLET

City of Port Wentworth
TECHNICAL DETAILS
SD–8

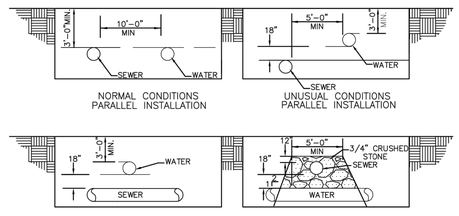
PREPARED BY SAUSSY ENGINEERING, LLC.
SCALE: N.T.S.
DATED: FEBRUARY 2007



TYP. WATER & SEWER PLANNING

City of Port Wentworth
TECHNICAL DETAILS
U–2

PREPARED BY SAUSSY ENGINEERING, LLC.
SCALE: N.T.S.
DATED: FEBRUARY 2007



NOTES:

THE SEPARATION OF WATER MAINS AND SEWERS SHALL COMPLY WITH THE GEORGIA ENVIROMENTAL PROTECTION DIVISION MINIMUM STANDARDS FOR PUBLIC WATER SYSTEMS, WHICH ARE GENERALLY AS FOLLOWS:

A. PARALLEL INSTALLATION:

1. NORMAL CONDITIONS: THE INSIDE EDGE OF A WATER LINE SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM THE INSIDE EDGE OF ANY SANITARY SEWER, STORM SEWER OR SEWER MANHOLE.

2. UNUSUAL CONDITIONS: WHEN LOCAL CONDITIONS PREVENT A HORIZONTAL SEPARATION OF 10 FEET, AND WHEN APPROVED BY THE ENGINEER, THE INSIDE EDGE OF A WATER MAIN MAY BE LAID A MINIMUM OF 5 FEET FROM THE INSIDE EDGE OF A SEWER PROVIDED THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES HIGHER THAN THE TOP OF THE SEWER (SEE DETAIL), AND THE WATER MAIN IS LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF.

B. CROSSINGS:

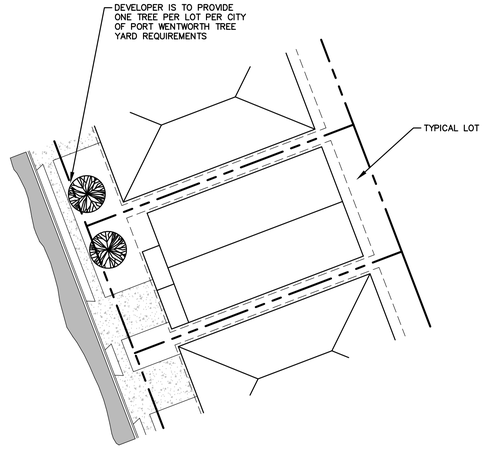
1. NORMAL CONDITIONS: WHENEVER POSSIBLE, THE BOTTOM OF THE WATER MAIN SHALL BE AT LEAST 18 INCHES HIGHER THAN THE TOP OF THE SEWER.

2. UNUSUAL CONDITIONS: IF A WATER MAIN MUST CROSS UNDER A SEWER, THE TOP OF THE WATER MAIN SHALL BE AT LEAST 18 INCHES LOWER THAN THE BOTTOM OF THE SEWER, THE WATER MAIN PIPE SHALL BE CENTERED AT THE CROSSING SO THAT THE JOINTS ARE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER, AND ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT EXCESSIVE DEFLECTION OF THE SEWER AT THE CROSSING. ADEQUATE STRUCTURAL SUPPORT SHALL INCLUDE BACKFILLING THE ENTIRE UTILITY CROSSING AREA WITH 3/4" CRUSHED STONE AS SHOWN IN THE DETAIL.

MINIMUM WATER & SEWER PIPE SEPARATION

City of Port Wentworth
TECHNICAL DETAILS
U–3

PREPARED BY SAUSSY ENGINEERING, LLC.
SCALE: N.T.S.
DATED: FEBRUARY 2007



TYPICAL TREE LOT DETAIL

SCALE: NTS

REV.	DATE	BY	REVISIONS
3	12/14/22	JAF	REVISED PER CITY REVIEW COMMENTS
2	11/10/22	JAF	REVISED PER CITY AND EPD REVIEW COMMENTS
1	10/11/22	JAF	REVISED PER CITY REVIEW COMMENTS

RICE HOPE LAKESIDE PHASE 24

JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

REGISTERED PROFESSIONAL ENGINEER
GEORGIA
No. 38245
JASON JOSEPH BRYANT

Pittman Engineering Co., LLC
2591 Hwy 17S Suite 303
Richmond Hill, GA 31324
912-445-0578
www.PittmanEngineeringCo.com

PAVING, GRADING AND DRAINAGE DETAILS

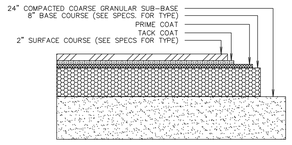
RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA
Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No. 21–255
Drawn By: JAF
Designed By: JJB
Checked By: RAP
Scale: ----
Date: 3/1/22

SHEET
C3.5

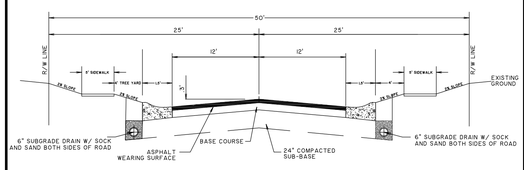
g:\shared drives\Projects\Rice Hope\21-255 lakeside 24\Drawings\construction plans\21-255 – Lakeside PH24 pgd details.dwg

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)



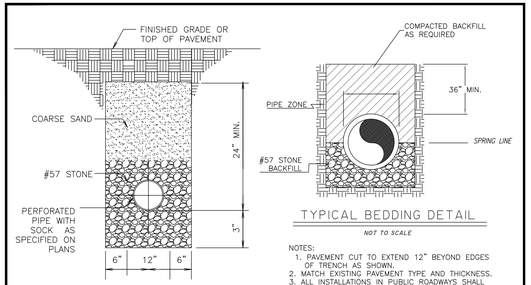
PAVEMENT SECTION
TYPICAL FOR NEIGHBORHOOD STREETS

NOT TO SCALE



TYPICAL SECTION
ROLL-OVER CURB
(TYPICAL FOR NEIGHBORHOOD STREETS)

NOT TO SCALE



SUBGRADE DRAIN DETAIL

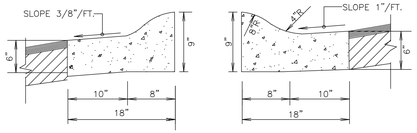
NOT TO SCALE

NOTES:
1. 6" PIPE SHALL BE ADS 6" DIA. PERFORATED TUBING OR APPROVED EQUIVALENT.
2. COARSE SAND BACKFILL SHALL BE USED.
3. MINIMUM GRADIENT FOR ALL SUBGRADE DRAIN SHALL BE 0.15%.

TYPICAL BEDDING DETAIL

NOT TO SCALE

NOTES:
1. PAVEMENT CUT TO EXTEND 12" BEYOND EDGES OF TRENCH AS SHOWN.
2. MATCH EXISTING PAVEMENT TYPE AND THICKNESS.
3. ALL INSTALLATIONS IN PUBLIC ROADWAYS SHALL COMPLY WITH CONDITIONS OUTLINED ON APPLICABLE ENCROACHMENT PERMIT.



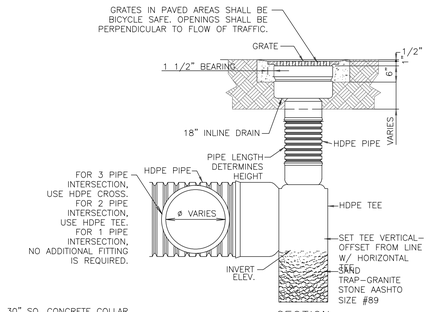
PITCH CURB

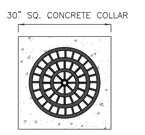
NORMAL CURB

NOTES:
1. ALL CONCRETE SHALL BE 3,000 PSI.
2. PROVIDE CONTROL JOINTS EVERY TEN FEET (10').
3. PROVIDE EXPANSION JOINTS EVERY FIFTY FEET (50).
4. PROVIDE EXPANSION JOINT WHERE CURB ABUTS SIDEWALKS, OR OTHER STRUCTURES.
5. PROVIDE LIGHT BROOM FINISH.
6. REFER TO CITY OF PORT WENTWORTH DETAIL: SD-10

18" ROLL-OVER CURB & GUTTER

NOT TO SCALE



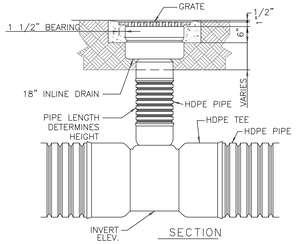


SPECIAL YARD INLET COVER

NOTE:
USE SOLID LID FOR SPECIAL MANHOLE

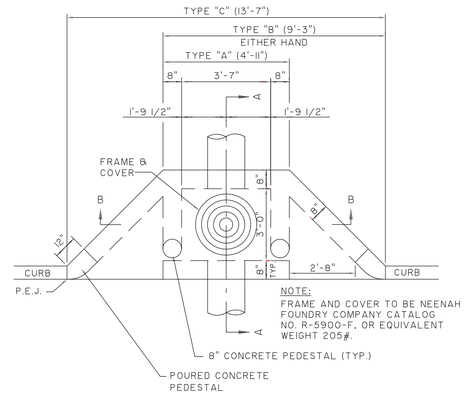
SPECIAL YARD INLET
END OF LINE SCENARIO

NOT TO SCALE



SPECIAL YARD INLET

NOT TO SCALE



NOTE:
FRAME AND COVER TO BE NEENAH FOUNDRY COMPANY CATALOG NO. R-5900-F, OR EQUIVALENT WEIGHT 205#.

PLAN OF CURB INLET

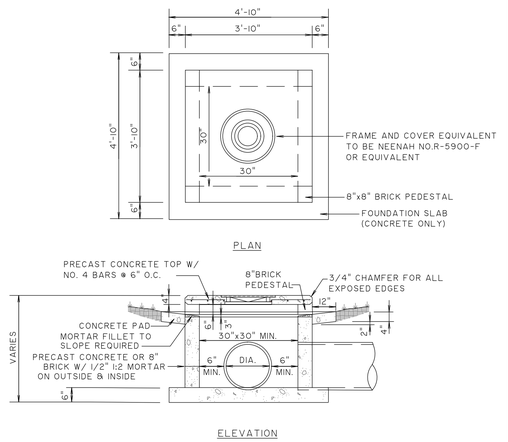
City of Port Wentworth

TECHNICAL DETAILS

SD-1

PREPARED BY STEVENSON & PALMER ENGINEERING, INC.

SCALE: N.T.S.
DATED: FEBRUARY 2007



ROOF INLET DETAIL

ROOF INLET DETAIL

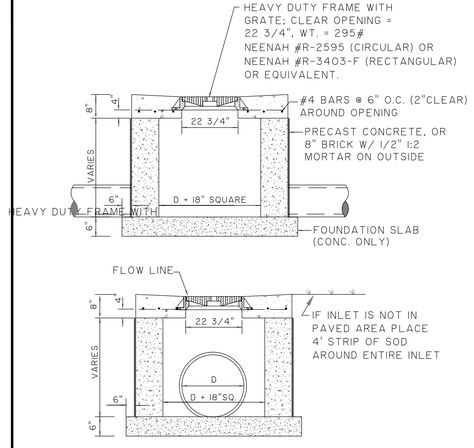
City of Port Wentworth

TECHNICAL DETAILS

SD-6

PREPARED BY STEVENSON & PALMER ENGINEERING, INC.

SCALE: N.T.S.
DATED: FEBRUARY 2007



GRATE INLET

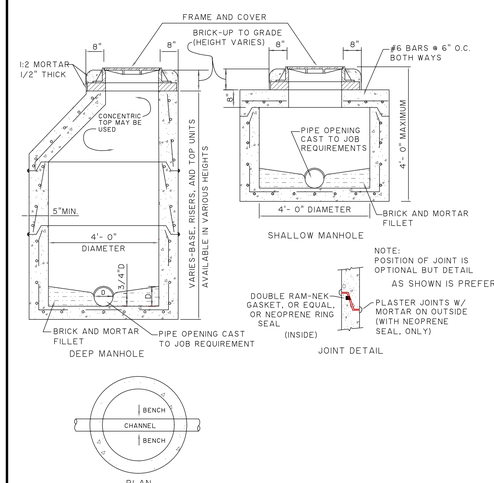
City of Port Wentworth

TECHNICAL DETAILS

SD-8

PREPARED BY STEVENSON & PALMER ENGINEERING, INC.

SCALE: N.T.S.
DATED: FEBRUARY 2007



PRECAST STORM MANHOLE

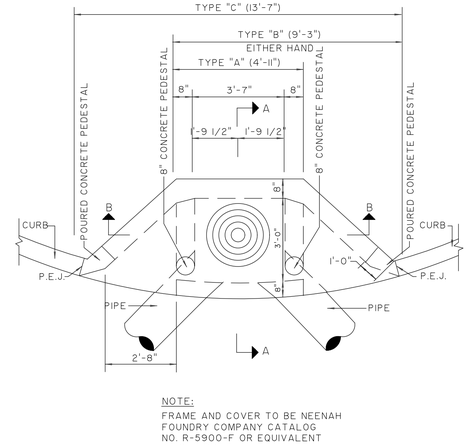
City of Port Wentworth

TECHNICAL DETAILS

SD-12

PREPARED BY STEVENSON & PALMER ENGINEERING, INC.

SCALE: N.T.S.
DATED: FEBRUARY 2007



NOTE:
FRAME AND COVER TO BE NEENAH FOUNDRY COMPANY CATALOG NO. R-5900-F OR EQUIVALENT WEIGHT 205#

PLAN OF CRUB INLET ON RADIUS

City of Port Wentworth

TECHNICAL DETAILS

SD-2

PREPARED BY STEVENSON & PALMER ENGINEERING, INC.

SCALE: N.T.S.
DATED: FEBRUARY 2007

REV.	DATE	BY	REVISIONS
3	12/14/22	JAF	REVISED PER CITY REVIEW COMMENTS
2	11/10/22	JAF	REVISED PER CITY AND EPD REVIEW COMMENTS
1	10/11/22	JAF	REVISED PER CITY REVIEW COMMENTS

RICE HOPE LAKESIDE PHASE 24

JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

REGISTERED PROFESSIONAL ENGINEER GEORGIA No. 38245 JASON J. BRYANT JOSEPH

Pittman Engineering Co., LLC
2591 Hwy 17S Suite 303
Richmond Hill, GA 31324
912-445-0578
www.PittmanEngineeringCo.com

PAVING, GRADING, AND DRAINAGE DETAILS

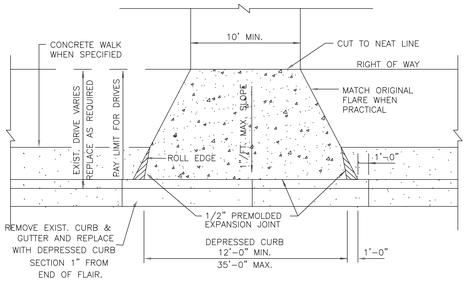
RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA

Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No. 21-255
Drawn By: JAF
Designed By: JJB
Checked By: RAP
Scale: ----
Date: 3/1/22

SHEET
C3.6

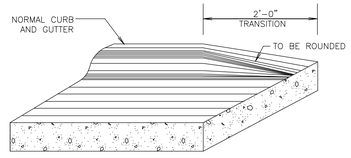
Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan 3.24.23 (2022 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)



1. SPACING OF CONTROL JOINTS SHALL NOT EXCEED 12' IN LENGTH OR BE LESS THAN 6' IN LENGTH.
2. CONCRETE SHALL BE 3000 PSI CONCRETE.
3. CURB SECTION AT DRIVEWAY SHALL BE SAW CUT PRIOR TO REMOVAL.
4. ALL NECESSARY STEPS SHALL BE TAKEN TO PROTECT STREET PAVING.

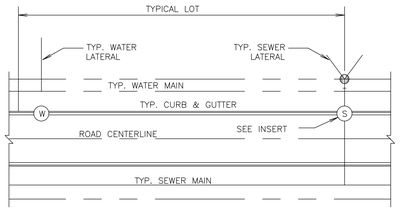
TYPICAL DRIVEWAY DETAIL

NOT TO SCALE



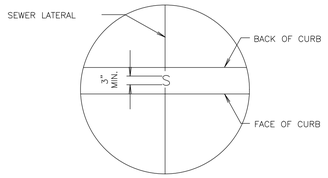
FEATHERING OF CURB AND GUTTER DETAIL

NOT TO SCALE



PLAN

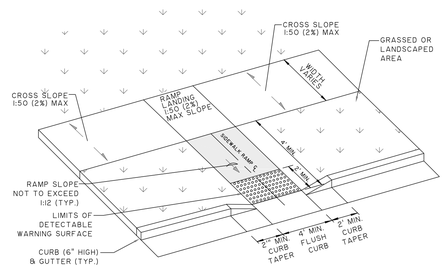
NOTE:
STAMP IN FACE OF CONCRETE CURB & GUTTER "S" FOR SEWER LATERAL AND "W" FOR WATER LATERAL



INSERT

CURB MARKING DETAIL
WATER AND SEWER LATERAL LOCATIONS

NOT TO SCALE

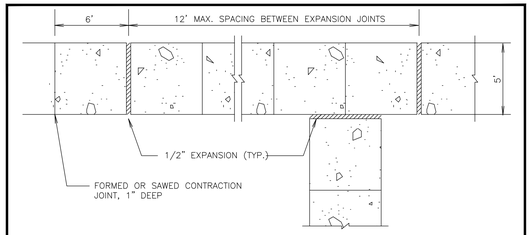


ISOMETRIC VIEW OF RAMP

NOTES:
1. CONSTRUCTION OF ACCESSIBLE CURB RAMP SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES.
2. TRANSITIONS FROM RAMPS TO WALKS, GUTTERS, OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. MAXIMUM SLOPES OF ADJOINING GUTTERS, ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP, OR ACCESSIBLE ROUTE SHALL NOT EXCEED 1:20 (5%)
3. CURB RAMP SHALL HAVE A DETECTABLE WARNING THAT EXTENDS THE FULL WIDTH OF CURB RAMP. SEE DETECTABLE WARNING DETAIL.
4. LONGITUDINAL SLOPE OF SIDEWALK TO BE NO GREATER THAN 1:20 (5%).

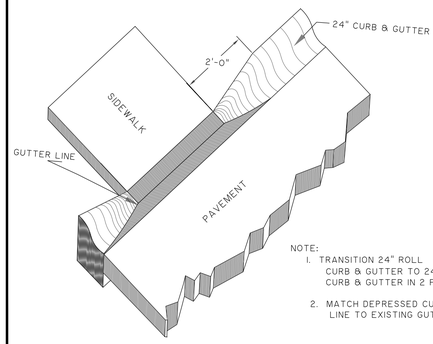
CURB RAMP "TYPE B"
W/ SIDEWALK OFFSET FROM CURB

NOT TO SCALE



WALKWAY DETAILS

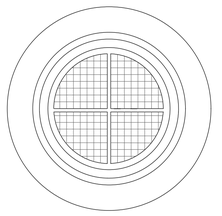
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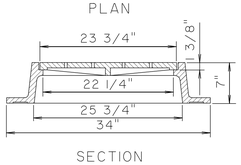
NOTE:
1. TRANSITION 24" ROLL CURB & GUTTER TO 24" DEPRESSED CURB & GUTTER IN 2 FEET.
2. MATCH DEPRESSED CURB & GUTTER LINE TO EXISTING GUTTER LINE.

24" DEPRESSED CURB TRANSITION DETAIL

NOT TO SCALE



PLAN



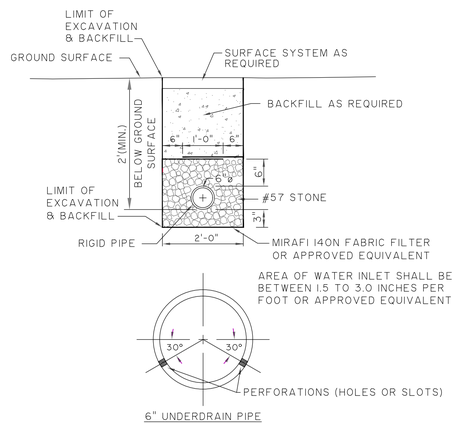
SECTION

NOTE:
MANHOLE RIM & COVER SIMILAR TO NEENAH FOUNDRY CO. R-1412-A4. TOTAL WEIGHT 310#. TYPE "C" LID TO HAVE MACHINED BEARING SURFACES. LID TO BE LETTERED "STORM".

STORM MANHOLE RING & COVER

City of Port Wentworth
TECHNICAL DETAILS
SD-14

PREPARED BY STEVENSON & PALMER ENGINEERING, INC.
SCALE: N.T.S.
DATED: FEBRUARY 2007

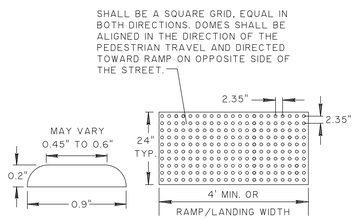


6" UNDERDRAIN PIPE

6" UNDERDRAIN PIPE

City of Port Wentworth
TECHNICAL DETAILS
SD-10

PREPARED BY STEVENSON & PALMER ENGINEERING, INC.
SCALE: N.T.S.
DATED: FEBRUARY 2007



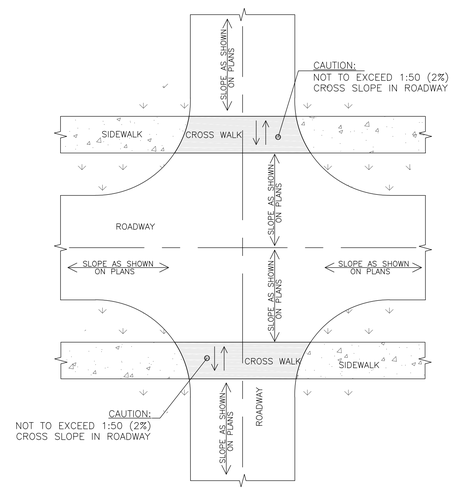
ELEVATION PLAN VIEW

NOTE:
1. DETECTABLE WARNING SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 INCHES, A HEIGHT OF NOMINAL 0.2 INCHES AND A CENTER TO CENTER SPACING OF NOMINAL 2.35 INCHES AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES. IF THE SIDEWALK AND RAMP ARE CONSTRUCTED OF CONCRETE, THE WARNING AREA SHALL BE RED BRICK IN COLOR. IF THE SIDEWALK AND RAMP ARE CONSTRUCTED OF RED BRICK, THE WARNING AREA SHALL BE GRAY IN COLOR. THE COLOR USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.
2. BRICK PAVERS SHALL BE SET IN A WET MORTAR BED ON A 4" MIN. THICK CONCRETE FOUNDATION.

DETECTABLE WARNING DETAIL

NOT TO SCALE

NOTE:
ALL SIDEWALKS TO MEET ADA STANDARDS



ROAD GRADING AT PEDESTRIAN CROSSING ON ACCESSIBLE ROUTE

NOT TO SCALE

REV.	DATE	BY	REVISIONS
3	12/14/22	JAF	REVISED PER CITY REVIEW COMMENTS
2	11/10/22	JAF	REVISED PER CITY AND EPD REVIEW COMMENTS
1	10/11/22	JAF	REVISED PER CITY REVIEW COMMENTS

RICE HOPE LAKESIDE PHASE 24

JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

REGISTERED GEORGIA No. 38245 PROFESSIONAL ENGINEER JASON JOSEPH BRYANT

Pittman Engineering Co., LLC
2591 Hwy 17S Suite 303
Richmond Hill, GA 31324
912-445-0578
www.PittmanEngineeringCo.com

PAVING GRADING AND DRAINAGE DETAILS

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA

Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No. 21-255
Drawn By: JAF
Designed By: JJB
Checked By: RAP
Scale: ----
Date: 3/1/22

SHEET
C3.7

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan 3.24.23 Rice Hope Lakeside Ph. 24 May 2023)

NOTE: A PORTION OF THE SITE LIES WITHIN AN EFFECTIVE FEMA ZONE AE WITH A BASE FLOOD ELEVATION OF 13, AS DOCUMENTED ON FEMA FIRM PANEL 13051C0035D, EFFECTIVE AUGUST 16, 2018

NOTE: THE PROPOSED DEVELOPMENT CONFORMS TO SECTION 7-54 OF THE PORT WENTWORTH CODE OF ORDINANCE AND WILL NOT INCREASE THE WATER SURFACE ELEVATION OF THE BASE FLOOD MORE THAN ONE FOOT AT ANY POINT WITHIN THE COMMUNITY.

ZONE AE BASE FLOOD ELEV. 13.0

APPROXIMATE LOCATION OF FLOOD HAZARD LINE

ZONE X

Gentle Breeze Lane

Ripple Drive

Water Lilly Way

Lakeside Drive

FES #1 FR: 13.40

FES #2 FR: 12.05

CI #1 FR: 16.63

811 Know what's below. Call before you dig.

50' 25' 0' 50'

GRAPHIC SCALE: 1"= 50'-0"

REV.	DATE	BY	REVISIONS
3	12/14/22	JAF	REVISED PER CITY REVIEW COMMENTS
2	11/10/22	JAF	REVISED PER CITY AND EPD REVIEW COMMENTS
1	10/11/22	JAF	REVISED PER CITY REVIEW COMMENTS

RICE HOPE LAKESIDE PHASE 24

JASON J. BRYANT, P.E.
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Richmond Hill, GA 31324
912-445-0578
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NEIGHBORHOOD GRADING PLAN

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA

Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No.	21-255
Drawn By:	JAF
Designed By:	JJB
Checked By:	RAP
Scale:	----
Date:	3/1/22

SHEET
C4.0

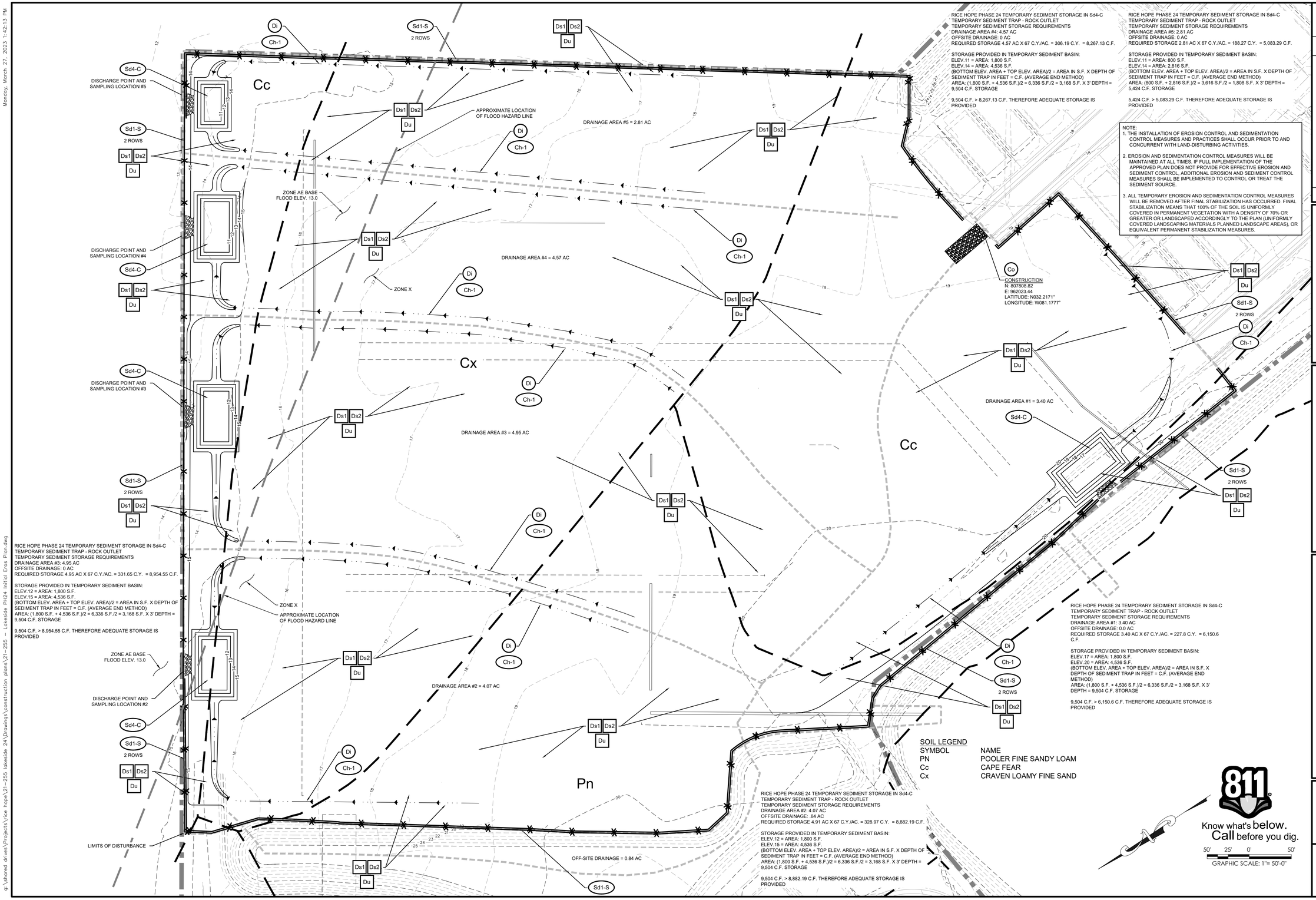
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Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

Monday, March 27, 2023 1:42:13 PM

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RICE HOPE PHASE 24 TEMPORARY SEDIMENT STORAGE IN Sd4-C
TEMPORARY SEDIMENT TRAP - ROCK OUTLET
TEMPORARY SEDIMENT STORAGE REQUIREMENTS
DRAINAGE AREA #4: 4.57 AC
OFFSITE DRAINAGE: 0 AC
REQUIRED STORAGE 4.57 AC X 67 C.Y./AC. = 306.19 C.Y. = 8,267.13 C.F.

STORAGE PROVIDED IN TEMPORARY SEDIMENT BASIN:
ELEV.11 = AREA: 1,800 S.F.
ELEV.14 = AREA: 4,536 S.F.
(BOTTOM ELEV. AREA + TOP ELEV. AREA)/2 = AREA IN S.F. X DEPTH OF SEDIMENT TRAP IN FEET = C.F. (AVERAGE END METHOD)
AREA: (1,800 S.F. + 4,536 S.F.)/2 = 6,336 S.F./2 = 3,168 S.F. X 3' DEPTH = 9,504 C.F. STORAGE

9,504 C.F. > 8,267.13 C.F. THEREFORE ADEQUATE STORAGE IS PROVIDED

RICE HOPE PHASE 24 TEMPORARY SEDIMENT STORAGE IN Sd4-C
TEMPORARY SEDIMENT TRAP - ROCK OUTLET
TEMPORARY SEDIMENT STORAGE REQUIREMENTS
DRAINAGE AREA #5: 2.81 AC
OFFSITE DRAINAGE: 0 AC
REQUIRED STORAGE 2.81 AC X 67 C.Y./AC. = 188.27 C.Y. = 5,083.29 C.F.

STORAGE PROVIDED IN TEMPORARY SEDIMENT BASIN:
ELEV.11 = AREA: 800 S.F.
ELEV.14 = AREA: 2,816 S.F.
(BOTTOM ELEV. AREA + TOP ELEV. AREA)/2 = AREA IN S.F. X DEPTH OF SEDIMENT TRAP IN FEET = C.F. (AVERAGE END METHOD)
AREA: (800 S.F. + 2,816 S.F.)/2 = 3,616 S.F./2 = 1,808 S.F. X 3' DEPTH = 5,424 C.F. STORAGE

5,424 C.F. > 5,083.29 C.F. THEREFORE ADEQUATE STORAGE IS PROVIDED

NOTE:
1. THE INSTALLATION OF EROSION CONTROL AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL OCCUR PRIOR TO AND CONCURRENT WITH LAND-DISTURBING ACTIVITIES.
2. EROSION AND SEDIMENTATION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION AND SEDIMENT CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE
3. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES WILL BE REMOVED AFTER FINAL STABILIZATION HAS OCCURRED. FINAL STABILIZATION MEANS THAT 100% OF THE SOIL IS UNIFORMLY COVERED IN PERMANENT VEGETATION WITH A DENSITY OF 70% OR GREATER OR LANDSCAPED ACCORDINGLY TO THE PLAN (UNIFORMLY COVERED LANDSCAPING MATERIALS PLANNED LANDSCAPE AREAS), OR EQUIVALENT PERMANENT STABILIZATION MEASURES.

RICE HOPE PHASE 24 TEMPORARY SEDIMENT STORAGE IN Sd4-C
TEMPORARY SEDIMENT TRAP - ROCK OUTLET
TEMPORARY SEDIMENT STORAGE REQUIREMENTS
DRAINAGE AREA #3: 4.95 AC
OFFSITE DRAINAGE: 0 AC
REQUIRED STORAGE 4.95 AC X 67 C.Y./AC. = 331.65 C.Y. = 8,954.55 C.F.

STORAGE PROVIDED IN TEMPORARY SEDIMENT BASIN:
ELEV.12 = AREA: 1,800 S.F.
ELEV.15 = AREA: 4,536 S.F.
(BOTTOM ELEV. AREA + TOP ELEV. AREA)/2 = AREA IN S.F. X DEPTH OF SEDIMENT TRAP IN FEET = C.F. (AVERAGE END METHOD)
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RICE HOPE PHASE 24 TEMPORARY SEDIMENT STORAGE IN Sd4-C
TEMPORARY SEDIMENT TRAP - ROCK OUTLET
TEMPORARY SEDIMENT STORAGE REQUIREMENTS
DRAINAGE AREA #2: 4.07 AC
OFFSITE DRAINAGE: .84 AC
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STORAGE PROVIDED IN TEMPORARY SEDIMENT BASIN:
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RICE HOPE PHASE 24 TEMPORARY SEDIMENT STORAGE IN Sd4-C
TEMPORARY SEDIMENT TRAP - ROCK OUTLET
TEMPORARY SEDIMENT STORAGE REQUIREMENTS
DRAINAGE AREA #1: 3.40 AC
OFFSITE DRAINAGE: 0.0 AC
REQUIRED STORAGE 3.40 AC X 67 C.Y./AC. = 227.8 C.Y. = 6,150.6 C.F.

STORAGE PROVIDED IN TEMPORARY SEDIMENT BASIN:
ELEV.17 = AREA: 1,800 S.F.
ELEV.20 = AREA: 4,536 S.F.
(BOTTOM ELEV. AREA + TOP ELEV. AREA)/2 = AREA IN S.F. X DEPTH OF SEDIMENT TRAP IN FEET = C.F. (AVERAGE END METHOD)
AREA: (1,800 S.F. + 4,536 S.F.)/2 = 6,336 S.F./2 = 3,168 S.F. X 3' DEPTH = 9,504 C.F. STORAGE

9,504 C.F. > 6,150.6 C.F. THEREFORE ADEQUATE STORAGE IS PROVIDED

SOIL LEGEND

SYMBOL	NAME
PN	POOLER FINE SANDY LOAM
Cc	CAPE FEAR
Cx	CRAVEN LOAMY FINE SAND

Know what's below. Call before you dig.

GRAPHIC SCALE: 1"= 50'-0"

REV.	REVISIONS	BY	DATE
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2	REVISED PER CITY AND EPD REVIEW COMMENTS	JAF	11/10/22
3	REVISED PER CITY REVIEW COMMENTS	JAF	12/14/22

RICE HOPE LAKESIDE PHASE 24

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GSWCC LEVEL II
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CERTIFICATION #73897

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INITIAL EROSION CONTROL PLAN

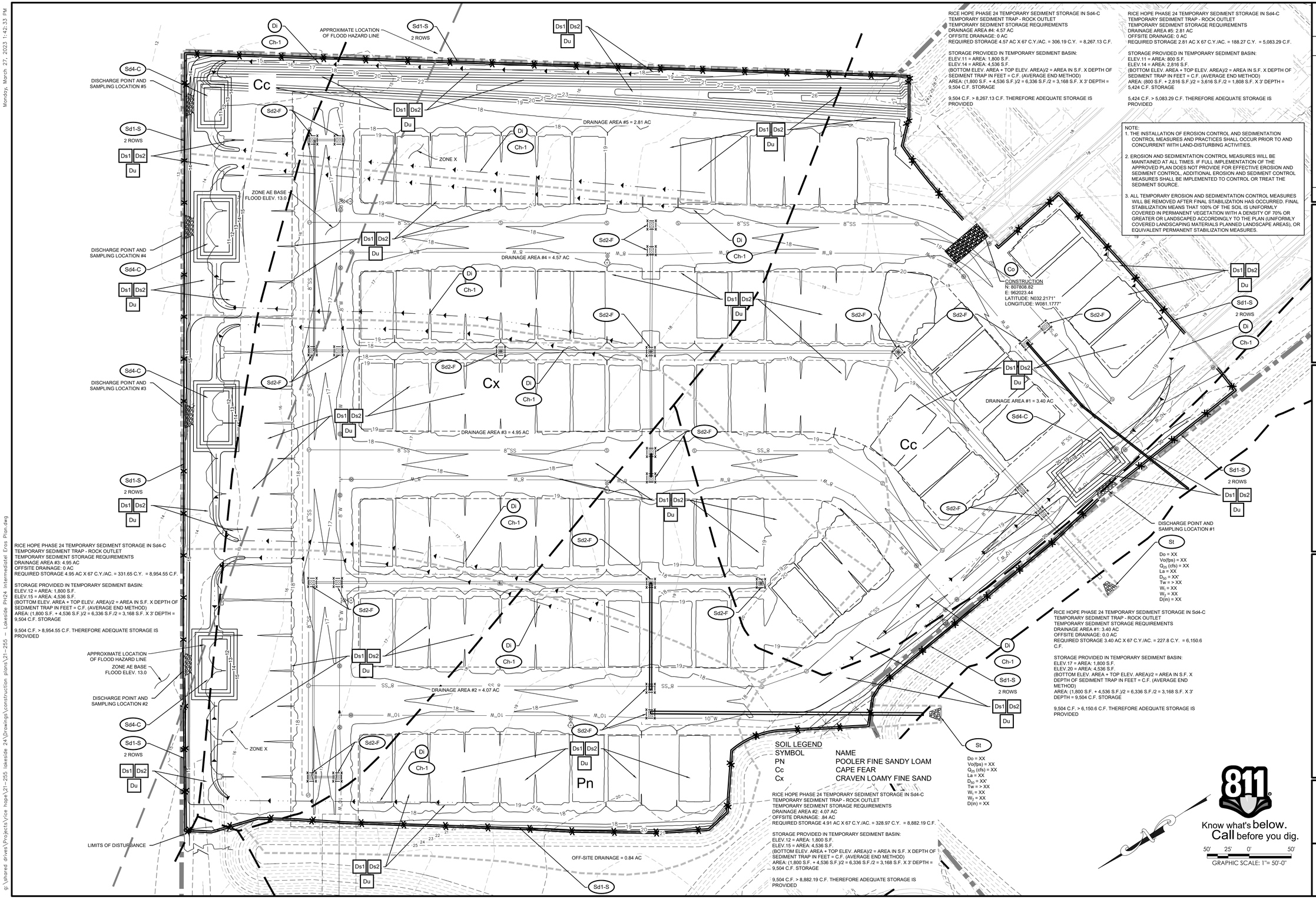
RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA
Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No.	21-255
Drawn By:	JAF
Designed By:	JJB
Checked By:	JJB
Scale:	1"=50'
Date:	3/1/22

SHEET
EC1.0

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

Monday, March 27, 2023 1:42:33 PM



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TEMPORARY SEDIMENT TRAP - ROCK OUTLET
TEMPORARY SEDIMENT STORAGE REQUIREMENTS
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TEMPORARY SEDIMENT TRAP - ROCK OUTLET
TEMPORARY SEDIMENT STORAGE REQUIREMENTS
DRAINAGE AREA #5: 2.81 AC
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TEMPORARY SEDIMENT TRAP - ROCK OUTLET
TEMPORARY SEDIMENT STORAGE REQUIREMENTS
DRAINAGE AREA #1: 3.40 AC
OFFSITE DRAINAGE: 0.0 AC
REQUIRED STORAGE 3.40 AC X 67 C.Y./AC. = 227.8 C.Y. = 6,150.6 C.F.

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9,504 C.F. > 8,954.55 C.F. THEREFORE ADEQUATE STORAGE IS PROVIDED

SOIL LEGEND

SYMBOL	NAME
PN	POOLER FINE SANDY LOAM
Cc	CAPE FEAR
Cx	CRAVEN LOAMY FINE SAND

RICE HOPE PHASE 24 TEMPORARY SEDIMENT STORAGE IN Sd4-C
TEMPORARY SEDIMENT TRAP - ROCK OUTLET
TEMPORARY SEDIMENT STORAGE REQUIREMENTS
DRAINAGE AREA #2: 4.07 AC
OFFSITE DRAINAGE: .84 AC
REQUIRED STORAGE 4.91 AC X 67 C.Y./AC. = 328.97 C.Y. = 8,882.19 C.F.

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Know what's below. Call before you dig.

GRAPHIC SCALE: 1"= 50'-0"
50' 25' 0' 50'

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RICE HOPE LAKESIDE PHASE 24

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INTERMEDIATE EROSION CONTROL PLAN

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA
Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

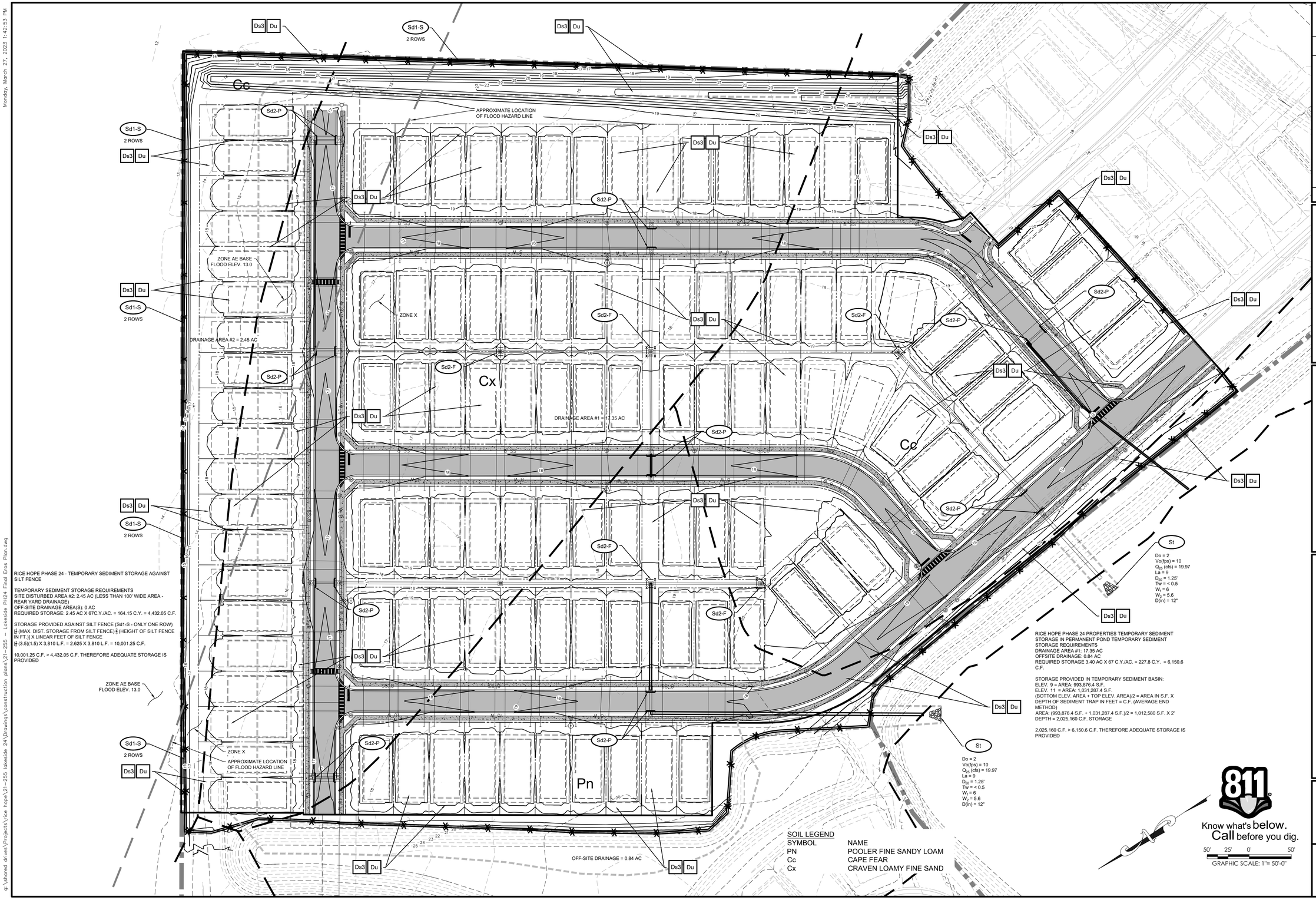
Project No.	21-255
Drawn By:	JAF
Designed By:	JJB
Checked By:	RAP
Scale:	1"=50'
Date:	3/1/22

SHEET
EC2.0

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Monday, March 27, 2023 1:42:53 PM



RICE HOPE PHASE 24 - TEMPORARY SEDIMENT STORAGE AGAINST SILT FENCE

TEMPORARY SEDIMENT STORAGE REQUIREMENTS
SITE DISTURBED AREA #2: 2.45 AC (LESS THAN 100' WIDE AREA - REAR YARD DRAINAGE)
OFF-SITE DRAINAGE AREA(S): 0 AC
REQUIRED STORAGE: 2.45 AC X 67C.Y./AC. = 164.15 C.Y. = 4,432.05 C.F.

STORAGE PROVIDED AGAINST SILT FENCE (Sd1-S - ONLY ONE ROW)
½ (MAX. DIST. STORAGE FROM SILT FENCE) x (HEIGHT OF SILT FENCE IN FT.)] X LINEAR FEET OF SILT FENCE
½ (3.5)(1.5) X 3,810 L.F. = 2,625 X 3,810 L.F. = 10,001.25 C.F.

10,001.25 C.F. > 4,432.05 C.F. THEREFORE ADEQUATE STORAGE IS PROVIDED

RICE HOPE PHASE 24 PROPERTIES TEMPORARY SEDIMENT STORAGE IN PERMANENT POND TEMPORARY SEDIMENT STORAGE REQUIREMENTS
DRAINAGE AREA #1: 17.35 AC
OFFSITE DRAINAGE: 0.84 AC
REQUIRED STORAGE 3.40 AC X 67 C.Y./AC. = 227.8 C.Y. = 6,150.6 C.F.

STORAGE PROVIDED IN TEMPORARY SEDIMENT BASIN:
ELEV. 9 = AREA: 993,876.4 S.F.
ELEV. 11 = AREA: 1,031,287.4 S.F.
(BOTTOM ELEV. AREA + TOP ELEV. AREA)/2 = AREA IN S.F. X DEPTH OF SEDIMENT TRAP IN FEET = C.F. (AVERAGE END METHOD)
AREA: (993,876.4 S.F. + 1,031,287.4 S.F.)/2 = 1,012,580 S.F. X 2'
DEPTH = 2,025,160 C.F. STORAGE

2,025,160 C.F. > 6,150.6 C.F. THEREFORE ADEQUATE STORAGE IS PROVIDED

SOIL LEGEND

SYMBOL	NAME
PN	POOLER FINE SANDY LOAM
Cc	CAPE FEAR
Cx	CRAVEN LOAMY FINE SAND

REV.	DATE	BY	REVISIONS
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FINAL EROSION CONTROL PLAN

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA

Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No.	21-255
Drawn By:	JAF
Designed By:	JJB
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SHEET
EC3.0

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GRAPHIC SCALE: 1"= 50'-0"

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Monday, March 27, 2023 1:43:22 PM

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST
STAND ALONE DEVELOPMENT CONSTRUCTION PROJECTS

SWCD: COASTAL

Project Name: LAKESIDE PHASE 24 — Address: PORT WENTWORTH, GEORGIA 31407

City/County: PORT WENTWORTH / CHATHAM COUNTY — Date on Plans: 11/30/2021

Provide name and email of the person filling out the checklist: Jason Bryant, jason@pittmanengineeringco.com

Plan Page #	Included Y/N	TO BE SHOWN ON ES&PC PLAN
EC4.0–EC4.2	YES	1. The applicable Erosion, Sedimentation and Pollution Control Plan Checklist established by the Commission as of January 1 of the year in which the land–disturbing activity was permitted.
EC1.0–EC5.3	YES	2. Level II certification number issued by the Commission, signature and seal of the certified design professional.
N/A	NO	3. Limit of disturbance shall be no greater than 50 acres at any one time without prior written authorization from the EPD District Office. If EPD approves the request to disturb 50 acres or more at any one time, the plan must include at least 4 of the BMPs listed in Appendix 1 of this checklist.*
EC4.1	YES	4. The name and phone number of the 24–hour local contact responsible for erosion, sedimentation and pollution controls. FORESTAR (USA) REAL ESTATE GROUP, INC. ATTN: ANNA LEWIS 363 WANDO PLACE DRIVE, SUITE 201 MOUNT PLEASANT, SC 29464 DIRECT: (843)535–8188 MOBILE: (843)708–8650 EMAIL: ANNALEWIS@FORESTAR.COM
EC4.1	YES	5. Provide the name, address, email and phone number of the primary permittee. FORESTAR (USA) REAL ESTATE GROUP, INC. ATTN: KURT SANDNESS 2221 E. LAMAR BLVD. SUITE 790 ARLINGTON, TX 76006 EMAIL: KURTSANDNESS@FORESTAR.COM
EC4.1	YES	6. Note total and disturbed acreage of the project or phase under construction. TOTAL ACREAGE: 20± AC DISTURBED ACREAGE: 19.8 AC
EC1.0–EC2.0	YES	7. Provide the GPS location of the construction exit for the site. Give the Latitude and Longitude in decimal degrees.
COVER–EC5.3	YES	8. Initial date of the Plan and the dates of any revisions made to the Plan including the entity who requested the revisions.
EC4.1	YES	9. Description of the nature of construction activity. PROJECT INCLUDES CONSTRUCTING DRAINAGE, ROADWAYS AND GRADING TO SERVE THE PROPOSED COMMERCIAL DEVELOPMENT. THE EXISTING SITE IS A DEVELOPED SINGLE–FAMILY LOT.
COVER	YES	10. Provide vicinity map showing site's relation to surrounding areas. Include designation of specific phase, if necessary.
EC4.1	YES	11. Identify the project receiving waters and describe all sensitive adjacent areas including streams, lakes, residential areas, wetlands, etc. which may be affected. RECEIVING WATERS = SAVANNAH RIVER
EC4.1	YES	12. Design professional's certification statement and signature that the site was visited prior to development of the ES&PC Plan as stated on Part IV page 19 of the permit. "I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY SUPERVISION." Jason J Bryant 11/30/21 JASON J. BRYANT, P.E. DATE GSWCC LEVEL II DESIGN PROFESSIONAL – CERTIFICATION #73897
EC4.1	YES	13. Design professional's certification statement and signature that the permittee's ES&PC Plan provides for an appropriate and comprehensive system of BMPs and sampling to meet permit requirements as stated on Part IV page 19 of the permit.* "I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL) PUBLISHED BY THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND–DISTURBING ACTIVITY WAS PERMITTED, PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORMWATER OUTFALLS AND THAT THE DESIGNED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR100001." Jason J Bryant 11/30/21 JASON J. BRYANT, P.E. DATE GSWCC LEVEL II DESIGN PROFESSIONAL – CERTIFICATION #73897
EC4.1	YES	14. Clearly note the statement that "The design professional who prepared the ES&PC Plan is to inspect the installation of the initial sediment storage requirements and perimeter control BMPs within 7 days after installation." in accordance with Part IV.A.5 page 25 of the permit.* THE PRIMARY PERMITTEE MUST RETAIN THE DESIGN PROFESSIONAL WHO PREPARED THE PLAN (EXCEPT WHEN THE PRIMARY PERMITTEE HAS REQUESTED IN WRITING AND EPD HAS AGREED TO AN ALTERNATE DESIGN PROFESSIONAL), TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPS WHICH THE DESIGN PROFESSIONAL DESIGNED WITHIN SEVEN (7) DAYS AFTER INSTALLATION. THE DESIGN PROFESSIONAL SHALL DETERMINE IF THESE BMP'S HAVE BEEN INSTALLED AND ARE BEING MAINTAINED AS DESIGNED. THE DESIGN PROFESSIONAL SHALL REPORT THE RESULTS OF THE INSPECTION TO THE PRIMARY PERMITTEE WITHIN SEVEN (7) DAYS AND THE PERMITTEE MUST CORRECT ALL DEFICIENCIES WITHIN TWO (2) BUSINESS DAYS OF RECEIPT OF THE INSPECTION REPORT FROM THE DESIGN PROFESSIONAL (UNLESS WEATHER RELATED SITE CONDITIONS ARE SUCH THAT ADDITIONAL TIME IS REQUIRED).

Plan Page #	Included Y/N	TO BE SHOWN ON ES&PC PLAN
EC4.1	YES	14. Clearly note the statement that "The design professional who prepared the ES&PC Plan is to inspect the installation of the initial sediment storage requirements and perimeter control BMPs within 7 days after installation." in accordance with Part IV.A.5 page 25 of the permit.* DESIGN PROFESSIONAL'S 7-DAY VISIT CERTIFICATION: DATE OF INSPECTION: _____ I CERTIFY THE SITE WAS IN COMPLIANCE WITH THE ES&PC PLAN ON THE DATE OF INSPECTION. _____ JASON J. BRYANT, P.E. DATE GSWCC LEVEL II DESIGN PROFESSIONAL – CERTIFICATION #73897 INSPECTION REVEALED THE FOLLOWING DISCREPANCIES FROM THE ES&PC PLAN: _____ _____ _____ _____ _____ THE PERMITTEE MUST CORRECT ALL DEFICIENCIES WITHIN TWO (2) BUSINESS DAYS OF RECEIPT OF THE INSPECTION REPORT FROM THE DESIGN PROFESSIONAL UNLESS WEATHER RELATED SITE CONDITIONS ARE SUCH THAT ADDITIONAL TIME IS REQUIRED.
EC4.1	YES	15. Clearly note the statement that "Non–exempt activities shall not be conducted within the 25 or 50–foot undisturbed stream buffers as measured from the point of wrested vegetation or within 25–feet of the coastal marshland buffer as measured from the Jurisdictional Determination Line without first acquiring the necessary variances and permits." "NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS."
N/A	NO	16. Provide a description of any buffer encroachments and indicate whether a buffer variance is required. NO BUFFERS REQUIRED.
EC4.1	YES	17. Clearly note the statement that "Amendments/revisions to the ES&PC Plan which have a significant effect on BMPs with a hydraulic component must be certified by the design professional."* "AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL."
EC4.1	YES	18. Clearly note the statement that "Waste materials shall not be discharged to waters of the State, except as authorized by a section 404 permit."* WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT. Waste Materials All waste materials will be collected and stored in a securely lidded metal dumpster. The dumpster will meet all solid waste management regulations. All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied a minimum of once per week or more often if necessary and trash will be hauled as required by local regulations. No construction waste will be buried onsite. All personnel will be instructed on proper procedures for waste disposal. A notice stating these practices will be posted at the jobsite and the Contractor will be responsible for seeing that these procedures are followed.
EC4.1	YES	19. Clearly note statement that "The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to land disturbing activities." "THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND DISTURBING ACTIVITIES."
EC4.1	YES	20. Clearly note statement that "Erosion control measures will be maintained at all times. If full implementation of the approved Plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source." "EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE."
EC4.1	YES	21. Clearly note the statement "Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding." "ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING."
N/A	NO	22. Any construction activity which discharges storm water into an Impaired Stream Segment, or within 1 linear mile upstream of and within the same watershed as, any portion of a Biota Impaired Stream Segment must comply with Part III. C. of the Permit. Include the completed Appendix 1 listing all the BMPs that will be used for those areas of the site which discharge to the Impaired Stream Segment.*
N/A	NO	23. If a TMDL Implementation Plan for sediment has been finalized for the Impaired Stream Segment (identified in item 22 above) at least six months prior to submittal of NOI, the ES&PC Plan must address any site–specific conditions or requirements included in the TMDL Implementation Plan.*

Plan Page #	Included Y/N	TO BE SHOWN ON ES&PC PLAN
EC2.0–EC3.0 EC5.1	YES	24. BMPs for concrete washdown of tools, concrete mixer chutes, hoppers and the rear of the vehicles. Washout of the drum at the construction site is prohibited.* CONCRETE WASHDOWN FOR TOOLS, CONCRETE MIXER CHUTES, HOPPERS AND REAR OF THE VEHICLES PLACED NEXT TO CONSTRUCTION EXIT. WASHOUT OF THE DRUM AT THE CONSTRUCTION SITE IS PROHIBITED.
EC4.1	YES	25. Provide BMPs for the remediation of all petroleum spills and leaks. Spill Cleanup and Control Practices • Local, State and manufacturer's recommended methods for spill cleanup will be clearly posted and procedures will be made available to site personnel. • Material and equipment necessary for spill cleanup will be kept in the material storage areas. Typical materials and equipment includes, but is not limited to, brooms, dustpans, mops, gloves, goggles, cat litter, sand, sawdust and properly labeled plastic and metal waste container. • Spill prevention practices and procedures will be reviewed after a spill and adjusted as necessary to prevent future spills. • All spills will be cleaned up immediately upon discovery. All spills will be reported as required by local, State, and Federal Regulations. • FOR SPILLS THAT IMPACT SURFACE WATER (LEAVE A SHEEN ON SURFACE WATER). THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1–800–424–8802. • FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1–800–424–8802. • FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE SPILL WILL BE CLEANED UP AND LOCAL AGENCIES WILL BE CONTACTED AS REQUIRED. The contractor shall notify the licensed professional who prepared this plan if more than 1320 gallons of petroleum is stored onsite (this includes capacities of equipment) or if any one piece of equipment has a capacity greater than 660 gallons. The contractor will need a Spill Prevention Containment and Countermeasures Plan prepared by that licensed professional.
EC1.0–EC3.0 EC4.0–EC4.2 EC5.0–EC5.3	YES	26. Description of the measures that will be installed during the construction process to control pollutants in storm water that will occur after construction operations have been completed.*

THE FOLLOWING PERMANENT MEASURES HAVE BEEN ESTABLISHED:

1. DETENTION POND
2. RIP–RAP APRONS
3. DISTURBED AREA STABILIZATION WITH PERMANENT GRASSING

CONTROLS:

EROSION AND SEDIMENT CONTROLS:

- ALL PERIMETER SILT FENCES AND CONSTRUCTION EXITS SHALL BE IN PLACE PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- EXISTING VEGETATION SHALL BE LEFT IN PLACE UNTIL SUCH TIME THAT LAND DISTURBING ACTIVITIES ARE TO TAKE PLACE UPON THAT PORTION OF THE SITE. WHEN CONSTRUCTION ACTIVITIES HAVE CEASED IN AN AREA, THAT AREA SHALL BE STABILIZED WITHIN 14 DAYS. IF THE AREA IS NOT TO FINAL GRADE, THE AREA SHALL BE MULCHED. IF THE AREA IS TO FINAL GRADE AND WILL EVENTUALLY CONTAIN SITE IMPROVEMENTS SUCH AS STRUCTURES OR SIDEWALKS, IT SHALL BE TEMPORARY SEEDED. AREAS BROUGHT TO FINAL GRADE THAT WILL REMAIN PERVIOUS ARE TO BE PERMANENTLY SEEDED. ALLOWABLE EXCEPTIONS FROM THE NPDES GENERAL PERMIT NO. GAR 100001, ARE NOTED BELOW.
- "WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14th DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES DUE TO SNOW COVER OR OTHER ADVERSE WEATHER CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE."
- "WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITIES CEASED, (e.g. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE 14th DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED."
- PLEASE REFER TO ATTACHED SHEETS FOR THE LAND DISTURBANCE CONSTRUCTION SCHEDULE (SHEET EC4.1) AND TEMPORARY AND PERMANENT GRASSING SCHEDULE (SHEET EC5.1). THE STORMWATER WILL BE DISCHARGED FROM THE BASIN TO THE EXISTING STORMWATER SYSTEM AND THROUGH THE DOWNSTREAM DITCH SYSTEM AND EVENTUALLY TO THE SAVANNAH RIVER.

NON–STORMWATER DISCHARGE:

- ALL NON–STORMWATER DISCHARGES WILL BE ROUTED THROUGH ON–SITE BMP'S AND THE STORMWATER MANAGEMENT SYSTEM WHERE POSSIBLE. THESE DISCHARGES INCLUDE FLUSHING OF WATER AND FIRE LINES, IRRIGATION WATER, GROUND WATER, DEWATERING OF PITS OR DEPRESSIONS WITHIN THE CONSTRUCTION SITE AND RINSE–OFF WATER OF NON–MATERIALS.

OTHER CONTROLS:

- NO WASTE WILL BE DISPOSED INTO STORMWATER INLETS OR WATERS OF THE STATE.

WASTE MATERIALS:
ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED A MINIMUM OF ONCE A WEEK OR MORE OFTEN IF NEEDED AND TRASH WILL BE HAULED AS REQUIRED BY LOCAL REGULATIONS. NO CONSTRUCTION WASTE WILL BE BURIED ON–SITE. ALL PERSONNEL WILL BE INSTRUCTED ON PROPER PROCEDURE FOR WASTE DISPOSAL. A NOTICE STATING THESE PRACTICES WILL BE POSTED AT THE JOBSITE AND THE CONTRACTOR WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.

HAZARDOUS WASTES
ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL, STATE, AND/OR FEDERAL REGULATIONS AND BY THE MANUFACTURER OF SUCH PRODUCTS. THE JOB SITE SUPERINTENDENT (WHO WILL ALSO BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED) WILL INSTRUCT SITE PERSONNEL IN THESE PRACTICES. MATERIAL SAFETY DATA SHEETS (MSDS's) FOR EACH SUBSTANCE WITH HAZARDOUS PROPERTIES THAT IS USED ON THE JOB SITE WILL BE OBTAINED AND USED FOR THE PROPER MANAGEMENT OF POTENTIAL WASTES THAT MAY RESULT FROM THESE PRODUCTS. AN MSDS WILL BE POSTED IN THE IMMEDIATE AREA WHERE SUCH PRODUCT IS STORED AND/OR USED AND ANOTHER COPY OF EACH MSDS WILL BE MAINTAINED IN THE ESPCP FILE AT THE JOB SITE CONSTRUCTION TRAILER OFFICE. EACH EMPLOYEE WHO MUST HANDLE A SUBSTANCE WITH HAZARDOUS PROPERTIES WILL BE INSTRUCTED ON THE USE OF MSDS AND THE SPECIFIC INFORMATION IN THE APPLICABLE MSDS FOR THE PRODUCT HE/SHE IS USING, PARTICULARLY REGARDING SPILL CONTROL TECHNIQUES.

THE CONTRACTOR WILL IMPLEMENT THE SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLAN FOUND WITHIN THE ESPCP AND WILL TRAIN ALL PERSONNEL IN THE PROPER CLEANUP AND HANDLING OF SPILLED MATERIALS. NO SPILLED HAZARDOUS MATERIAL OR HAZARDOUS WASTES WILL BE ALLOWED TO COME IN CONTACT WITH STORM WATER DISCHARGES. IF SUCH CONTACT OCCURS, THE STORM WATER DISCHARGE WILL BE CONTAINED ON SITE UNTIL APPROPRIATE MEASURES (IN COMPLIANCE WITH STATE AND FEDERAL REGULATIONS) ARE TAKEN TO DISPOSE OF SUCH CONTAMINATED STORM WATER. IT SHALL BE THE RESPONSIBILITY OF THE JOB SITE SUPERINTENDENT TO PROPERLY TRAIN ALL PERSONNEL IN THE USE OF THE SPCC PLAN.

SANITARY WASTES:
A MINIMUM OF ONE PORTABLE SANITARY UNIT WILL BE PROVIDED FOR EVERY 10 WORKERS ON THE SITE. ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONE TIME PER WEEK BY A LICENSED PORTABLE FACILITY PROVIDER IN COMPLETE COMPLIANCE WITH LOCAL AND STATE REGULATIONS. ALL SANITARY WASTE UNITS WILL BE LOCATED IN AN AREA WHERE THE LIKELIHOOD OF THE UNIT CONTRIBUTION TO STORM WATER DISCHARGE IS NEGLIGIBLE. ADDITIONAL CONTAINMENT BMP'S MUST BE IMPLEMENTED SUCH AS GRAVEL BAGS OR SPECIALTY DESIGNED PLASTIC SKID CONTAINERS AROUND THE BASES, TO PREVENT WASTE FROM CONTRIBUTING TO STORM WATER DISCHARGE. THE LOCATION OF SANITARY WASTE UNITS MUST BE IDENTIFIED IN THE EROSION CONTROL GRADING PLAN, BY THE CONTRACTOR ONCE THE LOCATIONS HAVE BEEN DETERMINED. SANITARY SEWER WILL BE PROVIDED BY BRYAN COUNTY AT THE COMPLETION OF THIS PROJECT.

OFF–SITE VEHICLE TRACKING:
A STABILIZED CONSTRUCTION EXIT HAS BEEN PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENT. SEE SHEETS EC1.1–EC3.1 FOR CONSTRUCTION EXIT LOCATIONS AND SHEET EC5.1 FOR DETAILS. THE PAVED STREET ADJACENT TO THE SITE EXIT WILL BE INSPECTED DAILY FOR TRACKING OF DIRT, MUD, OR ROCK. DUMP TRUCKS HAULING MATERIAL TO OR FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPAULIN.

REV.	BY	DATE	REVISIONS
3	JAF	12/14/22	REVISED PER CITY REVIEW COMMENTS
2	JAF	11/10/22	REVISED PER CITY AND EPD REVIEW COMMENTS
1	JAF	10/11/22	REVISED PER CITY REVIEW COMMENTS

JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

GEORGIA REGISTERED No. 38245 PROFESSIONAL ENGINEER JASON J. BRYANT JOSEPH

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EROSION CONTROL NOTES

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA
Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No. 21–255
Drawn By: JAF
Designed By: JJB
Checked By: JJB
Scale: N/A
Date: 3/1/22

SHEET
EC4.0

g:\shared drives\Projects\rice hope\21–255 lakeside 24\Drawings\construction plans\21–255 Lakeside Phase 24 – ESC Notes.dwg

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

Monday, March 27, 2023 1:43:28 PM

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST
STAND ALONE DEVELOPMENT CONSTRUCTION PROJECTS

Plan Page # | Included Y/N | TO BE SHOWN ON ES&PC PLAN

INVENTORY FOR POLLUTION PREVENTION PLAN:
THE FOLLOWING MATERIALS ARE EXPECTED ON-SITE DURING CONSTRUCTION: CONCRETE PRODUCTS, ASPHALT, PETROLEUM BASED FUEL AND LUBRICANTS FOR EQUIPMENT, TAR, METAL BUILDING MATERIALS, LUMBER, SHEET ROCK, FLOOR COVERINGS, ELECTRICAL WIRE AND FIXTURES, PAINT/STAINS/FINISHING TREATMENTS, PAINT, PAINT SOLVENTS, ADDITIVES FOR SOIL STABILIZATION, CLEANING SOLVENTS, PESTICIDES, FERTILIZERS, HERBICIDES, CRUSHED STONE, AND METAL PIPES.

SPILL PREVENTION:
PRACTICES SUCH AS GOOD HOUSEKEEPING, PROPER HANDLING OF HAZARDOUS PRODUCTS AND PROPER SPILL CONTROL PRACTICES WILL BE FOLLOWED TO REDUCE THE RISKS OF SPILLS AND SPILLS FROM DISCHARGING INTO STORMWATER RUNOFF.

GOOD HOUSEKEEPING:
1. QUANTITIES OF PRODUCTS STORED ON-SITE WILL BE LIMITED TO THE AMOUNT NEEDED FOR THE JOB.
2. PRODUCTS AND MATERIALS WILL BE STORED IN A NEAT, ORDERLY MANNER IN APPROPRIATE CONTAINERS PROTECTED FROM RAINFALL, WHERE POSSIBLE.
3. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH MANUFACTURER LABELS VISIBLE.
4. PRODUCTS MIXING, DISPOSAL AND DISPOSAL OF PRODUCT CONTAINERS WILL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
5. THE CONTRACTOR WILL INSPECT SUCH MATERIALS TO ENSURE PROPER USE, STORAGE, AND DISPOSAL.

MAINTENANCE & INSPECTION OF EROSION & SEDIMENT CONTROLS:

MAINTENANCE:

THE FOLLOWING BEST MANAGEMENT PRACTICE MAINTENANCE CRITERIA ARE TAKEN FROM THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA," LATEST EDITION.

CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOW OR MUD ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC DRESSING WITH 1.5-3.5 INCH STONE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANING OF ANY STRUCTURES TO TRAP SEDIMENT. ALL MATERIAL SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES OR SITE ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

RETROFIT STRUCTURES SHALL BE KEPT CLEAR OF TRASH AND DEBRIS. THIS WILL REQUIRE CONTINUOUS MONITORING AND MAINTENANCE, WHICH INCLUDES SEDIMENT REMOVAL WHEN ONE-THIRD OF THE SEDIMENT STORAGE CAPACITY HAS BEEN LOST.

SEDIMENT SHALL BE REMOVED FROM SILT FENCES ONCE IT HAS ACCUMULATED ONE-THIRD THE ORIGINAL HEIGHT OF THE BARRIER. FILTER FABRIC SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF THE FABRIC IS REDUCED (APPROXIMATELY SIX MONTHS).

SEDIMENT SHALL BE REMOVED FROM SEDIMENT TRAPS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE HEIGHT OF THE TRAP. SEDIMENT SHALL BE REMOVED FROM CURB INLET PROTECTION IMMEDIATELY. FOR EXCAVATED INLET SEDIMENT TRAPS, SEDIMENT SHALL BE REMOVED WHEN ONE-HALF OF THE SEDIMENT STORAGE CAPACITY HAS BEEN LOST TO SEDIMENT ACCUMULATION.

SEDIMENT SHALL NOT BE WASHED INTO THE INLET. IT SHALL BE REMOVED FROM THE SEDIMENT TRAP AND DISPOSED OF AND STABILIZED SO THAT IT WILL NOT ENTER THE INLET AGAIN.

WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED, ALL MATERIALS AND ANY SEDIMENT SHALL BE REMOVED, AND EITHER SALVAGED OR DISPOSED OF PROPERLY. THE DISTURBED AREA SHALL BE BROUGHT TO PROPER GRADE, SMOOTHED AND COMPACTED.

APPROPRIATELY STABILIZE ALL DISTURBED AREAS AROUND THE INLET.

REPAIR ALL DAMAGES CAUSED TO TEMPORARY SEDIMENT BASINS BY SOIL EROSION OR CONSTRUCTION EQUIPMENT AT OR BEFORE THE END OF EACH WORKING DAY. SEDIMENT SHALL BE REMOVED FROM THE BASIN WHEN IT REACHES THE TOP OF THE RISER. SEDIMENT SHALL NOT ENTER ADJACENT STREAMS OR DRAINAGE WAYS DURING SEDIMENT REMOVAL OR DISPOSAL. THE SEDIMENT SHALL NOT BE DEPOSITED DOWNSTREAM FROM THE EMBANKMENT, ADJACENT TO A STREAM OR FLOODPLAIN.

INSPECT RIPRAP OUTLET STRUCTURES AFTER HEAVY RAINS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

ROUGHENED AREAS SHALL BE SEEDED AND MULCHED AS SOON AS POSSIBLE TO OBTAIN OPTIMUM SEED GERMINATION AND SEEDING GROWTH.

MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCES. MULCH CAN BE USED AS A SINGULAR EROSION CONTROL DEVICE FOR UP TO 6 MONTHS, BUT IT SHALL BE APPLIED AT THE APPROPRIATE DEPTH (DEPENDING ON THE MATERIALS USED), ANCHORED, AND HAVE A CONTINUOUS 90% COVER. TEMPORARY VEGETATION MAY BE EMPLOYED INSTEAD OF MULCH IF THE AREA WILL REMAIN UNDISTURBED FOR LESS THAN 6 MONTHS. IF THE AREA WILL REMAIN UNDISTURBED FOR GREATER THAN 6 MONTHS, PERMANENT VEGETATIVE TECHNIQUES SHALL BE EMPLOYED.

PERMANENT VEGETATION SHALL BE APPLIED IMMEDIATELY TO ROUGH GRADED AREAS THAT WILL BE UNDISTURBED FOR LONGER THAN 6 MONTHS. THIS PRACTICE OF SODDING SHALL BE APPLIED IMMEDIATELY TO ALL AREAS AT FINAL GRADE. FINAL STABILIZATION MEANS THAT ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED, AND THAT FOR THE UNPAVED AREAS AND AREAS NOT COVERED IN PERMANENT STRUCTURES AT LEAST 70% OF THE SOIL SURFACE IS UNIFORMLY COVERED IN PERMANENT VEGETATION OR EQUIVALENT PERMANENT STABILIZATION MEASURES (SUCH AS THE USE OF RIPRAP, GABIONS, PERMANENT MULCHES OR GEOTEXTILES) HAVE BEEN EMPLOYED. PERMANENT VEGETATION SHALL CONSIST OF PLANTED TREES, SHRUBS, PERENNIAL VINES, A CROP OF PERENNIAL VEGETATION APPROPRIATE FOR THE REGION, SUCH THAT WITHIN THE GROWING SEASON, A 70% COVERAGE BY PERENNIAL VEGETATION SHALL BE ACHIEVED. FINAL STABILIZATION APPLIES TO EACH PHASE OF CONSTRUCTION UNTIL THIS STANDARD IS SATISFIED AND PERMANENT CONTROL MEASURES AND FACILITIES ARE OPERATIONAL. INTERIM STABILIZATION MEASURES AND TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL NOT BE REMOVED.

EC4.2	YES

27. DESCRIPTION OF PRACTICES TO PROVIDE COVER FOR BUILDING MATERIALS AND BUILDING PRODUCTS ON SITE.*

FOR BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS PRESENT ON THE SITE, PROVIDE COVER (E.G. PLASTIC SHEETING, TEMPORARY ROOFS) TO MINIMIZE THE EXPOSURE OF THESE PRODUCTS TO PRECIPITATION AND TO STORMWATER, OR A SIMILARLY EFFECTIVE MEANS DESIGNED TO MINIMIZE THE DISCHARGE OF POLLUTANTS FROM THESE AREAS. MINIMIZATION OF EXPOSURE IS NOT REQUIRED IN CASES WHERE EXPOSURE TO PRECIPITATION AND TO STORMWATER WILL NOT RESULT IN A DISCHARGE OF POLLUTANTS, OR WHERE EXPOSURE OF A SPECIFIC MATERIAL OR PRODUCT POSES LITTLE RISK TO STORMWATER CONTAMINATION (SUCH AS FINAL PRODUCTS AND MATERIALS INTENDED FOR OUTDOOR USE).

EC4.2	YES

28. Description of the practices that will be used to reduce the pollutants in storm water discharges.*

Product Specific Practices

Petroleum Based Products – Containers for products such as fuel, lubricants and tars will be inspected daily for leaks and spills. This includes on-site vehicle and machinery daily inspections and regular preventative maintenance of such equipment. Equipment maintenance areas will be located away from state water, natural drains and storm water drainage inlets. In addition, temporary fueling tanks shall have a secondary containment liner to prevent/minimize site contamination. Discharge of oils, fuels and lubricants is prohibited. Proper disposal methods will include collection in a suitable container and disposal as required by local and State regulations.

Paints/Finishes/Solvents – All products will be stored in tightly sealed original containers when not in use. Excess product will not be discharged to the storm water collection system. Excess product, materials used with these products and product containers will be disposed of according to manufacturer's specifications and recommendations.

Concrete Truck Washing – NO concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water onsite.

Fertilizer/Herbicides – These products will be applied at rates that do not exceed the manufacturer's specifications or above the guidelines set forth in the crop establishment or in the GSWCC Manual for Erosion and Sediment Control in Georgia. Any storage of these materials will be under roof in sealed containers.

Building Materials – No building or construction materials will be buried or disposed of onsite. All such materials will be disposed of using proper waste disposal procedures.

EC4.2	YES

29. Description and chart or timeline of the intended sequence of major activities which disturb soils for the major portions of the site (i.e., initial perimeter and sediment storage BMPs, clearing and grubbing activities, excavation activities, utility activities, temporary and final stabilization).

CONSIDERATIONS FOR CONSTRUCTION SCHEDULING

A SPECIFIED WORK SCHEDULE IS NEEDED TO COORDINATE THE TIMING OF LAND DISTURBING ACTIVITIES WITH THE INSTALLATION OF EROSION AND SEDIMENTATION CONTROL MEASURES.

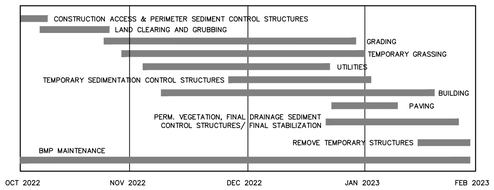
THE PURPOSE OF THE SCHEDULE IS TO REDUCE ON-SITE EROSION AND OFF-SITE SEDIMENTATION BY PERFORMING LAND DISTURBING ACTIVITIES AND INSTALLING EROSION AND SEDIMENTATION CONTROL PRACTICES IN ACCORDANCE WITH A PLANNED SCHEDULE.

IN PLANNING CONSTRUCTION WORK, IT MAY BE HELPFUL TO OUTLINE ALL LAND DISTURBING ACTIVITIES NECESSARY TO COMPLETE THE PROPOSED PROJECT. THEN LIST ALL PRACTICES NEEDED TO CONTROL EROSION AND SEDIMENTATION ON THE SITE. THESE TWO LISTS CAN THEN BE COMBINED IN LOGICAL ORDER TO PROVIDE A PRACTICAL AND EFFECTIVE CONSTRUCTION SEQUENCE SCHEDULE THAT BECOMES PART OF THE EROSION AND SEDIMENTATION CONTROL PLAN.

Plan Page # | Included Y/N | TO BE SHOWN ON ES&PC PLAN

CONSTRUCTION ACTIVITY	SCHEDULE CONSIDERATION
1. OBTAIN ALL PLAN APPROVALS AND OTHER APPLICABLE PERMITS.	
2. FLAG THE WORK LIMITS AND MARK THE TREES AND BUFFER AREAS FOR PROTECTION.	
3. HOLD PRE CONSTRUCTION CONFERENCE AT LEAST ONE WEEK PRIOR TO STARTING CONSTRUCTION.	
4. CONSTRUCTION ACCESS – CONSTRUCTION ENTRANCE, CONSTRUCTION ROUTES, EQUIPMENT PARKING AREAS.	FIRST LAND DISTURBING ACTIVITY –– STABILIZE BARE AREAS IMMEDIATELY WITH GRAVEL AND TEMPORARY VEGETATION AS CONSTRUCTION TAKES PLACE.
5. SEDIMENT TRAPS AND BARRIERS – BASIN TRAPS, SEDIMENT FENCES, AND OUTLET PROTECTION.	INSTALL PRINCIPAL BASINS AFTER CONSTRUCTION SITE IS ACCESSED. INSTALL ADDITIONAL TRAPS AND BARRIERS AS NEEDED DURING GRADING.
6. RUNOFF CONTROL – DIVERSIONS, PERIMETER DIKES, WATER BARS, AND OUTLET PROTECTION.	INSTALL KEY PRACTICES AFTER PRINCIPAL SEDIMENT TRAPS AND BEFORE LAND GRADING. INSTALL ADDITIONAL RUNOFF-CONTROL MEASURES DURING GRADING.
7. RUNOFF CONVEYANCE SYSTEM- STABILIZE STREAM BANKS, STORM DRAINS, CHANNELS, INLET AND OUTLET PROTECTION, SLOPE DRAINS.	WHERE NECESSARY, STABILIZE STREAM BANKS AS EARLY AS POSSIBLE. INSTALL PRINCIPAL RUNOFF CONVEYANCE SYSTEM WITH RUNOFF- CONTROL MEASURES. INSTALL REMAINDER OF SYSTEM AFTER GRADING.
8. LAND CLEARING AND GRADING-SITE PREPARATION CUTTING, FILLING AND GRADING, SEDIMENTATION TRAPS, BARRIERS, DIVERSIONS, DRAINS, SURFACE ROUGHENING.	BEGIN MAJOR CLEARING AND GRADING AFTER PRINCIPAL SEDIMENT AND KEY RUNOFF-CONTROL MEASURES ARE INSTALLED. CLEAR BORROW AND DISPOSAL AREAS ONLY AS NEEDED. INSTALL ADDITIONAL CONTROL MEASURES AS GRADING PROGRESSES. MARK TREES AND BUFFER AREAS FOR PRESERVATION.
9. SURFACE STABILIZATION-TEMPORARY AND PERMANENT SEEDING, MULCHING, SODDING, RIPRAP.	APPLY TEMPORARY OR PERMANENT STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS WHERE WORK IS DELAYED OR COMPLETE.
10. UTILITIES, PAVING, BUILDING	INSTALL NECESSARY EROSION AND SEDIMENTATION CONTROL PRACTICES AS WORK TAKES PLACE.
11. LANDSCAPING AND FINAL STABILIZATION – TOPSOILING, TREES AND SHRUBS, PERMANENT SEEDING, MULCHING, SODDING RIPRAP.	LAST CONSTRUCTION PHASE--STABILIZE ALL OPEN AREAS, INCLUDING BORROW AND SPOIL AREAS. REMOVE AND STABILIZE ALL TEMPORARY CONTROL MEASURES.

PROPOSED CONSTRUCTION SCHEDULE:



EC4.2	YES

30. Provide complete requirements of inspections and record keeping by the primary permittee.*

INSPECTIONS

A. PERMITTEE REQUIREMENTS.

1. EACH DAY WHEN ANY TYPE OF CONSTRUCTION ACTIVITY HAS TAKEN PLACE AT A PRIMARY PERMITTEE'S SITE, CERTIFIED PERSONNEL PROVIDED BY THE PRIMARY PERMITTEE SHALL INSPECT:
   (A) ALL AREAS AT THE PRIMARY PERMITTEE'S SITE WHERE PETROLEUM PRODUCTS ARE STORED, USED, OR HANDLED FOR SPILLS AND LEAKS FROM VEHICLES AND EQUIPMENT AND
   (B) ALL LOCATIONS AT THE PRIMARY PERMITTEE'S SITE WHERE VEHICLES ENTER OR EXIT THE SITE FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING. THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.
2. MEASURE AND RECORD RAINFALL WITHIN DISTURBED AREAS OF THE SITE THAT HAVE NOT MET FINAL STABILIZATION ONCE EVERY 24 HOURS EXCEPT ANY NON-WORKING SATURDAY, NON-WORKING SUNDAY AND NON-WORKING FEDERAL HOLIDAY. THE DATA COLLECTED FOR THE PURPOSE OF COMPLIANCE WITH THIS PERMIT SHALL BE REPRESENTATIVE OF THE MONITORED ACTIVITY. MEASUREMENT OF RAINFALL MAY BE SUSPENDED IF ALL AREAS OF THE SITE HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION.
3. CERTIFIED PERSONNEL (PROVIDED BY THE PRIMARY PERMITTEE) SHALL INSPECT THE FOLLOWING AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES RAINFALL OR GREATER (UNLESS SUCH STORM ENDS AFTER 5:00 PM ON ANY FRIDAY OR ON ANY NON-WORKING SATURDAY, NON-WORKING SUNDAY OR ANY NON-WORKING FEDERAL HOLIDAY IN WHICH CASE THE INSPECTION SHALL BE COMPLETED BY THE END OF THE NEXT BUSINESS DAY AND/OR WORKING DAY, WHICHEVER OCCURS FIRST):
   (A) DISTURBED AREAS OF THE PRIMARY PERMITTEE'S CONSTRUCTION SITE;
   (B) AREAS USED BY THE PRIMARY PERMITTEE FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION; AND
   (C) STRUCTURAL CONTROL MEASURES, EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN APPLICABLE TO THE PRIMARY PERMITTEE'S SITE SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S). FOR AREAS OF A SITE THAT HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION, THE PERMITTEE MUST COMPLY WITH PART IV.D.4.A.(4). THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.
4. CERTIFIED PERSONNEL (PROVIDED BY THE PRIMARY PERMITTEE) SHALL INSPECT AT LEAST ONCE PER MONTH DURING THE TERM OF THIS PERMIT (I.E., UNTIL A NOTICE OF TERMINATION HAS BEEN SUBMITTED) THE AREAS OF THE SITE THAT HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION. THESE AREAS SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM AND THE RECEIVING WATER(S). EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S).
5. BASED ON THE RESULTS OF EACH INSPECTION, THE SITE DESCRIPTION AND THE POLLUTION PREVENTION AND CONTROL MEASURES IDENTIFIED IN THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, THE PLAN SHALL BE REVISED AS APPROPRIATE NOT LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION. IMPLEMENTATION OF SUCH CHANGES SHALL BE MADE AS SOON AS PRACTICAL BUT IN NO CASE LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION.
6. A REPORT OF EACH INSPECTION THAT INCLUDES THE NAME(S) OF CERTIFIED PERSONNEL MAKING EACH INSPECTION, THE DATE(S) OF EACH INSPECTION, CONSTRUCTION PHASE (I.E., INITIAL, INTERMEDIATE OR FINAL), MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, AND ACTIONS TAKEN IN ACCORDANCE WITH PART IV.D.4.A.(5). OF THE PERMIT SHALL BE MADE AND RETAINED AT THE SITE OR BE READILY AVAILABLE AT A DESIGNATED ALTERNATE LOCATION UNTIL THE ENTIRE SITE OR THAT PORTION OF A CONSTRUCTION SITE THAT HAS BEEN PHASED HAS UNDERGONE FINAL STABILIZATION AND A NOTICE OF TERMINATION IS SUBMITTED TO EPD. SUCH REPORTS SHALL BE READILY AVAILABLE BY END OF THE SECOND BUSINESS DAY AND/OR WORKING DAY AND SHALL IDENTIFY ALL INCIDENTS OF BEST MANAGEMENT PRACTICES THAT HAVE NOT BEEN PROPERLY INSTALLED AND/OR MAINTAINED AS DESCRIBED IN THE PLAN. WHERE THE REPORT DOES NOT IDENTIFY ANY INCIDENTS, THE INSPECTION REPORT SHALL CONTAIN A CERTIFICATION THAT THE BEST MANAGEMENT PRACTICES ARE IN COMPLIANCE WITH THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH PART V.G.2. OF THIS PERMIT.

Plan Page # | Included Y/N | TO BE SHOWN ON ES&PC PLAN

AN "EROSION & SEDIMENTATION INSPECTION AND MAINTENANCE REPORT" SHEET IS ATTACHED. SHOULD THE INSPECTION REVEAL ANY DEFICIENCIES, A COPY SHALL BE SENT TO:

ANNA LEWIS
363 WANDO PLACE DRIVE, SUITE 201
MOUNT PLEASANT, SC 29464
(843)535-8188
EMAIL: ANNALEWIS@FORESTAR.COM

ATTN.:
PITTMAN ENGINEERING CO., LLC
2591 HWY 17 SUITE 303
RICHMOND HILL, GA 31324
912-445-0578
JASON@PITTMANENGINEERINGCO.COM

EC4.2	YES

31. Provide complete requirements of sampling frequency and reporting of sampling results.*

STORM WATER SAMPLING:

SAMPLING FREQUENCY:

1. THE PRIMARY PERMITTEE MUST SAMPLE IN ACCORDANCE WITH THE PLAN AT LEAST ONCE FOR EACH RAINFALL EVENT DESCRIBED BELOW. FOR A QUALIFYING EVENT, THE PERMITTEE SHALL SAMPLE AT THE BEGINNING OF ANY STORMWATER DISCHARGE TO A MONITORED RECEIVING WATER AND/OR FROM A MONITORED OUTFALL LOCATION WITHIN IN FORTY-FIVE (45) MINUTES OR AS SOON AS POSSIBLE.
2. HOWEVER, WHERE MANUAL AND AUTOMATIC SAMPLING ARE IMPOSSIBLE (AS DEFINED IN THIS PERMIT), OR ARE BEYOND THE PERMITTEE'S CONTROL, THE PERMITTEE SHALL TAKE SAMPLES AS SOON AS POSSIBLE, BUT IN NO CASE MORE THAN TWELVE (12) HOURS AFTER THE BEGINNING OF THE STORMWATER DISCHARGE.
3. SAMPLING BY THE PERMITTEE SHALL OCCUR FOR THE FOLLOWING QUALIFYING EVENTS:
   (A). FOR EACH AREA OF THE SITE THAT DISCHARGES TO A RECEIVING WATER OR FROM AN OUTFALL, THE FIRST RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH WITH A STORMWATER DISCHARGE THAT OCCURS DURING NORMAL BUSINESS HOURS AS DEFINED IN THIS PERMIT AFTER ALL CLEARING AND GRUBBING OPERATIONS HAVE BEEN COMPLETED, BUT PRIOR TO COMPLETION OF MASS GRADING OPERATIONS, IN THE DRAINAGE AREA OF THE LOCATION SELECTED AS THE SAMPLING LOCATION;
   (B). IN ADDITION TO (A) ABOVE, FOR EACH AREA OF THE SITE THAT DISCHARGES TO A RECEIVING WATER OR FROM AN OUTFALL, THE FIRST RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH WITH A STORMWATER DISCHARGE THAT OCCURS DURING NORMAL BUSINESS HOURS AS DEFINED IN THIS PERMIT EITHER 90 DAYS AFTER THE FIRST SAMPLING EVENT OR AFTER ALL MASS GRADING OPERATIONS HAVE BEEN COMPLETED, BUT PRIOR TO SUBMITTAL OF A NOT, IN THE DRAINAGE AREA OF THE LOCATION SELECTED AS THE SAMPLING LOCATION, WHICHEVER COMES FIRST;
   (C). AT THE TIME OF SAMPLING PERFORMED PURSUANT TO (A) AND (B) ABOVE, IF BMPS IN ANY AREA OF THE SITE THAT DISCHARGES TO A RECEIVING WATER OR FROM AN OUTFALL ARE NOT PROPERLY DESIGNED, INSTALLED AND MAINTAINED, CORRECTIVE ACTION SHALL BE DEFINED AND IMPLEMENTED WITHIN TWO (2) BUSINESS DAYS, AND TURBIDITY SAMPLES SHALL BE TAKEN FROM DISCHARGES FROM THAT AREA OF THE SITE FOR EACH SUBSEQUENT RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH DURING NORMAL BUSINESS HOURS* UNTIL THE SELECTED TURBIDITY STANDARD IS ATTAINED, OR UNTIL POST-STORM EVENT INSPECTIONS DETERMINE THAT BMPS ARE PROPERLY DESIGNED, INSTALLED AND MAINTAINED;
   (D). WHERE SAMPLING PURSUANT TO (A), (B) OR (C) ABOVE IS REQUIRED BUT NOT POSSIBLE (OR NOT REQUIRED BECAUSE THERE WAS NO DISCHARGE), THE PERMITTEE, IN ACCORDANCE WITH PART IV.D.4.A.(6), MUST INCLUDE A WRITTEN JUSTIFICATION IN THE INSPECTION REPORT OF WHY SAMPLING WAS NOT PERFORMED. PROVIDING THIS JUSTIFICATION DOES NOT RELIEVE THE PERMITTEE OF ANY SUBSEQUENT SAMPLING OBLIGATIONS UNDER (A), (B) OR (C) ABOVE; AND
   (E). EXISTING CONSTRUCTION ACTIVITIES, I.E., THOSE THAT ARE OCCURRING ON OR BEFORE THE EFFECTIVE DATE OF THIS PERMIT, THAT HAVE MET THE SAMPLING REQUIRED BY (A) ABOVE SHALL SAMPLE IN ACCORDANCE WITH (B). THOSE EXISTING CONSTRUCTION ACTIVITIES THAT HAVE MET THE SAMPLING REQUIRED BY (B) ABOVE SHALL NOT BE REQUIRED TO CONDUCT ADDITIONAL SAMPLING OTHER THAN AS REQUIRED BY (C) ABOVE.

* NOTE THAT THE PERMITTEE MAY CHOOSE TO MEET THE REQUIREMENTS OF (A) AND (B) ABOVE BY COLLECTING TURBIDITY SAMPLES FROM ANY RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH AND ALLOWS FOR SAMPLING AT ANY TIME OF THE DAY OR WEEK.

REPORTING:

1. THE APPLICABLE PERMITTEES ARE REQUIRED TO SUBMIT THE SAMPLING RESULTS TO THE EPD AT THE ADDRESS SHOWN IN PART II.C. BY THE FIFTEENTH DAY OF THE MONTH FOLLOWING THE REPORTING PERIOD. REPORTING PERIODS ARE MONTHS DURING WHICH SAMPLES ARE TAKEN IN ACCORDANCE WITH THIS PERMIT. SAMPLING RESULTS SHALL BE IN A CLEARLY LEGIBLE FORMAT. UPON WRITTEN NOTIFICATION, EPD MAY REQUIRE THE APPLICABLE PERMITTEE TO SUBMIT THE SAMPLING RESULTS ON A MORE FREQUENT BASIS. SAMPLING AND ANALYSIS OF ANY STORMWATER DISCHARGE(S) OR THE RECEIVING WATER(S) BEYOND THE MINIMUM FREQUENCY STATED IN THIS PERMIT MUST BE REPORTED IN A SIMILAR MANNER TO THE EPD. THE SAMPLING REPORTS MUST BE SIGNED IN ACCORDANCE WITH PART V.G.2. SAMPLING REPORTS MUST BE SUBMITTED TO EPD USING THE ELECTRONIC SUBMITTAL SERVICE PROVIDED BY EPD. SAMPLING REPORTS MUST BE SUBMITTED TO EPD UNTIL SUCH TIME AS A NOT IS SUBMITTED IN ACCORDANCE WITH PART VI.
2. ALL SAMPLING REPORTS SHALL INCLUDE THE FOLLOWING INFORMATION:
   A. THE RAINFALL AMOUNT, DATE, EXACT PLACE AND TIME OF SAMPLING OR MEASUREMENTS;
   B. THE NAME(S) OF THE CERTIFIED PERSONNEL WHO PERFORMED THE SAMPLING AND MEASUREMENTS;
   C. THE DATE(S) ANALYSES WERE PERFORMED;
   D. THE TIME(S) ANALYSES WERE INITIATED;
   E. THE NAME(S) OF THE CERTIFIED PERSONNEL WHO PERFORMED THE ANALYSES;
   F. REFERENCES AND WRITTEN PROCEDURES, WHEN AVAILABLE, FOR THE ANALYTICAL TECHNIQUES OR METHODS USED;
   G. THE RESULTS OF SUCH ANALYSES, INCLUDING THE BENCH SHEETS, INSTRUMENT READOUTS, COMPUTER DISKS OR TAPES, ETC., USED TO DETERMINE THESE RESULTS;
   H. RESULTS WHICH EXCEED 1000 NTU SHALL BE REPORTED AS "EXCEEDS 1000 NTU;" AND
   I. CERTIFICATION STATEMENT THAT SAMPLING WAS CONDUCTED AS PER THE PLAN.
3. ALL WRITTEN CORRESPONDENCE REQUIRED BY THIS PERMIT SHALL BE SUBMITTED BY RETURN RECEIPT CERTIFIED MAIL (OR SIMILAR SERVICE) TO THE APPROPRIATE DISTRICT OFFICE OF THE EPD ACCORDING TO THE SCHEDULE IN APPENDIX A OF THIS PERMIT. THE PERMITTEE SHALL RETAIN A COPY OF THE PROOF OF SUBMITTAL AT THE CONSTRUCTION SITE OR THE PROOF OF SUBMITTAL SHALL BE READILY AVAILABLE AT A DESIGNATED LOCATION FROM COMMENCEMENT OF CONSTRUCTION UNTIL SUCH TIME AS A NOT IS SUBMITTED IN ACCORDANCE WITH PART VI.

GOVERNING AGENCY:
COASTAL DISTRICT – BRUNSWICK OFFICE
GEORGIA ENVIRONMENTAL PROTECTION DIVISION
400 COMMERCE CENTER DRIVE
BRUNSWICK, GA 31523-8251
(912) 264-7284

ANNA LEWIS
363 WANDO PLACE DRIVE, SUITE 201
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2591 HWY 17 SUITE 303
RICHMOND HILL, GA 31324
912-445-0578
JASON@PITTMANENGINEERINGCO.COM

EC4.2	YES

32. Provide complete details for retention of records as per Part IV.F. of the permit.*

RETENTION OF RECORDS:

1. THE PRIMARY PERMITTEE SHALL RETAIN THE FOLLOWING RECORDS AT THE CONSTRUCTION SITE (OR THE RECORDS SHALL BE READILY AVAILABLE AT THE DESIGNATED ALTERNATE LOCATION) FROM COMMENCEMENT OF CONSTRUCTION UNTIL SUCH TIME AS A NOTICE OF TERMINATION IS SUBMITTED IN ACCORDANCE WITH PART VI.
   a. A COPY OF NOTICES OF INTENT SUBMITTED TO EPD.
   b. A COPY OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN REQUIRED BY THIS PERMIT.
   c. THE DESIGN PROFESSIONAL'S REPORT OF THE RESULTS OF THE INSPECTION CONDUCTED IN ACCORDANCE WITH PART IV.A.5 OF THIS PERMIT.
   d. A COPY OF ALL MONITORING INFORMATION, RESULTS AND REPORTS REQUIRED BY THIS PERMIT.
   e. A COPY OF ALL INSPECTION REPORTS GENERATED IN ACCORDANCE WITH PART IV.D.4.(a) OF THIS PERMIT.
   f. A COPY OF VIOLATION SUMMARIES AND VIOLATION SUMMARY REPORTS GENERATED IN ACCORDANCE WITH PART III.D.2 OF THIS PERMIT.
   g. DAILY RAINFALL INFORMATION COLLECTED IN ACCORDANCE WITH PART IV.D.4.(a).(1)(c) OF THIS PERMIT.
2. COPIES OF ALL NOTICES OF INTENT, NOTICE OF TERMINATION, REPORTS, PLANS, MONITORING INFORMATION (INCLUDING ALL CALIBRATION AND MAINTENANCE RECORDS AND ALL ORIGINAL STRIP CHART RECORDINGS FOR CONTINUOUS MONITORING INSTRUMENTATION), EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN RECORDS OF ALL DATA USED TO COMPLETE TH

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EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST
STAND ALONE DEVELOPMENT CONSTRUCTION PROJECTS

Plan Page #	Included Y/N	TO BE SHOWN ON ES&PC PLAN
EC4.3	YES	33. DESCRIPTION OF ANALYTICAL METHODS TO BE USED TO COLLECT AND ANALYZE THE SAMPLES FROM EACH LOCATION.*

a. SAMPLING REQUIREMENTS SHALL INCLUDE THE FOLLOWING:

(1). A USGS TOPOGRAPHIC MAP, A TOPOGRAPHIC MAP OR A DRAWING (REFERRED TO AS A TOPOGRAPHIC MAP) THAT IS A SCALE EQUAL TO OR MORE DETAILED THAN A 1:24000 MAP SHOWING THE LOCATION OF THE SITE OR THE STAND ALONE CONSTRUCTION; (A) THE LOCATION OF ALL PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES AS SHOWN ON A USGS TOPOGRAPHIC MAP, AND ALL OTHER PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES LOCATED DURING MANDATORY FIELD VERIFICATION, INTO WHICH THE STORMWATER IS DISCHARGED AND (B) THE RECEIVING WATER AND/OR OUTFALL SAMPLING LOCATIONS. WHEN THE PERMITTEE HAS CHOSEN TO USE A USGS TOPOGRAPHIC MAP AND THE RECEIVING WATER(S) IS NOT SHOWN ON THE USGS TOPOGRAPHIC MAP, THE LOCATION OF THE RECEIVING WATER(S) MUST BE HAND-DRAWN ON THE USGS TOPOGRAPHIC MAP FROM WHERE THE STORMWATER(S) ENTERS THE RECEIVING WATER(S) TO THE POINT WHERE THE RECEIVING WATER(S) COMBINES WITH THE FIRST BLUE LINE STREAM SHOWN ON THE USGS TOPOGRAPHIC MAP;
(2). A WRITTEN NARRATIVE OF SITE SPECIFIC ANALYTICAL METHODS USED TO COLLECT, HANDLE AND ANALYZE THE SAMPLES INCLUDING QUALITY CONTROL/QUALITY ASSURANCE PROCEDURES. THIS NARRATIVE MUST INCLUDE PRECISE SAMPLING METHODOLOGY FOR EACH SAMPLING LOCATION;
(3). WHEN THE PERMITTEE HAS DETERMINED THAT SOME OR ALL OUTFALLS WILL BE SAMPLED, A RATIONALE MUST BE INCLUDED ON THE PLAN FOR THE NTU LIMIT(S) SELECTED FROM APPENDIX B. THIS RATIONALE MUST INCLUDE THE SIZE OF THE CONSTRUCTION SITE, THE CALCULATION OF THE SIZE OF THE SURFACE WATER DRAINAGE AREA, AND THE TYPE OF RECEIVING WATER(S) (I.E., TROUT STREAM OR SUPPORTING WARM WATER FISHERIES); AND
(4). ANY ADDITIONAL INFORMATION EPD DETERMINES NECESSARY TO BE PART OF THE PLAN. EPD WILL PROVIDE WRITTEN NOTICE TO THE PERMITTEE OF THE INFORMATION NECESSARY AND THE TIME LINE FOR SUBMITTAL.

b. SAMPLE TYPE. ALL SAMPLING SHALL BE COLLECTED BY "GRAB SAMPLES" AND THE ANALYSIS OF THESE SAMPLES MUST BE CONDUCTED IN ACCORDANCE WITH METHODOLOGY AND TEST PROCEDURES ESTABLISHED BY 40 CFR PART 136 (UNLESS OTHER TEST PROCEDURES HAVE BEEN APPROVED); THE GUIDANCE DOCUMENT TITLED "NPDES STORM WATER SAMPLING GUIDANCE DOCUMENT, EPA 833-B-92-001" AND GUIDANCE DOCUMENTS THAT MAY BE PREPARED BY THE EPD.
(1). SAMPLE CONTAINERS SHOULD BE LABELED PRIOR TO COLLECTING THE SAMPLES.
(2). SAMPLES SHOULD BE WELL MIXED BEFORE TRANSFERRING TO A SECONDARY CONTAINER.
(3). LARGE MOUTH, WELL CLEANED AND RINSED GLASS OR PLASTIC JARS SHOULD BE USED FOR COLLECTING SAMPLES. THE JARS SHOULD BE CLEANED THOROUGHLY TO AVOID CONTAMINATION.
(4). MANUAL, AUTOMATIC OR RISING STAGE SAMPLING MAY BE UTILIZED. SAMPLES REQUIRED BY THIS PERMIT SHOULD BE ANALYZED IMMEDIATELY, BUT IN NO CASE LATER THAN 48 HOURS AFTER COLLECTION. HOWEVER, SAMPLES FROM AUTOMATIC SAMPLERS MUST BE COLLECTED NO LATER THAN THE NEXT BUSINESS DAY AFTER THEIR ACCUMULATION, UNLESS FLOW THROUGH AUTOMATED ANALYSIS IS UTILIZED. IF AUTOMATIC SAMPLING IS UTILIZED AND THE AUTOMATIC SAMPLER IS NOT ACTIVATED DURING THE QUALIFYING EVENT, THE PERMITTEE MUST UTILIZE MANUAL SAMPLING OR RISING STAGE SAMPLING DURING THE NEXT QUALIFYING EVENT. DILUTION OF SAMPLES IS NOT REQUIRED. SAMPLES MAY BE ANALYZED DIRECTLY WITH A PROPERLY CALIBRATED TURBIDIMETER. SAMPLES ARE NOT REQUIRED TO BE COOLED.
(5). SAMPLING AND ANALYSIS OF THE RECEIVING WATER(S) OR OUTFALLS BEYOND THE MINIMUM FREQUENCY STATED IN THIS PERMIT MUST BE REPORTED TO EPD AS SPECIFIED IN PART IV.E.

c. SAMPLING POINTS.
(1). FOR CONSTRUCTION ACTIVITIES THE PRIMARY PERMITTEE MUST SAMPLE ALL RECEIVING WATER(S), OR ALL OUTFALL(S), OR A COMBINATION OF RECEIVING WATER(S) AND OUTFALL(S). SAMPLES TAKEN FOR THE PURPOSE OF COMPLIANCE WITH THIS PERMIT SHALL BE REPRESENTATIVE OF THE MONITORED ACTIVITY AND REPRESENTATIVE OF THE WATER QUALITY OF THE RECEIVING WATER(S) AND/OR THE STORMWATER OUTFALLS USING THE FOLLOWING MINIMUM GUIDELINES:
(A). THE UPSTREAM SAMPLE FOR EACH RECEIVING WATER(S) MUST BE TAKEN IMMEDIATELY UPSTREAM OF THE CONFLUENCE OF THE FIRST STORMWATER DISCHARGE FROM THE PERMITTED ACTIVITY (I.E., THE DISCHARGE FARTHEST UPSTREAM AT THE SITE) BUT DOWNSTREAM OF ANY OTHER STORMWATER DISCHARGES NOT ASSOCIATED WITH THE PERMITTED ACTIVITY. WHERE APPROPRIATE, SEVERAL UPSTREAM SAMPLES FROM ACROSS THE RECEIVING WATER(S) MAY NEED TO BE TAKEN AND THE ARITHMETIC AVERAGE OF THE TURBIDITY OF THESE SAMPLES USED FOR THE UPSTREAM TURBIDITY
(B). THE DOWNSTREAM SAMPLE FOR EACH RECEIVING WATER(S) MUST BE TAKEN DOWNSTREAM OF THE CONFLUENCE OF THE LAST STORMWATER DISCHARGE FROM THE PERMITTED ACTIVITY (I.E., THE DISCHARGE FARTHEST DOWNSTREAM AT THE SITE) BUT UPSTREAM OF ANY OTHER STORMWATER DISCHARGE NOT ASSOCIATED WITH THE PERMITTED ACTIVITY. WHERE APPROPRIATE, SEVERAL DOWNSTREAM SAMPLES FROM ACROSS THE RECEIVING WATER(S) MAY NEED TO BE TAKEN AND THE ARITHMETIC AVERAGE OF THE TURBIDITY OF THESE SAMPLES USED FOR THE DOWNSTREAM TURBIDITY VALUE.
(C). IDEALLY THE SAMPLES SHOULD BE TAKEN FROM THE HORIZONTAL AND VERTICAL CENTER OF THE RECEIVING WATER(S) OR THE STORMWATER OUTFALL CHANNEL(S).
(D). CARE SHOULD BE TAKEN TO AVOID STIRRING THE BOTTOM SEDIMENTS IN THE RECEIVING WATER(S) OR IN THE OUTFALL STORMWATER CHANNEL.
(E). THE SAMPLING CONTAINER SHOULD BE HELD SO THAT THE OPENING FACES UPSTREAM.
(F). THE SAMPLES SHOULD BE KEPT FREE FROM FLOATING DEBRIS.
(G). PERMITTEES DO NOT HAVE TO SAMPLE SHEET FLOW THAT FLOWS ONTO UNDISTURBED NATURAL AREAS OR AREAS STABILIZED BY THE PROJECT. FOR PURPOSES OF THIS SECTION, STABILIZED SHALL MEAN, FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES AND AREAS LOCATED OUTSIDE THE WASTE DISPOSAL LIMITS OF A LANDFILL CELL THAT HAS BEEN CERTIFIED BY EPD FOR WASTE DISPOSAL, 100% OF THE SOIL SURFACE IS UNIFORMLY COVERED IN PERMANENT VEGETATION WITH A DENSITY OF 70% OR GREATER, OR LANDSCAPED ACCORDING TO THE PLAN (UNIFORMLY COVERED WITH LANDSCAPING MATERIALS IN PLANNED LANDSCAPED AREAS), OR EQUIVALENT PERMANENT STABILIZATION MEASURES AS DEFINED IN THE MANUAL (EXCLUDING A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET CROP PERENNIALS APPROPRIATE FOR THE REGION).
(H). ALL SAMPLING PURSUANT TO THIS PERMIT MUST BE DONE IN SUCH A WAY (INCLUDING GENERALLY ACCEPTED SAMPLING METHODS, LOCATIONS, TIMING, AND FREQUENCY) AS TO ACCURATELY REFLECT WHETHER STORMWATER RUNOFF FROM THE CONSTRUCTION SITE IS IN COMPLIANCE WITH THE STANDARD SET FORTH IN PARTS III.D.3. OR III.D.4., WHICHEVER IS APPLICABLE.

EC4.3	YES	34. Appendix B rationale for NTU values at all outfall sampling points where applicable.* FOR A SITE ACREAGE SIZE OF 20 AC. AND WATERS SUPPORTING WARM WATER FISHERIES DRAINAGE AREA LESS THAN 5 SQUARE MILES, THE NTU VALUE TO USE IN PART III.D.4. IS 75 NTU.

APPENDIX B
Nephelometric Turbidity Unit (NTU) Table
Warm Water (Supporting Warm Water Fisheries)

SITE SIZE (ACRES)	Surface Water Drainage Area (Square Miles) 0–4.99	5–9.99	10–24.99	25–49.99	50–99.99	100–249.99	250–499.99	500+
1.00–10	75	150	200	400	750	750	750	750
10.01–25	50	100	100	200	300	500	750	750
25.01–50	50	50	100	100	200	300	750	750
50.01–100	50	50	50	100	100	150	300	600
100.01+	50	50	50	50	50	100	200	100

Plan Page #	Included Y/N	TO BE SHOWN ON ES&PC PLAN
EC1.0– EC3.0	YES	35. Delineate all sampling locations if applicable, perennial and intermittent streams and other water bodies into which storm water is discharged. *
EC1.0–EC3.0	YES	36. A description of appropriate controls and measures that will be implemented at the construction site including: (1) Initial Sediment Storage Requirements and Perimeter Control BMPs, (2) Intermediate Grading and Drainage BMPs, and (3) Final BMPs. For construction sites where there will be no mass grading and the initial Perimeter Control BMPs, Intermediate Grading and Drainage BMPs, and Final BMPs are the same, the plan may combine all of the BMPs into a single phase.* A temporary sediment trap will accommodate the 149 cy of Initial sediment storage. Silt fence will provide perimeter control. Intermediate grading and drainage BMPs include construction exit, temporary sediment trap, concrete wash down, storm outlet protection, dust control, mulching, temporary seeding and silt fence. Final phase BMPs include construction exit, concrete wash down, storm outlet protection, dust control and permanent vegetation stabilization. Each phase of the plan includes the appropriate controls and measures, including the initial sediment storage requirements, intermediate grading and drainage BMPs and Final BMPs. Refer to Sheets EC1.1, EC2.1 and EC3.1.
EC1.0–EC3.0	YES	37. Graphic scale and North arrow.
EC1.0–EC3.0	YES	38. Existing and proposed contour lines with contour lines drawn at an interval in accordance with the following:

Map Scale	Ground Slope	Contour Intervals, ft.
1 inch = 100ft or larger scale	Flat 0 – 2% Rolling 2 – 8% Steep 8% +	0.5 or 1 1 or 2 2,5 or 10

N/A	NO	39. Use of alternative BMPs whose performance has been documented to be equivalent to or superior to conventional BMPs as certified by a Design Professional (unless disapproved by EPD or the Georgia Soil and Water Conservation Commission). Please refer to the Alternative BMP Guidance Document found at www.gaswcc.org.
N/A	NO	40. Use of alternative BMP for application to the Equivalent BMP List. Please refer to Appendix A–2 of the Manual for Erosion & Sediment Control in Georgia 2016 Edition.*
EC1.0–EC3.0 EC4.3	NO	41. Delineation of the applicable 25–foot or 50–foot undisturbed buffers adjacent to State waters and any additional buffers required by the Local Issuing Authority. Clearly note and delineate all areas of impact. THERE ARE NOT ANY STATE WATERS LOCATED ON OR WITHIN 200' OF THIS PROJECT SITE. BUFFERS ARE NOT REQUIRED SINCE THERE IS NOT ANY WRESTED VEGETATION.
N/A	NO	42. Delineation of on–site wetlands and all State waters located on and within 200 feet of the project site. THERE ARE NOT ANY ON–SITE WETLANDS OR STATE WATERS LOCATED ON OR WITHIN 200' OF THIS PROJECT SITE.
EC4.3	NO	43. Delineation and acreage of contributing drainage basins on the project site. SEE SEPARATE HYDROLOGY REPORT.
EC4.3	NO	44. Provide hydrology study and maps of drainage basins for both the pre– and post–developed conditions.* SEE SEPARATE HYDROLOGY REPORT.
EC4.3	YES	45. An estimate of the Runoff Coefficient or Peak Discharge Flow of the site prior to and after construction activities are completed. RUNOFF CURVE NUMBER (SCS METHOD USED): PRE–DEVELOPMENT: CN=82 POST–DEVELOPMENT: CN=88
EC1.0–EC3.0	YES	46. Storm–Drain Pipe and Weir Velocities with appropriate Outlet Protection to accommodate discharges without erosion. Identify/Delineate all Storm Water Discharge Points.
EC1.0–EC3.0 EC4.3	YES	47. Soil series for the project site and their delineation.

SOILS LEGEND:

SYMBOL	NAME	RATING
Pn	POOLER FINE SNADY LOAM	B/D
Cc	CAPE FEAR	B/D
Cx	CRAVEN LOAMY FINE SAND	C

EC1.0–EC3.0	YES	48. The Limits of Disturbance for each phase of construction.
EC1.0–EC3.0 EC4.3, EC5.2	YES	49. Provide a minimum of 67 Cubic Yards of sediment storage per acre drained using a Temporary Sediment Basin, Retrofitted Detention Pond, and/or Excavated Inlet Sediment Traps for each common drainage location. Sediment Storage Volume must be in place prior to and during all land disturbance activities until final stabilization of the site has been achieved. A written justification explaining the decision to use equivalent controls when a Sediment Basin is not attainable must be included in the plan for each common drainage location in which a Sediment Basin is not provided. A written justification as to why 67 Cubic Yards of storage is not attainable must also be given. Worksheets from the Manual must be included for structural BMPs and all calculations used by the Design Professional to obtain the required sediment storage when using equivalent controls. When discharging from sediment basins and impoundments, permittees are required to utilize Outlet Structures that withdraw water from the surface, unless infeasible. If Outlet Structures that withdraw water from the surface are not feasible, a written justification explaining this decision must be included in the plan.

67 CY SEDIMENT STORAGE PER DISTURBED ACRE REQUIREMENT

- TOTAL PROJECT ACREAGE = 20 AC.
- TOTAL DISTURBED ACREAGE = 19.8 AC.
- TOTAL REQUIRED SEDIMENT STORAGE: 19.8 AC. X 67 c.y./Ac. = 1,326.6 c.y.
- THIS PROJECT WILL UTILIZE 1 PERMANENT SEDIMENT BASIN (LAKE) AND SILT FENCE FOR THE SEDIMENT STORAGE REQUIREMENT. THE PROPOSED LAND DISTURBING ACTIVITIES FOR THIS PROJECT ARE TO REGRADE TO PROVIDE POSITIVE DRAINAGE TO SPECIFIC AND LIMITED AREAS OF THE SITE.
- SEE SHEET EC5.3 FOR PERMANENT SEDIMENT BASIN (LAKE) CALCULATIONS.

EC1.0–EC3.0 EC5.0–EC5.3	YES	50. Location of Best Management Practices that are consistent with and no less stringent than the Manual for Erosion and Sediment Control in Georgia. Use uniform coding symbols from the Manual, Chapter 6, with legend.
EC5.0–EC5.3	YES	51. Provide detailed drawings for all structural practices. Specifications must, at a minimum, meet the guidelines set forth in the Manual for Erosion and Sediment Control in Georgia.

Plan Page #	Included Y/N	TO BE SHOWN ON ES&PC PLAN
EC4.3, EC5.0–EC5.3	YES	52. Provide Vegetative Plan, noting all temporary and permanent vegetative practices. Include species, planting dates and seeding, fertilizer, lime and mulching rates. Vegetative Plan shall be site specific for appropriate time of year that seeding will take place and for the appropriate geographic region of Georgia.

LIME RATES AND ANALYSIS

* AGRICULTURAL LIME SHALL BE APPLIED AT THE RATE OF ONE TO TWO TONS PER ACRE UNLESS SOIL TESTS INDICATE OTHERWISE. GRADED AREAS REQUIRE LIME APPLICATION. IF LIME IS APPLIED WITHIN SIX MONTHS OF PLANTING PERMANENT PERENNIAL VEGETATION, ADDITIONAL LIME IS NOT REQUIRED. AGRICULTURAL LIME SHALL BE WITHIN THE SPECIFICATIONS OF THE GEORGIA DEPARTMENT OF AGRICULTURE.

MULCHING (MULCHING IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS). MULCH APPLIED TO SEEDED AREAS SHALL ACHIEVE 75% SOIL COVER. SELECT THE MULCHING MATERIAL FROM THE FOLLOWING AND APPLY AS INDICATED:

* DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEED SEEDS CAN BE USED. DRY STRAW SHALL BE APPLIED AT THE RATE OF TWO TONS PER ACRE. DRY HAY SHALL BE APPLIED AT THE RATE OF 2–1/2 TONS PER ACRE.
* WOOD CELLULOSE MULCH OR WOOD PULP FIBER SHALL BE USED WITH HYDRAULIC SEEDING. IT SHALL BE APPLIED AT A RATE OF 500 POUNDS PER ACRE. DRY STRAW OR DRY HAY SHALL BE APPLIED (AT THE RATE INDICATED BELOW) AFTER HYDRAULIC SEEDING.
* ONE THOUSAND POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER, WHICH INCLUDES TACKIFIER, SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES 4:1 OR STEEPER.
* SERICEA LESPEDEZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF 3 TONS PER ACRE.
* PINE STRAW OR PINE BARK SHALL BE APPLIED AT A THICKNESS OF 3 INCHES FOR BEDDING PURPOSES. OTHER SUITABLE MATERIALS IN SUFFICIENT QUANTITY MAY BE USED WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED. THIS IS NOT APPROPRIATE FOR SEEDED AREAS.
* WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLACK SOD, MULCH IS NOT REQUIRED.

FERTILIZER REQUIREMENTS

TYPE OF SPECIES	YEAR	ANALYSIS OR EQUIVALENT N–P–K	RATE	N TOP DRESSING RATE
1. COOL SEASON GRASSES	FIRST SECOND MAINTENANCE	6–12–12 6–12–12 10–10–10	1500lbs./ac. 1000lbs./ac. 400 lbs./ac.	50–100 lbs./ac. 1/2/ – 30
2. COOL SEASON GRASSES AND LEGUMES	FIRST SECOND MAINTENANCE	6–12–12 0–10–10 0–10–10	1500lbs./ac. 1000lbs./ac. 400 lbs./ac.	0–50 lbs./ac. 1/ – –
3. GROUND COVERS	FIRST SECOND MAINTENANCE	10–10–10 10–10–10 10–10–10	1300lbs./ac. 3/ 1300lbs./ac. 3/ 1100 lbs./ac.	– – –
4. PINE SEEDLINGS	FIRST	20–10–5	ONE 21–GRAM PELLET PER SEEDLING PLACED IN THE CLOSING HOLE	–
5. SHRUB LESPEDEZA	FIRST MAINTENANCE	0–10–10 0–10–10	700lbs./ac. 700lbs./ac. 4/	– –
6. TEMPORARY COVER CROPS SEEDED ALONE	FIRST	10–10–10	500lbs./ac.	30 lbs./ac. 5/
7. WARM SEASON GRASSES	FIRST SECOND MAINTENANCE	6–12–12 6–12–12 10–10–10	1500lbs./ac. 800lbs./ac. 400 lbs./ac.	50–100 lbs./ac. 2/6/ 50–100 lbs./ac. 2/ 30 lbs./ac.
8. WARM SEASON GRASSES AND LEGUMES	FIRST SECOND MAINTENANCE	6–12–12 0–10–10 0–10–10	1500lbs./ac. 1000lbs./ac. 400 lbs./ac.	50 lbs./ac. 6/

1/ *APPLY IN SPRING FOLLOWING SEEDING.*
2/ *APPLY IN SPLIT APPLICATIONS WHEN HIGH RATES ARE USED.*
3/ *APPLY IN 3 SPLIT APPLICATIONS.*
4/ *APPLY WHEN PLANTS ARE PRUNED.*
5/ *APPLY TO GRASS SPECIES ONLY.*
6/ *APPLY WHEN PLANTS GROW TO A HEIGHT OF 2 TO 4 INCHES.*

*IF USING THIS CHECKLIST FOR A PROJECT THAT IS LESS THAN 1 ACRE AND NOT PART OF A COMMON DEVELOPMENT BUT WITHIN 200 FT OF A PERENNIAL STREAM THE * CHECKLIST ITEMS WOULD BE N/A.

Effective January 1, 2022

BY	DATE	REVISIONS
JAF	12/14/22	3 REVISED PER CITY REVIEW COMMENTS
JAF	11/10/22	2 REVISED PER CITY AND EPD REVIEW COMMENTS
JAF	10/11/22	1 REVISED PER CITY REVIEW COMMENTS
BY	DATE	REV.

JASON J. BRYANT P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

REGISTERED PROFESSIONAL ENGINEER No. 38245 JASON JOSEPH BRYANT

PITTMAN ENGINEERING
2591 Highway 17, Suite 303
Richmond Hill, GA 31324
(912)445-0578
www.PittmanEngineeringCo.com

EROSION CONTROL NOTES

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA
Prepared for
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No. 21–255
Drawn By: JAF
Designed By: JJB
Checked By: JJB
Scale: N/A
Date: 3/1/22

SHEET
EC4.2

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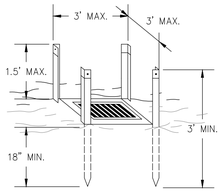
Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

Monday, March 27, 2023 1:43:43 PM

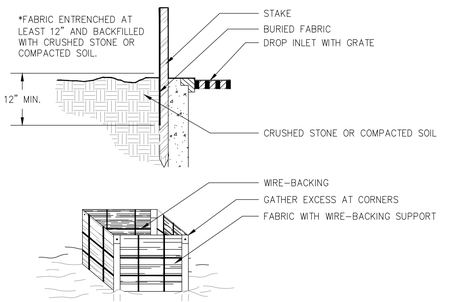
FABRIC AND SUPPORTING FRAME FOR INLET PROTECTION

Sd2-F

STEEL FRAME AND SILT FENCE INSTALLATION



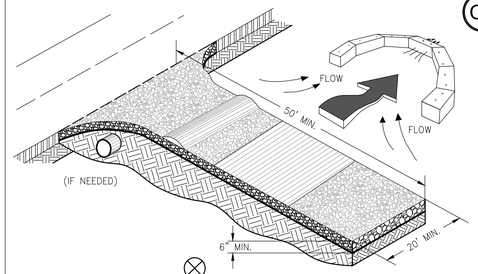
NOTES:
1. DESIGN IS FOR SLOPES NO GREATER THAN 5% (NOT DESIGNED FOR CONCENTRATED FLOWS).
2. THE STEEL POSTS SUPPORTING THE SILT FENCE MATERIAL SHOULD BE SPACED EVENLY AROUND THE PERIMETER OF THE INLET (MAXIMUM OF 3' APART).
3. THE STEEL POSTS SHOULD BE SECURELY DRIVEN AT LEAST 18" DEEP.
4. THE FABRIC SHOULD BE ENTRENCHED AT LEAST 12" AND THEN BACKFILLED WITH CRUSHED STONE OR COMPACTED SOIL.



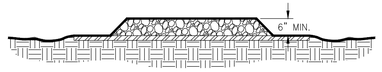
CRUSHED STONE CONSTRUCTION EXIT

Co

EXIT DIAGRAM



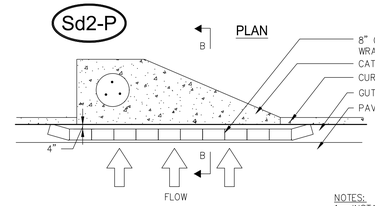
ENTRANCE ELEVATION

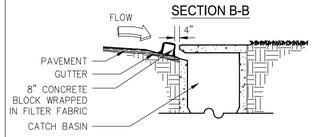


NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

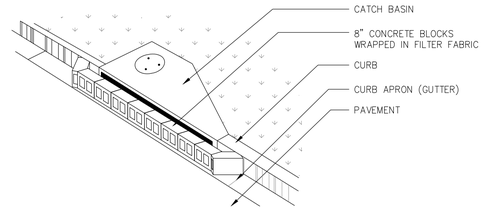
CURB INLET FILTER "PIGS IN BLANKET"

Sd2-P





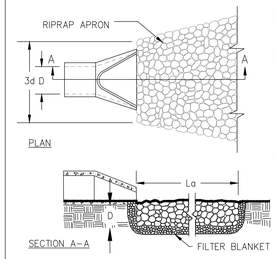
NOTES:
1. INSTALL FILTER AFTER ANY ASPHALT PAVEMENT INSTALLATION.
2. WRAP 8" CONCRETE BLOCKS IN FILTER FABRIC AND SPAN ACROSS CATCH BASIN INLET.
3. FACE OPENINGS IN BLOCKS OUTWARD.
4. LEAVE A GAP OF APPROXIMATELY 4 INCHES BETWEEN THE CURB AND THE FILTERS TO ALLOW FOR OVERFLOW TO PREVENT HAZARDOUS PONDING.
5. INSTALL OUTLET PROTECTION BELOW STORM DRAIN OUTLETS.



RIPRAP OUTLET PROTECTION

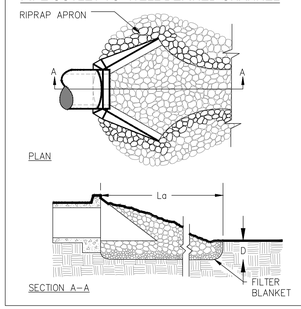
St

PIPE OUTLET TO FLAT AREA -- NO WELL DEFINED CHANNEL



NOTES:
1. La IS THE LENGTH OF THE RIPRAP APRON.
2. D = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESSTHAN 6".
3. IN A WELL-DEFINED CHANNEL, EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK (WHICHEVER IS LESS).
4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND THE SOIL FOUNDATION.

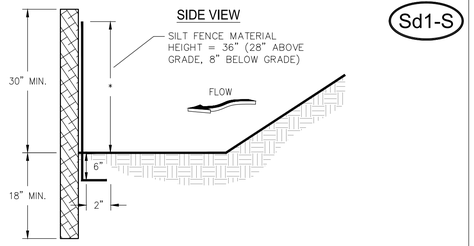
PIPE OUTLET TO WELL DEFINED CHANNEL



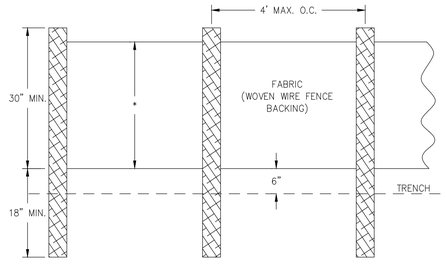
SILT FENCE - TYPE SENSITIVE

Sd1-S

SIDE VIEW



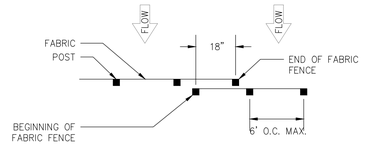
FRONT VIEW



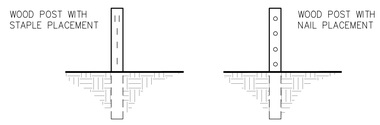
NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

FASTENERS FOR SILT FENCES

OVERLAP AT FABRIC ENDS



TOP VEIW - NOT TO SCALE



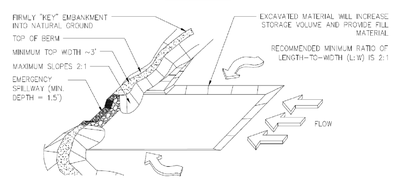
FRONT VIEWS - NOT TO SCALE

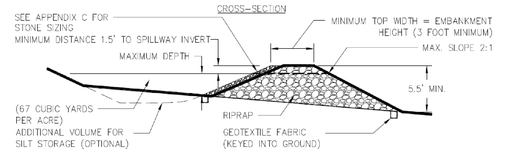
NOTES:
1. THE FABRIC AND WIRE SHOULD BE SECURELY FASTENED TO POSTS AND FABRIC ENDS MUST BE OVERLAPPED A MINIMUM OF 18" OR WRAPPED TOGETHER AROUND A POST TO PROVIDE A CONTINUOUS FABRIC BARRIER AROUND THE INLET.

TEMPORARY SEDIMENT TRAP

COURTESY OF CITY OF ROSWELL FOR EROSION AND SEDIMENT

ROCK OUTLET





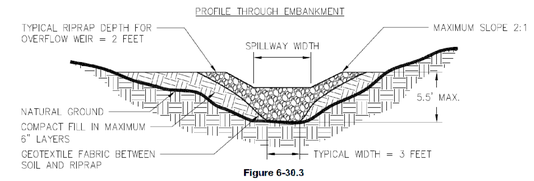


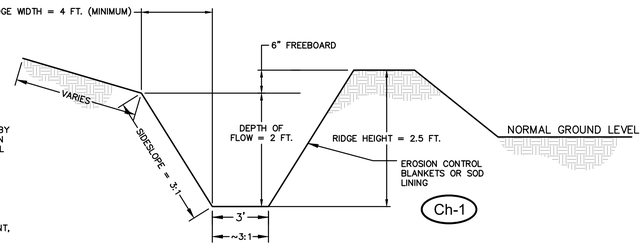
Figure 6-30.3

Sd4-C

TEMPORARY SEDIMENT TRAP DETAILS

SCALE: N.T.S.

DETERMINE VELOCITY IN THE DIVERSION DITCH. USE A CONSERVATIVE APPROACH BY DETERMINING THE FLOW FOR THE LARGEST AREA DRAINED BY A SINGLE DIVERSION DITCH. USE THE FLOW AND THE MANNING'S FORMULA FOR TRAPEZOIDAL CHANNEL FLOW TO DETERMINE THE CHANNEL VELOCITY.
LARGEST AREA DRAINED BY A DIVERSION DITCH = 4.95 ACRES.
DETERMINE THE FLOW USING Q= c x I x A
Q = (0.95 FOR BARE DIRT) x (6 IN/HR) x (4.95 ACRES)
Q = 28 CFS
USE THE MANNING'S EQUATION TO DETERMINE THE CHANNEL VELOCITY
Q = 1.489/n x A x R^0.667 x S^0.5
BASED ON A 3' BOTTOM WIDTH, 3:1 (H:V) SIDE SLOPES, 0.3 MANNING'S COEFFECIENT, AND A 28 CFS FLOW RATE, THE DIVERSION DITCH VELOCITY = 2.2 FT/SEC
BASED ON THE 2.2 FT/SEC VELOCITY, USE CH1 FOR CHANNEL STABILIZATION.



Ch-1

Di

DIVERSION DITCH

SCALE: N.T.S.

REV.	DATE	BY	REVISIONS
3	12/14/22	JAF	REVISED PER CITY REVIEW COMMENTS
2	11/10/22	JAF	REVISED PER CITY AND EPD REVIEW COMMENTS
1	10/11/22	JAF	REVISED PER CITY REVIEW COMMENTS

JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

REGISTERED PROFESSIONAL ENGINEER
No. 38245
JASON JOSEPH BRYANT
GEORGIA

PITTMAN ENGINEERING
2591 Highway 17, Suite 303
Richmond Hill, GA 31324
(912)445-0578
www.PittmanEngineeringCo.com

EROSION CONTROL DETAILS

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA
Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No.	21-255
Drawn By:	JAF
Designed By:	JJB
Checked By:	JJB
Scale:	N/A
Date:	3/1/22

SHEET
EC5.0

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Ph. 24 May 2023)
Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

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Monday, March 27, 2023 1:43:50 PM

GEORGIA
UNIFORM CODING SYSTEM
FOR SOIL EROSION AND SEDIMENTATION CONTROL PRACTICES
GEORGIA SOIL AND WATER CONSERVATION COMMISSION

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Cd	CHECKDAM			A small temporary barrier or dam constructed across a swale, drainage ditch or area of concentrated flow.
Ch	CHANNEL STABILIZATION			Improving, constructing or stabilizing an open channel, existing stream, or ditch.
Co	CONSTRUCTION EXIT			A crushed stone pad located at the construction site exit to provide a place for removing mud from tires thereby protecting public streets.
Cr	CONSTRUCTION ROAD STABILIZATION			A traveleay constructed as part of a construction plan including access roads, subdivision roads, parking areas and other on-site vehicle transportation routes.
Dc	STREAM DIVERSION CHANNEL			A temporary channel constructed to convey flow around a construction site while a permanent structure is being constructed.
Di	DIVERSION			An earth channel or dike located above, below, or across a slope to divert runoff. This may be a temporary or permanent structure.
Dn1	TEMPORARY DOWNDRAIN STRUCTURE			A flexible conduit of heavy-duty fabric or other material designed to safely conduct surface runoff down a slope. This is temporary and inexpensive.
Dn2	PERMANENT DOWNDRAIN STRUCTURE			A paved chute, pipe, sectional conduit or similar material designed to safely conduct surface runoff down a slope.
Fr	FILTER RING			A temporary stone barrier constructed at storm drain inlets and pond outlets.
Ga	GABION			Rock filter baskets which are hand-placed into position forming soil stabilizing structures.
Gr	GRADE STABILIZATION STRUCTURE			Permanent structures installed to protect channels or waterways where otherwise the slope would be sufficient for the running water to form gullies.
Lv	LEVEL SPREADER			A storm flow outlet device constructed at zero grade across the slope whereby concentrated runoff may be discharged at a non-erosive velocity onto undisturbed areas stabilized by existing vegetation.
Rd	ROCK FILTER DAM			A temporary stone filter dam installed across drainageways or in conjunction with a temporary sediment trap.
Re	RETAINING WALL			A wall installed to stabilize cut and fill slopes where maximum permissible slopes are not obtainable. Each situation will require special design.
Rt	RETRO FITTING			A device or structure placed in front of a permanent stormwater detention pond outlet structure to serve as a temporary sediment filter.
Sd1	SEDIMENT BARRIER			A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, brush, logs and poles, or a silt fence.
Sd2	INLET SEDIMENT TRAP			A temporary protective device formed at or around an inlet to a storm drain to trap sediment.
Sd3	TEMPORARY SEDIMENT BASIN			A basin created by excavation or a dam across a waterway. The surface water runoff is temporarily stored allowing the bulk of the sediment to drop out.
Sd4	TEMPORARY SEDIMENT TRAP			A small temporary pond that drains a disturbed area so that sediment can settle out. The principle feature distinguishing a temporary sediment trap from a temporary sediment basin is the lack of a pipe or riser.
Sk	FLOATING SURFACE SKIMMER			A buoyant device that releases/drains water from the surface of sediment ponds, traps, or basins at a controlled rate of flow.
SpB	SILT BERM			A linear control device constructed as a diversion perpendicular to the direction of the runoff to enhance dissipation and infiltration of runoff, while creating multiple sedimentation chambers with the employment of intermediate dikes.

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Sr	TEMPORARY STREAM CROSSING			A temporary bridge or culvert-type structure protecting a stream or watercourse from damage by crossing construction equipment.
St	STORMDRAIN OUTLET PROTECTION			A paved or short section of riprap channel at the outlet of a storm drain system preventing erosion from the concentrated runoff.
Su	SURFACE ROUGHENING			A rough soil surface with horizontal depressions on a contour or slopes left in a roughened condition after grading.
Tc	TURBIDITY CURTAIN			A floating or staked barrier installed within the water (it may also be referred to as a floating boom, silt barrier, or silt curtain).
Tp	TOPSOILING			The practice of stripping off the more fertile soil, storing it, then spreading it over the disturbed area after completion of construction activities.
Tr	TREE PROTECTION			To protect desirable trees from injury during construction activity.
Wt	VEGETATED WATERWAY OR STORMWATER CONVEYANCE CHANNEL			Paved or vegetative water outlets for diversions, terraces, berms, dikes or similar structures.

VEGETATIVE PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Bf	BUFFER ZONE			Strip of undisturbed original vegetation, enhanced or restored existing vegetation or the reestablishment of vegetation surrounding an area of disturbance or bordering streams.
Cs	COASTAL DUNE STABILIZATION (WITH VEGETATION)			Planting vegetation on dunes that are denuded, artificially constructed, or re-nourished.
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)			Establishing temporary protection for disturbed areas where seedings may not have a suitable growing season to produce an erosion retarding cover.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMP SEEDING)			Establishing a temporary vegetative cover with fast growing seedings on disturbed areas.
Ds3	DISTURBED AREA STABILIZATION (WITH PERM SEEDING)			Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
Ds4	DISTURBED AREA STABILIZATION (SODDING)			A permanent vegetative cover using sods on highly erodable or critically eroded lands.
Du	DUST CONTROL ON DISTURBED AREAS			Controlling surface and air movement of dust on construction site, roadways and similar sites.
Fl-Co	FLOCULANTS AND COAGULANTS			Substance formulated to assist in the solids/liquid separation of suspended particles in solution.
Sb	STREAMBANK STABILIZATION (USING PERM VEGETATION)			The use of readily available native plant materials to maintain and enhance streambanks, or to prevent, or restore and repair small streambank erosion problems.
Ss	SLOPE STABILIZATION			A protective covering used to prevent erosion and establish temporary or permanent vegetation on steep slopes, shore lines, or channels.
Tac	TACKIFIERS AND BINDERS			Substance used to anchor straw or hay mulch by causing the organic material to bind together.

DISTURBED AREA STABILIZATION (WITH MULCH ONLY) — Ds1

DEFINITION
Applying plant residues or other suitable materials not produced on the site to the soil surface.

PURPOSE
To reduce runoff and erosion; conserve moisture, prevent surface compaction or crusting; to control undersirable vegetation; to modify soil temperature; to increase biological activity in the soil.

SPECIFICATIONS
A. For temporary protection of critical areas without seeding.

This standard applies to graded or cleared areas which may be subjected to erosion for 6 months or less, where seedings may not have a suitable growing season to produce an erosion retardant cover, but which can be stabilized with a mulch cover.

Site Preparation
1. Grade, as needed and feasible, to permit the use of equipment for applying and anchoring mulch.
2. Install needed erosion control measures as required such as dikes, diversions, berms, terraces and sediment barriers.
3. As needed and feasible, loosen compact soil to a minimum depth of 3 inches.

Mulching Materials
1. Dry straw of hay - spread at a rate of 2 1/2 tons per acre.
2. Wood waste, chips, sawdust or bark-spread 2 to 3 inches deep (about 6 to 0 tons per acre).
3. Erosion control matting or netting, such as excelsior, jute, textile and plastic matting and netting - applied in accordance with manufactureres recommendations.
4. Cutback asphalt, slow curing - applied at 1200 gallons per acre (or 1/4 gallon per sq. yd.)
5. Polyethylene film - secured over banks or stockpiled soil material for temporary protection.

Applying and Anchoring Mulch
1. Apply straw or hay mulch uniformly by hand or mechanically. Anchor as appropriate and feasible. It may be pressed into the soil with a disk harrow with the disk set straight or with a special "packer disk". The disk may be smooth or serrated and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the disk should be dull enough not to cut the mulch but to press it into the soil leaving much of it in an erect position.
   Straw hay mulch spread with special blower-type equipment may be anchored with emulsified asphalt (Grade AE-5 or SS-1). The asphalt emulsion must be sprayed onto the mulch as it is ejected from the machine. Use 100 gallons of water per ton of mulch.
2. Spread wood waste uniformly on slopes that are 3:1 and flatter. No anchoring is needed.
3. Commercial matting and netting. Follow manufacturer's specification included with the material.
4. Apply asphalt so area has uniform appearance. (Note: Use in areas of pedestrian traffic could cause problems of "tracking in" or damage to shoes, clothing, etc.)

B. To conserve moisture and control weeds in nurseries, ornamental beds, around shrubs, and on bare areas on lawns.
   Mulching Materials
   Use one of the material given below and apply at thickness indicated.

Material	Depth
1. Grain straw or grass hay	6" to 10"
2. Pine Needles	4" to 6"
3. Wood waste (sawdust, bark, chips)	4" to 8"
4. Shredded residues (crop, leaves, etc.)	4" to 8"

5. Completely cover area with black polyethylene film and hold in place by placing soil on the outer edge.

When using organic mulches, apply 20-30 pounds of nitrogen in addition to the normal amount needed for plant growth to offset the tie up of N by decomposition of mulch.

DUST CONTROL ON DISTURBED AREAS — Du



DEFINITION
Controlling surface and air movement of dust on construction sites, roads, and demolition sites.

PURPOSE
- To prevent surface and air movement of dust from exposed soil surfaces.
- To reduce the presence of airborne substances that may be harmful or to human health, welfare, or safety, or to animals or plant life.

CONDITIONS
This practice is applicable to areas subject to surface and air movement of dust where on and off-site damage may occur without treatment.

METHOD AND MATERIALS
A. TEMPORARY METHODS

Mulches. See standard Ds1 - Disturbed Area Stabilization (With Mulching Only). Synthetic resins may be used instead of asphalt to bind mulch material. Refer to specification Tac - Tackifiers Resins should be used according to manufacturer's recommendations.

Vegetative Cover. See specifications Ds2 - Disturbed Area Stabilization (With Temporary Seeding).

Spray-on Adhesives. These are used on mineral soils (not effective on muck soils). Keep traffic off these areas. Refer to specification Tac - Tackifiers.

Tillage. This practice is designed to roughen and bring clods to the surface. It is an emergency measure that should be used before wind erosion starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, spring-toothed harrows, and similar plows are examples of equipment that may produce the desired effect.

Irrigation. This is generally done as an emergency treatment. Site is sprinkled with water until the surface is wet. Repeat as needed.

Barriers. Solid board fences, snow fences, burlap fences, crate walls, bales of hay and similar material can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 15 times their height are effective in controlling wind erosion.

Calcium Chloride. Apply at rate that will keep surface moist. May need retreatment.

B. PERMANENT METHODS

Permanent Vegetation. See specification Ds3 -Disturbed Areas Stabilization (With Permanent Vegetation). Existing trees and large shrubs may afford valuable protection if left in place.

Topsoilling. This entails covering the surface with less erosive soil material . See specification Tp - Topsoilling.

Stone. Cover surface with crushed stone or coarse gravel. See specification Cr - Construction Road Stabilization.

DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDINGS) — Ds2

PLANTS, PLANTING RATES, AND PLANTING DATES FOR TEMPORARY COVER OR COMPANION CORPS 1/

Species	Broadcast Rates 2/-PLS3/ Per Acre	Broadcast Rates 2/-PLS3/ Per 1000 sq. ft.	Resource Planting Dates by Resource Area — Area	Planting Dates (Solid lines indicate optimum dates dotted lines indicate permissible but marginal dates.) J F M A M J J A S O N D	Remarks
MILLET, PEARL (Pennesetum glaucum) alone	50 lbs.	1.1 lb.	M-L P C		88,000 Seed per pound. Quick dense cover. May reach 5 feet in height. Not recommended for mixtures.
RYEGRASS, ANNUAL (Lolium Temulentium) alone	40 lbs.	0.9 lb.	M-L P C		227,000 seed pound. Dense cover. Very competitive and is not to be used in mixtures.

1. Temporary cover crops are very competitive and will crowd perennials if seeded to heavily.
2. Reduce seeding rates by 50% when drilled.
3. PLS is an abbreviation for Pure Live Seed.
4. M-L represents the Mountain: Blue Ridge: and Ridges and Valleys MLRAs
   P represents the Southern Piedmont MLRA
   C represents Southern Coastal Plain: Sand Hills: Black Lands: and Atlantic Coast Flatwoods MLRAs

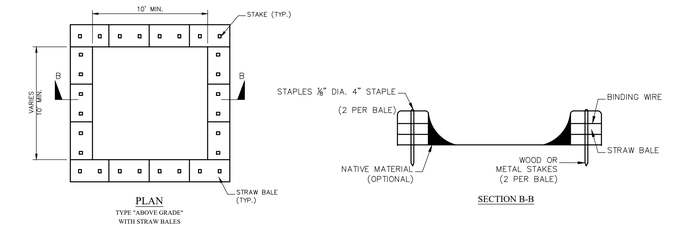
DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION) — Ds3

PLANTS, PLANTING RATES, AND PLANTING DATES FOR PERMANENT COVER

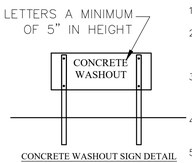
Species	Broadcast Rates 2/-PLS3/ Per Acre	Broadcast Rates 2/-PLS3/ Per 1000 sq. ft.	Resource Planting Dates by Resource Area — Area	Planting Dates (Solid lines indicate optimum dates dotted lines indicate permissible but marginal dates.) J F M A M J J A S O N D	Remarks
BERMUDA, COMMON (Cynodon dactylon) Hulled seed alone with other perennials	10 lbs. 6 lbs.	0.2 lb. 0.1 lb.	P C		1,787,000 seed per pound. Quick cover. Low growing and sod forming. Full sun. Good for athletic fields.
BERMUDA, COMMON (Cynodon dactylon) Unhulled seed with temporary cover with other perennials	10 lbs. 6 lbs.	0.2 lb. 0.1 lb.	P C		Plant with winter annuals. Plant with Tall fescue.
BERMUDA SPRIGS (Cynodon dactylon) Coastal, Common, Midland, or Tift 44 Coastal, Common, or Tift 44 Tift 78	40 cu. ft. 0.9 cu. ft. or sod pulgs 3'x 3'		M-L P C C		A cubic foot contains approximately 650 sprigs. A bushel contains 1.25 cubic feet or approximately 800 srigs. Same as above Southern costal Plain only.
CENTIPEDE (Eremochloa ophiuroides)	Block sod only		P C		Drought tolerant. Full sun or partial shade. Effective adjacent to concrete and in concentrated flow areas. Irrigation is needed until fully established. Do not plant near pastures. Winterhardy as far north as Athens and Atlanta.
LOVEGRASS, WEEPING (Eragrostis curvula) alone in mixtures	4 lbs. 2 lbs.	0.1 lb. 0.05 lb.	M-L P C		1,500,000 Seed per pound. May last for several years. Mix with Sericea lespedeza.

1. Reduce seeding rates by 50% when drilled.
2. PLS is an abbreviation for Pure Live Seed. Refer to Section V.E. of these specification..
3. M-L represents the Mountain: Blue Ridge: and Ridges and Valleys MLRAs
   P represents the Southern Piedmont MLRA; C represents Southern Coastal Plain: Sand Hills: Black Lands: and Atlantic Coast

STRAW BALE BARRIER CONCRETE WASHOUT



NOTES:
1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. INSTALL CONCRETE WASHOUT SIGN (24"X24", MINIMUM) WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. TEMPORARY WASHOUT AREA MUST BE AT LEAST 50' FROM A STORM DRAIN, CREEK BANK OR PERIMETER CONTROL.
4. CLEAN OUT CONCRETE WASHOUT AREA WHEN 50% FULL.
5. THE KEY TO FUNCTIONAL CONCRETE WASHOUTS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR CLEAN OUT.
6. SILT FENCE SHALL BE INSTALLED AROUND PERIMETER OF CONCRETE WASHOUT AREA EXCEPT FOR THE SIDE UTILIZED FOR ACCESSING THE WASHOUT.
7. A ROCK CONSTRUCTION ENTRANCE MAY BE NECESSARY ALONG ONE SIDE OF THE WASHOUT TO PROVIDE VEHICLE ACCESS.



CONCRETE WASHOUT SIGN DETAIL

CONCRETE WASHOUT
STRAW BALES OR ABOVE GROUND

NOT TO SCALE

REV.	DATE	BY	REVISIONS
3	12/14/22	JAF	REVISED PER CITY REVIEW COMMENTS
2	11/10/22	JAF	REVISED PER CITY AND EPD REVIEW COMMENTS
1	10/11/22	JAF	REVISED PER CITY REVIEW COMMENTS

JASON J. BRYANT P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

REGISTERED PROFESSIONAL ENGINEER No. 38245 STATE OF GEORGIA JASON JOSEPH BRYANT

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(912)445-0578
www.PittmanEngineeringCo.com

EROSION CONTROL DETAILS

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA
Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

Project No.	21-255
Drawn By:	JAF
Designed By:	JJB
Checked By:	JJB
Scale:	N/A
Date:	3/1/22

SHEET
EC5.1

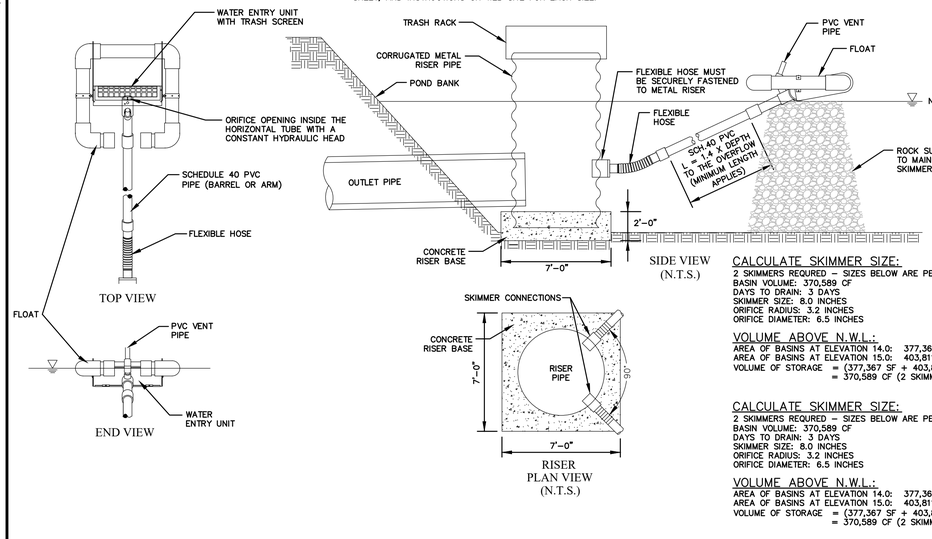
Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

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Monday, March 27, 2023 1:43:54 PM

GENERAL NOTES:

1. PROPER DESIGN MUST BE COMPLETED TO MINIMIZE PIPING AROUND DISCHARGE PIPE.
2. PROPER ORIFICE OPENING MUST BE SELECTED TO ENSURE POND DRAINS IN CORRECT AMOUNT OF TIME. MODIFICATIONS MAY BE REQUIRED IF FIELD CONDITIONS WARRANT A CHANGE.
3. EROSION PROTECTION MUST BE INSTALLED ALONG THE EMBANKMENT AND AT THE DISCHARGE END OF THE PIPE.
4. INSPECT SYSTEM REGULARLY TO ENSURE IT IS FUNCTIONING IN A CORRECT MANNER.
5. EIGHT SIZES OF SKIMMERS ARE AVAILABLE, REFER TO THE FLOW SHEET, CUT SHEET, AND INSTRUCTIONS ON WEB SITE FOR EACH SIZE.



CALCULATE SKIMMER SIZE:

2 SKIMMERS REQUIRED – SIZES BELOW ARE PER SKIMMER
BASIN VOLUME: 370,589 CF
DAYS TO DRAIN: 3 DAYS
SKIMMER SIZE: 8.0 INCHES
ORIFICE RADIUS: 3.2 INCHES
ORIFICE DIAMETER: 6.5 INCHES

VOLUME ABOVE N.W.L.:
AREA OF BASINS AT ELEVATION 14.0: 377,367 SF
AREA OF BASINS AT ELEVATION 15.0: 403,811 SF
VOLUME OF STORAGE = (377,367 SF + 403,811 SF)/2 x (1.0' FT.)
= 370,589 CF (2 SKIMMERS WILL BE REQUIRED)

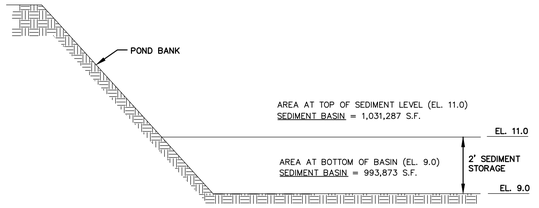
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VOLUME OF STORAGE = (377,367 SF + 403,811 SF)/2 x (1.0' FT.)
= 370,589 CF (2 SKIMMERS WILL BE REQUIRED)

(Sk) FAIRCLOTH SKIMMER DISCHARGE SYSTEM

SCALE: N.T.S.



SIDE VIEW (N.T.S.)

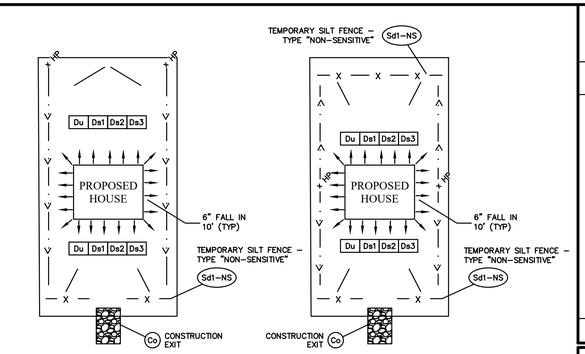
- TOTAL PROJECT ACREAGE = 20
- TOTAL DISTURBED ACREAGE = 19.8
- TOTAL REQUIRED SEDIMENT STORAGE: 19.8 X 67 c.y./Ac. = 1,326.6 c.y.
- THIS PROJECT WILL UTILIZE EXISTING DETENTION POND FOR THE SEDIMENT STORAGE REQUIREMENT. THE PROPOSED LAND DISTURBING ACTIVITIES FOR THIS PROJECT ARE TO GRADE TO PROVIDE POSITIVE DRAINAGE TO SPECIFIC AREAS OF THIS TRACT OF LAND.

SEDIMENT BASIN:
AREA AT BOTTOM OF BASIN (EL. 9.0) = 993,873.4 S.F.
AREA AT TOP OF SEDIMENT LEVEL (EL. 11.0) = 1,031,287.4 S.F.
AVERAGE AREA: (993,873 + 1,031,287 S.F.)/2 = 1,012,580 S.F.
VOLUME OF SEDIMENT STORAGE: 1,012,580 S.F. X 2 FT. = 2,025,160 C.F./27 = 75,005 C.Y.
SEDIMENT BASIN #1 STORAGE = 75,005 C.Y.

75,005 C.Y. EXCEEDS THE REQUIRED 1,326.6 CY OF SEDIMENT STORAGE

(Sd3) TEMPORARY SEDIMENT BASIN

SCALE: N.T.S.



TYPE "A" LOT
TYPICAL DRAINAGE ALL TO FRONT (STREET)
(NOT TO SCALE)

TYPE "B" LOT
TYPICAL DRAINAGE TO BOTH FRONT (STREET) AND REAR (LOT LINE)
(NOT TO SCALE)

TYPE "C" LOT
TYPICAL DRAINAGE ALL TO REAR (LOT LINE)
(NOT TO SCALE)

TYPE "C" LOT DRAINING TO WETLAND
TYPICAL DRAINAGE ALL TO REAR (LOT LINE)
(NOT TO SCALE)

SITUATIONAL LOT EROSION CONTROL DETAILS

SCALE: N.T.S.

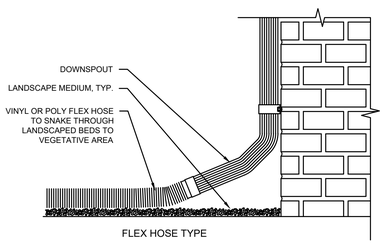
DESCRIPTION
WHERE SITE CHARACTERISTICS PERMIT, SIMPLE DOWNSPOUT DISCONNECTIONS CAN BE USED TO SPREAD ROOFTOP RUNOFF FROM INDIVIDUAL DOWNSPOUTS ACROSS LAWNS AND OTHER PERVIOUS AREAS, WHERE IT IS SLOWED, FILTERED AND ALLOWED TO INFILTRATE INTO NATIVE SOILS. THEY ARE TYPICALLY USED IN AREAS THAT HAVE BEEN DISTURBING ACTIVITIES AND ARE TYPICALLY VEGETATED WITH MANAGED TURF. IF PROPERLY DESIGNED, SIMPLE DOWNSPOUT DISCONNECTIONS CAN PROVIDE MEASURABLE REDUCTIONS IN POST-CONSTRUCTION STORMWATER RUNOFF RATES, VOLUMES AND POLLUTANT LOADS ON DEVELOPMENT SITES. CONSEQUENTLY, THEY CAN BE USED TO HELP SATISFY THE SWM CRITERIA PRESENTED IN THIS CSS.

KEY CONSIDERATIONS

DESIGN CRITERIA:
- LENGTH OF FLOW PATH IN CONTRIBUTING DRAINAGE AREAS SHOULD BE 75 FEET OR LESS
- LENGTH OF FLOW PATH IN PERVIOUS AREAS BELOW SIMPLE DOWNSPOUT DISCONNECTIONS SHOULD BE AT LEAST 15 FEET LONG AND EQUAL TO OUR GREATER THAN THE LENGTH OF THE FLOW PATH IN THEIR CONTRIBUTING DRAINAGE AREAS
- DOWNSPOUT DISCONNECTIONS SHOULD BE DESIGNED TO CONVEY STORMWATER RUNOFF AWAY FROM BUILDINGS TO PREVENT DAMAGE TO BUILDING FOUNDATIONS

BENEFITS:
- HELPS RESTORE PRE-DEVELOPMENT HYDROLOGY ON DEVELOPMENT SITES AND REDUCES POST-CONSTRUCTION STORMWATER RUNOFF RATES, VOLUMES AND POLLUTANT LOADS
- RELATIVELY LOW CONSTRUCTION COST AND LONG-TERM MAINTENANCE BURDEN

LIMITATIONS:
- CAN ONLY BE USED TO "RECEIVE" RUNOFF FROM SMALL DRAINAGE AREAS OF 2,500 SQUARE FEET OR LESS
- PROVIDES GREATER STORMWATER MANAGEMENT BENEFITS ON SITES WITH PERMEABLE SOILS (I.E., HYDROLOGIC SOIL GROUP A AND B SOILS)



STORMWATER MANAGEMENT "CREDITS"
- ☑ RUNOFF REDUCTION
- ☑ WATER QUALITY PROTECTION
- ☑ AQUATIC RESOURCE PROTECTION
- ☑ OVERBANK FLOOD PROTECTION
- ☑ EXTREME FLOOD PROTECTION

☑ = PRACTICE HAS BEEN ASSIGNED QUANTIFIABLE STORMWATER MANAGEMENT "CREDITS" THAT CAN BE USED TO ADDRESS THIS SWM CRITERIA

STORMWATER MANAGEMENT PRACTICE PERFORMANCE

RUNOFF REDUCTION
25%-50% - ANNUAL RUNOFF VOLUME
30%-60% - RUNOFF REDUCTION VOLUME

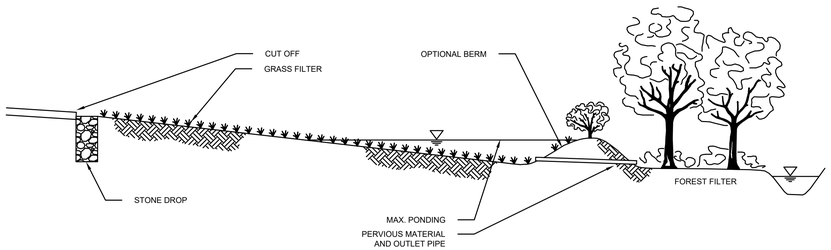
POLLUTANT REMOVAL[1]
80% - TOTAL SUSPENDED SOLIDS
25% - TOTAL PHOSPHORUS
25% TOTAL NITROGEN
40% - METALS
N/A - PATHOGENS

1 = EXPECTED ANNUAL POLLUTANT LOAD REMOVAL

SITE APPLICABILITY
- ☑ RURAL USE
- ☑ SUBURBAN USE
- ✳ URBAN USE
- L CONSTRUCTION COST
- L MAINTENANCE
- H AREA REQUIRED

DOWNSPOUT DISCONNECTIONS REQUIRED FOR ALL SINGLE-FAMILY HOMES WITHIN THE LAKESIDE DEVELOPMENT, UNLESS OTHERWISE NOTED.

TYPICAL DOWNSPOUT DETAIL
NOT TO SCALE



DESCRIPTION
VEGETATED FILTER STRIPS ARE UNIFORMLY GRADED, DENSELY VEGETATED AREAS OF LAND DESIGNED TO SLOW AND FILTER STORMWATER RUNOFF. THEY ARE TYPICALLY INSTALLED IN AREAS THAT HAVE BEEN DISTURBED BY CLEARING, GRADING AND OTHER LAND DISTURBING ACTIVITIES AND ARE TYPICALLY VEGETATED WITH MANAGED TURF. IF STORMWATER RUNOFF CAN BE EVENLY DISTRIBUTED OVER THEM AS OVERLAND SHEET FLOW, VEGETATED FILTER STRIPS CAN PROVIDE SIGNIFICANT REDUCTIONS IN POST-CONSTRUCTION STORMWATER RUNOFF RATES, VOLUMES AND POLLUTANT LOADS ON DEVELOPMENT SITES. CONSEQUENTLY VEGETATED FILTER STRIPS CAN BE USED TO HELP SATISFY THE SWM CRITERIA PRESENTED IN THIS CSS.

KEY CONSIDERATIONS

DESIGN CRITERIA:
- STORMWATER RUNOFF SHOULD ENTER VEGETATED FILTER STRIPS AS OVERLAND SHEET FLOW
- LENGTH OF FLOW PATH IN CONTRIBUTING DRAINAGE AREAS SHOULD BE 150 FEET OR LESS IN PERVIOUS DRAINAGE AREAS AND 75 FEET OR LESS IN IMPERVIOUS DRAINAGE AREAS
- LENGTH OF FLOW PATH IN VEGETATIVE FILTER STRIP SHOULD BE 25 FEET OR MORE
- VEGETATED FILTER STRIPS SHOULD HAVE A SLOPE OF AT LEAST 0.5% TO ENSURE ADEQUATE DRAINAGE

BENEFITS:
- HELPS RESTORE PRE-DEVELOPMENT HYDROLOGY ON DEVELOPMENT SITES AND REDUCES POST-CONSTRUCTION STORMWATER RUNOFF RATES, VOLUMES AND POLLUTANT LOADS
- RELATIVELY LOW CONSTRUCTION COST AND LONG-TERM MAINTENANCE BURDEN

LIMITATIONS:
- CAN BE DIFFICULT TO MAINTAIN OVERLAND SHEET FLOW WITHIN A VEGETATED FILTER STRIP, WHICH NEEDS TO BE PROVIDED TO PREVENT SOIL EROSION AND ENSURE PRACTICE PERFORMANCE

VEGETATIVE FILTER STRIPS DETAIL
NOT TO SCALE

STORMWATER MANAGEMENT "CREDITS"
- ☑ RUNOFF REDUCTION
- ☑ WATER QUALITY PROTECTION
- ☑ AQUATIC RESOURCE PROTECTION
- ☑ OVERBANK FLOOD PROTECTION
- ☑ EXTREME FLOOD PROTECTION

☑ = PRACTICE HAS BEEN ASSIGNED QUANTIFIABLE STORMWATER MANAGEMENT "CREDITS" THAT CAN BE USED TO ADDRESS THIS SWM CRITERIA

STORMWATER MANAGEMENT PRACTICE PERFORMANCE

RUNOFF REDUCTION
25%-50% - ANNUAL RUNOFF VOLUME
30%-60% - RUNOFF REDUCTION VOLUME

POLLUTANT REMOVAL[1]
80% - TOTAL SUSPENDED SOLIDS
25% - TOTAL PHOSPHORUS
25% TOTAL NITROGEN
40% - METALS
N/A - PATHOGENS

1 = EXPECTED ANNUAL POLLUTANT LOAD REMOVAL

SITE APPLICABILITY
- ☑ RURAL USE
- ☑ SUBURBAN USE
- ✳ URBAN USE
- L CONSTRUCTION COST
- L MAINTENANCE
- H AREA REQUIRED

VEGETATED FILTER STRIPS ARE TYPICAL WITHIN ALL AREAS MARKED DS3 (DISTURBED AREA STABILIZATION WITH PERMANENT VEGETATION)

REV.	DATE	BY	REVISIONS
3	12/14/22	JAF	REVISED PER CITY REVIEW COMMENTS
2	11/10/22	JAF	REVISED PER CITY AND EPD REVIEW COMMENTS
1	10/11/22	JAF	REVISED PER CITY REVIEW COMMENTS

JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

REGISTERED PROFESSIONAL ENGINEER No. 38245 JASON JOSEPH BRYANT

PITTMAN ENGINEERING
2591 Highway 17, Suite 303
Richmond Hill, GA 31324
(912)445-0578
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EROSION CONTROL DETAILS

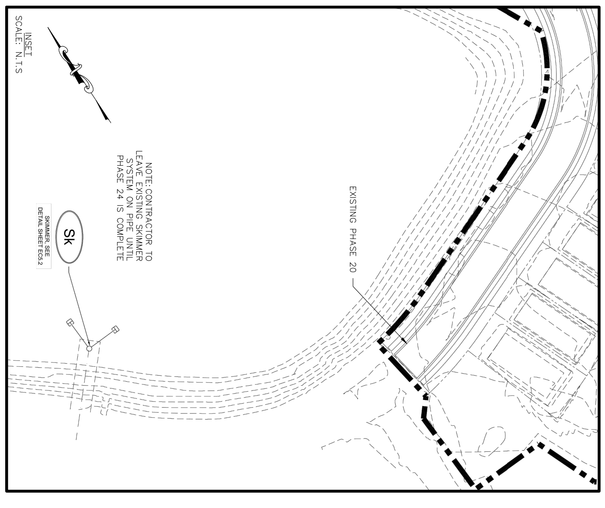
RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA
Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

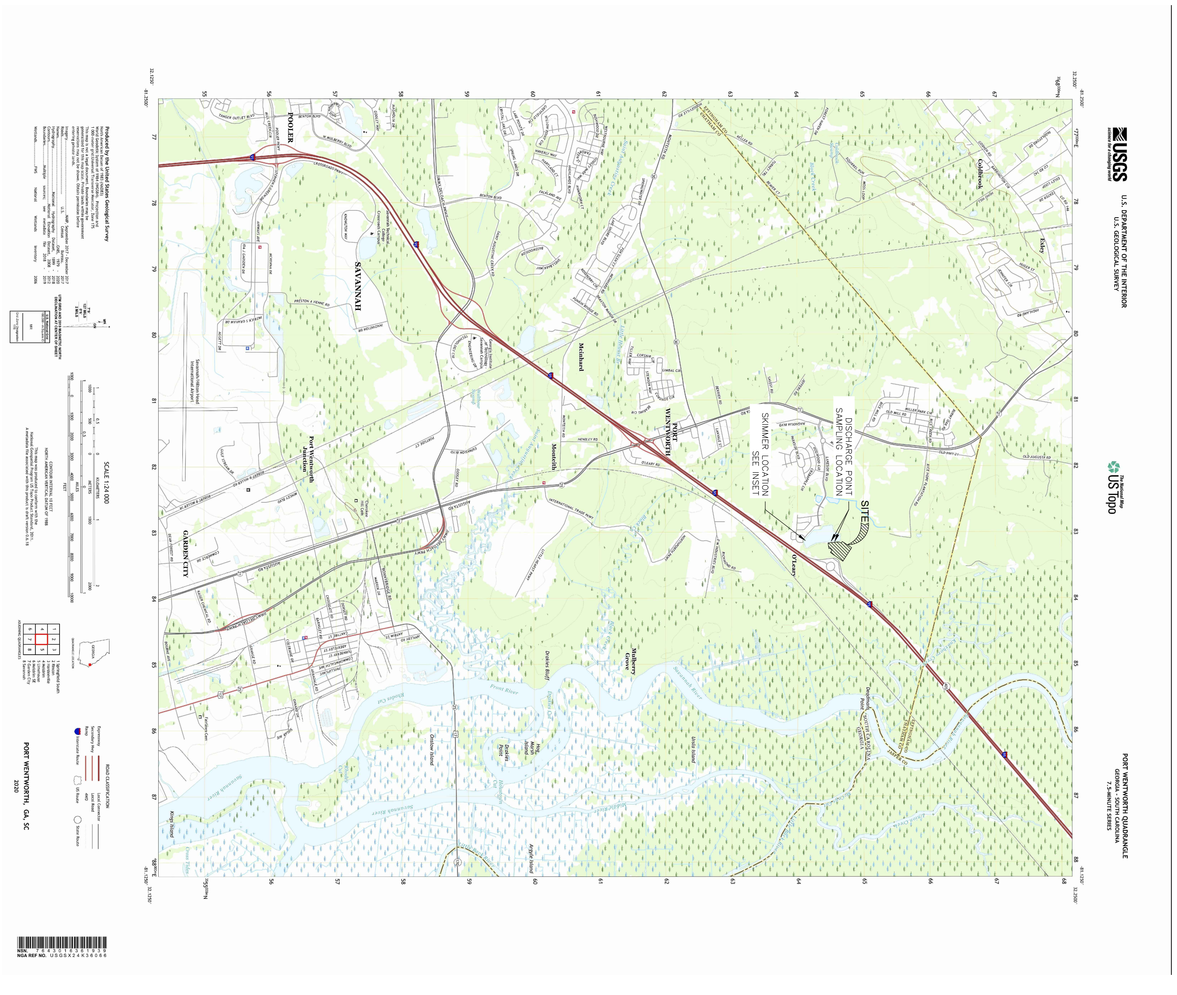
Project No. 21–255
Drawn By: JAF
Designed By: JJB
Checked By: JJB
Scale: N/A
Date: 3/1/22

SHEET
EC5.2

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Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Site Plan 3.24.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)





EROSION CONTROL DETAILS

RICE HOPE LAKESIDE PHASE 24
PORT WENTWORTH, GEORGIA

Prepared For
FORESTAR (USA) REAL ESTATE GROUP, INC.

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GEORGIA REGISTERED No. 38245 PROFESSIONAL ENGINEER JASON J. BRYANT JOSEPH

JASON J. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION #73897

REV.	REVISIONS	BY	DATE
3	REVISED PER CITY REVIEW COMMENTS	JAF	12/14/22
2	REVISED PER CITY AND EPD REVIEW COMMENTS	JAF	11/10/22
1	REVISED PER CITY REVIEW COMMENTS	JAF	10/11/22

SHEET
EC5.3

Project No: 21-255
Drawn By: JAF
Designed By: JJB
Checked By: JJB
Scale: N/A
Date: 3/1/22

RICE HOPE
COMPREHENSIVE DRAINAGE STUDY

PREPARED FOR:
BALD EAGLE PARTNERS

CITY OF PORT WENTWORTH,
CHATHAM COUNTY, GEORGIA

PREPARED BY:

PITTMAN ENGINEERING

JANUARY 14, 2022
Revised: March 31, 2022
Revised: May 2, 2022
Revised: Jun 13, 2022
Revised: August 3, 2022
Revised: October 3, 2022
Revised: January 24, 2023

GEORGIA REGISTERED No. 38245 PROFESSIONAL ENGINEER JASON JOSEPH BRYANT

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

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Appendix E---ICPR Post Development Flow Map

Appendix F---ICPR Pre Development Input Data

Appendix G---ICPR Post Development Input Data

Appendix H---ICPR Pre Development Basin Flow Data

Appendix I---ICPR Pre Development Basin Flow Data

Appendix J-- Pre Development Node Max Stage

Appendix K-- Post Development Node Max Stage

Appendix L-- Pre Development Link Max Flow

Appendix M-- Post Development Link Max Flow

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Objective:

Rice Hope Plantation is updating their stormwater master plan consisting of approximately 850-acres of property on the east side of HWY 21 north of I-95 in Port Wentworth, GA. Existing and fully developed conditions are analyzed for the comprehensive storm water master plan. The proposed development pattern of the development consists of residential development. The area abuts Hwy 21 and Interstate 95 and is located between the Black Creek and Knoxboro Creek Tributary Watersheds. The existing and proposed Rice Hope development is in a FEMA Flood Zone X. Due to regulatory requirements, the Post Development flows shall be designed to maintain Pre-Development flows except when the ultimate outfall location is in a tidally influenced area. Therefore, since the Rice Hope Drainage system drains to a tidally influenced area the Study has been prepared and submitted for the City of Port Wentworth's consideration which calculates utilizing the low starting (tidally influenced) water surface elevation to improve upstream drainage conditions. Thus, the northern outfall is allowed to increase the storm water flows for the regulated design storms which drain to Knoxboro Creek Watersheds. The study has been prepared in accordance with City of Port Wentworth regulatory requirements.

Of importance in this drainage analysis, it needs to be pointed out that according to historical data, some of the prior stormwater discharge outfalls appears to be dammed up with a significant berm. The berm location follows the City of Savannah and Georgia Power Easement. These impediments impact the drainage system's efficiency and functionality for the entire watershed. Thus, in an attempt to minimize the drainage impacts of the damming effect of the berm, the pre-developed conditions did not consider the historic ditches as functional. However, the damming effect obviously impacts the upstream drainage components of the watershed.

This report includes the following information for Port Wentworth's review:

1. Narrative and photographs of the project and the purpose. As above indicated the project purpose is to calculate pre and post development stage and flows in the Rice Hope Plantation development. The post development flows are to be designed to take advantage of the tidally influenced outfall and thus according to the City regulations, the post development may exceed predevelopment flow at the ultimate outfalls into Knoxboro Creek Tributary Watersheds. Per the city requirements, maintaining the predeveloped runoff rate is not required when a discharge is connected to a tidally influenced outfall. Note the northern most outfall for Rice Hope is directly connected to a tidally influenced outfall and thus, maintaining the predeveloped runoff rate is not applicable. However, post developed conditions shall be master planned to have no adverse impacts upstream during storms up to and including the 100-year frequency storm.
2. Hydrologic Computations. Watershed maps and results of the 2-, 10-, 25-, 50- and 100-year discharge rates as calculated by using SCS standard practices in this Drainage Study.
3. Hydraulic Computations. A copy of the ICPR Hydraulic Computer Model reflecting the input and output for the 100-year water surface elevations for Black Creek and Knoxboro Creek Tributary from HWY 21 to the terminus of the Rice Hope Plantation is included in the

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respective Appendices. This detailed analysis encompasses approximately three miles of Black Creek, Knoxboro Creek Tributary, and interior tributary/lagoon interconnecting conveyances.

4. ICPR NODE/LINK MAX STAGE maps for both Pre and Post Development Conditions. Please note the LIDAR topography utilized for the project was flown as part of the 2010 Coastal Georgia mapping project contracted through NOAA. This same mapping is the topographic foundation for the FEMA maps for Coastal Georgia. Also, please note, the LIDAR was supplemented with field surveys. LIDAR topography was utilized to create all cross-section inputs into the ICPR computer model. The datum for both the LIDAR and field survey is NAVD 88.
5. ICPR NODE/LINK MAX FLOW maps for both Pre and Post Development Conditions. The Max Flow maps show the movement of water from the Knoxboro Creek Tributary to Black Creek and vice versa in order to accomplish mass balance in both watersheds.

Project Background:

The proposed Rice Hope Plantation Subdivision is a proposed residential community located in Port Wentworth, Chatham County, Georgia. The Rice Hope Plantation Subdivision is in a FEMA Flood Zone X. In Pre-Development, storm drainage from Rice Hope divides between Lakeside Blvd and Mulberry Ave to flow north to one of two crossing over the existing I&D lines, outfalling to Knoxboro Creek Tributary or South over the Parkside crossing of the I&D line to Black Creek. In more detail, the Knoxboro Creek Tributary begins north of Lakeside Dr, east of HWY 21. This area known as the Mulberry Tract flows west to east through relatively flat terrain with a system of channels to cross the I&D lines. The I&D lines consist of 2-48” pipes force mains running north and south located slightly below and at ground elevation. Currently, the stormwater flows over, and at two locations between the I&D lines until it reaches the east side of the crossings. From there, the stormwater flows northeast to the Knoxboro Creek outfall. The Black Creek outfall flows south from Mulberry Blvd. to the Parkside I&D line crossing. This crossing consists of 4 storm pipes which are equivalent to 16” diameters at the upstream end, and 24” at the downstream end. After the crossing, the stormwater flows east to I-95 crossing through a 4x4 box.

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Existing Northern Outfall



Existing Middle Outfall which is currently blocked & is not to be reconstructed.

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Existing Southern Outfall

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In Post-Development, the Mulberry Tracts consist of a collection of interconnecting ponds with outfalls at the same two I&D crossings. These crossings are proposed to be updated to consist of a concrete flume as shown in the drainage exhibits. The Parkside crossing will remain the same. The eastside of the crossing, which consists of Lakeside, and Third Lake Subdivisions, will flow through a collection of interconnected ponds to connect the Black Creek Watershed to the Knoxboro Creek Tributary Watershed.

To facilitate the overall design and flow across the I&D line, this project was commissioned. Pittman Engineering has compiled the necessary topography, hydrologic and hydraulic information and performed sufficient field reconnaissance to prepare a Submittal for Black Creek and Knoxboro Creek Tributary Watersheds.

The watershed delineation was obtained from overlaying the County's 2010 LIDAR prepared by NOAA, aerial photograph, Wetland Inventory, Chatham County Parcel and Road layout, and field reconnaissance. For simplicity, we have shown the resulting watershed delineations at road and railroad crossings and depicted them on aerials overlaid with DEM pdfs. The resulting watershed acreages were utilized in ICPR to calculate the Time of Concentration, and CN parameters used to generate the 100-year basin flow rates.

The topography was obtained from two sources, field survey and the 2010 Coastal Georgia LIDAR topography. The LIDAR was flown for 1-foot contours with a 6-inch accuracy. The surveyed and LIDAR topography was merged to input the geometric data into the ICPR computer model. As can

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be seen from the LIDAR and from the field reconnaissance photos, both Black Creek, and Knoxboro Creek Tributaries are expansive wetland area which are relatively flat, with little topographic relief and where in many cases the roads which follow the ridge line and the I&D crossings acts as the watershed divides. The project areas drain to the Black Creek, and Knoxboro Creek Watersheds respectively. The conveyance system for the Knoxboro Creek Tributary to Knoxboro Creek is an expansive swamp typical of the low country in South Georgia.

In order to establish the max flood elevation for the Project Area, both a hydrologic and hydraulic analysis was performed. Thus, Pittman Engineering prepared a comprehensive flood study which starts at HWY 21 north of I-95 in Port Wentworth, Chatham County, GA and proceeds downstream along both the Black Creek, and Knoxboro Creek Tributaries to the respective crossings under I-95. It should be noted that there are several properties within the tributary areas that are owned by Owners other than Rice Hope Plantation Developers. The predominant factor in flood elevations increasing as one progresses upstream is the I&D line, as these structures are impeding flow to the east.

The peak flow rates were calculated using SCS methodology and ICPR unsteady routing model. The flood elevations for the Knoxboro Creek Tributary and Black Creek from I-95 were determined by utilizing the Streamline Technologies, Interconnecting Pond and Routing model (ICPR) to perform an unsteady backwater analysis.

Time of Concentration:

The times of concentration were calculated per the July 19, 2004 Rice Hope Plantation Drainage Study, Lakeside at Rice Hope, Phase 1C, Rice Hope Mulberry (Coleman Co.), and new Pittman Engineering calculations for the Third Lake area.

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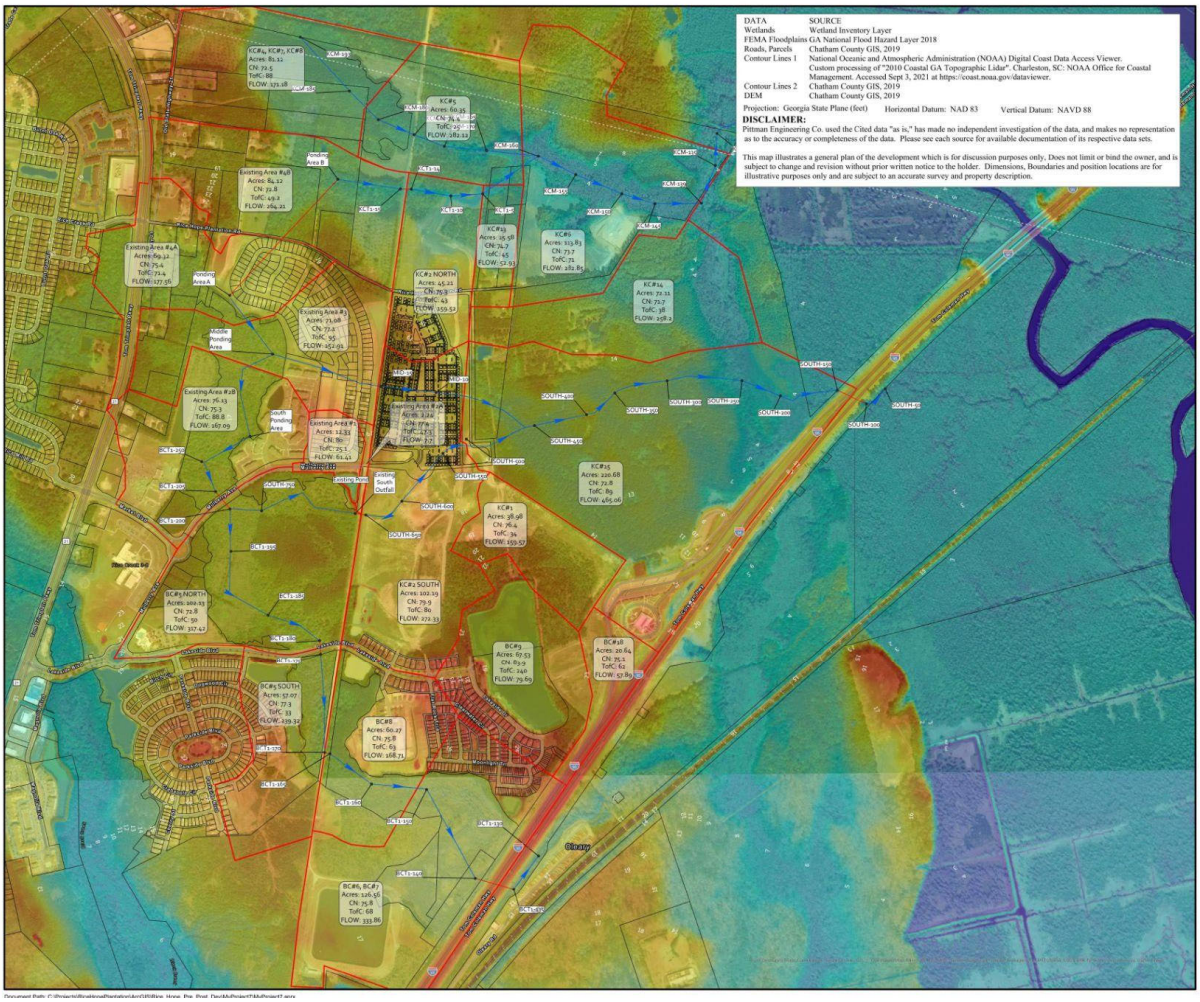
Pre-Development Basins				
BasinName	Source	AC	CN	TofC
Existing Area #4B	Neil	84.1	72.8	49.2
Existing Area #4A	Neil	69.3	75.4	71.4
Existing Area #3	COLEMAN CO. MULBERRY MODEL	71.1	77.1	95.0
Existing Area #2B	COLEMAN CO. MULBERRY MODEL	76.1	75.3	88.8
Existing Area #1	COLEMAN CO. MULBERRY MODEL	12.3	80.0	25.1
Existing Area #2A	COLEMAN CO. MULBERRY MODEL	2.2	77.4	47.3
BC#5 NORTH	PITTMAN RECALCULATED	102.1	72.8	50.0
BC#8	PITTMAN RECALCULATED	60.3	75.8	63.0
BC#6, BC#7	PITTMAN RECALCULATED	126.6	75.8	68.0
KC#1	T&H CALCULATED	39.0	76.4	34.0
KC#15	T&H CALCULATED	220.7	72.8	89.0
KC#2 SOUTH	PITMANN RECALCULATED	102.2	79.9	80.0
KC#2 NORTH	PITMANN RECALCULATED	45.2	75.3	43.0
BC#9	T&H CALCULATED	67.5	83.9	24.0
BC#18	T&H CALCULATED	20.6	75.1	62.0
KC#13	PITTMAN RECALCULATED	15.6	74.7	45.0
KC#14	PITTMAN RECALCULATED	72.1	71.7	38.0
KC#5	PITTMAN RECALCULATED	60.3	74.4	25.0
KC#6	PITTMAN RECALCULATED	113.8	73.7	71.0
KC#4, KC#7, KC#8	PITTMAN RECALCULATED	81.1	72.5	88.0
BC#5 SOUTH	PITTMAN RECALCULATED	57.1	77.3	33.0
BC#19	T&H CALCULATED	908.61	76	103
KC#11	T&H CALCULATED	677.81	77	95
KC#12	T&H CALCULATED	186.82	79	87
KC#16	T&H CALCULATED	300.98	77	148
KC#17	T&H CALCULATED	16.74	77	27

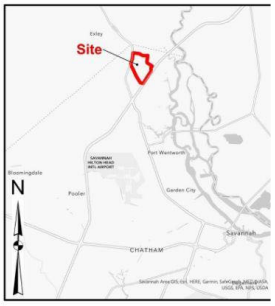
Post-Development Basins				
BasinName	Source	AC	CN	TofC
OFFSITE AREA#3	COLEMAN CO. MULBERRY MODEL	28.3	70.1	82
Existing Area #4A	COLEMAN CO. MULBERRY MODEL	44.9	72.8	71
BY-PASS AREA #4B	COLEMAN CO. MULBERRY MODEL	82.8	72.7	67
EXISTING AREA #2B	COLEMAN CO. MULBERRY MODEL	80.8	75.5	88
Existing Area #1	COLEMAN CO. MULBERRY MODEL	3.9	74.8	10
POST AREA A	COLEMAN CO. MULBERRY MODEL	15.7	77.7	18
POST AREA B	COLEMAN CO. MULBERRY MODEL	1.0	70.6	10
~~POST AREA B~~	~~COLEMAN CO. MULBERRY MODEL~~	~~34.9~~	~~77.1~~	~~29~~
~~POST AREA C~~	~~COLEMAN CO. MULBERRY MODEL~~	~~25.0~~	~~79.3~~	~~29~~
BC#5 NORTH	PITTMAN RECALCULATED	102.2	72.7	50
BC#8	PITTMAN RECALCULATED	31.1	75.3	63
BC#6, BC#7	PITTMAN RECALCULATED	111.9	75.7	68
COMBINED WITH ANOTHER BASIN				
KC#15	OFFSITE/ T&H CALCULATED	214.7	72.7	89
~~KC#2 SOUTH~~	~~PITTMAN RECALCULATED~~	~~39.1~~	~~78.9~~	~~30~~
KC#2 NORTH	PITTMAN RECALCULATED	28.8	72.1	43
BC#9	PITTMAN ENGINEERING/RECALCULA	74.0	81.3	25
BC#18	OFFSITE/ T&H CALCULATED	20.7	75.8	62
KC#13	PITTMAN RECALCULATED	15.5	74.6	45
KC#14	PITTMAN RECALCULATED	71.5	71.5	38
KC#5	PITTMAN RECALCULATED	60.3	72.4	25
KC#6	PITTMAN RECALCULATED	113.8	72.9	71
KC#4, KC#7, KC#8	PITTMAN RECALCULATED	81.1	72.2	88
BC#5 SOUTH	PITTMAN RECALCULATED	57.1	77.3	33
DB#1	T&H LAKESIDE MODEL+SOME	31.1	75.3	30
DB#4	T&H LAKESIDE MODEL+SOME	1.4	79.4	16
DB#6B	T&H LAKESIDE MODEL+SOME	7.3	80.7	25
DB#3	T&H LAKESIDE MODEL+SOME	2.5	80.2	7
DB#6C	T&H LAKESIDE MODEL+SOME	1.2	81.0	13
DB#5B	T&H LAKESIDE MODEL+SOME	0.2	81.0	6
DB#2	T&H LAKESIDE MODEL+SOME	4.7	82.1	17
DB#6A	T&H LAKESIDE MODEL+SOME	2.6	81.0	13
SMALL POND	PITTMAN ENGINEERING	16.9	77.0	24
DB#5A	T&H LAKESIDE MODEL+SOME	3.0	78.2	18
~~L4~~	~~PITTMAN ENGINEERING~~	~~11.9~~	~~74.9~~	~~15~~
L3	PITTMAN ENGINEERING	33.5	76.2	20
~~PIPE XING~~	~~PITTMAN ENGINEERING~~	~~14.7~~	~~78.4~~	~~20~~
BC#19	T&H CALCULATED	908.61	76	10
KC#11	T&H CALCULATED	677.81	77	9
KC#12	T&H CALCULATED	186.82	79	8
KC#16	T&H CALCULATED	300.98	77	14
KC#17	T&H CALCULATED	16.74	77	2

POST AREA D	COLEMAN CO. MULBERRY MODEL	35.58	77	16
POST AREA C1	COLEMAN CO. MULBERRY MODEL	17.17	90	
POST AREA C2	COLEMAN CO. MULBERRY MODEL	9.64	90	

KC# 2 SOUTH	PITTMAN ENGINEERING	19.57	81.0	22
L4	PITTMAN ENGINEERING	20.68	87.6	39
PIPE XING	PITTMAN ENGINEERING	34.62	90.4	15

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Rice Hope Comprehensive Drainage Study

ICPR Pre Development Basin Map

Chatham County, Georgia

March 2022

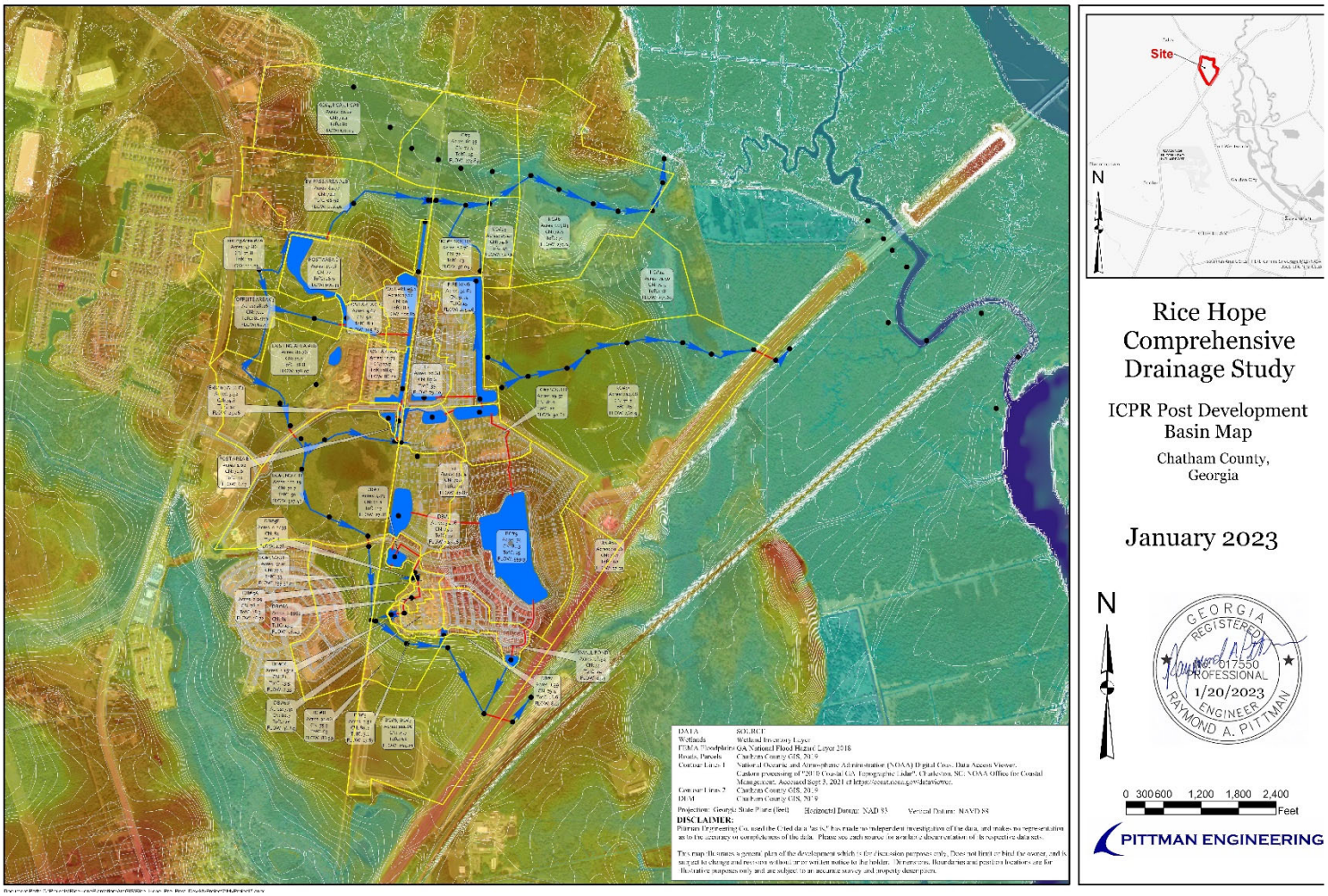
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GEORGIA REGISTERED No. 017550 PROFESSIONAL 3/28/2022 ENGINEER RAYMOND A. PITTMAN

0 500 1,000 2,000 Feet

PITTMAN ENGINEERING

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Results:

The hydrology for the Rice Hope Comprehensive Drainage Study was performed by means of the TR-55 method. The Pre-development, and Post-development conditions were designed to accommodate the 100-year frequency, twenty-four (24) hour, storm event. The design tail water for both outfalls was calculated using normal depth. In addition, watersheds have been delineated at strategic locations to generally reflect the geometry of the flow path and at each of the flow path restriction locations such as road crossings. The times of concentration on existing development models were used primarily. However, new basins were calculated using the TR-55 method, based on the travel times for overland and shallow concentrated flows. The overland flow lengths were limited to fifty (50) feet and the remaining flow lengths consisted of shallow concentrated flow.

The ICPR model was created from 2010 LIDAR, aerial photography, the Wetland Inventory, Landuse maps, the Chatham County Parcel and road layout, and field reconnaissance. Cross Sections at each of the road and intermediate locations were created from the LIDAR and survey information and input into the ICPR computer model. In addition, cross sections upstream and downstream of each of the crossing were created from LIDAR topography and input into the computer model. Please note LiDAR

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does NOT penetrate water and thus in some cases the topographic elevation shown in the cross sections is the top of water and not the actual ground elevation.

In addition, the Manning's n value utilized for this analysis are equally conservative. From field investigation, existing and proposed Landuse maps, the Manning's n value were set to represent the existing and proposed land use characteristics. This data is represented in each irregular channel cross section data field. The resulting calculations are very conservative in nature.

Summary of Results:

The 100-Year flood elevation has been calculated utilizing the SCS Methodology to calculate the respective Peak Discharge Rates. These Peak Discharge Parameters inputted into the ICPR Model for Black Creek, and Knoxboro Creek Tributary resulted in a respective flood Elevation for Rice Hope Plantation of varying elevations shown on the included Pre-Post development map in NAVD 88. Post development max stage elevations are equal or below pre-development max stage elevations due to the use of storm drainage ponds and the improved conditions under the I&D 48" Force Mains to offset stormwater release. The existing I&D outfalls have been improved at the two crossing and downstream of the crossings in order to improve upstream stormwater elevations. These improvements have improved upstream conditions which were previously dammed up due to the berms placed in the I&D and Georgia Power Easement.

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PRE DEVELOPMENT MAX STAGE (10/03/2022)

Node Name	2-YEAR			5-YEAR			10-YEAR			25-YEAR			50-YEAR			100-YEAR		
	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflo Rate [cfs]
BCM-0	6.18	208.34	0	6.18	294.75	0	6.18	380.68	0	6.18	522.83	0	6.18	648.7	0	6.18	795	
BCM-5	6.19	208.25	208.34	6.19	294.74	294.75	6.2	380.66	380.68	6.22	522.81	522.83	6.25	648.69	648.7	6.28	795.04	7
BCT1-10	6.23	208.26	208.25	6.27	294.79	294.74	6.32	380.83	380.66	6.43	523.21	522.81	6.53	649.34	648.69	6.66	795.91	795.
BCT1-100	6.58	28.72	12.74	6.8	51.07	18.25	6.99	68.88	23.46	7.27	106.81	32.32	7.5	143.92	45.1	7.73	184.8	57.
BCT1-110	6.65	12.74	12.74	6.8	18.24	18.24	6.99	23.13	23.13	7.27	32.32	30.24	7.5	45.1	35.61	7.73	57.89	41.
BCT1-115	8.94	12.75	12.74	9.15	18.26	18.24	9.32	23.15	23.13	9.53	30.24	30.23	9.68	35.59	35.58	9.82	41.15	41.
BCT1-120	8.98	12.82	12.75	9.18	18.37	18.26	9.34	23.27	23.15	9.55	30.33	30.24	9.69	35.65	35.59	9.83	41.24	41.
BCT1-125	11.23	12.82	12.82	11.29	18.37	18.37	11.34	23.27	23.27	11.4	30.33	30.33	11.45	35.66	35.65	11.5	41.24	41.
BCT1-130	11.97	13.25	12.82	12.05	18.69	18.37	12.11	23.46	23.27	12.19	30.44	30.33	12.24	35.73	35.66	12.29	41.35	41.
BCT1-135	13.34	13.25	13.25	13.39	18.68	18.69	13.43	23.46	23.46	13.47	30.44	30.44	13.5	35.73	35.73	13.53	41.35	41.
BCT1-140	14.29	71	13.25	14.65	111.25	18.68	14.95	154.4	23.46	15.34	224.66	30.44	15.61	285.11	35.73	15.89	347.85	41.
BCT1-150	14.29	99.01	63.62	14.66	148.43	100.29	14.95	207.86	138.92	15.34	308.18	200.83	15.61	396.86	253.32	15.89	496.29	30
BCT1-160	14.29	37.91	31.22	14.66	66.98	55.06	14.95	98.09	79.77	15.34	152.01	119.67	15.61	200.86	155.49	15.89	256.29	195.
BCT1-165	14.29	28.62	24.19	14.66	44.53	35.36	14.95	65.41	51.34	15.34	100.82	76.98	15.61	132.99	99.92	15.89	170.05	125.
BCT1-170	14.44	36.17	28.62	14.66	59.25	44.53	14.95	81.12	65.41	15.34	117.12	100.82	15.61	149.64	132.99	15.89	188.25	170.
BCT1-175	14.91	56.78	36.27	15	81.93	59.32	15.07	105.68	81.19	15.35	142.89	117.12	15.62	174.7	149.64	15.89	214.72	188.
BCT1-180	15.69	30.47	24.55	16.22	44.32	32.48	16.5	57.53	36.56	16.79	78.46	41.99	17.01	95.13	45.38	17.23	109.79	47.
BCT1-185	16.25	30.67	30.47	16.37	49.55	44.32	16.54	69.22	57.53	16.8	103.64	78.46	17.01	135.42	95.13	17.23	170.41	109.
BCT1-195	16.29	63.9	31.8	16.4	97.49	56.58	16.56	129.84	81.63	16.81	181.42	126.19	17.02	226.01	162.11	17.23	275.03	202.
BCT1-20	6.34	209	208.26	6.45	296.3	294.79	6.56	383.22	380.83	6.76	526.97	523.21	6.92	653.89	649.34	7.09	801.74	795.
BCT1-200	16.29	24.84	20.62	16.41	37.61	29.11	16.56	47.72	35.64	16.81	58.16	41.89	17.02	66.45	44.72	17.23	77.26	39.
BCT1-205	15.56	2.92	2.92	15.57	3.15	3.15	15.58	3.43	3.43	15.6	3.86	3.86	15.61	4.18	4.18	15.62	4.5	4.
BCT1-250	14.88	2.92	2.93	14.96	3.15	3.19	15.02	3.43	3.48	15.1	3.86	3.92	15.16	4.18	4.26	15.22	4.49	

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

BCT1-30	6.41	212.78	209	6.56	303.04	296.3	6.7	392.97	383.22	6.91	541.81	526.97	7.09	672.74	653.89	7.27	822.56	801.
BCT1-40	6.46	222.62	212.78	6.62	319.06	303.04	6.77	415.01	392.97	7.01	572.86	541.81	7.2	711.73	672.74	7.39	867.54	822.
BCT1-50	6.53	239.42	222.62	6.72	345.44	319.06	6.88	446.93	415.01	7.13	615.63	572.86	7.34	765	711.73	7.55	930.37	867.
BCT1-60	6.56	261.95	239.42	6.76	378.76	345.44	6.95	489.77	446.93	7.21	665.13	615.63	7.43	817.96	765	7.65	991.3	930.
BCT1-70	6.58	396.78	356.78	6.8	590.28	530.86	6.99	774.99	698.22	7.27	1066.94	967.57	7.5	1318.1	1202.2	7.73	1593.32	1460.
BCT1-80	6.58	104.24	69.01	6.8	165.63	114.23	6.99	225.01	157.4	7.27	320.07	226.12	7.5	406.24	292.71	7.73	501.67	369.
BCT1-90	6.58	69.01	28.72	6.8	114.23	51.07	6.99	157.4	68.88	7.27	226.12	106.81	7.5	292.71	143.92	7.73	369.71	18
EXISTING POND	17.82	15.78	7.14	18.05	22.25	11.69	18.24	28.27	16.33	18.5	37.6	23.78	18.7	45.49	30.25	18.9	54.07	37.
EXISTING SOUTH OUTFALL	16.47	29.3	23.32	16.59	40.59	33.12	16.7	52.94	43.53	16.85	73.03	59.55	17.04	88.94	72.21	17.24	105.15	84.
KCM-0	6.18	587.16	0	6.18	850.14	0	6.18	1098.21	0	6.18	1481.05	0	6.18	1803.33	0	6.18	2146.97	
KCM-10	6.18	585.46	587.16	6.18	850.74	850.14	6.18	1097.86	1098.21	6.19	1481.24	1481.05	6.19	1803.39	1803.33	6.19	2147.29	2146.
KCM-120	6.19	108.95	115.22	6.2	170.36	185.29	6.22	242.48	265.72	6.26	367.13	405.46	6.29	477.35	526.73	6.34	592.07	649.
KCM-125	6.57	109.61	108.95	6.74	170.67	170.36	6.9	242.55	242.48	7.12	367.17	367.13	7.29	477.54	477.35	7.45	592.85	592.
KCM-130	6.59	110.25	109.61	6.77	171.15	170.67	6.93	242.81	242.55	7.17	367.48	367.17	7.35	477.98	477.54	7.52	593.66	592.
KCM-135	6.6	111.45	110.25	6.8	172.24	171.15	6.98	243.37	242.81	7.25	368.13	367.48	7.46	478.91	477.98	7.65	595.21	593.
KCM-139	6.61	100.17	98.8	6.8	155.41	155.35	6.99	223.88	224.24	7.26	339.92	340.52	7.47	447.13	447.48	7.66	570.9	571.
KCM-145	6.61	105.12	100.17	6.8	159.73	155.41	6.99	224.03	223.88	7.26	340.67	339.92	7.47	448	447.13	7.67	571.91	57(
KCM-150	6.61	114.58	105.12	6.8	172.08	159.73	6.99	233.06	224.03	7.27	343.96	340.67	7.48	451.93	448	7.68	576.26	571.
KCM-155	6.61	131.24	114.58	6.8	197.63	172.08	6.99	261.99	233.06	7.27	368.41	343.96	7.48	467.68	451.93	7.68	588.57	576.
KCM-160	6.61	95.47	79.85	6.81	147.57	123	7	196.96	177.07	7.28	275.44	271.75	7.5	357.14	357.09	7.7	452.54	452.
KCM-165	6.61	31.27	29.11	6.81	47.51	44.06	7	62.9	58.17	7.29	84.07	77.33	7.5	102.11	95.09	7.71	125.53	118.
KCM-170	6.8	32.13	31.27	6.99	49.31	47.51	7.14	65.45	62.9	7.36	88.22	84.07	7.56	106.85	102.11	7.76	131.21	125.
KCM-175	8.22	32.87	32.13	8.29	49.65	49.31	8.35	65.99	65.45	8.41	89.16	88.22	8.48	108.94	106.85	8.55	132.86	131.
KCM-180	8.73	34.84	32.87	8.82	51.91	49.65	8.88	68.38	65.99	8.96	91.94	89.16	9.02	110.62	108.94	9.09	135.43	132.
KCM-185	9.14	34.88	34.84	9.22	52.67	51.91	9.28	69.93	68.52	9.36	97.58	96.26	9.41	121.61	119.93	9.47	148.17	141.
KCM-193	9.25	0	0	9.25	0	0	9.25	0.15	0	9.34	4.34	0.11	9.41	11.06	0.57	9.47	17.64	1.
KCM-20	6.18	580.69	580.42	6.19	843.77	844.16	6.19	1090.18	1090.12	6.2	1471.99	1472.1	6.21	1792.96	1793.39	6.22	2136.12	2135.
KCM-30	6.19	580.71	580.69	6.19	843.46	843.77	6.2	1089.68	1090.18	6.21	1472.63	1471.99	6.23	1793.9	1792.96	6.25	2137.58	2136.
KCM-40	6.19	581.01	580.71	6.19	844.19	843.46	6.2	1091.04	1089.68	6.22	1474.92	1472.63	6.24	1797.79	1793.9	6.27	2143.58	2137.
KCM-50	6.19	481.87	480.59	6.2	693.18	691.49	6.21	891.04	889.26	6.23	1199.29	1196.73	6.25	1458.91	1455.82	6.28	1737.11	1733.

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

KCM-54	6.19	484.16	481.87	6.2	694.07	693.18	6.21	891.6	891.04	6.23	1199.99	1199.29	6.26	1459.84	1458.91	6.29	1738.28	1737.
KCM-56	6.19	482.01	484.16	6.2	694.03	694.07	6.21	892.03	891.6	6.24	1200.84	1199.99	6.27	1460.94	1459.84	6.3	1739.71	1738.
KCM-60	6.19	490.73	482.01	6.2	714.67	694.03	6.22	928.78	892.03	6.25	1269.35	1200.84	6.28	1562.82	1460.94	6.32	1884.7	1739.
KCT1-10	7.32	45.45	44.87	7.63	82.27	82.29	7.9	122.63	122.67	8.26	189.47	189.53	8.52	247.81	247.92	8.78	320.06	313.
KCT1-14	8.72	37.82	37.81	8.96	76.02	75.99	9.15	113.66	113.63	9.41	175.19	175.16	9.61	228.71	228.68	9.8	288.42	293.
KCT1-15	9.63	39.66	37.82	10.07	78.44	76.02	10.39	117.09	113.66	10.82	178.03	175.19	11.15	232.3	228.71	11.48	316.87	288.
KCT1-5	9.63	37.88	39.66	10.08	76.22	78.44	10.4	114.03	117.09	10.83	175.79	178.03	11.16	229.63	232.3	11.49	289.25	316.
MID-10	6.75	55.65	54.56	7.04	84.48	84.65	7.3	125.88	126.09	7.67	194.9	195.15	7.93	255.23	255.57	8.18	322.64	323.
MID-15	14.52	0	0	14.52	0	0	14.52	0	0	14.52	0	0	14.52	0	0	14.52	0.01	
MIDDLE PONDING AREA	16	0	0	16	0	0	16	0	0	16	0	0	16	0	0	16	0	
PONDING AREA A	14.82	43.29	40.92	14.89	70.5	60.57	14.95	99.39	85.84	15.03	146.49	130.34	15.1	186.85	169.74	15.16	230.47	213.
PONDING AREA B	14.81	75.98	36.43	14.88	112.63	74.08	14.93	146.51	111.87	15.01	203.22	175.72	15.07	261.87	233.11	15.13	327	297.
SOUTH PONDING AREA	9.66	70.67	37.88	10.11	98.98	76.22	10.43	143.61	114.03	10.86	229.79	175.79	11.19	307.82	229.63	11.52	395.79	289.
SOUTH-100	14.87	38.61	20.41	14.95	56.44	32.51	15.02	73.06	45.74	15.1	99.94	68.05	15.16	123.11	87.92	15.22	148.45	109.
SOUTH-150	6.18	36.05	36.29	6.18	47.46	47.68	6.18	55.82	55.89	6.18	66.56	66.7	6.18	75.82	75.89	6.18	84.02	84.
SOUTH-200	6.43	41.44	36.05	6.62	59.16	47.46	6.81	75.46	55.82	7.12	104.02	66.56	7.4	129.97	75.82	7.68	162.08	84.
SOUTH-250	6.43	56.54	41.44	6.62	87.63	59.16	6.81	119.22	75.46	7.12	173.71	104.02	7.4	223.94	129.97	7.68	289.53	162.
SOUTH-300	6.43	92.36	56.54	6.62	150.8	87.63	6.81	212.01	119.22	7.12	312.43	173.71	7.4	403.4	223.94	7.68	520.93	289.
SOUTH-350	10.1	93.71	92.36	10.18	152.99	150.8	10.25	215.31	212.01	10.34	315.93	312.43	10.4	404.46	400.15	10.47	504.91	49
SOUTH-400	12.77	93.4	93.71	13	152.73	152.99	13.16	214.58	215.31	13.31	315.42	315.93	13.42	403.94	404.46	13.53	504.36	504.
SOUTH-450	13.72	94.06	93.4	13.93	153.3	152.73	14.09	215.32	214.58	14.28	316.28	315.42	14.41	404.88	403.94	14.54	505.56	504.
SOUTH-50	13.72	51.98	32.89	13.93	74.27	52.48	14.09	92.6	72.01	14.28	117.82	108.39	14.42	135.75	140.86	14.55	158.03	177.
SOUTH-500	6.18	36.29	0	6.18	47.68	0	6.18	55.89	0	6.18	66.7	0	6.18	75.89	0	6.18	84.07	
SOUTH-550	14.94	22.63	19.63	15.21	33.64	31.16	15.43	45.58	43.65	15.74	70.28	67.44	15.97	94.07	90.05	16.21	122.91	11
SOUTH-600	16.17	23.43	22.63	16.4	33.92	33.64	16.62	45.86	45.58	16.85	72.62	70.28	17	98.39	94.07	17.12	129.1	122.
SOUTH-650	17.15	67.52	65.27	17.23	96.1	91.31	17.31	122.88	115.58	17.44	164.64	151.22	17.54	200.23	182.25	17.64	239.03	217.
SOUTH-750	16.7	42.25	22.76	16.98	58.75	31.75	17.17	73.62	41.27	17.37	93.11	55.23	17.49	106.28	65.55	17.6	116.66	75.

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

PRE DEVELOPMENT MAX STAGE (1/16/2023)

Node Name	2-YEAR (4.28in)			5-YEAR (5.38in)			10-YEAR (6.38in)			25-YEAR (7.91in)			50-YEAR (9.20in)			100-YEAR (10.6in)		
	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]
BCM-0	6.18	208.282	0	6.18	294.792	0	6.18	380.688	0	6.18	522.82	0	6.18	648.704	0	6.18	794.988	
BCM-5	6.19	208.275	208.282	6.19	294.712	294.792	6.2	380.66	380.688	6.22	522.815	522.82	6.25	648.705	648.704	6.28	795.008	794.9
BCT1-10	6.23	208.261	208.275	6.27	294.788	294.712	6.32	380.834	380.66	6.43	523.208	522.815	6.53	649.346	648.705	6.66	795.949	795.0
BCT1-100	6.58	28.722	13.228	6.8	51.068	18.697	6.99	68.88	23.6	7.27	106.81	32.381	7.5	143.917	45.098	7.73	184.8	57.88
BCT1-110	6.65	13.23	13.228	6.8	18.694	18.693	6.99	23.556	23.556	7.27	32.317	30.56	7.5	45.099	35.825	7.73	57.888	41.47
BCT1-115	8.96	13.241	13.23	9.17	18.709	18.694	9.33	23.573	23.556	9.54	30.569	30.557	9.68	35.819	35.811	9.82	41.299	41.28
BCT1-120	9	13.307	13.241	9.2	18.811	18.709	9.36	23.67	23.573	9.56	30.634	30.569	9.7	35.867	35.819	9.84	41.375	41.29
BCT1-125	11.23	13.31	13.307	11.3	18.815	18.811	11.34	23.674	23.67	11.4	30.638	30.634	11.45	35.871	35.867	11.5	41.381	41.37
BCT1-130	11.98	13.704	13.31	12.06	19.06	18.815	12.12	23.818	23.674	12.19	30.715	30.638	12.24	35.928	35.871	12.29	41.477	41.38
BCT1-135	13.34	13.701	13.704	13.39	19.059	19.06	13.43	23.818	23.818	13.47	30.715	30.715	13.5	35.928	35.928	13.53	41.477	41.47
BCT1-140	14.32	70.999	13.701	14.68	111.317	19.059	14.97	154.547	23.818	15.35	225.052	30.715	15.62	285.873	35.928	15.9	348.89	41.47
BCT1-150	14.32	99.005	63.629	14.68	148.545	100.38	14.97	208.028	139.08	15.35	308.75	201.24	15.62	398.062	254.087	15.9	497.869	307.6
BCT1-160	14.32	38.116	31.449	14.68	67.263	55.372	14.97	98.471	80.214	15.35	152.806	120.472	15.62	202.21	156.723	15.9	257.846	196.4
BCT1-165	14.32	29.98	25.552	14.68	44.87	35.919	14.97	65.846	52	15.35	101.722	77.908	15.62	134.434	101.181	15.9	171.578	126.6
BCT1-170	14.44	36.152	29.98	14.68	59.249	44.87	14.97	81.264	65.846	15.35	117.96	101.722	15.62	151.23	134.434	15.9	189.774	171.5
BCT1-175	14.91	56.776	36.255	15	81.927	59.249	15.07	105.681	81.264	15.36	142.895	117.96	15.63	175.61	151.23	15.9	215.922	189.7
BCT1-180	15.79	32.273	26.105	16.28	46.157	33.31	16.54	59.291	37.114	16.83	80.1	42.536	17.04	96.109	45.804	17.26	110.587	47.56
BCT1-185	16.26	33.295	32.273	16.4	52.171	46.157	16.57	71.983	59.291	16.84	106.613	80.1	17.05	138.253	96.109	17.26	173.246	110.5
BCT1-195	16.3	63.904	33.295	16.43	97.493	55.957	16.59	129.839	81.165	16.85	181.416	126.139	17.05	226.006	161.901	17.26	275.033	203.5
BCT1-20	6.34	208.998	208.261	6.45	296.301	294.788	6.56	383.219	380.834	6.76	526.973	523.208	6.92	653.889	649.346	7.09	801.736	795.9
BCT1-200	16.31	23.697	20.33	16.43	36.174	28.601	16.59	45.507	34.818	16.85	55.095	40.474	17.05	63.342	42.242	17.26	74.695	36.8
BCT1-205	15.33	0	0	15.33	0	0	15.33	0	0	15.33	0	0	15.33	0	0	15.4	0.302	0.02
BCT1-250	14.85	0.007	0.001	14.93	0.008	0.002	15.03	0.023	0.007	15.17	0.072	0.042	15.28	0.445	0.237	15.4	1.174	0.32
BCT1-30	6.41	212.775	208.998	6.56	303.038	296.301	6.7	392.975	383.219	6.91	541.812	526.973	7.09	672.735	653.889	7.27	822.564	801.7
BCT1-40	6.46	222.621	212.775	6.62	319.061	303.038	6.77	415.014	392.975	7.01	572.862	541.812	7.2	711.729	672.735	7.39	867.541	822.5
BCT1-50	6.53	239.421	222.621	6.72	345.438	319.061	6.88	446.935	415.014	7.13	615.629	572.862	7.34	765.002	711.729	7.55	930.366	867.5
BCT1-60	6.56	261.948	239.421	6.76	378.763	345.438	6.95	489.774	446.935	7.21	665.133	615.629	7.43	817.967	765.002	7.65	991.297	930.3
BCT1-70	6.58	396.784	356.78	6.8	590.281	530.865	6.99	774.991	698.223	7.27	1066.938	967.57	7.5	1318.097	1202.203	7.73	1593.324	1460.4

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

BCT1-80	6.58	104.239	69.011	6.8	165.633	114.232	6.99	225.015	157.402	7.27	320.065	226.119	7.5	406.242	292.71	7.73	501.669	369.7
BCT1-90	6.58	69.011	28.722	6.8	114.232	51.068	6.99	157.402	68.88	7.27	226.119	106.81	7.5	292.71	143.917	7.73	369.712	184.
CH#3	14.67	31.065	18.72	14.81	37.878	36.879	14.85	57.73	57.712	14.9	91.202	91.175	14.94	121.745	121.709	14.99	157.043	156.9
EXISTING POND	17.82	15.776	7.139	18.05	22.248	11.688	18.24	28.273	16.329	18.5	37.596	23.778	18.7	45.495	30.251	18.9	54.071	37.38
EXISTING SOUTH OUTFALL	16.48	29.222	23.222	16.6	40.52	33.033	16.7	52.87	43.461	16.87	72.938	59.459	17.07	88.836	71.993	17.26	105.024	84.17
KCM-0	6.18	585.153	0	6.18	849.594	0	6.18	1096.323	0	6.18	1478.725	0	6.18	1798.643	0	6.18	2139.727	
KCM-10	6.18	585.361	585.153	6.18	849.066	849.594	6.18	1096.234	1096.323	6.19	1479.114	1478.725	6.19	1798.913	1798.643	6.19	2139.493	2139.2
KCM-120	6.19	107.567	113.954	6.2	167.066	182.838	6.22	231.924	257.457	6.26	342.392	380.716	6.29	442.956	487.957	6.34	551.997	598.2
KCM-125	6.57	108.235	107.567	6.73	167.793	167.066	6.88	232.81	231.924	7.09	343.425	342.392	7.25	444.378	442.956	7.4	554.245	551.9
KCM-130	6.58	108.891	108.235	6.76	168.566	167.793	6.91	233.783	232.81	7.14	344.533	343.425	7.3	445.635	444.378	7.47	555.844	554.2
KCM-135	6.6	110.12	108.891	6.79	170.078	168.566	6.96	235.591	233.783	7.21	346.733	344.533	7.4	447.896	445.635	7.59	558.803	555.8
KCM-139	6.6	98.721	97.395	6.79	151.564	150.14	6.96	209.374	207.83	7.21	306.618	306.11	7.41	398.962	398.819	7.6	509.179	509.1
KCM-145	6.6	103.821	98.721	6.79	157.677	151.564	6.96	216.509	209.374	7.22	314.687	306.618	7.41	404.326	398.962	7.61	514.35	509.1
KCM-150	6.6	113.332	103.821	6.79	170.799	157.677	6.97	230.374	216.509	7.22	333.555	314.687	7.42	423.549	404.326	7.61	527.102	514.3
KCM-155	6.6	129.719	113.332	6.79	196.137	170.799	6.97	260.418	230.374	7.22	365.425	333.555	7.42	463.878	423.549	7.61	572.494	527.1
KCM-160	6.61	93.721	78.425	6.8	145.693	121.253	6.97	195.106	162.242	7.23	273.791	231.816	7.43	340.631	294.062	7.63	416.158	372.8
KCM-165	6.61	31.283	29.178	6.8	47.539	44.172	6.98	62.983	58.693	7.23	84.666	80.195	7.44	104.214	101.179	7.63	128.13	125.0
KCM-170	6.8	32.129	31.283	6.99	49.313	47.539	7.13	65.458	62.983	7.34	88.246	84.666	7.52	107.134	104.214	7.71	131.465	128.1
KCM-175	8.22	32.865	32.129	8.29	49.654	49.313	8.35	65.992	65.458	8.41	89.157	88.246	8.47	108.957	107.134	8.55	132.863	131.4
KCM-180	8.73	34.836	32.865	8.82	51.909	49.654	8.88	68.377	65.992	8.96	91.936	89.157	9.02	110.624	108.957	9.09	135.434	132.8
KCM-185	9.14	34.884	34.836	9.22	52.673	51.909	9.28	69.934	68.523	9.36	97.579	96.261	9.41	121.613	119.933	9.47	148.175	141.7
KCM-193	9.25	0	0	9.25	0	0	9.25	0.15	0.001	9.34	4.338	0.106	9.41	11.065	0.574	9.47	17.645	1.3
KCM-20	6.18	580.498	580.238	6.19	842.414	842.44	6.19	1088.471	1088.437	6.2	1469.521	1470.048	6.21	1788.518	1788.672	6.22	2128.077	2128.
KCM-30	6.19	579.593	580.498	6.19	842.272	842.414	6.2	1088.483	1088.471	6.21	1470.175	1469.521	6.23	1789.468	1788.518	6.25	2129.671	2128.7
KCM-40	6.19	580.096	579.593	6.19	843.238	842.272	6.2	1089.712	1088.483	6.22	1472.563	1470.175	6.24	1793.481	1789.468	6.27	2135.926	2129.7
KCM-50	6.19	481.491	479.847	6.2	692.057	690.705	6.21	889.724	887.76	6.23	1197.069	1194.397	6.25	1454.664	1451.18	6.28	1729.096	1724.4
KCM-54	6.19	482.599	481.491	6.2	693.017	692.057	6.21	890.316	889.724	6.23	1197.812	1197.069	6.26	1455.665	1454.664	6.29	1730.44	1729.9
KCM-56	6.19	481.253	482.599	6.2	692.556	693.017	6.21	890.669	890.316	6.24	1198.691	1197.812	6.27	1456.867	1455.665	6.3	1732.054	1730.
KCM-60	6.19	490.136	481.253	6.2	713.75	692.556	6.22	927.466	890.669	6.25	1267.483	1198.691	6.28	1560.359	1456.867	6.31	1881.094	1732.5
KCT1-10	7.3	43.803	43.146	7.5	66.179	65.328	7.67	87.44	86.14	7.92	121.446	120.809	8.15	158.051	158.305	8.38	202.586	202.9
KCT1-14	8.64	27.93	27.922	8.76	43.975	43.957	8.92	68.835	68.81	9.12	108.774	108.734	9.28	144.918	144.898	9.45	186.11	186.0

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

KCT1-14.5	9.4	29.469	27.93	9.72	45.628	43.975	10	70.874	68.835	10.35	112.332	108.774	10.62	147.893	144.918	10.89	190.628	186.1
KCT1-15	9.41	27.997	29.469	9.72	43.996	45.628	10.01	68.929	70.874	10.36	108.848	112.332	10.63	145.053	147.893	10.9	186.323	190.6
KCT1-5	6.73	53.934	52.808	6.94	81.507	80.304	7.14	107.853	106.145	7.44	149.518	146.682	7.67	190.79	186.574	7.9	237.924	232.4
MIDDLE PONDING AREA	14.72	42.044	41.973	14.91	67.691	66.135	15.01	95.96	88.943	15.16	144.471	122.755	15.27	186.16	147.219	15.38	227.875	169.8
PONDING AREA A	14.71	75.445	31.065	14.9	113.725	37.878	15.01	152.589	57.73	15.15	213.746	91.202	15.26	262.679	121.745	15.37	310.867	157.0
PONDING AREA B	9.44	67.654	27.997	9.75	96.156	43.996	10.04	123.589	68.929	10.39	167.11	108.848	10.66	204.662	145.053	10.93	245.94	186.3
SOUTH PONDING AREA	14.85	36.317	17.843	14.93	53.816	30.701	15.03	70.58	44.71	15.17	97.167	66.632	15.28	120.108	83.278	15.4	145.324	97.58
SOUTH-100	6.18	36.051	36.34	6.18	47.463	47.656	6.18	55.822	56.026	6.18	66.584	66.688	6.18	75.66	75.728	6.18	83.588	83.72
SOUTH-150	6.43	41.446	36.051	6.62	59.168	47.463	6.81	75.463	55.822	7.12	104.028	66.584	7.4	129.515	75.66	7.66	160.689	83.58
SOUTH-200	6.43	56.54	41.446	6.62	87.635	59.168	6.81	119.228	75.463	7.12	173.736	104.028	7.4	223.278	129.515	7.66	286.696	160.6
SOUTH-250	6.43	92.364	56.54	6.62	150.808	87.635	6.81	212.013	119.228	7.12	312.459	173.736	7.4	402.573	223.278	7.66	516.601	286.6
SOUTH-300	10.1	93.716	92.364	10.18	152.996	150.808	10.25	215.315	212.013	10.34	315.962	312.459	10.4	404.524	400.213	10.47	505.027	499.4
SOUTH-350	12.77	93.408	93.716	13	152.737	152.996	13.16	214.585	215.315	13.31	315.45	315.962	13.42	403.996	404.524	13.53	504.478	505.0
SOUTH-400	13.72	94.062	93.408	13.93	153.302	152.737	14.09	215.315	214.585	14.28	316.316	315.45	14.41	404.942	403.996	14.54	505.668	504.4
SOUTH-450	13.72	51.98	32.903	13.93	74.271	52.496	14.09	92.605	72.033	14.28	117.82	108.468	14.42	135.752	140.971	14.55	158.197	177.2
SOUTH-50	6.18	36.34	0	6.18	47.656	0	6.18	56.026	0	6.18	66.688	0	6.18	75.728	0	6.18	83.721	
SOUTH-500	14.94	22.641	19.643	15.21	33.659	31.186	15.43	45.597	43.693	15.74	70.373	67.524	15.97	94.214	90.172	16.21	123.075	117.7
SOUTH-550	16.17	23.432	22.641	16.4	33.93	33.659	16.62	45.901	45.597	16.86	72.721	70.373	17	98.533	94.214	17.12	129.282	123.0
SOUTH-600	17.15	67.515	65.266	17.23	96.095	91.3	17.31	122.877	115.567	17.44	164.637	151.183	17.54	200.229	182.22	17.64	239.027	217.2
SOUTH-650	16.71	42.244	22.701	16.99	58.741	31.681	17.18	73.595	41.204	17.37	93.056	55.137	17.49	106.186	65.434	17.6	116.507	75.45
SOUTH-750	16.42	23.222	20.417	16.53	33.033	29.965	16.64	43.461	38.504	16.86	59.459	50.001	17.06	71.993	56.277	17.26	84.171	60.05

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

POST DEVELOPMENT MAX STAGE (11/20/2022)

Node Name	2-YEAR (4.28in)			5-YEAR (5.38in)			10-YEAR (6.38in)			25-YEAR (7.91in)			50-YEAR (9.20in)			100-YEAR (10.6in		
	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflo Rate [cfs]
BCM-0	6.18	209.2	0	6.18	295.4	0	6.18	381.03	0	6.18	522.87	0	6.18	648.61	0	6.18	794.68	
BCM-5	6.19	209.11	209.2	6.19	295.32	295.4	6.2	381.04	381.03	6.22	522.9	522.87	6.25	648.59	648.61	6.28	794.74	794.
BCT1-10	6.23	209.12	209.11	6.27	295.41	295.32	6.32	381.21	381.04	6.43	523.28	522.9	6.53	649.22	648.59	6.66	795.64	794.
BCT1-100	6.58	28.8	9.93	6.8	50.54	14.93	6.99	68.74	17.87	7.27	106.82	32.34	7.5	143.89	45.08	7.73	184.72	57.
BCT1-110	6.6	9.93	8.46	6.8	14.93	12.82	6.99	17.28	16.52	7.27	32.34	22.11	7.5	45.08	26.8	7.73	57.85	31.
BCT1-115	8.75	8.47	8.46	8.95	12.83	12.82	9.09	16.53	16.51	9.29	22.09	22.07	9.43	26.75	26.73	9.57	31.56	31.
BCT1-120	8.79	8.51	8.47	8.98	12.9	12.83	9.12	16.62	16.53	9.31	22.2	22.09	9.45	26.85	26.75	9.59	31.66	31.
BCT1-125	11.2	8.51	8.51	11.23	12.91	12.9	11.3	16.63	16.62	11.3	22.21	22.2	11.4	26.85	26.85	11.4	31.66	31.
BCT1-130	11.9	8.94	8.51	11.97	13.32	12.91	12	16.98	16.63	12.1	22.41	22.21	12.2	27	26.85	12.2	31.81	31.
BCT1-135	13.3	8.94	8.94	13.35	13.32	13.32	13.4	16.98	16.98	13.4	22.41	22.41	13.5	27	27	13.5	31.81	31.
BCT1-140	14	71.47	8.94	14.3	100.38	13.32	14.6	129.33	16.98	14.9	189.38	22.41	15.2	243.71	27	15.4	302.13	31.
BCT1-150	14	75.39	36.36	14.3	111.37	59.57	14.6	154.29	80.83	14.9	236.74	121.03	15.2	310.64	156.22	15.4	392.56	193.
BCT1-160	14	32.3	26.98	14.3	56.38	45.59	14.6	80.46	62.89	14.9	122.58	90.95	15.2	164.41	118.42	15.4	212.93	150.
BCT1-165	14	28.57	23.79	14.3	50.38	40.75	14.6	71.88	57.17	14.9	108.43	84.05	15.2	145.58	111.33	15.4	189.01	143.
BCT1-170	14.4	34.68	24.61	14.48	56.29	42.93	14.6	77.06	62.02	14.9	111.29	95.1	15.2	140.86	126.39	15.4	179.17	162.
BCT1-175	14.9	56.78	36.79	14.99	81.93	60.71	15.1	105.68	83.1	15.2	142.89	118.61	15.2	174.7	147.54	15.4	209.43	179.
BCT1-180	15.1	14.08	13.02	15.56	27.22	23.01	16	41.48	29.99	16.5	64.22	36.48	16.7	82.67	40.41	16.9	100.57	43.
BCT1-185	16.1	17.81	14.08	16.23	35.76	27.22	16.3	53.96	41.48	16.5	82.87	64.22	16.7	109.53	82.67	16.9	139.98	100.
BCT1-195	16.2	63.9	32.57	16.26	97.49	58.77	16.4	129.84	85.03	16.5	181.42	131.64	16.7	226.01	169.12	16.9	275.03	210.
BCT1-20	6.34	209.9	209.12	6.45	296.95	295.41	6.57	383.6	381.21	6.76	527.01	523.28	6.92	653.67	649.22	7.09	801.34	795.
BCT1-200	16.2	24.46	8.18	16.26	38.36	13.46	16.4	50.24	19.55	16.5	63.35	29.52	16.7	74.58	38.26	16.9	87.79	48.
BCT1-205	15.3	0	0	15.33	0	0	15.3	0	0	15.3	0	0	15.3	0	0	15.3	0	
BCT1-250	14.8	0.01	0	14.88	0.01	0	14.9	0.01	0	15	0.04	0.01	15.1	0.06	0.02	15.1	0.1	0.
BCT1-30	6.41	213.97	209.9	6.56	304.2	296.95	6.7	394.06	383.6	6.91	542.85	527.01	7.09	673.81	653.67	7.27	823.62	801.
BCT1-40	6.46	224.33	213.97	6.62	320.97	304.2	6.78	416.99	394.06	7.01	574.82	542.85	7.2	713.66	673.81	7.39	869.48	823.
BCT1-50	6.53	241.65	224.33	6.72	347.33	320.97	6.89	448.12	416.99	7.13	616.58	574.82	7.34	765.87	713.66	7.55	931.11	869.
BCT1-60	6.56	263.35	241.65	6.77	379.7	347.33	6.95	490.51	448.12	7.21	665.63	616.58	7.43	818.45	765.87	7.65	991.75	931.
BCT1-70	6.58	396.78	357.1	6.8	590.28	531.07	6.99	774.99	698.37	7.27	1066.94	967.73	7.5	1318.1	1202.33	7.73	1593.32	1461.

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

BCT1-80	6.58	103.88	68.92	6.8	165.3	114.04	6.99	224.65	157.03	7.27	319.82	226	7.5	406.05	292.6	7.73	501.51	369.
BCT1-90	6.58	68.92	28.8	6.8	114.04	50.54	6.99	157.03	68.74	7.27	226	106.82	7.5	292.6	143.89	7.73	369.58	184.
CH#1	14.2	7.798	7.769	14.31	9.78	8.811	14.4	12.079	9.239	14.5	15.024	10.073	14.7	17.277	12.139	14.9	19.416	14.8
CH#2	14.2	7.769	7.698	14.31	8.811	8.652	14.4	9.239	9.133	14.5	10.073	10.009	14.7	12.139	12.046	14.9	14.846	14.7
CI #100	14.6	9.54	9.51	14.96	13.44	13.4	15.3	17.06	17.02	15.8	22.65	22.6	16.2	27.36	27.33	16.6	32.48	32.
CI #102	14.6	10.17	10.15	14.89	14	13.97	15.2	17.28	17.25	15.7	21.85	21.81	16	25.04	24.99	16.4	28.17	28.
CI #11	14.5	13.61	13.58	14.82	18.97	18.94	15.1	23.7	23.67	15.5	30.42	30.37	15.7	35.09	35.04	16	39.54	39.
DET BASIN A	14.3	2.08	2.08	14.33	2.95	2.94	14.6	3.75	3.74	14.9	5	4.99	15.2	6.05	6.04	15.4	7.2	7.
DITCH NORTH	10.6	45.87	45.73	11.06	68.23	68.13	11.3	84.11	84.08	11.6	104.36	104.35	11.8	116.75	116.73	11.9	129.33	129.
EX LAG	13.6	149.62	27.7	13.84	207.07	35.16	14	260.76	42.2	14.4	344.39	53.2	14.7	415.62	58.07	15.1	493.25	
EX. LAGOON 2	14.5	21.06	9.27	14.76	29.21	14.51	15	36.56	18.98	15.3	47.42	24.39	15.5	55.73	27.87	15.7	64.06	30.
EXISTING POND	16.9	9.13	0.36	17.12	13.64	0.82	17.4	18.14	1.47	17.7	29.22	3.43	18.1	38.11	4.94	18.4	47.15	5.
EXISTING SOUTH OUTFALL	16.2	4.83	1.85	16.28	8.32	4.17	16.4	12.48	6.53	16.5	19.2	10.72	16.7	24.68	13.88	16.9	32.95	14.
KCM-0	6.18	592.54	0	6.18	880.48	0	6.18	1137.47	0	6.18	1527.47	0	6.18	1854.69	0	6.18	2204.33	
KCM-10	6.18	592.89	592.54	6.18	878.94	880.48	6.18	1138.04	1137.47	6.19	1527.54	1527.47	6.19	1854.99	1854.69	6.19	2203.72	2204.
KCM-120	6.21	134.54	138.23	6.21	215.74	222.2	6.23	302.76	317.53	6.26	452.68	484.77	6.3	577.38	619.4	6.35	695.51	744.
KCM-125	6.62	135.31	134.54	6.81	216.53	215.74	6.98	303.07	302.76	7.21	452.96	452.68	7.38	577.86	577.38	7.53	696.48	695.
KCM-130	6.64	136.15	135.31	6.84	217.31	216.53	7.02	303.44	303.07	7.27	453.39	452.96	7.45	578.46	577.86	7.61	697.35	696.
KCM-135	6.67	137.59	136.15	6.89	218.75	217.31	7.09	304.14	303.44	7.38	454.23	453.39	7.59	579.62	578.46	7.77	699.05	697.
KCM-139	6.67	129.29	126.33	6.89	203.99	201.84	7.09	286.23	285.85	7.39	430.47	430.27	7.6	562.8	562.33	7.79	705.78	705.
KCM-145	6.67	136.65	129.29	6.89	212.51	203.99	7.1	287.92	286.23	7.39	433.04	430.47	7.61	565.88	562.8	7.8	708.76	705.
KCM-150	6.67	148.076	136.563	6.9	228.104	212.435	7.09	301.952	285.135	7.39	433.895	428.93	7.61	567.454	561.305	7.8	709.966	703.8
KCM-155	6.68	160.481	148.076	6.9	248.684	228.104	7.1	327.276	301.952	7.39	455.375	433.895	7.61	578.786	567.454	7.81	722.866	709.9
KCM-160	6.68	130.627	121.8	6.91	200.853	187.545	7.11	260.3	244.393	7.42	367.131	363.811	7.64	480.176	474.748	7.84	595.288	590.
KCM-165	6.68	30.36	26.12	6.91	45.82	39.92	7.12	60.56	53.54	7.43	80.93	71.18	7.65	97.97	88.52	7.85	120.9	110
KCM-170	6.82	31.92	30.36	7.03	48.78	45.82	7.2	64.85	60.56	7.46	87.47	80.93	7.69	105.42	97.97	7.88	129.9	120
KCM-175	8.21	32.45	31.92	8.29	49.13	48.78	8.34	65.45	64.85	8.41	88.65	87.47	8.49	108.18	105.42	8.55	132.24	129
KCM-180	8.73	34.38	32.45	8.81	51.38	49.13	8.88	67.79	65.45	8.96	91.44	88.65	9.02	110.06	108.18	9.09	134.87	132.
KCM-185	9.14	34.41	34.38	9.22	52.12	51.38	9.28	69.32	67.91	9.36	96.91	95.6	9.41	120.91	119.28	9.47	147.45	141.
KCM-193	9.25	0	0	9.25	0	0	9.25	0.13	0	9.34	4.17	0.1	9.41	10.87	0.55	9.47	17.49	1.
KCM-20	6.19	586.63	587.46	6.19	872.29	871.85	6.19	1129.71	1130.03	6.2	1518.31	1518.68	6.21	1845.09	1845.14	6.23	2192.9	2193.
KCM-30	6.19	589.25	586.63	6.19	872.51	872.29	6.2	1130.02	1129.71	6.22	1518.85	1518.31	6.23	1845.86	1845.09	6.25	2194.3	219
KCM-40	6.19	587.77	589.25	6.2	873.94	872.51	6.21	1131.11	1130.02	6.23	1521.1	1518.85	6.25	1849.51	1845.86	6.27	2200.04	219

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

KCM-50	6.2	489.07	488.49	6.2	725.54	723.14	6.21	934.28	930.51	6.23	1245.32	1242.91	6.25	1510.93	1508.51	6.28	1794.97	1792.
KCM-54	6.2	492.74	489.07	6.2	727.47	725.54	6.21	935.06	934.28	6.23	1246.37	1245.32	6.26	1512.18	1510.93	6.29	1796.51	1794.
KCM-56	6.2	491.14	492.74	6.21	725.86	727.47	6.22	934.12	935.06	6.24	1247.18	1246.37	6.27	1513.18	1512.18	6.3	1797.77	1796.
KCM-60	6.2	491.29	491.14	6.21	734.33	725.86	6.22	960.13	934.12	6.25	1312.01	1247.18	6.28	1605.57	1513.18	6.32	1931.53	1797.
KCT1-10	7.6	89.719	88.478	7.89	137.858	136.723	8.1	176.177	175.994	8.52	277.308	276.936	8.81	360.75	360.293	9.07	443.444	442.9
KCT1-14	7.85	35.319	35.308	8.14	55.297	55.29	8.52	96.648	96.654	9.02	168.485	168.492	9.36	232.296	232.298	9.64	296.404	296.4
KCT1-14.5	7.85	35.32	35.319	8.15	55.298	55.297	8.54	96.648	96.648	9.07	168.485	168.485	9.42	232.296	232.296	9.73	296.404	296.4
KCT1-15	7.86	35.86	35.32	8.17	55.95	55.298	8.57	97.017	96.648	9.14	169.142	168.485	9.53	233.389	232.296	9.86	297.646	296.4
KCT1-5	7.02	93.555	93.364	7.31	145.093	144.557	7.55	185.534	184.41	7.97	284.128	283.982	8.26	370.171	369.937	8.52	455.742	455.5
L1	12.6	39.28	17.09	13.06	59.35	21.96	13.6	76.94	24.95	14.3	103.64	27.98	14.8	125.98	32.08	15.4	150.06	34.
L2 Lakeside	12.2	20.37	21.64	12.51	30.33	32.53	12.8	39.93	42.86	13.3	49.75	53.78	13.8	54	58.51	14.2	57.46	62.
L2-3rd Lake	12.2	58.58	42.64	12.48	83.53	65.51	12.8	108.13	85.03	13.3	145.88	112.39	13.7	177.54	134.67	14.2	209.97	155.
L3	12.3	19.4	20.05	12.65	28.02	26.33	13	37.18	30.35	13.6	50.7	34.74	14.1	61.71	37.81	14.6	73.44	43.
L4	12.3	13.89	3.74	12.77	20.56	5.15	13.2	26.9	6.38	13.9	36.86	7.9	14.5	45.38	8.96	15.2	54.67	9.
LAGOON 5	14.5	0.96	0.22	14.84	1.38	0.35	15.1	1.8	0.46	15.5	2.56	0.58	15.8	3.39	1.35	16	4.54	2
LAGOON 6	14.6	5.65	0.95	14.96	8.27	1.87	15.3	10.84	2.95	15.8	15.1	7.42	16	19.16	13.29	16.1	24.19	20.
MH #141	14.5	14.17	14.15	14.84	19.71	19.67	15.1	24.62	24.58	15.5	31.84	31.79	15.8	37.28	37.22	16.1	42.79	42.
OFFSITE AREA #3	14.8	34.05	33.91	14.84	56.76	55.76	14.9	80.5	76.42	15	118.96	105.41	15	148.41	128.1	15.1	178.8	158.
PIPE XING	12.2	55.91	45.87	12.48	85.13	68.23	12.8	113.23	84.11	13.3	151.51	104.36	13.7	183.04	116.75	14.2	215.88	129.
POND #1B	16.9	9.21	7.93	17.12	13.52	13.04	17.4	18.64	17.31	17.7	25.04	20.77	18	27.64	22.25	18.4	28.63	26.
POND#1A	16.9	31.29	7.76	17.12	40.84	12.91	17.4	49.46	19.67	17.7	62.56	33.37	18.1	73.54	43.45	18.5	85.4	43.
POND#2	14.5	44.043	7.798	14.61	59.02	9.78	14.7	72.496	12.079	14.9	92.811	15.024	15.3	109.724	17.277	15.8	127.77	19.4
POND#3	14.6	74.444	9.268	14.74	104.847	12.26	14.8	133.038	15.087	15	176.023	18.874	15.4	211.725	19.883	16.1	250.161	22.3
PONDING AREA A	14.8	38.63	6.536	14.84	69.428	31.396	14.9	101.178	59.096	15	150.457	113.104	15	201.427	161.429	15.1	242.505	209.0
PONDING AREA B	8.58	51.87	35.569	8.79	76.338	55.377	9.07	99.521	92.552	9.43	174.547	162.363	9.73	249.087	225.203	10	324.047	287.4
Small Lagoon	13.6	30.3	29.76	13.84	42.43	41.56	14	53.53	52.56	14.4	71.69	70.18	14.7	88.34	85.82	15.1	106.57	102.
SOUTH PONDING AREA	14.8	41.04	24.86	14.88	60.47	41.53	14.9	78.91	58.63	15	107.92	85.35	15.1	132.77	103.83	15.1	159.96	123.
SOUTH-100	6.18	27.64	28.18	6.18	36.99	37.53	6.18	44.69	60.83	6.18	55.47	55.9	6.18	61.91	62.51	6.18	71.82	72.
SOUTH-150	6.33	30.728	27.635	6.45	44.144	36.988	6.57	56.971	44.688	6.77	76.753	55.448	6.99	97.355	61.843	7.27	125.025	71.7
SOUTH-200	6.33	43.17	30.73	6.45	65.67	44.14	6.57	88.59	56.97	6.78	125.33	76.77	7	162.95	97.47	7.28	215.69	125.
SOUTH-250	6.33	72.19	43.17	6.45	114.55	65.67	6.57	156.66	88.59	6.78	228.22	125.33	7	296.47	162.95	7.28	390.75	215.

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

SOUTH-300	10.1	77.23	72.19	10.14	120.2	114.55	10.2	159.74	156.66	10.3	233.48	228.07	10.3	294.2	288.54	10.4	361.22	354.
SOUTH-350	12.7	76.56	77.23	12.89	119.19	120.2	13	159.15	159.74	13.2	232.37	233.48	13.3	293.46	294.2	13.4	360.65	361.
SOUTH-400	13.6	76.79	76.56	13.81	119.97	119.19	14	161.32	159.15	14.1	233.56	232.37	14.2	294.93	293.46	14.4	362.19	360.
SOUTH-450	13.7	93.34	77.04	13.86	141.66	121.1	14	188.51	163.66	14.2	263.51	238.49	14.3	328.68	302.22	14.5	400.61	372.
SOUTH-50	6.18	28.18	0	6.18	37.53	0	6.18	60.83	0	6.18	55.9	0	6.18	62.51	0	6.18	72.12	
SOUTH-500	13.5	0.25	0.01	13.68	1.14	0.09	13.9	2.47	0.28	14.1	4.96	0.67	14.3	7.32	1.03	14.4	10.12	1.
SOUTH-600	12.4	17.1	17.1	12.76	21.97	21.97	13.2	24.95	24.96	13.8	27.88	27.89	14.3	29.79	29.79	14.9	31.97	31.
SOUTH-650	12.4	0.03	0	12.76	0.04	0	13.2	0.05	0.01	13.8	0.07	0.01	14.3	0.08	0.01	14.9	0.09	0.
SOUTH-750	16.2	8.18	3.92	16.27	13.46	5.02	16.4	19.55	7.45	16.5	29.52	9.08	16.7	38.26	10.41	16.9	48.76	11.

POST DEVELOPMENT MAX STAGE (1/20/2023)

Node Name	2-YEAR (4.28in)			5-YEAR (5.38in)			10-YEAR (6.38in)			25-YEAR (7.91in)			50-YEAR (9.20in)			100-YEAR (10.6in)		
	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]
BCM-0	6.18	209.196	0	6.18	295.378	0	6.18	381.067	0	6.18	522.884	0	6.18	648.596	0	6.18	794.68	
BCM-5	6.19	209.113	209.196	6.19	295.349	295.378	6.2	381.042	381.067	6.22	522.891	522.884	6.25	648.597	648.596	6.28	794.737	794.
BCT1-10	6.23	209.121	209.113	6.27	295.409	295.349	6.32	381.206	381.042	6.43	523.282	522.891	6.53	649.217	648.597	6.66	795.643	794.
BCT1-100	6.58	28.803	9.928	6.8	50.538	14.926	6.99	68.741	17.876	7.27	106.823	32.336	7.5	143.886	45.082	7.73	184.722	57.8
BCT1-110	6.6	9.928	8.461	6.8	14.926	12.823	6.99	17.276	16.52	7.27	32.336	22.122	7.5	45.083	26.829	7.73	57.851	31.
BCT1-115	8.75	8.468	8.462	8.95	12.836	12.824	9.09	16.534	16.519	9.29	22.106	22.088	9.43	26.772	26.754	9.57	31.588	31.5
BCT1-120	8.79	8.508	8.468	8.98	12.907	12.836	9.12	16.628	16.534	9.31	22.217	22.106	9.45	26.873	26.772	9.59	31.682	31.5
BCT1-125	11.16	8.509	8.508	11.23	12.909	12.907	11.27	16.631	16.628	11.33	22.222	22.217	11.37	26.878	26.873	11.41	31.687	31.6
BCT1-130	11.89	8.944	8.509	11.97	13.325	12.909	12.03	16.987	16.631	12.1	22.43	22.222	12.15	27.028	26.878	12.2	31.832	31.6
BCT1-135	13.3	8.939	8.944	13.35	13.322	13.325	13.39	16.985	16.987	13.44	22.429	22.43	13.47	27.028	27.028	13.5	31.832	31.8
BCT1-140	13.96	71.488	8.939	14.3	100.434	13.322	14.55	129.436	16.985	14.88	189.671	22.429	15.15	244.02	27.028	15.41	302.435	31.8
BCT1-150	13.97	75.394	36.329	14.3	111.366	59.453	14.55	154.285	80.718	14.89	236.733	120.868	15.15	310.652	156.047	15.41	392.601	192.
BCT1-160	13.97	32.296	26.97	14.3	56.375	45.557	14.55	80.454	62.853	14.89	122.603	90.93	15.15	164.479	118.461	15.41	213.045	150.
BCT1-165	13.97	28.571	23.783	14.3	50.381	40.743	14.55	71.877	57.163	14.89	108.452	84.064	15.16	145.661	111.439	15.42	189.142	144.
BCT1-170	14.42	34.677	24.61	14.48	56.294	42.928	14.56	77.055	62.016	14.89	111.295	95.103	15.16	140.857	126.392	15.42	179.176	162.
BCT1-175	14.9	56.776	36.794	14.99	81.927	60.705	15.06	105.681	83.104	15.15	142.895	118.613	15.22	174.703	147.535	15.43	209.43	179.
BCT1-180	15.11	14.081	13.016	15.56	27.215	23.007	16.03	41.478	29.99	16.46	64.217	36.479	16.68	82.668	40.415	16.88	100.569	43.7
BCT1-185	16.13	17.813	14.081	16.23	35.763	27.215	16.31	53.963	41.478	16.51	82.868	64.217	16.69	109.53	82.668	16.89	139.98	100.

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BCT1-195	16.16	63.904	32.563	16.26	97.493	58.771	16.36	129.839	85.027	16.53	181.416	131.636	16.7	226.006	169.12	16.9	275.033	210.9
BCT1-20	6.34	209.899	209.121	6.45	296.953	295.409	6.57	383.597	381.206	6.76	527.01	523.282	6.92	653.673	649.217	7.09	801.336	795.(4
BCT1-200	16.15	24.46	8.184	16.26	38.357	13.462	16.36	50.24	19.551	16.53	63.352	29.52	16.71	74.578	38.262	16.9	87.786	48.7(
BCT1-205	15.33	0	0	15.33	0	0	15.33	0	0	15.33	0	0	15.33	0	0	15.38	0.146	0.01
BCT1-250	14.81	0.007	0.001	14.88	0.008	0.001	14.94	0.009	0.003	15.09	0.04	0.023	15.25	0.335	0.206	15.38	1.363	0.43
BCT1-30	6.41	213.974	209.899	6.56	304.195	296.953	6.7	394.063	383.597	6.91	542.855	527.01	7.09	673.811	653.673	7.27	823.621	801.3 3(
BCT1-40	6.46	224.329	213.974	6.62	320.971	304.195	6.78	416.994	394.063	7.01	574.822	542.855	7.2	713.662	673.811	7.39	869.482	823.(2
BCT1-50	6.53	241.647	224.329	6.72	347.332	320.971	6.89	448.12	416.994	7.13	616.583	574.822	7.34	765.87	713.662	7.55	931.115	869.4 8
BCT1-60	6.56	263.354	241.647	6.77	379.705	347.332	6.95	490.511	448.12	7.21	665.626	616.583	7.43	818.453	765.87	7.65	991.745	931. 1
BCT1-70	6.58	396.784	357.1	6.8	590.281	531.07	6.99	774.991	698.373	7.27	1066.938	967.728	7.5	1318.097	1202.325	7.73	1593.324	1461 03
BCT1-80	6.58	103.885	68.923	6.8	165.299	114.043	6.99	224.648	157.035	7.27	319.828	226.007	7.5	406.054	292.597	7.73	501.506	369.(7
BCT1-90	6.58	68.923	28.803	6.8	114.043	50.538	6.99	157.035	68.741	7.27	226.007	106.823	7.5	292.597	143.886	7.73	369.576	184.7 2
CH#1	13.93	7.145	5.218	14.19	9.781	7.49	14.29	12.081	8.453	14.48	15.026	10.41	14.66	17.278	12.113	14.93	19.416	14.7
CH#2	13.93	5.218	5.096	14.19	7.49	7.455	14.29	8.453	8.419	14.48	10.41	10.341	14.65	12.113	12.049	14.92	14.792	14.7
CH#3	14.46	28.352	28.349	14.6	52.152	52.151	14.66	70.317	70.317	14.72	95.876	95.876	14.76	120.329	120.329	14.8	141.155	141. 5
CI #100	14.57	9.537	9.509	14.96	13.44	13.403	15.34	17.066	17.016	15.81	22.646	22.6	16.19	27.364	27.335	16.6	32.478	32.4(
CI #102	14.55	10.17	10.146	14.89	13.996	13.997	15.23	17.282	17.251	15.67	21.853	21.809	16.03	25.044	24.988	16.43	28.173	28.1
CI #11	14.53	13.611	13.584	14.82	18.971	18.939	15.11	23.703	23.667	15.45	30.416	30.371	15.72	35.09	35.037	16.02	39.537	39.4
DET BASIN A	14.27	2.082	2.075	14.33	2.949	2.941	14.55	3.753	3.745	14.89	4.998	4.989	15.15	6.053	6.041	15.41	7.196	7.18
DITCH NORTH	11.02	66.119	65.796	11.41	89.317	89.211	11.57	101	100.975	11.83	120.569	120.546	12.02	136.471	136.446	12.18	150.762	150. 3
EX LAG	13.62	149.617	27.369	13.84	207.066	34.669	14.03	260.763	41.567	14.39	344.388	51.184	14.73	415.615	55.514	15.08	493.249	60.0
EX. LAGOON 2	14.51	21.059	9.268	14.76	29.212	14.508	15	36.559	18.977	15.28	47.423	24.287	15.49	55.725	27.559	15.71	64.063	30.4
EXISTING POND	16.87	9.135	0.356	17.12	13.642	0.821	17.36	18.141	1.474	17.74	29.222	3.431	18.07	38.109	4.938	18.44	47.15	5.97
EXISTING SOUTH OUTFALL	16.16	4.829	1.853	16.28	8.319	4.165	16.38	12.483	6.529	16.54	19.203	10.72	16.72	24.677	13.878	16.91	32.952	14.5
KCM-0	6.18	605.393	0	6.18	898.303	0	6.18	1158.626	0	6.18	1553.19	0	6.18	1883.154	0	6.18	2231.22	
KCM-10	6.18	605.625	605.393	6.18	897.061	898.303	6.18	1157.962	1158.626	6.19	1553.19	1553.19	6.19	1883.275	1883.154	6.19	2231.251	2231 2
KCM-120	6.21	159.282	162.934	6.21	251.205	257.198	6.23	344.379	359.441	6.27	481.776	513.579	6.31	594.722	633.213	6.36	704.14	744.4 1
KCM-125	6.69	159.877	159.282	6.88	251.947	251.205	7.05	344.987	344.379	7.26	482.461	481.776	7.41	595.918	594.722	7.54	706.069	704. 4
KCM-130	6.71	160.421	159.877	6.92	252.618	251.947	7.1	345.583	344.987	7.32	483.18	482.461	7.48	596.953	595.918	7.62	707.482	706.(6
KCM-135	6.74	161.532	160.421	6.97	253.817	252.618	7.17	346.677	345.583	7.43	484.566	483.18	7.61	598.824	596.953	7.79	710.237	707.4 8
KCM-139	6.74	153.328	151.757	6.98	239.96	237.966	7.18	327.616	326.245	7.44	458.473	457.253	7.63	578.906	577.813	7.8	709.746	709. 4
KCM-145	6.74	160.814	153.328	6.98	246.575	239.96	7.18	332.828	327.616	7.44	463.692	458.473	7.64	583.602	578.906	7.81	714.893	709.7 4
KCM-150	6.75	174.056	160.814	6.98	259.659	246.575	7.19	344.4	332.828	7.45	475.467	463.692	7.64	594.749	583.602	7.82	725.379	714.3 9

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

KCM-155	6.75	189.075	174.056	6.99	280.249	259.659	7.19	366.5	344.4	7.45	501.122	475.467	7.65	616.584	594.749	7.83	747.28	725.
KCM-160	6.76	159.939	149.311	7	234.24	221.107	7.21	305.166	291.685	7.48	410.143	396.194	7.68	501.898	489.666	7.86	599.257	589.
KCM-165	6.76	29.943	25.288	7	45.058	38.385	7.21	59.709	51.149	7.48	79.817	70.948	7.68	99.202	92.769	7.86	123.103	117.
KCM-170	6.86	31.928	29.943	7.08	48.683	45.058	7.26	64.74	59.709	7.52	87.236	79.817	7.72	106.004	99.202	7.9	129.884	123.
KCM-175	8.21	32.445	31.928	8.29	49.126	48.683	8.34	65.445	64.74	8.42	88.637	87.236	8.49	107.999	106.004	8.56	132.223	129.
KCM-180	8.73	34.376	32.445	8.81	51.383	49.126	8.88	67.789	65.445	8.96	91.439	88.637	9.02	110.058	107.999	9.09	134.866	132.
KCM-185	9.14	34.41	34.376	9.22	52.118	51.383	9.28	69.324	67.913	9.36	96.911	95.6	9.41	120.912	119.28	9.47	147.453	141.
KCM-193	9.25	0	0	9.25	0	0	9.25	0.127	0	9.34	4.174	0.095	9.41	10.865	0.552	9.47	17.49	1.28
KCM-20	6.19	600.093	600.292	6.19	889.906	890.172	6.19	1150.001	1150.296	6.2	1544.297	1544.524	6.21	1873.706	1873.863	6.23	2220.35	2220
KCM-30	6.19	601.538	600.093	6.19	891.635	889.906	6.2	1150.266	1150.001	6.22	1544.64	1544.297	6.23	1874.552	1873.706	6.25	2221.852	2220
KCM-40	6.19	600.245	601.538	6.2	891.667	891.635	6.21	1151.614	1150.266	6.23	1546.792	1544.64	6.25	1878.296	1874.552	6.27	2227.951	2221
KCM-50	6.2	502.025	500.06	6.2	744.219	739.773	6.21	954.667	950.164	6.23	1271.266	1268.834	6.26	1540.245	1538.052	6.29	1823.058	1820
KCM-54	6.2	502.509	502.025	6.2	743.906	744.219	6.21	955.237	954.667	6.24	1271.802	1271.266	6.26	1541.409	1540.245	6.29	1824.753	1823
KCM-56	6.2	501.991	502.509	6.21	742.4	743.906	6.22	953.939	955.237	6.24	1272.458	1271.802	6.27	1542.351	1541.409	6.3	1826.141	1824
KCM-60	6.2	503.033	501.991	6.21	751.744	742.4	6.22	981.327	953.939	6.25	1333.05	1272.458	6.28	1633.84	1542.351	6.32	1964.042	1826
KCT1-10	7.78	119.882	118.846	8.06	172.072	171.505	8.3	225.222	224.504	8.6	299.999	298.902	8.82	362.133	360.945	9.02	422.798	421.
KCT1-14	8.06	51.191	51.23	8.42	85.737	85.752	8.7	118.774	118.79	9.02	165.102	165.126	9.25	206.194	206.224	9.45	245.843	245.
KCT1-14.5	8.07	51.19	51.191	8.44	85.736	85.737	8.73	118.774	118.774	9.06	165.102	165.102	9.31	206.193	206.194	9.52	245.842	245.
KCT1-15	8.09	51.064	51.19	8.47	85.746	85.736	8.78	119	118.774	9.13	165.354	165.102	9.4	206.392	206.193	9.62	245.987	245.
KCT1-5	7.2	124.437	124.24	7.47	179.221	178.764	7.73	232.811	232.022	8.05	310.702	309.647	8.28	376.057	374.836	8.49	440.075	438.
L1	12.67	44.97	19.039	13.17	63.422	24.079	13.67	80.114	27.013	14.37	106.224	30.185	14.94	129.116	34.287	15.52	154.106	36.6
L2 Lakeside	12.31	31.261	30.049	12.58	47.962	42.217	12.9	63.456	52.404	13.42	87.328	63.712	13.81	108.161	73.705	14.23	129.833	83.6
L2-3rd Lake	12.29	96.683	77.662	12.53	133.682	110.157	12.82	167.214	139.735	13.28	214.585	175.279	13.65	252.472	203.652	14.03	293.439	234.
L3	12.4	21.451	22.519	12.74	27.468	29.103	13.11	35.546	32.998	13.7	48.197	36.519	14.17	58.999	40.113	14.68	70.771	44.0
L4	12.54	26.8	20.419	12.96	35.952	26.64	13.39	44.27	30.983	14.1	56.945	36.985	14.7	67.575	41.811	15.36	79.054	46.7
LAGOON 5	14.53	0.96	0.221	14.84	1.377	0.356	15.13	1.8	0.484	15.5	2.564	0.568	15.78	3.385	1.355	16.04	4.539	2.89
LAGOON 6	14.57	5.647	0.948	14.96	8.274	1.866	15.34	10.842	2.954	15.76	15.097	7.421	15.98	19.157	13.292	16.14	24.187	20.0
MH #141	14.53	14.175	14.147	14.84	19.705	19.671	15.13	24.623	24.585	15.5	31.844	31.793	15.8	37.281	37.225	16.12	42.793	42.7
MID-10	14.52	0	0	14.52	0	0	14.52	0	0	14.52	0	0	14.52	0	0	14.52	0	
OFFSITE AREA #3	14.68	34.05	33.916	14.77	56.764	56.235	14.9	80.292	74.044	15.08	113.3	91.172	15.24	128.369	95.085	15.37	140.231	102.
OUTFALL NORTH	11	0	0	11	0	0	11	0	0	11	0	0	11	0	0	11	0	
Outfall South	11	0	0	11	0	0	11	0	0	11	0	0	11	0	0	11	0	
PIPE XING	12.28	77.662	66.119	12.52	110.157	89.317	12.81	139.735	101	13.28	175.279	120.569	13.64	203.652	136.471	14.03	234.296	150.

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

POND #1B	16.87	9.209	7.933	17.12	13.519	13.036	17.36	18.639	17.311	17.71	25.04	20.769	18.02	27.637	22.245	18.37	28.625	26.9
POND#1A	16.87	31.294	7.761	17.12	40.84	12.914	17.36	49.461	19.666	17.74	62.561	33.365	18.07	73.538	43.448	18.45	85.397	43.5
POND#2	14.04	44.045	7.145	14.42	59.022	9.781	14.58	72.497	12.081	14.92	92.813	15.026	15.25	109.725	17.278	15.82	127.77	19.4
POND#3	14.09	74.444	9.173	14.5	104.847	12.262	14.72	133.038	15.089	15.07	176.023	18.919	15.41	211.725	19.884	16.07	250.161	22.3
PONDING AREA A	14.52	38.63	28.352	14.74	69.429	52.152	14.88	100.628	70.317	15.06	143.081	95.876	15.23	180.808	120.329	15.36	198.182	141.
PONDING AREA B	8.74	66.516	50.655	9.03	93.069	84.707	9.19	121.563	116.79	9.42	176.818	161.153	9.62	227.734	199.844	9.81	277.809	237.
Small Lagoon	13.62	30.316	29.774	13.84	42.468	41.588	14.03	53.57	52.598	14.39	71.733	70.224	14.74	88.38	85.872	15.09	106.66	102.
SOUTH PONDING AREA	14.81	41.045	24.859	14.88	60.467	41.541	14.94	78.909	57.924	15.09	107.916	76.678	15.25	132.771	79.16	15.38	159.957	80.8
SOUTH-100	6.18	27.635	27.923	6.18	36.988	37.334	6.18	44.689	45.259	6.18	55.628	55.922	6.18	62.124	62.44	6.18	71.868	72.1
SOUTH-150	6.33	30.728	27.635	6.45	44.144	36.988	6.57	56.971	44.689	6.78	77.336	55.628	7	99.234	62.124	7.28	127.333	71.8
SOUTH-200	6.33	43.168	30.728	6.45	65.667	44.144	6.57	88.588	56.971	6.78	126.071	77.336	7	166.384	99.234	7.28	221.245	127.
SOUTH-250	6.33	72.191	43.168	6.45	114.545	65.667	6.57	156.664	88.588	6.78	229.371	126.071	7	302.719	166.384	7.28	402.096	221.
SOUTH-300	10.07	77.226	72.191	10.14	120.198	114.545	10.19	159.741	156.664	10.26	233.478	228.066	10.32	294.205	288.518	10.37	361.229	354.
SOUTH-350	12.7	76.556	77.226	12.89	119.195	120.198	13.03	159.151	159.741	13.19	232.37	233.478	13.28	293.464	294.205	13.37	360.645	361.
SOUTH-400	13.63	76.792	76.556	13.81	119.975	119.195	13.96	161.322	159.151	14.12	233.561	232.37	14.24	294.934	293.464	14.35	362.187	360.
SOUTH-450	13.67	93.342	77.036	13.86	141.663	121.098	14.01	188.514	163.659	14.19	263.512	238.495	14.32	328.678	302.218	14.45	400.614	372.
SOUTH-50	6.18	27.923	0	6.18	37.334	0	6.18	45.259	0	6.18	55.922	0	6.18	62.44	0	6.18	72.102	0
SOUTH-500	13.49	0.248	0.005	13.68	1.135	0.085	13.88	2.467	0.277	14.11	4.958	0.675	14.27	7.318	1.035	14.42	10.118	1.42
SOUTH-600	12.47	19.042	19.045	12.84	24.084	24.088	13.26	27.02	27.027	13.88	29.389	29.397	14.38	31.712	31.719	14.91	34.181	34.1
SOUTH-650	12.47	0.028	0.003	12.84	0.04	0.005	13.26	0.052	0.007	13.88	0.069	0.008	14.38	0.083	0.009	14.91	0.097	0.0
SOUTH-750	16.16	8.184	3.918	16.27	13.462	5.022	16.37	19.551	7.446	16.54	29.52	9.082	16.71	38.262	10.416	16.9	48.761	11.5

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

1/24/2023

POST MODEL COMPARISON

BLUE TEXT= A REDUCTION IN WATER SURFACE ELEVATION

RED TEXT = AN INCREASE IN WATER SURFACE ELEVATION

	HISTORIC MODEL: THIS MODEL IS THE PRE-DEVELOPMENT MODEL WITHOUT THE I&D LINE. THE I&D LINE IS INSTEAD MODELED AS A CHANNEL WITH MATCHING UP STREAM AND DOWNSTREAM CROSS-SECTIONS AND INVERT ELEVATIONS.		I&D AS-BUILT AS OF JANUARY 2022 (PRIOR TO I&D DRAINAGE CROSSING IMPROVEMENTS) PRE DEVELOPMENT MODEL: THIS MODEL INCLUDES THE PIPE CROSSINGS AT MULBERRY AVE, AND THE I&D LINE WITH THE OUTFALL PIPES. LAKESIDE BLVD, RICE HOPE PLANTATION RD, AND THE I&D LINE AS OF JANUARY 2022. THE BASIN CONDITIONS ARE PRE-DEVELOPED CONDITIONS IN THE AREAS WITHOUT DEVELOPMENT. INCLUDES THE POND IN THE SOUTHEAST CORNER OF MULBERRY AVE AND THE I		I&D CONCEPTUAL DRAINAGE CROSSING: POST-03/25/2022: THIS MODEL IS THE ORIGINAL POST DEVELOPMENT. IT HAS THE THE PROPOSED I&D LINE CROSSINGS OF 2-24" RCP WITH A 1'X8' CROSSING BETWEEN THE PIPES. THERE HAVE BEEN UPDATES TO THE MODEL BASINS AND CONNECTIONS IN LAKESIDE AND MULBERRY THAT ARE NOT INCLUDED IN THIS MODEL.		I&D CONCEPTUAL DRAINAGE CROSSING: POST-07/26/2022: THIS MODEL INCLUDES THE UPDATED I&D LINES BASED ON THE SURVEYED CROSSING INFORMATION. HOWEVER, IT IS MODELED AS A SLIT BETWEEN THE TWO PIPES AND WAS REVISED(08/05/2022) TO ALLOW FOR THE 12' DIFFERNECE IN HORIZONTAL DISTANCE BETWEEN THE I&D LINES. IT ALSO STILL INCLUDES THE 1-24" RCP ACROSS THE DIRT ROAD		I&D CONCEPTUAL DRAINAGE CROSSING: POST-08/03/2022: THIS MODEL IS THE POST-07/26/2022 MODEL WITH THE UPDATED BASIN INFORMATION FOR MULBERRY SENT TO US BY COLEMAN CO.		I&D AS-BUILT CONDITIONS: POST-08/05/2022: THIS MODLE INCLUDES THE UPDATED I&D LINE WITH THE 12' HORIZONTAL DISTANCE BETWEEN THE TWO PIPES, THE REMOVAL OF THE 24" RCP AND THE UPDATED BASINS FOR THE MULBERRY TRACT.		ID LINE IS MODELED AS A CROSS-SECTION WITH TOP AND BOTTOM CLIP AND NO 24" RCP		I&D AS-BUILT CONDITIONS: ALL WEIR CROSSINGS HAVE BEEN UPDATED SO THAT THE INVERT ELEVATION AND THE CONTROL ELEVATION ARE EQUAL. PONDING AREA A HAS BEEN UPDATED TO USE STAGE-VOLUME CALCULATIONS FROM THE DEM.		NODE CH#2 WAS ADDED TO THE MUNGO DEVELOPMENT SO THAT THE PROPOSED CHANNEL. PRIOR MODEL USED A STAGE AREA IN CH#1 TO MODEL THIS AREA. CH#1 STAGE/AREA HAS BEEN REMOVED. WEIR STRUCTURE HAS BEEN UPDATED TO MATCH PLANS.		NODE CH#3 HAS BEEN ADDED TO CONNECT A 5' BY-PASS CHANNEL BETWEEN NODES PONDING AREA A AND DOWNSTREAM OF RICE HOPE PLANTATION RD (CH#3.		BASINS KC#2 SOUTH, L4, AND PIPE X-ING WERE UPDATED TO CORRECTED CN'S FOR A RESIDENTIAL DISTRICT BY AVERAGE LOT SIZE 1/8TH AC OR LESS (TOWNHOMES). THE DROP STRUCTURE LEAVING NODE PIPE X-ING WAS UPDATED TO MATCH THE PLANS. AND THE PIPE CONNECTING POND L4 TO L4 THIRD LAKE WAS UPDATED FROM A 24" TO A 42" TO ACCOMIDATE THE ADDITIONAL FLOW CALCULATED FROM THE INCREASED CN'S.	
	HISTORIC MAX STAGE (08/05/2022)		PRE DEVELOPMENT MAX STAGE		POST DEVELOPMENT MAX STAGE (03/25/2022)		POST DEVELOPMENT MAX STAGE (07/26/2022)		POST DEVELOPMENT MAX STAGE (08/03/2022)		POST DEVELOPMENT MAX STAGE (08/05/2022)		POST DEVELOPMENT MAX STAGE STACKED I&D		POST DEVELOPMENT MAX STAGE STACKED I&D (10/03/2022)		POST DEVELOPMENT MAX STAGE STACKED I&D (11/20/2022)		POST DEVELOPMENT MAX STAGE (1/16/2023)		POST DEVELOPMENT MAX STAGE (1/20/2023)	
NODES	MAX STAGE	MAX OUTFLOW	MAX STAGE	MAX OUTFLOW	MAX STAGE	MAX OUTFLOW	MAX STAGE	MAX OUTFLOW	MAX STAGE	MAX OUTFLOW	MAX STAGE	MAX OUTFLOW	MAX STAGE	MAX OUTFLOW	MAX STAGE	MAX OUTFLOW	MAX STAGE	MAX OUTFLOW	MAX STAGE	MAX OUTFLOW	MAX STAGE	MAX OUTFLOW	MAX STAGE	MAX OUTFLOW
BCM-0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0
BCM-5	6.28	795.48	6.28	794.98	6.28	794.71	6.28	794.68	6.28	794.69	6.28	794.67	6.28	794.68	6.28	794.68	6.28	794.691	6.28	794.702	6.28	794.68
BCT1-10	6.66	795.53	6.66	795.01	6.66	794.74	6.66	794.73	6.66	794.73	6.66	794.73	6.66	794.73	6.66	794.74	6.66	794.737	6.66	794.735	6.66	794.737
BCT1-100	7.73	57.61	7.73	57.88	7.73	57.85	7.73	57.84	7.73	57.84	7.73	57.84	7.73	57.84	7.73	57.85	7.73	57.847	7.73	57.847	7.73	57.847
BCT1-110	7.73	41.11	7.73	41.34	7.73	30.59	7.73	31.62	7.73	31.62	7.73	31.62	7.73	31.62	7.73	31.77	7.73	31.773	7.73	31.773	7.73	31.8
BCT1-115	9.81	40.93	9.82	41.14	9.53	30.06	9.56	31.36	9.56	31.36	9.56	31.36	9.56	31.36	9.57	31.55	9.57	31.549	9.57	31.549	9.57	31.575
BCT1-120	9.83	40.94	9.83	41.15	9.55	30.1	9.58	31.38	9.58	31.38	9.58	31.38	9.58	31.38	9.59	31.56	9.59	31.563	9.59	31.563	9.59	31.588
BCT1-125	11.5	41.01	11.5	41.24	11.4	30.33	11.41	31.49	11.41	31.49	11.41	31.49	11.41	31.49	11.41	31.66	11.41	31.656	11.41	31.656	11.41	31.682
BCT1-130	12.29	41.02	12.29	41.24	12.19	30.34	12.2	31.5	12.2	31.5	12.2	31.5	12.2	31.5	12.2	31.66	12.2	31.661	12.2	31.661	12.2	31.687
BCT1-135	13.52	41.12	13.53	41.35	13.5	30.59	13.5	31.66	13.5	31.66	13.5	31.66	13.5	31.66	13.5	31.81	13.5	31.806	13.5	31.806	13.5	31.832
BCT1-140	15.88	41.11	15.89	41.35	15.34	30.59	15.4	31.66	15.4	31.66	15.4	31.66	15.4	31.66	15.41	31.81	15.41	31.805	15.41	31.806	15.41	31.832
BCT1-150	15.88	253.75	15.89	306.6	15.35	191.15	15.4	192.1	15.4	192.1	15.4	192.1	15.4	192.1	15.41	193.04	15.41	193.042	15.41	193.043	15.41	192.864
BCT1-160	15.88	117.77	15.89	195.12	15.35	147.99	15.4	148.74	15.4	148.74	15.4	148.74	15.4	148.74	15.41	150.35	15.41	150.352	15.41	150.352	15.41	150.451
BCT1-165	15.88	132.68	15.89	125.41	15.35	141.71	15.41	142.23	15.41	142.23	15.41	142.23	15.41	142.23	15.41	143.96	15.41	143.96	15.41	143.96	15.42	144.127
BCT1-170	15.88	967.53	15.89	170.05	15.35	160.84	15.41	160.9	15.41	160.9	15.41	160.9	15.41	160.9	15.42	162.86	15.42	162.855	15.42	162.856	15.42	162.856
BCT1-175	15.88	206.86	15.89	188.25	15.36	178.59	15.42	178.56	15.42	178.56	15.42	178.56	15.42	178.56	15.43	179.17	15.43	179.175	15.43	179.176	15.43	179.176
BCT1-180	17.32	48.74	17.23	47.25	16.64	40.32	16.85	43.31	16.85	43.31	16.85	43.31	16.85	43.31	16.88	43.76	16.88	43.759	16.88	43.759	16.88	43.755
BCT1-185	17.32	118.39	17.23	109.79	16.66	97.6	16.86	99.06	16.86	99.06	16.86	99.06	16.86	99.06	16.89	100.57	16.89	100.57	16.89	100.57	16.89	100.569
BCT1-195	17.32	192.12	17.23	202.94	16.67	212.61	16.86	210.72	16.86	210.72	16.86	210.72	16.86	210.72	16.9	210.97	16.9	210.97	16.9	210.971	16.9	210.97
BCT1-20	7.09	796.46	7.09	795.95	7.09	795.65	7.09	795.64	7.09	795.64	7.09	795.64	7.09	795.64	7.09	795.64	7.09	795.643	7.09	795.643	7.09	795.643
BCT1-200	17.32	68.89	17.23	39.12	16.67	55.92	16.87	51.28	16.87	51.28	16.87	51.28	16.87	51.28	16.9	48.76	16.9	48.761	16.9	48.761	16.9	48.761
BCT1-205	15.62	4.63	15.62	4.5	15.59	3.61	15.6	3.94	15.6	3.94	15.6	3.94	15.6	3.94	15.33	0	15.33	0	15.38	0.011	15.38	0.011
BCT1-250	15.21	4.76	15.21	4.6	15.09	3.71	15.16	4.02	15.17	4.02	15.17	4.02	15.17	4.02	15.13	0.03	15.13	0.031	15.38	0.435	15.38	0.435
BCT1-30	7.28	802.23	7.27	801.74	7.27	801.34	7.27	801.33	7.27	801.33	7.27	801.33	7.27	801.33	7.27	801.34	7.27	801.336	7.27	801.336	7.27	801.336
BCT1-40	7.4	822.99	7.39	822.56	7.39	823.62	7.39	823.62	7.39	823.62	7.39	823.62	7.39	823.62	7.39	823.62	7.39	823.621	7.39	823.621	7.39	823.621
BCT1-50	7.55	867.87	7.55	867.54	7.55	869.48	7.55	869.48	7.55	869.48	7.55	869.48	7.55	869.48	7.55	869.48	7.55	869.482	7.55	869.482	7.55	869.482
BCT1-60	7.65	930.65	7.65	930.37	7.65	931.11	7.65	931.11	7.65	931.11	7.65	931.11	7.65	931.11	7.65	931.11	7.65	931.114	7.65	931.114	7.65	931.115
BCT1-70	7.73	1460.92	7.73	1460.94	7.73	1461.03	7.73	1461.03	7.73	1461.03	7.73	1461.03	7.73	1461.03	7.73	1461.03	7.73	1461.031	7.73	1461.031	7.73	1461.031
BCT1-80	7.73	369.59	7.73	369.71	7.73	369.58	7.73	369.57	7.73	369.57	7.73	369.57	7.73	369.57	7.73	369.58	7.73	369.576	7.73	369.576	7.73	369.576
BCT1-90	7.73	184.59	7.73	184.8	7.73	184.72	7.73	184.72	7.73	184.71	7.73	184.72	7.73	184.72	7.73	184.72	7.73	184.722	7.73	184.722	7.73	184.722
CH#1							14.33	14.63	14.66	17.49	14.66	17.49	14.66	17.49	14.65	17.4	14.93	14.846	14.93	14.778	14.93	14.792
CH#2																	14.92	14.728	14.92	14.728	14.92	14.728
CH#3																			14.8	141.156	14.8	141.155
CI #100					16.6	32.46	16.6	32.46	16.6	32.46	16.6	32.46	16.6	32.46	16.6	32.46	16.6	32.465	16.6	32.465	16.6	32.465
CI #102					16.43	28.12	16.43	28.12	16.43	28.12	16.43	28.12	16.43	28.12	16.43	28.12	16.43	28.115	16.43	28.115	16.43	28.115
CI #11					16.02	39.48	16.02	39.48	16.02	39.48	16.02	39.48	16.02	39.48	16.02	39.48	16.02	39.478	16.02	39.478	16.02	39.478
DET BASIN A					15.35	7.18	15.4	7.18	15.4	7.18	15.4	7.18	15.4	7.18	15.41	7.18	15.41	7.182	15.41	7.182	15.41	7.182
DITCH NORTH					11.99	134.28	11.94	129.31	11.94	129.31	11.94	129.32	11.94	129.31	11.94	129.32	11.94	129.317	11.94	129.318	12.18	150.739
EX LAG					15.19	64.51	15.09	62	15.09	62	15.09	62	15.09	62	15.09	62	15.09	62.002	15.09	62.002	15.08	60.082
EX. LAGOON 2					15.7	31.81	15.71	30.91	15.71	30.91	15.71	30.91	15.71	30.91	15.71	30.91	15.71	30.915	15.71	30.915	15.71	30.453
EXISTING POND	18.9	37.17	18.9	37.39	17.99	4.73	18.44	6.01	18.44	6.01	18.44	6.01	18.44	6.01	18.44	5.98	18.44	5.977	18.44	5.977	18.44	5.977
EXISTING SOUTH OUTFA	17.33	125.52	17.24	84.45	16.6	35.89	16.87	15.34	16.87	15.34	16.87	15.34	16.87	15.34	16.91	14.55	16.91	14.549	16.91	14.549	16.91	14.549
KCM-0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0
KCM-10	6.19	2176.41	6.19	2141.38	6.19	2173.19	6.19	2153.52	6.19	2153.4	6.19	2205.33	6.19	2172.11	6.19	2204.33	6.19	2202.297	6.19	2214.457	6.19	2231.22
KCM-120	6.35	701.37	6.34	632.09	6.34	623.51	6.33	594.8	6.33	595.21	6.35	757.52	6.34	724.26	6.35	744.25	6.35	741.06	6.35	728.138	6.36	744.414
KCM-125	7.52	650	7.42	573.21	7.4	579.48	7.36	551	7.36	551.42	7.55	711.67	7.51	672.19	7.53	695.51	7.53	692.021	7.52	685.504	7.54	704.14
KCM-130	7.59	650.97	7.49	573.85	7.47	581.86	7.43	553.42	7.43	553.83	7.63	712.72	7.58	672.9	7.61	696.48	7.61	692.98	7.6	687.44	7.62	706.069
KCM-135	7.74	651.83	7.62	574.56	7.6	583.5	7.55	555.14	7.55	555.56	7.8	713.61	7.74	673.66	7.77	697.35	7.77	693.85	7.76	688.848	7.79	707.482
KCM-139	7.75	649.78	7.63	547.54	7.61	538.99	7.57	504.34	7.57	504.87	7.81	728.44	7.76	678.09	7.79	705.54	7.79	700.665	7.78	684.744	7.8	709.147
KCM-145	7.76	650.12	7.64	546.49	7.62	539.52	7.57	505.2	7.57	505.74	7.82	729.13	7.76	678.62	7.8	705.78	7.8	700.93	7.79	685.415	7.81	709.746
KCM-150	7.77	653.02	7.65	546.68	7.62	545.22	7.58	511.69	7.58	512.24	7.83	733.01	7.77	681.88	7.81	708.76	7.8	703.879	7.79	690.627	7.82	714.893
KCM-155	7.78	657.68	7.65	549.81	7.63	558.06	7.58	525.7	7.58	526.23	7.84	740.36	7.78	687.6	7.82	714.87	7.81	709.966	7.8	701.385	7.83	725.379
KCM-160	7.8	537.13	7.67	429.49	7.65	406.28	7.6	372.48	7.6	373.11	7.87	622.04	7.81	577.29	7.85	595.25	7.84	590.24	7.83	566.669	7.86	589.009
KCM-165	7.81	114.47	7.67	120	7.65	124.14	7.6	124.58	7.6	124.54	7.88	107.64	7.81	105.88	7.85	110.3	7.85	110.497	7.83	116.516	7.86	117.422
KCM-170	7.84	124.04	7.73	126.51	7.72	127.23	7.69	127.44	7.69	127.43	7.91	119.45	7.84	120.06	7.88	120.9	7.88	121.047	7.87	122.858	7.9	123.103
KCM-175	8.55	130.94	8.55	131.36	8.54	130.81	8.54	130.84	8.54	130.84	8.56	129.73	8.55	130.12	8.55	129.9	8.55	129.936	8.56	129.964	8.56	129.884
KCM-180	9.09	132.85	9.09	132.86	9.09	132.27	9.09	132.26	9.09	132.26	9.09	132.23	9.09	132.25	9.09	132.24	9.09	132.237	9.09	132.231	9.09	132.223
KCM-185	9.47	141.74	9.47	141.73	9.47	141.21	9.47	141.21	9.47	141.21	9.47	141.21	9.47	141.21	9.47	141.21	9.47	141.211	9.47	141.211	9.47	141.211
KCM-193	9.47	1.32	9.47	1.32	9.47	1.28	9.47	1.28	9.47	1.28	9.47	1.28	9.47	1.28	9.47	1.28	9.47	1.283	9.47	1.283	9.47	1.283
KCM-20	6.23	2165.15	6.22	2130.11	6.22	2161.59	6.22	2141.72	6.22	2141.78	6.23	2194.92	6.22	2161.37	6.23	2193.14	6.23	2191.537	6.23	2203.628	6.23	2220.519
KCM-30	6.25	2165.13	6.25	2129.88	6.25	2161.46	6.25	2141.59	6.25	2141.72	6.25	2194.87	6.25	2161.44	6.25	2192.9	6.25	2191.532	6.25	2203.47	6.25	2220.35
KCM-40	6.27	2166.54	6.27	2131.42	6.27	2162.99	6.27	2143.17	6.27	2143.31	6.27	2196.22	6.27	2162.76	6.27	2194.3	6.27	2192.947	6.27	2204.948	6.27	2221.852
KCM-50	6.28	1764	6.28	1726.8	6.28	1757.53	6.28	1737.32	6.28	1737.47	6.28	1795.19	6.28	1759.71	6.28	1792.45	6.28	1790.929	6.29	1802.9	6.29	1820.059
KCM-54	6.29	1766.89	6.29	1730.73	6.29	1762.53	6.29	1742.46	6.29	1742.61	6.29	1797.16	6.29	1762.3	6.29	1794.97	6.29	1793.499	6.29	1805.892	6.29	1823.058
KCM-56	6.3	1767.94	6.3	1731.99	6.3	1764.86	6.3	1744.84	6.3	1744.98	6.3	1798.54	6.3	1763.87	6.3	1796.51	6.3	1795.058	6.3	1807.567	6.3	1824.753
KCM-60	6.32	1769.25	6.31	1733.51	6.31	1766.7	6.31	1746.7	6.31	1746.83	6.32	1799.71	6.31	1765.16	6.32	1797.77	6.32	1796.34	6.32	1808.943	6.32	1826.141
KCT1-10	9.02	386.68	8.71	293.94	8.63	225.39	8.29	197.15	8.29	197.47	9.16	475.64	9.05	439.9	9.08	448.02	9.07	442.948	8.96	401.275	9.02	421.777
KCT1-14	9.99	350.1	9.76	278.37	8.77	82.64	8.31	43.66	8.31	44.36	9.75	325.88	9.63	295.52	9.66	301.36	9.64	296.411	9.43	245.5	9.45	245.893
KCT1-14.5	8	0	11.39	271.09	6.37	0	9.68	43.65	9.69	44.33	9.86	325.88	6.37	0	9.75	301.35	9.73	296.404	9.5	245.476	9.52	245.843
KCT1-15	9.99	350.25	11.4	289.14	11.99	82.62	13.23	43.65	13.34	44.33	9.99	325.88	10.82	295.52	9.88	301.35	9.86	296.404	9.61	245.475	9.62	245.842
KCT1-5	8.4	399.73	8.12	302.95	7.98	254.74	7.88	229.77	7.88	230.02	8.6	489.02	8.5	451.54	8.54	460.62	8.52	455.519	8.44	418.038	8.49	438.899
MID-10	14.52	0	14.52	0																		
MID-15	16	0	16	0																		
MIDDLE PONDING AREA	15.15	230.61	15.15	230.57																		
L1					15.43	35.13	15.42	34.46	15.42	34.46	15.42	34.46	15.42	34.46	15.42	34.46	15.42	34.459	15.42	34.459	15.52	36.645
L2 Lakeside					13.87	79.48	14.24	62.43	14.24	62.43	14.24	62.43	14.24	62.43	14.24	62.44	14.24	62.441	14.24	62.441	14.23	83.663
L2-3rd Lake					13.73	158.46	14.16	155.58	14.16	155.58	14.16	155.51	14.16	155.58	14.16	155.51	14.16	155.511	14.16	155.506	14.03	234.296
L3					14.62	61.37	14.61	43.62	14.61	43.62	14.61	43.61	14.61	43.62	14.61	43.61	14.61	43.611	14.61	43.608	14.68	44.026
L4					14.74	10.18	15.2	9.95	15.2	9.95	15.2	9.95	15.2	9.95	15.2	9.95	15.2	9.949	15.2	9.948	15.36	46.799
LAGOON 5					16.04	2.9	16.04	2.9	16.04	2.9	16.04	2.9	16.04	2.9	16.04	2.9	16.04	2.898	16.04	2.898	16.04	2.898
LAGOON 6					16.14	20.06	16.14	20.06	16.14	20.06	16.14	20.06	16.14	20.06	16.14	20.06	16.14	20.064	16.14	20.064	16.14	20.064
MH #141					16.12	42.73	16.12	42.73	16.12	42.73	16.12	42.73	16.12	42.73	16.12	42.73	16.12	42.733	16.12	42.733	16.12	42.733
OFFSITE AREA #3					15.03	139.27	15.12	176.99	15.13	176.24	15.13	176.25	15.13	176.24	15.1	158.67	15.1	158.668	15.37	102.765	15.37	102.765
PIPE XING					13.72	134.29	14.15	129.33	14.15	129.33	14.15	129.33	14.15	129.33	14.15	129.33	14.15	129.335	14.15	129.336	14.03	150.762
POND #1B					17.95	20.55	18.37	26.94	18.37	26.94	18.37	26.94	18.37	26.94	18.37	26.94	18.37	26.945	18.37	26.945	18.37	26.945
POND#1A					17.99	40.52	18.45	43.6	18.45	43.6	18.45	43.6	18.45	43.6	18.45	43.58	18.45	43.578	18.45	43.578	18.45	43.578
POND#2					15.89	24.51	15.08	15.44	15.73	19.35	15.73	19.35	15.73	19.35	15.71	19.32	15.82	19.416	15.82	19.416	15.82	19.416
POND#3					16.09	19.47	15.31	19.13	16.07	22.56	16.07	22.56	16.07	22.56	16.04	22.46	16.07	22.347	16.07	22.347	16.07	22.347
PONDING AREA A	15.11	284.82	15.11	284.72	15	171.87	15.08	229.8	15.09	242.02	15.09	242.02	15.09	242.02	15.06	209.03	15.06	209.029	15.36	141.156	15.36	141.155
PONDING AREA B	10.39	351.08	11.43	271.92	11.99	96.16	13.23	70.69	13.35	68.08	10.14	312.8	10.85	281.27	10.03	287.38	10.02	287.442	9.8	237.065	9.81	237.169
Small Lagoon					15.19	103.43	15.1	102.75	15.1	102.75	15.1	102.75	15.1	102.75	15.1	102.75	15.1	102.753	15.1	102.753	15.09	102.848
SOUTH PONDING AREA	15.21	110.58	15.21	110.5	15.09	139.28	15.15	129.87	15.17	131.04	15.17	131.06	15.17	131.04	15.13	123.84	15.13	123.842	15.38	80.817	15.38	80.817
SOUTH-100	6.18	83.72	6.18	83.86	6.18	69.19	6.18	68.8	6.18	68.81	6.18	72.33	6.18	71.71	6.18	72.12	6.18	72.071	6.18	71.662	6.18	72.102
SOUTH-150	7.67	83.64	7.67	83.83	7.19	68.89	7.18	68.49	7.18	68.49	7.29	72.11	7.26	71.19	7.28	71.82	7.27	71.713	7.26	71.365	7.28	71.868
SOUTH-200	7.67	158.65	7.67	161.19	7.19	118.27	7.18	116.86	7.18	116.87	7.29	126.53	7.26	122.02	7.28	125.33	7.28	125.025	7.26	125.374	7.28	127.333
SOUTH-250	7.67	282.83	7.67	287.62	7.19	204.15	7.18	201.4	7.18	201.43	7.29	217.24	7.26	208.6	7.28	215.69	7.28	215.177	7.27	217.345	7.28	221.245
SOUTH-300	10.46	479.97	10.47	499.32	10.37	355	10.37	355.02	10.37	355.02	10.37	354.93	10.37	354.99	10.37	354.94	10.37	354.943	10.37	354.917	10.37	354.882
SOUTH-350	13.51	485.87	13.53	504.91	13.37	361.21	13.37	361.21	13.37	361.2	13.37	361.22	13.37	361.21	13.37	361.22	13.37	361.218	13.37	361.223	13.37	361.229
SOUTH-400	14.52	485.29	14.54	504.36	14.35	360.65	14.35	360.65	14.35	360.65	14.35	360.65	14.35	360.65	14.35	360.65	14.35	360.647	14.35	360.646	14.35	360.645
SOUTH-450	14.52	140.14	14.55	177.14	14.45	372.27	14.45	372.27	14.45	372.27	14.45	372.27	14.45	372.27	14.45	372.27	14.45	372.269	14.45	372.269	14.45	372.269
SOUTH-50	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0	6.18	0
SOUTH-500	15.86	75.08	16.21	117.6	14.42	1.43

PRE DEVELOPMENT MAX STAGE (1/16/2023)

Node Name	2-YEAR (4.28in)			5-YEAR (5.38in)			10-YEAR (6.38in)			25-YEAR (7.91in)			50-YEAR (9.20in)			100-YEAR (10.6in)		
	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]
BCM-0	6.18	208.282	0	6.18	294.792	0	6.18	380.688	0	6.18	522.82	0	6.18	648.704	0	6.18	794.988	0
BCM-5	6.19	208.275	208.282	6.19	294.712	294.792	6.2	380.66	380.688	6.22	522.815	522.82	6.25	648.705	648.704	6.28	795.008	794.988
BCT1-10	6.23	208.261	208.275	6.27	294.788	294.712	6.32	380.834	380.66	6.43	523.208	522.815	6.53	649.346	648.705	6.66	795.949	795.008
BCT1-100	6.58	28.722	13.228	6.8	51.068	18.697	6.99	68.88	23.6	7.27	106.81	32.381	7.5	143.917	45.098	7.73	184.8	57.884
BCT1-110	6.65	13.23	13.228	6.8	18.694	18.693	6.99	23.556	23.556	7.27	32.317	30.56	7.5	45.099	35.825	7.73	57.888	41.472
BCT1-115	8.96	13.241	13.23	9.17	18.709	18.694	9.33	23.573	23.556	9.54	30.569	30.557	9.68	35.819	35.811	9.82	41.299	41.287
BCT1-120	9	13.307	13.241	9.2	18.811	18.709	9.36	23.67	23.573	9.56	30.634	30.569	9.7	35.867	35.819	9.84	41.375	41.299
BCT1-125	11.23	13.31	13.307	11.3	18.815	18.811	11.34	23.674	23.67	11.4	30.638	30.634	11.45	35.871	35.867	11.5	41.381	41.375
BCT1-130	11.98	13.704	13.31	12.06	19.06	18.815	12.12	23.818	23.674	12.19	30.715	30.638	12.24	35.928	35.871	12.29	41.477	41.381
BCT1-135	13.34	13.701	13.704	13.39	19.059	19.06	13.43	23.818	23.818	13.47	30.715	30.715	13.5	35.928	35.928	13.53	41.477	41.477
BCT1-140	14.32	70.999	13.701	14.68	111.317	19.059	14.97	154.547	23.818	15.35	225.052	30.715	15.62	285.873	35.928	15.9	348.89	41.477
BCT1-150	14.32	99.005	63.629	14.68	148.545	100.38	14.97	208.028	139.08	15.35	308.75	201.24	15.62	398.062	254.087	15.9	497.869	307.615
BCT1-160	14.32	38.116	31.449	14.68	67.263	55.372	14.97	98.471	80.214	15.35	152.806	120.472	15.62	202.21	156.723	15.9	257.846	196.489
BCT1-165	14.32	29.98	25.552	14.68	44.87	35.919	14.97	65.846	52	15.35	101.722	77.908	15.62	134.434	101.181	15.9	171.578	126.649
BCT1-170	14.44	36.152	29.98	14.68	59.249	44.87	14.97	81.264	65.846	15.35	117.96	101.722	15.62	151.23	134.434	15.9	189.774	171.578
BCT1-175	14.91	56.776	36.255	15	81.927	59.249	15.07	105.681	81.264	15.36	142.895	117.96	15.63	175.61	151.23	15.9	215.922	189.774
BCT1-180	15.79	32.273	26.105	16.28	46.157	33.31	16.54	59.291	37.114	16.83	80.1	42.536	17.04	96.109	45.804	17.26	110.587	47.564
BCT1-185	16.26	33.295	32.273	16.4	52.171	46.157	16.57	71.983	59.291	16.84	106.613	80.1	17.05	138.253	96.109	17.26	173.246	110.587
BCT1-195	16.3	63.904	33.295	16.43	97.493	55.957	16.59	129.839	81.165	16.85	181.416	126.139	17.05	226.006	161.901	17.26	275.033	203.505
BCT1-20	6.34	208.988	208.261	6.45	296.301	294.788	6.56	383.219	380.834	6.76	526.973	523.208	6.92	653.889	649.346	7.09	801.736	795.949
BCT1-200	16.31	23.697	20.33	16.43	36.174	28.601	16.59	45.507	34.818	16.85	55.095	40.474	17.05	63.342	42.242	17.26	74.695	36.86
BCT1-205	15.33	0	0	15.33	0	0	15.33	0	0	15.33	0	0	15.33	0	0	15.4	0.302	0.023
BCT1-250	14.85	0.007	0.001	14.93	0.008	0.002	15.03	0.023	0.007	15.17	0.072	0.042	15.28	0.445	0.237	15.4	1.174	0.323
BCT1-30	6.41	212.775	208.998	6.56	303.038	296.301	6.7	392.975	383.219	6.91	541.812	526.973	7.09	672.735	653.889	7.27	822.564	801.736
BCT1-40	6.46	222.621	212.775	6.62	319.061	303.038	6.77	415.014	392.975	7.01	572.862	541.812	7.2	711.729	672.735	7.39	867.541	822.564
BCT1-50	6.53	239.421	222.621	6.72	345.438	319.061	6.88	446.935	415.014	7.13	615.629	572.862	7.34	765.002	711.729	7.55	930.366	867.541
BCT1-60	6.56	261.948	239.421	6.76	378.763	345.438	6.95	489.774	446.935	7.21	665.133	615.629	7.43	817.967	765.002	7.65	991.297	930.366
BCT1-70	6.58	396.784	356.78	6.8	590.281	530.865	6.99	774.991	698.223	7.27	1066.938	967.57	7.5	1318.097	1202.203	7.73	1593.324	1460.943
BCT1-80	6.58	104.239	69.011	6.8	165.633	114.232	6.99	225.015	157.402	7.27	320.065	226.119	7.5	406.242	292.71	7.73	501.669	369.712
BCT1-90	6.58	69.011	28.722	6.8	114.232	51.068	6.99	157.402	68.88	7.27	226.119	106.81	7.5	292.71	143.917	7.73	369.712	184.8
CH#3	14.67	31.065	18.72	14.81	37.878	36.879	14.85	57.73	57.712	14.9	91.202	91.175	14.94	121.745	121.709	14.99	157.043	156.994
EXISTING POND	17.82	15.776	7.139	18.05	22.248	11.688	18.24	28.273	16.329	18.5	37.596	23.778	18.7	45.495	30.251	18.9	54.071	37.384
EXISTING SOUTH OUTFALL	16.48	29.222	23.222	16.6	40.52	33.033	16.7	52.87	43.461	16.87	72.938	59.459	17.07	88.836	71.993	17.26	105.024	84.171
KCM-0	6.18	585.153	0	6.18	849.594	0	6.18	1096.323	0	6.18	1478.725	0	6.18	1798.643	0	6.18	2139.727	0
KCM-10	6.18	585.361	585.153	6.18	849.066	849.594	6.18	1096.234	1096.323	6.19	1479.114	1478.725	6.19	1798.913	1798.643	6.19	2139.493	2139.727
KCM-120	6.19	107.567	113.954	6.2	167.066	182.838	6.22	231.924	257.457	6.26	342.392	380.716	6.29	442.956	487.957	6.34	551.997	598.294
KCM-125	6.57	108.235	107.567	6.73	167.793	167.066	6.88	232.81	231.924	7.09	343.425	342.392	7.25	444.378	442.956	7.4	554.245	551.997
KCM-130	6.58	108.891	108.235	6.76	168.566	167.793	6.91	233.783	232.81	7.14	344.533	343.425	7.3	445.635	444.378	7.47	555.844	554.245
KCM-135	6.6	110.12	108.891	6.79	170.078	168.566	6.96	235.591	233.783	7.21	346.733	344.533	7.4	447.896	445.635	7.59	558.803	555.844
KCM-139	6.6	98.721	97.395	6.79	151.564	150.14	6.96	209.374	207.83	7.21	306.618	306.11	7.41	398.962	398.819	7.6	509.179	509.134
KCM-145	6.6	103.821	98.721	6.79	157.677	151.564	6.96	216.509	209.374	7.22	314.687	306.618	7.41	404.326	398.962	7.61	514.35	509.179
KCM-150	6.6	113.332	103.821	6.79	170.799	157.677	6.97	230.374	216.509	7.22	333.555	314.687	7.42	423.549	404.326	7.61	527.102	514.35
KCM-155	6.6	129.719	113.332	6.79	196.137	170.799	6.97	260.418	230.374	7.22	365.425	333.555	7.42	463.878	423.549	7.61	572.494	527.102
KCM-160	6.6	93.721	78.425	6.8	145.693	121.253	6.97	195.106	162.242	7.23	273.791	231.816	7.43	340.631	294.062	7.63	416.158	372.809
KCM-165	6.61	81.283	29.178	6.8	47.539	44.172	6.98	62.983	58.693	7.23	84.666	80.195	7.44	104.214	101.179	7.63	128.13	125.07
KCM-170	6.8	32.129	31.283	6.99	49.313	47.539	7.13	65.458	62.983	7.34	88.246	84.666	7.52	107.134	104.214	7.71	131.465	128.13
KCM-175	8.22	32.865	32.129	8.29	49.654	49.313	8.35	65.992	65.458	8.41	89.157	88.246	8.47	108.957	107.134	8.55	132.863	131.465
KCM-180	8.73	34.836	32.865	8.82	51.909	49.654	8.88	68.377	65.992	8.96	91.936	89.157	9.02	110.624	108.957	9.09	135.434	132.863
KCM-185	9.14	34.884	34.836	9.22	52.673	51.909	9.28	69.934	68.523	9.36	97.579	96.261	9.41	121.613	119.933	9.47	148.175	141.733
KCM-193	9.25	0	0	9.25	0	0	9.25	0.15	0.001	9.34	4.338	0.106	9.41	11.065	0.574	9.47	17.645	1.32
KCM-20	6.18	580.498	580.238	6.19	842.414	842.44	6.19	1088.471	1088.437	6.2	1469.521	1470.048	6.21	1788.518	1788.672	6.22	2128.077	2128.27
KCM-30	6.19	579.593	580.498	6.19	842.272	842.414	6.2	1088.483	1088.471	6.21	1470.175	1469.521	6.23	1789.468	1788.518	6.25	2129.671	2128.077
KCM-40	6.19	580.096	579.593	6.19	843.238	842.272	6.2	1089.712	1088.483	6.22	1472.563	1470.175	6.24	1793.481	1789.468	6.27	2135.926	2129.671
KCM-50	6.19	481.491	479.847	6.2	692.057	690.705	6.21	889.724	887.76	6.23	1197.069	1194.397	6.25	1454.664	1451.18	6.28	1729.096	1724.744
KCM-54	6.19	482.599	481.491	6.2	693.017	692.057	6.21	890.316	889.724	6.23	1197.812	1197.069	6.26	1455.665	1454.664	6.29	1730.44	1729.096
KCM-56	6.19	481.253	482.599	6.2	692.556	693.017	6.21	890.669	890.316	6.24	1198.691	1197.812	6.27	1456.867	1455.665	6.3	1732.054	1730.44
KCM-60	6.19	490.136	481.253	6.2	713.75	692.556	6.22	927.466	890.669	6.25	1267.483	1198.691	6.28	1560.359	1456.867	6.31	1881.094	1732.054
KCT1-10	7.3	43.803	43.146	7.5	66.179	65.328	7.67	87.44	86.14	7.92	121.446	120.809	8.15	158.051	158.305	8.38	202.586	202.944
KCT1-14	8.64	27.93	27.922	8.76	43.975	43.957	8.92	68.835	68.81	9.12	108.774	108.734	9.28	144.918	144.898	9.45	186.11	186.09
KCT1-14.5	9.4	29.469	27.93	9.72	45.628	43.975	10	70.874	68.835	10.35	112.332	108.774	10.62	147.893	144.918	10.89	190.628	186.11
KCT1-15	9.41	27.997	29.469	9.72	43.996	45.628	10.01	68.929	70.874	10.36	108.848	112.332	10.63	145.053	147.893	10.9	186.323	190.628
KCT1-5	6.73	53.934	52.808	6.94	81.507	80.304	7.14	107.853	106.145	7.44	149.518	146.682	7.67	190.79	186.574	7.9	237.924	232.427
MID-10	14.52	0	0	14.52	0	0	14.52	0	0	14.52	0	0	14.52	0	0	14.52	0.007	0.001
MIDDLE PONDING AREA	14.72	42.044	41.973	14.91	67.691	66.135	15.01	95.96	88.943	15.16	144.471	122.755	15.27	186.16	147.219	15.38	227.875	169.842
PONDING AREA A	14.71	75.445	31.065	14.9	113.725	37.878	15.01	152.589	57.73	15.15	213.746	91.202	15.26	262.679	121.745	15.37	310.867	157.043
PONDING AREA B	9.44	67.654	27.997	9.75	96.156	43.996	10.04	123.589	68.929	10.39	167.11	108.848	10.66	204.662	145.053	10.93	245.94	186.323
SOUTH PONDING AREA	14.85	36.317	17.843	14.93	53.816	30.701	15.03	70.58	44.71	15.17	97.167	66.632	15.28	120.108	83.278	15.4	145.324	97.581
SOUTH-100	6.18	36.051	36.34	6.18	47.463	47.656	6.18	55.822	56.026	6.18	66.584	66.688	6.18	75.66	75.728	6.18	83.588	83.721
SOUTH-150	6.43	41.446	36.051	6.62	59.168	47.463	6.81	75.463	55.822	7.12	104.028	66.584	7.4	129.515	75.66	7.66	160.689	83.588
SOUTH-200	6.43	56.54	41.446	6.62	87.635	59.168	6.81	119.228	75.463	7.12	173.736	104.028	7.4	223.278	129.515	7.66	286.696	160.689
SOUTH-250	6.43	92.364	56.54	6.62	150.808	87.635	6.81	212.013	119.228	7.12	312.459	173.736	7.4	402.573	223.278	7.66	516.601	286.696
SOUTH-300	10.1	93.716	92.364	10.18	152.996	150.808	10.25	215.315	212.013	10.34	315.962	312.459	10.4	404.524	400.213	10.47	505.027	499.433
SOUTH-350	12.77	93.408	93.716	13	152.737	152.996	13.16	214.585	215.315	13.31	315.45	315.962	13.42	403.996	404.524	13.53	504.478	505.027
SOUTH-400	13.72	94.062	93.408	13.93	153.302	152.737	14.09	215.315	214.585	14.28	316.316	315.45	14.41	404.942	403.996	14.54	505.668	504.478
SOUTH-450	13.72	51.98	32.903	13.93	74.271	52.496	14.09	92.605	72.033	14.28	117.82	108.468	14.42	135.752	140.971	14.55	158.197	177.298
SOUTH-50	6.18	36.34	0	6.18	47.656	0	6.18	56.026	0	6.18	66.688	0	6.18	75.728	0	6.18	83.721	0
SOUTH-500	14.94	22.641	19.643	15.21	33.659	31.186	15.43	45.597	43.693	15.74	70.373	67.524	15.97	94.214	90.172	16.21	123.075	117.764
SOUTH-550	16.17	23.432	22.641	16.4	33.93	33.659	16.62	45.901	45.597	16.86	72.721	70.373	17	98.533	94.214	17.12	129.282	123.075
SOUTH-600	17.15	67.515	65.266	17.23	96.095	91.3	17.31	122.877	115.567	17.44	164.637	151.183	17.54	200.229	182.22	17.64	239.027	217.268
SOUTH-650	16.71	42.244	22.701	16.99	58.741	31.681	17.18	73.595	41.204	17.37	93.056	55.137	17.49	106.186	65.434	17.6	116.507	75.453
SOUTH-750	16.42	23.222	20.417	16.53	33.033	29.965	16.64	43.461	38.504	16.86	59.459	50.001	17.06	71.993	56.277	17.26	84.171	60.051

POST DEVELOPMENT MAX STAGE (1/20/2023)

Node Name	2-YEAR (4.28in)			5-YEAR (5.38in)			10-YEAR (6.38in)			25-YEAR (7.91in)			50-YEAR (9.20in)			100-YEAR (10.6in)		
	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]
BCM-0	6.18	209.196	0	6.18	295.378	0	6.18	381.067	0	6.18	522.884	0	6.18	648.596	0	6.18	794.68	0
BCM-5	6.19	209.113	209.196	6.19	295.349	295.378	6.2	381.042	381.067	6.22	522.891	522.884	6.25	648.597	648.596	6.28	794.737	794.68
BCT1-10	6.23	209.121	209.113	6.27	295.409	295.349	6.32	381.206	381.042	6.43	523.282	522.891	6.53	649.217	648.597	6.66	795.643	794.737
BCT1-100	6.58	28.803	9.928	6.8	50.538	14.926	6.99	68.741	17.876	7.27	106.823	32.336	7.5	143.886	45.082	7.73	184.722	57.847
BCT1-110	6.6	9.928	8.461	6.8	14.926	12.823	6.99	17.276	16.52	7.27	32.336	22.122	7.5	45.083	26.829	7.73	57.851	31.8
BCT1-115	8.75	8.468	8.462	8.95	12.836	12.824	9.09	16.534	16.519	9.29	22.106	22.088	9.43	26.772	26.754	9.57	31.588	31.575
BCT1-120	8.79	8.508	8.468	8.98	12.907	12.836	9.12	16.628	16.534	9.31	22.217	22.106	9.45	26.873	26.772	9.59	31.682	31.588
BCT1-125	11.16	8.509	8.508	11.23	12.909	12.907	11.27	16.631	16.628	11.33	22.222	22.217	11.37	26.878	26.873	11.41	31.687	31.682
BCT1-130	11.89	8.944	8.509	11.97	13.325	12.909	12.03	16.987	16.631	12.1	22.43	22.222	12.15	27.028	26.878	12.2	31.832	31.687
BCT1-135	13.3	8.939	8.944	13.35	13.322	13.325	13.39	16.985	16.987	13.44	22.429	22.43	13.47	27.028	27.028	13.5	31.832	31.832
BCT1-140	13.96	71.488	8.939	14.3	100.434	13.322	14.55	129.436	16.985	14.88	189.671	22.429	15.15	244.02	27.028	15.41	302.435	31.832
BCT1-150	13.97	75.394	36.329	14.3	111.366	59.453	14.55	154.285	80.718	14.89	236.733	120.868	15.15	310.652	156.047	15.41	392.601	192.864
BCT1-160	13.97	32.296	26.97	14.3	56.375	45.557	14.55	80.454	62.853	14.89	122.603	90.93	15.15	164.479	118.461	15.41	213.045	150.451
BCT1-165	13.97	28.571	23.783	14.3	50.381	40.743	14.55	71.877	57.163	14.89	108.452	84.064	15.16	145.661	111.439	15.42	189.142	144.127
BCT1-170	14.42	34.677	24.61	14.48	56.294	42.928	14.56	77.055	62.016	14.89	111.295	95.103	15.16	140.857	126.392	15.42	179.176	162.856
BCT1-175	14.9	56.776	36.794	14.99	81.927	60.705	15.06	105.681	83.104	15.15	142.895	118.613	15.22	174.703	147.535	15.43	209.43	179.176
BCT1-180	15.11	14.081	13.016	15.56	27.215	23.007	16.03	41.478	29.99	16.46	64.217	36.479	16.68	82.668	40.415	16.88	100.569	43.755
BCT1-185	16.13	17.813	14.081	16.23	35.763	27.215	16.31	53.963	41.478	16.51	82.868	64.217	16.69	109.53	82.668	16.89	139.98	100.569
BCT1-195	16.16	63.904	32.563	16.26	97.493	58.771	16.36	129.839	85.027	16.53	181.416	131.636	16.7	226.006	169.12	16.9	275.033	210.97
BCT1-20	6.34	209.899	209.121	6.45	296.953	295.409	6.57	383.597	381.206	6.76	527.01	523.282	6.92	653.673	649.217	7.09	801.336	795.643
BCT1-200	16.15	24.46	8.184	16.26	38.357	13.462	16.36	50.24	19.551	16.53	63.352	29.52	16.71	74.578	38.262	16.9	87.786	48.761
BCT1-205	15.33	0	0	15.33	0	0	15.33	0	0	15.33	0	0	15.33	0	0	15.38	0.146	0.011
BCT1-250	14.81	0.007	0.001	14.88	0.008	0.001	14.94	0.009	0.003	15.09	0.04	0.023	15.25	0.335	0.206	15.38	1.363	0.435
BCT1-30	6.41	213.974	209.899	6.56	304.195	296.953	6.7	394.063	383.597	6.91	542.855	527.01	7.09	673.811	653.673	7.27	823.621	801.336
BCT1-40	6.46	224.329	213.974	6.62	320.971	304.195	6.78	416.994	394.063	7.01	574.822	542.855	7.2	713.662	673.811	7.39	869.482	823.621
BCT1-50	6.53	241.647	224.329	6.72	347.332	320.971	6.89	448.12	416.994	7.13	616.583	574.822	7.34	765.87	713.662	7.55	931.115	869.482
BCT1-60	6.56	263.354	241.647	6.77	379.705	347.332	6.95	490.511	448.12	7.21	665.626	616.583	7.43	818.453	765.87	7.65	991.745	931.115
BCT1-70	6.58	396.784	357.1	6.8	590.281	531.07	6.99	774.991	698.373	7.27	1066.938	967.728	7.5	1318.097	1202.325	7.73	1593.324	1461.031
BCT1-80	6.58	103.885	68.923	6.8	165.299	114.043	6.99	224.648	157.035	7.27	319.828	226.007	7.5	406.054	292.597	7.73	501.506	369.576
BCT1-90	6.58	68.923	28.803	6.8	114.043	50.538	6.99	157.035	68.741	7.27	226.007	106.823	7.5	292.597	143.886	7.73	369.576	184.722
CH#1	13.93	7.145	5.218	14.19	9.781	7.49	14.29	12.081	8.453	14.48	15.026	10.41	14.66	17.278	12.113	14.93	19.416	14.792
CH#2	13.93	5.218	5.096	14.19	7.49	7.455	14.29	8.453	8.419	14.48	10.41	10.341	14.65	12.113	12.049	14.92	14.792	14.728
CH#3	14.46	28.352	28.349	14.6	52.152	52.151	14.66	70.317	70.317	14.72	95.876	95.876	14.76	120.329	120.329	14.8	141.155	141.155
CI #100	14.57	9.537	9.509	14.96	13.44	13.403	15.34	17.06	17.016	15.81	22.646	22.6	16.19	27.364	27.335	16.6	32.478	32.465
CI #102	14.55	10.17	10.146	14.89	13.996	13.97	15.23	17.282	17.251	15.67	21.853	21.809	16.03	25.044	24.988	16.43	28.173	28.115
CI #11	14.53	13.611	13.584	14.82	18.971	18.939	15.11	23.703	23.667	15.45	30.416	30.371	15.72	35.09	35.037	16.02	39.537	39.478
DET BASIN A	14.27	2.082	2.075	14.33	2.949	2.941	14.55	3.753	3.745	14.89	4.998	4.989	15.15	6.053	6.041	15.41	7.196	7.182
DITCH NORTH	11.02	66.119	65.796	11.41	89.317	89.211	11.57	101	100.975	11.83	120.569	120.546	12.02	136.471	136.446	12.18	150.762	150.739
EX LAG	13.52	149.617	27.369	13.84	207.066	34.669	14.03	260.763	41.567	14.39	344.388	51.184	14.73	415.615	55.514	15.08	493.249	60.082
EX. LAGOON 2	14.51	21.059	9.268	14.76	29.212	14.508	15	36.559	18.977	15.28	47.423	24.287	15.49	55.725	27.559	15.71	64.063	30.453
EXISTING POND	16.87	9.135	0.356	17.12	13.642	0.821	17.36	18.141	1.474	17.74	29.222	3.431	18.07	38.109	4.938	18.44	47.15	5.977
EXISTING SOUTH OUTFALL	16.16	4.829	1.853	16.28	8.319	4.165	16.38	12.483	6.529	16.54	19.203	10.72	16.72	24.677	13.878	16.91	32.952	14.549
KCM-0	6.18	605.393	0	6.18	898.303	0	6.18	1158.626	0	6.18	1553.19	0	6.18	1883.154	0	6.18	2231.22	0
KCM-10	6.18	605.625	605.393	6.18	897.061	898.303	6.18	1157.962	1158.626	6.19	1553.19	1553.19	6

POST DEVELOPMENT MAX STAGE (1/16/2023)

Node Name	2-YEAR (4.28in)			5-YEAR (5.38in)			10-YEAR (6.38in)			25-YEAR (7.91in)			50-YEAR (9.20in)			100-YEAR (10.6in)		
	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]
BCM-0	6.18	209.15	0.00	6.18	295.41	0.00	6.18	381.03	0.00	6.18	522.92	0.00	6.18	648.57	0.00	6.18	794.70	0.00
BCM-5	6.19	209.11	209.15	6.19	295.34	295.41	6.20	381.05	381.03	6.22	522.90	522.92	6.25	648.60	648.57	6.28	794.74	794.70
BCT1-10	6.23	209.12	209.11	6.27	295.41	295.34	6.32	381.21	381.05	6.43	523.28	522.90	6.53	649.22	648.60	6.66	795.64	794.74
BCT1-100	6.58	28.80	9.93	6.80	50.54	14.93	6.99	68.74	17.87	7.27	106.82	32.34	7.50	143.89	45.08	7.73	184.72	57.85
BCT1-110	6.60	9.93	8.46	6.80	14.93	12.82	6.99	17.28	16.52	7.27	32.34	22.11	7.50	45.08	26.80	7.73	57.85	31.77
BCT1-115	8.75	8.47	8.46	8.95	12.83	12.82	9.09	16.53	16.52	9.29	22.09	22.07	9.43	26.75	26.73	9.57	31.56	31.55
BCT1-120	8.79	8.51	8.47	8.98	12.90	12.83	9.12	16.62	16.53	9.31	22.20	22.09	9.45	26.85	26.75	9.59	31.66	31.56
BCT1-125	11.16	8.51	8.51	11.23	12.91	12.90	11.27	16.63	16.62	11.33	22.21	22.20	11.37	26.85	26.85	11.41	31.66	31.66
BCT1-130	11.89	8.94	8.51	11.97	13.32	12.91	12.03	16.98	16.63	12.10	22.41	22.21	12.15	27.00	26.85	12.20	31.81	31.66
BCT1-135	13.30	8.94	8.94	13.35	13.32	13.32	13.39	16.98	16.98	13.44	22.41	22.41	13.47	27.00	27.00	13.50	31.81	31.81
BCT1-140	13.96	71.48	8.94	14.30	100.38	13.32	14.55	129.33	16.98	14.88	189.34	22.41	15.15	243.71	27.00	15.41	302.13	31.81
BCT1-150	13.97	75.39	36.36	14.30	111.37	59.57	14.55	154.29	80.83	14.89	236.74	121.03	15.15	310.64	156.22	15.41	392.56	193.04
BCT1-160	13.97	32.30	26.98	14.30	56.38	45.59	14.55	80.46	62.89	14.89	122.58	90.95	15.15	164.41	118.42	15.41	212.93	150.35
BCT1-165	13.97	28.57	23.79	14.30	50.38	40.75	14.55	71.88	57.17	14.89	108.43	84.05	15.15	145.58	111.33	15.41	189.02	143.96
BCT1-170	14.42	34.68	24.61	14.48	56.30	42.93	14.56	77.06	62.02	14.89	111.30	95.10	15.16	140.86	126.39	15.42	179.18	162.86
BCT1-175	14.90	56.78	36.79	14.99	81.93	60.71	15.06	105.68	83.10	15.15	142.90	118.61	15.22	174.70	147.54	15.43	209.43	179.18
BCT1-180	15.11	14.08	13.02	15.56	27.22	23.01	16.03	41.48	29.99	16.46	64.22	36.48	16.68	82.67	40.41	16.88	100.57	43.76
BCT1-185	16.13	17.82	14.08	16.23	35.76	27.22	16.31	53.96	41.48	16.51	82.87	64.22	16.69	109.53	82.67	16.89	139.98	100.57
BCT1-195	16.16	63.90	32.57	16.26	97.49	58.77	16.36	129.84	85.03	16.53	181.42	131.64	16.70	226.01	169.12	16.90	275.03	210.97
BCT1-20	6.34	209.90	209.12	6.45	296.95	295.41	6.57	383.60	381.21	6.76	527.01	523.28	6.92	653.67	649.22	7.09	801.34	795.64
BCT1-200	16.15	24.46	8.19	16.26	38.36	13.46	16.36	50.24	19.55	16.53	63.35	29.52	16.71	74.58	38.26	16.90	87.79	48.76
BCT1-205	15.33	0.00	0.00	15.33	0.00	0.00	15.33	0.00	0.00	15.33	0.00	0.00	15.33	0.00	0.00	15.38	0.15	0.01
BCT1-250	14.81	0.01	0.00	14.88	0.01	0.00	14.94	0.01	0.00	15.09	0.04	0.02	15.25	0.34	0.21	15.38	1.36	0.44
BCT1-30	6.41	213.97	209.90	6.56	304.20	296.95	6.70	394.06	383.60	6.91	542.86	527.01	7.09	673.81	653.67	7.27	823.62	801.34
BCT1-40	6.46	224.33	213.97	6.62	320.97	304.20	6.78	416.99	394.06	7.01	574.82	542.86	7.20	713.66	673.81	7.39	869.48	823.62
BCT1-50	6.53	241.65	224.33	6.72	347.33	320.97	6.89	448.12	416.99	7.13	616.58	574.82	7.34	765.87	713.66	7.55	931.115	869.48
BCT1-60	6.56	263.35	241.65	6.77	379.71	347.33	6.95	490.51	448.12	7.21	665.63	616.58	7.43	818.453	765.87	7.65	991.745	931.115
BCT1-70	6.58	396.78	357.10	6.80	590.28	531.07	6.99	774.99	698.37	7.27	1066.94	967.73	7.50	1318.10	1202.33	7.73	1593.32	1461.03
BCT1-80	6.58	103.89	68.92	6.80	165.30	114.04	6.99	224.65	157.04	7.27	319.83	226.01	7.50	406.05	292.60	7.73	501.51	369.58
BCT1-90	6.58	68.92	28.80	6.80	114.04	50.54	6.99	157.04	68.74	7.27	226.01	106.82	7.50	292.60	143.89	7.73	369.58	184.72
CH#1	13.93	7.15	5.14	14.19	9.78	7.49	14.29	12.08	8.50	14.48	15.03	10.39	14.66	17.28	12.12	14.93	19.42	14.78
CH#2	13.93	5.14	5.10	14.19	7.49	7.46	14.29	8.50	8.42	14.48	10.39	10.34	14.65	12.12	12.05	14.92	14.78	14.73
CH#3	14.46	28.35	28.35	14.60	52.15	52.15	14.66	70.32	70.32	14.72	95.88	95.88	14.76	120.33	120.33	14.80	141.16	141.16
CI #100	14.57	9.54	9.51	14.96	13.44	13.40	15.34	17.06	17.02	15.81	22.65	22.60	16.19	27.36	27.34	16.60	32.48	32.47
CI #102	14.55	10.17	10.15	14.89	14.00	13.97	15.23	17.28	17.25	15.67	21.85	21.81	16.03	25.04	24.99	16.43	28.17	28.12
CI #11	14.53	13.61	13.58	14.82	18.97	18.94	15.11	23.70	23.67	15.45	30.42	30.37	15.72	35.09	35.04	16.02	39.54	39.48
DET BASIN A	14.27	2.08	2.08	14.33	2.95	2.94	14.55	3.75	3.75	14.89	5.00	4.99	15.15	6.05	6.04	15.41	7.20	7.18
DITCH NORTH	10.61	45.87	45.73	11.06	68.23	68.13	11.33	84.11	84.09	11.62	104.37	104.35	11.78	116.75	116.74	11.94	129.34	129.32
EX LAG	13.62	149.62	27.70	13.84	207.07	35.16	14.03	260.76	42.20	14.38	344.39	53.20	14.74	416.52	58.07	15.09	493.25	62.00
EX. LAGOON 2	14.51	21.06	9.27	14.76	29.21	14.51	15.00	36.56	18.98	15.28	47.22	24.39	15.49	55.73	27.87	15.71	64.06	30.92
EXISTING POND	16.87	9.14	0.36	17.12	13.64	0.82	17.36	18.14	1.47	17.74	29.22	3.48	18.07	38.11	4.94	18.44	47.15	5.98
EXISTING SOUTH OUTFALL	16.16	4.83	1.85	16.28	8.32	4.17	16.38	12.48	6.53	16.54	19.20	10.72	16.72	24.68	13.88	16.91	32.95	14.55
KCM-0	6.18	595.05	0.00	6.18	882.54	0.00	6.18	1144.22	0.00	6.18	1537.84	0.00	6.18	1866.50	0.00	6.18	2214.46	0.00
KCM-10	6.18	594.09	595.05	6.18	881.85	882.54	6.18	1143.44	1144.22	6.19	1537.45	1537.84	6.19	1866.70	1866.50	6.19	2214.40	2214.46
KCM-120	6.21	147.44	150.82	6.21	237.03	242.64	6.23	327.26	341.74	6.27	465.38	497.25	6.31	577.02	616.54	6.35	685.50	728.14
KCM-125	6.66	148.00	147.44	6.86	237.66	237.03	7.02	327.86	327.26	7.23	466.01	465.38	7.38	578.03	577.02	7.52	687.44	685.50
KCM-130	6.68	148.51	148.00	6.89	238.24	237.66	7.07	328.46	327.86	7.29	466.70	466.01	7.45	578.98	578.03	7.60	688.85	687.44
KCM-135	6.70	149.36	148.51	6.94	239.30	238.24	7.14	329.56	328.46	7.40	468.01	466.70	7.59	580.82	578.98	7.76	691.49	688.85
KCM-139	6.71	141.67	139.95	6.94	226.55	224.87	7.14	311.04	309.69	7.41	441.57	440.34	7.60	558.07	557.14	7.78	685.42	684.74
KCM-145	6.71	147.90	141.67	6.95	231.87	226.55	7.15	316.40	311.04	7.42	446.65	441.57	7.61	563.02	558.07	7.79	690.63	685.42
KCM-150	6.71	159.43	147.90	6.95	242.37	231.87	7.15	327.81	316.40	7.42	458.23	446.65	7.61	573.23	563.02	7.79	701.39	690.63
KCM-155	6.72	172.54	159.43	6.95	260.92	242.37	7.15	345.49	327.81	7.42	483.82	458.23	7.62	595.23	573.23	7.80	723.69	701.39
KCM-160	6.72	144.36	134.99	6.96	216.29	204.87	7.17	289.11	275.91	7.45	394.16	380.41	7.64	482.01	470.01	7.83	577.34	566.67
KCM-165	6.72	30.15	25.31	6.97	48.42	38.47	7.17	59.86	51.12	7.45	79.99	70.49	7.65	98.83	92.26	7.83	122.88	116.52
KCM-170	6.83	31.93	30.15	7.05	48.76	45.48	7.23	64.80	59.86	7.49	87.35	79.99	7.69	105.77	98.83	7.87	129.96	122.86
KCM-175	8.21	32.45	31.93	8.29	49.13	48.76	8.34	65.45	64.80	8.41	88.65	87.35	8.49	108.01	105.77	8.56	132.23	129.96
KCM-180	8.73	34.38	32.45	8.81	51.38	49.13	8.88	67.79	65.45	8.96	91.44	88.65	9.02	110.06	108.01	9.09	134.87	132.23
KCM-185	9.14	34.41	34.38	9.22	52.12	51.38	9.28	69.32	67.91	9.36	96.91	95.60	9.41	120.91	119.28	9.47	147.45	141.21
KCM-193	9.25	0.00	0.00	9.25	0.00	0.00	9.25	0.13	0.00	9.34	4.17	0.10	9.41	10.87	0.55	9.47	17.49	1.28
KCM-20	6.19	588.96	588.93	6.19	874.80	874.80	6.19	1135.55	1135.50	6.20	1528.39	1528.85	6.21	1856.67	1857.13	6.23	2203.47	2203.63
KCM-30	6.19	588.53	588.96	6.19	875.12	874.80	6.20	1135.43	1135.55	6.22	1528.73	1528.39	6.23	1857.56	1856.67	6.25	2204.95	2203.47
KCM-40	6.19	588.97	588.53	6.20	876.04	875.12	6.21	1137.16	1135.43	6.23	1530.93	1528.73	6.25	1861.25	1857.56	6.27	2210.99	2204.95
KCM-50	6.20	492.98	489.22	6.20	728.27	726.35	6.21	939.24	936.29	6.23	1255.00	1252.82	6.26	1522.95	1520.69	6.29	1805.89	1802.90
KCM-54	6.20	491.95	492.98	6.20	729.89	728.27	6.21	939.92	939.24	6.24	1255.88	1255.00	6.26	1524.13	1522.95	6.29	1807.57	1805.89
KCM-56	6.20	490.80	491.95	6.21	729.52	729.89	6.22	939.13	939.92	6.24	1256.61	1255.88	6.27	1525.09	1524.13	6.30	1808.94	1807.57
KCM-60	6.20	492.51	490.80	6.21	737.21	729.52	6.22	965.17	939.13	6.25	1319.28	1256.61	6.28	1616.04	1525.09	6.32	1944.83	1808.94
KCT1-10	7.69	103.95	103.15	7.99	156.12	155.70	8.24	210.22	209.52	8.55	285.46	284.47	8.76	343.95	342.89	8.96	402.28	401.28
KCT1-14	8.05	50.93	50.94	8.42	85.41	85.42	8.69	118.53	118.54	9.01	164.74	164.75	9.23	205.82	205.71	9.43	245.48	245.50
KCT1-14.5	8.06	50.93	50.93	8.43	85.41	85.41	8.72	118.53	118.53	9.05	164.74	164.74	9.29	205.72	205.82	9.50	245.48	245.48
KCT1-15	8.07	51.03	50.93	8.46	85.51	85.41	8.76	118.85	118.53	9.12	165.13	164.74	9.38	206.05	205.72	9.61	245.83	245.48
KCT1-5	7.11	108.01	107.93	7.41	161.88	161.33	7.67	217.45	216.70	8.00	295.70	294.73	8.23	357.28	356.14	8.44	419.18	418.04
L1	12.56	39.28	17.09	13.06	59.35	21.97	13.55	76.94	24.95	14.26	103.64	27.98	14.84	125.98	32.08	15.42	150.06	34.46
L2 Lakeside	12.23	20.37	21.64	12.51	30.33	32.53	12.82	39.93	42.86	13.34	49.75	53.78	13.78	54.00	58.51	14.24	57.46	62.44
L2-3rd Lake	12.22	58.58	42.64	12.48	83.53	65.51	12.78	108.13	85.03	13.27	145.88	112.39	13.70	177.52	134.65	14.16	209.97	155.51
L3	12.31	19.40	20.06	12.65	28.02	26.33	13.01	37.18	30.36	13.60	50.70	34.74	14.09	61.71	37.81	14.61	73.44	43.61
L4	12.33	13.90	3.74	12.77	20.56	5.15	13.21	26.90	6.38	13.92	36.86	7.90	14.54	45.38	8.96	15.20	54.68	9.95
LAGOON 5	14.53	0.96	0.22	14.84	1.38	0.35	15.13	1.80	0.48	15.50	2.56	0.58	15.78	3.39	1.36	16.04	4.54	2.90
LAGOON 6	14.57	5.65	0.95	14.96	8.27	1.87	15.34	10.84	2.95	15.76	15.10	7.42	15.98	19.16	13.29	16.14	24.19	20.06
MH #141	14.53	14.18	14.15	14.84	19.71	19.67	15.13	24.62	24.59	15.50	31.84	31.79	15.80	37.28	37.23	16.12	42.79	42.73
MID-10	14.52	0.00	0.00	14.52	0.00	0.00	14.52	0.00	0.00	14.52	0.00	0.00	14.52	0.00	0.00	14.52	0.00	0.00
OFFSITE AREA #3	14.68	34.05	33.92	14.77	56.76	56.24	14.90	80.29	74.04	15.08	113.30	91.17	15.24	128.37	95.09	15.37	140.23	102.77
OUTFALL NORTH	11.00	0.00	0.00	11.00	0.00	0.00	11.00	0.00	0.00	11.00	0.00	0.00	11.00	0.00	0.00	11.00	0.00	0.00
Outfall South	11.00	0.00	0.00	11.00	0.00	0.00	11.00	0.00	0.00	11.00	0.00	0.00	11.00	0.00	0.00	11.00	0.00	0.00
PIPE XING	12.22	55.91	45.87	12.48	85.13	68.23	12.77	113.23	84.11	13.27	151.51	104.37	13.70	183.04	116.75	14.15	215.87	129.34
POND #1B	16.87	9.21	7.93	17.12	13.52	13.04	17.36	18.64	17.31	17.71	25.04	20.77	18.02	27.64	22.25	18.37	28.63	26.95
POND#1A	16.87	31.29	7.76	17.12	40.84	12.91	17.36	49.46	19.67	17.74	62.56	33.37	18.07	73.54	43.45	18.45	85.40	43.58
POND#2	14.04	44.05	7.15	14.42	59.02	9.78	14.58	72.50	12.08	14.92	92.81	15.03	15.25	109.73	17.28	15.82	127.77	19.42
POND#3	14.09	74.45	9.17	14.50	104.85	12.26	14.72	133.04	15.09	15.07	176.02	18.92	15.41	211.73	19.88	16.07	250.16	22.35
PONDING AREA A	14.52	38.63	28.35	14.74	69.43	52.15	14.88	100.63	70.32	15.06	143.08	95.88	15.23	180.81	120.33	15.36	198.18	141.16
PONDING AREA B	8.74	66.52	50.65	9.02	93.07	84.45	9.19	121.56	116.63	9.42	176.82	160.95	9.61	227.73	199.56	9.80	277.81	237.07
Small Lagoon	13.62	30.30	29.77	13.84	42.43	41.56	14.03	53.53	52.56	14.39	71.69	70.18	14.74	88.34	85.83	15.10	106.57	102.75
SOUTH PONDING AREA	14.81	41.05	24.86	14.88	60.47	41.54	14.94	78.91	57.92	15.09	107.92	76.68	15.25	132.77	79.16	15.38	159.96	80.82
SOUTH-100	6.18	27.63	27.94	6.18	36.99	37.25	6.18	44.69	45.07	6.18	55.52	55.86	6.18	61.82	62.15	6.18	71.37	71.66
SOUTH-150	6.33	30.73	27.63	6.45	44.14	36.99	6.57	56.97	44.69	6.77	77.01	55.52	6.99	98.15	61.82	7.26	125.37	71.37
SOUTH-200	6.33	43.17	30.73	6.45	65.67	44.14	6.57	88.59	56.97	6.78	125.61	77.01	7.00	164.37	98.15	7.26	217.35	125.37
SOUTH-250	6.33	72.19	43.17	6.45	114.55	65.67	6.57	156.66	88.59	6.78	228.62	125.61	7.00	299.08	164.37	7.27	394.73	217.35
SOUTH-300	10.07	77.23	72.19	10.14	120.20	114.55	10.19	159.74	156.66	10.26	233.48	228.07	10.32	294.20	288.53	10.37	361.22	354.92
SOUTH-350	12.70	76.56	77.23	12.89	119.20	120.20	13.03	159.15	159.74	13.19	232.37	233.48	13.28	293.47	294.20	13.37	360.65	361.22
SOUTH-400	13.63	76.79	76.56	13.81	119.98	119.20	13.96	161.32	159.15	14.12	233.56	232.37	14.24	294.93	293.47	14.35	362.19	360.65
SOUTH-450	13.67	93.34	77.04	13.86	141.66	121.10	14.01	188.51	163.66	14.19	263.51	238.50	14.32	328.68	302.22	14.45	400.61	372.27
SOUTH-50	6.18	27.94	0.00	6.18	37.25	0.00	6.18	45.07	0.00	6.18	55.86	0.00	6.18	62.15	0.00	6.18	71.66	0.00
SOUTH-500	13.49	0.25	0.01	13.68	1.14	0.09	13.88	2.47	0.28	14.11	4.96	0.68	14.27	7.32	1.04	14.42	10.12	1.43
SOUTH-600	12.38	17.10	17.10	12.76	21.97	21.97	13.16	24.95	24.96	13.79	27.88	27.89	14.31	29.79	29.80	14.85	31.97	31.98
SOUTH-650	12.38	0.03	0.00	12.76	0.04	0.00	13.16	0.05	0.01	13.79	0.07	0.01	14.31	0.08	0.01	14.85	0.09	0.01
SOUTH-750	16.16	8.19	3.92	16.27	13.46	5.02	16.37	19.55	7.45	16.54	29.52	9.08	16.71	38.26	10.42	16.90	48.76	11.59

POST DEVELOPMENT MAX STAGE (1/20/2023)

Node Name	2-YEAR (4.28in)			5-YEAR (5.38in)			10-YEAR (6.38in)			25-YEAR (7.91in)			50-YEAR (9.20in)			100-YEAR (10.6in)		
	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]
BCM-0	6.18	209.196	0	6.18	295.378	0	6.18	381.067	0	6.18	522.884	0	6.18	648.596	0	6.18	794.68	0
BCM-5	6.19	209.113	209.196	6.19	295.349	295.378	6.2	381.042	381.067	6.22	522.891	522.884	6.25	648.597	648.596	6.28	794.737	794.68
BCT1-10	6.23	209.121	209.113	6.27	295.409	295.349	6.32	381.206	381.042	6.43	523.282	522.891	6.53	649.217	648.597	6.66	795.643	794.737
BCT1-100	6.58	28.803	9.928	6.8	50.538	14.926	6.99	68.741	17.876	7.27	106.823	32.336	7.5	143.886	45.082	7.73	184.722	57.847
BCT1-110	6.6	9.928	8.461	6.8	14.926	12.823	6.99	17.276	16.52	7.27	32.336	22.122	7.5	45.083	26.829	7.73	57.851	31.8
BCT1-115	8.75	8.468	8.462	8.95	12.836	12.824	9.09	16.534	16.519	9.29	22.106	22.088	9.43	26.772	26.754	9.57	31.588	31.575
BCT1-120	8.79	8.508	8.468	8.98	12.907	12.836	9.12	16.628	16.534	9.31	22.217	22.106	9.45	26.873	26.772	9.59	31.682	31.588
BCT1-125	11.16	8.509	8.508	11.23	12.909	12.907	11.27	16.631	16.628	11.33	22.222	22.217	11.37	26.878	26.873	11.41	31.687	31.682
BCT1-130	11.89	8.944	8.509	11.97	13.325	12.909	12.03	16.987	16.631	12.1	22.43	22.222	12.15	27.028	26.878	12.2	31.832	31.687
BCT1-135	13.3	8.939	8.944	13.35	13.322	13.325	13.39	16.985	16.987	13.44	22.429	22.43	13.47	27.028	27.028	13.5	31.832	31.832
BCT1-140	13.96	71.488	8.939	14.3	100.434	13.322	14.55	129.436	16.985	14.88	189.671	22.429	15.15	244.02	27.028	15.41	302.435	31.832
BCT1-150	13.97	75.394	36.329	14.3	111.366	59.453	14.55	154.285	80.718	14.89	236.733	120.868	15.15	310.652	156.047	15.41	392.601	192.864
BCT1-160	13.97	32.296	26.97	14.3	56.375	45.557	14.55	80.454	62.853	14.89	122.603	90.93	15.15	164.479	118.461	15.41	213.045	150.451
BCT1-165	13.97	28.571	23.783	14.3	50.381	40.743	14.55	71.877	57.163	14.89	108.452	84.064	15.16	145.661	111.439	15.42	189.142	144.127
BCT1-170	14.42	34.677	24.61	14.48	56.294	42.928	14.56	77.055	62.016	14.89	111.295	95.103	15.16	140.857	126.392	15.42	179.176	162.856
BCT1-175	14.9	56.776	36.794	14.99	81.927	60.705	15.06	105.681	83.104	15.15	142.895	118.613	15.22	174.703	147.535	15.43	209.43	179.176
BCT1-180	15.11	14.081	13.016	15.56	27.215	23.007	16.03	41.478	29.99	16.46	64.217	36.479	16.68	82.668	40.415	16.88	100.569	43.755
BCT1-185	16.13	17.813	14.081	16.23	35.763	27.215	16.31	53.963	41.478	16.51	82.868	64.217	16.69	109.53	82.668	16.89	139.98	100.569
BCT1-195	16.16	63.904	32.563	16.26	97.493	58.771	16.36	129.839	85.027	16.53	181.416	131.636	16.7	226.006	169.12	16.9	275.033	210.97
BCT1-20	6.34	209.899	209.121	6.45	296.953	295.409	6.57	383.597	381.206	6.76	527.01	523.282	6.92	653.673	649.217	7.09	801.336	795.643
BCT1-200	16.15	24.46	8.184	16.26	38.357	13.462	16.36	50.24	19.551	16.53	63.352	29.52	16.71	74.578	38.262	16.9	87.786	48.761
BCT1-205	15.33	0	0	15.33	0	0	15.33	0	0	15.33	0	0	15.33	0	0	15.38	0.146	0.011
BCT1-250	14.81	0.007	0.001	14.88	0.008	0.001	14.94	0.009	0.003	15.09	0.04	0.023	15.25	0.335	0.

ICPR PRE-DEVELOPMENT

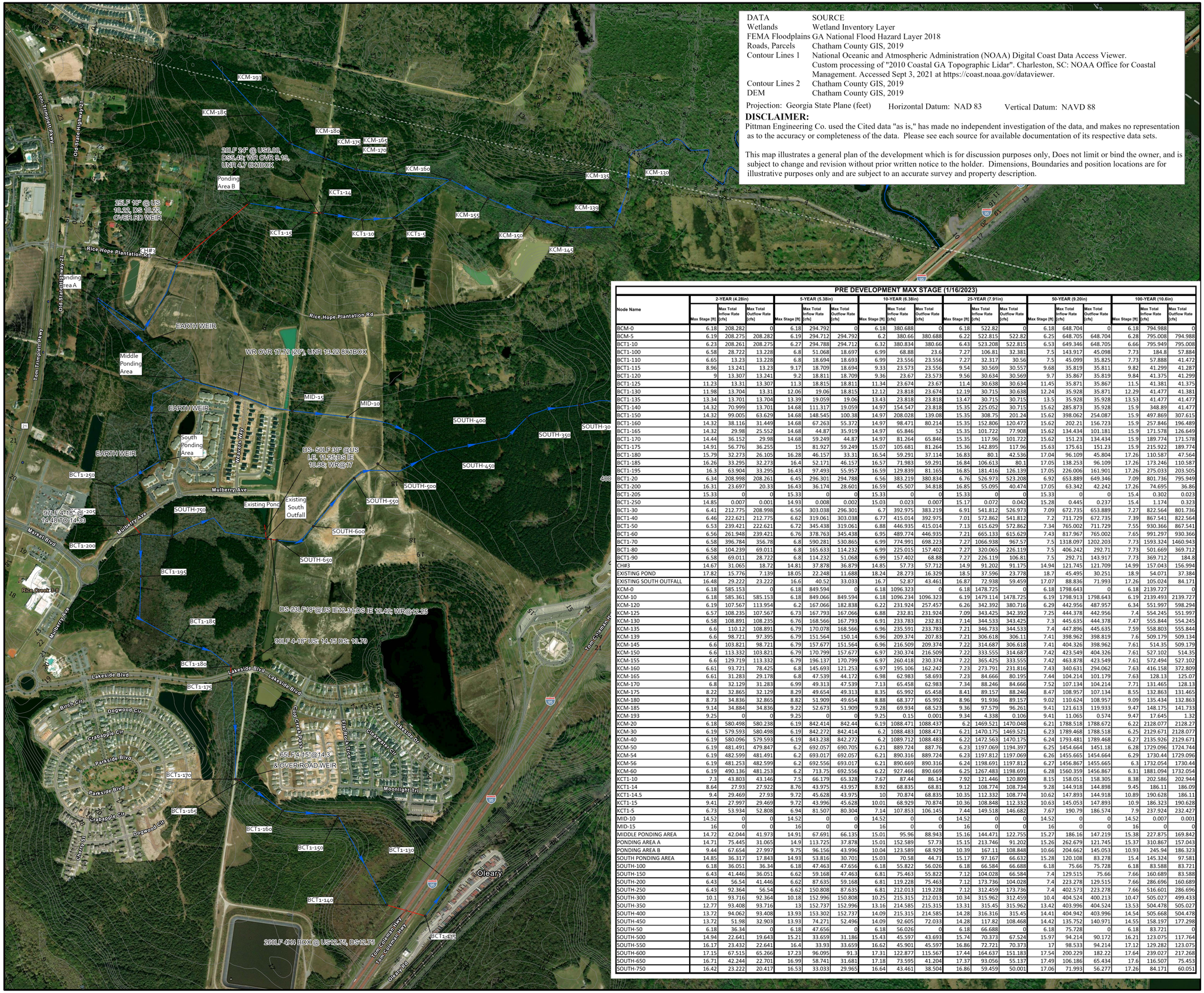
Appendix A

NODE/LINK MAP

PROJECT

RICE HOPE COMPREHENSIVE STORMWATER STUDY CHATHAM COUNTY, GEORGIA

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)



DATA	SOURCE
Wetlands	Wetland Inventory Layer
FEMA Floodplains	GA National Flood Hazard Layer 2018
Roads, Parcels	Chatham County GIS, 2019
Contour Lines 1	National Oceanic and Atmospheric Administration (NOAA) Digital Coast Data Access Viewer. Custom processing of "2010 Coastal GA Topographic Lidar". Charleston, SC: NOAA Office for Coastal Management. Accessed Sept 3, 2021 at https://coast.noaa.gov/dataviewer.
Contour Lines 2	Chatham County GIS, 2019
DEM	Chatham County GIS, 2019

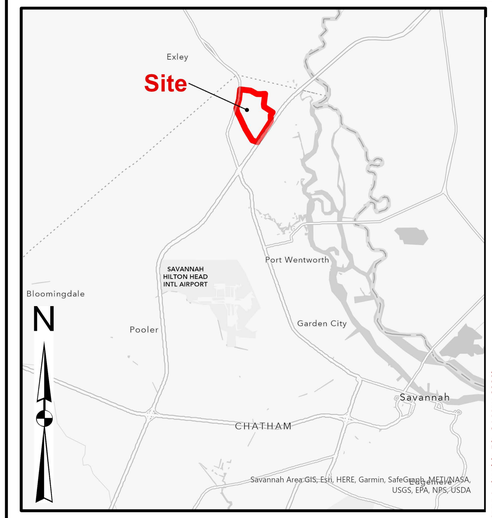
Projection: Georgia State Plane (feet) Horizontal Datum: NAD 83 Vertical Datum: NAVD 88

DISCLAIMER:
Pittman Engineering Co. used the Cited data "as is," has made no independent investigation of the data, and makes no representation as to the accuracy or completeness of the data. Please see each source for available documentation of its respective data sets.

This map illustrates a general plan of the development which is for discussion purposes only, Does not limit or bind the owner, and is subject to change and revision without prior written notice to the holder. Dimensions, Boundaries and position locations are for illustrative purposes only and are subject to an accurate survey and property description.

PRE DEVELOPMENT MAX STAGE (1/16/2023)

Node Name	2-YEAR (4.28in)			5-YEAR (5.38in)			10-YEAR (6.38in)			25-YEAR (7.91in)			50-YEAR (9.20in)			100-YEAR (10.6in)		
	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]	Max Stage [ft]	Max Total Inflow Rate [cfs]	Max Total Outflow Rate [cfs]
BCM-0	6.18	208.282	0	6.18	294.792	0	6.18	380.688	0	6.18	522.82	0	6.18	648.704	0	6.18	794.988	0
BCM-5	6.19	208.275	208.282	6.19	294.712	294.792	6.2	380.66	380.688	6.22	522.815	522.82	6.25	648.705	648.704	6.28	795.008	794.988
BCT1-10	6.23	208.261	208.275	6.27	294.788	294.712	6.32	380.834	380.66	6.43	523.208	522.815	6.53	649.346	648.705	6.66	795.949	795.008
BCT1-100	6.58	28.722	13.228	6.8	51.068	18.697	6.99	68.88	23.6	7.27	106.81	32.381	7.5	143.917	45.098	7.73	184.8	57.884
BCT1-110	6.65	13.23	13.228	6.8	18.694	18.693	6.99	23.556	23.556	7.27	32.317	30.56	7.5	45.099	35.825	7.73	57.888	41.472
BCT1-115	8.96	13.241	13.23	9.17	18.709	18.694	9.33	23.573	23.556	9.54	30.569	30.557	9.68	35.819	35.811	9.82	41.299	41.287
BCT1-120	9	13.307	13.241	9.2	18.811	18.709	9.36	23.67	23.573	9.56	30.634	30.569	9.7	35.867	35.819	9.84	41.375	41.299
BCT1-125	11.23	13.31	13.307	11.3	18.815	18.811	11.34	23.674	23.67	11.4	30.638	30.634	11.45	35.871	35.867	11.5	41.381	41.375
BCT1-130	11.98	13.704	13.31	12.06	19.06	18.815	12.12	23.818	23.674	12.19	30.715	30.638	12.24	35.928	35.871	12.29	41.477	41.381
BCT1-135	13.34	13.701	13.704	13.39	19.059	19.06	13.43	23.818	23.818	13.47	30.715	30.715	13.5	35.928	35.928	13.53	41.477	41.477
BCT1-140	14.32	70.999	13.701	14.68	111.317	19.059	14.97	154.547	23.818	15.35	225.052	30.715	15.62	285.873	35.928	15.9	348.89	41.477
BCT1-150	14.32	99.005	63.629	14.68	148.545	100.38	14.97	208.028	139.08	15.35	308.75	201.24	15.62	398.062	254.087	15.9	497.869	307.615
BCT1-160	14.32	38.116	31.449	14.68	67.263	55.372	14.97	98.471	80.214	15.35	152.806	120.472	15.62	202.21	156.723	15.9	257.846	196.489
BCT1-165	14.32	29.98	25.552	14.68	44.87	35.919	14.97	65.846	52	15.35	101.722	77.908	15.62	134.434	101.181	15.9	171.578	126.649
BCT1-170	14.44	36.152	29.98	14.68	59.249	44.87	14.97	81.264	65.846	15.35	117.96	101.722	15.62	151.23	134.434	15.9	189.774	171.578
BCT1-175	14.91	56.776	36.255	15	81.927	59.249	15.07	105.681	81.264	15.36	142.895	117.96	15.63	175.61	151.23	15.9	215.922	189.774
BCT1-180	15.79	32.273	26.105	16.28	46.157	33.31	16.54	59.291	37.114	16.83	80.1	42.536	17.04	96.109	45.804	17.26	110.587	47.564
BCT1-185	16.26	33.295	32.273	16.4	52.171	46.157	16.57	71.983	59.291	16.84	106.613	80.1	17.05	138.253	96.109	17.26	173.246	110.587
BCT1-195	16.3	63.904	33.295	16.43	97.493	55.957	16.59	129.839	81.165	16.85	181.416	126.139	17.05	226.006	161.901	17.26	275.033	203.505
BCT1-20	6.34	208.998	208.261	6.45	296.301	294.788	6.56	383.219	380.834	6.76	526.973	523.208	6.92	653.889	649.346	7.09	801.736	795.949
BCT1-200	16.31	23.697	20.33	16.43	36.174	28.601	16.59	45.507	34.818	16.85	55.095	40.474	17.05	63.342	42.242	17.26	74.695	36.86
BCT1-205	15.33	0	0	15.33	0	0	15.33	0	0	15.33	0	0	15.33	0	0	15.4	0.302	0.023
BCT1-250	14.85	0.007	0.001	14.93	0.008	0.002	15.03	0.023	0.007	15.17	0.072	0.042	15.28	0.445	0.237	15.4	1.174	0.323
BCT1-30	6.41	212.775	208.998	6.56	303.038	296.301	6.7	392.975	383.219	6.91	541.812	526.973	7.09	672.735	653.889	7.27	822.564	801.736
BCT1-40	6.46	222.621	212.775	6.62	319.061	303.038	6.77	415.014	392.975	7.01	572.862	541.812	7.2	711.729	672.735	7.39	867.541	822.564
BCT1-50	6.53	239.421	222.621	6.72	345.438	319.061	6.88	446.935	415.014	7.13	615.629	572.862	7.34	765.002	711.729	7.55	930.366	867.541
BCT1-60	6.56	261.948	239.421	6.76	378.763	345.438	6.95	489.774	446.935	7.21	665.133	615.629	7.43	817.967	765.002	7.65	991.297	930.366
BCT1-70	6.58	396.784	356.78	6.8	590.281	530.865	6.99	774.991	698.223	7.27	1066.938	967.57	7.5	1318.097	1202.203	7.73	1593.324	1460.943
BCT1-80	6.58	104.239	69.011	6.8	165.633	114.232	6.99	225.015	157.402	7.27	320.065	226.119	7.5	406.242	292.71	7.73	501.669	369.712
BCT1-90	6.58	69.011	28.722	6.8	114.232	51.068	6.99	157.402	68.88	7.27	226.119	106.81	7.5	292.71	143.917	7.73	369.712	184.8
CH#3	14.67	31.065	18.72	14.81	37.878	36.879	14.85	57.73	57.712	14.9	91.202	91.175	14.94	121.745	121.709	14.99	157.043	156.994
EXISTING POND	17.82	15.776	7.139	18.05	22.248	11.688	18.24	28.273	16.329	18.5	37.596	23.778	18.7	45.495	30.251	18.9	54.071	37.384
EXISTING SOUTH OUTFALL	16.48	29.222	23.222	16.6	40.52	33.033	16.7	52.87	43.461	16.87	72.938	59.459	17.07	88.836	71.993	17.26	105.024	84.171
KCM-0	6.18	585.153	0	6.18	849.594	0	6.18	1096.323	0	6.18	1478.725	0	6.18	1798.643	0	6.18	2139.727	0
KCM-10	6.18	585.361	585.153	6.18	849.066	849.594	6.18	1096.234	1096.323	6.19	1479.114	1478.725	6.19	1798.913	1798.643	6.19	2139.493	2139.727
KCM-120	6.19	107.567	113.954	6.2	167.066	182.838	6.22	231.924	257.457	6.26	342.392	380.716	6.29	442.956	487.957	6.34	551.997	598.294
KCM-125	6.57	108.235	107.567	6.73	167.793	167.066	6.88	232.81	231.924	7.09	343.425	342.392	7.25	444.378	442.956	7.4	554.245	551.997
KCM-130	6.58	108.891	108.235	6.76	168.566	167.793	6.91	233.783	232.81	7.14	344.533	343.425	7.3	445.635	444.378	7.47	555.844	554.245
KCM-135	6.6	110.12	108.891	6.79	170.078	168.566	6.96	235.591	233.783	7.21	346.733	344.533	7.4	447.896	445.635	7.59	558.803	555.844
KCM-140	6.6	98.721	97.395	6.79	151.564	150.14	6.96	209.374	207.83	7.21	306.618	306.11	7.41	398.962	398.819	7.6	509.179	509.134
KCM-145	6.6	103.821	98.721	6.79	157.677	151.564	6.96	216.509	209.374	7.22	314.687	306.618	7.41	404.326	398.962	7.61	514.35	509.179
KCM-150	6.6	113.332	103.821	6.79	170.799	157.677	6.97	230.374	216.509	7.22	333.555	314.687	7.42	423.549	404.326	7.61	527.102	514.35
KCM-155	6.6	129.719	113.332	6.79	196.137	170.799	6.97	260.418	230.374	7.22	365.425	333.555	7.42	463.878	423.549	7.61	572.494	527.102
KCM-160	6.61	93.721	78.425	6.8	145.693	121.253	6.97	195.106	162.242	7.23	273.791	231.816	7.43	340.631	294.062	7.63	416.158	372.809
KCM-165	6.61	31.283	29.178	6.8	47.539	44.172	6.98	62.983	58.693	7.23	84.666	80.195	7.44	104.214	101.179	7.63	128.13	125.07
KCM-170	6.8	32.129	31.283	6.99	49.313	47.539	7.13	65.458	62.983	7.34	88.246	84.666	7.52	107.134	104.214	7.71	131.465	128.13
KCM-175	8.22	32.865	32.129	8.29	49.654	49.313	8.35	65.992	65.458	8.41	89.157	88.246	8.47	108.957	107.134	8.55	132.863	131.465
KCM-180	8.73	34.836	32.865	8.82	51.909	49.654	8.88	68.377	65.992	8.96	91.936	89.157	9.02	110.624	108.957	9.09	135.434	132.863
KCM-185	9.14	34.884	34.836	9.22	52.673	51.909	9.28	69.934	68.523	9.36	97.579	96.261	9.41	121.613	119.933	9.47	148.175	141.733
KCM-193	9.25	0	0	9.25	0	0	9.25	0.15	0.001	9.34	4.338	0.106	9.41	11.065	0.574	9.47	17.645	1.32
KCM-20	6.18	580.498	580.238	6.19	842.414	842.44	6.19	1088.471	1088.437	6.2	1469.521	1470.048	6.21	1788.518	1788.672	6.22	2128.077	2128.27
KCM-30	6.19	579.593	580.498	6.19	842.272	842.414	6.2	1088.483	1088.471	6.21	1470.175	1469.521	6.23	1789.468	1788.518	6.25	2129.671	2128.077
KCM-40	6.19	580.096	579.593	6.19	843.238	842.272	6.2	1089.712	1088.483	6.22	1472.563	1470.175	6.24	1793.481	1789.468	6.27	2135.926	2129.671
KCM-50	6.19	481.491	479.847	6.2	692.057	690.705	6.21	889.724	887.76	6.23	1197.069	1194.397	6.25	1454.664	1451.18	6.28	1729.096	1724.744
KCM-54	6.19	482.599	481.491	6.2	693.017	692.057	6.21	890.316	889.724	6.23	1197.812	1197.069	6.26	1455.665	1454.664	6.29	1730.44	1729.096
KCM-56	6.19	481.253	482.599	6.2	692.556	693.017	6.21	890.669	890.316	6.24	1198.691	1197.812	6.27	1456.867	1455.665	6.3	1732.054	1730.44
KCM-60	6.19	490.136	481.253	6.2	713.75	692.556	6.22	927.466	890.669	6.25	1267.483	1198.691	6.28	1560.359	1456.867	6.31	1881.094	1732.054
KCT1-10	7.3	43.803	43.146	7.5	66.179	65.328	7.67	87.44	86.14	7.92	121.446	120.809	8.15	158.051	158.305	8.38	202.586	202.944
KCT1-14	8.64	27.93	27.922	8.76	43.975	43.957	8.92	68.835	68.81	9.12	108.774	108.734	9.28	144.918	144.898	9.45	186.11	186.09
KCT1-14.5	9.4	29.469	27.93	9.72	45.628	43.975	10	70.874	68.835	10.35	112.332	108.774	10.62	147.893	144.918	10.89	190.628	186.11
KCT1-15	9.41	27.997	29.469	9.72	43.996	45.628	10.01	68.929	70.874	10.36	108.848	112.332	10.63	145.053	147.893	10.9	186.323	190.628
KCT1-5	6.73	53.934	52.808	6.94	81.507	80.304	7.14	107.853	106.145	7.44	149.518	146.682	7.67	190.79	186.574	7.9	237.924	232.427
MID-10	14.52	0	0	14.52	0	0	14.52	0	0	14.52	0	0	14.52	0	0	14.52	0.007	0.001
MID-15	16	0	0	16	0	0	16	0	0	16	0	0	16	0	0	16	0	0
MIDDLE PONDING AREA	14.72	42.044	41.973	14.91	67.691	66.135	15.01	95.96	88.943	15.16	144.471	122.755	15.27	186.16	147.219	15.38	227.875	169.842
PONDING AREA A	14.71	75.445	31.065	14.9	113.725	37.878	15.01	152.589	57.73	15.15	213.746	91.202	15.26	262.679	121.745	15.37	310.867	157.043
PONDING AREA B	9.44	67.654	27.997	9.75	96.156	43.996	10.04	123.589	68.929	10.39	167.11	108.848	10.66	204.662	145.053	10.93	245.94	186.323
SOUTH PONDING AREA	14.85	36.317	17.843	14.93	53.816	30.701	15.03	70.58	44.71	15.17	97.167	66.632	15.28	120.108	83.278	15.4	145.324	97.581
SOUTH-100	6.18	36.051	36.34	6.18	47.463	47.656	6.18	55.822	56.026	6.18	66.584	66.688	6.18	75.66	75.728	6.18	83.588	83.721
SOUTH-150	6.43	41.446	36.051	6.62	59.168	47.463	6.81	75.463	55.822	7.12	104.028	66.584	7.4	129.515	75.66	7.66	160.689	83.588
SOUTH-200	6.43	56.54	41.446	6.62	87.635	59.168	6.81	119.228	75.463	7.12	173.736	104.028	7.4	223.278	129.515	7.66	286.696	160.689
SOUTH-250	6.43	92.364	56.54	6.62	150.808	87.635	6.81	212.013	119.228	7.12	312.459	173.736	7.4	402.573	223.278	7.66	516.601	286.696
SOUTH-300	10.1	93.716	92.364	10.18	152.996	150.808	10.25	215.315	212.013	10.34	315.962	312.459	10.4	404.524	400.213	10.47	505.027	499.433
SOUTH-350	12.77	93.408	93.716	13	152.737	152.996	13.16	214.585	215.315	13.31	315.45	315.962	13.42	403.996	404.524	13.53	504.478	505.027
SOUTH-400	13.72	94.062	93.408	13.93	153.302	152.737	14.09	215.315	214.585	14.28	316.316	315.45	14.41	404.942	403.996	14.54	505.668	504.478
SOUTH-450	13.72	51.98	32.903	13.93	74.271	52.496	14.09	92.605	72.033	14.28	117.82	108.468	14.42	135.752	140.971	14.55	158.197	177.298
SOUTH-50	6.18	36.34	0	6.18	47.656	0	6.18	56.026	0	6.18	66.688	0	6.18	75.728	0	6.18	83.721	0
SOUTH-500	14.94	22.641	19.643	15.21	33.659	31.186	15.43	45.597	43.693	15.74	70.373	67.524	15.97	94.214	90.172	16.21	123.075	117.764
SOUTH-550	16.17	23.432	22.641	16.4	33.93	33.659	16.62	45.901	45.597	16.86	72.721	70.373	17	98.533	94.214	17.12	129.282	123.075
SOUTH-600	17.15	67.515	65.266	17.23	96.095	91.3	17.31	122.877	115.567	17.44	164.637	151.183	17.54	200.229	182.22	17.64	239.027	217.268
SOUTH-650	16.71	42.244	22.701	16.99	58.741	31.681	17.18	73.595	41.204	17.37	93.056	55.137	17.49	106.186	65.434	17.6	116.507	75.453
SOUTH-750	16.42	23.222	20.417	16.53	33.033	29.965	16.64	43.461	38.504	16.86	59.459	50.001	17.06	71.993	56.277	17.26	84.171	60.051



Rice Hope Comprehensive Drainage Study

ICPR Pre Development Max Node Map

Chatham County, Georgia

JANUARY 2023

N

GEORGIA REGISTERED PROFESSIONAL ENGINEER RAYMOND A. PITTMAN NO. 017550 1/16/2023

0 500 1,000 2,000 Feet

PITTMAN ENGINEERING

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

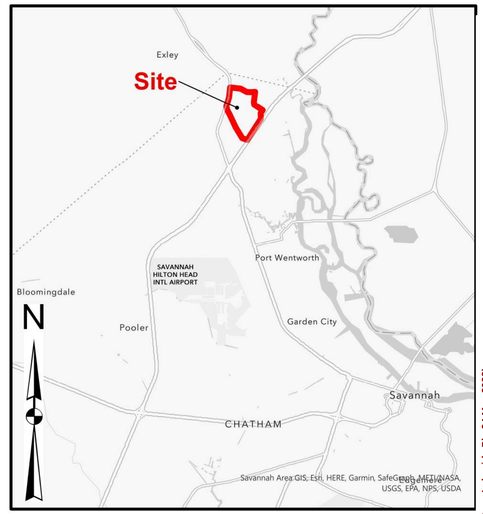
DATA	SOURCE
Wetlands	Wetland Inventory Layer
FEMA Floodplains	GA National Flood Hazard Layer 2018
Roads, Parcels	Chatham County GIS, 2019
Contour Lines 1	National Oceanic and Atmospheric Administration (NOAA) Digital Coast Data Access Viewer. Custom processing of "2010 Coastal GA Topographic Lidar". Charleston, SC: NOAA Office for Coastal Management. Accessed Sept 3, 2021 at https://coast.noaa.gov/dataviewer.
Contour Lines 2	Chatham County GIS, 2019
DEM	Chatham County GIS, 2019

Projection: Georgia State Plane (feet) Horizontal Datum: NAD 83 Vertical Datum: NAVD 88

DISCLAIMER:

Pittman Engineering Co. used the Cited data "as is," has made no independent investigation of the data, and makes no representation as to the accuracy or completeness of the data. Please see each source for available documentation of its respective data sets.

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Rice Hope Comprehensive Drainage Study

ICPR Pre Development Basin Map

Chatham County, Georgia

March 2022

N

GEORGIA REGISTERED No. 017550 PROFESSIONAL 3/28/2022 ENGINEER RAYMOND A. PITTMAN

0 500 1,000 2,000 Feet

PITTMAN ENGINEERING

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

Document Path: C:\Projects\RiceHopePlantation\ArcGIS\Rice_Hope_Pre_Post_Dev\MyProject7\MyProject7.aprx

ICPR POST-DEVELOPMENT

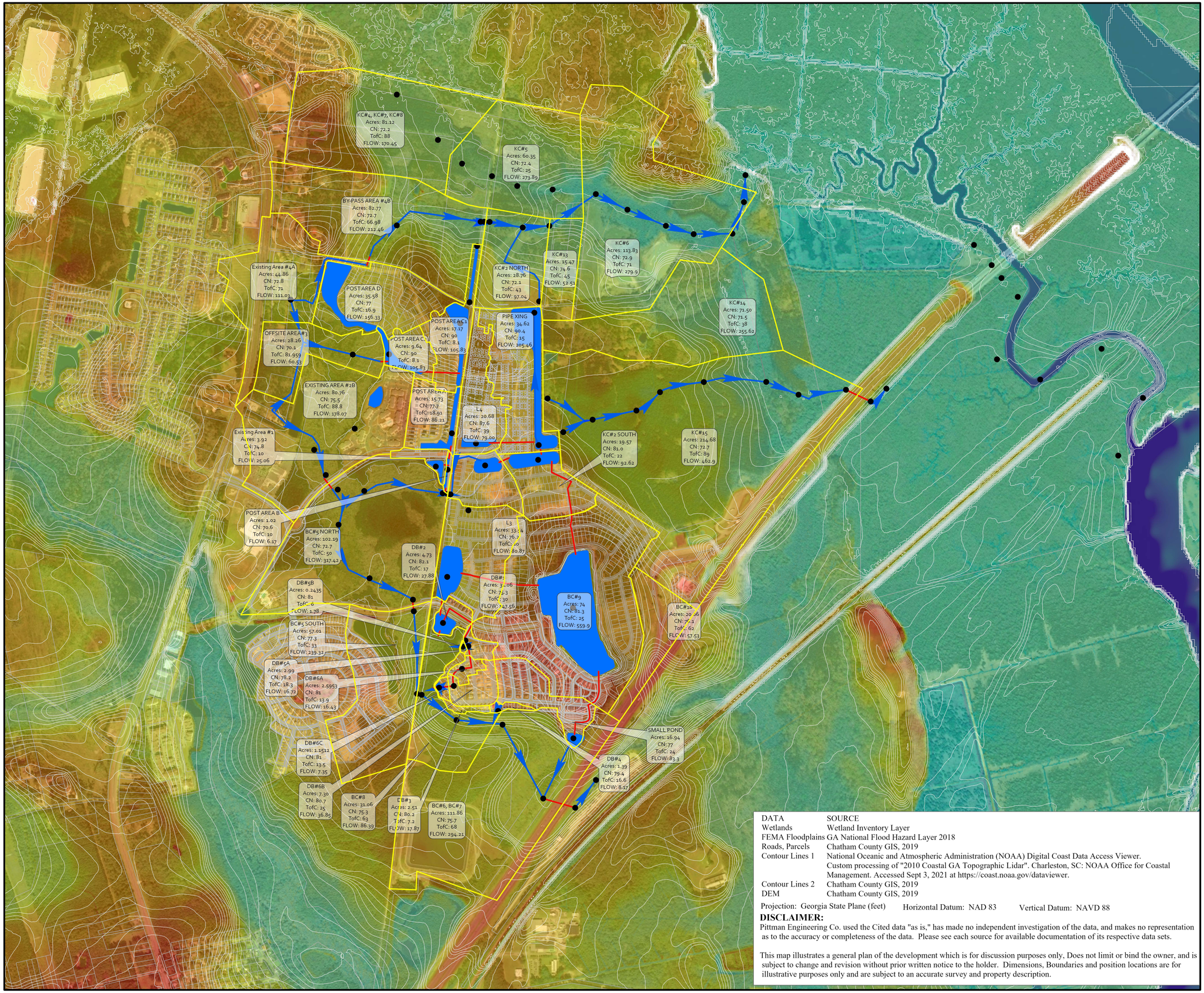
Appendix B

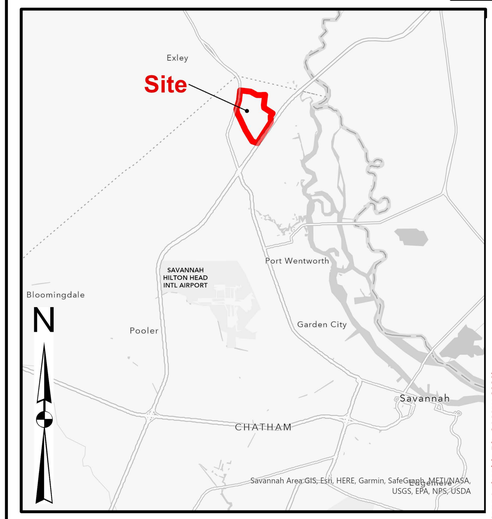
NODE/LINK MAP

PROJECT

RICE HOPE COMPREHENSIVE STORMWATER STUDY CHATHAM COUNTY, GEORGIA

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)





Rice Hope Comprehensive Drainage Study

ICPR Post Development Basin Map

Chatham County, Georgia

January 2023

N

DATA	SOURCE
Wetlands	Wetland Inventory Layer
FEMA Floodplains	GA National Flood Hazard Layer 2018
Roads, Parcels	Chatham County GIS, 2019
Contour Lines 1	National Oceanic and Atmospheric Administration (NOAA) Digital Coast Data Access Viewer. Custom processing of "2010 Coastal GA Topographic Lidar". Charleston, SC: NOAA Office for Coastal Management. Accessed Sept 3, 2021 at https://coast.noaa.gov/dataviewer.
Contour Lines 2	Chatham County GIS, 2019
DEM	Chatham County GIS, 2019

Projection: Georgia State Plane (feet) Horizontal Datum: NAD 83 Vertical Datum: NAVD 88

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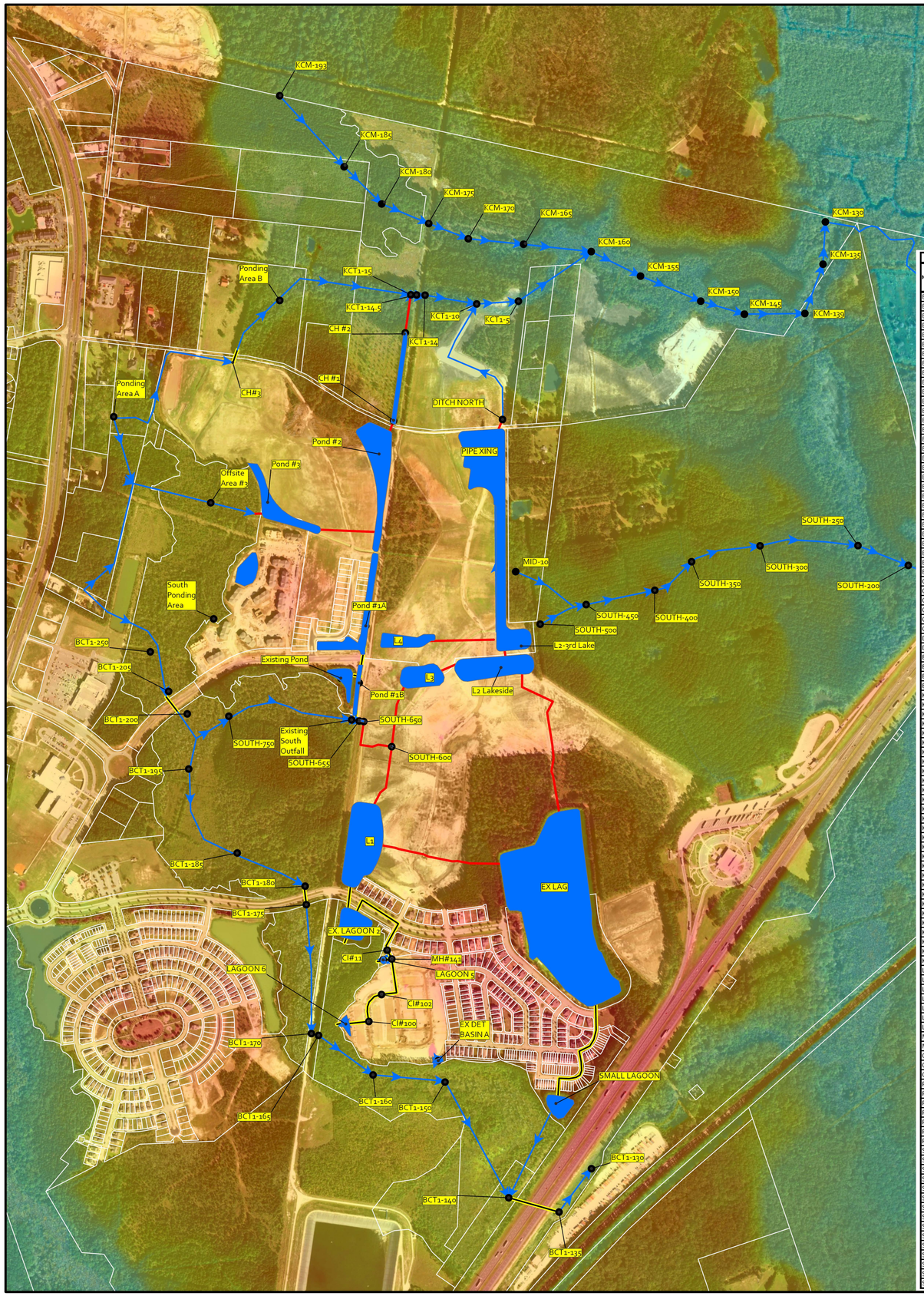
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GEORGIA REGISTERED No. 017550 PROFESSIONAL 1/20/2023 ENGINEER RAYMOND A. PITTMAN

0 300 600 1,200 1,800 2,400 Feet

PITTMAN ENGINEERING

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)



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Projection: Georgia State Plane (feet) Horizontal Datum: NAD 83 Vertical Datum: NAVD 88

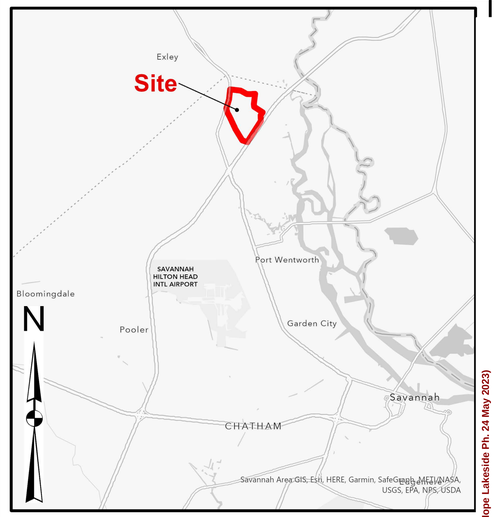
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POST DEVELOPMENT MAX STAGE (1/20/2023)

Node Name	2-YEAR (4.28in)			5-YEAR (5.38in)			10-YEAR (6.38in)			25-YEAR (7.91in)			50-YEAR (9.20in)			100-YEAR (10.6in)		
	Max Stage [ft]	Inflow Rate [cfs]	Outflow Rate [cfs]	Max Stage [ft]	Inflow Rate [cfs]	Outflow Rate [cfs]	Max Stage [ft]	Inflow Rate [cfs]	Outflow Rate [cfs]	Max Stage [ft]	Inflow Rate [cfs]	Outflow Rate [cfs]	Max Stage [ft]	Inflow Rate [cfs]	Outflow Rate [cfs]	Max Stage [ft]	Inflow Rate [cfs]	Outflow Rate [cfs]
BCM-0	6.18	209.196	0	6.18	295.378	0	6.18	381.067	0	6.18	522.884	0	6.18	648.596	0	6.18	794.68	0
BCM-5	6.19	209.113	209.196	6.19	295.349	295.378	6.2	381.042	381.067	6.22	522.891	522.884	6.25	648.597	648.596	6.28	794.737	794.68
BCT1-10	6.23	209.121	209.113	6.27	295.409	295.349	6.32	381.206	381.042	6.43	523.282	522.891	6.53	649.217	648.597	6.66	795.643	794.737
BCT1-100	6.58	28.803	9.928	6.8	50.538	14.926	6.99	68.741	17.876	7.27	106.823	32.336	7.5	143.886	45.082	7.73	184.722	57.847
BCT1-110	6.6	9.928	8.461	6.8	14.926	12.823	6.99	17.276	16.52	7.27	32.336	22.122	7.5	45.083	26.829	7.73	57.851	31.8
BCT1-115	8.75	8.468	8.462	8.95	12.836	12.824	9.09	16.534	16.519	9.29	22.106	22.088	9.43	26.772	26.754	9.57	31.588	31.575
BCT1-120	8.79	8.508	8.468	8.98	12.907	12.836	9.12	16.628	16.534	9.31	22.217	22.106	9.45	26.873	26.772	9.59	31.682	31.588
BCT1-125	11.16	8.509	8.508	11.23	12.909	12.907	11.27	16.631	16.628	11.33	22.222	22.217	11.37	26.878	26.873	11.41	31.687	31.682
BCT1-130	11.89	8.944	8.509	11.97	13.325	12.909	12.03	16.987	16.631	12.1	22.43	22.222	12.15	27.028	26.878	12.2	31.832	31.687
BCT1-135	13.3	8.939	8.944	13.35	13.322	13.325	13.39	16.985	16.987	13.44	22.429	22.43	13.47	27.028	27.028	13.5	31.832	31.832
BCT1-140	13.96	71.488	8.939	14.3	100.434	13.322	14.55	129.436	16.985	14.88	189.671	22.429	15.15	244.02	27.028	15.41	302.435	31.832
BCT1-150	13.97	75.394	36.329	14.3	111.366	59.453	14.55	154.285	80.718	14.89	236.733	120.868	15.15	310.652	156.047	15.41	392.601	192.864
BCT1-160	13.97	32.296	26.97	14.3	56.375	45.557	14.55	80.454	62.853	14.89	122.603	90.93	15.15	164.479	118.461	15.41	213.045	150.451
BCT1-165	13.97	28.571	23.783	14.3	50.381	40.743	14.55	71.877	57.163	14.89	108.452	84.064	15.16	145.661	111.439	15.42	189.142	144.127
BCT1-170	14.42	34.677	24.61	14.48	56.294	42.928	14.56	77.055	62.016	14.89	111.295	95.103	15.16	140.857	126.392	15.42	179.176	162.856
BCT1-175	14.9	56.776	36.794	14.99	81.927	60.705	15.06	105.681	83.104	15.15	142.895	118.613	15.22	174.703	147.535	15.43	209.43	179.176
BCT1-180	15.11	14.081	13.016	15.56	27.215	23.007	16.03	41.478	29.99	16.46	64.217	36.479	16.68	82.668	40.415	16.88	100.569	43.755
BCT1-185	16.13	17.813	14.081	16.23	35.763	27.215	16.31	53.963	41.478	16.51	82.868	64.217	16.69	109.53	82.668	16.89	139.98	100.569
BCT1-195	16.16	63.904	32.563	16.26	97.493	58.771	16.36	129.839	85.027	16.53	181.416	131.636	16.7	226.006	169.12	16.9	275.033	210.97
BCT1-20	6.34	209.899	209.121	6.45	296.953	295.409	6.57	383.597	381.206	6.76	527.01	523.282	6.92	653.673	649.217	7.09	801.336	795.643
BCT1-200	16.15	24.46	8.184	16.26	38.357	13.462	16.36	50.24	19.551	16.53	63.352	29.52	16.71	74.578	38.262	16.9	87.786	48.761
BCT1-205	15.33	0	0	15.33	0	0	15.33	0	0	15.33	0	0	15.33	0	0	15.38	0.146	0.011
BCT1-250	14.81	0.007	0.001	14.88	0.008	0.001	14.94	0.009	0.003	15.09	0.04	0.023	15.25	0.335	0.206	15.38	1.363	0.435
BCT1-30	6.41	213.974	209.899	6.56	304.195	296.953	6.7	394.063	383.597	6.91	542.855	527.01	7.09	673.811	653.673	7.27	823.621	801.336
BCT1-40	6.46	224.329	213.974	6.62	320.971	304.195	6.78	416.994	394.063	7.01	574.822	542.855	7.2	713.662	673.811	7.39	869.482	823.621
BCT1-50	6.53	241.647	224.329	6.72	347.332	320.971	6.89	448.12	416.994	7.13	616.583	574.822	7.34	765.87	713.662	7.55	931.115	869.482
BCT1-60	6.56	263.354	241.647	6.77	379.705	347.332	6.95	490.511	448.12	7.21	665.626	616.583	7.43	818.453	765.87	7.65	991.745	931.115
BCT1-70	6.58	396.784	357.1	6.8	590.281	531.07	6.99	774.991	698.373	7.27	1066.938	967.728	7.5	1318.097	1202.325	7.73	1593.324	1461.031
BCT1-80	6.58	103.885	68.923	6.8	165.299	114.043	6.99	224.648	157.035	7.27	319.828	226.007	7.5	406.054	292.597	7.73	501.506	369.576
BCT1-90	6.58	68.923	28.803	6.8	114.043	50.538	6.99	157.035	68.741	7.27	226.007	106.823	7.5	292.597	143.886	7.73	369.576	184.722
CH#1	13.93	7.145	5.218	14.19	9.781	7.49	14.29	12.081	8.453	14.48	15.026	10.41	14.66	17.278	12.113	14.93	19.416	14.792
CH#2	13.93	5.218	5.096	14.19	7.49	7.455	14.29	8.453	8.419	14.48	10.41	10.341	14.65	12.113	12.049	14.92	14.792	14.728
CH#3	14.46	28.352	28.349	14.6	52.152	52.151	14.66	70.317	70.317	14.72	95.876	95.876	14.76	120.329	120.329	14.8	141.155	141.155
CI #100	14.57	9.537	9.509	14.96	13.44	13.403	15.34	17.06	17.016	15.81	22.646	22.6	16.19	27.364	27.335	16.6	32.478	32.465
CI #102	14.55	10.17	10.146	14.89	13.996	13.97	15.23	17.282	17.251	15.67	21.853	21.809	16.03	25.044	24.988	16.43	28.173	28.115
CI #11	14.53	13.611	13.584	14.82	18.971	18.939	15.11	23.703	23.667	15.45	30.416	30.371	15.72	35.09	35.037	16.02	39.537	39.478
DET BASIN	14.27	2.082	2.075	14.33	2.949	2.941	14.55	3.753	3.745	14.89	4.998	4.989	15.15	6.053	6.041	15.41	7.196	7.182
DITCH NOR	11.02	66.119	65.796	11.41	89.317	89.211	11.57	101	100.975	11.83	120.569	120.546	12.02	136.471	136.446	12.18	150.762	150.739
EX LAG	13.62	149.617	27.369	13.84	207.066	34.669	14.03	260.763	41.567	14.39	344.388	51.184	14.73	415.615	55.514	15.08	493.249	60.082
EX. LAGOO	14.51	21.059	9.268	14.76	29.212	14.508	15	36.559	18.977	15.28	47.423	24.287	15.49	55.725	27.559	15.71	64.063	30.453
EXISTING F	16.87	9.135	0.356	17.12	13.642	0.821	17.36	18.141	1.474	17.74	29.222	3.431	18.07	38.109	4.938	18.44	47.15	5.977
EXISTING S	16.16	4.829	1.853	16.28	8.319	4.165	16.38	12.483	6.529	16.54	19.203	10.72	16.72	24.677	13.878	16.91	32.952	14.549
KCM-0	6.18	605.393	0	6.18	898.303	0	6.18	1158.626	0	6.18	1553.19	0	6.18	1883.154	0	6.18	2231.22	0
KCM-10	6.18	605.625	605.393	6.18	897.061	898.303	6.18	1157.962	1158.626	6.19	1553.19	1553.19	6.19	1883.275	1883.154	6.19	2231.251	2231.22
KCM-120	6.21	257.198	162.934	6.21	251.205	257.198	6.23	344.379	359.441	6.27	481.776	513.579	6.31	594.722	633.213	6.36	704.14	744.414
KCM-125	6.69	159.877	159.282	6.88	251.947	251.205	7.05	344.987	344.379	7.26	482.461	481.776	7.41	595.918	594.722	7.54	706.069	704.14
KCM-130	6.71	160.421	159.877	6.92	252.618	251.947	7.1	345.583	344.987	7.32	483.18	482.461	7.48	596.953	595.918	7.62	707.482	706.069
KCM-135	6.74	161.532	160.421	6.97	253.817	252.618	7.17	346.677	345.583	7.43	484.566	483.18	7.61	598.824	596.953	7.79	710.237	707.482
KCM-139	6.74	153.328	151.757	6.98	239.96	237.966	7.18	327.616	326.245	7.44	458.473	457.253	7.63	578.906	577.813	7.8	709.746	709.147
KCM-145	6.74	160.814	153.328	6.98	246.575	239.96	7.18	332.828	327.616	7.44	463.692	458.473	7.64	583.602	578.906	7.81	714.893	709.746
KCM-150	6.75	174.056	160.814	6.98	259.659	246.575	7.19	344.4	332.828	7.45	475.467	463.692	7.64	594.749	583.602	7.82	725.379	714.893
KCM-155	6.75	189.075	174.056	6.99	280.249	259.659	7.19	366.5	344.4	7.45	501.122	475.467	7.65	616.584	594.749	7.83	747.28	725.379
KCM-160	6.76	159.939	149.311	7	234.24	221.107	7.21	305.166	291.685	7.48	410.143	396.194	7.68	501.898	489.666	7.86	599.257	589.009
KCM-165	6.76	29.943	25.288	7	45.058	38.385	7.21	59.709	51.149	7.48	79.817	70.948	7.68	99.202	92.769	7.86	123.103	117.422
KCM-170	6.86	31.928	29.943	7.08	48.683	45.058	7.26	64.74	59.709	7.52	87.236	79.817	7.72	106.004	99.202	7.9	129.884	123.103
KCM-175	8.21	32.445	31.928	8.29	49.126	48.683	8.34	65.445	64.74	8.42	88.637	87.236	8.49	107.999	106.004	8.56	132.223	129.884
KCM-180	8.73	34.376	32.445	8.81	51.383	49.126	8.88	67.789	65.445	8.96	91.439	88.637	9.02	110.058	107.999	9.09	134.866	132.223
KCM-185	9.14	34.41	34.376	9.22	52.118	51.383	9.28	69.324	67.913	9.36	96.911	95.6	9.41	120.912	119.28	9.47	147.453	141.211
KCM-193	9.25	0	0	9.25	0	0	9.25	0.127	0	9.34	4.174	0.095	9.41	10.865	0.552	9.47	17.49	1.283
KCM-20	6.19	600.093	600.292	6.19	889.906	890.172	6.19	1150.001	1150.296	6.2	1544.297	1544.524	6.21	1873.706	1873.863	6.23	2220.35	2220.519
KCM-30	6.19	601.538	600.093	6.19	891.635	889.906	6.2	1150.266	1150.001	6.22	1544.64	1544.297	6.23	1874.552	1873.706	6.25	2221.852	2220.35
KCM-40	6.19	600.245	601.538	6.2	891.667	891.635	6.21	1151.614	1150.266	6.23	1546.792	1544.64	6.25	1878.296	1874.552	6.27	2227.951	2221.852
KCM-50	6.2	502.025	500.06	6.2	744.219	739.773	6.21	954.67	950.164	6.23	1271.266	1268.834	6.26	1540.245	1538.052	6.29	1823.058	1820.059
KCM-54	6.2	502.509	502.025	6.2	743.906	744.219	6.21	955.237	954.67	6.24	1271.802	1271.266	6.26	1541.409	1540.245	6.29	1824.753	1823.058
KCM-56	6.2	501.991	502.509	6.21	742.4	743.906	6.22	953.939	955.237	6.24	1272.458	1271.802	6.27	1542.351	1541.409	6.3	1826.141	1824.753
KCM-60	6.2	503.033	501.991	6.21	751.744	742.4	6.22	981.327	953.939	6.25	1333.05	1272.458	6.28	1633.84	1542.351	6.32	1964.042	1826.141
KCT1-10	7.78	119.882	118.846	8.06	172.072	171.505	8.3	225.222	224.504	8.6	299.999	298.902	8.82	362.133	360.945	9.02	422.798	421.777
KCT1-14	8.06	51.191	51.23	8.42	85.737	85.752	8.7	118.774	118.79	9.02	165.102	165.126	9.25	206.194	206.224	9.45	245.843	245.893
KCT1-14.5	8.07	51.19	51.191	8.44	85.736	85.737	8.73	118.774	118.774	9.06	165.102	165.102	9.31	206.193	206.194	9.52	245.842	245.843
KCT1-15	8.09	51.064	51.19	8.47	85.746	85.736	8.78	119	118.774	9.13	165.354	165.102	9.4	206.392	206.193	9.62	245.987	245.842
KCT1-5	7.2	124.437	124.24	7.47	179.221	178.764	7.73	232.813	232.022	8.05	310.702	309.647	8.28	376.057	374.836	8.49	440.075	438.899
L1	12.67	44.97	19.039	13.17	63.422	24.079	13.67	80.114	27.013	14.37	106.224	30.185	14.94	129.116	34.287	15.52	154.106	36.645
L2 Lakeside	12.31	31.261	30.049	12.58	47.962	42.217	12.9	63.456	52.404	13.42	87.328	63.712	13.81	108.161	73.705	14.23	129.833	83.663
L2-3rd Lak	12.29	96.683	77.662	12.53	133.682	110.157	12.82	167.214	139.735	13.28	214.585	175.279	13.65	252.472	203.652	14.03	293.439	234.296
L3	12.4	21.451	22.519	12.74	27.468	29.103	13.11	35.546	32.998	13.7	48.197	36.519	14.17	58.999	40.113	14.68	70.771	44.026
L4	12.54	26.8	20.419	12.96	35.952	26.64	13.39	44.27	30.983	14.1	56.945	36.985	14.7	67.575	41.811	15.36	79.054	46.799
LAGOON 5	14.53	0.96	0.221	14.84	1.377	0.356	15.13	1.8	0.484	15.5	2.564	0.568	15.78	3.385	1.355	16.04	4.539	2.898
LAGOON 6	14.57	5.647	0.948	14.96	8.274	1.866	15.34	10.842	2.954	15.76	15.097	7.421	15.98	19.157	13.292	16.14	24.187	20.064
MH #141	14.53	14.175	14.147	14.84	19.705	19.671	15.13	24.623	24.585	15.5	31.844	31.793	15.8	37.281	37.225	16.12	42.793	42.733
MID-10	14.52	0	0	14.52	0	0	14.52	0	0	14.52	0	0	14.52	0	0	14.52	0	0
OFFSITE A	14.68	34.05	33.916	14.77	56.764	56.235	14.9	80.292	74.044	15.08	113.3	91.172	15.24	128.369	95.085	15.37	140.231	102.765
OUTFALL N	11	0	0	11	0	0	11	0	0	11	0	0	11	0	0	11	0	0
Outfall So	11	0	0	11	0	0	11	0	0	11	0	0	11	0	0	11	0	0
PIPE XING	12.28	77.662	66.119	12.52	110.157	89.317	12.81	139.735	101	13.28	175.279	120.569	13.64	203.652	136.471	14.03	234.296	150.762
POND #1B	16.87	9.209	7.933	17.12	13.519	13.036	17.36	18.639	17.311	17.71	25.04	20.769	18.02	27.637	22.245	18.37	28.625	26.945
POND#1A	16.87	31.294	7.761	17.12	40.84	12.914	17.36	49.461	19.666	17.74	62.561	33.365	18.07	73.538	43.448	18.45	85.397	43.578
POND#2	14.04	44.045	7.145	14.42	59.022	9.781	14.58	72.497	12.081	14.92	92.813	15.026	15.25	109.725	17.278	15.82	127.77	19.416
POND#3	14.09	76.444	9.173	14.5	104.847	12.262	14.72	133.038	15.089	15.07	176.023	19.959	15.41	211.725	19.884	16.07	250.167	22.347
PONDING	14.52	38.63	28.352	14.74	69.429	52.152	14.88	100.628	70.317	15.06	143.081	95.876	15.23	180.808	120.329	15.36	198.182	141.155
PONDING	8.74	66.516	50.655	9.03	93.069	84.707	9.19	121.563	116.79	9.42	176.818	161.153	9.62	227.734	199.844	9.81	277.809	237.169
Small Lago	13.62	30.316	29.774	13.84	42.468	41.588	14.03	53.57	52.598	14.39	71.733	70.224	14.74	88.38	85.872	15.09	106.66	102.848
SOUTH PO	14.81	41.045	24.859	14.88	60.467	41.541	14.94	78.909	57.924	15.09	107.916	76.678	15.25	132.771	79.16	15.38	159.957	80.817
SOUTH-10	6.18	27.635	27.923	6.18	36.988	37.334	6.18	44.689	45.259	6.18	55.628	55.922	6.18	62.124	62.44	6.18	71.868	72.102
SOUTH-15	6.33	30.728	27.635	6.45	44.144	36.988	6.57	56.971	44.689	6.78	77.336	55.628	7	99.234	62.124	7.28	127.333	71.868
SOUTH-20	6.33	43.168	30.728	6.45	65.667	44.144	6.57	88.588	56.971	6.78	126.071	77.336	7	166.384	99.234	7.28	221.245	127.333
SOUTH-25	6.45	114.545	43.168	6.45	154.545	65.667	6.57	156.664	88.588	6.78	229.371	126.071	7	302.719	166.384	7.28	402.096	221.245
SOUTH-30	10.07	77.226	72.191	10.14	120.198	114.545	10.19	159.741	156.664	10.26	233.478	228.066	10.32	294.205	288.518	10.37	361.229	354.882
SOUTH-35	12.7	76.556	77.226	12.89	119.195	120.198	13.03	159.151	159.741	13.19	232.37	233.478	13.28	293.464	294.205	13.37	360.645	361.229
SOUTH-40	13.63	76.792	76.556	13.81	119.975	119.195	13.96	161.322	159.151	14.12	233.561	232.37	14.24	294.934	293.464	14.35	362.187	360.645
SOUTH-45	13.67	93.342	77.036	13.86	141.663	121.098	14.01	188.514	163.659	14.19	263.512	238.495	14.32	328.678	302.218	14.45	400.614	372.269
SOUTH-50	6.18	27.923	0	6.18	37.334	0	6.18	45.259	0	6.18	55.922	0	6.18	62.44	0	6.18	72.102	0
SOUTH-50	13.49	0.248	0.005	13.68	1.135	0.085	13.88	2.467	0.277	14.11	4.958	0.675	14.27	7.318	1.035	14.42	10.118	1.425
SOUTH-60	12.47	19.042	19.045	12.84	24.084	24.088	13.26	27.02	27.027	13.88	29.389	29.397	14.38	31.712	31.719	14.91	34.181	34.189
SOUTH-65	12.47	0.028	0.003	12.84	0.04	0.005	13.26	0.052	0.007	13.88	0.069	0.008	14.38	0.083	0.009	14.91	0.097	0.01
SOUTH-75	16.16	8.184	3.918	16.27	13.462	5.022	16.37	19.551	7.446	16.54	29.52	9.082	16.71	38.262	10.416	16.9	48.761	11.582



Rice Hope Comprehensive Drainage Study

ICPR Post Development Max Node Map

Chatham County, Georgia

January 2023

Legend

- POST_LAGOONS_10032022
- Post_Node
- Channel
- Proposed Pipe
- Existing Pipe
- Parcel_Digest_2020
- 45.0081 -27.7478

N

0 500 1,000 2,000 Feet

GEORGIA REGISTERED No. 017550 PROFESSIONAL 1/20/2023 ENGINEER RAYMOND A. PITTMAN

PITTMAN ENGINEERING

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)

Document Path: C:\Projects\RiceHopePlantation\ArcGIS\Rice_Hope_Pre_Post_Dev\MyProject7\MyProject7.aprx

ICPR PRE-DEVELOPMENT

Appendix F

INPUT DATA

PROJECT

RICE HOPE COMPREHENSIVE STORMWATER STUDY CHATHAM COUNTY, GEORGIA

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Scenario Difference Summary

Existing Project:	G:\Shared drives\Projects\Rice Hope\Rice Hope Composite\Submittal_12202022\ICPR\PRE-DEV01132022\Project.i4p
Existing Scenario:	PRE_10032022
Proposed Project:	G:\Shared drives\Projects\Rice Hope\Rice Hope Composite\Submittal_12202022\ICPR\PRE-DEV01132022\Project.i4p
Proposed Scenario:	PRE_01092023

Additions

Data Type (Additions)	Count
Node (Stage Area)	1
Link (Channel)	1
Link (Weir)	1
Cross Section (Channel)	2
Cross Section (Weir)	1

Node (Stage Area) (Additions)
CH#3

Link (Channel) (Additions)
pondingA-ch#3

Link (Weir) (Additions)
RICE HOPE RD

Cross Section (Channel) (Additions)
CH#3
South_RHP_DR_DS

Cross Section (Weir) (Additions)
RICE HOPE RD

Deletions

Data Type (Deletions)	Count
Node (Stage Area)	1
Cross Section (Channel)	2

Node (Stage Area) (Deletions)
RHP_DR

Cross Section (Channel) (Deletions)
SOUTH_RHP_DR_US
South_RHP_DR_DS

Modifications

Data Type (Modifications)	Count
Link (Pipe)	1

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Data Type (Modifications)	Count
Link (Weir)	1

Link (Pipe) (Modifications)
PONDING AREA A-B

Link (Weir) (Modifications)
PONDING AREA A-B ROAD

Duplicates

Data Type (Duplicates)	Count
<N/A>	0

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Additions (Detailed)

Proposed Project: G:\Shared drives\Projects\Rice Hope\Rice Hope Composite\Submittal_12202022\ICPR\PRE-DEV01132022\Project.i4p

Proposed Scenario: PRE_01092023

Node: CH#3

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Channel Link: pondingA-ch#3

Scenario: PRE_01092023
From Node: PONDING AREA A
To Node: CH#3
Link Count: 1
Flow Direction: Both
Damping: 0.0000 ft
Length: 1350.00 ft
Contraction Coef: 0.10
Expansion Coef: 0.00
Entr Loss Coef: 0.00
Exit Loss Coef: 0.00
Bend Loss Coef: 0.00
Bend Location: 0.00 dec
Energy Switch: Energy

Upstream		Downstream	
Invert:	11.75 ft	Invert:	10.41 ft
Manning's N:	0.0000	Manning's N:	0.0000
Geometry:	Irregular	Geometry:	Irregular
Cross Section:	South_RHP_DR_DS	Cross Section:	CH#3

Comment:

Weir Link: RICE HOPE RD

Scenario: PRE_01092023
From Node: CH#3
To Node: PONDING AREA B
Link Count: 1
Flow Direction: Both
Damping: 0.0000 ft
Weir Type: Broad Crested Vertical
Geometry Type: Irregular
Invert: 14.16 ft

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

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

Discharge Coefficients

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Control Elevation: 1416.00 ft
Cross Section: RICE HOPE RD

Weir Default: 2.800
Weir Table:
Orifice Default: 0.600
Orifice Table:

Comment:

Channel Cross Section: CH#3

Scenario: PRE_01092023
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	0.00	17.46	0.1000
1	1.50	17.43	0.1000
2	25.50	17.08	0.1000
3	36.50	16.90	0.1000
4	41.50	16.86	0.1000
5	49.50	16.84	0.1000
6	65.50	16.75	0.1000
7	67.20	16.73	0.1000
8	73.50	16.69	0.1000
9	81.50	16.61	0.1000
10	87.60	16.57	0.1000
11	97.80	16.37	0.1000
12	108.00	16.29	0.1000
13	113.50	16.28	0.1000
14	128.40	16.30	0.1000
15	140.50	16.21	0.1000
16	145.50	16.20	0.1000
17	148.80	16.17	0.1000
18	159.00	16.15	0.1000
19	169.20	16.22	0.1000
20	177.50	16.23	0.1000
21	179.40	16.21	0.1000
22	193.50	15.99	0.1000
23	199.80	15.93	0.1000
24	201.60	15.92	0.1000
25	210.00	15.97	0.1000
26	230.40	15.74	0.1000
27	240.70	15.72	0.1000
28	250.90	15.62	0.1000
29	261.10	15.41	0.1000
30	271.30	15.44	0.1000
31	291.70	15.42	0.1000
32	301.90	15.19	0.1000

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Order	Station [ft]	Elevation [ft]	Manning's N
33	312.10	15.11	0.1000
34	322.30	14.98	0.1000
35	329.60	15.08	0.1000
36	332.50	15.10	0.1000
37	342.70	15.41	0.1000
38	347.00	15.30	0.1000
39	352.80	15.12	0.1000
40	362.10	15.02	0.1000
41	373.00	14.96	0.1000
42	378.70	14.98	0.1000
43	383.00	14.97	0.1000
44	395.30	14.88	0.1000
45	403.60	14.90	0.1000
46	411.90	14.97	0.1000
47	420.20	14.92	0.1000
48	433.30	14.64	0.1000
49	443.40	14.70	0.1000
50	453.70	14.82	0.1000
51	461.60	14.95	0.1000
52	463.50	14.97	0.1000
53	473.60	14.86	0.1000
54	478.20	14.84	0.1000
55	483.70	14.84	0.1000
56	486.50	14.83	0.1000
57	492.10	14.89	0.1000
58	493.70	14.89	0.0350
59	499.60	14.86	0.0350
60	503.00	14.83	0.0350
61	513.80	14.77	0.0350
62	523.90	14.75	0.0350
63	536.20	14.51	0.0350
64	544.50	14.30	0.0350
65	554.10	14.01	0.0350
66	556.10	13.98	0.0350
67	561.10	13.85	0.0350
68	564.10	13.83	0.0350
69	566.20	13.69	0.0350
70	567.10	13.87	0.0350
71	568.40	13.34	0.0350
72	569.20	13.53	0.0350
73	571.30	11.28	0.0350
74	572.00	10.86	0.0350
75	572.60	10.41	0.0350
76	577.80	10.46	0.0350
77	582.30	14.43	0.0350
78	583.40	14.04	0.0350
79	584.30	14.01	0.0350
80	594.30	13.88	0.0350
81	602.60	14.31	0.0350

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Order	Station [ft]	Elevation [ft]	Manning's N
82	604.40	14.38	0.0350
83	614.40	14.58	0.0350
84	627.30	14.78	0.0350
85	633.40	14.94	0.0350
86	635.50	14.97	0.0350
87	638.60	14.96	0.1000
88	643.60	14.91	0.1000
89	654.90	14.84	0.1000
90	668.00	15.02	0.1000
91	675.20	15.09	0.1000
92	683.20	15.02	0.1000
93	706.60	15.02	0.1000
94	718.90	15.08	0.1000
95	728.80	15.08	0.1000
96	741.10	15.20	0.1000
97	778.40	15.50	0.1000
98	788.30	15.54	0.1000
99	798.10	15.55	0.1000
100	808.00	15.66	0.1000
101	817.80	15.56	0.1000
102	827.70	15.52	0.1000
103	837.50	15.62	0.1000
104	847.30	15.74	0.1000
105	850.00	15.75	0.1000
106	854.60	15.75	0.1000
107	859.70	15.78	0.1000
108	864.60	15.76	0.1000
109	867.00	15.77	0.1000
110	876.90	15.67	0.1000
111	886.70	15.73	0.1000
112	888.90	15.81	0.1000
113	894.40	16.13	0.1000
114	898.60	16.27	0.1000
115	904.40	16.53	0.1000
116	916.20	16.93	0.1000
117	926.10	16.79	0.1000
118	935.30	17.42	0.1000

Comment:

Channel Cross Section: South_RHP_DR_DS

Scenario: PRE_01092023

Lid: No

Conveyance Method: ICPRv3

Bottom Point Table

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Order	Station [ft]	Elevation [ft]	Manning's N
0	0.00	16.11	0.1000
1	3.30	16.09	0.1000
2	9.80	15.89	0.1000
3	13.60	15.75	0.1000
4	23.90	15.16	0.1000
5	25.50	15.09	0.1000
6	33.40	14.91	0.1000
7	34.20	14.91	0.1000
8	41.20	14.74	0.1000
9	44.50	14.64	0.1000
10	54.80	14.44	0.1000
11	65.10	14.43	0.1000
12	72.70	14.30	0.1000
13	85.70	14.20	0.1000
14	96.00	14.16	0.1000
15	104.10	14.24	0.1000
16	112.00	14.26	0.1000
17	116.60	14.23	0.1000
18	119.90	14.18	0.1000
19	125.40	14.28	0.1000
20	126.90	14.29	0.1000
21	130.30	14.33	0.1000
22	130.70	14.33	0.1000
23	137.10	14.36	0.1000
24	147.70	14.36	0.1000
25	156.40	14.42	0.1000
26	166.60	14.44	0.1000
27	186.40	14.15	0.1000
28	196.20	14.28	0.1000
29	206.00	14.17	0.1000
30	215.10	14.16	0.1000
31	226.10	14.22	0.1000
32	232.40	14.13	0.1000
33	236.40	14.09	0.1000
34	239.90	14.08	0.1000
35	247.00	14.12	0.1000
36	253.30	14.27	0.1000
37	254.90	14.29	0.0350
38	257.00	14.24	0.0350
39	257.80	13.76	0.0350
40	265.50	14.26	0.0350
41	268.10	11.82	0.0350
42	271.30	11.75	0.0350
43	276.00	11.89	0.0350
44	277.80	14.13	0.0350
45	282.30	13.75	0.0350
46	282.70	14.18	0.0350
47	288.20	14.30	0.1000
48	290.30	14.24	0.1000

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Order	Station [ft]	Elevation [ft]	Manning's N
49	296.50	14.11	0.1000
50	298.00	14.07	0.1000
51	307.50	14.04	0.1000
52	327.70	14.02	0.1000
53	337.60	14.08	0.1000
54	351.10	14.26	0.1000
55	357.30	14.33	0.1000
56	367.50	14.42	0.1000
57	368.48	14.41	0.1000
58	388.30	14.28	0.1000
59	398.70	14.20	0.1000
60	408.40	14.19	0.1000
61	416.70	14.26	0.1000
62	419.50	14.25	0.1000
63	432.20	14.28	0.1000
64	440.40	14.37	0.1000
65	447.60	14.37	0.1000
66	450.80	14.39	0.1000
67	461.20	14.52	0.1000
68	463.10	14.53	0.1000
69	471.60	14.53	0.1000
70	482.00	14.42	0.1000
71	492.40	14.37	0.1000
72	513.20	14.50	0.1000
73	523.60	14.45	0.1000
74	525.00	14.46	0.1000
75	529.00	14.45	0.1000
76	534.00	14.41	0.1000
77	540.50	14.44	0.1000
78	544.50	14.48	0.1000
79	548.20	14.45	0.1000
80	554.90	14.43	0.1000
81	565.30	14.67	0.1000
82	571.40	14.71	0.1000
83	575.70	14.72	0.1000
84	586.10	14.54	0.1000
85	589.20	14.54	0.1000
86	596.50	14.61	0.1000
87	602.40	14.75	0.1000
88	606.90	14.83	0.1000
89	617.30	14.81	0.1000
90	625.60	14.72	0.1000
91	633.30	14.74	0.1000
92	638.20	14.73	0.1000
93	641.10	14.75	0.1000
94	656.50	14.94	0.1000
95	672.00	15.06	0.1000
96	679.80	15.09	0.1000
97	687.50	15.27	0.1000

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Order	Station [ft]	Elevation [ft]	Manning's N
98	700.60	15.63	0.1000
99	711.00	15.51	0.1000
100	718.40	15.52	0.1000
101	721.40	15.55	0.1000
102	733.90	15.79	0.1000
103	742.30	15.92	0.1000
104	749.40	15.98	0.1000
105	756.50	16.00	0.1000

Comment:

Weir Cross Section: RICE HOPE RD

Scenario: PRE_01092023

Lid: No

Bottom Point Table

Order	Station [ft]	Elevation [ft]
0	0.00	18.03
1	5.30	17.93
2	10.40	17.87
3	20.50	18.05
4	21.90	18.04
5	30.50	17.93
6	38.50	17.92
7	40.60	17.94
8	46.90	17.73
9	50.60	17.63
10	60.70	17.12
11	70.70	16.86
12	77.00	16.80
13	80.80	16.77
14	90.80	16.80
15	105.10	16.69
16	121.80	16.63
17	131.10	16.47
18	141.10	16.34
19	155.00	16.24
20	157.90	16.20
21	163.40	16.15
22	171.30	16.04
23	181.30	16.03
24	196.60	16.05
25	205.00	16.01
26	205.20	16.37
27	209.80	15.65
28	211.50	15.33

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Order	Station [ft]	Elevation [ft]
29	212.70	15.25
30	223.50	15.40
31	317.40	15.14
32	320.20	15.08
33	330.90	15.08
34	378.10	14.53
35	420.00	14.99
36	421.30	14.99
37	515.50	14.16
38	524.40	14.64
39	524.50	14.38
40	528.00	14.71
41	528.20	14.75
42	528.40	14.70
43	534.70	14.74
44	568.80	14.80
45	583.00	14.64
46	588.90	14.73
47	604.90	14.63
48	607.40	14.66
49	608.30	14.30
50	611.80	14.72
51	625.20	14.67
52	630.00	14.71
53	636.30	14.62
54	660.00	14.54
55	694.60	14.29
56	702.40	14.39
57	730.50	14.56
58	734.10	14.54
59	737.50	14.59
60	799.20	14.87
61	823.80	15.12
62	824.00	14.86
63	829.30	14.97
64	829.80	14.92
65	829.80	14.92
66	829.80	14.92
67	829.80	14.92
68	829.80	14.92
69	829.80	14.92
70	829.90	14.95
71	831.20	14.93
72	853.30	15.16
73	918.00	15.66
74	919.80	15.58
75	921.40	15.39
76	924.60	15.25
77	972.60	15.75

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Order	Station [ft]	Elevation [ft]
78	984.10	16.21
79	1002.60	16.32
80	1004.60	16.21
81	1004.90	16.14
82	1006.00	16.26
83	1007.80	16.63
84	1009.20	17.16
85	1023.10	17.21
86	1032.90	17.00
87	1052.60	17.57
88	1062.40	17.94
89	1071.90	18.15
90	1082.10	18.29
91	1091.90	18.23
92	1101.80	18.49
93	1111.60	18.95
94	1121.90	18.82
95	1126.70	18.73
96	1131.40	18.60
97	1141.20	18.47
98	1149.60	18.40
99	1151.10	18.41
100	1152.80	18.35
101	1158.70	18.02
102	1160.90	17.95
103	1163.60	17.91
104	1167.80	17.79
105	1170.80	17.75
106	1180.70	17.81
107	1190.60	17.61
108	1200.40	17.46
109	1210.30	17.40
110	1230.10	17.36
111	1231.60	17.40
112	1239.90	17.49
113	1249.80	17.47
114	1259.70	17.59
115	1269.60	18.02
116	1271.30	18.14
117	1277.20	18.62
118	1279.40	18.77
119	1282.10	18.88
120	1286.30	19.08
121	1289.30	19.20
122	1292.90	19.13
123	1295.40	19.05
124	1299.20	18.98
125	1309.10	19.08
126	1318.90	19.27

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Order	Station [ft]	Elevation [ft]
127	1338.70	19.56
128	1348.60	19.74
129	1359.20	20.04
130	1368.30	20.25
131	1377.40	20.11
132	1378.60	20.08

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Deletions (Detailed)

Existing Project: G:\Shared drives\Projects\Rice Hope\Rice Hope Composite\Submittal_12202022\ICPR\PRE-DEV01132022\Project.i4p

Existing Scenario: PRE_10032022

Node: RHP_DR

Scenario: PRE_10032022
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Channel Cross Section: SOUTH_RHP_DR_US

Scenario: PRE_10032022
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	0.00	16.11	0.1000
1	7.76	15.78	0.1000
2	10.06	15.68	0.1000
3	13.70	15.54	0.1000
4	16.00	15.44	0.1000
5	20.15	15.28	0.1000
6	24.23	15.11	0.1000
7	26.69	14.93	0.1000
8	30.23	14.74	0.1000
9	32.47	14.67	0.1000
10	39.69	14.54	0.1000
11	40.31	14.52	0.1000
12	40.71	14.52	0.1000
13	42.50	14.52	0.1000
14	48.95	14.58	0.1000
15	50.40	14.56	0.1000
16	52.68	14.52	0.1000
17	57.19	14.49	0.1000
18	60.48	14.42	0.1000
19	65.43	14.36	0.1000
20	70.56	14.31	0.1000
21	73.67	14.32	0.1000
22	78.66	14.39	0.1000

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Order	Station [ft]	Elevation [ft]	Manning's N
23	80.65	14.40	0.1000
24	87.55	14.33	0.1000
25	90.15	14.30	0.1000
26	90.73	14.29	0.1000
27	91.65	14.28	0.1000
28	98.39	14.23	0.1000
29	100.81	14.22	0.1000
30	104.64	14.18	0.1000
31	106.63	14.14	0.1000
32	110.90	14.11	0.1000
33	114.87	14.12	0.1000
34	117.63	14.13	0.1000
35	120.98	14.14	0.1000
36	131.07	14.32	0.1000
37	139.59	14.40	0.1000
38	141.15	14.41	0.1000
39	151.23	14.36	0.1000
40	156.07	14.32	0.1000
41	156.60	14.32	0.1000
42	161.32	14.29	0.1000
43	164.30	14.25	0.1000
44	169.59	14.16	0.1000
45	171.40	14.13	0.1000
46	172.54	14.13	0.1000
47	177.66	14.11	0.1000
48	180.78	14.13	0.1000
49	181.48	14.14	0.1000
50	182.58	14.13	0.1000
51	189.02	14.16	0.1000
52	191.57	14.10	0.1000
53	195.57	14.11	0.1000
54	197.26	14.12	0.1000
55	201.65	14.13	0.1000
56	221.82	14.34	0.1000
57	222.72	14.34	0.1000
58	230.22	14.21	0.1000
59	231.90	14.19	0.1000
60	234.55	14.17	0.1000
61	238.46	14.11	0.1000
62	241.98	14.10	0.1000
63	246.70	14.17	0.1000
64	247.54	14.18	0.1000
65	252.07	14.25	0.0350
66	254.94	14.09	0.0350
67	260.53	13.88	0.0350
68	262.15	13.80	0.0350
69	263.18	13.84	0.0350
70	267.77	14.16	0.0350
71	271.42	14.37	0.0350

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Order	Station [ft]	Elevation [ft]	Manning's N
72	272.23	14.37	0.0350
73	273.52	14.30	0.0350
74	279.66	13.89	0.0350
75	282.32	13.76	0.0350
76	286.51	13.81	0.0350
77	287.90	13.82	0.0350
78	292.40	13.88	0.0350
79	296.14	13.96	0.0350
80	299.50	14.02	0.0350
81	302.48	14.08	0.0350
82	304.38	14.09	0.0350
83	312.57	14.13	0.0350
84	312.57	14.13	0.0350
85	312.83	14.13	0.0350
86	320.85	14.20	0.0350
87	322.65	14.20	0.0350
88	325.48	14.22	0.0350
89	329.09	14.22	0.0350
90	332.73	14.25	0.0350
91	337.33	14.34	0.0350
92	338.47	14.38	0.0350
93	342.82	14.48	0.0350
94	345.57	14.44	0.1000
95	351.46	14.32	0.1000
96	352.90	14.30	0.1000
97	352.90	14.30	0.1000
98	353.81	14.31	0.1000
99	362.05	14.32	0.1000
100	362.98	14.32	0.1000
101	364.45	14.33	0.1000
102	370.29	14.38	0.1000
103	373.07	14.40	0.1000
104	377.45	14.37	0.1000
105	378.53	14.36	0.1000
106	383.15	14.34	0.1000
107	386.77	14.30	0.1000
108	390.44	14.28	0.1000
109	393.23	14.26	0.1000
110	395.01	14.27	0.1000
111	402.94	14.37	0.1000
112	403.32	14.37	0.1000
113	411.49	14.37	0.1000
114	423.48	14.32	0.1000
115	427.97	14.35	0.1000
116	429.41	14.37	0.1000
117	433.57	14.42	0.1000
118	436.21	14.44	0.1000
119	442.40	14.54	0.1000
120	443.65	14.55	0.1000

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Order	Station [ft]	Elevation [ft]	Manning's N
121	443.65	14.55	0.1000
122	444.45	14.56	0.1000
123	447.99	14.59	0.1000
124	452.68	14.62	0.1000
125	453.73	14.62	0.1000
126	455.39	14.61	0.1000
127	460.92	14.58	0.1000
128	463.82	14.55	0.1000
129	468.38	14.54	0.1000
130	469.16	14.53	0.1000
131	473.90	14.53	0.1000
132	477.40	14.52	0.1000
133	481.37	14.52	0.1000
134	483.98	14.52	0.1000
135	485.64	14.50	0.1000
136	493.05	14.45	0.1000
137	493.05	14.45	0.1000
138	493.88	14.44	0.1000
139	494.07	14.44	0.1000
140	494.07	14.44	0.1000
141	494.36	14.44	0.1000
142	502.12	14.34	0.1000
143	504.15	14.33	0.1000
144	507.35	14.40	0.1000
145	510.36	14.48	0.1000
146	514.24	14.55	0.1000
147	518.60	14.64	0.1000
148	520.34	14.69	0.1000
149	524.32	14.78	0.1000
150	526.84	14.81	0.1000
151	533.33	14.89	0.1000
152	534.40	14.90	0.1000
153	535.08	14.91	0.1000
154	538.10	14.91	0.1000
155	543.32	14.89	0.1000
156	544.49	14.90	0.1000
157	546.33	14.90	0.1000
158	551.56	14.89	0.1000
159	559.80	14.90	0.1000
160	564.65	14.91	0.1000
161	568.04	14.94	0.1000
162	572.31	15.01	0.1000
163	574.74	15.04	0.1000
164	576.28	15.05	0.1000
165	583.16	15.14	0.1000
166	584.52	15.15	0.1000
167	584.82	15.15	0.1000
168	585.30	15.15	0.1000
169	592.75	15.11	0.1000

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Order	Station [ft]	Elevation [ft]	Manning's N
170	594.90	15.10	0.1000
171	598.29	15.04	0.1000
172	600.99	14.99	0.1000
173	604.99	14.92	0.1000
174	609.23	14.93	0.1000
175	611.28	14.92	0.1000
176	615.07	14.93	0.1000
177	617.47	14.95	0.1000
178	624.27	15.05	0.1000
179	625.15	15.06	0.1000
180	625.71	15.06	0.1000
181	628.21	15.07	0.1000
182	633.95	15.09	0.1000
183	635.24	15.09	0.1000
184	635.24	15.09	0.1000
185	637.26	15.08	0.1000
186	642.19	15.03	0.1000
187	645.32	15.03	0.1000
188	655.40	15.19	0.1000
189	658.67	15.20	0.1000
190	663.24	15.18	0.1000
191	665.49	15.19	0.1000
192	666.91	15.20	0.1000
193	673.27	15.28	0.1000
194	675.15	15.31	0.1000
195	675.57	15.32	0.1000
196	675.57	15.32	0.1000
197	676.23	15.31	0.1000
198	676.67	15.31	0.1000
199	676.67	15.31	0.1000
200	676.67	15.31	0.1000

Comment:

Channel Cross Section: South_RHP_DR_DS

Scenario: PRE_10032022
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	0.00	18.76	0.1000
1	6.41	18.66	0.1000
2	8.62	18.65	0.1000
3	11.53	18.55	0.1000
4	15.14	18.46	0.1000

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Order	Station [ft]	Elevation [ft]	Manning's N
5	18.55	18.34	0.1000
6	23.04	18.23	0.1000
7	23.87	18.21	0.1000
8	28.48	18.10	0.1000
9	32.61	17.95	0.1000
10	34.56	17.88	0.1000
11	38.41	17.74	0.1000
12	41.34	17.66	0.1000
13	46.07	17.57	0.1000
14	48.35	17.52	0.1000
15	50.07	17.52	0.1000
16	57.58	17.74	0.1000
17	58.28	17.74	0.1000
18	58.81	17.72	0.1000
19	62.65	17.48	0.1000
20	67.54	17.14	0.1000
21	68.21	17.10	0.1000
22	69.10	17.06	0.1000
23	76.27	16.75	0.1000
24	78.14	16.66	0.1000
25	80.61	16.49	0.1000
26	85.01	16.18	0.1000
27	92.12	15.73	0.1000
28	93.74	15.56	0.1000
29	98.01	15.34	0.1000
30	102.47	15.24	0.1000
31	103.64	15.21	0.1000
32	107.94	15.11	0.1000
33	111.21	15.14	0.1000
34	115.15	15.09	0.1000
35	117.87	15.10	0.1000
36	119.94	15.08	0.1000
37	126.66	14.99	0.1000
38	127.81	14.98	0.1000
39	128.67	15.01	0.1000
40	134.98	15.22	0.1000
41	137.41	15.30	0.1000
42	137.74	15.30	0.1000
43	138.18	15.29	0.1000
44	146.14	14.97	0.1000
45	147.67	14.93	0.1000
46	149.69	14.84	0.1000
47	154.87	14.60	0.1000
48	157.60	14.49	0.1000
49	161.20	14.52	0.1000
50	163.60	14.52	0.1000
51	172.34	14.62	0.1000
52	172.72	14.62	0.1000
53	177.47	14.67	0.1000

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Order	Station [ft]	Elevation [ft]	Manning's N
54	181.07	14.67	0.1000
55	184.23	14.65	0.1000
56	187.40	14.64	0.1000
57	189.80	14.64	0.1000
58	195.74	14.59	0.1000
59	198.54	14.58	0.1000
60	207.27	14.53	0.1000
61	216.00	14.58	0.1000
62	217.20	14.58	0.1000
63	218.77	14.59	0.1000
64	224.74	14.64	0.1000
65	227.13	14.65	0.1000
66	230.28	14.67	0.1000
67	233.47	14.68	0.1000
68	237.06	14.71	0.1000
69	241.80	14.78	0.1000
70	242.20	14.78	0.1000
71	246.99	14.86	0.1000
72	250.94	14.91	0.1000
73	253.31	14.96	0.1000
74	256.93	15.02	0.1000
75	259.67	15.02	0.1000
76	264.82	14.93	0.1000
77	266.86	14.92	0.1000
78	268.40	14.88	0.1000
79	276.33	14.67	0.1000
80	276.79	14.66	0.1000
81	277.14	14.66	0.1000
82	279.65	14.66	0.1000
83	285.87	14.67	0.1000
84	286.72	14.67	0.1000
85	287.85	14.67	0.1000
86	294.60	14.74	0.1000
87	296.65	14.74	0.1000
88	299.36	14.78	0.1000
89	303.33	14.85	0.1000
90	306.59	14.89	0.1000
91	316.52	14.91	0.1000
92	326.45	14.70	0.1000
93	336.38	14.56	0.1000
94	338.27	14.52	0.1000
95	345.42	14.40	0.1000
96	346.32	14.38	0.1000
97	346.32	14.38	0.1000
98	347.00	14.38	0.1000
99	351.98	14.34	0.1000
100	355.73	14.32	0.1000
101	356.93	14.31	0.1000
102	364.47	14.22	0.1000

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Order	Station [ft]	Elevation [ft]	Manning's N
103	366.18	14.21	0.1000
104	368.44	14.27	0.1000
105	373.20	14.35	0.1000
106	376.11	14.43	0.1000
107	379.96	14.53	0.1000
108	381.93	14.59	0.1000
109	386.05	14.70	0.0350
110	390.67	14.00	0.0350
111	391.47	13.84	0.0350
112	395.98	13.10	0.0350
113	399.40	13.35	0.0350
114	402.98	13.98	0.0350
115	405.91	14.27	0.0350
116	408.13	14.40	0.0350
117	414.49	14.35	0.0350
118	415.84	14.41	0.0350
119	425.78	14.22	0.0350
120	434.33	14.27	0.0350
121	435.71	14.28	0.0350
122	437.52	14.30	0.0350
123	443.07	14.37	0.0350
124	445.64	14.41	0.0350
125	449.03	14.42	0.0350
126	451.80	14.42	0.0350
127	455.57	14.45	0.0350
128	460.53	14.45	0.1000
129	469.27	14.42	0.1000
130	472.06	14.41	0.1000
131	475.44	14.40	0.1000
132	478.00	14.44	0.1000
133	483.57	14.54	0.1000
134	485.37	14.56	0.1000
135	495.30	14.78	0.1000
136	495.30	14.78	0.1000
137	496.65	14.80	0.1000
138	504.20	14.89	0.1000
139	505.23	14.89	0.1000
140	506.60	14.87	0.1000
141	512.93	14.84	0.1000
142	515.17	14.81	0.1000
143	525.10	14.65	0.1000
144	529.63	14.62	0.1000
145	530.40	14.61	0.1000
146	535.03	14.59	0.1000
147	539.13	14.60	0.1000
148	541.14	14.61	0.1000
149	544.96	14.63	0.1000
150	547.86	14.67	0.1000
151	552.65	14.70	0.1000

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Order	Station [ft]	Elevation [ft]	Manning's N
152	554.90	14.72	0.1000
153	556.60	14.72	0.1000
154	564.17	14.65	0.1000
155	565.33	14.64	0.1000
156	568.98	14.65	0.1000
157	574.06	14.68	0.1000
158	574.76	14.69	0.1000
159	574.76	14.69	0.1000
160	575.68	14.70	0.1000
161	582.80	14.84	0.1000
162	584.69	14.88	0.1000
163	587.19	14.89	0.1000
164	591.53	14.93	0.1000
165	594.63	14.94	0.1000
166	598.71	14.91	0.1000
167	600.26	14.90	0.1000
168	604.56	14.88	0.1000
169	609.00	14.93	0.1000
170	610.22	14.95	0.1000
171	624.42	15.13	0.1000
172	626.46	15.18	0.1000
173	633.25	15.30	0.1000
174	634.35	15.33	0.1000
175	634.35	15.33	0.1000
176	635.20	15.30	0.1000
177	641.32	15.14	0.1000
178	644.29	15.06	0.1000
179	654.22	14.96	0.1000
180	656.27	14.99	0.1000
181	661.40	15.07	0.1000
182	664.15	15.11	0.1000
183	667.79	15.14	0.1000
184	670.13	15.16	0.1000
185	674.08	15.19	0.1000
186	678.86	15.31	0.1000
187	684.02	15.44	0.1000
188	687.59	15.46	0.1000
189	690.81	15.47	0.1000
190	693.95	15.49	0.1000
191	696.33	15.48	0.1000
192	702.33	15.48	0.1000
193	703.88	15.48	0.1000
194	713.81	15.41	0.1000
195	723.75	15.63	0.1000
196	723.75	15.63	0.1000
197	725.35	15.64	0.1000
198	731.26	15.68	0.1000
199	733.68	15.70	0.1000
200	736.87	15.71	0.1000

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Order	Station [ft]	Elevation [ft]	Manning's N
201	739.99	15.73	0.1000
202	743.61	15.75	0.1000
203	748.38	15.80	0.1000
204	748.73	15.81	0.1000
205	753.54	15.86	0.1000
206	757.46	15.91	0.1000
207	759.89	15.94	0.1000
208	763.48	15.98	0.1000
209	766.19	15.97	0.1000
210	771.41	15.91	0.1000
211	773.41	15.90	0.1000
212	783.34	15.84	0.1000
213	785.98	15.86	0.1000
214	792.39	15.91	0.1000
215	793.27	15.93	0.1000
216	794.43	15.95	0.1000
217	801.13	16.11	0.1000
218	803.20	16.15	0.1000
219	813.14	16.16	0.1000
220	817.46	16.17	0.1000
221	818.59	16.17	0.1000
222	827.32	16.20	0.1000
223	828.97	16.21	0.1000
224	833.00	16.23	0.1000
225	836.06	16.22	0.1000
226	840.49	16.24	0.1000
227	844.79	16.24	0.1000
228	847.94	16.25	0.1000

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Modifications (Detailed)	
Existing Project:	G:\Shared drives\Projects\Rice Hope\Rice Hope Composite\Submittal_12202022\ICPR\PRE-DEV01132022\Project.i4p
Existing Scenario:	PRE_10032022
Proposed Project:	G:\Shared drives\Projects\Rice Hope\Rice Hope Composite\Submittal_12202022\ICPR\PRE-DEV01132022\Project.i4p
Proposed Scenario:	PRE_01092023

Link (Pipe): PONDING AREA A-B

Field	Existing	Proposed
From Node	PONDING AREA A	CH#3
To Node	PONDING AREA B	PONDING AREA B
Link Count	1	1
Flow Direction	Both	Both
Damping	0.0000 ft	0.0000 ft
Length	25.00 ft	25.00 ft
FHWA Code	48	48
Entr Loss Coef	0.20 dec	0.20 dec
Exit Loss Coef	1.00 dec	1.00 dec
Bend Loss Coef	0.02 dec	0.02 dec
Bend Location	0.00 dec	0.00 dec
Energy Switch	Energy	Energy

Field	Upstream Existing	Upstream Proposed	Downstream Existing	Downstream Proposed
Invert	10.22 ft	10.22 ft	10.22 ft	10.22 ft
Manning's N	0.0130 dec	0.0130 dec	0.0130 dec	0.0130 dec
Geometry	Circular	Circular	Circular	Circular
Max Depth	1.50 ft	1.50 ft	1.50 ft	1.50 ft
Max Width	<N/A>	<N/A>	<N/A>	<N/A>
Fillet	<N/A>	<N/A>	<N/A>	<N/A>
Cross Section	<N/A>	<N/A>	<N/A>	<N/A>
Bottom Clip	0.00 ft	0.00 ft	0.00 ft	0.00 ft
Bottom Clip Table				
Bottom Clip Node				
Bottom Clip Manning's N	0.0000 dec	0.0000 dec	0.0000 dec	0.0000 dec
Top Clip	0.00 ft	0.00 ft	0.00 ft	0.00 ft
Top Clip Table				
Top Clip Node				
Top Clip Manning's N	0.0000 dec	0.0000 dec	0.0000 dec	0.0000 dec

Field	Comment
Existing	RH PLANTATION DR.
Proposed	RH PLANTATION DR.

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Link (Weir): PONDING AREA A-B ROAD

Field	Existing	Proposed
From Node	PONDING AREA A	CH#3
To Node	PONDING AREA B	PONDING AREA B
Link Count	1	1
Flow Direction	Both	Both
Damping	0.0000 ft	0.0000 ft
Weir Type	Broad Crested, Vertical	Broad Crested, Vertical
Geometry	Trapezoidal	Trapezoidal
Invert	14.75 ft	14.75 ft
Control Elevation	14.75 ft	14.75 ft
Cross Section	<N/A>	<N/A>
Extrapolation Method	Normal Projection	Normal Projection
Max Depth	10.00 ft	10.00 ft
Max Width	<N/A>	<N/A>
Fillet	<N/A>	<N/A>
Bottom Width	400.00 ft	400.00 ft
Left Slope	6.000 dec (h:v)	6.000 dec (h:v)
Right Slope	6.000 dec (h:v)	6.000 dec (h:v)
Bottom Clip	0.00 ft	0.00 ft
Top Clip	0.00 ft	0.00 ft
Weir Discharge Coef	3.000 sqrt(f)ps	3.000 sqrt(f)ps
Orifice Discharge Coef	0.600 dec	0.600 dec
Bottom Clip Table		
Top Clip Table		
Weir Discharge Coef Table		
Orifice Discharge Coef Table		
Bottom Clip Node		
Top Clip Node		

Field	Comment
Existing	
Proposed	

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Simple Basin: BC#19

Scenario:	PRE_01092023
Node:	BCT1-70
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	103.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	908.6100 ac
Curve Number:	76.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment: T&H NO EDIT

Simple Basin: KC#11

Scenario:	PRE_01092023
Node:	KCM-60
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	95.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	677.8100 ac
Curve Number:	77.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment: T&H NO EDIT

Simple Basin: KC#12

Scenario:	PRE_01092023
Node:	KCM-60
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	87.0000 min
Max Allowable Q:	0.000 cfs

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	186.8200 ac
Curve Number:	79.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment: T&H NO EDIT

Simple Basin: KC#16

Scenario:	PRE_01092023
Node:	KCM-40
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	148.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	300.9800 ac
Curve Number:	77.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment: T&H NO EDIT

Simple Basin: KC#17

Scenario:	PRE_01092023
Node:	KCM-10
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	27.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	16.7400 ac
Curve Number:	77.0
% Impervious:	0.00
% DCIA:	0.00

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

% Direct: 0.00
Rainfall Name:

Comment: T&H NO EDIT

Manual Basin Runoff Summary [PRE_01092023]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
BC#18	Pre-5-yr_5.38	18.659	12.7833	5.38	2.80	20.6665	75.4	0.00	0.00
BC#5 NORTH	Pre-5-yr_5.38	97.493	12.6667	5.38	2.58	102.1894	72.9	0.00	0.00
BC#5 SOUTH	Pre-5-yr_5.38	81.927	12.4667	5.38	3.02	57.0714	77.8	0.00	0.00
BC#6, BC#7	Pre-5-yr_5.38	109.675	12.8667	5.38	2.91	126.5583	76.5	0.00	0.00
BC#8	Pre-5-yr_5.38	55.106	12.8000	5.38	2.87	60.3164	76.1	0.00	0.00
BC#9	Pre-5-yr_5.38	30.250	14.9833	5.38	3.74	67.5302	85.1	0.00	0.00
Existing Area #1	Pre-5-yr_5.38	22.248	12.3833	5.38	3.26	12.3283	80.2	0.00	0.00
Existing Area #2A	Pre-5-yr_5.38	2.637	12.6167	5.38	3.03	2.2550	77.9	0.00	0.00
Existing Area #2B	Pre-5-yr_5.38	53.816	13.1333	5.38	2.82	76.1301	75.6	0.00	0.00
Existing Area #3	Pre-5-yr_5.38	51.115	13.2000	5.38	2.99	71.0717	77.4	0.00	0.00
Existing Area #4A	Pre-5-yr_5.38	57.494	12.9000	5.38	2.83	69.3672	75.7	0.00	0.00
Existing Area #4B	Pre-5-yr_5.38	81.395	12.6500	5.38	2.59	84.1464	73.0	0.00	0.00
KC#1	Pre-5-yr_5.38	53.650	12.4833	5.38	2.92	38.9834	76.7	0.00	0.00
KC#13	Pre-5-yr_5.38	17.059	12.6000	5.38	2.78	15.5802	75.1	0.00	0.00
KC#14	Pre-5-yr_5.38	79.145	12.5333	5.38	2.52	72.1087	72.2	0.00	0.00
KC#15	Pre-5-yr_5.38	142.596	13.1500	5.38	2.60	220.7656	73.2	0.00	0.00
KC#2 NORTH	Pre-5-yr_5.38	52.217	12.5833	5.38	2.82	45.2180	75.6	0.00	0.00
KC#2 SOUTH	Pre-5-yr_5.38	96.095	13.0000	5.38	3.25	108.0027	80.2	0.00	0.00
KC#4, KC#7,	Pre-5-yr_5.38	52.673	13.1333	5.38	2.60	81.1233	73.1	0.00	0.00

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
KC#8									
KC#5	Pre-5-yr_5.38	91.405	12.4000	5.38	2.72	60.3477	74.5	0.00	0.00
KC#6	Pre-5-yr_5.38	89.570	12.9000	5.38	2.71	113.8334	74.3	0.00	0.00
BC#18	Pre_10-yr_6.38	24.497	12.7833	6.38	3.65	20.6665	75.3	0.00	0.00
BC#5 NORTH	Pre_10-yr_6.38	129.839	12.6500	6.38	3.40	102.1894	72.9	0.00	0.00
BC#5 SOUTH	Pre_10-yr_6.38	105.681	12.4667	6.38	3.89	57.0714	77.7	0.00	0.00
BC#6, BC#7	Pre_10-yr_6.38	142.892	12.8500	6.38	3.75	126.5583	76.3	0.00	0.00
BC#8	Pre_10-yr_6.38	72.043	12.8000	6.38	3.72	60.3164	76.0	0.00	0.00
BC#9	Pre_10-yr_6.38	37.673	14.9667	6.38	4.65	67.5302	84.8	0.00	0.00
Existing Area #1	Pre_10-yr_6.38	28.273	12.3833	6.38	4.15	12.3283	80.2	0.00	0.00
Existing Area #2A	Pre_10-yr_6.38	3.400	12.6167	6.38	3.90	2.2550	77.7	0.00	0.00
Existing Area #2B	Pre_10-yr_6.38	70.580	13.1167	6.38	3.67	76.1301	75.5	0.00	0.00
Existing Area #3	Pre_10-yr_6.38	66.331	13.1833	6.38	3.86	71.0717	77.3	0.00	0.00
Existing Area #4A	Pre_10-yr_6.38	75.338	12.9000	6.38	3.68	69.3672	75.6	0.00	0.00
Existing Area #4B	Pre_10-yr_6.38	108.328	12.6500	6.38	3.41	84.1464	72.9	0.00	0.00
KC#1	Pre_10-yr_6.38	69.594	12.4833	6.38	3.78	38.9834	76.6	0.00	0.00
KC#13	Pre_10-yr_6.38	22.390	12.6000	6.38	3.62	15.5802	75.0	0.00	0.00
KC#14	Pre_10-yr_6.38	105.362	12.5333	6.38	3.32	72.1087	72.1	0.00	0.00
KC#15	Pre_10-yr_6.38	189.640	13.1333	6.38	3.42	220.7656	73.1	0.00	0.00
KC#2 NORTH	Pre_10-yr_6.38	68.232	12.5833	6.38	3.67	45.2180	75.5	0.00	0.00
KC#2 SOUTH	Pre_10-yr_6.38	122.877	12.9833	6.38	4.15	108.0027	80.1	0.00	0.00
KC#4, KC#7, KC#8	Pre_10-yr_6.38	69.934	13.1167	6.38	3.41	81.1233	73.0	0.00	0.00
KC#5	Pre_10-yr_6.38	119.949	12.4000	6.38	3.56	60.3477	74.4	0.00	0.00
KC#6	Pre_10-yr	117.923	12.9000	6.38	3.53	113.8334	74.1	0.00	0.00

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Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
	_6.38								
BC#18	Pre_100-yr_10.6	50.377	12.7667	10.60	7.47	20.6665	75.1	0.00	0.00
BC#5 NORTH	Pre_100-yr_10.6	275.033	12.6500	10.60	7.16	102.1894	72.8	0.00	0.00
BC#5 SOUTH	Pre_100-yr_10.6	209.430	12.4667	10.60	7.77	57.0714	77.3	0.00	0.00
BC#6, BC#7	Pre_100-yr_10.6	290.812	12.8333	10.60	7.57	126.5583	75.8	0.00	0.00
BC#8	Pre_100-yr_10.6	147.002	12.7833	10.60	7.56	60.3164	75.8	0.00	0.00
BC#9	Pre_100-yr_10.6	70.245	14.9333	10.60	8.62	67.5302	83.9	0.00	0.00
Existing Area #1	Pre_100-yr_10.6	54.071	12.3833	10.60	8.12	12.3283	80.0	0.00	0.00
Existing Area #2A	Pre_100-yr_10.6	6.733	12.6000	10.60	7.77	2.2550	77.4	0.00	0.00
Existing Area #2B	Pre_100-yr_10.6	145.324	13.0833	10.60	7.49	76.1301	75.3	0.00	0.00
Existing Area #3	Pre_100-yr_10.6	133.461	13.1667	10.60	7.73	71.0717	77.1	0.00	0.00
Existing Area #4A	Pre_100-yr_10.6	154.554	12.8667	10.60	7.51	69.3672	75.4	0.00	0.00
Existing Area #4B	Pre_100-yr_10.6	229.015	12.6333	10.60	7.16	84.1464	72.8	0.00	0.00
KC#1	Pre_100-yr_10.6	139.447	12.4667	10.60	7.64	38.9834	76.4	0.00	0.00
KC#13	Pre_100-yr_10.6	46.061	12.5833	10.60	7.42	15.5802	74.7	0.00	0.00
KC#14	Pre_100-yr_10.6	223.589	12.5167	10.60	7.01	72.1087	71.7	0.00	0.00
KC#15	Pre_100-yr_10.6	402.543	13.1000	10.60	7.16	220.7656	72.8	0.00	0.00
KC#2 NORTH	Pre_100-yr_10.6	139.035	12.5667	10.60	7.50	45.2180	75.3	0.00	0.00
KC#2 SOUTH	Pre_100-yr_10.6	239.027	12.9667	10.60	8.10	108.0027	79.9	0.00	0.00
KC#4, KC#7, KC#8	Pre_100-yr_10.6	148.175	13.0833	10.60	7.13	81.1233	72.5	0.00	0.00
KC#5	Pre_100-yr_10.6	245.838	12.3833	10.60	7.37	60.3477	74.4	0.00	0.00
KC#6	Pre_100-yr_10.6	245.482	12.8667	10.60	7.27	113.8334	73.6	0.00	0.00
BC#18	Pre_2-yr_4.28	12.550	12.8000	4.28	1.92	20.6665	75.5	0.00	0.00
BC#5	Pre_2-yr_	63.904	12.6667	4.28	1.74	102.1894	73.0	0.00	0.00

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Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
NORTH	4.28								
BC#5 SOUTH	Pre_2-yr_ 4.28	56.776	12.4833	4.28	2.12	57.0714	78.0	0.00	0.00
BC#6, BC#7	Pre_2-yr_ 4.28	74.969	12.8833	4.28	2.03	126.5583	76.8	0.00	0.00
BC#8	Pre_2-yr_ 4.28	37.333	12.8167	4.28	1.98	60.3164	76.3	0.00	0.00
BC#9	Pre_2-yr_ 4.28	22.350	15.0000	4.28	2.78	67.5302	85.7	0.00	0.00
Existing Area #1	Pre_2-yr_ 4.28	15.776	12.4000	4.28	2.31	12.3283	80.3	0.00	0.00
Existing Area #2A	Pre_2-yr_ 4.28	1.830	12.6333	4.28	2.13	2.2550	78.1	0.00	0.00
Existing Area #2B	Pre_2-yr_ 4.28	36.317	13.1500	4.28	1.94	76.1301	75.8	0.00	0.00
Existing Area #3	Pre_2-yr_ 4.28	35.095	13.2167	4.28	2.09	71.0717	77.6	0.00	0.00
Existing Area #4A	Pre_2-yr_ 4.28	38.820	12.9333	4.28	1.95	69.3672	75.8	0.00	0.00
Existing Area #4B	Pre_2-yr_ 4.28	53.459	12.6667	4.28	1.74	84.1464	73.1	0.00	0.00
KC#1	Pre_2-yr_ 4.28	36.767	12.4833	4.28	2.02	38.9834	76.8	0.00	0.00
KC#13	Pre_2-yr_ 4.28	11.487	12.6167	4.28	1.91	15.5802	75.3	0.00	0.00
KC#14	Pre_2-yr_ 4.28	52.006	12.5500	4.28	1.69	72.1087	72.4	0.00	0.00
KC#15	Pre_2-yr_ 4.28	94.062	13.1667	4.28	1.76	220.7656	73.4	0.00	0.00
KC#2 NORTH	Pre_2-yr_ 4.28	35.366	12.5833	4.28	1.94	45.2180	75.8	0.00	0.00
KC#2 SOUTH	Pre_2-yr_ 4.28	67.515	13.0167	4.28	2.31	108.0027	80.3	0.00	0.00
KC#4, KC#7, KC#8	Pre_2-yr_ 4.28	34.884	13.1500	4.28	1.76	81.1233	73.4	0.00	0.00
KC#5	Pre_2-yr_ 4.28	61.347	12.4000	4.28	1.84	60.3477	74.5	0.00	0.00
KC#6	Pre_2-yr_ 4.28	60.156	12.9167	4.28	1.86	113.8334	74.6	0.00	0.00
BC#18	Pre_25-yr _7.91	33.722	12.7833	7.91	5.00	20.6665	75.2	0.00	0.00
BC#5 NORTH	Pre_25-yr _7.91	181.416	12.6500	7.91	4.72	102.1894	72.8	0.00	0.00
BC#5 SOUTH	Pre_25-yr _7.91	142.895	12.4667	7.91	5.26	57.0714	77.5	0.00	0.00
BC#6,	Pre_25-yr	195.507	12.8500	7.91	5.10	126.5583	76.1	0.00	0.00

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Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
BC#7	_7.91								
BC#8	Pre_25-yr _7.91	98.797	12.7833	7.91	5.08	60.3164	75.9	0.00	0.00
BC#9	Pre_25-yr _7.91	49.312	14.9500	7.91	6.06	67.5302	84.3	0.00	0.00
Existing Area #1	Pre_25-yr _7.91	37.596	12.3833	7.91	5.57	12.3283	80.1	0.00	0.00
Existing Area #2A	Pre_25-yr _7.91	4.594	12.6167	7.91	5.27	2.2550	77.6	0.00	0.00
Existing Area #2B	Pre_25-yr _7.91	97.167	13.1000	7.91	5.02	76.1301	75.4	0.00	0.00
Existing Area #3	Pre_25-yr _7.91	90.305	13.1667	7.91	5.23	71.0717	77.2	0.00	0.00
Existing Area #4A	Pre_25-yr _7.91	103.567	12.8833	7.91	5.03	69.3672	75.5	0.00	0.00
Existing Area #4B	Pre_25-yr _7.91	151.154	12.6333	7.91	4.73	84.1464	72.9	0.00	0.00
KC#1	Pre_25-yr _7.91	94.595	12.4667	7.91	5.14	38.9834	76.5	0.00	0.00
KC#13	Pre_25-yr _7.91	30.820	12.6000	7.91	4.96	15.5802	74.8	0.00	0.00
KC#14	Pre_25-yr _7.91	147.230	12.5167	7.91	4.61	72.1087	71.9	0.00	0.00
KC#15	Pre_25-yr _7.91	264.930	13.1167	7.91	4.73	220.7656	72.9	0.00	0.00
KC#2 NORTH	Pre_25-yr _7.91	93.519	12.5667	7.91	5.02	45.2180	75.4	0.00	0.00
KC#2 SOUTH	Pre_25-yr _7.91	164.637	12.9833	7.91	5.56	108.0027	80.0	0.00	0.00
KC#4, KC#7, KC#8	Pre_25-yr _7.91	97.579	13.1000	7.91	4.71	81.1233	72.8	0.00	0.00
KC#5	Pre_25-yr _7.91	164.996	12.3833	7.91	4.91	60.3477	74.4	0.00	0.00
KC#6	Pre_25-yr _7.91	163.122	12.8833	7.91	4.85	113.8334	73.9	0.00	0.00
BC#18	Pre_50-yr _9.20	41.663	12.7667	9.20	6.17	20.6665	75.1	0.00	0.00
BC#5 NORTH	Pre_50-yr _9.20	226.006	12.6500	9.20	5.87	102.1894	72.8	0.00	0.00
BC#5 SOUTH	Pre_50-yr _9.20	174.703	12.4667	9.20	6.45	57.0714	77.4	0.00	0.00
BC#6, BC#7	Pre_50-yr _9.20	240.927	12.8333	9.20	6.27	126.5583	75.9	0.00	0.00
BC#8	Pre_50-yr _9.20	121.801	12.7833	9.20	6.26	60.3164	75.9	0.00	0.00
BC#9	Pre_50-yr	59.297	14.9500	9.20	7.28	67.5302	84.1	0.00	0.00

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Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
	_9.20								
Existing Area #1	Pre_50-yr _9.20	45.495	12.3833	9.20	6.78	12.3283	80.0	0.00	0.00
Existing Area #2A	Pre_50-yr _9.20	5.616	12.6167	9.20	6.46	2.2550	77.5	0.00	0.00
Existing Area #2B	Pre_50-yr _9.20	120.108	13.1000	9.20	6.19	76.1301	75.3	0.00	0.00
Existing Area #3	Pre_50-yr _9.20	110.902	13.1667	9.20	6.42	71.0717	77.1	0.00	0.00
Existing Area #4A	Pre_50-yr _9.20	127.869	12.8833	9.20	6.21	69.3672	75.4	0.00	0.00
Existing Area #4B	Pre_50-yr _9.20	188.243	12.6333	9.20	5.88	84.1464	72.8	0.00	0.00
KC#1	Pre_50-yr _9.20	116.031	12.4667	9.20	6.33	38.9834	76.4	0.00	0.00
KC#13	Pre_50-yr _9.20	38.086	12.5833	9.20	6.12	15.5802	74.8	0.00	0.00
KC#14	Pre_50-yr _9.20	183.561	12.5167	9.20	5.75	72.1087	71.8	0.00	0.00
KC#15	Pre_50-yr _9.20	330.343	13.1000	9.20	5.88	220.7656	72.8	0.00	0.00
KC#2 NORTH	Pre_50-yr _9.20	115.245	12.5667	9.20	6.20	45.2180	75.3	0.00	0.00
KC#2 SOUTH	Pre_50-yr _9.20	200.229	12.9667	9.20	6.77	108.0027	80.0	0.00	0.00
KC#4, KC#7, KC#8	Pre_50-yr _9.20	121.613	13.0833	9.20	5.86	81.1233	72.6	0.00	0.00
KC#5	Pre_50-yr _9.20	203.624	12.3833	9.20	6.08	60.3477	74.4	0.00	0.00
KC#6	Pre_50-yr _9.20	202.285	12.8667	9.20	6.00	113.8334	73.8	0.00	0.00

Manual Basin: BC#18

Scenario:	PRE_01092023
Node:	BCT1-140
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	62.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	20.6665 ac

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Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
1.6134	Developed, Medium Intensity	C	
1.4997	Developed, Low Intensity	C	
1.4045	Developed, Open Space	C	
2.3815	Evergreen Forest	C	
0.2856	Developed, Medium Intensity	C/D	
0.9037	Developed, Low Intensity	C/D	
2.3238	Evergreen Forest	C/D	
0.0116	Herbaceous	C	
2.1312	Herbaceous	C/D	
0.9962	Developed, Open Space	C/D	
2.2169	Developed, Low Intensity	B/D	
1.8347	Developed, Open Space	B/D	
0.5500	Herbaceous	B/D	
1.4996	Evergreen Forest	B/D	
0.6276	Developed, Medium Intensity	B/D	
0.0014	Developed, High Intensity	C/D	
0.3069	Mixed Forest	C/D	
0.0782	Developed, High Intensity	C	

Comment:

Manual Basin: BC#5 NORTH

Scenario: PRE_01092023
Node: BCT1-195
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 50.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 102.1894 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
6.6528	Developed, Medium Intensity	C/D	
0.7979	Developed, High Intensity	C/D	
6.0556	Developed, Low Intensity	C/D	
3.8000	Developed, Open Space	C/D	
55.8219	Evergreen Forest	C/D	
2.5987	Developed, Low Intensity	B/D	
11.8366	Mixed Forest	C/D	
1.8917	Developed, Open Space	B/D	
0.2439	Herbaceous	C/D	
1.3929	Developed, Medium Intensity	B/D	
0.6933	Barren Land	C/D	
0.8634	Barren Land	B/D	
0.5989	Herbaceous	B/D	

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Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.4448	Hay/Pasture	B/D	
8.3611	Evergreen Forest	B/D	
0.1338	Developed, Medium Intensity	C	
0.0021	Developed, Low Intensity	C	

Comment:

Manual Basin: BC#5 SOUTH

Scenario: PRE_01092023
Node: BCT1-175
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 33.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 57.0714 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
11.6172	Evergreen Forest	C/D	
2.0642	Shrub/Scrub	C/D	
3.5546	Hay/Pasture	C/D	
6.3292	Developed, Low Intensity	C/D	
15.2952	Developed, Medium Intensity	C/D	
1.1119	Developed, High Intensity	C/D	
1.2542	Barren Land	C/D	
1.2797	Developed, Open Space	C/D	
8.0425	Woody Wetlands	C/D	
2.2241	Herbaceous	C/D	
0.9626	Emergent Herbaceous Wetlands	C/D	
3.3359	Open Water	C/D	

Comment:

Manual Basin: BC#6, BC#7

Scenario: PRE_01092023
Node: BCT1-150
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 68.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323

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Peaking Factor: 323.0
Area: 126.5583 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
4.6384	Developed, Medium Intensity	C	
1.2813	Developed, Open Space	C	
1.6919	Developed, Open Space	B/D	
2.5732	Evergreen Forest	B/D	
2.9174	Developed, Low Intensity	C	
4.6700	Evergreen Forest	C	
29.1061	Woody Wetlands	C/D	
1.2906	Evergreen Forest	C/D	
6.7504	Developed, Open Space	C/D	
0.2224	Emergent Herbaceous Wetlands	C/D	
3.1697	Developed, Low Intensity	B/D	
8.7325	Developed, Medium Intensity	B/D	
9.0806	Developed, Medium Intensity	C/D	
9.1940	Developed, Low Intensity	C/D	
0.7119	Barren Land	C	
0.1122	Barren Land	B/D	
4.6189	Open Water	C	
0.9678	Hay/Pasture	C	
3.8712	Open Water	B/D	
0.5132	Hay/Pasture	B/D	
9.9548	Woody Wetlands	B/D	
0.6671	Emergent Herbaceous Wetlands	B/D	
2.8521	Open Water	C/D	
0.3361	Developed, High Intensity	C	
0.5535	Developed, High Intensity	C/D	
0.8707	Shrub/Scrub	C	
0.9985	Shrub/Scrub	C/D	
0.6672	Developed, High Intensity	B/D	
1.0191	Barren Land	C/D	
0.9104	Hay/Pasture	C/D	
0.2225	Herbaceous	B/D	
0.4381	Shrub/Scrub	B/D	
8.7522	Deciduous Forest	B/D	
2.0754	Deciduous Forest	C/D	
0.1246	Herbaceous	C/D	
0.0023	Woody Wetlands	C	

Comment:

Manual Basin: BC#8

Scenario: PRE_01092023
Node: BCT1-160

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 63.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 60.3164 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
3.3618	Deciduous Forest	B/D	
0.6362	Deciduous Forest	C/D	
12.0747	Evergreen Forest	C/D	
1.1018	Evergreen Forest	B/D	
2.9915	Shrub/Scrub	C/D	
0.7798	Hay/Pasture	C/D	
0.5377	Barren Land	C/D	
0.2364	Woody Wetlands	B/D	
7.4122	Herbaceous	C/D	
8.8315	Woody Wetlands	C/D	
8.2503	Emergent Herbaceous Wetlands	C/D	
0.4940	Developed, Open Space	C/D	
3.4733	Developed, Medium Intensity	C/D	
3.2198	Developed, Low Intensity	C/D	
0.1519	Developed, Open Space	B/D	
3.5112	Developed, Medium Intensity	B/D	
0.8478	Developed, Low Intensity	B/D	
0.7174	Herbaceous	B/D	
0.3529	Emergent Herbaceous Wetlands	B/D	
1.3344	Open Water	C/D	

Comment:

Manual Basin: BC#9

Scenario: PRE_01092023
Node: BCT1-150
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 240.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 67.5302 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
5.4902	Evergreen Forest	C	

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.1473	Barren Land	C	
1.2102	Barren Land	B/D	
4.8656	Developed, Low Intensity	B/D	
9.3754	Developed, Medium Intensity	B/D	
0.1529	Developed, Low Intensity	C	
0.5268	Developed, Open Space	B/D	
2.8541	Evergreen Forest	B/D	
0.2651	Barren Land	W	
0.5615	Open Water	C	
0.2024	Developed, Medium Intensity	W	
22.6555	Open Water	W	
0.6794	Emergent Herbaceous Wetlands	B/D	
0.0073	Open Water	B/D	
1.3292	Emergent Herbaceous Wetlands	W	
0.0581	Herbaceous	C	
5.9237	Herbaceous	C/D	
5.0178	Evergreen Forest	C/D	
0.4793	Developed, Low Intensity	W	
2.4059	Open Water	C/D	
0.1527	Developed, Open Space	W	
0.0142	Woody Wetlands	B/D	
0.8696	Developed, Open Space	C	
0.0009	Woody Wetlands	C	
0.1614	Mixed Forest	C/D	
0.8158	Evergreen Forest	W	
1.0681	Mixed Forest	B/D	
0.2283	Mixed Forest	C	
0.0114	Mixed Forest	W	

Comment:

Manual Basin: Existing Area #1

Scenario: PRE_01092023
Node: EXISTING POND
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 25.1370 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 12.3283 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.2157	Evergreen Forest	B/D	

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
3.7449	Herbaceous	B/D	
1.0493	Developed, Low Intensity	B/D	
0.5221	Developed, Open Space	B/D	
0.6941	Developed, Medium Intensity	B/D	
0.3547	Developed, Low Intensity	C/D	
3.5505	Developed, Medium Intensity	C/D	
0.0053	Developed, Low Intensity	C	
1.1419	Developed, Medium Intensity	C	
1.0499	Herbaceous	C/D	

Comment:

Manual Basin: Existing Area #2A

Scenario: PRE_01092023
Node: EXISTING SOUTH OUTFALL
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 47.3500 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 2.2550 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.0377	Evergreen Forest	C/D	
0.1595	Evergreen Forest	B/D	
1.3001	Herbaceous	B/D	
0.5608	Developed, Low Intensity	B/D	
0.1969	Developed, Medium Intensity	B/D	

Comment:

Manual Basin: Existing Area #2B

Scenario: PRE_01092023
Node: SOUTH PONDING AREA
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 88.8090 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 76.1300 ac

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
5.3890	Developed, Low Intensity	B/D	
6.5950	Developed, Medium Intensity	B/D	
1.8318	Developed, Open Space	B/D	
4.2755	Evergreen Forest	B/D	
5.1386	Developed, Low Intensity	C/D	
3.8709	Developed, Open Space	C/D	
18.3668	Evergreen Forest	C/D	
5.1495	Developed, Medium Intensity	C/D	
2.0910	Developed, High Intensity	B/D	
2.8729	Developed, High Intensity	C/D	
4.1824	Mixed Forest	C/D	
9.4008	Developed, Medium Intensity	C	
0.7736	Developed, Low Intensity	C	
0.3034	Developed, High Intensity	C	
0.7997	Developed, Open Space	C	
0.1382	Herbaceous	B/D	
0.4090	Evergreen Forest	C	
0.8896	Open Water	B/D	
1.7833	Herbaceous	C/D	
1.2301	Woody Wetlands	B/D	
0.0167	Shrub/Scrub	C/D	
0.4893	Mixed Forest	B/D	
0.1330	Woody Wetlands	C/D	

Comment:

Manual Basin: Existing Area #3

Scenario: PRE_01092023
Node: MIDDLE PONDING AREA
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 95.0240 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 71.0717 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
3.4649	Herbaceous	B/D	
18.2690	Herbaceous	C/D	
2.3779	Developed, Medium Intensity	C	
2.9456	Developed, Medium Intensity	C/D	
1.9564	Evergreen Forest	B/D	
2.4104	Woody Wetlands	B/D	
0.3630	Developed, Open Space	B/D	
0.1522	Developed, High Intensity	C	

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Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
4.2987	Woody Wetlands	C/D	
1.1404	Developed, Low Intensity	C/D	
0.6642	Barren Land	C/D	
0.0130	Developed, Low Intensity	B/D	
8.4410	Herbaceous	C	
0.0010	Developed, Low Intensity	C	
18.8411	Evergreen Forest	C/D	
1.9422	Developed, Open Space	C/D	
1.5242	Mixed Forest	C/D	
0.6613	Evergreen Forest	C	
1.1742	Barren Land	C	
0.4309	Developed, Open Space	C	

Comment:

Manual Basin: Existing Area #4A

Scenario: PRE_01092023
Node: PONDING AREA A
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 71.3650 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 69.3672 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.0089	Shrub/Scrub	C/D	
8.2897	Developed, Open Space	C/D	
12.5980	Evergreen Forest	C/D	
5.0124	Developed, Low Intensity	C/D	
4.8122	Developed, Low Intensity	B/D	
1.0303	Woody Wetlands	B/D	
9.4323	Woody Wetlands	C/D	
4.8816	Evergreen Forest	B/D	
5.8866	Herbaceous	B/D	
11.0220	Herbaceous	C/D	
3.6457	Developed, Open Space	B/D	
0.7417	Developed, Medium Intensity	C/D	
0.0004	void	C/D	
1.3825	Developed, Medium Intensity	B/D	
0.2223	Developed, High Intensity	B/D	
0.1423	Hay/Pasture	B/D	
0.2585	Shrub/Scrub	B/D	

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Manual Basin: Existing Area #4B

Scenario: PRE_01092023
Node: PONDING AREA B
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 49.2050 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 84.1464 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
2.4093	Developed, Open Space	C/D	
0.7790	Developed, Open Space	C	
21.1517	Evergreen Forest	C/D	
6.4468	Shrub/Scrub	C/D	
3.6241	Shrub/Scrub	C	
0.2712	Evergreen Forest	C	
4.7544	Developed, Open Space	B/D	
19.5740	Evergreen Forest	B/D	
0.0455	Herbaceous	C/D	
0.1459	Developed, Low Intensity	C/D	
14.0389	Woody Wetlands	C/D	
2.6730	Shrub/Scrub	B/D	
2.1976	Developed, Low Intensity	B/D	
0.5809	Developed, Medium Intensity	B/D	
2.7760	Mixed Forest	C/D	
2.6782	Herbaceous	B/D	

Comment:

Manual Basin: KC#1

Scenario: PRE_01092023
Node: SOUTH-450
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 34.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 38.9834 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.5599	Mixed Forest	C/D	
10.5159	Evergreen Forest	C/D	
4.4527	Evergreen Forest	C	
2.6466	Herbaceous	C	

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Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.0433	Open Water	C/D	
0.0101	Evergreen Forest	W	
1.1618	Mixed Forest	C	
4.6722	Herbaceous	C/D	
1.2351	Shrub/Scrub	C	
4.7141	Evergreen Forest	B/D	
0.0181	Developed, Open Space	C/D	
0.5697	Mixed Forest	B/D	
7.8683	Herbaceous	B/D	
0.5155	Emergent Herbaceous Wetlands	B/D	

Comment:

Manual Basin: KC#13

Scenario: PRE_01092023
Node: KCT1-5
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 45.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 15.5802 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.4491	Hay/Pasture	B/D	
0.6615	Herbaceous	B/D	
0.5596	Developed, Low Intensity	B/D	
0.5843	Developed, Open Space	B/D	
1.0906	Hay/Pasture	C	
0.3676	Developed, Open Space	C	
4.9887	Evergreen Forest	B/D	
0.1727	Evergreen Forest	C	
0.3525	Woody Wetlands	C	
0.1714	Woody Wetlands	B/D	
0.0936	Hay/Pasture	C/D	
3.4830	Woody Wetlands	C/D	
0.1424	Developed, Open Space	C/D	
1.7534	Evergreen Forest	C/D	
0.2923	Woody Wetlands	W	
0.0177	Open Water	C/D	
0.1252	Open Water	W	
0.0819	Open Water	B/D	
0.1928	Evergreen Forest	W	

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Comment:

Manual Basin: KC#14

Scenario: PRE_01092023
Node: KCM-135
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 38.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 72.1087 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
34.0924	Evergreen Forest	B/D	
0.1634	Deciduous Forest	B/D	
0.5141	Developed, Open Space	B/D	
19.1646	Woody Wetlands	B/D	
1.1251	Herbaceous	A/D	
0.0005	Evergreen Forest	A/D	
4.0242	Herbaceous	B/D	
1.1813	Evergreen Forest	C	
8.1613	Evergreen Forest	C/D	
0.8868	Woody Wetlands	C	
0.5210	Hay/Pasture	B/D	
0.0222	Hay/Pasture	C	
1.8092	Woody Wetlands	C/D	
0.0095	Barren Land	B/D	
0.3982	Mixed Forest	C/D	
0.0350	Barren Land	C/D	

Comment:

Manual Basin: KC#15

Scenario: PRE_01092023
Node: SOUTH-400
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 89.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 220.7656 ac

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Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
2.7077	Developed, Open Space	C/D	
7.2277	Developed, Medium Intensity	C/D	
41.2717	Evergreen Forest	C/D	
4.9094	Developed, Low Intensity	C/D	
2.2892	Developed, High Intensity	C/D	
2.8869	Developed, Medium Intensity	C	
1.1769	Developed, Low Intensity	C	
0.7096	Developed, High Intensity	C	
0.9705	Developed, Open Space	C	
6.1952	Herbaceous	C/D	
16.6513	Evergreen Forest	C	
0.6211	Barren Land	C	
0.4450	Barren Land	C/D	
0.9945	Herbaceous	C	
3.7556	Developed, Medium Intensity	B/D	
4.8191	Developed, Low Intensity	B/D	
0.6608	Developed, High Intensity	B/D	
70.9830	Evergreen Forest	B/D	
0.8125	Developed, Open Space	B/D	
1.3362	Herbaceous	B/D	
32.7678	Woody Wetlands	B/D	
1.1577	Barren Land	B/D	
0.6673	Shrub/Scrub	B/D	
6.5132	Woody Wetlands	C/D	
1.1257	Mixed Forest	C/D	
0.0176	Woody Wetlands	C	
4.5036	Evergreen Forest	A/D	
0.1061	Woody Wetlands	A/D	
1.1071	Herbaceous	A/D	
0.4448	Hay/Pasture	A/D	
0.2637	Deciduous Forest	B/D	
0.4448	Barren Land	A/D	
0.2225	Open Water	A/D	

Comment:

Manual Basin: KC#2 NORTH

Scenario:	PRE_01092023
Node:	KCT1-10
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	43.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0

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Area: 45.2180 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
2.5199	Evergreen Forest	C	
0.9670	Herbaceous	C	
10.0742	Herbaceous	C/D	
15.2275	Evergreen Forest	C/D	
0.0758	Herbaceous	A/D	
3.6196	Herbaceous	B/D	
0.2918	Barren Land	C/D	
0.2490	Developed, Low Intensity	C/D	
1.2741	Developed, Open Space	C/D	
0.6683	Developed, Low Intensity	B/D	
0.4457	Developed, Open Space	B/D	
1.8716	Shrub/Scrub	C/D	
1.9938	Evergreen Forest	B/D	
0.3304	Woody Wetlands	B/D	
0.0065	Woody Wetlands	C	
5.5585	Woody Wetlands	C/D	
0.0444	Mixed Forest	C/D	

Comment:

Manual Basin: KC#2 SOUTH

Scenario: PRE_01092023
Node: SOUTH-600
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 80.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 108.0027 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
1.7184	Developed, Medium Intensity	B/D	
0.6248	Developed, Low Intensity	B/D	
1.6540	Developed, Medium Intensity	C/D	
0.9635	Emergent Herbaceous Wetlands	B/D	
0.2223	Developed, Open Space	B/D	
31.3311	Herbaceous	B/D	
0.9346	Developed, Low Intensity	C/D	
0.2762	Woody Wetlands	B/D	
0.1534	Woody Wetlands	C	
0.0075	Developed, Open Space	C	
0.3280	Barren Land	B/D	
1.3255	Barren Land	C/D	

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Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
4.1499	Evergreen Forest	C	
5.4796	Herbaceous	C	
0.0002	Emergent Herbaceous Wetlands	C	
1.5094	Deciduous Forest	C/D	
0.2224	Developed, Open Space	C/D	
15.4388	Evergreen Forest	C/D	
0.2224	Open Water	C/D	
32.0307	Herbaceous	C/D	
1.8974	Mixed Forest	C/D	
3.4124	Evergreen Forest	B/D	
0.0146	Mixed Forest	C	
3.7307	Mixed Forest	B/D	
0.3202	Shrub/Scrub	C/D	
0.0347	Herbaceous	A/D	

Comment:

Manual Basin: KC#4, KC#7, KC#8

Scenario: PRE_01092023
Node: KCM-185
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 88.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 81.1233 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.9300	Mixed Forest	C/D	
2.3890	Evergreen Forest	C/D	
13.4023	Shrub/Scrub	C/D	
0.6122	Evergreen Forest	C	
1.2994	Shrub/Scrub	C	
12.8978	Shrub/Scrub	B/D	
1.3875	Evergreen Forest	B/D	
4.5926	Herbaceous	B/D	
0.1829	Developed, Medium Intensity	B/D	
10.4449	Woody Wetlands	C/D	
7.0350	Developed, Open Space	B/D	
0.2225	Mixed Forest	B/D	
0.7224	Developed, Low Intensity	B/D	
0.2395	Deciduous Forest	B/D	
0.0419	Woody Wetlands	B/D	
0.0008	Herbaceous	C/D	

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Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.6975	Woody Wetlands	void	
0.9897	Developed, Open Space	C/D	
11.3671	Deciduous Forest	void	
0.9147	Deciduous Forest	C/D	
6.1068	Shrub/Scrub	void	
0.1038	Mixed Forest	void	
3.3297	Herbaceous	void	
1.0433	Developed, Low Intensity	void	
0.1699	Developed, Open Space	void	

Comment:

Manual Basin: KC#5

Scenario: PRE_01092023
Node: KCM-160
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 25.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 60.3477 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
38.8372	Woody Wetlands	C/D	
0.3646	Evergreen Forest	C/D	
5.3094	Mixed Forest	C/D	
0.1402	Woody Wetlands	B/D	
0.7067	Shrub/Scrub	C/D	
1.8689	Mixed Forest	void	
3.6489	Woody Wetlands	void	
9.4719	Deciduous Forest	void	

Comment:

Manual Basin: KC#6

Scenario: PRE_01092023
Node: KCM-155
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 71.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Peaking Factor: 323.0
Area: 113.8334 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.0454	Hay/Pasture	B/D	
0.5357	Hay/Pasture	C	
0.0383	Woody Wetlands	C	
1.7686	Evergreen Forest	C	
6.1304	Evergreen Forest	B/D	
28.1267	Woody Wetlands	B/D	
4.2954	Herbaceous	B/D	
11.0652	Barren Land	B/D	
2.9663	Evergreen Forest	C/D	
0.0293	Hay/Pasture	C/D	
25.3273	Woody Wetlands	C/D	
3.9061	Barren Land	C/D	
0.0334	Open Water	C/D	
0.0618	Open Water	B/D	
0.9098	Mixed Forest	B/D	
0.4961	Mixed Forest	C/D	
0.9132	Emergent Herbaceous Wetlands	B/D	
0.5072	Emergent Herbaceous Wetlands	C/D	
10.3660	Woody Wetlands	void	
11.7066	Mixed Forest	void	
1.5250	Herbaceous	void	
3.0795	Deciduous Forest	void	

Comment:

Node: BCM-0

Scenario: PRE_01092023
Type: Time/Stage
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 5.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	6.18
0	0	0	400.0000	6.18

Comment: T&H NO EDIT

Node: BCM-5

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 5.00 ft

Comment: T&H NO EDIT

Node: BCT1-10

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.00 ft

Comment: T&H NO EDIT

Node: BCT1-100

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 9.00 ft

Comment: T&H NO EDIT

Node: BCT1-110

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 8.00 ft

Comment: T&H NO EDIT

Node: BCT1-115

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 7.91 ft
Warning Stage: 12.00 ft

Comment: T&H NO EDIT

Node: BCT1-120

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 7.96 ft
Warning Stage: 16.00 ft

Comment: T&H NO EDIT

Node: BCT1-125

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 10.89 ft
Warning Stage: 19.00 ft

Comment: T&H NO EDIT

Node: BCT1-130

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 11.43 ft
Warning Stage: 18.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	11.4300	497891
900.00	11.4300	497891

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Node: BCT1-135

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 12.90 ft
Warning Stage: 20.00 ft

Comment:

Node: BCT1-140

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 12.90 ft
Warning Stage: 17.00 ft

Stage [ft]	Area [ac]	Area [ft2]
12.00	0.0010	44
17.00	0.0010	44

Comment:

Node: BCT1-150

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 12.90 ft
Warning Stage: 16.00 ft

Comment:

Node: BCT1-160

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 12.89 ft
Warning Stage: 17.00 ft

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Node: BCT1-165

Scenario:	PRE_01092023
Type:	Stage/Area
Base Flow:	0.000 cfs
Initial Stage:	13.02 ft
Warning Stage:	16.63 ft

Comment:

Node: BCT1-170

Scenario:	PRE_01092023
Type:	Stage/Area
Base Flow:	0.000 cfs
Initial Stage:	14.22 ft
Warning Stage:	0.00 ft

Comment:

Node: BCT1-175

Scenario:	PRE_01092023
Type:	Stage/Area
Base Flow:	0.000 cfs
Initial Stage:	14.22 ft
Warning Stage:	0.00 ft

Comment:

Node: BCT1-180

Scenario:	PRE_01092023
Type:	Stage/Area
Base Flow:	0.000 cfs
Initial Stage:	14.22 ft
Warning Stage:	0.00 ft

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Node: BCT1-185

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 15.88 ft
Warning Stage: 0.00 ft

Comment:

Node: BCT1-195

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 15.23 ft
Warning Stage: 0.00 ft

Comment: 15.88

Node: BCT1-20

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.00 ft

Comment: T&H NO EDIT

Node: BCT1-200

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 15.33 ft
Warning Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
20.00	0.0010	44

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Node: BCT1-205

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 15.33 ft
Warning Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
20.00	0.0010	44

Comment:

Node: BCT1-250

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 14.45 ft
Warning Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
14.00	0.0010	44
20.00	0.0010	44

Comment:

Node: BCT1-30

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 7.00 ft

Comment: T&H NO EDIT

Node: BCT1-40

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 7.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Comment: T&H NO EDIT

Node: BCT1-50

Scenario:	PRE_01092023
Type:	Stage/Area
Base Flow:	0.000 cfs
Initial Stage:	6.18 ft
Warning Stage:	9.00 ft

Comment: T&H NO EDIT

Node: BCT1-60

Scenario:	PRE_01092023
Type:	Stage/Area
Base Flow:	0.000 cfs
Initial Stage:	6.18 ft
Warning Stage:	9.00 ft

Comment: T&H NO EDIT

Node: BCT1-70

Scenario:	PRE_01092023
Type:	Stage/Area
Base Flow:	0.000 cfs
Initial Stage:	6.18 ft
Warning Stage:	12.00 ft

Comment: T&H NO EDIT

Node: BCT1-80

Scenario:	PRE_01092023
Type:	Stage/Area
Base Flow:	0.000 cfs
Initial Stage:	6.18 ft
Warning Stage:	9.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Comment: T&H NO EDIT

Node: BCT1-90

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 8.00 ft

Comment: T&H NO EDIT

Node: CH#3

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: EXISTING POND

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 17.00 ft
Warning Stage: 20.00 ft

Stage [ft]	Area [ac]	Area [ft2]
11.00	0.4000	17424
15.00	0.8100	35284
20.00	1.2400	54014

Comment: N.W.L. from T&H plan drawings for Rice Hope North Mulberry Boulevard Phase 2

Node: EXISTING SOUTH OUTFALL

Scenario: PRE_01092023

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 15.58 ft
Warning Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
20.00	0.0010	44

Comment:

Node: KCM-0

Scenario: PRE_01092023
Type: Time/Stage
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 5.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	6.18
0	0	0	400.0000	6.18

Comment: T&H NO EDIT

Node: KCM-10

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 5.00 ft

Comment: T&H NO EDIT

Node: KCM-120

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 10.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Comment:

Node: KCM-125

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 10.00 ft

Comment:

Node: KCM-130

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 9.00 ft

Comment:

Node: KCM-135

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 9.00 ft

Comment:

Node: KCM-139

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 8.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Comment:

Node: KCM-145

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 8.00 ft

Comment:

Node: KCM-150

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 8.00 ft

Comment:

Node: KCM-155

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 9.00 ft

Comment:

Node: KCM-160

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 7.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Comment:

Node: KCM-165

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 10.00 ft

Comment:

Node: KCM-170

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 10.00 ft

Comment:

Node: KCM-175

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 7.63 ft
Warning Stage: 9.00 ft

Comment:

Node: KCM-180

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 8.25 ft
Warning Stage: 10.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Comment:

Node: KCM-185

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 8.59 ft
Warning Stage: 10.00 ft

Comment:

Node: KCM-193

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 9.25 ft
Warning Stage: 11.00 ft

Comment:

Node: KCM-20

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.00 ft

Comment: T&H NO EDIT

Node: KCM-30

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Comment: T&H NO EDIT

Node: KCM-40

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 5.00 ft

Comment: T&H NO EDIT

Node: KCM-50

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 5.00 ft

Comment: T&H NO EDIT

Node: KCM-54

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 5.00 ft

Comment: T&H NO EDIT

Node: KCM-56

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 0.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Comment: T&H NO EDIT

Node: KCM-60

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 5.00 ft

Comment: T&H NO EDIT

Node: KCT1-10

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.37 ft
Warning Stage: 10.00 ft

Comment:

Node: KCT1-14

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 8.00 ft
Warning Stage: 10.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-5.00	0.0010	44
10.00	0.0010	44

Comment:

Node: KCT1-14.5

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Initial Stage: 8.00 ft
Warning Stage: 10.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-10.00	0.0060	261
20.00	0.0060	261

Comment:

Node: KCT1-15

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 8.00 ft
Warning Stage: 11.00 ft

Stage [ft]	Area [ac]	Area [ft2]
6.00	0.0010	44
-5.00	0.0010	44

Comment:

Node: KCT1-5

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 9.00 ft

Comment:

Node: MID-10

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 14.52 ft
Warning Stage: 18.00 ft

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Node: MID-15

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 16.00 ft
Warning Stage: 19.00 ft

Comment:

Node: MIDDLE PONDING AREA

Scenario: PRE_01092023
Type: Stage/Volume
Base Flow: 0.000 cfs
Initial Stage: 14.09 ft
Warning Stage: 18.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
13.55	0.00	0
14.13	0.02	697
14.28	0.05	2265
14.40	0.12	5097
14.52	0.24	10367
14.62	0.41	17685
14.70	0.63	27530
14.78	0.93	40554
14.86	1.36	59154
14.94	1.90	82851
15.09	3.36	146318
15.25	5.41	235616
15.41	8.24	358804
15.68	13.57	590891
15.98	20.51	893328
16.29	28.48	1240415
16.57	36.69	1598304
16.86	45.76	1993480
17.13	54.63	2379857
17.41	65.35	2846690
17.67	75.56	3291350
18.08	94.59	4120428
18.51	116.66	5081797
18.99	144.19	6280960
19.54	178.08	7757165
20.02	209.67	9133356
20.68	254.51	11086281
22.46	379.93	16549925
23.46	451.01	19645996

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Comment:

Node: PONDING AREA A

Scenario: PRE_01092023
Type: Stage/Volume
Base Flow: 0.000 cfs
Initial Stage: 10.22 ft
Warning Stage: 15.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
12.84	0.00	0
13.50	0.01	305
13.81	0.05	2309
13.91	0.10	4225
13.99	0.16	7100
14.05	0.27	11543
14.11	0.40	17511
14.18	0.62	27181
14.23	0.92	39988
14.34	1.76	76840
14.44	3.04	132379
14.55	4.86	211484
14.73	8.57	373266
14.94	13.64	594115
15.46	28.74	1251958
16.04	47.35	2062566
16.74	71.51	3115150
17.43	96.90	4220877
17.94	117.32	5110241
18.65	148.58	6472145
19.34	180.92	7880919
19.91	209.00	9104171
20.52	241.53	10521221
21.14	275.45	11998733
22.21	336.58	14661468
23.21	393.51	17141165

Comment:

Node: PONDING AREA B

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 8.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Warning Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
4.70	0.0010	44
6.00	0.0400	1742
7.00	0.3900	16988
8.00	2.0300	88427
9.00	5.5700	242629
10.00	8.7900	382892
11.00	16.1800	704801
12.00	23.0500	1004058
13.00	29.3500	1278486

Comment:

Node: SOUTH PONDING AREA

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 14.45 ft
Warning Stage: 17.00 ft

Stage [ft]	Area [ac]	Area [ft2]
12.25	0.0100	436
13.00	0.0100	436
14.00	0.0300	1307
15.00	17.1700	747925
16.00	35.5000	1546380
17.00	47.1500	2053854

Comment:

Node: SOUTH-100

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 8.20 ft

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Node: SOUTH-150

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.28 ft

Comment:

Node: SOUTH-200

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.21 ft

Comment:

Node: SOUTH-250

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 8.08 ft

Comment:

Node: SOUTH-300

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 9.64 ft
Warning Stage: 12.49 ft

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Node: SOUTH-350

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 11.33 ft
Warning Stage: 13.80 ft

Comment:

Node: SOUTH-400

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 12.90 ft
Warning Stage: 15.05 ft

Comment:

Node: SOUTH-450

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 12.90 ft
Warning Stage: 16.77 ft

Comment:

Node: SOUTH-50

Scenario: PRE_01092023
Type: Time/Stage
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 3.88 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	6.18
0	0	0	500.0000	6.18

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Comment:

Node: SOUTH-500

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 13.44 ft
Warning Stage: 16.95 ft

Comment:

Node: SOUTH-550

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 14.90 ft
Warning Stage: 18.98 ft

Comment:

Node: SOUTH-600

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 16.60 ft
Warning Stage: 20.00 ft

Comment:

Node: SOUTH-650

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 15.58 ft
Warning Stage: 18.83 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
20.00	0.0010	44

Comment:

Node: SOUTH-750

Scenario: PRE_01092023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 15.58 ft
Warning Stage: 0.00 ft

Comment:

Channel Link: BCM5-0		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	0.50 ft	Invert:	0.00 ft
From Node:	BCM-5	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCM-0	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCM-5	Cross Section:	BCM-0
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Pipe Link: BCT1-170-165P		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	14.40 ft	Invert:	14.40 ft
From Node:	BCT1-170	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	BCT1-165	Geometry:	Circular	Geometry:	Circular
Link Count:	4	Max Depth:	1.30 ft	Max Depth:	2.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	65.00 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Entr Loss Coef:	0.20	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: ELEVATION AND SIZE NOT VERIFIED.

Channel Link: BCT110-BCM5		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	2.36 ft	Invert:	0.50 ft
From Node:	BCT1-10	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCM-5	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-10	Cross Section:	BCT1-5
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: BCT1100-90		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	4.97 ft	Invert:	3.86 ft
From Node:	BCT1-100	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-90	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-100	Cross Section:	BCT1-90
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

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Channel Link: BCT1110-100		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	6.09 ft	Invert:	4.97 ft
From Node:	BCT1-110	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-100	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-110	Cross Section:	BCT1-100
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Pipe Link: BCT1115-110		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	7.90 ft	Invert:	6.22 ft
From Node:	BCT1-115	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	BCT1-110	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:	60.00 ft	Op Table:		Op Table:	
FHWA Code:	0	Ref Node:		Ref Node:	
Entr Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: T&H NO EDIT

Channel Link: BCT1120-115		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	7.96 ft	Invert:	7.91 ft
From Node:	BCT1-120	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-115	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-120	Cross Section:	BCT1-115
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				

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Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Comment: T&H NO EDIT

Channel Link: BCT1125-120		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	10.89 ft	Invert:	7.96 ft
From Node:	BCT1-125	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-120	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-125	Cross Section:	BCT1-120
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: BCT1130-125		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	11.43 ft	Invert:	10.89 ft
From Node:	BCT1-130	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-125	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-130	Cross Section:	BCT1-125
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: BCT1135-130		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	12.90 ft	Invert:	11.43 ft

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From Node:	BCT1-135	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-130	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-135	Cross Section:	BCT1-130
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Pipe Link: BCT1140-135		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	12.75 ft	Invert:	12.75 ft
From Node:	BCT1-140	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	BCT1-135	Geometry:	Rectangular	Geometry:	Rectangular
Link Count:	1	Max Depth:	4.00 ft	Max Depth:	4.00 ft
Flow Direction:	Both	Max Width:	4.00 ft	Max Width:	4.00 ft
Damping:	0.0000 ft	Fillet:	0.00 ft	Fillet:	0.00 ft
Length:	260.00 ft	Bottom Clip			
FHWA Code:	9	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.20	Op Table:		Op Table:	
Exit Loss Coef:	1.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec	Top Clip			
Energy Switch:	Energy	Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Channel Link: BCT1150-140		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	12.51 ft	Invert:	12.34 ft
From Node:	BCT1-150	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-140	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-150	Cross Section:	BCT1-140
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1739.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				

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Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Comment:

Channel Link: BCT1160-150		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	12.89 ft	Invert:	12.51 ft
From Node:	BCT1-160	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-150	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-160	Cross Section:	BCT1-150
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	662.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: BCT1165-160		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	13.02 ft	Invert:	12.89 ft
From Node:	BCT1-165	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-160	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-165	Cross Section:	BCT1-160
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Weir Link: BCT1170-165		
Scenario:	PRE_01092023	Bottom Clip

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From Node:	BCT1-170
To Node:	BCT1-165
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Broad Crested Vertical
Geometry Type:	Irregular
Invert:	14.22 ft
Control Elevation:	14.22 ft
Cross Section:	BCT1-163 WEIR

Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients

Weir Default:	2.800
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment:

Channel Link: BCT1175-170

Scenario:	PRE_01092023
From Node:	BCT1-175
To Node:	BCT1-170
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Length:	1158.00 ft
Contraction Coef:	0.10
Expansion Coef:	0.30
Entr Loss Coef:	0.00
Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Upstream		Downstream	
Invert:	14.31 ft	Invert:	13.02 ft
Manning's N:	0.0000	Manning's N:	0.0000
Geometry:	Irregular	Geometry:	Irregular
Cross Section:	BCT1-175	Cross Section:	BCT1-170

Comment:

Pipe Link: BCT1180-175

Scenario:	PRE_01092023
From Node:	BCT1-180
To Node:	BCT1-175
Link Count:	4
Flow Direction:	Both
Damping:	0.0000 ft
Length:	90.00 ft
FHWA Code:	3
Entr Loss Coef:	0.20
Exit Loss Coef:	1.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec

Upstream		Downstream	
Invert:	14.15 ft	Invert:	13.79 ft
Manning's N:	0.0130	Manning's N:	0.0130
Geometry:	Circular	Geometry:	Circular
Max Depth:	1.50 ft	Max Depth:	1.50 ft
Bottom Clip			
Default:	0.00 ft	Default:	0.00 ft
Op Table:		Op Table:	
Ref Node:		Ref Node:	
Manning's N:	0.0000	Manning's N:	0.0000
Top Clip			
Default:	0.00 ft	Default:	0.00 ft
Op Table:		Op Table:	

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

Comment:

Channel Link: BCT1185-180		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	15.88 ft	Invert:	14.71 ft
From Node:	BCT1-185	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-180	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-185	Cross Section:	BCT1-180
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	600.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: BCT1195-185		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	15.23 ft	Invert:	15.88 ft
From Node:	BCT1-195	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-185	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-195	Cross Section:	BCT1-185
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	950.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: BCT120-10		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	3.71 ft	Invert:	2.62 ft
From Node:	BCT1-20	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-10	Geometry:	Irregular	Geometry:	Irregular

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Link Count:	1	Cross Section:	BCT1-20	Cross Section:	BCT1-10
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: BCT1200-195		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	15.50 ft	Invert:	15.23 ft
From Node:	BCT1-200	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-195	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-200	Cross Section:	BCT1-195
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	480.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: BCT1200-SOUTH750		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	15.50 ft	Invert:	15.58 ft
From Node:	BCT1-200	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-750	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	SOUTH-750	Cross Section:	SOUTH-750
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	550.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

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Comment:

Pipe Link: BCT1205-200		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	14.48 ft	Invert:	14.33 ft
From Node:	BCT1-205	Manning's N:	0.0350	Manning's N:	0.0350
To Node:	BCT1-200	Geometry:	Circular	Geometry:	Circular
Link Count:	1	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Flow Direction:	Positive	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	97.00 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	0.20	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Channel Link: BCT1250-205		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	14.85 ft	Invert:	15.33 ft
From Node:	BCT1-250	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-205	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-250	Cross Section:	BCT1-205
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	440.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: BCT130-20		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	3.67 ft	Invert:	3.71 ft
From Node:	BCT1-30	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-20	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-30	Cross Section:	BCT1-20
Flow Direction:	Both				

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Damping:	0.0000 ft
Length:	1000.00 ft
Contraction Coef:	0.00
Expansion Coef:	0.00
Entr Loss Coef:	0.00
Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Comment: T&H NO EDIT

Channel Link: BCT140-30		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	4.15 ft	Invert:	3.67 ft
From Node:	BCT1-40	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-30	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-40	Cross Section:	BCT1-30
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: BCT150-40		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	4.08 ft	Invert:	4.15 ft
From Node:	BCT1-50	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-40	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-50	Cross Section:	BCT1-40
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

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Channel Link: BCT160-50		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	3.12 ft	Invert:	4.08 ft
From Node:	BCT1-60	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-50	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-60	Cross Section:	BCT1-50
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: BCT170-60		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	3.14 ft	Invert:	3.12 ft
From Node:	BCT1-70	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-60	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-70	Cross Section:	BCT1-60
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: BCT180-70		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	4.03 ft	Invert:	3.14 ft
From Node:	BCT1-80	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-70	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-80	Cross Section:	BCT1-70
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				

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Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Comment: T&H NO EDIT

Channel Link: BCT190-80		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	3.86 ft	Invert:	4.03 ft
From Node:	BCT1-90	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-80	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-90	Cross Section:	BCT1-80
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Drop Structure Link: EX POND-SOUTHOUTFALL		Upstream Pipe		Downstream Pipe	
Scenario:	PRE_01092023	Invert:	11.25 ft	Invert:	10.98 ft
From Node:	EXISTING POND	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	EXISTING SOUTH OUTFALL	Geometry:	Circular	Geometry:	Circular
Link Count:	1	Max Depth:	2.50 ft	Max Depth:	2.50 ft
Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	0	Op Table:		Op Table:	
Pipe Count:	1	Ref Node:		Ref Node:	
Damping:	0.0000 ft	Manning's N:	0.0000	Manning's N:	0.0000
Length:	50.00 ft	Top Clip			
FHWA Code:	3	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.20	Op Table:		Op Table:	
Exit Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Pipe Comment:

Weir Component

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Weir:	1
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Circular
Invert:	17.00 ft
Control Elevation:	16.00 ft
Max Depth:	10.00 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:	

Weir Comment:

Drop Structure Comment:

Weir Link: I&D NORTH OVER

Scenario:	PRE_01092023
From Node:	KCT1-14.5
To Node:	KCT1-14
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Irregular
Invert:	9.19 ft
Control Elevation:	9.19 ft
Cross Section:	SOUTH_I&D_TOP

Bottom Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients

Weir Default:	2.800
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment:

Weir Link: I&D NORTH UNDER

Scenario:	PRE_01092023
From Node:	KCT1-14.5
To Node:	KCT1-14
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Rectangular
Invert:	3.90 ft
Control Elevation:	3.90 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:	2.800

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Max Depth:	1.00 ft		
Max Width:	6.00 ft	Weir Table:	
Fillet:	0.00 ft	Orifice Default:	0.600
		Orifice Table:	

Comment: 9.19-48"= 5.19*1'= 4.19 (top of pipe is 9.19, minus 50.8" pipe for ductal iron pipe, minus 1 ft to get to top of next pipe
was 4.7

Weir Link: I&D SOUTH OVER

Scenario:	PRE_01092023	**Bottom Clip**	
From Node:	EXISTING SOUTH OUTFALL	Default:	0.00 ft
To Node:	SOUTH-650	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Irregular	Ref Node:	
Invert:	16.75 ft	**Discharge Coefficients**	
Control Elevation:	16.75 ft	Weir Default:	2.800
Cross Section:	SOUTH_I&D_TOP	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Comment:

Weir Link: I&D SOUTH UNDER

Scenario:	PRE_01092023	**Bottom Clip**	
From Node:	EXISTING SOUTH OUTFALL	Default:	0.00 ft
To Node:	SOUTH-650	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Horizontal	Op Table:	
Geometry Type:	Rectangular	Ref Node:	
Invert:	11.17 ft	**Discharge Coefficients**	
Control Elevation:	11.17 ft	Weir Default:	2.800
Max Depth:	1.50 ft	Weir Table:	
Max Width:	6.00 ft	Orifice Default:	0.600
Fillet:	0.00 ft	Orifice Table:	

Comment:

Channel Link: KCM10-0	Upstream	Downstream
Scenario: PRE_01092023	Invert: -5.94 ft	Invert: -11.18 ft

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From Node:	KCM-10	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-0	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-10_B	Cross Section:	KCM-0_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: KCM120-60		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	-0.04 ft	Invert:	-2.31 ft
From Node:	KCM-120	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-60	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-120	Cross Section:	KCM-60_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	6000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCM125-120		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	4.05 ft	Invert:	-0.40 ft
From Node:	KCM-125	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-120	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-125_B	Cross Section:	KCM-120
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	925.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				

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Bend Location:	0.00 dec
Energy Switch:	Energy

Comment:

Channel Link: KCM130-125		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	3.14 ft	Invert:	4.05 ft
From Node:	KCM-130	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-125	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-130_B	Cross Section:	KCM-125_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	75.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: DOWNSTREAM SAME AS T&H STUDY

Channel Link: KCM135-130		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	3.46 ft	Invert:	3.14 ft
From Node:	KCM-135	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-130	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-135	Cross Section:	KCM-130_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	400.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCM139-135		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	2.70 ft	Invert:	3.46 ft
From Node:	KCM-139	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-135	Geometry:	Irregular	Geometry:	Irregular

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Link Count:	1	Cross Section:	KCM-139	Cross Section:	KCM-135
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	400.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCM145-139		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	2.77 ft	Invert:	2.70 ft
From Node:	KCM-145	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-139	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-145	Cross Section:	KCM-139
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	600.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCM150-145		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	1.50 ft	Invert:	2.77 ft
From Node:	KCM-150	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-145	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-150	Cross Section:	KCM-145
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

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Comment:

Channel Link: KCM155-150		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	3.69 ft	Invert:	1.50 ft
From Node:	KCM-155	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-150	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-155	Cross Section:	KCM-150
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCM160-155		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	4.46 ft	Invert:	3.69 ft
From Node:	KCM-160	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-155	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-160	Cross Section:	KCM-155
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCM165-160		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	3.46 ft	Invert:	3.23 ft
From Node:	KCM-165	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-160	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-165	Cross Section:	KCM-160
Flow Direction:	Both				

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Damping:	0.0000 ft
Length:	500.00 ft
Contraction Coef:	0.00
Expansion Coef:	0.00
Entr Loss Coef:	0.00
Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Comment:

Channel Link: KCM170-165		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	5.92 ft	Invert:	3.46 ft
From Node:	KCM-170	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-165	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-170	Cross Section:	KCM-165
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCM175-170		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	7.63 ft	Invert:	5.92 ft
From Node:	KCM-175	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-170	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-175	Cross Section:	KCM-170
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

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Channel Link: KCM180-175		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	8.25 ft	Invert:	7.63 ft
From Node:	KCM-180	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-175	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-180	Cross Section:	KCM-175
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Comment:					

Channel Link: KCM185-180		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	8.59 ft	Invert:	8.25 ft
From Node:	KCM-185	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-180	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-185	Cross Section:	KCM-180
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Comment:					

Channel Link: KCM193-185		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	9.25 ft	Invert:	8.59 ft
From Node:	KCM-193	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-185	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-193	Cross Section:	KCM-185
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	800.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				

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Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Comment:

Channel Link: KCM20-10		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	-4.91 ft	Invert:	-5.94 ft
From Node:	KCM-20	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-10	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-20_B	Cross Section:	KCM-10_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: KCM30-20		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	-5.88 ft	Invert:	-4.91 ft
From Node:	KCM-30	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-20	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-30_B	Cross Section:	KCM-20_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: KCM40-30		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	-4.81 ft	Invert:	-5.88 ft

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From Node:	KCM-40	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-30	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-40_B	Cross Section:	KCM-30_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: KCM50-40		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	-3.64 ft	Invert:	-4.81 ft
From Node:	KCM-50	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-40	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-50_B	Cross Section:	KCM-40_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: KCM54-50		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	-2.66 ft	Invert:	-3.64 ft
From Node:	KCM-54	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-50	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-54_B	Cross Section:	KCM-50_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	400.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				

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Bend Location:	0.00 dec
Energy Switch:	Energy

Comment: T&H NO EDIT

Channel Link: KCM56-54		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	-2.31 ft	Invert:	-2.66 ft
From Node:	KCM-56	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-54	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-56_B	Cross Section:	KCM-54_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	200.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: KCM60-56		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	-1.44 ft	Invert:	-2.31 ft
From Node:	KCM-60	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-56	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-60_B	Cross Section:	KCM-56_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	400.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: KCT110-5		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	6.37 ft	Invert:	4.99 ft
From Node:	KCT1-10	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCT1-5	Geometry:	Irregular	Geometry:	Irregular

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Link Count:	1	Cross Section:	KCT1-10	Cross Section:	KCT1-5
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCT114-10		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	8.00 ft	Invert:	6.37 ft
From Node:	KCT1-14	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCT1-10	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCT1-14	Cross Section:	KCT1-10
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	400.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Pipe Link: KCT115-14.5		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	6.08 ft	Invert:	5.49 ft
From Node:	KCT1-15	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	KCT1-14.5	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:	20.00 ft	Op Table:		Op Table:	
FHWA Code:	48	Ref Node:		Ref Node:	
Entr Loss Coef:	0.90	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.03	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

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Comment:

Channel Link: KCT120-15		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	7.94 ft	Invert:	7.85 ft
From Node:	PONDING AREA B	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCT1-15	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCT1-20	Cross Section:	KCT1-15
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCT15-KCM160		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	4.99 ft	Invert:	5.98 ft
From Node:	KCT1-5	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-160	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCT1-5	Cross Section:	KCT1-0
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Weir Link: LAKESIDE BLVD OVERFLOW			
Scenario:	PRE_01092023	Bottom Clip	
From Node:	BCT1-180	Default:	0.00 ft
To Node:	BCT1-175	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	

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Damping:	0.0000 ft		
Weir Type:	Broad Crested Vertical	Default:	0.00 ft
Geometry Type:	Irregular	Op Table:	
Invert:	18.32 ft	Ref Node:	
Control Elevation:	18.32 ft	**Discharge Coefficients**	
Cross Section:	LAKESIDE BLVD.	Weir Default:	2.800
		Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Comment:

Channel Link: MID10-10		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	14.52 ft	Invert:	12.15 ft
From Node:	MID-10	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-450	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	MID-10	Cross Section:	MID-5
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1038.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: MID15-10		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	16.00 ft	Invert:	14.52 ft
From Node:	MID-15	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	MID-10	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	MID-15	Cross Section:	MID-10
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	659.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Weir Link: MIDDLE ROAD OVER I&D			
Scenario:	PRE_01092023	Bottom Clip	
From Node:	MIDDLE PONDING AREA	Default:	0.00 ft
To Node:	MID-15	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	17.72 ft	Discharge Coefficients	
Control Elevation:	17.72 ft	Weir Default:	3.000
Max Depth:	10.00 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	20.00 ft	Orifice Table:	
Left Slope:	3.000 (h:v)		
Right Slope:	3.000 (h:v)		
Comment:			

Weir Link: MIDDLE ROAD UNDER I&D			
Scenario:	PRE_01092023	Bottom Clip	
From Node:	MIDDLE PONDING AREA	Default:	0.00 ft
To Node:	MID-15	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	None	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Rectangular	Ref Node:	
Invert:	13.22 ft	Discharge Coefficients	
Control Elevation:	13.22 ft	Weir Default:	2.800
Max Depth:	2.00 ft	Weir Table:	
Max Width:	10.00 ft	Orifice Default:	0.600
Fillet:	0.00 ft	Orifice Table:	
Comment: MIDDLE OUTFALL FROM NEILS MODEL			

Weir Link: MIDDLE_POND-SOUTH_POND			
Scenario:	PRE_01092023	Bottom Clip	
From Node:	MIDDLE PONDING AREA	Default:	0.00 ft
To Node:	SOUTH PONDING AREA	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Irregular	Ref Node:	
Invert:	14.45 ft	Discharge Coefficients	
Control Elevation:	14.45 ft	Weir Default:	1.500

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Cross Section:	MIDDLE_POND-SOUTH_POND		
		Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Comment:

Pipe Link: PONDING AREA A-B		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	10.22 ft	Invert:	10.22 ft
From Node:	CH#3	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	PONDING AREA B	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:	48	Ref Node:		Ref Node:	
Entr Loss Coef:	0.20	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	Top Clip			
Bend Loss Coef:	0.02	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: RH PLANTATION DR.

Weir Link: PONDING AREA A-B ROAD			
Scenario:	PRE_01092023	Bottom Clip	
From Node:	CH#3	Default:	0.00 ft
To Node:	PONDING AREA B	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	14.75 ft	Discharge Coefficients	
Control Elevation:	14.75 ft	Weir Default:	3.000
Max Depth:	10.00 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	400.00 ft	Orifice Table:	
Left Slope:	6.000 (h:v)		
Right Slope:	6.000 (h:v)		

Comment:

Weir Link: POND_A-MIDDLE_POND

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Scenario:	PRE_01092023
From Node:	PONDING AREA A
To Node:	MIDDLE PONDING AREA
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Broad Crested Vertical
Geometry Type:	Irregular
Invert:	14.09 ft
Control Elevation:	14.09 ft
Cross Section:	POND_A-MIDDLE_POND

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

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

Discharge Coefficients	
Weir Default:	1.500
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment:

Weir Link: RICE HOPE RD

Scenario:	PRE_01092023
From Node:	CH#3
To Node:	PONDING AREA B
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Broad Crested Vertical
Geometry Type:	Irregular
Invert:	14.16 ft
Control Elevation:	1416.00 ft
Cross Section:	RICE HOPE RD

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

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

Discharge Coefficients	
Weir Default:	2.800
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment:

Channel Link: SOUTH100-50

Scenario:	PRE_01092023
From Node:	SOUTH-100
To Node:	SOUTH-50
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Length:	396.00 ft
Contraction Coef:	0.10
Expansion Coef:	0.30
Entr Loss Coef:	0.00
Exit Loss Coef:	0.00
Bend Loss Coef:	0.00

Upstream	
Invert:	2.57 ft
Manning's N:	0.0000
Geometry:	Irregular
Cross Section:	SOUTH-100

Downstream	
Invert:	2.61 ft
Manning's N:	0.0000
Geometry:	Irregular
Cross Section:	SOUTH-50

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Bend Location:	0.00 dec
Energy Switch:	Energy

Comment:

Pipe Link: SOUTH150-100		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	2.78 ft	Invert:	2.57 ft
From Node:	SOUTH-150	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	SOUTH-100	Geometry:	Rectangular	Geometry:	Rectangular
Link Count:	1	Max Depth:	4.00 ft	Max Depth:	4.00 ft
Flow Direction:	Both	Max Width:	4.00 ft	Max Width:	4.00 ft
Damping:	0.0000 ft	Fillet:	0.00 ft	Fillet:	0.00 ft
Length:	400.00 ft	Bottom Clip			
FHWA Code:	3	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.20	Op Table:		Op Table:	
Exit Loss Coef:	1.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec	Top Clip			
Energy Switch:	Energy	Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: NEED SURVEY INFORMATION. I HAVE NO IDEA WHAT SIZE THIS BOX IS. CAN SEE IT FROM THE IMAGE

Channel Link: SOUTH200-150		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	3.75 ft	Invert:	2.78 ft
From Node:	SOUTH-200	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-150	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	SOUTH-200	Cross Section:	SOUTH-150
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	719.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: SOUTH250-200		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	3.70 ft	Invert:	3.75 ft

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From Node:	SOUTH-250	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-200	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	SOUTH-250	Cross Section:	SOUTH-200
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	492.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Weir Link: SOUTH250-KCM139

Scenario:	PRE_01092023	**Bottom Clip**	
From Node:	SOUTH-250	Default:	0.00 ft
To Node:	KCM-139	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Irregular	Ref Node:	
Invert:	7.22 ft	**Discharge Coefficients**	
Control Elevation:	7.22 ft	Weir Default:	2.800
Cross Section:	X-0610W	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Comment:

Channel Link: SOUTH300-250

		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	9.64 ft	Invert:	3.70 ft
From Node:	SOUTH-300	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-250	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	SOUTH-300	Cross Section:	SOUTH-250
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	902.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				

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Energy Switch: Energy

Comment:

Channel Link: SOUTH350-300		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	11.33 ft	Invert:	9.64 ft
From Node:	SOUTH-350	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-300	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	SOUTH-350	Cross Section:	SOUTH-300
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	656.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: SOUTH400-350		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	12.90 ft	Invert:	11.33 ft
From Node:	SOUTH-400	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-350	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	SOUTH-400	Cross Section:	SOUTH-350
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	440.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: SOUTH450-400		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	11.96 ft	Invert:	12.90 ft
From Node:	SOUTH-450	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-400	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	SOUTH-450	Cross Section:	SOUTH-400

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Flow Direction:	Both
Damping:	0.0000 ft
Length:	636.00 ft
Contraction Coef:	0.10
Expansion Coef:	0.30
Entr Loss Coef:	0.00
Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Comment:

Channel Link: SOUTH500-450		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	13.44 ft	Invert:	11.96 ft
From Node:	SOUTH-500	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-450	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	SOUTH-500	Cross Section:	SOUTH-450
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	810.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: SOUTH550-500		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	14.90 ft	Invert:	13.44 ft
From Node:	SOUTH-550	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-500	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	SOUTH-550	Cross Section:	SOUTH-500
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	382.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

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Channel Link: SOUTH600-550		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	16.60 ft	Invert:	14.90 ft
From Node:	SOUTH-600	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-550	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	SOUTH-600	Cross Section:	SOUTH-550
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	752.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Comment:					

Channel Link: SOUTH650-600		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	15.05 ft	Invert:	16.60 ft
From Node:	SOUTH-650	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-600	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	SOUTH-650	Cross Section:	SOUTH-600
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	517.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Comment:					

Channel Link: SOUTH750-EX_SOUTH_OUTFALL		Upstream		Downstream	
		Invert:	15.58 ft	Invert:	15.51 ft
Scenario:	PRE_01092023	Manning's N:	0.0000	Manning's N:	0.0000
From Node:	SOUTH-750	Geometry:	Irregular	Geometry:	Irregular
To Node:	EXISTING SOUTH OUTFALL	Cross Section:	SOUTH-750	Cross Section:	SOUTH-660
Link Count:	1				
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1150.00 ft				
Contraction Coef:	0.10				

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Expansion Coef:	0.30
Entr Loss Coef:	0.00
Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Comment:

Weir Link: SOUTH_PONDING-BCT1250

Scenario:	PRE_01092023
From Node:	SOUTH PONDING AREA
To Node:	BCT1-250
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Broad Crested Vertical
Geometry Type:	Irregular
Invert:	14.45 ft
Control Elevation:	14.45 ft
Cross Section:	SOUTH-BCT1

Bottom Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients

Weir Default:	1.500
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment:

Weir Link: W_KCT1-15-14.5

Scenario:	PRE_01092023
From Node:	KCT1-15
To Node:	KCT1-14.5
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Broad Crested Vertical
Geometry Type:	Irregular
Invert:	7.80 ft
Control Elevation:	7.80 ft
Cross Section:	KCT1-15-14.5

Bottom Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients

Weir Default:	2.800
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment:

Channel Link: pondingA-ch#3		Upstream		Downstream	
Scenario:	PRE_01092023	Invert:	11.75 ft	Invert:	10.41 ft

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From Node:	PONDING AREA A	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	CH#3	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	South_RHP_DR_DS	Cross Section:	CH#3
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1350.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Simulation: Pre-5-yr_5.38

Scenario: PRE_01092023
Run Date/Time: 1/13/2023 5:11:06 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Resources & Lookup Tables

Resources

Rainfall Folder:	
Unit Hydrograph Folder:	

Lookup Tables

Boundary Stage Set:	10 YEAR
Extern Hydrograph Set:	
Curve Number Set:	CN1
Green-Ampt Set:	
Vertical Layers Set:	
Impervious Set:	IMP SET 1

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	20		
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0001 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft		
Link Optimizer Tol:	0.0000 ft	Rainfall Name:	~SCSIII-24
		Rainfall Amount:	5.38 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
		Dflt Damping (1D):	0.0005 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: Pre_10-yr_6.38

Scenario:	PRE_01092023
Run Date/Time:	1/13/2023 5:17:11 PM
Program Version:	ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set: 10 YEAR
Extern Hydrograph Set:
Curve Number Set: CN1
Green-Ampt Set:
Vertical Layers Set:
Impervious Set: IMP SET 1

Tolerances & Options

Time Marching: SAOR
Max Iterations: 20
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0001 ft
Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0000 ft
Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain Opt: Global
Rainfall Name: ~SCSIII-24
Rainfall Amount: 6.38 in
Storm Duration: 24.0000 hr
Dflt Damping (1D): 0.0005 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Simulation: Pre_100-yr_10.6

Scenario: PRE_01092023
Run Date/Time: 1/13/2023 5:23:08 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set: 100 YEAR
Extern Hydrograph Set:
Curve Number Set: CN1
Green-Ampt Set:
Vertical Layers Set:
Impervious Set: IMP SET 1

Tolerances & Options

Time Marching: SAOR
Max Iterations: 30
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0001 ft

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain: Global

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

		Opt:	
Max dZ:	1.0000 ft		
Link Optimizer Tol:	0.0000 ft	Rainfall Name:	~SCSIII-24
		Rainfall Amount:	10.60 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
		Dflt Damping (1D):	0.0004 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: Pre_2-yr_4.28

Scenario: PRE_01092023
Run Date/Time: 1/13/2023 5:32:04 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Resources		Lookup Tables	
Rainfall Folder:		Boundary Stage Set:	2 YEAR
		Extern Hydrograph Set:	
Unit Hydrograph Folder:		Curve Number Set:	CN1
		Green-Ampt Set:	
		Vertical Layers Set:	
		Impervious Set:	IMP SET 1

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	20		
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0001 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft		
Link Optimizer Tol:	0.0000 ft	Rainfall Name:	~SCSIII-24
		Rainfall Amount:	4.28 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
		Dflt Damping (1D):	0.0005 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: Pre_25-yr_7.91

Scenario: PRE_01092023
Run Date/Time: 1/13/2023 5:38:31 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set: 25 YEAR
Extern Hydrograph Set:
Curve Number Set: CN1
Green-Ampt Set:
Vertical Layers Set:
Impervious Set: IMP SET 1

Tolerances & Options

Time Marching: SAOR
Max Iterations: 20
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0001 ft
Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0000 ft
Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain Opt: Global
Rainfall Name: ~SCSIII-24
Rainfall Amount: 7.91 in
Storm Duration: 24.0000 hr
Dflt Damping (1D): 0.0005 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

Simulation: Pre_50-yr_9.20

Scenario: PRE_01092023

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Run Date/Time: 1/13/2023 5:45:28 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set: 50 YEAR
Extern Hydrograph Set:
Curve Number Set: CN1
Green-Ampt Set:
Vertical Layers Set:
Impervious Set: IMP SET 1

Tolerances & Options

Time Marching: SAOR
Max Iterations: 30
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0001 ft
Max dZ: 1.0000 ft

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain Opt: Global

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Link Optimizer Tol:	0.0000 ft	Rainfall Name:	~SCSIII-24
		Rainfall Amount:	9.20 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
		Dflt Damping (1D):	0.0004 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

ICPR POST-DEVELOPMENT

Appendix G

INPUT DATA

PROJECT

RICE HOPE COMPREHENSIVE STORMWATER STUDY CHATHAM COUNTY, GEORGIA

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Scenario Difference Summary

Existing Project:	G:\Shared drives\Projects\Rice Hope\Rice Hope Composite\Submittal_12202022\ICPR\PRE-DEV01132022\Project.i4p
Existing Scenario:	11202022
Proposed Project:	G:\Shared drives\Projects\Rice Hope\Rice Hope Composite\Submittal_12202022\ICPR\PRE-DEV01132022\Project.i4p
Proposed Scenario:	01192023

Additions

Data Type (Additions)	Count
Simple Basin	3

Simple Basin (Additions)
KC#2 SOUTH
L4
PIPE X-ING

Deletions

Data Type (Deletions)	Count
Manual Basin	3

Manual Basin (Deletions)
KC#2 SOUTH
L4
PIPE XING

Modifications

Data Type (Modifications)	Count
Manual Basin	7
Link (Pipe)	1
Link (Drop Structure)	1
Simulation	5

Manual Basin (Modifications)
BC#18
BC#9
KC#15
KC#2 NORTH
KC#4, KC#7, KC#8
KC#5
L3

Link (Pipe) (Modifications)
PIPE L4-L2*

Link (Drop Structure) (Modifications)
PIPE - CR2

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Simulation (Modifications)
100-yr_10.6
2-yr_4.28
25-yr_7.91
5-yr_5.38
50-yr_9.20

Duplicates

Data Type (Duplicates)	Count
<N/A>	0

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Additions (Detailed)

Proposed Project: G:\Shared drives\Projects\Rice Hope\Rice Hope Composite\Submittal_12202022\ICPR\PRE-DEV01132022\Project.i4p

Proposed Scenario: 01192023

Simple Basin: KC#2 SOUTH

Scenario:	01192023
Node:	L2 Lakeside
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	22.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	19.5700 ac
Curve Number:	81.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: L4

Scenario:	01192023
Node:	L4
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	39.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	20.6800 ac
Curve Number:	87.6
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Simple Basin: PIPE X-ING

Scenario:	01192023
Node:	L2-3rd Lake
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	34.6200 ac
Curve Number:	90.4
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Deletions (Detailed)

Existing Project: G:\Shared drives\Projects\Rice Hope\Rice Hope Composite\Submittal_12202022\ICPR\PRE-DEV01132022\Project.i4p

Existing Scenario: 11202022

Manual Basin: KC#2 SOUTH

Scenario: 11202022
Node: L2-3rd Lake
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 30.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 49.1558 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
31.0717	Developed, Medium Intensity	C/D	
9.9018	Developed, Medium Intensity	B/D	
0.4833	Emergent Herbaceous Wetlands	B/D	
5.5649	Developed, Medium Intensity	C	
0.9871	Evergreen Forest	C/D	
0.0016	Mixed Forest	C/D	
0.6332	Woody Wetlands	C/D	
0.2887	Herbaceous	C/D	
0.1240	Herbaceous	A/D	
0.0995	Developed, Medium Intensity	A/D	

Comment: RICE HOPE LAKESIDE PHASE 20-23 & 29A
INPUT REPORT - POST DEVELOPMENT

DITCH SOUTH
AREA = 97.55
CN = 84
TC = 55

Manual Basin: L4

Scenario: 11202022
Node: L4
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 15.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 10.9920 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
8.4432	Developed, Medium Intensity	B/D	
2.5488	Developed, Medium Intensity	C/D	

Comment:

Manual Basin: PIPE XING

Scenario: 11202022
Node: PIPE XING
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 20.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 14.7227 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
9.3588	Developed, Medium Intensity	C/D	
0.1482	Developed, Medium Intensity	C	
0.1524	Developed, Medium Intensity	A/D	
0.0806	Herbaceous	A/D	
3.1833	Developed, Medium Intensity	B/D	
0.4568	Herbaceous	B/D	
0.2476	Developed, Low Intensity	C/D	
0.5568	Developed, Open Space	C/D	
0.3855	Developed, Low Intensity	B/D	
0.1360	Developed, Open Space	B/D	
0.0168	Shrub/Scrub	C/D	

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Modifications (Detailed)	
Existing Project:	G:\Shared drives\Projects\Rice Hope\Rice Hope Composite\Submittal_12202022\ICPR\PRE-DEV01132022\Project.i4p
Existing Scenario:	11202022
Proposed Project:	G:\Shared drives\Projects\Rice Hope\Rice Hope Composite\Submittal_12202022\ICPR\PRE-DEV01132022\Project.i4p
Proposed Scenario:	01192023

Manual Basin: BC#18

Field	Existing	Proposed
Node	BCT1-140	BCT1-140
Hydrograph Method	NRCS Unit Hydrograph	NRCS Unit Hydrograph
Infiltration Method	Curve Number	Curve Number
Time of Concentration	62.0000 min	62.0000 min
Max Allowable Q	0.000 cfs	0.000 cfs
Time Shift	0.0000 hr	0.0000 hr
Unit Hydrograph	UH323	UH323
Peaking Factor	323.0 dec	323.0 dec

Field	Comment
Existing	
Proposed	

Sub Basin

Field	Existing	Proposed
Area	0.0014 ac	0.0014 ac
Land Cover Zone	Developed, High Intensity	Developed, High Intensity
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	**Existing**	**Proposed**
Area	0.0081 ac	0.0081 ac
Land Cover Zone	Herbaceous	Herbaceous
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	**Existing**	**Proposed**
Area	0.0664 ac	0.0664 ac
Land Cover Zone	Mixed Forest	Mixed Forest
Soil Zone	C/D	C/D
Rainfall Name		

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Field	Existing	Proposed
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.0782 ac	0.0782 ac
Land Cover Zone	Developed, High Intensity	Developed, High Intensity
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.5361 ac	0.5361 ac
Land Cover Zone	Herbaceous	Herbaceous
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.6309 ac	0.6309 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.7640 ac	0.7640 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.9037 ac	0.9037 ac
Land Cover Zone	Developed, Low Intensity	Developed, Low Intensity
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.9962 ac	0.9962 ac
Land Cover Zone	Developed, Open Space	Developed, Open Space
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.1980 ac	1.1981 ac

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Field	Existing	Proposed
Land Cover Zone	Herbaceous	Herbaceous
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.4045 ac	1.4045 ac
Land Cover Zone	Developed, Open Space	Developed, Open Space
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.4963 ac	1.4963 ac
Land Cover Zone	Developed, Medium Intensity	Developed, Medium Intensity
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.4997 ac	1.4997 ac
Land Cover Zone	Developed, Low Intensity	Developed, Low Intensity
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.7964 ac	1.7964 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.8347 ac	1.8347 ac
Land Cover Zone	Developed, Open Space	Developed, Open Space
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	2.1374 ac	2.1374 ac
Land Cover Zone	Developed, Medium Intensity	Developed, Medium Intensity
Soil Zone	C/D	C/D

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Field	Existing	Proposed
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	2.2169 ac	2.2169 ac
Land Cover Zone	Developed, Low Intensity	Developed, Low Intensity
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	2.7242 ac	2.7242 ac
Land Cover Zone	Developed, Medium Intensity	Developed, Medium Intensity
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		

Manual Basin: BC#9

Field	Existing	Proposed
Node	EX LAG	EX LAG
Hydrograph Method	NRCS Unit Hydrograph	NRCS Unit Hydrograph
Infiltration Method	Curve Number	Curve Number
Time of Concentration	25.0000 min	25.0000 min
Max Allowable Q	0.000 cfs	0.000 cfs
Time Shift	0.0000 hr	0.0000 hr
Unit Hydrograph	UH323	UH323
Peaking Factor	323.0 dec	323.0 dec

Field	Comment
Existing	RICE HOPE LAKESIDE PHASE 20-23 & 29A INPUT REPORT - POST DEVELOPMENT B-EX LAG AREA = 138.87 CN = 76 TC = 146
Proposed	RICE HOPE LAKESIDE PHASE 20-23 & 29A INPUT REPORT - POST DEVELOPMENT B-EX LAG AREA = 138.87

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

	CN = 76 TC = 146

Sub Basin

Field	Existing	Proposed
Area	0.0073 ac	0.0073 ac
Land Cover Zone	Open Water	Open Water
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.0139 ac	0.0139 ac
Land Cover Zone	Herbaceous	Herbaceous
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.0561 ac	0.0561 ac
Land Cover Zone	Emergent Herbaceous Wetlands	Emergent Herbaceous Wetlands
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.0616 ac	0.0616 ac
Land Cover Zone	Herbaceous	Herbaceous
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.0668 ac	0.0668 ac
Land Cover Zone	Developed, Low Intensity	Developed, Low Intensity
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.1258 ac	0.1258 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	W	W
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Field	Existing	Proposed
Area	0.1473 ac	0.1473 ac
Land Cover Zone	Barren Land	Barren Land
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.1527 ac	0.1527 ac
Land Cover Zone	Developed, Open Space	Developed, Open Space
Soil Zone	W	W
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.1529 ac	0.1529 ac
Land Cover Zone	Developed, Low Intensity	Developed, Low Intensity
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.1543 ac	0.1543 ac
Land Cover Zone	Woody Wetlands	Woody Wetlands
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.2651 ac	0.2651 ac
Land Cover Zone	Barren Land	Barren Land
Soil Zone	W	W
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.2905 ac	0.2905 ac
Land Cover Zone	Woody Wetlands	Woody Wetlands
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.4793 ac	0.4793 ac
Land Cover Zone	Developed, Low Intensity	Developed, Low Intensity
Soil Zone	W	W
Rainfall Name		

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Field	Existing	Proposed
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.5615 ac	0.5615 ac
Land Cover Zone	Open Water	Open Water
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.5779 ac	0.5779 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.7012 ac	0.7012 ac
Land Cover Zone	Mixed Forest	Mixed Forest
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.7491 ac	0.7491 ac
Land Cover Zone	Developed, Open Space	Developed, Open Space
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.8697 ac	0.8697 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.8771 ac	0.8771 ac
Land Cover Zone	Developed, Open Space	Developed, Open Space
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.9139 ac	0.9139 ac
Land Cover Zone	Developed, Medium	Developed, Medium

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Field	Existing	Proposed
	Intensity	Intensity
Soil Zone	W	W
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.0127 ac	1.0127 ac
Land Cover Zone	Shrub/Scrub	Shrub/Scrub
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.2102 ac	1.2102 ac
Land Cover Zone	Barren Land	Barren Land
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.3292 ac	1.3292 ac
Land Cover Zone	Emergent Herbaceous Wetlands	Emergent Herbaceous Wetlands
Soil Zone	W	W
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.3966 ac	1.3966 ac
Land Cover Zone	Emergent Herbaceous Wetlands	Emergent Herbaceous Wetlands
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	2.4491 ac	2.4491 ac
Land Cover Zone	Open Water	Open Water
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	3.6319 ac	3.6319 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		

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Field	Existing	Proposed
Area	5.7909 ac	5.7909 ac
Land Cover Zone	Developed, Low Intensity	Developed, Low Intensity
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	6.8569 ac	6.8568 ac
Land Cover Zone	Herbaceous	Herbaceous
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	12.5144 ac	12.5144 ac
Land Cover Zone	Developed, Medium Intensity	Developed, Medium Intensity
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	15.6404 ac	15.6404 ac
Land Cover Zone	Developed, Medium Intensity	Developed, Medium Intensity
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	22.6555 ac	22.6555 ac
Land Cover Zone	Open Water	Open Water
Soil Zone	W	W
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	30.9293 ac	30.9293 ac
Land Cover Zone	Developed, Medium Intensity	Developed, Medium Intensity
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		

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Manual Basin: KC#15

Field	Existing	Proposed
Node	SOUTH-450	SOUTH-450
Hydrograph Method	NRCS Unit Hydrograph	NRCS Unit Hydrograph
Infiltration Method	Curve Number	Curve Number
Time of Concentration	89.0000 min	89.0000 min
Max Allowable Q	0.000 cfs	0.000 cfs
Time Shift	0.0000 hr	0.0000 hr
Unit Hydrograph	UH323	UH323
Peaking Factor	323.0 dec	323.0 dec

Field	Comment
Existing	
Proposed	

Sub Basin

Field	Existing	Proposed
Area	0.0176 ac	0.0176 ac
Land Cover Zone	Woody Wetlands	Woody Wetlands
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.0322 ac	0.0322 ac
Land Cover Zone	Emergent Herbaceous Wetlands	Emergent Herbaceous Wetlands
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.1061 ac	0.1061 ac
Land Cover Zone	Woody Wetlands	Woody Wetlands
Soil Zone	A/D	A/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.1519 ac	0.1519 ac
Land Cover Zone	Herbaceous	Herbaceous
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.2225 ac	0.2225 ac

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Field	Existing	Proposed
Land Cover Zone	Open Water	Open Water
Soil Zone	A/D	A/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.2637 ac	0.2637 ac
Land Cover Zone	Deciduous Forest	Deciduous Forest
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.4448 ac	0.4448 ac
Land Cover Zone	Barren Land	Barren Land
Soil Zone	A/D	A/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.4448 ac	0.4448 ac
Land Cover Zone	Hay/Pasture	Hay/Pasture
Soil Zone	A/D	A/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.4450 ac	0.4450 ac
Land Cover Zone	Barren Land	Barren Land
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.4712 ac	0.4712 ac
Land Cover Zone	Herbaceous	Herbaceous
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.6211 ac	0.6211 ac
Land Cover Zone	Barren Land	Barren Land
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.6608 ac	0.6608 ac

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Field	Existing	Proposed
Land Cover Zone	Developed, High Intensity	Developed, High Intensity
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.6673 ac	0.6673 ac
Land Cover Zone	Shrub/Scrub	Shrub/Scrub
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.7096 ac	0.7096 ac
Land Cover Zone	Developed, High Intensity	Developed, High Intensity
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.8125 ac	0.8125 ac
Land Cover Zone	Developed, Open Space	Developed, Open Space
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.8854 ac	0.8854 ac
Land Cover Zone	Herbaceous	Herbaceous
Soil Zone	A/D	A/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.9702 ac	0.9702 ac
Land Cover Zone	Mixed Forest	Mixed Forest
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.9705 ac	0.9705 ac
Land Cover Zone	Developed, Open Space	Developed, Open Space
Soil Zone	C	C
Rainfall Name		

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Field	Existing	Proposed
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.0164 ac	1.0164 ac
Land Cover Zone	Herbaceous	Herbaceous
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.1577 ac	1.1577 ac
Land Cover Zone	Barren Land	Barren Land
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.1769 ac	1.1769 ac
Land Cover Zone	Developed, Low Intensity	Developed, Low Intensity
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	2.2892 ac	2.2892 ac
Land Cover Zone	Developed, High Intensity	Developed, High Intensity
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	2.7257 ac	2.7257 ac
Land Cover Zone	Developed, Open Space	Developed, Open Space
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	4.5036 ac	4.5036 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	A/D	A/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	4.8191 ac	4.8191 ac

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Field	Existing	Proposed
Land Cover Zone	Developed, Low Intensity	Developed, Low Intensity
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	4.9094 ac	4.9094 ac
Land Cover Zone	Developed, Low Intensity	Developed, Low Intensity
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	5.1567 ac	5.1567 ac
Land Cover Zone	Developed, Medium Intensity	Developed, Medium Intensity
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	5.8800 ac	5.8800 ac
Land Cover Zone	Woody Wetlands	Woody Wetlands
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	6.2328 ac	6.2328 ac
Land Cover Zone	Developed, Medium Intensity	Developed, Medium Intensity
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	10.7319 ac	10.7319 ac
Land Cover Zone	Developed, Medium Intensity	Developed, Medium Intensity
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	15.8964 ac	15.8964 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	C	C

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Field	Existing	Proposed
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	32.7678 ac	32.7678 ac
Land Cover Zone	Woody Wetlands	Woody Wetlands
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	40.6467 ac	40.6467 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	71.1352 ac	71.1352 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		

Manual Basin: KC#2 NORTH

Field	Existing	Proposed
Node	KCT1-10	KCT1-10
Hydrograph Method	NRCS Unit Hydrograph	NRCS Unit Hydrograph
Infiltration Method	Curve Number	Curve Number
Time of Concentration	43.0000 min	43.0000 min
Max Allowable Q	0.000 cfs	0.000 cfs
Time Shift	0.0000 hr	0.0000 hr
Unit Hydrograph	UH323	UH323
Peaking Factor	323.0 dec	323.0 dec

Field	Comment
Existing	RICE HOPE LAKESIDE PHASE 20-23 & 29A INPUT REPORT - POST DEVELOPMENT DITCH NORTH AREA = 49.25 CN = 84 TC = 36

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Proposed	RICE HOPE LAKESIDE PHASE 20-23 & 29A INPUT REPORT - POST DEVELOPMENT DITCH NORTH AREA = 49.25 CN = 84 TC = 36

Sub Basin

Field	Existing	Proposed
Area	0.0013 ac	0.0013 ac
Land Cover Zone	Developed, Low Intensity	Developed, Low Intensity
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.0065 ac	0.0065 ac
Land Cover Zone	Woody Wetlands	Woody Wetlands
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.0860 ac	0.0860 ac
Land Cover Zone	Herbaceous	Herbaceous
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.2916 ac	0.2916 ac
Land Cover Zone	Developed, Low Intensity	Developed, Low Intensity
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.3098 ac	0.3098 ac
Land Cover Zone	Developed, Open Space	Developed, Open Space
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.3304 ac	0.3304 ac

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Field	Existing	Proposed
Land Cover Zone	Woody Wetlands	Woody Wetlands
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.5716 ac	0.5716 ac
Land Cover Zone	Herbaceous	Herbaceous
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.7172 ac	0.7172 ac
Land Cover Zone	Developed, Open Space	Developed, Open Space
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.5205 ac	1.5205 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.7414 ac	1.7414 ac
Land Cover Zone	Herbaceous	Herbaceous
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.8548 ac	1.8548 ac
Land Cover Zone	Shrub/Scrub	Shrub/Scrub
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.9938 ac	1.9938 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed

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Field	Existing	Proposed
Area	4.4424 ac	4.4424 ac
Land Cover Zone	Woody Wetlands	Woody Wetlands
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	14.8974 ac	14.8974 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		

Manual Basin: KC#4, KC#7, KC#8

Field	Existing	Proposed
Node	KCM-185	KCM-185
Hydrograph Method	NRCS Unit Hydrograph	NRCS Unit Hydrograph
Infiltration Method	Curve Number	Curve Number
Time of Concentration	88.0000 min	88.0000 min
Max Allowable Q	0.000 cfs	0.000 cfs
Time Shift	0.0000 hr	0.0000 hr
Unit Hydrograph	UH323	UH323
Peaking Factor	323.0 dec	323.0 dec

Field	Comment
Existing	
Proposed	

Sub Basin

Field	Existing	Proposed
Area	0.0008 ac	0.0008 ac
Land Cover Zone	Herbaceous	Herbaceous
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.0419 ac	0.0419 ac
Land Cover Zone	Woody Wetlands	Woody Wetlands
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		

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Field	Existing	Proposed
Reference ET Station		
Field	Existing	Proposed
Area	0.0716 ac	0.0716 ac
Land Cover Zone	Developed, Open Space	Developed, Open Space
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.1699 ac	0.1699 ac
Land Cover Zone	Developed, Open Space	Developed, Open Space
Soil Zone	void	void
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.1829 ac	0.1829 ac
Land Cover Zone	Developed, Medium Intensity	Developed, Medium Intensity
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.2225 ac	0.2225 ac
Land Cover Zone	Mixed Forest	Mixed Forest
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.2395 ac	0.2395 ac
Land Cover Zone	Deciduous Forest	Deciduous Forest
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.2750 ac	0.2750 ac
Land Cover Zone	Deciduous Forest	Deciduous Forest
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.6122 ac	0.6122 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest

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Field	Existing	Proposed
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.7224 ac	0.7224 ac
Land Cover Zone	Developed, Low Intensity	Developed, Low Intensity
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.9298 ac	0.9298 ac
Land Cover Zone	Mixed Forest	Mixed Forest
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.0433 ac	1.0433 ac
Land Cover Zone	Developed, Low Intensity	Developed, Low Intensity
Soil Zone	void	void
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.2994 ac	1.2994 ac
Land Cover Zone	Shrub/Scrub	Shrub/Scrub
Soil Zone	C	C
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	1.3875 ac	1.3875 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	3.3297 ac	3.3297 ac
Land Cover Zone	Herbaceous	Herbaceous
Soil Zone	void	void
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed

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Field	Existing	Proposed
Area	4.5926 ac	4.5926 ac
Land Cover Zone	Herbaceous	Herbaceous
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	5.5480 ac	5.5480 ac
Land Cover Zone	Shrub/Scrub	Shrub/Scrub
Soil Zone	void	void
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	5.9001 ac	5.9001 ac
Land Cover Zone	Deciduous Forest	Deciduous Forest
Soil Zone	void	void
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	6.2313 ac	6.2313 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	6.8270 ac	6.8270 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	void	void
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	7.0350 ac	7.0350 ac
Land Cover Zone	Developed, Open Space	Developed, Open Space
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	8.6399 ac	8.6398 ac
Land Cover Zone	Woody Wetlands	Woody Wetlands
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		

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Field	Existing	Proposed
Area	12.8978 ac	12.8978 ac
Land Cover Zone	Shrub/Scrub	Shrub/Scrub
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	12.9230 ac	12.9230 ac
Land Cover Zone	Shrub/Scrub	Shrub/Scrub
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		

Manual Basin: KC#5

Field	Existing	Proposed
Node	KCM-160	KCM-160
Hydrograph Method	NRCS Unit Hydrograph	NRCS Unit Hydrograph
Infiltration Method	Curve Number	Curve Number
Time of Concentration	25.0000 min	25.0000 min
Max Allowable Q	0.000 cfs	0.000 cfs
Time Shift	0.0000 hr	0.0000 hr
Unit Hydrograph	UH323	UH323
Peaking Factor	323.0 dec	323.0 dec

Field	Comment
Existing	
Proposed	

Sub Basin

Field	Existing	Proposed
Area	0.0006 ac	0.0006 ac
Land Cover Zone	Woody Wetlands	Woody Wetlands
Soil Zone	void	void
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.0413 ac	0.0413 ac
Land Cover Zone	Mixed Forest	Mixed Forest
Soil Zone	void	void
Rainfall Name		
Crop Coef Zone		

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Field	Existing	Proposed
Reference ET Station		
Field	Existing	Proposed
Area	0.1402 ac	0.1402 ac
Land Cover Zone	Woody Wetlands	Woody Wetlands
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.3328 ac	0.3328 ac
Land Cover Zone	Mixed Forest	Mixed Forest
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.4102 ac	0.4102 ac
Land Cover Zone	Shrub/Scrub	Shrub/Scrub
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	4.3580 ac	4.3580 ac
Land Cover Zone	Deciduous Forest	Deciduous Forest
Soil Zone	void	void
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	10.5319 ac	10.5319 ac
Land Cover Zone	Woody Wetlands	Woody Wetlands
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	10.5898 ac	10.5898 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	void	void
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	33.9430 ac	33.9430 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		

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Field	Existing	Proposed
Reference ET Station		

Manual Basin: L3

Field	Existing	Proposed
Node	L3	L3
Hydrograph Method	NRCS Unit Hydrograph	NRCS Unit Hydrograph
Infiltration Method	Curve Number	Curve Number
Time of Concentration	20.0000 min	20.0000 min
Max Allowable Q	0.000 cfs	0.000 cfs
Time Shift	0.0000 hr	0.0000 hr
Unit Hydrograph	UH323	UH323
Peaking Factor	323.0 dec	323.0 dec

Field	Comment
Existing	
Proposed	

Sub Basin

Field	Existing	Proposed
Area	0.0061 ac	0.0061 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.0612 ac	0.0612 ac
Land Cover Zone	Developed, Low Intensity	Developed, Low Intensity
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.0964 ac	0.0964 ac
Land Cover Zone	Evergreen Forest	Evergreen Forest
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	0.1598 ac	0.1598 ac
Land Cover Zone	Emergent Herbaceous	Emergent Herbaceous

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Field	Existing	Proposed
	Wetlands	Wetlands
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	7.2087 ac	7.2087 ac
Land Cover Zone	Developed, Medium Intensity	Developed, Medium Intensity
Soil Zone	C/D	C/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		
Field	Existing	Proposed
Area	7.8182 ac	7.8182 ac
Land Cover Zone	Developed, Medium Intensity	Developed, Medium Intensity
Soil Zone	B/D	B/D
Rainfall Name		
Crop Coef Zone		
Reference ET Station		

Link (Pipe): PIPE L4-L2*

Field	Existing	Proposed
From Node	L4	L4
To Node	L2-3rd Lake	L2-3rd Lake
Link Count	1	1
Flow Direction	Both	Both
Damping	0.0000 ft	0.0000 ft
Length	635.00 ft	635.00 ft
FHWA Code	3	3
Entr Loss Coef	0.00 dec	0.00 dec
Exit Loss Coef	0.00 dec	0.00 dec
Bend Loss Coef	0.00 dec	0.00 dec
Bend Location	0.00 dec	0.00 dec
Energy Switch	Energy	Energy

Field	Upstream Existing	Upstream Proposed	Downstream Existing	Downstream Proposed
Invert	8.00 ft	8.00 ft	8.00 ft	8.00 ft
Manning's N	0.0130 dec	0.0130 dec	0.0130 dec	0.0130 dec
Geometry	Circular	Circular	Circular	Circular
Max Depth	2.00 ft	3.50 ft	2.00 ft	3.50 ft
Max Width	<N/A>	<N/A>	<N/A>	<N/A>
Fillet	<N/A>	<N/A>	<N/A>	<N/A>
Cross Section	<N/A>	<N/A>	<N/A>	<N/A>

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Field	Upstream Existing	Upstream Proposed	Downstream Existing	Downstream Proposed
Bottom Clip	0.00 ft	0.00 ft	0.00 ft	0.00 ft
Bottom Clip Table				
Bottom Clip Node				
Bottom Clip Manning's N	0.0000 dec	0.0000 dec	0.0000 dec	0.0000 dec
Top Clip	0.00 ft	0.00 ft	0.00 ft	0.00 ft
Top Clip Table				
Top Clip Node				
Top Clip Manning's N	0.0000 dec	0.0000 dec	0.0000 dec	0.0000 dec

Field	Comment
Existing	12
Proposed	12

Link (Drop Structure): PIPE - CR2

Field	Existing	Proposed
From Node	PIPE XING	PIPE XING
To Node	DITCH NORTH	DITCH NORTH
Link Count	1	1
Flow Direction	Both	Both
Solution	Combine	Combine
Increments	0	0

Field	Comment
Existing	wasn't in 3/38/2022 but in 3/25/2022
Proposed	wasn't in 3/38/2022 but in 3/25/2022

Pipe

Field	Existing	Proposed
Pipe Count	1	2
Damping	0.0000 ft	0.0000 ft
Length	93.00 ft	93.00 ft
FHWA Code	3	3
Entr Loss Coef	0.00 dec	0.00 dec
Exit Loss Coef	1.00 dec	1.00 dec
Bend Loss Coef	0.00 dec	0.00 dec
Bend Location	0.00 dec	0.00 dec
Energy Switch	Energy	Energy

Field	Upstream Existing	Upstream Proposed	Downstream Existing	Downstream Proposed
Invert	8.22 ft	7.33 ft	7.83 ft	8.00 ft
Manning's N	0.0130 dec	0.0130 dec	0.0130 dec	0.0130 dec
Geometry	Circular	Circular	Circular	Circular
Max Depth	4.50 ft	4.00 ft	4.50 ft	4.00 ft
Max Width	<N/A>	<N/A>	<N/A>	<N/A>

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Field	Upstream Existing	Upstream Proposed	Downstream Existing	Downstream Proposed
Fillet	<N/A>	<N/A>	<N/A>	<N/A>
Cross Section	<N/A>	<N/A>	<N/A>	<N/A>
Bottom Clip	0.00 ft	0.00 ft	0.00 ft	0.00 ft
Bottom Clip Table				
Bottom Clip Node				
Bottom Clip Manning's N	0.0000 dec	0.0000 dec	0.0000 dec	0.0000 dec
Top Clip	0.00 ft	0.00 ft	0.00 ft	0.00 ft
Top Clip Table				
Top Clip Node				
Top Clip Manning's N	0.0000 dec	0.0000 dec	0.0000 dec	0.0000 dec

Field	Comment
Existing	
Proposed	

Weir

Field	Existing	Proposed
Name	1	2
Weir Count	1	1
Weir Flow Direction	Both	Both
Damping	0.0000 ft	0.0000 ft
Weir Type	Horizontal	Horizontal
Geometry	Trapezoidal	Rectangular
Invert	11.50 ft	14.00 ft
Control Elevation	7.20 ft	7.20 ft
Cross Section	<N/A>	<N/A>
Extrapolation Method	Normal Projection	<N/A>
Max Depth	4.00 ft	13.50 ft
Max Width	<N/A>	3.67 ft
Fillet	<N/A>	0.00 ft
Bottom Width	8.50 ft	<N/A>
Left Slope	0.000 dec (h:v)	<N/A>
Right Slope	0.000 dec (h:v)	<N/A>
Bottom Clip	0.00 ft	0.00 ft
Top Clip	0.00 ft	0.00 ft
Weir Discharge Coef	3.000 sqrt(f)ps	3.200 sqrt(f)ps
Orifice Discharge Coef	0.600 dec	0.600 dec
Bottom Clip Table		
Top Clip Table		
Weir Discharge Coef Table		
Orifice Discharge Coef Table		
Bottom Clip Node		
Top Clip Node		

Field	Comment
Existing	HORIZONTAL, RECTANGULAR, DEPTH 4, WIDTH 7.5 WORKS. SHARP, TRAP, 10 WIDTH, 4'DEPTH WORKS
Proposed	

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Field	Existing	Proposed
Name	<missing record>	3
Weir Count	<missing record>	2
Weir Flow Direction	<missing record>	Both
Damping	<missing record>	0.0000 ft
Weir Type	<missing record>	Sharp Crested, Vertical
Geometry	<missing record>	Trapezoidal
Invert	<missing record>	11.50 ft
Control Elevation	<missing record>	7.20 ft
Cross Section	<missing record>	<N/A>
Extrapolation Method	<missing record>	Normal Projection
Max Depth	<missing record>	2.00 ft
Max Width	<missing record>	<N/A>
Fillet	<missing record>	<N/A>
Bottom Width	<missing record>	3.67 ft
Left Slope	<missing record>	0.000 dec (h:v)
Right Slope	<missing record>	0.000 dec (h:v)
Bottom Clip	<missing record>	0.00 ft
Top Clip	<missing record>	0.00 ft
Weir Discharge Coef	<missing record>	3.200 sqrt(f)ps
Orifice Discharge Coef	<missing record>	0.600 dec
Bottom Clip Table	<missing record>	
Top Clip Table	<missing record>	
Weir Discharge Coef Table	<missing record>	
Orifice Discharge Coef Table	<missing record>	
Bottom Clip Node	<missing record>	
Top Clip Node	<missing record>	

Field	Comment
Existing	<missing record>
Proposed	

Field	Existing	Proposed
Name	<missing record>	1
Weir Count	<missing record>	2
Weir Flow Direction	<missing record>	Both
Damping	<missing record>	0.0000 ft
Weir Type	<missing record>	Horizontal
Geometry	<missing record>	Trapezoidal
Invert	<missing record>	11.50 ft
Control Elevation	<missing record>	7.20 ft
Cross Section	<missing record>	<N/A>
Extrapolation Method	<missing record>	Normal Projection
Max Depth	<missing record>	2.00 ft
Max Width	<missing record>	<N/A>
Fillet	<missing record>	<N/A>
Bottom Width	<missing record>	4.00 ft
Left Slope	<missing record>	0.000 dec (h:v)
Right Slope	<missing record>	0.000 dec (h:v)
Bottom Clip	<missing record>	0.00 ft
Top Clip	<missing record>	0.00 ft

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Field	Existing	Proposed
Weir Discharge Coef	<missing record>	3.000 sqrt(f)ps
Orifice Discharge Coef	<missing record>	0.600 dec
Bottom Clip Table	<missing record>	
Top Clip Table	<missing record>	
Weir Discharge Coef Table	<missing record>	
Orifice Discharge Coef Table	<missing record>	
Bottom Clip Node	<missing record>	
Top Clip Node	<missing record>	

Field	Comment
Existing	<missing record>
Proposed	HORIZONTAL, RECTANGULAR, DEPTH 4, WIDTH 7.5 WORKS. SHARP, TRAP, 10 WIDTH, 4'DEPTH WORKS

Simulation: 100-yr_10.6

General

Field	Existing	Proposed
Run Mode	Normal	Normal
Hot Start Simulation	<N/A>	<N/A>
Start Time - Year	0	0
Start Time - Month	0	0
Start Time - Day	0	0
Start Time - Hour	0.0000 hr	0.0000 hr
End Time - Year	0	0
End Time - Month	0	0
End Time - Day	0	0
End Time - Hour	72.0000 hr	55.0000 hr
Hot Start Time - Year	<N/A>	<N/A>
Hot Start Time - Month	<N/A>	<N/A>
Hot Start Time - Day	<N/A>	<N/A>
Hot Start Time - Hour	<N/A>	<N/A>
Min Calculation Time - Hydrology	60.0000 sec	60.0000 sec
Min Calculation Time - Surface Hydraulics	0.0100 sec	0.0100 sec
Min Calculation Time - GW	<N/A>	<N/A>
Max Calculation Time - Surface Hydraulics	30.0000 sec	30.0000 sec

Field	Comment
Existing	
Proposed	

Output Time Increments

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Output Time Increments - Hydrology

Field	Existing	Proposed
Year	0	0
Month	0	0
Day	0	0
Hour	0.0000 hr	0.0000 hr
Time Increment	5.0000 min	5.0000 min

Output Time Increments - Surface Hydraulics

Field	Existing	Proposed
Year	0	0
Month	0	0
Day	0	0
Hour	0.0000 hr	0.0000 hr
Time Increment	5.0000 min	5.0000 min

Field	Existing	Proposed
Save Restart	False	False

Resources & Lookup Tables

Field	Existing	Proposed
Rainfall Set		
Reference ET Set	<N/A>	<N/A>
Unit Hydrograph Set		
Boundary Stage Set	100 YEAR	100 YEAR
External Hydrograph Set		
Curve Number Set	CN1	CN1
Green-Ampt Set		
Vertical Layers Set		
Impervious Set	IMP SET 1	IMP SET 1
Roughness Set	<N/A>	<N/A>
Crop Coef Set	<N/A>	<N/A>
Fillable Porosity Set	<N/A>	<N/A>
Conductivity Set	<N/A>	<N/A>
Leakage Set	<N/A>	<N/A>

Tolerances & Options

Field	Existing	Proposed
Time Marching	SAOR	SAOR
Max Iterations	20	20
Over-Relaxation Weighting Factor	0.5 dec	0.5 dec
dZ Tolerance	0.0001 ft	0.0001 ft

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Field	Existing	Proposed
Max dZ	0.1000 ft	0.1000 ft
Link Optimizer Tolerance	0.0000 ft	0.0000 ft
Edge Length Option	<N/A>	<N/A>
Edge Length Factor	<N/A>	<N/A>
Default Damping (2D)	<N/A>	<N/A>
Min Node Surface Area (2D)	<N/A>	<N/A>
Energy Switch (2D)	<N/A>	<N/A>
Intial Abstraction Recovery Time	24.0000 hr	24.0000 hr
Include ET for Manual Basins	<N/A>	<N/A>
Manual Basin Rainfall Option	Global	Global
OF Region Rainfall Option	<N/A>	<N/A>
Rainfall Name	~SCSIII-24	~SCSIII-24
Rainfall Amount	10.60 in	10.60 in
Storm Duration	24.0000 hr	24.0000 hr
Default Damping (1D)	0.0050 ft	0.0050 ft
Min Node Surface Area (1D)	100 ft2	100 ft2
Energy Switch (1D)	Energy	Energy

Simulation: 2-yr_4.28

General

Field	Existing	Proposed
Run Mode	Normal	Normal
Hot Start Simulation	<N/A>	<N/A>
Start Time - Year	0	0
Start Time - Month	0	0
Start Time - Day	0	0
Start Time - Hour	0.0000 hr	0.0000 hr
End Time - Year	0	0
End Time - Month	0	0
End Time - Day	0	0
End Time - Hour	72.0000 hr	40.0000 hr
Hot Start Time - Year	<N/A>	<N/A>
Hot Start Time - Month	<N/A>	<N/A>
Hot Start Time - Day	<N/A>	<N/A>
Hot Start Time - Hour	<N/A>	<N/A>
Min Calculation Time - Hydrology	60.0000 sec	60.0000 sec
Min Calculation Time - Surface Hydraulics	0.1000 sec	0.1000 sec
Min Calculation Time - GW	<N/A>	<N/A>
Max Calculation Time - Surface Hydraulics	30.0000 sec	30.0000 sec

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Field	Comment
Existing	
Proposed	

Output Time Increments

Output Time Increments - Hydrology

Field	Existing	Proposed
Year	0	0
Month	0	0
Day	0	0
Hour	0.0000 hr	0.0000 hr
Time Increment	5.0000 min	5.0000 min

Output Time Increments - Surface Hydraulics

Field	Existing	Proposed
Year	0	0
Month	0	0
Day	0	0
Hour	0.0000 hr	0.0000 hr
Time Increment	5.0000 min	5.0000 min

Field	Existing	Proposed
Save Restart	False	False

Resources & Lookup Tables

Field	Existing	Proposed
Rainfall Set		
Reference ET Set	<N/A>	<N/A>
Unit Hydrograph Set		
Boundary Stage Set	2 YEAR	2 YEAR
External Hydrograph Set		
Curve Number Set	CN1	CN1
Green-Ampt Set		
Vertical Layers Set		
Impervious Set	IMP SET 1	IMP SET 1
Roughness Set	<N/A>	<N/A>
Crop Coef Set	<N/A>	<N/A>
Fillable Porosity Set	<N/A>	<N/A>
Conductivity Set	<N/A>	<N/A>
Leakage Set	<N/A>	<N/A>

Tolerances & Options

Field	Existing	Proposed

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Field	Existing	Proposed
Time Marching	SAOR	SAOR
Max Iterations	20	20
Over-Relaxation Weighting Factor	0.5 dec	0.5 dec
dZ Tolerance	0.0001 ft	0.0001 ft
Max dZ	0.1000 ft	0.1000 ft
Link Optimizer Tolerance	0.0000 ft	0.0000 ft
Edge Length Option	<N/A>	<N/A>
Edge Length Factor	<N/A>	<N/A>
Default Damping (2D)	<N/A>	<N/A>
Min Node Surface Area (2D)	<N/A>	<N/A>
Energy Switch (2D)	<N/A>	<N/A>
Intial Abstraction Recovery Time	24.0000 hr	24.0000 hr
Include ET for Manual Basins	<N/A>	<N/A>
Manual Basin Rainfall Option	Global	Global
OF Region Rainfall Option	<N/A>	<N/A>
Rainfall Name	~SCSIII-24	~SCSIII-24
Rainfall Amount	4.28 in	4.28 in
Storm Duration	24.0000 hr	24.0000 hr
Default Damping (1D)	0.0050 ft	0.0050 ft
Min Node Surface Area (1D)	100 ft2	100 ft2
Energy Switch (1D)	Energy	Energy

Simulation: 25-yr_7.91

General

Field	Existing	Proposed
Run Mode	Normal	Normal
Hot Start Simulation	<N/A>	<N/A>
Start Time - Year	0	0
Start Time - Month	0	0
Start Time - Day	0	0
Start Time - Hour	0.0000 hr	0.0000 hr
End Time - Year	0	0
End Time - Month	0	0
End Time - Day	0	0
End Time - Hour	72.0000 hr	50.0000 hr
Hot Start Time - Year	<N/A>	<N/A>
Hot Start Time - Month	<N/A>	<N/A>
Hot Start Time - Day	<N/A>	<N/A>
Hot Start Time - Hour	<N/A>	<N/A>
Min Calculation Time - Hydrology	60.0000 sec	60.0000 sec
Min Calculation Time -	0.1000 sec	0.1000 sec

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Field	Existing	Proposed
Surface Hydraulics		
Min Calculation Time - GW	<N/A>	<N/A>
Max Calculation Time - Surface Hydraulics	30.0000 sec	30.0000 sec

Field	Comment
Existing	
Proposed	

Output Time Increments

Output Time Increments - Hydrology

Field	Existing	Proposed
Year	0	0
Month	0	0
Day	0	0
Hour	0.0000 hr	0.0000 hr
Time Increment	5.0000 min	5.0000 min

Output Time Increments - Surface Hydraulics

Field	Existing	Proposed
Year	0	0
Month	0	0
Day	0	0
Hour	0.0000 hr	0.0000 hr
Time Increment	5.0000 min	5.0000 min

Field	Existing	Proposed
Save Restart	False	False

Resources & Lookup Tables

Field	Existing	Proposed
Rainfall Set		
Reference ET Set	<N/A>	<N/A>
Unit Hydrograph Set		
Boundary Stage Set	25 YEAR	25 YEAR
External Hydrograph Set		
Curve Number Set	CN1	CN1
Green-Ampt Set		
Vertical Layers Set		
Impervious Set	IMP SET 1	IMP SET 1
Roughness Set	<N/A>	<N/A>
Crop Coef Set	<N/A>	<N/A>
Fillable Porosity Set	<N/A>	<N/A>

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Field	Existing	Proposed
Conductivity Set	<N/A>	<N/A>
Leakage Set	<N/A>	<N/A>

Tolerances & Options

Field	Existing	Proposed
Time Marching	SAOR	SAOR
Max Iterations	20	20
Over-Relaxation Weighting Factor	0.5 dec	0.5 dec
dZ Tolerance	0.0001 ft	0.0001 ft
Max dZ	0.1000 ft	0.1000 ft
Link Optimizer Tolerance	0.0000 ft	0.0000 ft
Edge Length Option	<N/A>	<N/A>
Edge Length Factor	<N/A>	<N/A>
Default Damping (2D)	<N/A>	<N/A>
Min Node Surface Area (2D)	<N/A>	<N/A>
Energy Switch (2D)	<N/A>	<N/A>
Intial Abstraction Recovery Time	24.0000 hr	24.0000 hr
Include ET for Manual Basins	<N/A>	<N/A>
Manual Basin Rainfall Option	Global	Global
OF Region Rainfall Option	<N/A>	<N/A>
Rainfall Name	~SCSIII-24	~SCSIII-24
Rainfall Amount	7.91 in	7.91 in
Storm Duration	24.0000 hr	24.0000 hr
Default Damping (1D)	0.0050 ft	0.0050 ft
Min Node Surface Area (1D)	100 ft2	100 ft2
Energy Switch (1D)	Energy	Energy

Simulation: 5-yr_5.38

General

Field	Existing	Proposed
Run Mode	Normal	Normal
Hot Start Simulation	<N/A>	<N/A>
Start Time - Year	0	0
Start Time - Month	0	0
Start Time - Day	0	0
Start Time - Hour	0.0000 hr	0.0000 hr
End Time - Year	0	0
End Time - Month	0	0
End Time - Day	0	0
End Time - Hour	72.0000 hr	50.0000 hr
Hot Start Time - Year	<N/A>	<N/A>

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Field	Existing	Proposed
Hot Start Time - Month	<N/A>	<N/A>
Hot Start Time - Day	<N/A>	<N/A>
Hot Start Time - Hour	<N/A>	<N/A>
Min Calculation Time - Hydrology	60.0000 sec	60.0000 sec
Min Calculation Time - Surface Hydraulics	0.1000 sec	0.1000 sec
Min Calculation Time - GW	<N/A>	<N/A>
Max Calculation Time - Surface Hydraulics	30.0000 sec	30.0000 sec

Field	Comment
Existing	
Proposed	

Output Time Increments

Output Time Increments - Hydrology

Field	Existing	Proposed
Year	0	0
Month	0	0
Day	0	0
Hour	0.0000 hr	0.0000 hr
Time Increment	5.0000 min	5.0000 min

Output Time Increments - Surface Hydraulics

Field	Existing	Proposed
Year	0	0
Month	0	0
Day	0	0
Hour	0.0000 hr	0.0000 hr
Time Increment	5.0000 min	5.0000 min

Field	Existing	Proposed
Save Restart	False	False

Resources & Lookup Tables

Field	Existing	Proposed
Rainfall Set		
Reference ET Set	<N/A>	<N/A>
Unit Hydrograph Set		
Boundary Stage Set	10 YEAR	10 YEAR
External Hydrograph Set		
Curve Number Set	CN1	CN1

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Field	Existing	Proposed
Green-Ampt Set		
Vertical Layers Set		
Impervious Set	IMP SET 1	IMP SET 1
Roughness Set	<N/A>	<N/A>
Crop Coef Set	<N/A>	<N/A>
Fillable Porosity Set	<N/A>	<N/A>
Conductivity Set	<N/A>	<N/A>
Leakage Set	<N/A>	<N/A>

Tolerances & Options

Field	Existing	Proposed
Time Marching	SAOR	SAOR
Max Iterations	20	20
Over-Relaxation Weighting Factor	0.5 dec	0.5 dec
dZ Tolerance	0.0001 ft	0.0001 ft
Max dZ	0.1000 ft	0.1000 ft
Link Optimizer Tolerance	0.0000 ft	0.0000 ft
Edge Length Option	<N/A>	<N/A>
Edge Length Factor	<N/A>	<N/A>
Default Damping (2D)	<N/A>	<N/A>
Min Node Surface Area (2D)	<N/A>	<N/A>
Energy Switch (2D)	<N/A>	<N/A>
Intial Abstraction Recovery Time	24.0000 hr	24.0000 hr
Include ET for Manual Basins	<N/A>	<N/A>
Manual Basin Rainfall Option	Global	Global
OF Region Rainfall Option	<N/A>	<N/A>
Rainfall Name	~SCSIII-24	~SCSIII-24
Rainfall Amount	5.38 in	5.38 in
Storm Duration	24.0000 hr	24.0000 hr
Default Damping (1D)	0.0050 ft	0.0050 ft
Min Node Surface Area (1D)	100 ft2	100 ft2
Energy Switch (1D)	Energy	Energy

Simulation: 50-yr_9.20

General

Field	Existing	Proposed
Run Mode	Normal	Normal
Hot Start Simulation	<N/A>	<N/A>
Start Time - Year	0	0
Start Time - Month	0	0
Start Time - Day	0	0

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Field	Existing	Proposed
Start Time - Hour	0.0000 hr	0.0000 hr
End Time - Year	0	0
End Time - Month	0	0
End Time - Day	0	0
End Time - Hour	72.0000 hr	55.0000 hr
Hot Start Time - Year	<N/A>	<N/A>
Hot Start Time - Month	<N/A>	<N/A>
Hot Start Time - Day	<N/A>	<N/A>
Hot Start Time - Hour	<N/A>	<N/A>
Min Calculation Time - Hydrology	60.0000 sec	60.0000 sec
Min Calculation Time - Surface Hydraulics	0.1000 sec	0.1000 sec
Min Calculation Time - GW	<N/A>	<N/A>
Max Calculation Time - Surface Hydraulics	30.0000 sec	30.0000 sec

Field	Comment
Existing	
Proposed	

Output Time Increments

Output Time Increments - Hydrology

Field	Existing	Proposed
Year	0	0
Month	0	0
Day	0	0
Hour	0.0000 hr	0.0000 hr
Time Increment	5.0000 min	5.0000 min

Output Time Increments - Surface Hydraulics

Field	Existing	Proposed
Year	0	0
Month	0	0
Day	0	0
Hour	0.0000 hr	0.0000 hr
Time Increment	5.0000 min	5.0000 min

Field	Existing	Proposed
Save Restart	False	False

Resources & Lookup Tables

Field	Existing	Proposed

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Field	Existing	Proposed
Rainfall Set		
Reference ET Set	<N/A>	<N/A>
Unit Hydrograph Set		
Boundary Stage Set	50 YEAR	50 YEAR
External Hydrograph Set		
Curve Number Set	CN1	CN1
Green-Ampt Set		
Vertical Layers Set		
Impervious Set	IMP SET 1	IMP SET 1
Roughness Set	<N/A>	<N/A>
Crop Coef Set	<N/A>	<N/A>
Fillable Porosity Set	<N/A>	<N/A>
Conductivity Set	<N/A>	<N/A>
Leakage Set	<N/A>	<N/A>

Tolerances & Options

Field	Existing	Proposed
Time Marching	SAOR	SAOR
Max Iterations	20	20
Over-Relaxation Weighting Factor	0.5 dec	0.5 dec
dZ Tolerance	0.0001 ft	0.0001 ft
Max dZ	0.1000 ft	0.1000 ft
Link Optimizer Tolerance	0.0000 ft	0.0000 ft
Edge Length Option	<N/A>	<N/A>
Edge Length Factor	<N/A>	<N/A>
Default Damping (2D)	<N/A>	<N/A>
Min Node Surface Area (2D)	<N/A>	<N/A>
Energy Switch (2D)	<N/A>	<N/A>
Intial Abstraction Recovery Time	24.0000 hr	24.0000 hr
Include ET for Manual Basins	<N/A>	<N/A>
Manual Basin Rainfall Option	Global	Global
OF Region Rainfall Option	<N/A>	<N/A>
Rainfall Name	~SCSIII-24	~SCSIII-24
Rainfall Amount	9.20 in	9.20 in
Storm Duration	24.0000 hr	24.0000 hr
Default Damping (1D)	0.0050 ft	0.0050 ft
Min Node Surface Area (1D)	100 ft2	100 ft2
Energy Switch (1D)	Energy	Energy

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Simple Basin: BC#19

Scenario:	01192023
Node:	BCT1-70
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	103.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	908.6100 ac
Curve Number:	76.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment: T&H NO EDIT

Simple Basin: BY-PASS AREA #4A

Scenario:	01192023
Node:	PONDING AREA A
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	71.0600 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	45.0200 ac
Curve Number:	77.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BY-PASS AREA #4B

Scenario:	01192023
Node:	PONDING AREA B
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	66.9800 min
Max Allowable Q:	0.000 cfs

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Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	83.7300 ac
Curve Number:	77.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: EXISTING AREA #1

Scenario:	01192023
Node:	EXISTING POND
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	3.8500 ac
Curve Number:	78.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: EXISTING AREA #2B

Scenario:	01192023
Node:	SOUTH PONDING AREA
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	88.8100 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	80.8200 ac
Curve Number:	77.0
% Impervious:	0.00
% DCIA:	0.00

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% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: KC#11

Scenario:	01192023
Node:	KCM-60
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	95.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	677.8100 ac
Curve Number:	77.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment: T&H NO EDIT

Simple Basin: KC#12

Scenario:	01192023
Node:	KCM-60
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	87.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	186.8200 ac
Curve Number:	79.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment: T&H NO EDIT

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Simple Basin: KC#16

Scenario:	01192023
Node:	KCM-40
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	148.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	300.9800 ac
Curve Number:	77.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment: T&H NO EDIT

Simple Basin: KC#17

Scenario:	01192023
Node:	KCM-10
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	27.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	16.7400 ac
Curve Number:	77.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment: T&H NO EDIT

Simple Basin: KC#2 SOUTH

Scenario:	01192023
Node:	L2 Lakeside
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	22.0000 min
Max Allowable Q:	0.000 cfs

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Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	19.5700 ac
Curve Number:	81.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: L4

Scenario:	01192023
Node:	L4
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	39.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	20.6800 ac
Curve Number:	87.6
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: OFFSITE AREA #3

Scenario:	01192023
Node:	OFFSITE AREA #3
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	81.9600 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	28.6100 ac
Curve Number:	77.0
% Impervious:	0.00
% DCIA:	0.00

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% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: PIPE X-ING

Scenario:	01192023
Node:	L2-3rd Lake
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	34.6200 ac
Curve Number:	90.4
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: POST AREA A

Scenario:	01192023
Node:	POND#1A
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	18.9140 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	15.5300 ac
Curve Number:	91.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

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Simple Basin: POST AREA B

Scenario:	01192023
Node:	POND #1B
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	1.0000 ac
Curve Number:	90.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: POST AREA C1

Scenario:	01192023
Node:	POND#2
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	8.1000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	17.1700 ac
Curve Number:	90.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: POST AREA C2

Scenario:	01192023
Node:	POND#3
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	8.1000 min
Max Allowable Q:	0.000 cfs

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Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	9.6400 ac
Curve Number:	90.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment: 62.39

Simple Basin: POST AREA D

Scenario:	01192023
Node:	POND#3
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	16.9000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	35.5800 ac
Curve Number:	77.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Manual Basin Runoff Summary [01192023]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
BC#18	10-yr_6.38	24.631	12.7833	6.38	3.73	20.2932	76.1	0.00	0.00
BC#5 NORTH	10-yr_6.38	129.839	12.6500	6.38	3.40	102.1894	72.9	0.00	0.00
BC#5 SOUTH	10-yr_6.38	105.681	12.4667	6.38	3.89	57.0713	77.7	0.00	0.00
BC#6, BC#7	10-yr_6.38	125.824	12.8500	6.38	3.75	111.8634	76.3	0.00	0.00
BC#8	10-yr_6.38	36.571	12.8000	6.38	3.66	31.0583	75.4	0.00	0.00

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Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
BC#9	10-yr_6.38	260.763	12.3833	6.38	4.35	112.6413	82.0	0.00	0.00
DB#1	10-yr_6.38	63.479	12.4333	6.38	3.67	34.1549	75.5	0.00	0.00
DB#2	10-yr_6.38	13.160	12.3167	6.38	4.42	4.7300	82.6	0.00	0.00
DB#3	10-yr_6.38	8.403	12.2167	6.38	4.16	2.5064	80.3	0.00	0.00
DB#4	10-yr_6.38	3.753	12.3167	6.38	4.08	1.3899	79.4	0.00	0.00
DB#5A	10-yr_6.38	7.552	12.3333	6.38	3.95	2.9951	78.3	0.00	0.00
DB#5B	10-yr_6.38	0.844	12.2000	6.38	4.23	0.2435	81.0	0.00	0.00
DB#6A	10-yr_6.38	7.719	12.2833	6.38	4.24	2.5953	81.0	0.00	0.00
DB#6B	10-yr_6.38	17.060	12.3833	6.38	4.21	7.2967	80.7	0.00	0.00
DB#6C	10-yr_6.38	3.458	12.2833	6.38	4.24	1.1512	81.0	0.00	0.00
KC#13	10-yr_6.38	22.189	12.6000	6.38	3.61	15.4663	74.9	0.00	0.00
KC#14	10-yr_6.38	104.127	12.5333	6.38	3.31	71.4973	71.9	0.00	0.00
KC#15	10-yr_6.38	188.514	13.1333	6.38	3.41	219.9427	73.0	0.00	0.00
KC#2 NORTH	10-yr_6.38	39.410	12.5833	6.38	3.34	28.7645	72.2	0.00	0.00
KC#4, KC#7, KC#8	10-yr_6.38	69.324	13.1167	6.38	3.38	81.1233	72.7	0.00	0.00
KC#5	10-yr_6.38	113.059	12.4000	6.38	3.36	60.3478	72.4	0.00	0.00
KC#6	10-yr_6.38	115.544	12.9000	6.38	3.47	113.8334	73.5	0.00	0.00
L3	10-yr_6.38	35.546	12.3500	6.38	3.76	15.3503	76.4	0.00	0.00
SMALL POND	10-yr_6.38	36.842	12.3833	6.38	3.83	16.9353	77.1	0.00	0.00
BC#18	100-yr_10.6	50.144	12.7667	10.60	7.57	20.2932	75.9	0.00	0.00
BC#5 NORTH	100-yr_10.6	275.033	12.6500	10.60	7.16	102.1894	72.8	0.00	0.00
BC#5 SOUTH	100-yr_10.6	209.430	12.4667	10.60	7.77	57.0713	77.3	0.00	0.00
BC#6, BC#7	100-yr_10.6	256.223	12.8333	10.60	7.56	111.8634	75.7	0.00	0.00

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Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
BC#8	100-yr_10.6	75.195	12.7833	10.60	7.49	31.0583	75.3	0.00	0.00
BC#9	100-yr_10.6	493.250	12.3833	10.60	8.29	112.6413	81.4	0.00	0.00
DB#1	100-yr_10.6	128.754	12.4333	10.60	7.50	34.1549	75.3	0.00	0.00
DB#2	100-yr_10.6	24.611	12.3000	10.60	8.40	4.7300	82.2	0.00	0.00
DB#3	100-yr_10.6	15.783	12.2167	10.60	8.14	2.5064	80.2	0.00	0.00
DB#4	100-yr_10.6	7.197	12.3000	10.60	8.04	1.3899	79.4	0.00	0.00
DB#5A	100-yr_10.6	14.688	12.3167	10.60	7.88	2.9951	78.2	0.00	0.00
DB#5B	100-yr_10.6	1.572	12.2000	10.60	8.23	0.2435	81.0	0.00	0.00
DB#6A	100-yr_10.6	14.514	12.2833	10.60	8.24	2.5953	81.0	0.00	0.00
DB#6B	100-yr_10.6	32.478	12.3833	10.60	8.20	7.2967	80.7	0.00	0.00
DB#6C	100-yr_10.6	6.496	12.2833	10.60	8.25	1.1512	81.0	0.00	0.00
KC#13	100-yr_10.6	45.683	12.5833	10.60	7.41	15.4663	74.7	0.00	0.00
KC#14	100-yr_10.6	221.303	12.5167	10.60	7.00	71.4973	71.6	0.00	0.00
KC#15	100-yr_10.6	400.614	13.1000	10.60	7.15	219.9427	72.7	0.00	0.00
KC#2 NORTH	100-yr_10.6	84.015	12.5667	10.60	7.07	28.7645	72.1	0.00	0.00
KC#4, KC#7, KC#8	100-yr_10.6	147.453	13.0833	10.60	7.09	81.1233	72.3	0.00	0.00
KC#5	100-yr_10.6	237.696	12.3833	10.60	7.11	60.3478	72.4	0.00	0.00
KC#6	100-yr_10.6	242.584	12.8667	10.60	7.19	113.8334	73.0	0.00	0.00
L3	100-yr_10.6	70.771	12.3333	10.60	7.62	15.3503	76.3	0.00	0.00
SMALL POND	100-yr_10.6	72.950	12.3667	10.60	7.72	16.9353	77.0	0.00	0.00
BC#18	2-yr_4.28	12.774	12.8000	4.28	1.98	20.2932	76.3	0.00	0.00
BC#5 NORTH	2-yr_4.28	63.904	12.6667	4.28	1.74	102.1894	73.0	0.00	0.00
BC#5 SOUTH	2-yr_4.28	56.776	12.4833	4.28	2.12	57.0713	78.0	0.00	0.00
BC#6,	2-yr_4.28	66.080	12.8833	4.28	2.03	111.8634	76.8	0.00	0.00

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Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
BC#7									
BC#8	2-yr_4.28	18.731	12.8167	4.28	1.93	31.0583	75.6	0.00	0.00
BC#9	2-yr_4.28	149.617	12.3833	4.28	2.51	112.6413	82.7	0.00	0.00
DB#1	2-yr_4.28	32.990	12.4500	4.28	1.93	34.1549	75.7	0.00	0.00
DB#2	2-yr_4.28	7.617	12.3167	4.28	2.55	4.7300	83.2	0.00	0.00
DB#3	2-yr_4.28	4.794	12.2500	4.28	2.31	2.5064	80.3	0.00	0.00
DB#4	2-yr_4.28	2.082	12.3167	4.28	2.24	1.3899	79.5	0.00	0.00
DB#5A	2-yr_4.28	4.125	12.3333	4.28	2.15	2.9951	78.4	0.00	0.00
DB#5B	2-yr_4.28	0.484	12.2167	4.28	2.36	0.2435	81.0	0.00	0.00
DB#6A	2-yr_4.28	4.377	12.3000	4.28	2.36	2.5953	81.0	0.00	0.00
DB#6B	2-yr_4.28	9.537	12.4000	4.28	2.34	7.2967	80.7	0.00	0.00
DB#6C	2-yr_4.28	1.962	12.2833	4.28	2.37	1.1512	81.0	0.00	0.00
KC#13	2-yr_4.28	11.372	12.6167	4.28	1.90	15.4663	75.2	0.00	0.00
KC#14	2-yr_4.28	51.291	12.5500	4.28	1.69	71.4973	72.3	0.00	0.00
KC#15	2-yr_4.28	93.342	13.1667	4.28	1.76	219.9427	73.3	0.00	0.00
KC#2 NORTH	2-yr_4.28	19.216	12.6000	4.28	1.69	28.7645	72.3	0.00	0.00
KC#4, KC#7, KC#8	2-yr_4.28	34.410	13.1500	4.28	1.74	81.1233	73.1	0.00	0.00
KC#5	2-yr_4.28	55.961	12.4000	4.28	1.70	60.3478	72.5	0.00	0.00
KC#6	2-yr_4.28	58.357	12.9333	4.28	1.81	113.8334	74.0	0.00	0.00
L3	2-yr_4.28	18.880	12.3500	4.28	2.00	15.3503	76.5	0.00	0.00
SMALL POND	2-yr_4.28	19.671	12.3833	4.28	2.05	16.9353	77.2	0.00	0.00
BC#18	25-yr_7.91	33.741	12.7833	7.91	5.09	20.2932	76.0	0.00	0.00
BC#5 NORTH	25-yr_7.91	181.416	12.6500	7.91	4.72	102.1894	72.8	0.00	0.00
BC#5 SOUTH	25-yr_7.91	142.895	12.4667	7.91	5.26	57.0713	77.5	0.00	0.00
BC#6, BC#7	25-yr_7.91	172.174	12.8500	7.91	5.09	111.8634	76.0	0.00	0.00
BC#8	25-yr_7.91	50.347	12.7833	7.91	5.01	31.0583	75.4	0.00	0.00
BC#9	25-yr_7.91	344.389	12.3833	7.91	5.75	112.6413	81.7	0.00	0.00
DB#1	25-yr_7.91	86.854	12.4333	7.91	5.02	34.1549	75.4	0.00	0.00
DB#2	25-yr_7.91	17.292	12.3167	7.91	5.84	4.7300	82.4	0.00	0.00
DB#3	25-yr_7.91	11.082	12.2167	7.91	5.58	2.5064	80.3	0.00	0.00
DB#4	25-yr_7.91	4.998	12.3000	7.91	5.49	1.3899	79.4	0.00	0.00
DB#5A	25-yr_7.91	10.125	12.3167	7.91	5.35	2.9951	78.2	0.00	0.00

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
DB#5B	25-yr_7.91	1.109	12.2000	7.91	5.66	0.2435	81.0	0.00	0.00
DB#6A	25-yr_7.91	10.186	12.2833	7.91	5.67	2.5953	81.0	0.00	0.00
DB#6B	25-yr_7.91	22.646	12.3833	7.91	5.63	7.2967	80.7	0.00	0.00
DB#6C	25-yr_7.91	4.561	12.2833	7.91	5.67	1.1512	81.0	0.00	0.00
KC#13	25-yr_7.91	30.555	12.6000	7.91	4.95	15.4663	74.8	0.00	0.00
KC#14	25-yr_7.91	145.611	12.5167	7.91	4.60	71.4973	71.8	0.00	0.00
KC#15	25-yr_7.91	263.512	13.1167	7.91	4.73	219.9427	72.9	0.00	0.00
KC#2 NORTH	25-yr_7.91	55.219	12.5833	7.91	4.65	28.7645	72.2	0.00	0.00
KC#4, KC#7, KC#8	25-yr_7.91	96.911	13.1000	7.91	4.68	81.1233	72.5	0.00	0.00
KC#5	25-yr_7.91	157.395	12.3833	7.91	4.67	60.3478	72.4	0.00	0.00
KC#6	25-yr_7.91	160.480	12.8833	7.91	4.77	113.8334	73.3	0.00	0.00
L3	25-yr_7.91	48.197	12.3333	7.91	5.13	15.3503	76.3	0.00	0.00
SMALL POND	25-yr_7.91	49.814	12.3833	7.91	5.21	16.9353	77.0	0.00	0.00
BC#18	5-yr_5.38	18.849	12.7833	5.38	2.87	20.2932	76.2	0.00	0.00
BC#5 NORTH	5-yr_5.38	97.493	12.6667	5.38	2.58	102.1894	72.9	0.00	0.00
BC#5 SOUTH	5-yr_5.38	81.927	12.4667	5.38	3.02	57.0713	77.8	0.00	0.00
BC#6, BC#7	5-yr_5.38	96.591	12.8667	5.38	2.90	111.8634	76.5	0.00	0.00
BC#8	5-yr_5.38	27.857	12.8000	5.38	2.81	31.0583	75.5	0.00	0.00
BC#9	5-yr_5.38	207.066	12.3833	5.38	3.46	112.6413	82.3	0.00	0.00
DB#1	5-yr_5.38	48.636	12.4500	5.38	2.82	34.1549	75.6	0.00	0.00
DB#2	5-yr_5.38	10.492	12.3167	5.38	3.51	4.7300	82.8	0.00	0.00
DB#3	5-yr_5.38	6.667	12.2333	5.38	3.26	2.5064	80.3	0.00	0.00
DB#4	5-yr_5.38	2.949	12.3167	5.38	3.18	1.3899	79.4	0.00	0.00
DB#5A	5-yr_5.38	5.898	12.3333	5.38	3.07	2.9951	78.3	0.00	0.00
DB#5B	5-yr_5.38	0.672	12.2000	5.38	3.33	0.2435	81.0	0.00	0.00
DB#6A	5-yr_5.38	6.115	12.2833	5.38	3.33	2.5953	81.0	0.00	0.00
DB#6B	5-yr_5.38	13.440	12.3833	5.38	3.30	7.2967	80.7	0.00	0.00
DB#6C	5-yr_5.38	2.740	12.2833	5.38	3.33	1.1512	81.0	0.00	0.00
KC#13	5-yr_5.38	16.900	12.6000	5.38	2.77	15.4663	75.0	0.00	0.00
KC#14	5-yr_5.38	78.158	12.5333	5.38	2.51	71.4973	72.1	0.00	0.00

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
KC#15	5-yr_5.38	141.663	13.1500	5.38	2.60	219.9427	73.1	0.00	0.00
KC#2 NORTH	5-yr_5.38	29.486	12.5833	5.38	2.52	28.7645	72.3	0.00	0.00
KC#4, KC#7, KC#8	5-yr_5.38	52.118	13.1333	5.38	2.57	81.1233	72.8	0.00	0.00
KC#5	5-yr_5.38	85.119	12.4000	5.38	2.54	60.3478	72.5	0.00	0.00
KC#6	5-yr_5.38	87.425	12.9167	5.38	2.65	113.8334	73.7	0.00	0.00
L3	5-yr_5.38	27.468	12.3500	5.38	2.90	15.3503	76.4	0.00	0.00
SMALL POND	5-yr_5.38	28.526	12.3833	5.38	2.96	16.9353	77.1	0.00	0.00
BC#18	50-yr_9.20	41.569	12.7667	9.20	6.27	20.2932	75.9	0.00	0.00
BC#5 NORTH	50-yr_9.20	226.006	12.6500	9.20	5.87	102.1894	72.8	0.00	0.00
BC#5 SOUTH	50-yr_9.20	174.703	12.4667	9.20	6.45	57.0713	77.4	0.00	0.00
BC#6, BC#7	50-yr_9.20	212.216	12.8333	9.20	6.26	111.8634	75.9	0.00	0.00
BC#8	50-yr_9.20	62.203	12.7833	9.20	6.19	31.0583	75.3	0.00	0.00
BC#9	50-yr_9.20	415.615	12.3833	9.20	6.96	112.6413	81.5	0.00	0.00
DB#1	50-yr_9.20	106.875	12.4333	9.20	6.20	34.1549	75.4	0.00	0.00
DB#2	50-yr_9.20	20.797	12.3000	9.20	7.06	4.7300	82.3	0.00	0.00
DB#3	50-yr_9.20	13.340	12.2167	9.20	6.80	2.5064	80.3	0.00	0.00
DB#4	50-yr_9.20	6.053	12.3000	9.20	6.70	1.3899	79.4	0.00	0.00
DB#5A	50-yr_9.20	12.312	12.3167	9.20	6.55	2.9951	78.2	0.00	0.00
DB#5B	50-yr_9.20	1.331	12.2000	9.20	6.89	0.2435	81.0	0.00	0.00
DB#6A	50-yr_9.20	12.265	12.2833	9.20	6.90	2.5953	81.0	0.00	0.00
DB#6B	50-yr_9.20	27.364	12.3833	9.20	6.86	7.2967	80.7	0.00	0.00
DB#6C	50-yr_9.20	5.491	12.2833	9.20	6.90	1.1512	81.0	0.00	0.00
KC#13	50-yr_9.20	37.767	12.5833	9.20	6.12	15.4663	74.7	0.00	0.00
KC#14	50-yr_9.20	181.622	12.5167	9.20	5.74	71.4973	71.7	0.00	0.00
KC#15	50-yr_9.20	328.678	13.1000	9.20	5.87	219.9427	72.8	0.00	0.00

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
KC#2 NORTH	50-yr_9.20	68.928	12.5667	9.20	5.79	28.7645	72.1	0.00	0.00
KC#4, KC#7, KC#8	50-yr_9.20	120.912	13.1000	9.20	5.82	81.1233	72.4	0.00	0.00
KC#5	50-yr_9.20	195.690	12.3833	9.20	5.83	60.3478	72.4	0.00	0.00
KC#6	50-yr_9.20	199.494	12.8833	9.20	5.92	113.8334	73.1	0.00	0.00
L3	50-yr_9.20	58.999	12.3333	9.20	6.31	15.3503	76.3	0.00	0.00
SMALL POND	50-yr_9.20	60.881	12.3667	9.20	6.40	16.9353	77.0	0.00	0.00

Manual Basin: BC#18

Scenario: 01192023
Node: BCT1-140
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 62.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 20.2932 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
2.7242	Developed, Medium Intensity	C	
1.4997	Developed, Low Intensity	C	
1.4045	Developed, Open Space	C	
1.7964	Evergreen Forest	C	
2.1374	Developed, Medium Intensity	C/D	
0.9037	Developed, Low Intensity	C/D	
0.7640	Evergreen Forest	C/D	
0.0081	Herbaceous	C	
1.1981	Herbaceous	C/D	
0.9962	Developed, Open Space	C/D	
2.2169	Developed, Low Intensity	B/D	
1.8347	Developed, Open Space	B/D	
0.5361	Herbaceous	B/D	
0.6309	Evergreen Forest	B/D	
1.4963	Developed, Medium Intensity	B/D	
0.0014	Developed, High Intensity	C/D	
0.0664	Mixed Forest	C/D	
0.0782	Developed, High Intensity	C	

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Comment:

Manual Basin: BC#5 NORTH

Scenario: 01192023
Node: BCT1-195
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 50.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 102.1894 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
6.6528	Developed, Medium Intensity	C/D	
0.7979	Developed, High Intensity	C/D	
6.0556	Developed, Low Intensity	C/D	
3.8000	Developed, Open Space	C/D	
55.8219	Evergreen Forest	C/D	
2.5987	Developed, Low Intensity	B/D	
11.8366	Mixed Forest	C/D	
1.8917	Developed, Open Space	B/D	
0.2439	Herbaceous	C/D	
1.3929	Developed, Medium Intensity	B/D	
0.6933	Barren Land	C/D	
0.8634	Barren Land	B/D	
0.5989	Herbaceous	B/D	
0.4448	Hay/Pasture	B/D	
8.3611	Evergreen Forest	B/D	
0.1338	Developed, Medium Intensity	C	
0.0021	Developed, Low Intensity	C	

Comment:

Manual Basin: BC#5 SOUTH

Scenario: 01192023
Node: BCT1-175
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 33.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Area: 57.0713 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
11.6172	Evergreen Forest	C/D	
2.0642	Shrub/Scrub	C/D	
3.5546	Hay/Pasture	C/D	
6.3292	Developed, Low Intensity	C/D	
15.2952	Developed, Medium Intensity	C/D	
1.1119	Developed, High Intensity	C/D	
1.2542	Barren Land	C/D	
1.2797	Developed, Open Space	C/D	
8.0425	Woody Wetlands	C/D	
2.2241	Herbaceous	C/D	
0.9626	Emergent Herbaceous Wetlands	C/D	
3.3359	Open Water	C/D	

Comment:

Manual Basin: BC#6, BC#7

Scenario: 01192023
Node: BCT1-150
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 68.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 111.8635 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
4.6384	Developed, Medium Intensity	C	
1.2813	Developed, Open Space	C	
1.6919	Developed, Open Space	B/D	
2.5732	Evergreen Forest	B/D	
2.9027	Developed, Low Intensity	C	
4.6700	Evergreen Forest	C	
29.1061	Woody Wetlands	C/D	
1.2906	Evergreen Forest	C/D	
5.7962	Developed, Open Space	C/D	
0.2224	Emergent Herbaceous Wetlands	C/D	
2.6758	Developed, Low Intensity	B/D	
4.6611	Developed, Medium Intensity	B/D	
3.3315	Developed, Medium Intensity	C/D	
5.7823	Developed, Low Intensity	C/D	
0.7119	Barren Land	C	
0.1122	Barren Land	B/D	

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
4.6189	Open Water	C	
0.9678	Hay/Pasture	C	
3.8712	Open Water	B/D	
0.5132	Hay/Pasture	B/D	
9.9548	Woody Wetlands	B/D	
0.6671	Emergent Herbaceous Wetlands	B/D	
2.8521	Open Water	C/D	
0.3361	Developed, High Intensity	C	
0.5535	Developed, High Intensity	C/D	
0.8707	Shrub/Scrub	C	
0.9985	Shrub/Scrub	C/D	
0.6672	Developed, High Intensity	B/D	
1.0191	Barren Land	C/D	
0.9104	Hay/Pasture	C/D	
0.2225	Herbaceous	B/D	
0.4381	Shrub/Scrub	B/D	
8.7522	Deciduous Forest	B/D	
2.0754	Deciduous Forest	C/D	
0.1246	Herbaceous	C/D	
0.0023	Woody Wetlands	C	

Comment:

Manual Basin: BC#8

Scenario: 01192023
Node: BCT1-160
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 63.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 31.0583 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
3.3618	Deciduous Forest	B/D	
0.6362	Deciduous Forest	C/D	
4.0244	Evergreen Forest	C/D	
0.8895	Evergreen Forest	B/D	
2.4982	Shrub/Scrub	C/D	
0.7798	Hay/Pasture	C/D	
0.5377	Barren Land	C/D	
0.2364	Woody Wetlands	B/D	
0.5881	Herbaceous	C/D	
8.8315	Woody Wetlands	C/D	

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
2.7713	Emergent Herbaceous Wetlands	C/D	
4.9077	Developed, Medium Intensity	C/D	
0.2295	Developed, Open Space	C/D	
0.2346	Open Water	C/D	
0.5315	Developed, Low Intensity	C/D	

Comment:

Manual Basin: BC#9

Scenario: 01192023
Node: EX LAG
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 25.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 112.6413 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
3.6319	Evergreen Forest	C	
0.1473	Barren Land	C	
1.2102	Barren Land	B/D	
5.7909	Developed, Low Intensity	B/D	
30.9293	Developed, Medium Intensity	B/D	
0.1529	Developed, Low Intensity	C	
0.7491	Developed, Open Space	B/D	
15.6404	Developed, Medium Intensity	C/D	
0.5779	Evergreen Forest	B/D	
0.2651	Barren Land	W	
0.5615	Open Water	C	
0.9139	Developed, Medium Intensity	W	
22.6555	Open Water	W	
1.3966	Emergent Herbaceous Wetlands	B/D	
0.0073	Open Water	B/D	
1.3292	Emergent Herbaceous Wetlands	W	
0.0616	Herbaceous	C	
6.8568	Herbaceous	C/D	
0.8697	Evergreen Forest	C/D	
0.4793	Developed, Low Intensity	W	
2.4491	Open Water	C/D	
0.0561	Emergent Herbaceous Wetlands	C/D	

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.0668	Developed, Low Intensity	C/D	
0.1527	Developed, Open Space	W	
0.0139	Herbaceous	B/D	
0.2905	Woody Wetlands	B/D	
0.8771	Developed, Open Space	C	
0.1543	Woody Wetlands	C	
12.5144	Developed, Medium Intensity	C	
0.7012	Mixed Forest	C/D	
0.1258	Evergreen Forest	W	
1.0127	Shrub/Scrub	C	

Comment: RICE HOPE LAKESIDE PHASE 20-23 & 29A
INPUT REPORT - POST DEVELOPMENT

B-EX LAG
AREA = 138.87
CN = 76
TC = 146

Manual Basin: DB#1

Scenario: 01192023
Node: L1
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 30.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 34.1549 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
11.7277	Developed, Medium Intensity	C/D	
12.9400	Developed, Medium Intensity	B/D	
0.1164	Developed, Low Intensity	B/D	
0.2903	Developed, Low Intensity	C/D	
1.4217	Deciduous Forest	C/D	
0.1918	Developed, Open Space	C/D	
4.6771	Evergreen Forest	C/D	
1.5933	Developed, Medium Intensity	C	
0.2224	Open Water	C/D	
0.5102	Mixed Forest	C/D	
0.3202	Shrub/Scrub	C/D	
0.1438	Emergent Herbaceous Wetlands	B/D	

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Manual Basin: DB#2

Scenario: 01192023
Node: EX. LAGOON 2
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 17.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 4.7300 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.0792	Herbaceous	C/D	
1.0998	Open Water	C/D	
0.4933	Shrub/Scrub	C/D	
1.3952	Developed, Low Intensity	C/D	
1.4901	Developed, Medium Intensity	C/D	
0.0849	Developed, Open Space	C/D	
0.0876	Deciduous Forest	C/D	

Comment:

Manual Basin: DB#3

Scenario: 01192023
Node: BCT1-165
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 7.2000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 2.5064 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
2.3372	Developed, Medium Intensity	C/D	
0.1692	Evergreen Forest	C/D	

Comment:

Manual Basin: DB#4

Scenario: 01192023
Node: DET BASIN A
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 16.6000 min

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 1.3899 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.9129	Developed, Medium Intensity	C/D	
0.0008	Evergreen Forest	C/D	
0.0983	Developed, Open Space	C/D	
0.3779	Developed, Low Intensity	C/D	

Comment:

Manual Basin: DB#5A

Scenario: 01192023
Node: MH #141
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 18.3000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 2.9951 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
1.8145	Developed, Medium Intensity	C/D	
0.5763	Developed, Medium Intensity	B/D	
0.0549	Developed, Low Intensity	B/D	
0.0662	Emergent Herbaceous Wetlands	B/D	
0.0429	Emergent Herbaceous Wetlands	C/D	
0.2722	Developed, Low Intensity	C/D	
0.1682	Developed, Open Space	C/D	

Comment:

Manual Basin: DB#5B

Scenario: 01192023
Node: LAGOON 5
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 6.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 0.2435 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.2435	Developed, Medium Intensity	C/D	

Comment:

Manual Basin: DB#6A

Scenario: 01192023
Node: CI #102
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 13.9000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 2.5953 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
2.5953	Developed, Medium Intensity	C/D	

Comment:

Manual Basin: DB#6B

Scenario: 01192023
Node: CI #100
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 25.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 7.2967 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
7.0743	Developed, Medium Intensity	C/D	
0.2224	Evergreen Forest	C/D	

Comment:

Manual Basin: DB#6C

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Scenario: 01192023
Node: LAGOON 6
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 13.5000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 1.1512 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
1.1512	Developed, Medium Intensity	C/D	

Comment:

Manual Basin: KC#13

Scenario: 01192023
Node: KCT1-5
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 45.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 15.4663 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.4491	Hay/Pasture	B/D	
0.5565	Herbaceous	B/D	
0.5507	Developed, Low Intensity	B/D	
0.5843	Developed, Open Space	B/D	
1.0906	Hay/Pasture	C	
0.3676	Developed, Open Space	C	
4.9886	Evergreen Forest	B/D	
0.1727	Evergreen Forest	C	
0.3525	Woody Wetlands	C	
0.1714	Woody Wetlands	B/D	
0.0936	Hay/Pasture	C/D	
3.4830	Woody Wetlands	C/D	
0.1424	Developed, Open Space	C/D	
1.7533	Evergreen Forest	C/D	
0.2923	Woody Wetlands	W	
0.0177	Open Water	C/D	
0.1252	Open Water	W	
0.0819	Open Water	B/D	
0.1928	Evergreen Forest	W	

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Comment:

Manual Basin: KC#14

Scenario: 01192023
Node: KCM-135
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 38.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 71.4973 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
34.0924	Evergreen Forest	B/D	
0.1634	Deciduous Forest	B/D	
0.5141	Developed, Open Space	B/D	
19.1646	Woody Wetlands	B/D	
1.0008	Herbaceous	A/D	
0.0005	Evergreen Forest	A/D	
3.5371	Herbaceous	B/D	
1.1813	Evergreen Forest	C	
8.1613	Evergreen Forest	C/D	
0.8868	Woody Wetlands	C	
0.5210	Hay/Pasture	B/D	
0.0222	Hay/Pasture	C	
1.8092	Woody Wetlands	C/D	
0.0095	Barren Land	B/D	
0.3982	Mixed Forest	C/D	
0.0350	Barren Land	C/D	

Comment:

Manual Basin: KC#15

Scenario: 01192023
Node: SOUTH-450
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 89.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 219.9427 ac

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
2.7257	Developed, Open Space	C/D	
10.7319	Developed, Medium Intensity	C/D	
40.6467	Evergreen Forest	C/D	
4.9094	Developed, Low Intensity	C/D	
2.2892	Developed, High Intensity	C/D	
6.2328	Developed, Medium Intensity	C	
1.1769	Developed, Low Intensity	C	
0.7096	Developed, High Intensity	C	
0.9705	Developed, Open Space	C	
0.4712	Herbaceous	C/D	
0.6211	Barren Land	C	
0.4450	Barren Land	C/D	
0.1519	Herbaceous	C	
15.8964	Evergreen Forest	C	
5.1567	Developed, Medium Intensity	B/D	
4.8191	Developed, Low Intensity	B/D	
0.6608	Developed, High Intensity	B/D	
71.1352	Evergreen Forest	B/D	
0.8125	Developed, Open Space	B/D	
32.7678	Woody Wetlands	B/D	
1.1577	Barren Land	B/D	
0.0322	Emergent Herbaceous Wetlands	B/D	
0.6673	Shrub/Scrub	B/D	
1.0164	Herbaceous	B/D	
5.8800	Woody Wetlands	C/D	
0.9702	Mixed Forest	C/D	
0.0176	Woody Wetlands	C	
4.5036	Evergreen Forest	A/D	
0.1061	Woody Wetlands	A/D	
0.8854	Herbaceous	A/D	
0.4448	Hay/Pasture	A/D	
0.2637	Deciduous Forest	B/D	
0.4448	Barren Land	A/D	
0.2225	Open Water	A/D	

Comment:

Manual Basin: KC#2 NORTH

Scenario:	01192023
Node:	KCT1-10
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	43.0000 min
Max Allowable Q:	0.000 cfs
Time Shift:	0.0000 hr

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 28.7645 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.7172	Developed, Open Space	C/D	
0.0013	Developed, Low Intensity	C/D	
0.2916	Developed, Low Intensity	B/D	
1.8548	Shrub/Scrub	C/D	
0.3098	Developed, Open Space	B/D	
0.5716	Herbaceous	B/D	
1.7414	Herbaceous	C/D	
1.9938	Evergreen Forest	B/D	
0.3304	Woody Wetlands	B/D	
14.8974	Evergreen Forest	C/D	
0.0065	Woody Wetlands	C	
1.5205	Evergreen Forest	C	
0.0860	Herbaceous	C	
4.4424	Woody Wetlands	C/D	

Comment: RICE HOPE LAKESIDE PHASE 20-23 & 29A
INPUT REPORT - POST DEVELOPMENT

DITCH NORTH
AREA = 49.25
CN = 84
TC = 36

Manual Basin: KC#4, KC#7, KC#8

Scenario: 01192023
Node: KCM-185
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 88.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 81.1233 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
6.2313	Evergreen Forest	C/D	
0.9298	Mixed Forest	C/D	
12.9230	Shrub/Scrub	C/D	
0.6122	Evergreen Forest	C	
1.2994	Shrub/Scrub	C	
12.8978	Shrub/Scrub	B/D	
1.3875	Evergreen Forest	B/D	
4.5926	Herbaceous	B/D	

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.1829	Developed, Medium Intensity	B/D	
8.6398	Woody Wetlands	C/D	
7.0350	Developed, Open Space	B/D	
0.2225	Mixed Forest	B/D	
0.7224	Developed, Low Intensity	B/D	
0.2395	Deciduous Forest	B/D	
0.0419	Woody Wetlands	B/D	
0.0008	Herbaceous	C/D	
6.8270	Evergreen Forest	void	
0.0716	Developed, Open Space	C/D	
0.2750	Deciduous Forest	C/D	
5.9001	Deciduous Forest	void	
5.5480	Shrub/Scrub	void	
3.3297	Herbaceous	void	
1.0433	Developed, Low Intensity	void	
0.1699	Developed, Open Space	void	

Comment:

Manual Basin: KC#5

Scenario: 01192023
Node: KCM-160
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 25.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 60.3478 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
10.5319	Woody Wetlands	C/D	
33.9430	Evergreen Forest	C/D	
0.1402	Woody Wetlands	B/D	
0.3328	Mixed Forest	C/D	
0.4102	Shrub/Scrub	C/D	
10.5898	Evergreen Forest	void	
0.0006	Woody Wetlands	void	
4.3580	Deciduous Forest	void	
0.0413	Mixed Forest	void	

Comment:

Manual Basin: KC#6

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Scenario: 01192023
Node: KCM-155
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 71.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 113.8334 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.0454	Hay/Pasture	B/D	
0.5357	Hay/Pasture	C	
0.0383	Woody Wetlands	C	
1.7685	Evergreen Forest	C	
6.2111	Evergreen Forest	B/D	
28.0460	Woody Wetlands	B/D	
4.2954	Herbaceous	B/D	
11.0653	Barren Land	B/D	
21.6727	Evergreen Forest	C/D	
0.0293	Hay/Pasture	C/D	
6.6253	Woody Wetlands	C/D	
3.9061	Barren Land	C/D	
0.0336	Open Water	C/D	
0.0618	Open Water	B/D	
0.9098	Mixed Forest	B/D	
0.4915	Mixed Forest	C/D	
0.9132	Emergent Herbaceous Wetlands	B/D	
0.5072	Emergent Herbaceous Wetlands	C/D	
5.1686	Woody Wetlands	void	
9.0636	Evergreen Forest	void	
7.8415	Mixed Forest	void	
1.5250	Herbaceous	void	
3.0784	Deciduous Forest	void	

Comment:

Manual Basin: L3

Scenario: 01192023
Node: L3
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 20.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 15.3503 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
7.8182	Developed, Medium Intensity	B/D	
0.1598	Emergent Herbaceous Wetlands	B/D	
7.2087	Developed, Medium Intensity	C/D	
0.0964	Evergreen Forest	C/D	
0.0061	Evergreen Forest	B/D	
0.0612	Developed, Low Intensity	B/D	

Comment:

Manual Basin: SMALL POND

Scenario: 01192023
Node: Small Lagoon
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 24.0000 min
Max Allowable Q: 0.000 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH323
Peaking Factor: 323.0
Area: 16.9353 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.8979	Developed, Open Space	C/D	
4.6322	Developed, Low Intensity	C/D	
0.0147	Developed, Low Intensity	C	
7.1467	Developed, Medium Intensity	C/D	
0.8087	Developed, Low Intensity	B/D	
3.2832	Developed, Medium Intensity	B/D	
0.1519	Developed, Open Space	B/D	

Comment:

Node: BCM-0

Scenario: 01192023
Type: Time/Stage
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 5.00 ft
Boundary Stage:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	6.18
0	0	0	72.0000	6.18

Comment: T&H NO EDIT

Node: BCM-5

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 5.00 ft

Comment: T&H NO EDIT

Node: BCT1-10

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.00 ft

Comment: T&H NO EDIT

Node: BCT1-100

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 9.00 ft

Comment: T&H NO EDIT

Node: BCT1-110

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Initial Stage: 6.18 ft
Warning Stage: 8.00 ft

Comment: T&H NO EDIT

Node: BCT1-115

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 7.91 ft
Warning Stage: 12.00 ft

Comment: T&H NO EDIT

Node: BCT1-120

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 7.96 ft
Warning Stage: 16.00 ft

Comment: T&H NO EDIT

Node: BCT1-125

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 10.89 ft
Warning Stage: 19.00 ft

Comment: T&H NO EDIT

Node: BCT1-130

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Initial Stage: 11.43 ft
Warning Stage: 18.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	11.4300	497891
900.00	11.4300	497891

Comment:

Node: BCT1-135

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 12.90 ft
Warning Stage: 20.00 ft

Stage [ft]	Area [ac]	Area [ft2]
12.00	0.0010	44
20.00	0.0010	44

Comment:

Node: BCT1-140

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 12.90 ft
Warning Stage: 17.00 ft

Stage [ft]	Area [ac]	Area [ft2]
12.00	0.0010	44
17.00	0.0010	44

Comment:

Node: BCT1-150

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 12.90 ft
Warning Stage: 16.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Comment:

Node: BCT1-160

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 12.89 ft
Warning Stage: 17.00 ft

Comment:

Node: BCT1-165

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 13.02 ft
Warning Stage: 16.63 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
40.00	0.0010	44

Comment: 13.48

Node: BCT1-170

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 14.22 ft
Warning Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
40.00	0.0010	44

Comment:

Node: BCT1-175

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 14.22 ft
Warning Stage: 0.00 ft

Comment:

Node: BCT1-180

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 14.22 ft
Warning Stage: 0.00 ft

Comment:

Node: BCT1-185

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 15.88 ft
Warning Stage: 0.00 ft

Comment:

Node: BCT1-195

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 15.23 ft
Warning Stage: 0.00 ft

Comment:

Node: BCT1-20

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.00 ft

Comment: T&H NO EDIT

Node: BCT1-200

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 15.33 ft
Warning Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
10.00	0.0010	44
20.00	0.0010	44

Comment:

Node: BCT1-205

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 15.33 ft
Warning Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
14.00	0.0010	44
20.00	0.0010	44

Comment:

Node: BCT1-250

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 14.45 ft
Warning Stage: 0.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Stage [ft]	Area [ac]	Area [ft2]
14.00	0.0010	44
20.00	0.0010	44

Comment: 14.85

Node: BCT1-30

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 7.00 ft

Comment: T&H NO EDIT

Node: BCT1-40

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 7.00 ft

Comment: T&H NO EDIT

Node: BCT1-50

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 9.00 ft

Comment: T&H NO EDIT

Node: BCT1-60

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Initial Stage: 6.18 ft
Warning Stage: 9.00 ft

Comment: T&H NO EDIT

Node: BCT1-70

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 12.00 ft

Comment: T&H NO EDIT

Node: BCT1-80

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 9.00 ft

Comment: T&H NO EDIT

Node: BCT1-90

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 8.00 ft

Comment: T&H NO EDIT

Node: CH#1

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Initial Stage: 12.00 ft
Warning Stage: 17.00 ft

Stage [ft]	Area [ac]	Area [ft2]
12.00	0.8400	36590
17.00	0.8400	36590

Comment:

Node: CH#2

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 12.00 ft
Warning Stage: 17.00 ft

Comment:

Node: CH#3

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 10.00 ft
Warning Stage: 0.00 ft

Comment:

Node: CI #100

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 13.65 ft
Warning Stage: 17.00 ft

Stage [ft]	Area [ac]	Area [ft2]
7.00	0.0010	44
17.00	0.0010	44

Comment: FROM LAKESIDE AT RICE HOPE - PHASE 1C
J-24526.0007

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

APPENDIX B - POST-DEVELOPMENT ICPR INPUT
T&H MODEL

T&H MODEL SAYS NODE= 13.65, BUT SMALL LAGOON WEIR IS AT 13.00, FLOW WILL GO BACKWARDS THROUGH THE SYSTEM TO IE 13

Node: CI #102

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 13.65 ft
Warning Stage: 17.00 ft

Stage [ft]	Area [ac]	Area [ft2]
7.00	0.0010	44
17.00	0.0010	44

Comment: FROM LAKESIDE AT RICE HOPE - PHASE 1C
J-24526.0007
APPENDIX B - POST-DEVELOPMENT ICPR INPUT
T&H MODEL

T&H MODEL SAYS NODE= 13.65, BUT SMALL LAGOON WEIR IS AT 13.00, FLOW WILL GO BACKWARDS THROUGH THE SYSTEM TO IE 13

Node: CI #11

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 13.65 ft
Warning Stage: 18.95 ft

Stage [ft]	Area [ac]	Area [ft2]
9.03	0.0010	44
18.95	0.0010	44

Comment: FROM LAKESIDE AT RICE HOPE - PHASE 1C
J-24526.0007
APPENDIX B - POST-DEVELOPMENT ICPR INPUT
T&H MODEL

T&H MODEL SAYS NODE= 13.65, BUT SMALL LAGOON WEIR IS AT 13.00, FLOW WILL GO BACKWARDS THROUGH THE SYSTEM TO IE 13

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Node: DET BASIN A

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 14.00 ft
Warning Stage: 16.00 ft

Stage [ft]	Area [ac]	Area [ft2]
14.00	0.0100	436
16.00	0.0600	2614

Comment: FROM LAKESIDE AT RICE HOPE - PHASE 1C
J-24526.0007
APPENDIX B - POST-DEVELOPMENT ICPR INPUT
T&H MODEL

Node: DITCH NORTH

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 8.00 ft
Warning Stage: 8.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
9999.00	0.0010	44

Comment: MAYS MODEL SHOWS THIS AS A TIME/STAGE NODE.

Node: EX LAG

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 13.00 ft
Warning Stage: 18.00 ft

Stage [ft]	Area [ac]	Area [ft2]
12.00	25.2000	1097712
18.00	27.3000	1189188

Comment: DROPPED WSE TO 12 IN MID-POST MODEL FOR ROAD

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Node: EX. LAGOON 2

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 13.65 ft
Warning Stage: 18.00 ft

Stage [ft]	Area [ac]	Area [ft2]
13.00	1.3300	57935
14.00	1.4200	61855
18.00	1.7900	77972

Comment: FROM LAKESIDE AT RICE HOPE - PHASE 1C
J-24526.0007
APPENDIX B - POST-DEVELOPMENT ICPR INPUT
T&H MODEL

NODE NAME: LAGOON 2

T&H MODEL SAYS NODE= 13.65, BUT SMALL LAGOON WEIR IS AT 13.00, FLOW WILL GO BACKWARDS THROUGH THE SYSTEM TO IE 13

Node: EXISTING POND

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 15.20 ft
Warning Stage: 20.00 ft

Stage [ft]	Area [ac]	Area [ft2]
11.00	0.4000	17424
15.00	0.8100	35284
20.00	1.2400	54014

Comment: N.W.L. from T&H plan drawings for Rice Hope North Mulberry Boulevard Phase 2

X

Node: EXISTING SOUTH OUTFALL

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 11.50 ft
Warning Stage: 0.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Stage [ft]	Area [ac]	Area [ft2]
-10.00	0.0010	44
20.00	0.0010	44

Comment: 11.17 FROM DNSTM
15.2 FROM UPSTM

Node: KCM-0

Scenario: 01192023
Type: Time/Stage
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.18 ft
Boundary Stage:

Comment: T&H NO EDIT

Node: KCM-10

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.18 ft

Comment: T&H NO EDIT

Node: KCM-120

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 10.00 ft

Comment:

Node: KCM-125

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 10.00 ft

Comment:

Node: KCM-130

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 9.00 ft

Comment:

Node: KCM-135

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 9.00 ft

Comment:

Node: KCM-139

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 8.00 ft

Comment:

Node: KCM-145

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 8.00 ft

Comment:

Node: KCM-150

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 8.00 ft

Comment:

Node: KCM-155

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 9.00 ft

Comment:

Node: KCM-160

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 7.00 ft

Comment:

Node: KCM-165

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 10.00 ft

Comment:

Node: KCM-170

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 10.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
20.00	0.0010	44

Comment:

Node: KCM-175

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 7.63 ft
Warning Stage: 9.00 ft

Comment:

Node: KCM-180

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 8.25 ft
Warning Stage: 10.00 ft

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Node: KCM-185

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 8.59 ft
Warning Stage: 10.00 ft

Comment:

Node: KCM-193

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 9.25 ft
Warning Stage: 11.00 ft

Comment:

Node: KCM-20

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.18 ft

Comment: T&H NO EDIT

Node: KCM-30

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.18 ft

Comment: T&H NO EDIT

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Node: KCM-40

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.18 ft

Comment: T&H NO EDIT

Node: KCM-50

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.18 ft

Comment: T&H NO EDIT

Node: KCM-54

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.18 ft

Comment: T&H NO EDIT

Node: KCM-56

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.18 ft

Comment: T&H NO EDIT

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Node: KCM-60

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.18 ft

Comment: T&H NO EDIT

Node: KCT1-10

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.37 ft
Warning Stage: 10.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	1.5000	65340
20.00	1.5000	65340

Comment:

Node: KCT1-14

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.37 ft
Warning Stage: 10.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-5.00	0.0010	44
5.50	0.0010	44

Comment: 3.5 INVERT OF WEIR BUT CHANNEL IS HIGHER.

Node: KCT1-14.5

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.37 ft
Warning Stage: 10.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Stage [ft]	Area [ac]	Area [ft2]
-10.00	0.0060	261
20.00	0.0060	261

Comment: 3.5 INVERT OF WEIR BUT CHANNEL IS HIGHER.

Node: KCT1-15

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.37 ft
Warning Stage: 11.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-10.00	0.0010	44
20.00	0.0010	44

Comment: 3.5 INVERT OF WEIR BUT CHANNEL IS HIGHER.

Node: KCT1-5

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 9.00 ft

Comment:

Node: L1

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 11.50 ft
Warning Stage: 18.00 ft

Stage [ft]	Area [ac]	Area [ft2]
11.00	3.1400	136778
18.50	4.1000	178596

Comment: DROPPED WSE TO 12 IN MID-POST MODEL FOR ROAD

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Node: L2 Lakeside

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 11.50 ft
Warning Stage: 20.00 ft

Stage [ft]	Area [ac]	Area [ft2]
11.00	1.3000	56628
21.50	3.0000	130680

Comment:

Node: L2-3rd Lake

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 11.50 ft
Warning Stage: 21.00 ft

Stage [ft]	Area [ac]	Area [ft2]
11.00	0.7500	32670
21.50	1.3600	59242

Comment: LAGOON AC UPDATED TO INCLUDE 3RD LAKE

Node: L3

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 11.50 ft
Warning Stage: 21.00 ft

Stage [ft]	Area [ac]	Area [ft2]
11.00	0.6600	28750
21.50	1.3700	59677

Comment:

Node: L4

Scenario: 01192023
Type: Stage/Area

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Base Flow: 0.000 cfs
Initial Stage: 11.50 ft
Warning Stage: 21.00 ft

Stage [ft]	Area [ac]	Area [ft2]
11.00	0.6600	28750
21.50	1.3700	59677

Comment:

Node: LAGOON 5

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 13.65 ft
Warning Stage: 18.00 ft

Stage [ft]	Area [ac]	Area [ft2]
7.00	0.0050	218
13.00	0.0400	1742
14.00	0.0600	2614
18.00	0.1300	5663

Comment: FROM LAKESIDE AT RICE HOPE - PHASE 1C
J-24526.0007
APPENDIX B - POST-DEVELOPMENT ICPR INPUT
T&H MODEL

T&H MODEL SAYS NODE= 13.65, BUT SMALL LAGOON WEIR IS AT 13.00, FLOW WILL GO BACKWARDS THROUGH THE SYSTEM TO IE 13

Node: LAGOON 6

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 13.65 ft
Warning Stage: 18.00 ft

Stage [ft]	Area [ac]	Area [ft2]
7.00	0.1300	5663
13.00	0.2600	11326
14.00	0.3000	13068
17.50	0.4500	19602

Comment: FROM LAKESIDE AT RICE HOPE - PHASE 1C

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

J-24526.0007
APPENDIX B - POST-DEVELOPMENT ICPR INPUT
T&H MODEL

T&H MODEL SAYS NODE= 13.65, BUT SMALL LAGOON WEIR IS AT 13.00, FLOW WILL GO BACKWARDS THROUGH THE SYSTEM TO IE 13

Node: MH #141

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 13.65 ft
Warning Stage: 19.00 ft

Stage [ft]	Area [ac]	Area [ft2]
7.00	0.0010	44
19.00	0.0010	44

Comment: FROM LAKESIDE AT RICE HOPE - PHASE 1C
J-24526.0007
APPENDIX B - POST-DEVELOPMENT ICPR INPUT
T&H MODEL

T&H MODEL SAYS NODE= 13.65, BUT SMALL LAGOON WEIR IS AT 13.00, FLOW WILL GO BACKWARDS THROUGH THE SYSTEM TO IE 13

Node: MID-10

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 14.52 ft
Warning Stage: 18.00 ft

Comment:

Node: OFFSITE AREA #3

Scenario: 01192023
Type: Stage/Volume
Base Flow: 0.000 cfs
Initial Stage: 14.09 ft
Warning Stage: 0.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Stage [ft]	Volume [ac-ft]	Volume [ft3]
13.51	0.00	0
13.99	0.00	174
14.20	0.03	1176
14.37	0.10	4138
14.51	0.22	9670
14.63	0.44	19123
14.74	0.75	32844
14.84	1.19	51749
14.93	1.78	77711
15.05	2.69	117002
15.16	3.83	167009
15.43	7.24	315549
15.76	12.06	525334
16.11	18.16	791180
16.50	25.49	1110127
16.91	34.14	1487095
17.23	41.54	1809265
17.70	53.31	2322053
18.36	70.81	3084658
19.96	115.86	5046905
20.96	144.12	6277998

Comment: updated with HEC-RAS DEM for basin.

Node: OUTFALL NORTH

Scenario: 01192023
Type: Time/Stage
Base Flow: 0.000 cfs
Initial Stage: 11.00 ft
Warning Stage: 15.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	11.00
0	0	0	999.0000	11.00

Comment: BOUNDARY STAGE
OUTFALL NORTH

Node: Outfall South

Scenario: 01192023
Type: Time/Stage
Base Flow: 0.000 cfs

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Initial Stage: 11.00 ft
Warning Stage: 18.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	11.00
0	0	0	120.0000	11.00

Comment:

Node: PIPE XING

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 11.50 ft
Warning Stage: 18.00 ft

Stage [ft]	Area [ac]	Area [ft2]
11.00	2.2500	98010
20.50	4.5000	196020

Comment: MAYS MODEL SHOWS THIS AS A TIME/STAGE NODE.

Node: POND #1B

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 15.20 ft
Warning Stage: 19.00 ft

Stage [ft]	Area [ac]	Area [ft2]
13.00	0.1200	5227
19.00	0.4200	18295

Comment: X

Node: POND#1A

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 15.20 ft
Warning Stage: 19.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Stage [ft]	Area [ac]	Area [ft2]
12.20	0.6300	27443
19.00	1.7800	77537

Comment: X

Node: POND#2

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 12.00 ft
Warning Stage: 17.00 ft

Stage [ft]	Area [ac]	Area [ft2]
9.00	2.2100	96268
12.00	3.1500	137214
13.00	3.3900	147668
14.00	3.4000	148104
15.00	3.4300	149411
16.00	3.4400	149846
17.00	3.6200	157687

Comment: X
was 12.00

Node: POND#3

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 12.00 ft
Warning Stage: 17.00 ft

Stage [ft]	Area [ac]	Area [ft2]
6.00	3.0000	130680
12.00	5.0000	217800
17.00	5.3700	233917

Comment: X
was 12.0

Node: PONDING AREA A

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Scenario: 01192023
Type: Stage/Volume
Base Flow: 0.000 cfs
Initial Stage: 12.75 ft
Warning Stage: 15.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
12.78	0.00	0
13.64	0.01	305
13.82	0.02	1045
13.93	0.06	2396
14.03	0.13	5489
14.11	0.25	10759
14.18	0.43	18731
14.25	0.68	29577
14.35	1.16	50312
14.45	1.83	79845
14.68	3.84	167401
14.98	6.99	304267
15.30	10.74	468009
15.71	16.10	701142
16.21	23.32	1015689
16.86	33.38	1453859
17.57	44.89	1955365
18.23	56.01	2439883
18.94	68.40	2979548
20.30	93.38	4067459
21.30	111.98	4877718

Comment: updated stage volume from HEC-RAS DEM. This area includes the existing channel that flows north to the RH 1.5' pipe crossing

Node: PONDING AREA B

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.37 ft
Warning Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
4.70	0.0010	44
6.00	0.0400	1742
7.00	0.3900	16988
8.00	2.0300	88427
9.00	5.5700	242629
10.00	9.7900	426452
11.00	16.1800	704801

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Stage [ft]	Area [ac]	Area [ft2]
12.00	23.0500	1004058
13.00	29.3500	1278486

Comment: X

6.37

7.94

6 0.04
7 0.39
8 2.03
9 5.57
10 9.79

Node: SOUTH PONDING AREA

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 14.45 ft
Warning Stage: 17.00 ft

Stage [ft]	Area [ac]	Area [ft2]
12.25	0.0100	436
13.00	0.0100	436
14.00	0.0300	1307
15.00	17.1700	747925
16.00	35.5000	1546380
17.00	47.1500	2053854

Comment: X

Node: SOUTH-100

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 8.20 ft

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Node: SOUTH-150

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.28 ft

Comment:

Node: SOUTH-200

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 6.21 ft

Comment:

Node: SOUTH-250

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 8.08 ft

Comment:

Node: SOUTH-300

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 9.64 ft
Warning Stage: 12.49 ft

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Node: SOUTH-350

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 11.33 ft
Warning Stage: 13.80 ft

Comment:

Node: SOUTH-400

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 12.90 ft
Warning Stage: 15.05 ft

Comment:

Node: SOUTH-450

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 12.90 ft
Warning Stage: 16.77 ft

Comment:

Node: SOUTH-50

Scenario: 01192023
Type: Time/Stage
Base Flow: 0.000 cfs
Initial Stage: 6.18 ft
Warning Stage: 3.88 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	6.18
0	0	0	500.0000	6.18

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Comment:

Node: SOUTH-500

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 13.44 ft
Warning Stage: 16.95 ft

Comment:

Node: SOUTH-600

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 11.50 ft
Warning Stage: 0.00 ft

Comment:

Node: SOUTH-650

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 11.50 ft
Warning Stage: 18.83 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
20.00	0.0010	44

Comment:

Node: SOUTH-750

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 15.58 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Warning Stage: 0.00 ft

Comment:

Node: Small Lagoon

Scenario: 01192023
Type: Stage/Area
Base Flow: 0.000 cfs
Initial Stage: 13.00 ft
Warning Stage: 18.00 ft

Stage [ft]	Area [ac]	Area [ft2]
12.00	0.6700	29185
14.00	1.0000	43560

Comment:

Channel Link: BCM5-0

Scenario: 01192023
From Node: BCM-5
To Node: BCM-0
Link Count: 1
Flow Direction: Both
Damping: 0.0000 ft
Length: 500.00 ft
Contraction Coef: 0.00
Expansion Coef: 0.00
Entr Loss Coef: 0.00
Exit Loss Coef: 0.00
Bend Loss Coef: 0.00
Bend Location: 0.00 dec
Energy Switch: Energy

Upstream	Downstream
Invert: 0.50 ft	Invert: 0.00 ft
Manning's N: 0.0000	Manning's N: 0.0000
Geometry: Irregular	Geometry: Irregular
Cross Section: BCM-5	Cross Section: BCM-0

Comment: T&H NO EDIT

Pipe Link: BCT1-170-165P

Scenario: 01192023
From Node: BCT1-170
To Node: BCT1-165
Link Count: 4
Flow Direction: Both
Damping: 0.0000 ft

Upstream	Downstream
Invert: 14.40 ft	Invert: 14.40 ft
Manning's N: 0.0130	Manning's N: 0.0130
Geometry: Circular	Geometry: Circular
Max Depth: 1.30 ft	Max Depth: 2.00 ft
Bottom Clip	
Default: 0.00 ft	Default: 0.00 ft

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Length:	65.00 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	0.20	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: ELEVATION AND SIZE NOT VERIFIED.

Channel Link: BCT110-BCM5		Upstream		Downstream	
Scenario:	01192023	Invert:	2.36 ft	Invert:	0.50 ft
From Node:	BCT1-10	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCM-5	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-10	Cross Section:	BCT1-5
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: BCT1100-90		Upstream		Downstream	
Scenario:	01192023	Invert:	4.97 ft	Invert:	3.86 ft
From Node:	BCT1-100	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-90	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-100	Cross Section:	BCT1-90
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

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Channel Link: BCT1110-100		Upstream		Downstream	
Scenario:	01192023	Invert:	6.09 ft	Invert:	4.97 ft
From Node:	BCT1-110	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-100	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-110	Cross Section:	BCT1-100
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Pipe Link: BCT1115-110		Upstream		Downstream	
Scenario:	01192023	Invert:	7.90 ft	Invert:	6.22 ft
From Node:	BCT1-115	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	BCT1-110	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:	60.00 ft	Op Table:		Op Table:	
FHWA Code:	0	Ref Node:		Ref Node:	
Entr Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: T&H NO EDIT

Channel Link: BCT1120-115		Upstream		Downstream	
Scenario:	01192023	Invert:	7.96 ft	Invert:	7.91 ft
From Node:	BCT1-120	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-115	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-120	Cross Section:	BCT1-115
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				

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Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Comment: T&H NO EDIT

Channel Link: BCT1125-120		Upstream		Downstream	
Scenario:	01192023	Invert:	10.89 ft	Invert:	7.96 ft
From Node:	BCT1-125	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-120	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-125	Cross Section:	BCT1-120
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: BCT1130-125		Upstream		Downstream	
Scenario:	01192023	Invert:	11.43 ft	Invert:	10.89 ft
From Node:	BCT1-130	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-125	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-130	Cross Section:	BCT1-125
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: BCT1135-130		Upstream		Downstream	
Scenario:	01192023	Invert:	12.90 ft	Invert:	11.43 ft

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From Node:	BCT1-135	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-130	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-135	Cross Section:	BCT1-130
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Pipe Link: BCT1140-135		Upstream		Downstream	
Scenario:	01192023	Invert:	12.75 ft	Invert:	12.75 ft
From Node:	BCT1-140	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	BCT1-135	Geometry:	Rectangular	Geometry:	Rectangular
Link Count:	1	Max Depth:	4.00 ft	Max Depth:	4.00 ft
Flow Direction:	Both	Max Width:	4.00 ft	Max Width:	4.00 ft
Damping:	0.0000 ft	Fillet:	0.00 ft	Fillet:	0.00 ft
Length:	260.00 ft	Bottom Clip			
FHWA Code:	9	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.20	Op Table:		Op Table:	
Exit Loss Coef:	1.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec	Top Clip			
Energy Switch:	Energy	Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Channel Link: BCT1150-140		Upstream		Downstream	
Scenario:	01192023	Invert:	12.51 ft	Invert:	12.34 ft
From Node:	BCT1-150	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-140	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-150	Cross Section:	BCT1-140
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1739.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				

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Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Comment:

Channel Link: BCT1160-150		Upstream		Downstream	
Scenario:	01192023	Invert:	12.89 ft	Invert:	12.51 ft
From Node:	BCT1-160	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-150	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-160	Cross Section:	BCT1-150
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	662.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: BCT1165-160		Upstream		Downstream	
Scenario:	01192023	Invert:	13.02 ft	Invert:	12.89 ft
From Node:	BCT1-165	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-160	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-165	Cross Section:	BCT1-160
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Weir Link: BCT1170-165		
Scenario:	01192023	Bottom Clip

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From Node:	BCT1-170
To Node:	BCT1-165
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Broad Crested Vertical
Geometry Type:	Irregular
Invert:	14.22 ft
Control Elevation:	14.22 ft
Cross Section:	BCT1-163 WEIR

Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients

Weir Default:	2.800
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment:

Channel Link: BCT1175-170		Upstream		Downstream	
Scenario:	01192023	Invert:	14.31 ft	Invert:	13.02 ft
From Node:	BCT1-175	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-170	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-175	Cross Section:	BCT1-170
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1158.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Pipe Link: BCT1180-175		Upstream		Downstream	
Scenario:	01192023	Invert:	14.15 ft	Invert:	13.79 ft
From Node:	BCT1-180	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	BCT1-175	Geometry:	Circular	Geometry:	Circular
Link Count:	4	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:	90.00 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	0.20	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	**Top Clip**			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	

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

Comment:

Channel Link: BCT1185-180		Upstream		Downstream	
Scenario:	01192023	Invert:	15.88 ft	Invert:	14.40 ft
From Node:	BCT1-185	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-180	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-185	Cross Section:	BCT1-180
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	600.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: BCT1195-185		Upstream		Downstream	
Scenario:	01192023	Invert:	15.23 ft	Invert:	15.88 ft
From Node:	BCT1-195	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-185	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-195	Cross Section:	BCT1-185
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	950.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: BCT120-10		Upstream		Downstream	
Scenario:	01192023	Invert:	3.71 ft	Invert:	2.62 ft
From Node:	BCT1-20	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-10	Geometry:	Irregular	Geometry:	Irregular

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Link Count:	1	Cross Section:	BCT1-20	Cross Section:	BCT1-10
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: BCT1200-195		Upstream		Downstream	
Scenario:	01192023	Invert:	15.50 ft	Invert:	15.23 ft
From Node:	BCT1-200	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-195	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-200	Cross Section:	BCT1-195
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	480.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: BCT1200-SOUTH750		Upstream		Downstream	
Scenario:	01192023	Invert:	15.50 ft	Invert:	15.58 ft
From Node:	BCT1-200	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-750	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	SOUTH-750	Cross Section:	SOUTH-750
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	550.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

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Comment:

Pipe Link: BCT1205-200		Upstream		Downstream	
Scenario:	01192023	Invert:	14.48 ft	Invert:	14.33 ft
From Node:	BCT1-205	Manning's N:	0.0350	Manning's N:	0.0350
To Node:	BCT1-200	Geometry:	Circular	Geometry:	Circular
Link Count:	1	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Flow Direction:	Positive	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	97.00 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	0.20	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Channel Link: BCT1250-205		Upstream		Downstream	
Scenario:	01192023	Invert:	14.85 ft	Invert:	15.33 ft
From Node:	BCT1-250	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-205	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-250	Cross Section:	BCT1-205
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	440.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: BCT130-20		Upstream		Downstream	
Scenario:	01192023	Invert:	3.67 ft	Invert:	3.71 ft
From Node:	BCT1-30	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-20	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-30	Cross Section:	BCT1-20
Flow Direction:	Both				

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Damping:	0.0000 ft
Length:	1000.00 ft
Contraction Coef:	0.00
Expansion Coef:	0.00
Entr Loss Coef:	0.00
Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Comment: T&H NO EDIT

Channel Link: BCT140-30		Upstream		Downstream	
Scenario:	01192023	Invert:	4.15 ft	Invert:	3.67 ft
From Node:	BCT1-40	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-30	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-40	Cross Section:	BCT1-30
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: BCT150-40		Upstream		Downstream	
Scenario:	01192023	Invert:	4.08 ft	Invert:	4.15 ft
From Node:	BCT1-50	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-40	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-50	Cross Section:	BCT1-40
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

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Channel Link: BCT160-50		Upstream		Downstream	
Scenario:	01192023	Invert:	3.12 ft	Invert:	4.08 ft
From Node:	BCT1-60	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-50	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-60	Cross Section:	BCT1-50
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: BCT170-60		Upstream		Downstream	
Scenario:	01192023	Invert:	3.14 ft	Invert:	3.12 ft
From Node:	BCT1-70	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-60	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-70	Cross Section:	BCT1-60
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: BCT180-70		Upstream		Downstream	
Scenario:	01192023	Invert:	4.03 ft	Invert:	3.14 ft
From Node:	BCT1-80	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-70	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-80	Cross Section:	BCT1-70
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				

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Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Comment: T&H NO EDIT

Channel Link: BCT190-80		Upstream		Downstream	
Scenario:	01192023	Invert:	3.86 ft	Invert:	4.03 ft
From Node:	BCT1-90	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BCT1-80	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	BCT1-90	Cross Section:	BCT1-80
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: CH#1-CH#2		Upstream		Downstream	
Scenario:	01192023	Invert:	11.00 ft	Invert:	9.60 ft
From Node:	CH#1	Manning's N:	0.0240	Manning's N:	0.0240
To Node:	CH#2	Geometry:	Trapezoidal	Geometry:	Trapezoidal
Link Count:	1	Max Depth:	9999.00 ft	Max Depth:	9999.00 ft
Flow Direction:	Both	Extrapolation:	Normal	Extrapolation:	Normal
Damping:	0.0000 ft	Bottom Width:	3.00 ft	Bottom Width:	3.00 ft
Length:	700.00 ft	Left Slope:	3.000 (h:v)	Left Slope:	3.000 (h:v)
Contraction Coef:	0.00	Right Slope:	3.000 (h:v)	Right Slope:	3.000 (h:v)
Expansion Coef:	0.00	Bottom Clip			
Entr Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	0.00	Op Table:		Op Table:	
Bend Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0000	Manning's N:	0.0000
Energy Switch:	Energy	Top Clip			
		Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Weir Link: CS1			
Scenario:	01192023	Bottom Clip	
From Node:	Small Lagoon	Default:	0.00 ft
To Node:	BCT1-140	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Positive	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	13.00 ft	Discharge Coefficients	
Control Elevation:	13.00 ft	Weir Default:	3.200
Max Depth:	9999.00 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	40.00 ft	Orifice Table:	
Left Slope:	3.000 (h:v)		
Right Slope:	3.000 (h:v)		

Comment: RICE HOPE LAKESIDE PHASE 20-23 & 29A
INPUT REPORT - POST DEVELOPMENT

Weir Link: DBASINA-BCT1165			
Scenario:	01192023	Bottom Clip	
From Node:	DET BASIN A	Default:	0.00 ft
To Node:	BCT1-150	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	14.00 ft	Discharge Coefficients	
Control Elevation:	14.00 ft	Weir Default:	2.800
Max Depth:	10.00 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	5.00 ft	Orifice Table:	
Left Slope:	2.000 (h:v)		
Right Slope:	2.000 (h:v)		

Comment: FROM LAKESIDE AT RICE HOPE - PHASE 1C
J-24526.0007
APPENDIX B - POST-DEVELOPMENT ICPR INPUT
T&H MODEL

Channel Link: DITCH NORTH		Upstream		Downstream	
Scenario:	01192023	Invert:	8.00 ft	Invert:	8.00 ft
From Node:	DITCH NORTH	Manning's N:	0.0350	Manning's N:	0.0350
To Node:	KCT1-10	Geometry: Trapezoidal		Geometry: Trapezoidal	
Link Count:	1	Max Depth:	9991.00 ft	Max Depth:	9995.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Flow Direction:	Both	Extrapolation:	Normal	Extrapolation:	Normal
Damping:	0.0000 ft	Bottom Width:	5.00 ft	Bottom Width:	5.00 ft
Length:	1000.00 ft	Left Slope:	3.000 (h:v)	Left Slope:	3.000 (h:v)
Contraction Coef:	0.10	Right Slope:	3.000 (h:v)	Right Slope:	3.000 (h:v)
Expansion Coef:	0.30	Bottom Clip			
Entr Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	0.00	Op Table:		Op Table:	
Bend Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0320	Manning's N:	0.0320
Energy Switch:	Energy	Top Clip			
		Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0320	Manning's N:	0.0320

Comment: RICE HOPE LAKESIDE PHASE 20-23 & 29A
INPUT REPORT - POST DEVELOPMENT

Channel Link: DITCH NORTH_KCM145		Upstream		Downstream	
Scenario:	01192023	Invert:	8.00 ft	Invert:	2.77 ft
From Node:	DITCH NORTH	Manning's N:	0.0350	Manning's N:	0.0350
To Node:	KCM-145	Geometry: Trapezoidal		Geometry: Trapezoidal	
Link Count:	1	Max Depth:	9999.00 ft	Max Depth:	9999.00 ft
Flow Direction:	None	Extrapolation:	Normal	Extrapolation:	Normal
Damping:	0.0000 ft	Bottom Width:	10.00 ft	Bottom Width:	10.00 ft
Length:	2400.00 ft	Left Slope:	3.000 (h:v)	Left Slope:	3.000 (h:v)
Contraction Coef:	0.00	Right Slope:	3.000 (h:v)	Right Slope:	3.000 (h:v)
Expansion Coef:	0.00	Bottom Clip			
Entr Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	0.00	Op Table:		Op Table:	
Bend Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0000	Manning's N:	0.0000
Energy Switch:	Energy	Top Clip			
		Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Channel Link: DITCH SOUTH		Upstream		Downstream	
Scenario:	01192023	Invert:	6.00 ft	Invert:	6.00 ft
From Node:	L2-3rd Lake	Manning's N:	0.0350	Manning's N:	0.0350
To Node:	PIPE XING	Geometry: Trapezoidal		Geometry: Trapezoidal	
Link Count:	1	Max Depth:	9988.00 ft	Max Depth:	9991.00 ft
Flow Direction:	Both	Extrapolation:	Normal	Extrapolation:	Normal
Damping:	0.0000 ft	Bottom Width:	40.00 ft	Bottom Width:	40.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Length:	1100.00 ft	Left Slope:	3.000 (h:v)	Left Slope:	3.000 (h:v)
Contraction Coef:	0.10	Right Slope:	3.000 (h:v)	Right Slope:	3.000 (h:v)
Expansion Coef:	0.30	Bottom Clip			
Entr Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	0.00	Op Table:		Op Table:	
Bend Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0320	Manning's N:	0.0320
Energy Switch:	Energy	Top Clip			
		Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0320	Manning's N:	0.0320

Comment: RICE HOPE LAKESIDE PHASE 20-23 & 29A
INPUT REPORT - POST DEVELOPMENT

Pipe Link: EX POND- POND #1B		Upstream		Downstream	
Scenario:	01192023	Invert:	15.20 ft	Invert:	15.20 ft
From Node:	EXISTING POND	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	POND #1B	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:	31.00 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	0.20	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Weir Link: I&D NORTH WEST OVER			
Scenario:	01192023	Bottom Clip	
From Node:	KCT1-15	Default:	0.00 ft
To Node:	KCT1-14.5	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:	Irregular	Ref Node:	
Invert:	9.23 ft	Discharge Coefficients	
Control Elevation:	9.23 ft	Weir Default:	2.800
Cross Section:	North_ID_topOfPipe	Weir Table:	
		Orifice Default:	0.600

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Orifice Table:	

Comment:

Weir Link: I&D North East Over

Scenario:	01192023	**Bottom Clip**	
From Node:	KCT1-14.5	Default:	0.00 ft
To Node:	KCT1-14	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Gravel Road Vertical	Op Table:	
Geometry Type:	Irregular	Ref Node:	
Invert:	4.40 ft	**Discharge Coefficients**	
Control Elevation:	4.40 ft	Weir Default:	2.800
Cross Section:	NORTH EAST I&D OVER PIPE	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Comment:

Weir Link: I&D North West Under

Scenario:	01192023	**Bottom Clip**	
From Node:	KCT1-15	Default:	0.00 ft
To Node:	KCT1-14.5	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	5.19 ft
Weir Type:	Gravel Road Vertical	Op Table:	
Geometry Type:	Irregular	Ref Node:	
Invert:	4.70 ft	**Discharge Coefficients**	
Control Elevation:	4.70 ft	Weir Default:	2.800
Cross Section:	North_ID_ch_survey	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Comment:

Weir Link: I&D SOUTH OVER

Scenario:	01192023	**Bottom Clip**	
From Node:	EXISTING SOUTH OUTFALL	Default:	0.00 ft
To Node:	SOUTH-650	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Irregular
Invert:	16.94 ft
Control Elevation:	16.94 ft
Cross Section:	South_ID_topOfPipe

Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients

Weir Default:	2.800
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment:

Weir Link: I&D SOUTH UNDER

Scenario:	01192023
From Node:	EXISTING SOUTH OUTFALL
To Node:	SOUTH-650
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Gravel Road Vertical
Geometry Type:	Irregular
Invert:	12.70 ft
Control Elevation:	12.70 ft
Cross Section:	South_ID_ch_survey

Bottom Clip

Default:	11.96 ft
Op Table:	
Ref Node:	

Top Clip

Default:	12.86 ft
Op Table:	
Ref Node:	

Discharge Coefficients

Weir Default:	2.800
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment:

Channel Link: KCM10-0

Scenario:	01192023
From Node:	KCM-10
To Node:	KCM-0
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Length:	1000.00 ft
Contraction Coef:	0.00
Expansion Coef:	0.00
Entr Loss Coef:	0.00
Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Upstream		Downstream	
Invert:	-5.94 ft	Invert:	-11.18 ft
Manning's N:	0.0000	Manning's N:	0.0000
Geometry:	Irregular	Geometry:	Irregular
Cross Section:	KCM-10_B	Cross Section:	KCM-0_B

Comment: T&H NO EDIT

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Channel Link: KCM120-60		Upstream		Downstream	
Scenario:	01192023	Invert:	-0.04 ft	Invert:	-2.31 ft
From Node:	KCM-120	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-60	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-120	Cross Section:	KCM-60_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	6000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Comment:					

Channel Link: KCM125-120		Upstream		Downstream	
Scenario:	01192023	Invert:	4.00 ft	Invert:	-0.04 ft
From Node:	KCM-125	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-120	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-125_A	Cross Section:	KCM-120
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	925.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Comment:					

Channel Link: KCM130-125		Upstream		Downstream	
Scenario:	01192023	Invert:	3.14 ft	Invert:	4.00 ft
From Node:	KCM-130	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-125	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-130_B	Cross Section:	KCM-125_A
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	75.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Comment: DOWNSTREAM END T&H

Channel Link: KCM135-130		Upstream		Downstream	
Scenario:	01192023	Invert:	3.46 ft	Invert:	3.14 ft
From Node:	KCM-135	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-130	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-135	Cross Section:	KCM-130_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	400.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCM139-135		Upstream		Downstream	
Scenario:	01192023	Invert:	2.70 ft	Invert:	3.46 ft
From Node:	KCM-139	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-135	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-139	Cross Section:	KCM-135
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	400.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCM145-139		Upstream		Downstream	
Scenario:	01192023	Invert:	2.77 ft	Invert:	2.70 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

From Node:	KCM-145	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-139	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-145	Cross Section:	KCM-139
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	600.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCM150-145		Upstream		Downstream	
Scenario:	01192023	Invert:	1.50 ft	Invert:	2.77 ft
From Node:	KCM-150	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-145	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-150	Cross Section:	KCM-145
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCM155-150		Upstream		Downstream	
Scenario:	01192023	Invert:	3.69 ft	Invert:	1.50 ft
From Node:	KCM-155	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-150	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-155	Cross Section:	KCM-150
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Bend Location:	0.00 dec
Energy Switch:	Energy

Comment:

Channel Link: KCM160-155		Upstream		Downstream	
Scenario:	01192023	Invert:	4.46 ft	Invert:	3.69 ft
From Node:	KCM-160	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-155	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-160	Cross Section:	KCM-155
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCM165-160		Upstream		Downstream	
Scenario:	01192023	Invert:	3.46 ft	Invert:	3.23 ft
From Node:	KCM-165	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-160	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-165	Cross Section:	KCM-160
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCM170-165		Upstream		Downstream	
Scenario:	01192023	Invert:	5.92 ft	Invert:	3.46 ft
From Node:	KCM-170	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-165	Geometry:	Irregular	Geometry:	Irregular

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Link Count:	1	Cross Section:	KCM-170	Cross Section:	KCM-165
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCM175-170		Upstream		Downstream	
Scenario:	01192023	Invert:	7.63 ft	Invert:	5.92 ft
From Node:	KCM-175	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-170	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-175	Cross Section:	KCM-170
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCM180-175		Upstream		Downstream	
Scenario:	01192023	Invert:	8.25 ft	Invert:	7.63 ft
From Node:	KCM-180	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-175	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-180	Cross Section:	KCM-175
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Comment:

Channel Link: KCM185-180		Upstream		Downstream	
Scenario:	01192023	Invert:	8.59 ft	Invert:	8.25 ft
From Node:	KCM-185	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-180	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-185	Cross Section:	KCM-180
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCM193-185		Upstream		Downstream	
Scenario:	01192023	Invert:	9.25 ft	Invert:	8.59 ft
From Node:	KCM-193	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-185	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-193	Cross Section:	KCM-185
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	800.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCM20-10		Upstream		Downstream	
Scenario:	01192023	Invert:	-4.91 ft	Invert:	-5.94 ft
From Node:	KCM-20	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-10	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-20_B	Cross Section:	KCM-10_B
Flow Direction:	Both				

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Damping:	0.0000 ft
Length:	1000.00 ft
Contraction Coef:	0.00
Expansion Coef:	0.00
Entr Loss Coef:	0.00
Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Comment: T&H NO EDIT

Channel Link: KCM30-20		Upstream		Downstream	
Scenario:	01192023	Invert:	-5.88 ft	Invert:	-4.91 ft
From Node:	KCM-30	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-20	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-30_B	Cross Section:	KCM-20_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: KCM40-30		Upstream		Downstream	
Scenario:	01192023	Invert:	-4.81 ft	Invert:	-5.88 ft
From Node:	KCM-40	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-30	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-40_B	Cross Section:	KCM-30_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

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Channel Link: KCM50-40		Upstream		Downstream	
Scenario:	01192023	Invert:	-3.64 ft	Invert:	-4.81 ft
From Node:	KCM-50	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-40	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-50_B	Cross Section:	KCM-40_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1000.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: KCM54-50		Upstream		Downstream	
Scenario:	01192023	Invert:	-2.66 ft	Invert:	-3.64 ft
From Node:	KCM-54	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-50	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-50_B	Cross Section:	KCM-50_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	400.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: KCM56-54		Upstream		Downstream	
Scenario:	01192023	Invert:	-2.31 ft	Invert:	-2.66 ft
From Node:	KCM-56	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-54	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-56_B	Cross Section:	KCM-54_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	200.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				

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Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Comment: T&H NO EDIT

Channel Link: KCM60-56		Upstream		Downstream	
Scenario:	01192023	Invert:	-1.44 ft	Invert:	-2.31 ft
From Node:	KCM-60	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCM-56	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCM-60_B	Cross Section:	KCM-56_B
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	400.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: T&H NO EDIT

Channel Link: KCT110-5		Upstream		Downstream	
Scenario:	01192023	Invert:	6.37 ft	Invert:	4.99 ft
From Node:	KCT1-10	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCT1-5	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCT1-10	Cross Section:	KCT1-5
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	400.00 ft				
Contraction Coef:	0.00				
Expansion Coef:	0.00				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: KCT110-bypass		Upstream		Downstream	
Scenario:	01192023	Invert:	6.37 ft	Invert:	3.46 ft

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From Node:	KCT1-10	Manning's N:	0.0350	Manning's N:	0.0350
To Node:	KCM-165	Geometry: Trapezoidal		Geometry: Trapezoidal	
Link Count:	1	Max Depth:	9999.00 ft	Max Depth:	9999.00 ft
Flow Direction:	None	Extrapolation:	Normal	Extrapolation:	Normal
Damping:	0.0000 ft	Bottom Width:	40.00 ft	Bottom Width:	40.00 ft
Length:	600.00 ft	Left Slope:	3.000 (h:v)	Left Slope:	3.000 (h:v)
Contraction Coef:	0.10	Right Slope:	3.000 (h:v)	Right Slope:	3.000 (h:v)
Expansion Coef:	0.30	Bottom Clip			
Entr Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	0.00	Op Table:		Op Table:	
Bend Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0000	Manning's N:	0.0000
Energy Switch:	Energy	Top Clip			
		Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Channel Link: KCT114-10		Upstream		Downstream	
Scenario:	01192023	Invert:	6.37 ft	Invert:	6.37 ft
From Node:	KCT1-14	Manning's N:	0.0350	Manning's N:	0.0000
To Node:	KCT1-10	Geometry: Trapezoidal		Geometry: Irregular	
Link Count:	1	Max Depth:	9999.00 ft	Cross Section:	KCT1-10
Flow Direction:	Both	Extrapolation:	Normal		
Damping:	0.0000 ft	Bottom Width:	12.00 ft		
Length:	400.00 ft	Left Slope:	3.000 (h:v)		
Contraction Coef:	0.10	Right Slope:	3.000 (h:v)		
Expansion Coef:	0.30	Bottom Clip			
Entr Loss Coef:	0.00	Default:	0.00 ft		
Exit Loss Coef:	0.00	Op Table:			
Bend Loss Coef:	0.00	Ref Node:			
Bend Location:	0.00 dec	Manning's N:	0.0000		
Energy Switch:	Energy	Top Clip			
		Default:	0.00 ft		
		Op Table:			
		Ref Node:			
		Manning's N:	0.0000		

Comment: UPSTEAM WAS IE: 8.00, IRREGULAR SECTION: KCT1-14

Channel Link: KCT120-15		Upstream		Downstream	
Scenario:	01192023	Invert:	7.85 ft	Invert:	6.37 ft
From Node:	PONDING AREA B	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	KCT1-15	Geometry: Irregular		Geometry: Irregular	
Link Count:	1	Cross Section:	KCT1-20	Cross Section:	KCT1-15

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Flow Direction:	Both
Damping:	0.0000 ft
Length:	500.00 ft
Contraction Coef:	0.10
Expansion Coef:	0.30
Entr Loss Coef:	0.00
Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Comment: Upstream invert was 7.85. lowered it to 6.37 to match outfall.

UP was 7.94

Channel Link: KCT15-KCM160		Upstream		Downstream	
Scenario:	01192023	Invert:	4.99 ft	Invert:	5.98 ft
From Node:	KCT1-5	Manning's N:	0.0350	Manning's N:	0.0000
To Node:	KCM-160	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	KCT1-5	Cross Section:	KCT1-0
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	500.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Drop Structure Link: L1-EX.LAGOON2		Upstream Pipe		Downstream Pipe	
Scenario:	01192023	Invert:	9.05 ft	Invert:	8.40 ft
From Node:	L1	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	EX. LAGOON 2	Geometry:	Circular	Geometry:	Circular
Link Count:	1	Max Depth:	3.50 ft	Max Depth:	3.50 ft
Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	0	Op Table:		Op Table:	
Pipe Count:	1	Ref Node:		Ref Node:	
Damping:	0.0000 ft	Manning's N:	0.0000	Manning's N:	0.0000
Length:	268.00 ft	Top Clip			
FHWA Code:	3	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	1.00	Op Table:		Op Table:	
Exit Loss Coef:	0.00	Ref Node:		Ref Node:	

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Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Pipe Comment:

Weir Component		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:	Circular	Op Table:	
Invert:	13.65 ft	Ref Node:	
Control Elevation:	12.00 ft	**Discharge Coefficients**	
Max Depth:	3.50 ft	Weir Default:	3.200
		Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Drop Structure Comment:

Pipe Link: L1-SOUTH600		Upstream		Downstream	
Scenario:	01192023	Invert:	8.00 ft	Invert:	8.00 ft
From Node:	L1	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	SOUTH-600	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:	680.00 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: LAG1-6(42)		Upstream		Downstream	
Scenario:	01192023	Invert:	10.03 ft	Invert:	10.25 ft
From Node:	CI #11	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	MH #141	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	3.50 ft	Max Depth:	3.50 ft

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Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	82.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: FROM LAKESIDE AT RICE HOPE - PHASE 1C
J-24526.0007
APPENDIX B - POST-DEVELOPMENT ICPR INPUT
T&H MODEL

Pipe Link: LAG1-6(48)		Upstream		Downstream	
Scenario:	01192023	Invert:	8.26 ft	Invert:	9.88 ft
From Node:	EX. LAGOON 2	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	CI #11	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:	632.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	1.00	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: FROM LAKESIDE AT RICE HOPE - PHASE 1C
J-24526.0007
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T&H MODEL

Pipe Link: LAG1-6(A)		Upstream		Downstream	
Scenario:	01192023	Invert:	7.00 ft	Invert:	7.00 ft
From Node:	MH #141	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	CI #102	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:	430.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000

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

Comment: FROM LAKESIDE AT RICE HOPE - PHASE 1C
J-24526.0007
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T&H MODEL

Pipe Link: LAG1-6(B)		Upstream		Downstream	
Scenario:	01192023	Invert:	7.00 ft	Invert:	7.00 ft
From Node:	CI #102	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	CI #100	Geometry: Circular		Geometry: Circular	
Link Count:	1	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:	336.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: LAG1-6(C)		Upstream		Downstream	
Scenario:	01192023	Invert:	7.00 ft	Invert:	7.00 ft
From Node:	CI #100	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LAGOON 6	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:	162.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

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Pipe Link: LAG1-6(D)		Upstream		Downstream	
Scenario:	01192023	Invert:	7.00 ft	Invert:	7.00 ft
From Node:	MH #141	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LAGOON 5	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:	80.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Weir Link: LAG5-OFW			
Scenario:	01192023	Bottom Clip	
From Node:	LAGOON 5	Default:	0.00 ft
To Node:	BCT1-165	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	16.00 ft	Discharge Coefficients	
Control Elevation:	16.00 ft	Weir Default:	2.800
Max Depth:	10.00 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	10.00 ft	Orifice Table:	
Left Slope:	2.000 (h:v)		
Right Slope:	2.000 (h:v)		

Comment: FROM LAKESIDE AT RICE HOPE - PHASE 1C
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Weir Link: LAG6-OFW			
Scenario:	01192023	Bottom Clip	
From Node:	LAGOON 6	Default:	0.00 ft
To Node:	BCT1-165	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft

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Weir Type:	Broad Crested Vertical
Geometry Type:	Trapezoidal
Invert:	16.00 ft
Control Elevation:	16.00 ft
Max Depth:	10.00 ft
Extrapolation Method:	Normal Projection
Bottom Width:	10.00 ft
Left Slope:	2.000 (h:v)
Right Slope:	2.000 (h:v)

Op Table:	
Ref Node:	
Discharge Coefficients	
Weir Default:	2.800
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment: FROM LAKESIDE AT RICE HOPE - PHASE 1C
J-24526.0007
APPENDIX B - POST-DEVELOPMENT ICPR INPUT
T&H MODEL

Weir Link: LAKESIDE BLVD OVERFLOW

Scenario:	01192023
From Node:	BCT1-180
To Node:	BCT1-175
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Broad Crested Vertical
Geometry Type:	Irregular
Invert:	18.32 ft
Control Elevation:	18.32 ft
Cross Section:	LAKESIDE BLVD.

Bottom Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Top Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Discharge Coefficients	
Weir Default:	2.800
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment:

Pipe Link: Lakeside-ThirdLake

Scenario:	01192023
From Node:	L2 Lakeside
To Node:	L2-3rd Lake
Link Count:	2
Flow Direction:	Both
Damping:	0.0000 ft
Length:	70.00 ft
FHWA Code:	3
Entr Loss Coef:	0.00
Exit Loss Coef:	1.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Upstream		Downstream	
Invert:	6.00 ft	Invert:	6.00 ft
Manning's N:	0.0130	Manning's N:	0.0130
Geometry: Circular		Geometry: Circular	
Max Depth:	4.00 ft	Max Depth:	4.00 ft
Bottom Clip			
Default:	0.00 ft	Default:	0.00 ft
Op Table:		Op Table:	
Ref Node:		Ref Node:	
Manning's N:	0.0000	Manning's N:	0.0000
Top Clip			
Default:	0.00 ft	Default:	0.00 ft
Op Table:		Op Table:	
Ref Node:		Ref Node:	
Manning's N:	0.0000	Manning's N:	0.0000

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Comment:

Channel Link: MID10-10		Upstream		Downstream	
Scenario:	01192023	Invert:	14.52 ft	Invert:	12.15 ft
From Node:	MID-10	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-450	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	MID-10	Cross Section:	MID-5
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	630.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Pipe Link: NEW RH PLANTATION DR CULVERT		Upstream		Downstream	
		Invert:	10.22 ft	Invert:	10.22 ft
Scenario:	01192023	Manning's N:	0.0130	Manning's N:	0.0130
From Node:	CH#3	Geometry:	Circular	Geometry:	Circular
To Node:	PONDING AREA B	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	25.00 ft	Ref Node:		Ref Node:	
FHWA Code:	48	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	0.20	Top Clip			
Exit Loss Coef:	1.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.02	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: RH PLANTATION DR.

2

Drop Structure Link: OCS 1		Upstream Pipe		Downstream Pipe	
Scenario:	01192023	Invert:	15.20 ft	Invert:	15.09 ft
From Node:	POND #1B	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	EXISTING SOUTH	Geometry:	Circular	Geometry:	Circular

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	OUTFALL	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Solution:	Combine	Op Table:		Op Table:	
Increments:	0	Ref Node:		Ref Node:	
Pipe Count:	2	Manning's N:	0.0000	Manning's N:	0.0000
Damping:	0.0000 ft	Top Clip			
Length:	38.00 ft	Default:	0.00 ft	Default:	0.00 ft
FHWA Code:	3	Op Table:		Op Table:	
Entr Loss Coef:	0.20	Ref Node:		Ref Node:	
Exit Loss Coef:	1.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Pipe Comment:

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:	Circular	Default:	0.00 ft
Invert:	15.20 ft	Op Table:	
Control Elevation:	0.00 ft	Ref Node:	
Max Depth:	0.50 ft	Discharge Coefficients	
		Weir Default:	3.200
		Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

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:	Rectangular	Default:	0.00 ft
Invert:	16.70 ft	Op Table:	
Control Elevation:	0.00 ft	Ref Node:	
Max Depth:	3.75 ft	Discharge Coefficients	
Max Width:	3.75 ft	Weir Default:	3.000
Fillet:	0.00 ft	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment: Rectangular Weir WEIR 1 15ft rectangular weir... assume 3.75 box

Weir Component

Weir:	3	Bottom Clip	

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Weir Count:	1		
Weir Flow Direction:	Both	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:	
Weir Type:	Sharp Crested Vertical	Ref Node:	
Geometry Type:	Trapezoidal	**Top Clip**	
Invert:	17.20 ft	Default:	0.00 ft
Control Elevation:	0.00 ft	Op Table:	
Max Depth:	10.00 ft	Ref Node:	
Extrapolation Method:	Normal Projection	**Discharge Coefficients**	
Bottom Width:	4.00 ft	Weir Default:	3.000
Left Slope:	3.000 (h:v)	Weir Table:	
Right Slope:	3.000 (h:v)	Orifice Default:	0.600
		Orifice Table:	

Weir Comment: Rectangular Weir Spillway1

Weir Component

Weir:	4	**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:	Trapezoidal	Default:	0.00 ft
Invert:	18.00 ft	Op Table:	
Control Elevation:	0.00 ft	Ref Node:	
Max Depth:	10.00 ft	**Discharge Coefficients**	
Extrapolation Method:	Normal Projection	Weir Default:	3.000
Bottom Width:	10.00 ft	Weir Table:	
Left Slope:	3.000 (h:v)	Orifice Default:	0.600
Right Slope:	3.000 (h:v)	Orifice Table:	

Weir Comment: Rectangular Weir Spillway2

Drop Structure Comment:

Drop Structure Link: OCS 2		Upstream Pipe		Downstream Pipe	
Scenario:	01192023	Invert:	11.85 ft	Invert:	11.50 ft
From Node:	KCT1-15	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	CH#2	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.50 ft	Max Depth:	2.50 ft
Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	0	Op Table:		Op Table:	
Pipe Count:	1	Ref Node:		Ref Node:	
Damping:	0.0000 ft	Manning's N:	0.0000	Manning's N:	0.0000
Length:	34.00 ft	Top Clip			
FHWA Code:	3	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.20	Op Table:		Op Table:	
Exit Loss Coef:	1.00	Ref Node:		Ref Node:	

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Bend Loss Coef: 0.00 Manning's N: 0.0000 Manning's N: 0.0000
Bend Location: 0.00 dec
Energy Switch: Energy

Pipe Comment: CULVERT OUT
12 11.49

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:	Circular	Op Table:	
Invert:	12.00 ft	Ref Node:	
Control Elevation:	0.00 ft	**Discharge Coefficients**	
Max Depth:	0.50 ft	Weir Default:	3.000
		Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment: WQ ORIFICE O1 6in orifice

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:	13.25 ft	Ref Node:	
Control Elevation:	0.00 ft	**Discharge Coefficients**	
Max Depth:	2.50 ft	Weir Default:	3.000
Max Width:	2.50 ft	Weir Table:	
Fillet:	0.00 ft	Orifice Default:	0.600
		Orifice Table:	

Weir Comment: Rectangular Weir WEIR 1 5ft rectangular weir... assume 3.75 box

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:	15.75 ft	Ref Node:	
Control Elevation:	0.00 ft	**Discharge Coefficients**	
Max Depth:	4.00 ft	Weir Default:	3.000
Max Width:	4.00 ft		

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Fillet:	0.00 ft		
		Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment: Rectangular Weir EM SPLWY

Drop Structure Comment:

Weir Link: OFFSITE3-SOUTH

Scenario:	01192023	**Bottom Clip**	
From Node:	OFFSITE AREA #3	Default:	0.00 ft
To Node:	SOUTH PONDING AREA	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Irregular	Ref Node:	
Invert:	14.45 ft	**Discharge Coefficients**	
Control Elevation:	14.45 ft	Weir Default:	2.800
Cross Section:	OFFSITE3-SOUTH	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Comment:

Drop Structure Link: OS#1

		Upstream Pipe		Downstream Pipe	
Scenario:	01192023	Invert:	8.50 ft	Invert:	8.33 ft
From Node:	EX. LAGOON 2	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	BCT1-165	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	3.00 ft	Max Depth:	3.00 ft
Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	0	Op Table:		Op Table:	
Pipe Count:	1	Ref Node:		Ref Node:	
Damping:	0.0000 ft	Manning's N:	0.0000	Manning's N:	0.0000
Length:	56.00 ft	Top Clip			
FHWA Code:	3	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.00	Op Table:		Op Table:	
Exit Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Pipe Comment:

Weir Component

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Weir:	1
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Rectangular
Invert:	14.00 ft
Control Elevation:	14.00 ft
Max Depth:	0.50 ft
Max Width:	4.00 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: FROM LAKESIDE AT RICE HOPE - PHASE 1C
J-24526.0007
APPENDIX B - POST-DEVELOPMENT ICPR INPUT
T&H MODEL

Drop Structure Comment:

Drop Structure Link: OS#3	
Scenario:	01192023
From Node:	LAGOON 6
To Node:	BCT1-165
Link Count:	1
Flow Direction:	Both
Solution:	Combine
Increments:	0
Pipe Count:	1
Damping:	0.0000 ft
Length:	30.00 ft
FHWA Code:	3
Entr Loss Coef:	0.50
Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Upstream Pipe	
Invert:	8.50 ft
Manning's N:	0.0130

Geometry: Circular	
Max Depth:	2.50 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 Pipe	
Invert:	8.50 ft
Manning's N:	0.0130

Geometry: Circular	
Max Depth:	2.50 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

Pipe Comment:

Weir Component	
Weir:	1
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Rectangular

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

Top Clip	
Default:	0.00 ft

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Invert:	13.65 ft
Control Elevation:	13.65 ft
Max Depth:	1.75 ft
Max Width:	0.21 ft
Fillet:	0.00 ft

Op Table:	
Ref Node:	

Discharge Coefficients

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

Weir Comment: SPAN(IN): 2.5
RISE(IN): 21.00

Weir Component

Weir:	2
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Rectangular
Invert:	15.40 ft
Control Elevation:	15.40 ft
Max Depth:	1.50 ft
Max Width:	5.00 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: SPAN(IN): 60
RISE(IN): 18

Weir Component

Weir:	3
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Rectangular
Invert:	15.40 ft
Control Elevation:	15.40 ft
Max Depth:	1.50 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: SPAN(IN): 36
RISE(IN): 18

Drop Structure Comment: FROM LAKESIDE AT RICE HOPE - PHASE 1C
J-24526.0007
APPENDIX B - POST-DEVELOPMENT ICPR INPUT
T&H MODEL

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Pipe Link: OS#5		Upstream		Downstream	
Scenario:	01192023	Invert:	15.20 ft	Invert:	14.50 ft
From Node:	LAGOON 5	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	BCT1-165	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:	30.00 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	1.00	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.50	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: FROM LAKESIDE AT RICE HOPE - PHASE 1C
J-24526.0007
APPENDIX B - POST-DEVELOPMENT ICPR INPUT
T&H MODEL

Drop Structure Link: OSC 2B*		Upstream Pipe		Downstream Pipe	
Scenario:	01192023	Invert:	8.00 ft	Invert:	8.00 ft
From Node:	POND#3	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	PONDING AREA A	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.50 ft	Max Depth:	2.00 ft
Flow Direction:	None	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:	30.00 ft	Top Clip			
FHWA Code:	3	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.20	Op Table:		Op Table:	
Exit Loss Coef:	1.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Pipe Comment:

Weir Component		Bottom Clip	
Weir:	1		
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:	12.00 ft	Op Table:	

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Control Elevation:	0.00 ft
Max Depth:	0.50 ft

Ref Node:	

Discharge Coefficients

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

Weir Comment:

Weir Component

Weir:	2
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Rectangular
Invert:	13.50 ft
Control Elevation:	0.00 ft
Max Depth:	2.00 ft
Max Width:	2.00 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:

Weir Component

Weir:	3
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Trapezoidal
Invert:	15.50 ft
Control Elevation:	0.00 ft
Max Depth:	10.00 ft
Extrapolation Method:	Normal Projection
Bottom Width:	24.00 ft
Left Slope:	3.000 (h:v)
Right Slope:	3.000 (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:	

Weir Comment:

Drop Structure Comment:

Weir Link: P1A EMERGENCY OVRFLW

Scenario:	01192023
From Node:	EXISTING POND
To Node:	POND#1A

Bottom Clip

Default:	0.00 ft
Op Table:	

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Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Broad Crested Vertical
Geometry Type:	Trapezoidal
Invert:	17.20 ft
Control Elevation:	17.20 ft
Max Depth:	10.00 ft
Extrapolation Method:	Normal Projection
Bottom Width:	20.00 ft
Left Slope:	3.000 (h:v)
Right Slope:	3.000 (h:v)

Ref Node:	
Top Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Discharge Coefficients	
Weir Default:	2.800
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment:

Pipe Link: P1A-P1B		Upstream		Downstream	
Scenario:	01192023	Invert:	13.09 ft	Invert:	12.99 ft
From Node:	POND#1A	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	POND #1B	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:	100.00 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	0.20	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: P3-P2		Upstream		Downstream	
Scenario:	01192023	Invert:	7.00 ft	Invert:	7.00 ft
From Node:	POND#3	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	POND#2	Geometry: Circular		Geometry: Circular	
Link Count:	1	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:	560.00 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	0.20	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	

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

Comment:

Drop Structure Link: PIPE - CR2		Upstream Pipe		Downstream Pipe	
Scenario:	01192023	Invert:	7.33 ft	Invert:	8.00 ft
From Node:	PIPE XING	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	DITCH NORTH	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.00 ft	Max Depth:	4.00 ft
Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	0	Op Table:		Op Table:	
Pipe Count:	2	Ref Node:		Ref Node:	
Damping:	0.0000 ft	Manning's N:	0.0000	Manning's N:	0.0000
Length:	93.00 ft	Top Clip			
FHWA Code:	3	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.00	Op Table:		Op Table:	
Exit Loss Coef:	1.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Pipe Comment:

Weir Component		Bottom Clip	
Weir:	1	Default:	0.00 ft
Weir Count:	2	Op Table:	
Weir Flow Direction:	Both	Ref Node:	
Damping:	0.0000 ft	Top Clip	
Weir Type:	Horizontal	Default:	0.00 ft
Geometry Type:	Trapezoidal	Op Table:	
Invert:	11.50 ft	Ref Node:	
Control Elevation:	7.20 ft	Discharge Coefficients	
Max Depth:	2.00 ft	Weir Default:	3.000
Extrapolation Method:	Normal Projection	Weir Table:	
Bottom Width:	4.00 ft	Orifice Default:	0.600
Left Slope:	0.000 (h:v)	Orifice Table:	
Right Slope:	0.000 (h:v)		

Weir Comment: HORIZONTAL, RECTANGULAR, DEPTH 4, WIDTH 7.5 WORKS.
SHARP, TRAP, 10 WIDTH, 4'DEPTH WORKS

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		

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Invert:	14.00 ft
Control Elevation:	7.20 ft
Max Depth:	13.50 ft
Max Width:	3.67 ft
Fillet:	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:	2
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Trapezoidal
Invert:	11.50 ft
Control Elevation:	7.20 ft
Max Depth:	2.00 ft
Extrapolation Method:	Normal Projection
Bottom Width:	3.67 ft
Left Slope:	0.000 (h:v)
Right Slope:	0.000 (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:	

Weir Comment:

Drop Structure Comment: wasn't in 3/38/2022 but in 3/25/2022

Pipe Link: PIPE 1	
Scenario:	01192023
From Node:	EX LAG
To Node:	Small Lagoon
Link Count:	2
Flow Direction:	Both
Damping:	0.0000 ft
Length:	1085.00 ft
FHWA Code:	3
Entr Loss Coef:	0.00
Exit Loss Coef:	1.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Upstream	
Invert:	9.00 ft
Manning's N:	0.0130
Geometry: Circular	
Max Depth:	4.00 ft
Bottom Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Manning's N:	0.0130
Top Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Manning's N:	0.0130

Downstream	
Invert:	9.00 ft
Manning's N:	0.0130
Geometry: Circular	
Max Depth:	4.00 ft
Bottom Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Manning's N:	0.0130
Top Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Manning's N:	0.0130

Comment: RICE HOPE LAKESIDE PHASE 20-23 & 29A
INPUT REPORT - POST DEVELOPMENT

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Drop Structure Link: PIPE EX-DITCH		Upstream Pipe		Downstream Pipe	
Scenario:	01192023	Invert:	10.00 ft	Invert:	8.00 ft
From Node:	EX LAG	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	L2 Lakeside	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	3.00 ft	Max Depth:	3.00 ft
Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	0	Op Table:		Op Table:	
Pipe Count:	1	Ref Node:		Ref Node:	
Damping:	0.0000 ft	Manning's N:	0.0000	Manning's N:	0.0000
Length:	1845.00 ft	Top Clip			
FHWA Code:	3	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.00	Op Table:		Op Table:	
Exit Loss Coef:	1.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Pipe Comment:

Weir Component			
Weir:	1	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:	Trapezoidal	Default:	0.00 ft
Invert:	13.50 ft	Op Table:	
Control Elevation:	10.00 ft	Ref Node:	
Max Depth:	3.00 ft	Discharge Coefficients	
Extrapolation Method:	Normal Projection	Weir Default:	3.200
Bottom Width:	9.40 ft	Weir Table:	
Left Slope:	0.000 (h:v)	Orifice Default:	0.600
Right Slope:	0.000 (h:v)	Orifice Table:	

Weir Comment: UPDATE EXISTING PIPE TO DROPSTRUCTURE SO WE CAN REDUCE FLOW GOING NORTH.

RICE HOPE LAKESIDE PHASE 20-23 & 29A
INPUT REPORT - POST DEVELOPMENT

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:	Horizontal	Top Clip	
Geometry Type:	Rectangular	Default:	0.00 ft
Invert:	17.00 ft	Op Table:	
Control Elevation:	11.00 ft	Ref Node:	
Max Depth:	5.10 ft	Discharge Coefficients	
Max Width:	4.10 ft	Weir Default:	3.200
Fillet:	0.00 ft	Weir Table:	

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Orifice Default:	0.600
Orifice Table:	

Weir Comment:

Drop Structure Comment:

Drop Structure Link: PIPE L1-EX		Upstream Pipe		Downstream Pipe	
Scenario:	01192023	Invert:	9.00 ft	Invert:	8.00 ft
From Node:	EX LAG	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	L1	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	0	Op Table:		Op Table:	
Pipe Count:	1	Ref Node:		Ref Node:	
Damping:	0.0000 ft	Manning's N:	0.0000	Manning's N:	0.0000
Length:	1120.00 ft	Top Clip			
FHWA Code:	3	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.00	Op Table:		Op Table:	
Exit Loss Coef:	1.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Pipe Comment:

Weir Component			
Weir:	1	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:	Trapezoidal	Default:	0.00 ft
Invert:	13.00 ft	Op Table:	
Control Elevation:	12.00 ft	Ref Node:	
Max Depth:	3.50 ft	Discharge Coefficients	
Extrapolation Method:	Normal Projection	Weir Default:	3.000
Bottom Width:	6.50 ft	Weir Table:	
Left Slope:	0.000 (h:v)	Orifice Default:	0.600
Right Slope:	0.000 (h:v)	Orifice Table:	

Weir Comment:

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:	

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Weir Type:	Horizontal
Geometry Type:	Rectangular
Invert:	16.00 ft
Control Elevation:	11.00 ft
Max Depth:	4.00 ft
Max Width:	4.50 ft
Fillet:	0.00 ft

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:

Drop Structure Comment:

Pipe Link: PIPE L3-L2		Upstream		Downstream	
Scenario:	01192023	Invert:	8.00 ft	Invert:	8.00 ft
From Node:	L3	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	L2 Lakeside	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:	275.00 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: PIPE L4-L2*		Upstream		Downstream	
Scenario:	01192023	Invert:	8.00 ft	Invert:	8.00 ft
From Node:	L4	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	L2-3rd Lake	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:	635.00 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	

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

Comment: 12

Pipe Link: POND2-CH1		Upstream		Downstream	
Scenario:	01192023	Invert:	12.00 ft	Invert:	11.49 ft
From Node:	POND#2	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	CH#1	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:	108.00 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	0.20	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Weir Link: PONDING A-OFFSITE 3			
Scenario:	01192023	Bottom Clip	
From Node:	PONDING AREA A	Default:	0.00 ft
To Node:	OFFSITE AREA #3	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Irregular	Ref Node:	
Invert:	14.35 ft	Discharge Coefficients	
Control Elevation:	14.35 ft	Weir Default:	2.800
Cross Section:	PONDING A-OFFSITE 3	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Comment:

Channel Link: PONDING AREA A - CH#3		Upstream		Downstream	
Scenario:	01192023	Invert:	11.50 ft	Invert:	10.00 ft
From Node:	PONDING AREA A	Manning's N:	0.0350	Manning's N:	0.0350
To Node:	CH#3	Geometry: Trapezoidal		Geometry: Trapezoidal	
Link Count:	1	Max Depth:	9999.00 ft	Max Depth:	9999.00 ft
Flow Direction:	Both	Extrapolation:	Normal	Extrapolation:	Normal

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Damping:	0.0000 ft	Bottom Width:	5.00 ft	Bottom Width:	5.00 ft
Length:	925.00 ft	Left Slope:	3.000 (h:v)	Left Slope:	3.000 (h:v)
Contraction Coef:	0.00	Right Slope:	3.000 (h:v)	Right Slope:	3.000 (h:v)
Expansion Coef:	0.00	Bottom Clip			
Entr Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	0.00	Op Table:		Op Table:	
Bend Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0000	Manning's N:	0.0000
Energy Switch:	Diff Wave	Top Clip			
		Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: PondingA-Pond3		Upstream		Downstream	
Scenario:	01192023	Invert:	13.25 ft	Invert:	12.00 ft
From Node:	OFFSITE AREA #3	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	POND#3	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	3.00 ft	Max Depth:	3.00 ft
Flow Direction:	Positive	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	36.00 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: was 3
13.25 12

Weir Link: RICE HOPE RD			
Scenario:	01192023	Bottom Clip	
From Node:	CH#3	Default:	0.00 ft
To Node:	PONDING AREA B	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Irregular	Ref Node:	
Invert:	14.16 ft	Discharge Coefficients	
Control Elevation:	14.16 ft	Weir Default:	2.800
Cross Section:	RICE HOPE RD	Weir Table:	

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Orifice Default:	0.600
Orifice Table:	

Comment:

Channel Link: SOUTH100-50		Upstream		Downstream	
Scenario:	01192023	Invert:	2.57 ft	Invert:	2.61 ft
From Node:	SOUTH-100	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-50	Geometry: Irregular		Geometry: Irregular	
Link Count:	1	Cross Section:	SOUTH-100	Cross Section:	SOUTH-50
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	396.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Pipe Link: SOUTH150-100		Upstream		Downstream	
Scenario:	01192023	Invert:	2.78 ft	Invert:	2.57 ft
From Node:	SOUTH-150	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	SOUTH-100	Geometry: Rectangular		Geometry: Rectangular	
Link Count:	1	Max Depth:	4.00 ft	Max Depth:	4.00 ft
Flow Direction:	Both	Max Width:	4.00 ft	Max Width:	4.00 ft
Damping:	0.0000 ft	Fillet:	0.00 ft	Fillet:	0.00 ft
Length:	400.00 ft	Bottom Clip			
FHWA Code:	3	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.20	Op Table:		Op Table:	
Exit Loss Coef:	1.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec	Top Clip			
Energy Switch:	Energy	Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: NEED SURVEY INFORMATION. I HAVE NO IDEA WHAT SIZE THIS BOX IS. CAN SEE IT FROM THE IMAGE

Channel Link: SOUTH200-150	Upstream	Downstream

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Scenario:	01192023	Invert:	3.75 ft	Invert:	2.78 ft
From Node:	SOUTH-200	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-150	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	SOUTH-200	Cross Section:	SOUTH-150
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	719.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: SOUTH250-200		Upstream		Downstream	
Scenario:	01192023	Invert:	3.70 ft	Invert:	3.75 ft
From Node:	SOUTH-250	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-200	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	SOUTH-250	Cross Section:	SOUTH-200
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	492.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Weir Link: SOUTH250-KCM139			
Scenario:	01192023	Bottom Clip	
From Node:	SOUTH-250	Default:	0.00 ft
To Node:	KCM-139	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Irregular	Ref Node:	
Invert:	7.22 ft	Discharge Coefficients	
Control Elevation:	7.22 ft	Weir Default:	2.800
Cross Section:	X-0610W	Weir Table:	

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Orifice Default: 0.600
Orifice Table:

Comment:

Channel Link: SOUTH300-250		Upstream		Downstream	
Scenario:	01192023	Invert:	9.64 ft	Invert:	3.70 ft
From Node:	SOUTH-300	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-250	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	SOUTH-300	Cross Section:	SOUTH-250
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	902.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: SOUTH350-300		Upstream		Downstream	
Scenario:	01192023	Invert:	11.33 ft	Invert:	9.64 ft
From Node:	SOUTH-350	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	SOUTH-300	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	SOUTH-350	Cross Section:	SOUTH-300
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	656.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: SOUTH400-350		Upstream		Downstream	
Scenario:	01192023	Invert:	12.90 ft	Invert:	11.33 ft
From Node:	SOUTH-400	Manning's N:	0.0000	Manning's N:	0.0000

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To Node:	SOUTH-350
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Length:	440.00 ft
Contraction Coef:	0.10
Expansion Coef:	0.30
Entr Loss Coef:	0.00
Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Geometry: Irregular		Geometry: Irregular	
Cross Section:	SOUTH-400	Cross Section:	SOUTH-350

Comment:

Channel Link: SOUTH450-400	
Scenario:	01192023
From Node:	SOUTH-450
To Node:	SOUTH-400
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Length:	636.00 ft
Contraction Coef:	0.10
Expansion Coef:	0.30
Entr Loss Coef:	0.00
Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Upstream		Downstream	
Invert:	11.96 ft	Invert:	12.90 ft
Manning's N:	0.0000	Manning's N:	0.0000
Geometry: Irregular		Geometry: Irregular	
Cross Section:	SOUTH-450	Cross Section:	SOUTH-400

Comment:

Channel Link: SOUTH500-450	
Scenario:	01192023
From Node:	SOUTH-500
To Node:	SOUTH-450
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Length:	450.00 ft
Contraction Coef:	0.10
Expansion Coef:	0.30
Entr Loss Coef:	0.00
Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec

Upstream		Downstream	
Invert:	13.44 ft	Invert:	11.96 ft
Manning's N:	0.0000	Manning's N:	0.0000
Geometry: Irregular		Geometry: Irregular	
Cross Section:	SOUTH-500	Cross Section:	SOUTH-450

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Energy Switch: Energy

Comment:

Pipe Link: SOUTH600-L3		Upstream		Downstream	
Scenario:	01192023	Invert:	8.00 ft	Invert:	8.00 ft
From Node:	SOUTH-600	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	L3	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:	600.00 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: SOUTH650-600		Upstream		Downstream	
Scenario:	01192023	Invert:	8.00 ft	Invert:	8.00 ft
From Node:	SOUTH-650	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	SOUTH-600	Geometry: Circular		Geometry: Circular	
Link Count:	1	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:	500.00 ft	Op Table:		Op Table:	
FHWA Code:	3	Ref Node:		Ref Node:	
Entr Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	0.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Channel Link:		Upstream		Downstream	
SOUTH750-EX_SOUTH_OUTFALL		Invert:	15.58 ft	Invert:	15.51 ft
Scenario:	01192023	Manning's N:	0.0000	Manning's N:	0.0000
From Node:	SOUTH-750	Geometry: Irregular		Geometry: Irregular	
To Node:	EXISTING SOUTH	Cross Section:	SOUTH-750	Cross Section:	SOUTH-660

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

	OUTFALL
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Length:	1150.00 ft
Contraction Coef:	0.10
Expansion Coef:	0.30
Entr Loss Coef:	0.00
Exit Loss Coef:	0.00
Bend Loss Coef:	0.00
Bend Location:	0.00 dec
Energy Switch:	Energy

Comment:

Weir Link: SOUTH_PONDING-BCT1250

Scenario:	01192023
From Node:	SOUTH PONDING AREA
To Node:	BCT1-250
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Broad Crested Vertical
Geometry Type:	Irregular
Invert:	14.45 ft
Control Elevation:	14.45 ft
Cross Section:	SOUTH-BCT1

Bottom Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip

Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients

Weir Default:	1.500
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment:

Weir Link: W:POND2-CH1

Scenario:	01192023
From Node:	POND#2
To Node:	CH#1
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Broad Crested Vertical
Geometry Type:	Trapezoidal
Invert:	17.15 ft
Control Elevation:	17.15 ft
Max Depth:	100.00 ft
Extrapolation Method:	Normal Projection
Bottom Width:	20.00 ft
Left Slope:	3.000 (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:	2.800
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Right Slope: 3.000 (h:v)

Comment:

Simulation: 10-yr_6.38

Scenario: 01192023
Run Date/Time: 1/20/2023 3:48:17 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set: 10 YEAR
Extern Hydrograph Set:
Curve Number Set: CN1
Green-Ampt Set:
Vertical Layers Set:
Impervious Set: IMP SET 1

Tolerances & Options

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	20		
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0001 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	0.1000 ft		
Link Optimizer Tol:	0.0000 ft	Rainfall Name:	~SCSIII-24
		Rainfall Amount:	6.38 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: 100-yr_10.6

Scenario: 01192023
Run Date/Time: 1/20/2023 4:17:25 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	55.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.0100
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set: 100 YEAR
Extern Hydrograph Set:
Curve Number Set: CN1
Green-Ampt Set:
Vertical Layers Set:
Impervious Set: IMP SET 1

Tolerances & Options

Time Marching: SAOR
Max Iterations: 20
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0001 ft
Max dZ: 0.1000 ft
Link Optimizer Tol: 0.0000 ft
Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain Opt: Global
Rainfall Name: ~SCSIII-24
Rainfall Amount: 10.60 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: 2-yr_4.28

Scenario: 01192023
Run Date/Time: 1/20/2023 4:43:45 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	40.0000

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set: 2 YEAR
Extern Hydrograph Set:
Curve Number Set: CN1
Green-Ampt Set:
Vertical Layers Set:
Impervious Set: IMP SET 1

Tolerances & Options

Time Marching: SAOR
Max Iterations: 20
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0001 ft
Max dZ: 0.1000 ft
Link Optimizer Tol: 0.0000 ft
Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain Opt: Global
Rainfall Name: ~SCSIII-24
Rainfall Amount: 4.28 in
Storm Duration: 24.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Simulation: 25-yr_7.91

Scenario: 01192023
Run Date/Time: 1/20/2023 4:54:19 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	50.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set: 25 YEAR
Extern Hydrograph Set:
Curve Number Set: CN1
Green-Ampt Set:
Vertical Layers Set:
Impervious Set: IMP SET 1

Tolerances & Options

Time Marching: SAOR
Max Iterations: 20
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0001 ft

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain: Global

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

		Opt:	
Max dZ:	0.1000 ft		
Link Optimizer Tol:	0.0000 ft	Rainfall Name:	~SCSIII-24
		Rainfall Amount:	7.91 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: 5-yr_5.38

Scenario: 01192023
Run Date/Time: 1/20/2023 5:10:55 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	50.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Resources		Lookup Tables	
Rainfall Folder:		Boundary Stage Set:	10 YEAR
		Extern Hydrograph Set:	
Unit Hydrograph Folder:		Curve Number Set:	CN1
		Green-Ampt Set:	
		Vertical Layers Set:	
		Impervious Set:	IMP SET 1

Tolerances & Options			
Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	20		
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0001 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	0.1000 ft		
Link Optimizer Tol:	0.0000 ft	Rainfall Name:	~SCSIII-24
		Rainfall Amount:	5.38 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: 50-yr_9.20

Scenario: 01192023
Run Date/Time: 1/20/2023 5:25:45 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	55.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set: 50 YEAR
Extern Hydrograph Set:
Curve Number Set: CN1
Green-Ampt Set:
Vertical Layers Set:
Impervious Set: IMP SET 1

Tolerances & Options

Time Marching: SAOR
Max Iterations: 20
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0001 ft
Max dZ: 0.1000 ft
Link Optimizer Tol: 0.0000 ft
Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain Opt: Global
Rainfall Name: ~SCSIII-24
Rainfall Amount: 9.20 in
Storm Duration: 24.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

RICE HOPE LAKESIDE PHASE 24
PITTMAN ENGINEERING CO
6/1/2022 **REVISED 2/28/2023,10/12/2022**
PIPE SIZING

STARTING STRUCTURE ID	RECEIVING STRUCTURE ID	DRAINAGE AREA (ACRES)	TOTAL DRAINAGE AREA (ACRES)	MANNING'S COEFF	TIME OF CONC (MIN)	RUNOFF COEFF c	25-YR 24HR RAINFALL INTENSITY (IN/HR)	CUMULATIVE DISCHARGE (CFS)	SLOPE (FT/FT)	MANNINGS CALC. (IN)	SELECTED MANNINGS SIZE (IN)	MANNINGS VELOCITY (FT/SEC)	PIPE LENGTH (FT)	PIPE TRAVEL TIME (MIN)	FRAME ELEV (FT)	FRICTION LOSSES (FT)	TOTAL	MINOR LOSSES (FT)	*DOWN STREAM ELEV (FT)	INLET PONDING ELEV (FT)	FREEBOARD (FRAME-INLET PONDING-0.3 FT) (FT)
C6	C5	0.40	0.40	0.013	15	0.50	6.0	1.20	0.003	10	15	2	27	0.23	16.82	0.0094	0.5	0.01	15.79	15.81	0.71
C5	C4	0.30	0.70	0.013	15	0.50	6.0	2.10	0.003	13	15	2	250	1.95	16.82	0.2670	0.5	0.02	15.50	15.79	0.73
C4	C3	0.50	1.20	0.013	17	0.50	5.8	3.48	0.003	15	18	3	27	0.15	16.73	0.0300	0.5	0.03	15.44	15.50	0.93
C3	G3	1.00	2.20	0.013	18	0.50	5.7	6.27	0.003	19	18	5	194	0.61	16.73	0.6990	0.5	0.10	14.65	15.44	0.99
G3	G2	0.50	2.70	0.013	18	0.50	5.7	7.70	0.003	21	24	5	122	0.42	17.50	0.1429	0.5	0.05	14.46	14.65	2.55
C10	C9	0.90	0.90	0.013	15	0.50	6.0	2.70	0.003	14	15	2	27	0.23	17.38	0.0477	0.5	0.04	14.86	14.94	2.14
C9	G2	0.90	1.80	0.013	15	0.50	6.0	5.40	0.003	18	18	5	122	0.44	17.38	0.3261	0.5	0.07	14.46	14.86	2.22
C8	C7	1.00	1.00	0.013	15	0.50	6.0	3.00	0.003	15	15	3	122	0.67	17.26	0.2660	0.5	0.05	14.57	14.88	2.08
C7	G2	1.00	2.00	0.013	16	0.50	5.9	5.90	0.003	19	24	4	122	0.54	17.26	0.0840	0.5	0.03	14.46	14.57	2.39
G2	G1	0.60	5.10	0.013	19	0.50	5.6	14.28	0.003	26	30	7	294	0.67	17.50	0.3610	0.5	0.07	14.03	14.46	2.74
G1	C2	0.80	5.90	0.013	19	0.50	5.6	16.52	0.003	27	36	7	221	0.53	18.00	0.1374	0.5	0.04	13.85	14.03	3.67
C2	C1	0.70	6.60	0.013	20	0.50	5.5	18.15	0.003	28	36	8	27	0.06	18.63	0.0203	0.5	0.05	13.78	13.85	4.48
C1	LAGOON	0.20	6.80	0.013	20	0.50	5.5	18.70	0.003	28	36	8	106	0.22	18.63	0.0845	0.5	0.05	13.64	13.78	4.55
C18	C17	0.70	0.70	0.013	15	0.50	6.0	2.10	0.003	13	15	2	27	0.21	16.98	0.0288	0.5	0.02	15.68	15.73	0.95
C17	C16	0.40	1.10	0.013	15	0.50	6.0	3.30	0.003	15	18	3	231	1.37	16.98	0.2306	0.5	0.03	15.42	15.68	1.00
C16	C15	0.60	1.70	0.013	17	0.50	5.8	4.93	0.003	17	18	4	27	0.11	16.71	0.0601	0.5	0.06	15.30	15.42	0.99
C15	G5	1.00	2.70	0.013	17	0.50	5.8	7.83	0.003	21	24	5	194	0.65	16.71	0.2353	0.5	0.05	15.02	15.30	1.11
G5	G4	0.50	3.20	0.013	18	0.50	5.7	9.12	0.003	22	24	6	179	0.51	17.50	0.2945	0.5	0.07	14.66	15.02	2.18
G6	G4	0.40	0.40	0.013	15	0.50	6.0	1.20	0.003	15	15	1	131	1.79	17.52	0.0457	0.5	0.01	14.66	14.71	2.51
G4	C14	0.50	4.10	0.013	18	0.50	5.7	11.69	0.003	24	24	7	126	0.28	17.50	0.3403	0.5	0.11	14.21	14.66	2.54
C14	C13	1.00	5.10	0.013	19	0.50	5.6	14.28	0.003	26	30	7	27	0.06	17.40	0.0332	0.5	0.07	14.11	14.21	2.89
C13	LAGOON	0.90	6.00	0.013	19	0.50	5.6	16.80	0.003	27	30	9	224	0.44	17.40	0.3807	0.5	0.09	13.64	14.11	2.99
C12	C11	0.40	0.40	0.013	15	0.50	6.0	1.20	0.003	10	15	2	27	0.23	18.48	0.0094	0.5	0.01	14.05	14.07	4.11
C11	SDMH1	0.40	0.80	0.013	15	0.50	6.0	2.40	0.003	13	15	2	100	0.68	18.48	0.1395	0.5	0.03	13.88	14.05	4.13
SDM1	LAGOON	0.00	0.80	0.013	16	0.50	5.9	2.36	0.003	13	15	2	160	1.11	19.13	0.2158	0.5	0.03	13.64	13.88	4.95

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific)

Monday, March 27, 2023 10:08:06 AM

N OF THE SITE LIES WITHIN AN
A ZONE AE WITH A BASE FLOOD
3, AS DOCUMENTED ON FEMA FIRM
35G, EFFECTIVE AUGUST 16, 2018

OSED DEVELOPMENT CONFORMS
OF THE PORT WENTWORTH CODE
ND WILL NOT INCREASE THE
E ELEVATION OF THE BASE FLOOD
FOOT AT ANY POINT WITHIN THE

ZONE AE BASE FLOOD ELEV. 13.0
ZONE X
APPROXIMATE LOCATION OF FLOOD HAZARD LINE
COMMON AREA
50' PUBLIC RIGHT-OF-WAY
Water Lilly Way
Lakeside Drive
70' PUBLIC RIGHT-OF-WAY
FEMA FLOOD PLAIN LINE
ZONE X
APPROXIMATE LOCATION OF FLOOD HAZARD LINE
ZONE AE BASE FLOOD ELEV. 13.0
ZONE X
40' UTILITY EASEMENT
40'

CI #5 FR: 16.82 IE(IN): 13.77 IE(OUT): 13.77
27 L.F. OF 15"Ø RCP @ 0.20%
CI #6 FR: 16.82 IE(OUT): 13.82
CI #8 FR: 17.26 IE(OUT): 13.26
27 L.F. OF 15"Ø RCP @ 0.30%
CI #4 FR: 16.73 IE(IN): 13.27 IE(OUT): 12.60
250 L.F. OF 15"Ø RCP @ 0.20%
194 L.F. OF 18"Ø RCP @ 0.20%
CI #7 FR: 17.26 IE(IN): 13.18 IE(OUT): 12.94
GI #3 FR: 17.50 IE(IN): 12.16 IE(OUT): 12.10
GI #2 FR: 17.50 IE(IN): 11.66 IE(IN): 12.93 IE(IN): 12.57 IE(OUT): 11.60
122 L.F. OF 24"Ø RCP @ 0.30%
294 L.F. OF 30"Ø RCP @ 0.25%
3' PRIVATE DRAINAGE EASEMENT
10' PRIVATE DRAINAGE EASEMENT
CI #3 FR: 16.73 IE(IN): 12.55 IE(OUT): 12.55
178 L.F. OF 24"Ø RCP @ 0.25%
CI #9 FR: 17.38 IE(IN): 13.30 IE(OUT): 13.30
27 L.F. OF 18"Ø RCP @ 0.20%
27 L.F. OF 18"Ø RCP @ 0.30%
122 L.F. OF 18"Ø RCP @ 0.30%
GI #1 FR: 18.00 IE(IN): 10.87 IE(OUT): 10.85
CI #11 FR: 18.48 IE(IN): 14.40 IE(OUT): 12.00
27 L.F. OF 15"Ø RCP @ 0.
100 L.F. OF 18"Ø RCP @ 0.
221 L.F. OF 36"Ø RCP @ 0.25%
160 L.F. OF 18"Ø RCP @ 0.30%
CI #12 FR: 18.48 IE(OUT): 14.48
SDMH #1 FR: 19.13 IE(IN): 11.70 IE(OUT): 11.70
CI #2 FR: 18.63 IE(IN): 10.30 IE(OUT): 10.30
18"Ø RCP IE:11.22
33 L.F. OF 36"Ø RCP @ 0.30%
CI #1 FR: 18.63 IE(IN): 10.20 IE(OUT): 10.20
106 L.F. OF 36"Ø RCP @ 0.30%
36"Ø RCP IE:9.88
CI #10 FR: 17.38 IE(OUT): 13.38
194 L.F. OF 24"Ø RCP @ 0.30%
179 L.F. OF 24"Ø RCP @ 0.30%
131 L.F. OF 15"Ø RCP @ 0.30%
10' PRIVATE DRAINAGE
DRAINAGE
CI #16 FR: 16.71 IE(IN): 11.66 IE(OUT): 11.66
CI #15 FR: 16.71 IE(IN): 11.58 IE(OUT): 11.58
GI #5 FR: 17.50 IE(IN): 11.00 IE(OUT): 11.00
5' PRIVATE DRAINAGE EASEMENT
12 L.F. OF 30"Ø RCP @ 0.30%
CI #14 FR: 17.40 IE(IN): 10.08 IE(OUT): 10.08
GI #4 FR: 17.50 IE(IN): 10.46 IE(IN): 13.13 IE(OUT): 10.46
CI #1 FR: 17.52 IE(OUT): 13.52
27 L.F. OF 30"Ø RCP @ 0.30%
231 L.F. OF 18"Ø RCP @ 0.30%
27 L.F. OF 15"Ø RCP @ 0.30%
CI #17 FR: 16.98 IE(IN): 12.60 IE(OUT): 12.35
CI #18 FR: 16.98 IE(OUT): 12.69
36"Ø RCP IE:8.53
CI #13 FR: 17.40 IE(IN): 10.00 IE(OUT): 9.50
24 L.F. OF 36"Ø RCP @ 0.
COMMON AREA

0.3 0.4 1.0 0.5 1.0 0.5 1.0 0.8 0.4 0.26 0.6 0.9 0.7 0.2 0.5 0.4 0.6 1.0 1.0 0.9 0.4 0.7

0 50 100 Feet

REV.	REVISIONS	BY	DATE
	REVISED PER CITY REVIEW COMMENTS	JJB	03/24/2023

GEORGIA REGISTERED No. 38245 PROFESSIONAL ENGINEER JASON JOSEPH

Pittman Engineering Co., LLC
2591 Hwy 17S Suite 303
Richmond Hill, GA 31324
912-445-0578
www.PittmanEngineeringCo.com

DRAINAGE INLET BASINS

RICE HOPE
LAKESIDE PHASE 24
Prepared For
FORESTAR

Project No.	21-255
Drawn By:	JJB
Designed By:	JJB
Checked By:	RAP
Scale:	1"=50'
Date:	6/1/22

SHEET
INLET

G:\Shared drives\Projects\Rice Hope\21-255 Lakeside 24\Drawings\Exhibits\21-255 RH Lakside Ph 24 - Inlet Basins Exhibit.dwg

Attachment: Site Plan Review RH Lakeside Ph 24 2022 - Comprehensive Drainage Study 3.31.23 (2822 : Site Plan Review Application (Specific) 7-0906-04-042 Rice Hope Lakeside Ph. 24 May 2023)