



City Council
7224 GA Highway 21
Port Wentworth, GA 31407

Meeting: 04/28/22 07:00 PM
Department: Development Services
Category: Planning/Zoning Item
Prepared By: Melanie Ellis
Department Head: Brian Harvey

SCHEDULED

AGENDA ITEM (ID # 2646)

DOC ID: 2646

Site Plan Review Application submitted by Chuck Singleton, Coleman Company, Inc., on behalf of Stop N Stor 7, LLC., for PIN # 7-0906-01-038 (8901 Highway 21) for a Specific Development Site Plan to allow a Storage Unit Building in a P-C-2 (Planned Community Business) Zoning District

Issue/Item: Site Plan Review Application submitted by Chuck Singleton, Coleman Company, Inc., on behalf of Stop N Stor 7, LLC., for PIN # 7-0906-01-038 (8901 Highway 21) for a Specific Development Site Plan to allow a Storage Unit Building in a P-C-2 (Planned Community Business) Zoning District

Background: The subject property is currently a vacant lot at the corner of Highway 21 and Rice Creek Road. There are no buildings or structures on the subject property.

Facts and Findings: The site plan is for an expansion of the existing storage facility. The proposed building is 23,100 square foot and will be single story. Access to the new building will be through the existing Stop N Stor driveway. The application is under review by City Engineers Thomas & Hutton. This project complies with the current City of Port Wentworth 2021-2041 Comprehensive Plan.

Funding: N/A

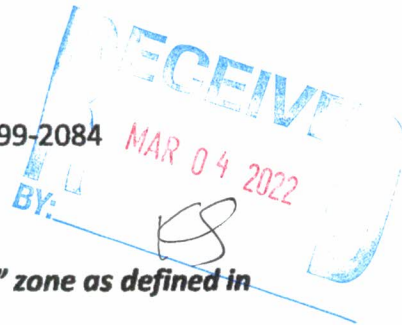
Recommendation: The Planning Commission will hear this application on Monday, April 11, 2022 at 6:30 P.M. / **UPDATE: THE PLANNING COMMISSION VOTED UNANIMOUSLY TO APPROVE THIS APPLICATION.**

ATTACHMENTS:

- Stop N Stor Highway 21 S-Site Plan APRIL 2022 - Application (PDF)
- Stop N Stor Highway 21 S-Site Plan APRIL 2022 - Timeline (DOCX)
- Stop N Stor Highway 21 S-Site Plan APRIL 2022 - 1st Comment Letter T&H 3.30.22 (PDF)
- Planning Commission Minutes April 11, 2022 DRAFT (PDF)

220162

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: NE corner Hwy 21 & Rice Creek Rd.

PIN #(s): 70906 01038

Zoning: P-R-M Estimated Cost of Construction: \$ +/- \$1,000,000.00

Type of Construction: self storage building: Pre-fab steel with stucco accents

Applicant's Name: Coleman Company, Inc. - Chuck Singleton P.E.

Mailing Address: 1480 Chatham Parkway, Suite 100 Savannah, Georgia 30105

Phone #: 912-200-3041 Email: csingleton@cci-sav.com

Owner's Name (if Different form Applicant): Stop N Stor 7, LLC

Mailing Address: 9100 White Bluff Rd., Suite 502 Savannah, Georgia 31406

Phone #: 912-572-1300 Email: alan@stopnstorstorage.com

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

Applicant's Signature

3/4/22
Date

Owner's Signature (if Different form Applicant)

3-2-22
Date

Please see page 2 for required submittal checklist

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 (~~either flash drive or CD~~) (Emailed Dropbox Link)
- 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


Applicant's Signature

3/4/22
Date

CITY OF PORT WENTWORTH
(912) 964-4379

REC#: 00347501 3/14/2022 11:36 AM
OPER: ME TERM: 011
REF#: CK 2880

TRAN: 112.0000 BLDG PERMIT
220162 886.00CR
STOP N STOR #7 LLC
8901 HIGHWAY 21
DEV-SPR 886.00CR

TENDERED: 886.00 CHECK
APPLIED: 886.00-
CHANGE: 0.00

WWW.CITYOFPORTWENTWORTH.COM



March 4, 2022
CCI Project #: 21-708

**RE: Adjacent Property Owners
Proposed Stop N Stor**

1. PIN: 70906 01018
Rice Creek Commercial, LLC
c/o Development Associates Inc.
17 Park of Commerce Blvd., Unit 105
Savannah, Georgia 31405

2. PIN: 70906C05074
Rice Creek HOA, Inc.
c/o Sentry Management, Inc.
119 Canal St., Suite 102
Pooler, Georgia 31410

3. PIN: 70906 02005
Neil and Amelia Thompson
8024 Old Hwy 21
Port Wentworth, Georgia 31407

4. PIN: 70906 04005A
Jimmy Neal Thompson
8024 Old Hwy 21
Savannah, Georgia 31407

5. PIN: 70906 01026
RC Residential, LLC
1049 Powers Ferry Rd.
Marietta, Georgia 30067

6. PIN: 70906C11014
Rice Creek HOA, Inc.
c/o Sentry Management, Inc.
119 Canal St., Suite 102
Pooler, Georgia 31410



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

March 30, 2021

Mr. Brian Harvey
Director of Development Services
City of Port Wentworth
305 South Coastal Highway
Port Wentworth, GA 31407

Re: Stop N Stor Highway 21
Port Wentworth, Georgia
Site Plan Review
J-25412.0028

Dear Brian:

We have received the site plan for the referenced project submittal. The following information was included in the submittal package:

- Hydrology Narrative
- Site Development Plans

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 and offer the comments noted below for consideration:

General Comments

1. The site appears to be zoned Planned Community Business (P-C-2).
2. According to NWI data, it appears that wetlands exist on-site. Please provide a Jurisdictional Determination and, if applicable, a wetland impact permit.
3. This site lies within an Effective FEMA Special Flood Hazard Area Zone X, Area of Minimal Flood Hazard, according to FEMA FIRM Panel 13051C0030G effective August 16, 2018.
4. Please provide an EPD Land Disturbance approval.
5. Please provide EPD water/wastewater permits, if applicable.

6. Development is occurring within a "common access and utility easement" and "drainage easement". Provide documentation indicating that proposed encroachment on the easements is permitted.

Stormwater Comments

In accordance with the City of Port Wentworth Stormwater Management Ordinance (PWSMO) Section 7-79, this project proposes a redevelopment that will involve the creation of 5,000 square feet or more of impervious cover that otherwise did not exist on the site previously. Sites having master planned stormwater do not appear to be exempt. As such, all stormwater provisions apply to this site.

1. Provide the following items to complete the Stormwater Management Design Plan per Section 7-80(d) of the Port Wentworth Code of Ordinances:
 - a. Certification by Plan Preparer
 - b. Certification by Owner
2. Provide a stormwater management inspection and maintenance agreement and plan as prescribed in Section 7-80(e) of the Port Wentworth Code of Ordinances.
3. Please acknowledge that a performance bond will be required prior to construction, as listed in Section 7-80(h) of Article III of the Drainage and Flood Control Ordinances within the Port Wentworth Code of Ordinances.
4. Provide a statement of no adverse upstream or downstream impacts to the existing stormwater system.
5. The "volume in the wet pool and extended detention" for the stormwater pond differs in the previously approved hydrologic analysis versus the proposed hydrology narrative. Please explain or revise.
6. Provide profile views of existing and proposed storm drainage infrastructure with resulting water surface elevations pursuant to Section 7-80(d)(3) of the Port Wentworth Code of Ordinances.
7. Provide a signed and dated seal of a professional engineer licensed in the State of Georgia on the site development plans pursuant to Section 3.7.9(3) of the Port Wentworth Comprehensive Development Manual.

Water, Fire System, and Sanitary Sewer Design Comments

1. It appears that no sanitary sewer is proposed as a part of the site development plans. If sanitary sewer is proposed, provide the requirements set forth in Section 3.5 of the Port Wentworth Comprehensive Design Manual.
2. Please provide the Water/Wastewater Availability Request Form found in Appendix A of the Port Wentworth Comprehensive Design Manual (CDM) as required by Section 3.3 of the CDM.
3. It appears that fire protection is proposed as a part of this development but not domestic water. Please confirm. Provide the requirements set forth in Section 3.4 of the Port Wentworth Comprehensive Design Manual including the water distribution checklist and associated exhibits.
4. Please coordinate with the Fire Marshal for fire protection comments and approval.
5. Additional water, fire system, and sanitary sewer design comments may arise upon submission of the requested calculations.

Plan Sheets Comments

1. Provide a fence and the proposed exterior building surface that meets the requirements set forth in Section 5.6 of the Port Wentworth Code of Ordinances for a self-storage mini-warehouse in zone C-2.
2. Pursuant to Section 7-80 (b)(3) of the Port Wentworth Code of Ordinances, provide all existing roads, buildings, parking areas, impervious surfaces, utilities, and stormwater drainage infrastructure on the site development plans. It appears that some of these elements are missing from the plans. There are several features, such as "Existing Master Detention Pond", and "Existing Stop N Stor #7" that are called out on the plans with no associated linework for the features.
3. On Sheet C5.0, provide the size of the existing water main and tapping sleeve that is connecting to the internal backflow prevention device.

Site Lighting Comments

1. Provide a site lighting plan for the improved areas of the development, if applicable. If lighting is proposed, provide light shielding in conformance with Section 5.6 of the Port Wentworth Code of Ordinances for a self-storage mini-warehouse in zone C-2.

Paving, Signage, and Parking Comments

1. Please confirm with a note on the plans that all accessible paths will comply with the latest edition of the Americans with Disabilities Act.

Thank you for your attention to this project. If there are any questions or comments, please feel free to call us at (912) 234-5300.

Sincerely,

THOMAS & HUTTON


Darby Burk



April 19, 2022

Mr. Brian Harvey
Director of Development Services
City of Port Wentworth
305 South Coastal Highway
Port Wentworth, GA 31407

RE: Stop N Stor Highway 21 – Site Plan Review Comments Response

Dear Brian:

The following resolutions are offered to your comments dated March 30, 2022, as issued by Mr. Darby Burk, Thomas & Hutton Engineering. Please note our responses in ***bold italics***:

General Comments

1. The site appears to be zoned Planned Community Business (P-C-2).
Correct as noted.
2. According to NWI data, it appears that wetlands exist on-site. Please provide a Jurisdictional Determination and, if applicable, a wetland impact permit.
No known wetlands exist on the site. The entire 5.86-acre Tract E, including this 1.17 acres out-parcel (Tract E-2) was previously disturbed and graded under permit approved by City of Port Wentworth City Council on June 26, 2014.
3. This site lies within an Effective FEMA Special Flood Hazard Area Zone X, Area of Minimal Flood Hazard, according to FEMA FIRM Panel 13051C0030G effective August 16, 2018.
Correct as noted.
4. Please provide an EPD Land Disturbance approval.
Attached as requested – EPD Approval date March 16, 2022.
5. Please provide EPD water/wastewater permits, if applicable.
Not applicable.
6. Development is occurring within a “common access and utility easement” and “drainage easement”. Provide documentation indicating that proposed encroachment on the easements is permitted.
Both Tracts E-1 and E-2, which are served by said easements, are owned by Stop n Stor 7 and will be abandoned as necessary upon project completion. These were originally platted to benefit a potential, separate owner of Tract E-2. This will no longer be necessary as the parcel will not be deeded to another owner.

Stormwater Comments

In accordance with the City of Port Wentworth Stormwater Management Ordinance (PWSMO) Section 7–79, this project proposes a redevelopment that will involve the creation of 5,000 square feet or more of impervious cover that otherwise did not exist on the site previously. Sites having master planned stormwater do not appear to be exempt. As such, all stormwater provisions apply to this site.



1. Provide the following items to complete the Stormwater Management Design Plan per Section 7-80(d) of the Port Wentworth Code of Ordinances:
 - a. Certification by Plan Preparer
 - b. Certification by Owner

Attached as requested.
2. Provide a stormwater management inspection and maintenance agreement and plan as prescribed in Section 7–80(e) of the Port Wentworth Code of Ordinances.

Attached as requested.
3. Please acknowledge that a performance bond will be required prior to construction, as listed in Section 7–80(h) of Article III of the Drainage and Flood Control Ordinances within the Port Wentworth Code of Ordinances.

Acknowledged – However, there exists an on-site, permanent storm water management system and no alterations to said system will be made that would affect the detention capacity or performance of overall 5.86-acre Tract E (includes Tracts E-1 and E-2).
4. Provide a statement of no adverse upstream or downstream impacts to the existing stormwater system.

No adverse impacts are known to have been reported since the original construction of the on-site storm water management facility in 2014. Since the original design of this system accommodated the build-out condition of this project area, as stated on sheet C5.0 of the plan, no adverse upstream or downstream impacts to the existing storm water system are anticipated.
5. The “volume in the wet pool and extended detention” for the stormwater pond differs in the previously approved hydrologic analysis versus the proposed hydrology narrative. Please explain or revise.

While the detention pond was originally designed and constructed to accommodate 100% of the necessary detention volume and aquatic resource protection for the entire 5.86 acre Tract E, the RRV was previously calculated only for the initial development area (4.69 acres) since it was not known at the time the nature of the future development on the remaining 1.17 acres (this project). The current Hydrology Narrative updates the CSS to include this 1.17 acre expansion of the existing facility and thus the increase in necessary treatment volume from 1,025CF to 1,526.1CF. The 4,035CF volume in the constructed (as-built) wet pool in the on-site detention pond is sufficient to meet this increased volume requirement. The CSS spreadsheet in the original Hydro Report simply calls out only the 1,025CF volume needed to meet the demand and not the entire 4,035CF that is, and was, available in the constructed pond.
6. Provide profile views of existing and proposed storm drainage infrastructure with resulting water surface elevations pursuant to Section 7-80(d)(3) of the Port Wentworth Code of Ordinances.

Provided in the revised construction plans, sheet C6.0 and detail sheet C7.0 as requested.
7. Provide a signed and dated seal of a professional engineer licensed in the State of Georgia on the site development plans pursuant to Section 3.7.9(3) of the Port Wentworth Comprehensive Development Manual.

As requested.



Water, Fire System, and Sanitary Sewer Design Comments

1. It appears that no sanitary sewer is proposed as a part of the site development plans. If sanitary sewer is purposed, provide the requirements set forth in Section 3.5 of the Port Wentworth Comprehensive Design Manual.
Understood – no sanitary sewer expansion is planned or designed for.
2. Please provide the Water/Wastewater Availability Request Form found in Appendix A of the Port Wentworth Comprehensive Design Manual (CDM) as required by Section 3.3 of the CDM.
Attached as requested.
3. It appears that fire protection is proposed as a part of this development but not domestic water. Please confirm. Provide the requirements set forth in Section 3.4 of the Port Wentworth Comprehensive Design Manual including the water distribution checklist and associated exhibits.
Correct – no domestic water expansion is anticipated or designed for with this project. Exhibits attached as requested.
4. Please coordinate with the Fire Marshal for fire protection comments and approval.
Acknowledged.
5. Additional water, fire system, and sanitary sewer design comments may arise upon submission of the requested calculations.
Understood.

Plan Sheets Comments

1. Provide a fence and the proposed exterior building surface that meets the requirements set forth in Section 5.6 of the Port Wentworth Code of Ordinances for a self-storage mini-warehouse in zone C-2.
Provided as requested. However, the owner requests to substitute a treed/vegetated buffer with sufficient screening capacity in lieu of the provided 5' high shadowbox fence.
2. Pursuant to Section 7-80 (b)(3) of the Port Wentworth Code of Ordinances, provide all existing roads, buildings, parking areas, impervious surfaces, utilities, and stormwater drainage infrastructure on the site development plans. It appears that some of these elements are missing from the plans. There are several features, such as “Existing Master Detention Pond”, and “Existing Stop N Stor #7” that are called out on the plans with no associated linework for the features.
Provided as requested.
3. On Sheet C5.0, provide the size of the existing water main and tapping sleeve that is connecting to the internal backflow prevention device.
Provided as requested – RPZ type backflow preventer moved to outside of riser room as shown.



Site Lighting Comments

1. Provide a site lighting plan for the improved areas of the development, if applicable. If lighting is proposed, provide light shielding in conformance with Section 5.6 of the Port Wentworth Code of Ordinances for a self-storage mini warehouse in zone C-2.

Provided as requested.

Paving, Signage, and Parking Comments

1. Please confirm with a note on the plans that all accessible paths will comply with the latest edition of the Americans with Disabilities Act.

Provided as requested – SEE Note 9, sheet C3.0.

Thank you for your comments, your time and effort are greatly appreciated. Should you have any questions or require additional information to the above responses, please contact me.

Sincerely,

Chuck

Coleman Company. Inc.

Charles C. Singleton III, PE

(912) 200-3041

csingleton@cci-sav.com



Richard E. Dunn, Director

**Watershed Protection Branch
Coastal District Office**

400 Commerce Center Drive
Brunswick, Georgia 31523-8251
Phone: 912-264-7284; Fax: (912) 262-3160

March 16, 2022

Stop N Stor Storage
alan@stopnstorstorage.com

Re: Proposed Land Disturbing Activity
Stop N Stor Storage Highway 21 Expansion
Chatham County, Georgia
File: SW-025-04-165

Dear Owner:

In accordance with the General NPDES Permit No. GAR100001 for Storm Water Discharges Associated with Construction Activities for Stand Alone Construction Projects, issued by the Georgia Environmental Protection Division (EPD) in August 2018, this Project has been reviewed for deficiencies in the identification of waters of the state and potential encroachment of land disturbing activities within 25 foot immediately adjacent and upland of the identifiable point from which the State mandated buffer is measured.

Based upon this review, the EPD has determined the following:

- (1) The project does **not** have deficiencies in the identification of waters of the state.
- (2) The project will **not** require a buffer variance from the EPD.

However, the EPD reserves the right to change this determination if information that conflicts with the original submittal is obtained during a later site inspection.

Additionally, in accordance with the General NPDES Permit No. GAR100001, each Erosion, Sedimentation and Pollution Control Plan (ESPCP) submittal shall include a completed and applicable ESPCP Checklist established by the Georgia Soil and Water Conservation as of January 1 of the year in which the land-disturbing activity was permitted.

Stop N Stor Storage Highway 21 Expansion
Page 2

A deficient ESPCP is a violation of the NPDES Permit. If violations occur on the proposed project site and enforcement actions become necessary, a deficient ESPCP may increase the fines incurred. The applicable Checklist as well as a guidance document are available on the Georgia EPD website @ <http://epd.georgia.gov>.

Based upon this review, EPD has determined the following:

- (1) The ESPCP for this Project has adequately addressed all items of the applicable checklist.

If additional information is required, please contact me at 912-230-4880.

Sincerely,



Shannon K. Winsness
Environmental Specialist

cc: Coleman Company
c/o Wesley D. Green, P.E.
wgreen@cci-sav.com

Alice Vick
EPD Coastal District Office
400 Commerce Center Drive
Brunswick, GA 31523-8251

File: SW-025-04-165

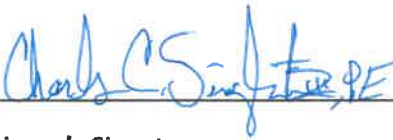
April 8, 2022

Re: Rice Creek Stop n Stor 7 – Facility Expansion

Storm Water Certifications:

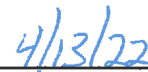
Plan Preparer:

To the best of our knowledge and belief, the storm water management system for this project has been designed to the greatest extent practical in accordance with applicable City of Port Wentworth, GSWMM and the Coastal Storm Water Supplement criteria.



Engineer's Signature

Charles C. Singleton III, PE



Date

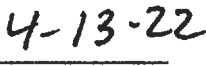
Project Owner:

All land clearing, construction, land development and drainage will be done according to the approved stormwater management design plan.



Owner's Signature

Alan Dasher (Stop n Stor 7)



Date

Stormwater Facility Inspection & Maintenance Agreement

This AGREEMENT, made and entered into this 8th day of April, 20 22, by and between Alan Dasher (Stop n Star), his/her successors and assigns, including but not limited to any homeowners association, commercial developer, holder of any portion of the below described property, and/or similar (hereinafter called the "Landowner"), and the City of Port Wentworth, Georgia; hereinafter called the "City", as required by state and local regulation and ordinances.

WITNESSETH, that WHEREAS, the Landowner is the owner of certain real property described as 8901 Georgia Highway 21, Port Wentworth, GA 31407 and recorded by deed in the land records of Chatham County, Georgia, Deed Book 50 Page 744, hereinafter called the "Property".

WHEREAS, the Landowner is proceeding to develop the property and/or build upon the property; and

WHEREAS, the Stormwater Management and Operations and Maintenance (O&M) Plan; hereinafter called "the Plan", which is expressly made a part hereof, as approved or to be approved by the City, provides for management of stormwater runoff for the property; and

WHEREAS, the Landowner, its successors and assigns, agree that the health, safety, and welfare of the residents of Port Wentworth, Georgia, require that stormwater management facilities be constructed and maintained on the Property and in accordance with the Plan; and

WHEREAS, the City requires that stormwater management facilities as shown within the Plan be constructed and adequately maintained by the Landowner, its successors and assigns.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The stormwater management facilities shall be constructed and/or upgraded as well as maintained by the Landowner, its successors and assigns, in accordance with the specifications identified in the Plan.
2. The Landowner, its successors and assigns, shall adequately maintain the stormwater management facilities and perform the work necessary to keep those facilities in good working order at all times, as described in the Plan. This includes all pipes, channels or other conveyances built to convey stormwater to the facility, as well as all structures, improvements, and vegetation provided to control the quantity and quality of the stormwater runoff. Adequate maintenance is herein defined as good working condition so that these facilities are performing their approved design functions.
3. The Landowner, its successors and assigns, shall inspect the stormwater management facility annually and maintain an inspection report on site that will be available for review by the City. The purpose of the inspection is to ensure safe and proper functioning of the stipulated facilities. The inspection shall cover all applicable stormwater management facilities, including but not limited to, conveyance measures, berms, outlet structures, pond areas, etc. Deficiencies shall be noted in the inspection report along with a schedule for repair. The inspection

procedures, frequency and report shall follow the procedures established and approved in the Plan.

4. The Landowner, its successors and assigns, hereby grant permission to the City, its authorized agents and employees, to enter upon the Property and to inspect the stormwater management facilities whenever the City deems necessary and with reasonable notice having been given to the Landowner. The City shall provide the Landowner, its successors and assigns, copies of the inspection findings and a directive to commence with the repairs if necessary.
5. In the event the Landowner, its successors and assigns, fails to maintain the stormwater management facilities in good working condition acceptable to the City, the City may issue citations to the Landowner for resulting, continuing ordinance violations (as set forth in the Port Wentworth City Code of Ordinances), until such time as the issues are satisfactorily resolved. Additionally, the City may enter upon the Property and implement the necessary measures to correct deficiencies identified in the inspection report and to recover the costs of such repairs from the Landowner, its successors and assigns through the appropriate means. This provision shall not be construed to allow the City to erect any structure of permanent nature on the land of the Landowner outside of the easement for the stormwater management facilities. It is expressly understood and agreed that the City is under no obligation to routinely maintain or repair said facilities, and in no event shall this AGREEMENT be construed to impose any such obligation on the City.
6. Landowner, its successors and assigns, will perform the work necessary to keep these facilities in good working order as appropriate. In the event a maintenance schedule for the stormwater management facilities (including sediment removal) is outlined on the approved plan, the schedule will be followed.
7. In the event the City, pursuant to this AGREEMENT, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner, its successors and assigns, shall reimburse the City upon demand, within thirty (30) days of receipt thereof for all actual costs incurred by the City hereunder. Work will not commence without written notice from the City to the owner.
8. This Agreement imposes no liability of any kind whatsoever on the City and the Landowner agrees to hold the City harmless from any liability in the event the stormwater management facilities fail to operate properly.
9. This AGREEMENT shall constitute a covenant running with the land, and shall be binding on the Landowner, its administrators, executors, assigns, heirs and any other successors in interests, including any homeowners association.

CERTIFICATION

OWNER:

WITNESS the following signatures and seals:

Cathy Conley

Company/Corporation/Partnership Name (Seal)

By: Stop n Stop #7 LLC
At-Dasher member

(Type Name and Title)

The foregoing AGREEMENT was acknowledged before me this 13 day of APRIL, 2022, by

Tracie V. McIntyre

NOTARY PUBLIC

My Commission Expires: Notary Public, Chatham County, GA
My Commission Expires February 24, 2023



Appendix A Water/Wastewater Availability

WATER/WASTEWATER AVAILABILITY REQUEST FORM

Date: April 8, 2022

A. Owner/Developer Alan Dasher (Stop n Stor) Phone# (912) 644-7533
Address 9100 White Bluff Road, Suite 503 Savannah, GA 31406
Contact Person Mick Jordan Phone # (912) 484-0933
Address _____
Engineer Coleman Company, Inc. - Chuck Singleton Phone # (912) 200-3041
Development Name Rice Creek Stop n Stor - Expansion

B. Development Location 8901 Georgia Highway 21, Port Wentworth, GA 31407
Township, Map & Parcel # (Attach Plat) 70906 01038

C. Type of Development (Circle appropriate choice)
Residential Multi-Family Commercial Industrial Institutional
Number of lots/single family units _____ Building Square Footage 23,100SF
Number of multi/family units _____
Type of Business(es) Self Storage Facility

Rezoning Required: Yes No Subdivision Required: Yes No

D. Maximum number of employees in 24 hour period 2

If restaurant, seating capacity _____

If car wash, number of bays _____

If Laundromat, number of washers _____ If church, number of seats _____

E. ****SITE PLANS AND WATER/WASTEWATER USE CALCULATIONS ARE NEEDED FOR FEE QUOTES****

Fire system expansion only - no additional domestic water/sewer facilities.

3.4.3 Exhibit 1 - Water Distribution System Check List

Typical Water System Plan shall include:	<u>Check Off</u>
1) Layout and legend	<u>—</u>
2) Water System analysis and design (include calculations)	<u>—</u>
3) Show waterline easement (if applicable)	<u>—</u>
4) Pipe separated distances called out at utility crossings	<u>—</u>
5) Isolation Valves	<u>—</u>
6) Valves 8" and larger placed in manholes	<u>—</u>
7) Meters sized and located on plans	<u>—</u>
8) All service connections shown	<u>—</u>
9) Existing and proposed fire hydrants shown	<u>—</u>
10) Fire Flow Demand (Exhibit 2)	
▪ Calculate water need based upon ISO Guidelines	<u>✓</u>
▪ Show maintenance responsibility for fire line and appurtenances in owner/client agreement (Exhibit 3)	<u>✓</u>
▪ Show Backflow Detector Check Assembly	<u>✓</u>
▪ If no fire system is proposed, please indicate on the plans	<u>—</u>
11) Irrigation System	
▪ Calculate water need based upon system design	<u>—</u>
▪ Show size and location of backflow preventor and water meter	<u>—</u>
▪ If no irrigation system is proposed, please indicate on the plans	<u>—</u>
12) Attach certification that water lines are not in, nor do they serve, structures built upon solid waste landfills	<u>✓ Attached</u>
13) City of Port Wentworth specifications and details used	<u>✓</u>
14) Proposed water/sewer agreement attached	<u>N/A</u>
15) Georgia Registered Professional Engineer stamp & signature	<u>✓</u>

* This form not applicable to sprinkler protected buildings

3.4.4 Exhibit 2 Fire Protection Design Requirements

This exhibit must be submitted for all private development projects that will be served by the City of Port Wentworth public water system.

PROJECT Rice Creek Stop n Store DATE 4/19/22
LOCATION 8701 GA Highway 21, Port Wentworth, GA 31407
WILL THE PROJECT INCLUDE A SPRINKLER SYSTEM? YES NO

If yes, the system must be designed in accordance with NFPA 13, and the following additional question must be answered:

WILL THE SPRINKLER SYSTEM INCLUDE A BOOSTER PUMP OR THE USE OF CHEMICALS? YES NO Not anticipated - to be designed separately

If yes, a reduced pressure zone (RPZ) type backflow preventor must be installed on the water service lateral that will supply the system, in accordance with the City of Port Wentworth specifications and details.

NEEDED FIRE FLOW (NFF):

The Needed Fire Flow (NFF) for a proposed facility must be calculated in accordance with the Insurance Services Office (ISO) "Fire Suppression Rating Schedule", current edition.

The ISO calculation to determine the NFF for a proposed facility considers the construction, occupancy, exposure, and communication of a building or fire division as follows:

Construction Factor (C) :

The portion of the NFF attributed to the construction and area of the proposed building is determined by the following formula:

$$C = 18 * F * (A)^{0.5}, \text{ where}$$

F = Coefficient related to the class of construction:

= 1.5 for Construction Class 1 (Frame)

= 1.0 for Construction Class 2 (Joisted Masonry)

= 0.8 for Construction Class 3 (Non-combustible) and

Construction Class 4 (Masonry Non-combustible)

= 0.6 for Construction Class 5 (Modified Fire Resistive) and

Construction Class 6 (Fire Resistive)

A = Effective Area

Note: Refer to the ISO Fire Suppression Rating Schedule for a detailed description of how to calculate the Construction Factor when the building Construction Class is mixed.

Class of Construction Factor (F): 0.8

Effective Area (A): 23,100 SF square feet

Calculated Construction Factor (C): 2,189 gallons/minute (gpm)

A. Occupancy Factor (O):

The portion of the NFF attributed to the occupancy of the proposed building is determined by the following factors:

Occupancy Combustibility Class	Occupancy Factor (O)
C-1 (Non-combustible)	0.75
C-2 (Limited Combustible)	0.85
C-3 (Combustible)	1.00
C-4 (Free Burning)	1.15
C-5 (Rapid Burning)	1.25

Occupancy Factor (O): 1.0

B. Exposures (X) and Communication Factors (P):

The portion of the NFF attributed to exposed and communicating buildings shall be determined in accordance with the ISO Fire Suppression Rating Schedule.

Exposure Factor (X): 0

Communication Factor (P): 0

C. Calculation of Needed Fire Flow (NFF):

The Needed Fire Flow (NFF) for the facility shall be calculated using the following formula:

$$NFF = C * O * (X+P)_i$$

$$(X+P)_i = 1.0 + \cdot^n (X_i + P_i), \text{ maximum } 1.75, \text{ where } n = \text{number of}$$

i=1

sides of subject building.

Calculated Needed Fire Flow (NFF): 2,189 gpm

3.4.5 Exhibit 3 Available Fire Flow (Aff):

The Available Fire Flow (AFF) must be calculated based on hydrant flow testing and supplemental hydraulic analyses. The AFF will represent the fire flow that is available from the public water system at the existing or proposed hydrant nearest to the proposed facility at a residual pressure of 20 psi.

The following formula, which was developed by the ISO, can be used to adjust data from a hydrant flow test to determine the available fire flow at that location at 20 psi:

$$Q_{20} = Q_t * ((P_s - P_{20})^{0.54}) / (P_s - P_t)^{0.54}$$

Q_{20} = Available fire flow at a residual pressure of 20 psi (gpm)

Q_t = Hydrant flow during test (gpm)

P_s = Static pressure measured before hydrant flow test (psi)

P_{20} = 20 psi (desired residual pressure)

P_t = Residual pressure measured during hydrant flow test (psi)

Note: City of Port Wentworth will provide one hydrant flow test at a location selected by the design consultant for no charge, which can be used as the basis for this calculation.

Hydrant Flow Rate During Test (Q_t): 1,083 gpm

Static Pressure Before Flow Test (P_s): 54 psi

Residual Pressure During Flow Test (P_t): 34 psi

Calculated Available Fire Flow (AFF): 1,442 gpm

3.4.6 Hydrant Distribution Summary For Proposed Facility

DISTANCE FROM THE HYDRANT TO THE PROPOSED FACILITY (FEET)	FIRE FLOW CREDIT (GALLONS/MINUTE)
0 TO 300	1,000
301 TO 600	670
601 TO 1,000	250

DISTANCE FROM THE EXISTING AND PROPOSED HYDRANT TO THE PROPOSED FACILITY (FEET)	FIRE FLOW CREDIT (GALLONS/MINUTE)
± 90'	1,000
± 600'	670
TOTAL CREDIT (GALLONS/MINUTE):	1,670

Calculated by: Charles C. Singleton II, PE
 Date: 4/14/22

3.4.7 Exhibit 4 - Owner/Client Declaration

1. The owner/client will be responsible to maintain and operate the fire system from the tapping valve up to and including the backflow detector check valve assemble, along with the internal fire system.
2. The owner/client has responsibility to operate and maintain the backflow prevention device at subject location, and to include testing on an annual basis of the device as required by the City of Port Wentworth.

Alan Dasher

Owner/Client Name (Please Print)



Owner/Client Signature

4-13-22

Date

3.5.3 Exhibit 1 - Wastewater Collection System Check List

Typical Wastewater System Plan shall include:

	Check Off
1) Layout and legend	<u>NA</u>
2) Exhibit 2 completed (load data)	<u>NA</u>
3) For effluents with process water, comply with the City's Pretreatment Ordinance.	<u>NA</u>
4) Show sewer easement (if applicable)	<u>NA</u>
5) Manholes numbered and placed at 350' (max.) spacing	<u>NA</u>
6) Manholes placed at line directional changes	<u>NA</u>
7) Manhole frame and invert elevations shown	<u>NA</u>
8) Invert elevations shown for all pipe inside manholes	<u>NA</u>
9) Minimum gradient of 0.4% used for 8" pipes	<u>NA</u>
10) Maximum height of 2' between invert of pipes and invert of discharge manholes	<u>NA</u>
11) Minimum angle of 90 degrees for influent lines	<u>NA</u>
12) All sanitary sewers profiled	<u>NA</u>
13) Oil/grease traps and details provided for service station and food service preparers	<u>NA</u>
14) Grading, paving, drainage, erosion control plans attached	<u>NA ✓</u>
15) Attach certification that water and/or sewer lines are not in, nor do they serve, structures built upon solid waste landfills	<u>✓</u>
16) For pump station design:	
a. Attach design calculations with pump curves	<u>NA</u>
b. City of Port Wentworth pump station design standards used to prepare drawings, details and specifications	<u>NA</u>
17) City of Port Wentworth sewer specifications and details used	<u>NA</u>
18) Proposed water/sewer agreement attached	<u>NA</u>
19) Georgia Registered Professional Engineer stamp and signature	<u>✓</u>

3.5.4 Exhibit 2 Equivalent Residential Unit (ERU) Calculations

The following is designed to compute the total number of equivalent residential units (ERU's), as well as, total water and sewer fees.

PROJECT Rice Creek Stop and Start Expansion DATE 4/19/22
 LOCATION 8901 Highway 21, Port Wentworth, GA 31407

RESIDENTIAL USE: EQUIVALENT RESIDENTIAL UNITS (ERU)			
Total Number of Single Family Homes	@ 300 gpd	=	GP
Total Number of One Bedroom Apartments	@ 150 gpd	=	GP
Total Number of Two Bedroom Apartments	@ 200 gpd	=	GP
Total Number of Three Bedroom Apartments	@ 300 gpd	=	GP
(4 or more units per parcel)	TOTAL GPD		
	Divide by 300 gpd (1 ERU)		
	= TOTAL ERU's		
COMMERCIAL USE: GALLONS PER DAY (GPD)			
Offices	30 gallons/200 sq. ft.	=	GPD
Department Store/Retail	5 gallons/100 sq. ft.	=	GPD
Restaurant, Less Than 24 hr Operation	25 gallons/seat	=	GPD
Restaurant, 24 hr Operation	50 gallons/seat	=	GPD
Hotel/Motel	100 gallons per room	=	GPD
Schools/Day, Restrooms, gym &	25 gallons/person	=	GPD
Self Service Laundry	200 gallons/machine	=	GPD
Commercial Laundry	1000 gallons/machine	=	GPD
Physician's Office	100 gallons/exam room	=	GPD
Dental Office	150 gallons/chair	=	GPD
Clinic	150 gallons/exam room	=	GPD
Nursing Home	100 gallons/resident	=	GPD
Barber Shop/Beauty Parlor	100 gallons/chair	=	GPD
Banks	30 gallons/200 sq.ft.	=	GPD
Grocery Store	5 gallons/100 sq.ft.	=	GPD
Warehouse	10 gallons/1000 sq.ft.	=	GPD
Other			
	TOTAL GPD		
	= TOTAL ERU's		

Calculated by: C. Singleton, PE Date: 4/19/22

For determination of sewer tap fees reference Port Wentworth Code of Ordinance Article III Section 21-63

For determination of water tap fees reference Port Wentworth Code of Ordinance Article I Section 21-11

For determination of fire protection tap fees reference Port Wentworth Code of Ordinance Article I Section 21-11



April 19, 2022

Landfill Certification for Water and Sanitary Sewer Systems:

To the best of our knowledge and belief, no water or sanitary sewer lines are in, nor do they serve, structures built upon solid waste landfills.

Coleman Company, Inc.

Charles C. Singleton III, PE

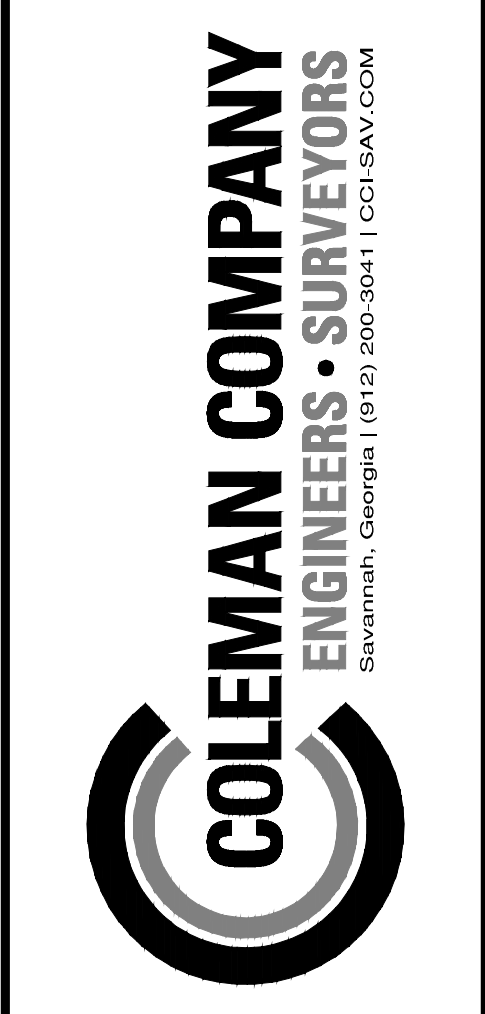
Project Engineer

CONSTRUCTION PLANS FOR STOP N STOR SELF STORAGE HIGHWAY 21 EXPANSION

PREPARED FOR
STOP N STOR 7, LLC

CIVIL ENGINEER:
CHARLES C. SINGLETON III, PE
COLEMAN COMPANY, INC.
1480 CHATHAM PARKWAY, SUITE 100
SAVANNAH, GA 31405
P: 912.200.3041
F: 912.200.3056

DESIGN PROFESSIONAL'S CREDENTIALS:
ENGINEER'S NAME (PRINTED): CHARLES C. SINGLETON, PE
GEORGIA PE NUMBER: 033676
GSWCC LEVEL II CERTIFICATION NUMBER: 12472



NOT FOR CONSTRUCTION

REVISIONS:

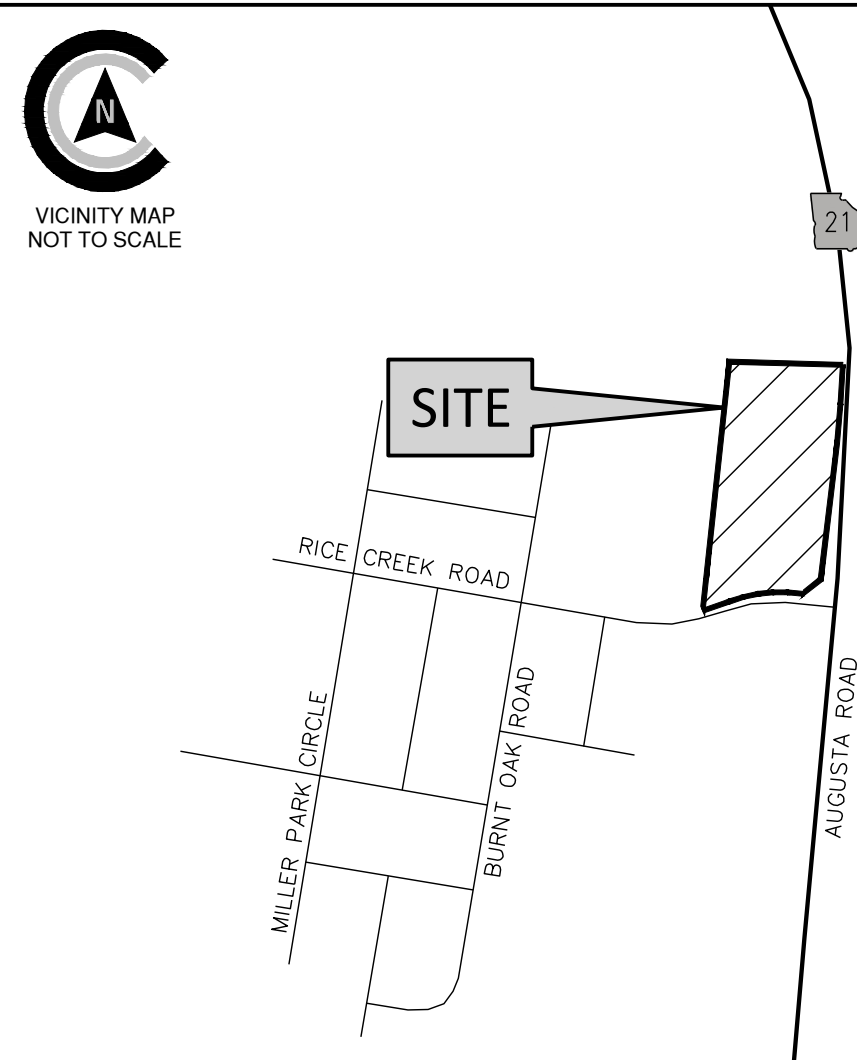
CIVIL CONSTRUCTION PLANS FOR
STOP N STOR SELF STORAGE
HIGHWAY 21 EXPANSION
LOCATED IN PORT WENTWORTH, GEORGIA
PREPARED FOR
STOP N STOR 7, LLC

JOB NUMBER: 21-708.000
DATE: 04/19/2022
DRAWN BY: CCS
CHECKED BY: CCS
SCALE: AS NOTED

COVER

SHEET:
COV

VICINITY MAP (N.T.S.)



REVISIONS

NO.	DATE	DESCRIPTION

PROJECT SITE DATA

PROJECT ADDRESS: RICE CREEK ROAD
PROJECT CITY, STATE: PORT WENTWORTH, GEORGIA
OWNER/REPRESENTATIVE: STOP N STOR 7, LLC
PROPERTY AREA: 5.85 ACRES
DISTURBED AREA: 1.22 ACRES
ZONING: P-R-M
VERTICAL DATUM: NAVD88
HORIZONTAL DATUM: NAD83
FLOOD ZONE: X
WATER & SEWER PROVIDER: CITY OF PORT WENTWORTH
PINS: 7-0906-01-038
SURVEY PREPARED BY: COLEMAN COMPANY, INC.
GEOTECHNICAL BY:
ARCHITECT:
CONSTRUCTION EXIT LOCATION: 32.23107, -81.19433

SHEET INDEX

Sheet Number	Sheet Title
COV	COVER
C0.0	CONSTRUCTION NOTES
C1.0	EXISTING CONDITIONS
C2.0	DEMOLITION PLAN
C3.0	STAKING PLAN
C4.0	PAVING & GRADING
C5.0	DRAINAGE & UTILITY PLAN
C6.0	EXISTING STORM PROFILES
C7.0 ~ C7.1	CONSTRUCTION DETAILS
CE1.0 ~ CE5.1	ESPC PLANS
L1.0	LANDSCAPE PLANS
APPENDIX	LIGHTING PLAN

GENERAL NOTES:

- CONTRACTOR WILL BE REQUIRED TO ATTEND A PRE-CONSTRUCTION CONFERENCE WITH THE GOVERNMENTAL AGENCY IN CHARGE OF THE PROJECT.
- CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND INSPECTIONS AS REQUIRED FOR APPROVAL OF THE WORK WITH THE GOVERNMENTAL AGENCY WITH JURISDICTION.
- CONTRACTOR WILL BE RESPONSIBLE FOR COST OF AND COORDINATION WITH LOCAL UTILITY COMPANIES OR AGENCIES FOR RELOCATION OF, OR CONNECTION TO, ALL EXISTING UTILITIES INCLUDING POWER AND TELEPHONE POLES AND WIRES.
- ALL ELEVATIONS ARE BASED ON MEAN SEA LEVEL DATUM, NAVD 88.
- A MINIMUM SHOULDER WIDTH OF 4 FEET WITH A MINIMUM TRANSVERSE SLOPE OF 5% WILL BE PROVIDED ADJACENT TO CURBS AND WALKS. ALL WALKS SHALL HAVE A MINIMUM SLOPE OF 2%.
- MAXIMUM EARTH SLOPES WILL BE 3:1. GRADE FROM SHOULDER EDGE TO RIGHT-OF-WAY AT 1% MINIMUM.
- REMOVAL AND REPLACEMENT OF UNSUITABLE SUBGRADE MATERIAL WILL BE PAID FOR ON A CUBIC YARD BASIS IN PLACE MEASUREMENT, AT SUCH AUTHORIZED PRICE PER CUBIC YARD, AS AUTHORIZED BY THE ENGINEER.
- PROVIDE 1/2" EXPANSION JOINT IN NEW WALKS FOR DEPTH OF CONCRETE, WITH BITUMINOUS SEAL FOR TOP 1" MINIMUM DEPTH AT ABUTMENTS WITH BUILDINGS OR OTHER CONCRETE STRUCTURES.
- SAW-CUT CONTRACTION JOINTS WILL BE PROVIDED IN ACCORDANCE WITH DETAILS, CUT TO BE 1/4 DEPTH OF CONCRETE MINIMUM.
- ALL DIMENSIONS ARE TO EXTERIOR FACE OF BUILDING, EDGE OF SURFACE COURSE OR FACE OF CURBING UNLESS OTHERWISE NOTED.
- ALL ANGLES ARE 90 DEGREES UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL KEEP ACCURATE RECORDS FOR "AS BUILT" PURPOSES AND PROVIDE THIS INFORMATION TO THE ENGINEER AT THE COMPLETION OF THE PROJECT. IF THE CONTRACTOR FAILS TO FURNISH THIS INFORMATION, THE ENGINEER WILL OBTAIN THE NECESSARY INFORMATION AND CHARGE THE CONTRACTOR FOR THE SERVICES. THE ENGINEER WILL CHECK INFORMATION PROVIDED BY THE CONTRACTOR FOR ACCURACY. AS BUILT INFORMATION INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING: ALL UTILITIES INCLUDING INVERTS, TOP ELEVATIONS, PIPE LENGTHS AND TYPE OF CONSTRUCTION MATERIAL, SPOT ELEVATIONS ON FORCE MAINS AND WATER LINES, THE DISTANCE OF THE CENTERLINE OF UTILITIES FROM A PERMANENT STRUCTURE, ALL VALVE MANHOLES AND VALVE BOXES SHALL BE LOCATED WITH RESPECT TO A PERMANENT STRUCTURE. GRADES SHALL BE CONFIRMED IN ROADS AND PARKING AREAS AS WELL AS SWALES TO SHOW DIRECTION OF STORMWATER FLOW. THE FINISHED FLOOR ELEVATION SHALL BE SHOWN ON ALL BUILDINGS. IF THE LANDSCAPING IS CHANGED IN ANY WAY AN AS BUILT OF THE LANDSCAPE PLAN IS TO BE SUBMITTED TO THE ENGINEER, AND ANY OTHER REQUIREMENT MADE BY CITY OF PORT WENTWORTH.
- ALL NEW DISTURBED AREAS WILL BE GRASSED BY SEEDING OR SPRIGGING IN ACCORDANCE WITH CURRENT VERSION OF THE MANUAL FOR EROSION & SEDIMENT CONTROL IN GEORGIA, AND AS DIRECTED BY THE ENGINEER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS.
- CONTRACTOR SHALL PROVIDE DUST CONTROL OF ALL DISTURBED AREAS BY THE USE OF WATER AND FAST GROWING, TEMPORARY VEGETATION ON ALL STOCKPILED SOILS.
- CONTRACTOR WILL PROVIDE A CONSTRUCTION SCHEDULE INCLUDING ALL EROSION AND SEDIMENT CONTROL MEASURES.
- CONTRACTOR SHALL PROVIDE CRUSHED STONE 6" THICK, 50" MIN. LONG BY 20" MIN. WIDE AT ALL CONSTRUCTION EXITS TO MINIMIZE TRANSPORT OF SOIL FROM SITE BY VEHICLE WHEELS.
- ALL EXISTING INLETS AND DITCHES SUBJECT TO STORM WATER RUNOFF FROM THE SITE AND ALL NEW INLETS SHALL BE PROVIDED WITH HAY BALES SILT BARRIERS TO MINIMIZE SOIL TRANSPORT OFF SITE BY STORM WATERS.
- ALL MATERIAL AND INSTALLATION PRACTICES ASSOCIATED WITH THE CONSTRUCTION OF THIS PROJECT SHALL MEET THE CURRENT REQUIREMENTS OF THE CITY OF PORT WENTWORTH AND CHATHAM COUNTY DEVELOPMENT REGULATIONS AND SPECIFICATIONS.
- TESTING - PROVIDE ALL TESTING AS REQUIRED IN THE SPECIFICATIONS. PROVIDE ENGINEER WITH COPY DIRECT FROM TESTING LAB.
- CONTRACTOR SHALL MAINTAIN SITE ON A DAILY BASIS TO PROVIDE FOR POSITIVE DRAINAGE. CONTRACTOR, AT HIS COST, SHALL GRADE SITE AND PROVIDE NECESSARY TEMPORARY DRAINAGE SWALES TO INSURE STORM WATER DOES NOT POND ON SITE.
- ANY DETENTION BASINS SHALL BE CONSTRUCTED IN CONJUNCTION WITH CLEARING AND GRADING TO HELP PREVENT THE LOSS OF SEDIMENT FROM THE SITE. THE CONTRACTOR SHOULD CLEAN OUT ANY SEDIMENT DEPOSITED IN THE BASINS DURING THE CONSTRUCTION PERIOD SO THAT THE SPECIFIED WATER DEPTH AT NORMAL POOL IS MAINTAINED; THE CONTRACTOR MAY OVER EXCAVATE THE BASINS TO ACCOMPLISH THIS, IF DESIRED, AT HIS OWN EXPENSE AND WITH THE CONCURRENCE OF THE ENGINEER.
- PRIOR TO CONSTRUCTION, ALL BUILDING AREAS, PLUS 10 FEET ON EACH SIDE AND ALL AREAS TO BE PAVED, SHOULD BE STRIPPED OF ALL VEGETATION, TOP SOIL AND ROOT SYSTEMS.
- SITE DRAINAGE SHOULD BE ESTABLISHED TO PREVENT ANY PONDED WATER CONDITIONS WITHIN THE CONSTRUCTION AREA AND TO FACILITATE THE RAPID RUN-OFF OF STORM WATER.
- ANY STUMP HOLES OR OTHER DEPRESSIONS SHOULD BE CLEARED OF LOOSE MATERIAL AND DEBRIS AND SHOULD THEN BE BACKFILLED WITH APPROVED FILL. THE BACKFILL SHOULD BE PLACED IN SIX INCH MAXIMUM LIFTS AND COMPACTED TO 95% DENSITY IN ACCORDANCE WITH ASTM-D-1557.
- ANY UTILITIES THAT UNDERLIE THE SITE SHOULD BE RELOCATED AND THE TRENCHES BACKFILLED WITH APPROVED SOIL. THE BACKFILL SHOULD BE PLACED IN SIX INCH MAXIMUM LIFTS AND COMPACTED TO 95% DENSITY IN ACCORDANCE WITH ASTM-D-1557.
- THE SUBGRADE SHOULD BE PROFFPOULDED WITH A LOADED DUMP TRUCK TO LOCATE UNSTABLE OR SOFT AREAS. THESE AREAS SHOULD THEN BE INVESTIGATED TO DETERMINE THE CAUSE OF THE INSTABILITY. IF DUE TO UNSUITABLE SOIL, SUCH AS HIGHLY ORGANIC SOILS OR SOFT CLAYS, THE AREA SHOULD BE UNDERCUT TO A FIRM SOIL AND REPLACED WITH APPROVED FILL COMPACTED IN SIX INCH LIFTS TO MINIMUM DENSITY OF 95% IN ACCORDANCE WITH ASTM-D-1557. IF THE INSTABILITY IS DUE TO EXCESS MOISTURE IN OTHERWISE SUITABLE SOIL, THE AREA SHOULD BE DRAINED AND COMPACTED TO 95% DENSITY. ANY FILL REQUIRED TO LEVEL OR RAISE THE SITE SHOULD THEN BE PLACED IN 6" THICK LOOSE LIFTS AND COMPACTED TO 95% DENSITY IN ACCORDANCE WITH ASTM-D-1557.
- ALL OF THE FILL FOR THIS PROJECT SHOULD CONSIST OF A CLEAN, FREE DRAINING SAND WITH A MAXIMUM OF 15% FINES. THE FILL SHOULD BE FREE OF OBJECTIONABLE ROOTS, CLAY LUMPS AND DEBRIS.
- MOISTURE CONTENT SHALL BE AT OR BELOW OPTIMUM.
- ALL WATER USED FOR CONSTRUCTION SHALL BE METERED THROUGH AN APPROVED BACKFLOW PREVENTION DEVICE AND FIRE HYDRANT METER OBTAINED FROM THE CITY OF PORT WENTWORTH CONVEYANCE AND DISTRIBUTION DEPARTMENT.
- IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO FOLLOW THE COMPREHENSIVE MONITORING PLAN PREPARED FOR THE DEVELOPER BY COLEMAN COMPANY, INC.
- ALL TAPS ON A MAIN FOR SERVICE LATERALS SHALL BE MADE WITH AN ALL STAINLESS STEEL DOUBLE STRAP EPOXY COATED TAPPING SADDLE. THE SIZE OF THE SADDLE SHALL BE WATER MAIN DIAMETER C-900 + 1/4" TO 3/4" TREAD."
- ALL FIRE HYDRANTS AND VALVES SHALL BE MANUFACTURED BY AMERICAN, DARLING, MUELLER OR M&H.
- 50 L.F. OF 6" UNDERDRAIN AND ROCK SHALL BE INSTALLED FROM EACH SIDE OF EACH GRATE INLET. CONTRACTOR SHALL VERIFY THE STATIC WATER ELEVATION OF THE PROPOSED EXISTING DRAINAGE SYSTEM EACH ROADSIDE INLET IS A COMPONENT OF AND NOT INSTALL THE UNDERDRAIN BELOW THAT STATIC ELEVATION.
- ANY AND ALL UTILITY CROSSINGS FOR WATER MAINS BETWEEN STORM OR SEWER PIPING SHOULD BE ACCOMPLISHED BY USING OF 45° BENDS BOTH DOWN AND UP.
- ALL KNOWN UTILITY FACILITIES ARE SHOWN SCHEMATICALLY ON THE PLANS AND ARE NOT NECESSARILY ACCURATE AS TO PLAN OR ELEVATION. UTILITY FACILITIES SUCH AS SERVICE LINES OR UNKNOWN FACILITIES NOT SHOWN ON THE PLANS WILL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES, EXCEPT AS NOTED BELOW. THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR THE COST OF REPAIRS TO DAMAGED UTILITY FACILITIES OTHER THAN SERVICE LINES FROM STREET MAINS TO ABUTTING PROPERTY WHEN SUCH FACILITIES ARE NOT SHOWN ON THE PLANS AND THEIR EXISTENCE IS UNKNOWN TO THE CONTRACTOR PRIOR TO THE DAMAGES OCCURRING PROVIDING THE ENGINEER DETERMINES THE CONTRACTOR HAS OTHERWISE FULLY COMPLIED WITH THE SPECIFICATIONS.
- CONTRACTOR(S) SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES. CONTRACTOR(S) ARE RESPONSIBLE FOR LOCATING, PROTECTING, REPAIRING, AND REPLACING ANY AND ALL UNDERGROUND UTILITIES DURING ALL PHASES OF CONSTRUCTION. COLEMAN COMPANY, INC. HAS MADE A DILIGENT EFFORT TO LOCATE ALL ABOVE AND BELOW GROUND UTILITIES BUT CANNOT GUARANTEE THAT ALL PRESENT UTILITIES HAVE BEEN IDENTIFIED. CONTRACTOR SHALL CALL UTILITY PROTECTION CENTER (1-800-282-7411) AT LEAST 3 DAYS PRIOR TO DIGGING AND SHALL NOT BEGIN DIGGING UNTIL ALL UNDERGROUND UTILITY LOCATIONS ARE COMPLETE.
- ALL DEMOLITION DEBRIS SHALL BE PROPERLY DISPOSED AT THE CONTRACTOR'S EXPENSE.
- A CONTINUOUS RUN OF PLASTICIZED METALLIC TAPE SHALL BE INSTALLED ABOVE THE TOP OF PVC PIPE USED FOR GRAVITY SEWER AND FORCE MAINS AT APPROXIMATELY 30" BELOW FINISHED GRADE. THE TAPE SHALL BE SUITABLE FOR DETECTION WITH METAL PIPE LOCATION EQUIPMENT, COLOR CODED AND LABELED TO IDENTIFY CONTENTS OF THE PIPE AND BRIGHTLY COLORED TO CONTRAST WITH THE SOIL. IN ADDITION TO THE TAPE, A CONTINUOUS RUN OF TRACER WIRE SHALL BE ATTACHED TO THE PIPE AND CONNECTED TO MANHOLE RINGS. ON PIPE RUNS GREATER THAN 500', THE TRACER WIRE SHALL BE ATTACHED TO A 2" GALVANIZED PIPE WITH A 180 DEGREE BEND AT THE TOP, EXTENDING 36" ABOVE GRADE FOR CONNECTION TO LOCATOR EQUIPMENT. THE MAXIMUM DISTANCE BETWEEN 2" PIPE STUBS SHALL BE 500'.
- ALL SANITARY SEWER LATERALS SHALL BE PROPERLY MARKED AT THE POINT WHERE LATERALS TERMINATE WITH PVC PIPE PAINTED GREEN. ADDITIONAL MARKINGS SHALL BE STAMPED IN THE CURB OR MARKED ON THE EDGE OF PAVING WITH AN APPROVED PERMANENT MARKER CAPABLE OF BEING LOCATED BY A MAGNETIC LOCATOR, SUCH AS A NAIL WITH CAP, IF NO CURB PRESENT. LATERALS SHALL BE MARKED WITH MARKING TAPE AN TRACER WIRE AS DESCRIBED ABOVE.
- A CONTINUOUS RUN OF PLASTICIZED METALLIC TAPE SHALL BE INSTALLED ABOVE THE TOP OF PVC PIPE USED FOR WATER MAINS AT APPROXIMATELY 18" TO 24" BELOW FINISHED GRADE. THE TAPE SHALL BE SUITABLE FOR DETECTION WITH METAL PIPE LOCATION EQUIPMENT, COLOR CODED AND LABELED TO IDENTIFY CONTENTS OF THE PIPE AND BRIGHTLY COLORED TO CONTRAST WITH THE SOIL. IN ADDITION TO THE TAPE, A CONTINUOUS RUN OF TRACER WIRE SHALL BE ATTACHED TO THE PIPE AND CONNECTED TO CURB STOPS AND BROUGHT TO TOP OF VALVE. ON PIPE RUNS GREATER THAN 500', THE TRACER WIRE SHALL BE ATTACHED TO A 2" GALVANIZED PIPE WITH A 180 DEGREE BEND AT THE TOP, EXTENDING 36" ABOVE GRADE FOR CONNECTION TO LOCATOR EQUIPMENT. THE MAXIMUM DISTANCE BETWEEN 2" PIPE STUBS SHALL BE 500'.
- ALL WATER SERVICES SHALL BE PROPERLY MARKED ABOVE GROUND WITH PVC PIPE PAINTED BLUE. ADDITIONAL MARKINGS SHALL BE STAMPED IN THE CURB OR MARKED ON THE EDGE OF PAVING WITH AN APPROVED PERMANENT MARKER CAPABLE OF BEING LOCATED BY A MAGNETIC LOCATOR, SUCH AS A NAIL WITH CAP, IF NO CURB PRESENT. SERVICES SHALL BE MARKED WITH MARKING TAPE AN TRACER WIRE AS DESCRIBED ABOVE.
- TRACER WIRE SHALL BE REQUIRED ON ALL STORM PIPE.

- THE CONTRACTOR SHALL HAVE APPROVED PLANS ON SITE AT ALL TIMES DURING LAND DISTURBING ACTIVITIES.
- THE CONTRACTOR SHALL HAVE A CERTIFIED EROSION AND SEDIMENTATION CONTROL INSPECTOR ON SITE AT ALL TIMES DURING LAND DISTURBING ACTIVITIES.
- CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CITY OF PORT WENTWORTH AND CHATHAM COUNTIES LATEST CONSTRUCTION SPECIFICATIONS AND DETAILS.
- CURB AND GUTTER TO BE 18" STANDARD PITCH CURB UNLESS OTHERWISE NOTED.
- FOR CITY WATER AND SEWER LINE LOCATIONS, CONTACT THE UTILITIES PROTECTION CENTER (1-800-282-7411) A MINIMUM OF SEVENTY-TWO (72) HOURS PRIOR TO DIGGING.
- THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE REPORT OF GEOTECHNICAL ENGINEERING REPORT PREPARED FOR THIS PROJECT BY WHITAKER LABORATORY INC. A COPY CAN BE OBTAINED, AT CONTRACTOR'S EXPENSE, EITHER DIRECTLY FROM WHITAKER OR FROM THE ENGINEER.
- STORM SEWER SPECIFICATIONS FOR MANHOLE COVER IN STREET:

GENERAL: ALL CASTINGS SHALL BE MANUFACTURED IN THE UNITED STATES OF AMERICA BY NEENAH FOUNDRY COMPANY, U.S. FOUNDRY & MANUFACTURING CORPORATION, EAST JORDAN IRON WORKS, INC. OR APPROVED EQUAL. THEY SHALL BE OF UNIFORM QUALITY, FREE FROM SAND HOLES, SHRINKAGE, CRACKS, COLD SHUTS OR OTHER DEFECTS. CASTINGS SHALL BE SMOOTH AND WELL CLEANED BY SHOT BLASTING.

MATERIALS: GRAY IRON CASTINGS SHALL BE MANUFACTURED FROM IRON CONFORMING TO ASTM A48 CLASS 35B AND ASTM A48 CLASS 30. DUCTILE IRON CASTINGS SHALL BE MANUFACTURED TRUE TO PATTERN AND COMPONENT PARTS SHALL FIT TOGETHER PROPERLY. ROUND MANHOLE FRAMES, COVERS AND GRATES SHALL HAVE MACHINED BEARING SURFACES TO PREVENT ROCKING. TOLERANCES SHALL BE ACCEPTED FOUNDRY STANDARDS AS OUTLINED IN THE IRON CASTINGS HANDBOOK PUBLISHED BY THE AMERICAN FOUNDRYMEN'S SOCIETY, INC. CASTINGS WEIGHTS SHALL NOT VARY MORE THAN 5% ABOVE OR BELOW THOSE VALUES REPRESENTED BY THE MANUFACTURER.

MARKINGS: ALL CASTINGS SHALL BE CLEARLY MARKED WITH THE MANUFACTURE'S NAME, COMPANY LOGO AND "MADE IN USA" IN CAST LETTERS. ADDITIONAL MARKING: THE CASTING SIDE OF ALL CASTINGS SHALL BE CLEARLY MARKED "STORM" AND "CITY OF PORT WENTWORTH" IN FLUSH-CAST LETTERS AND THE TOP OR TRAFFIC SIDE OF ALL CASTINGS DESIGNED TO COLLECT WATER, (CATCH BASINS, GRATES, ETC.) SHALL BE CLEARLY MARKED "DRAINS TO RIVER - DO NOT DUMP" OR SIMILAR VERBIAGE THAT ACHIEVES THE SAME MEANING.

INTERNATIONAL FIRE CODE, 2018 EDITION:

SECTION 3310
ACCESS FOR FIRE FIGHTING
3310.1 REQUIRED ACCESS. APPROVED VEHICLE ACCESS FOR FIRE FIGHTING SHALL BE PROVIDED TO ALL CONSTRUCTION OR DEMOLITION SITES. VEHICLE ACCESS SHALL BE PROVIDED TO WITHIN 100 FEET (30.5 METERS) OF TEMPORARY OR PERMANENT FIRE DEPARTMENT CONNECTIONS. VEHICLE ACCESS SHALL BE PROVIDED BY EITHER TEMPORARY OR PERMANENT ROADS, CAPABLE OF SUPPORTING VEHICLE LOADING UNDER ALL WEATHER CONDITIONS. VEHICLE ACCESS SHALL BE MAINTAINED UNTIL PERMANENT FIRE APPARATUS ACCESS ROADS ARE AVAILABLE.

SECTION 3312
WATER SUPPLY FOR FIRE PROTECTION
3312.1 WHEN REQUIRED, AN APPROVED WATER SUPPLY FOR FIRE PROTECTION, EITHER TEMPORARY OR PERMANENT, SHALL BE MADE AVAILABLE AS SOON AS COMBUSTIBLE MATERIAL ARRIVES ON THE SITE.

MAXIMUM BUILDING HEIGHT IS TO BE 45' PER APPENDIX A, ARTICLE III, SECTION 6 OF THE CITY OF PORT WENTWORTH CODIFIED ORDINANCES.

IN THE CASE OF ANY CONFLICT OF THESE CONSTRUCTION DOCUMENTS AND THE CITY OF PORT WENTWORTH CODIFIED ORDINANCES, STANDARDS, SPECIFICATIONS, OR DETAILS, THE CITY OF PORT WENTWORTH STANDARDS ARE TO TAKE PRECEDENCE.

ADA NOTES:

- ACCESSIBLE ROUTE - EXTERIOR:
MINIMUM CLEAR WIDTH IS 3'; IF ACCESSIBLE ROUTE HAS LESS THAN 5' CLEAR WIDTH, THEN PASSING SPACES AT LEAST 5'X5' SHALL BE LOCATED EVERY 200' OR LESS. INTERSECTING SIDEWALKS MEET THIS REQUIREMENT. LONGITUDINAL (RUNNING) SLOPE MAY NOT EXCEED 5% UNLESS RAMP IS INSTALLED (RAMPS MAY NOT EXCEED 8.33%), CROSS SLOPE MAY NOT EXCEED 2%. GAPS IN ROUTE MAY NOT EXCEED 1/2" IN WIDTH.
- FINISHED SURFACE HEIGHT DIFFERENCE REQUIREMENTS:
A. 0 TO 1/4" : NO REQUIREMENTS
B. 1/4" TO 1/2" : BEVEL WITH 1:2 SLOPE
C. LARGER THAN 1/2" : CONFORM TO REQUIREMENTS FOR RAMP
- RAMPS:
MAX RAMP SLOPE 8.33% (1:12)
RAMPS STEEPER THAN 8.33% ARE NOT ACCEPTABLE
MAX RISE FOR ANY RAMP RUN IS 30" AT 8.33% SLOPE, MAXIMUM RUN OF RAMP IS 30'
MAX CROSS SLOPE OF RAMP 2% (1:50)
A. LANDINGS :
RAMPS SHALL HAVE LEVEL LANDINGS AT BOTTOM AND TOP OF EACH RAMP.
LANDINGS SHALL BE AT LEAST AS WIDE AS RAMP LEADING TO IT.
LANDING LENGTH SHALL BE MINIMUM 5' CLEAR
IF RAMPS CHANGE DIRECTION AT LANDING, MINIMUM LANDING SIZE SHALL BE 5'X5'.
ALL LANDINGS ARE TO BE NO MORE THAN 2% SLOPE IN ANY DIRECTION.
B. HANDRAILS:
HANDRAILS REQUIRED ON BOTH SIDES (MIN. 36" CLEAR BETWEEN HANDRAILS) WHEN RAMP RISE IS GREATER THAN 6".
PROVIDE MINIMUM 12" LONG HANDRAIL EXTENSIONS AT TOP AND BOTTOM LANDINGS.
PROVIDE MINIMUM 2" HIGH EDGE PROTECTION OR RAIL WITH LESS THAN 4" CLEAR TO RAMP IF RAMP HAS DROP-OFFS.
ROUTES BETWEEN BUILDINGS WITH ONLY DWELLING UNITS DO NOT HAVE TO HAVE HANDRAILS.
STAIRS NOT ALLOWED AS PART OF ACCESSIBLE ROUTE BUT IF ADJACENT TO ROUP OR PART OF TENANT SPACE MUST MEET REQUIREMENTS FOR STAIR RAILS.

CURB RAMPS :
MAX SLOPE OF CURB RAMP 8.33%
MAX SLOPE OF SIDE FLARES 10%
MIN WIDTH 36" (NOT INCLUDING SIDE FLARES).
DETECTABLE WARNING IS REQUIRED ON CURB RAMPS IN PUBLIC RIGHT OF WAYS, AND SHALL BE 24" MINIMUM IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE. DETECTABLE WARNINGS SHALL BE LOCATED SO THE EDGE NEAREST THE CURB LINE IS 6" TO 8" FROM THE CURB LINE.

PAVEMENT MARKINGS
AS REQUIRED BY LOCAL JURISDICTIONAL AUTHORITY (RECOMMENDED CROSSWALK MARKING TO DESIGNATE ACCESSIBLE PEDESTRIAN ROUTE)

PARKING SPACES :
MINIMUM 8' WIDE ACCESSIBLE PARKING SPACE
MINIMUM 5' WIDE ACCESS AISLE AT STANDARD SPACES
MINIMUM 8' WIDE ACCESS AISLE AT VAN ACCESSIBLE SPACES
MAXIMUM 2% (1:50) SLOPE IN ANY DIRECTION

SIGNAGE:
ACCESSIBLE PARKING SPACES SHALL BE DESIGNATED AS RESERVED BY A SIGN SHOWING THE SYMBOL OF ACCESSIBILITY. VAN ACCESSIBLE SPACES SHALL HAVE AN ADDITIONAL SIGN "VAN ACCESSIBLE" MOUNTED BELOW THE SYMBOL. SUCH SIGNS SHALL BE LOCATED SO THEY CANNOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE. (SIGNAGE TO BE INSTALLED AT A MINIMUM HEIGHT OF 7' TO BOTTOM OF VAN ACCESSIBLE DESIGNATION, AND 7' MINIMUM TO THE BOTTOM OF ALL OTHER SIGN FACES).

ACCESSIBLE ROUTES :
MUST COMPLY WITH ADA, THE FAIR HOUSING ACT AND ICC/ANSI A117.1-2003

WATER - SEWER NOTES:

- HIGHLY CHLORINATED WATER USED IN THE DISINFECTATION PROCESS SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH THE LATEST CITY OF PORT WENTWORTH CONSTRUCTION SPECIFICATIONS.
- ANY PIPE, SOLDER AND FLUX USED DURING INSTALLATION OF THE WATER LINES MUST BE "LEAD FREE" IN ACCORDANCE WITH THE LATEST CITY OF PORT WENTWORTH CONSTRUCTION SPECIFICATIONS.
- MAINTAIN MINIMUM HORIZONTAL/VERTICAL CLEARANCE IN ACCORDANCE WITH THE LATEST CITY OF PORT WENTWORTH CONSTRUCTION SPECIFICATIONS.
- WHERE THE WATER MAIN CROSSES SEWER OR STORM PIPES, THE WATER LINE SHALL BE DUCTILE IRON IN ACCORDANCE WITH THE LATEST CITY OF PORT WENTWORTH CONSTRUCTION SPECIFICATIONS.
- THE CONTRACTOR IS RESPONSIBLE TO BRING PROPOSED MANHOLE TOPS TO GRADE.
- MAXIMUM COVER FOR THE WATER MAIN SHALL BE IN ACCORDANCE WITH THE LATEST CITY OF PORT WENTWORTH CONSTRUCTION SPECIFICATIONS.
- CONTRACTOR TO VERIFY ALL INVERT ELEVATIONS OF SANITARY SEWER LATERALS PRIOR TO CONSTRUCTION. NOTIFY ENGINEER WITH INVERT DATA TO INSURE THERE ARE NO CONFLICTS.
- ALL FILLING AND HYDROSTATIC TESTING OF NEW MAINS SHALL BE COORDINATED WITH AND WITNESSED BY THE CITY'S INSPECTOR.
- INTERNAL FIRE SPRINKLER PROTECTION IS TO BE DESIGNED AND SUBMITTED SEPARATELY, BY OTHERS, TO BUILDING INSPECTIONS AS NECESSARY.
- INDUSTRIAL WASTEWATER DISCHARGE IS NOT ANTICIPATED NOR DESIGNED FOR WITH THIS DEVELOPMENT.
- IN ADDITION TO THE SEDIMENTATION AND EROSION CONTROL MEASURES AS INDICATED ON THE PLANS THE CONTRACTOR SHALL TAKE WHATEVER ACTIONS AS ARE NECESSARY TO ENSURE THAT ALL SEDIMENTATION IS CONFINED TO THE SITE AND THAT NO OFFSITE EROSION IS CAUSED BY THE WORK EITHER DIRECTLY OR INDIRECTLY.

DEVELOPMENT REQUIREMENTS:

FRONT SETBACK: 40'
SIDE YARD SETBACKS: 10'
REAR YARD SETBACK: ??

20% OPEN SPACE REQ'D: N/A
OPEN SPACE PROVIDED: N/A

*PER PUD - FRONT SETBACK CAN VARY TO A MIN. 10' FROM R.O.W. TO PROMOTE STAGGERED FRONTAGES CANOPY SETBACK FROM R.O.W. 45.22'

BUILDING AREA = 23,100 SQ. FT.
PARKING REQUIRED = 0
PARKING PROVIDED = 0

SITE INFORMATION:

PARENT PIN: 7-0906-01-038
ZONING DISTRICT: P-R-M
FLOOD ZONE: X
SIZE: 5.85 ACRES

PROPOSED LAND USE: STORAGE WAREHOUSE

EROSION CONTROL NOTES:

1. EROSION CONTROL IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING BEST MANAGEMENT PRACTICES (BMP'S) ON THE SITE AT ALL TIMES IN ACCORDANCE WITH THESE PLANS AND THE "MANUAL FOR EROSION AND SEDIMENT CONTROL OF GEORGIA".

2. NARRATIVE DESCRIPTION:
LOCATION: RICE CREEK ROAD PORT WENTWORTH, GEORGIA
PIN: 7-0906-01-038
NATURE OF WORK: STOP N STOR SELF STORAGE HIGHWAY 21 EXPANSION

SIZE: TOTAL PROPERTY ACREAGE: 5.85 ACRES
DISTURBED ACREAGE: 1.17 ACRES

ZONING CLASSIFICATION: P-R-M
MAXIMUM BUILDING HEIGHT:
PHASES: THE WORK WILL BE PERFORMED IN ONE PHASE.

3. THERE ARE NO APPARENT WATERS OF THE UNITED STATES WITHIN 200 FEET OF THE PROJECT SITE.

4. THERE ARE NO APPARENT WETLANDS PRESENT ON THE PROPERTY.

5. ALL SUITABLE TOPSOIL WILL BE STOCKPILED BY THE CONTRACTOR AND SPREAD IN PROPOSED VEGETATIVE AREAS PRIOR TO LANDSCAPE INSTALLATION.

6. THE SOILS ON SITE ARE : CAPE FEAR SOILS (Cz) AND OCILLA COMPLEX (O)

7. THIS SITE IS CURRENTLY DEVELOPED AS UNDEVELOPED

8. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE "MANUAL FOR EROSION AND SEDIMENT CONTROL OF GEORGIA".

9. MAINTENANCE OF ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES, WHETHER TEMPORARY OR PERMANENT, SHALL BE AT ALL TIMES THE RESPONSIBILITY OF THE OWNER.

10. THE CONTRACTOR SHALL ENSURE THAT STRUCTURAL EROSION CONTROL MEASURES ARE INSPECTED DAILY. ANY DEFICIENCIES, INCLUDING SILT REMOVAL, OBSERVED SHALL BE REPAIRED BY THE END OF THAT DAY'S WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A DAILY INSPECTION LOG AND NOTIFYING THE OWNER AND ENGINEER OF ANY DEFICIENCIES IDENTIFIED IN THE EROSION CONTROL MEASURES. EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS ARE STABILIZED.

11. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.

12. 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 WILL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

13. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD OF GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.

14. ACCORDING TO THE FLOOD INSURANCE RATE MAPS, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, THIS PROJECT SITE DOES NOT APPEAR TO LIE IN AN FLOOD HAZARD AREA AS DEPICTED ON FIRM PANEL NO. 13051C0030G EFFECTIVE DATE: AUGUST 16, 2018.

CONTACT INFORMATION:
CIVIL ENGINEER:
CHARLES C. "CHUCK" SINGLETON III, PE
COLEMAN COMPANY, INC.
1480 CHATHAM PKWY, SUITE 100
SAVANNAH, GA 31405
P 912.200.3041
F 912.200.3056

OWNER/REPRESENTATIVE CONTACT:
STOP N STOR SELF STORAGE
ATTN: MR. ALAN DASHNER
9100 WHITE BLUFF ROAD, SUITE 609
SAVANNAH, GA 31406
hushell@yathoo.com

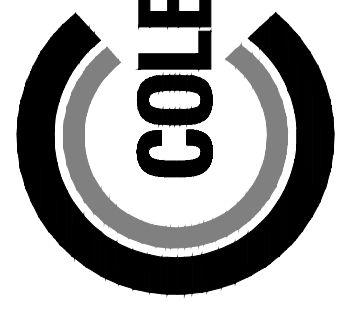
16. THE INITIAL RECEIVING WATER FOR THIS PROJECT IS AN EXISTING DETENTION POND THAT OUTFALLS INTO THE RICE CREEK SUBDIVISION AND INTERCONNECTED LAGOON SYSTEM. FINAL RECEIVING WATERS IS BLACK CREEK.

17. ANY ON-SITE FUEL STORAGE TANK MUST BE PROTECTED FROM LEAKS, SPILLS, AND RUPTURE AS PER APPLICABLE CODES.


18. SILT FENCE MUST BE INSPECTED DAILY FOR FAILURES AND CLEANED OUT WHEN SILT REACHES 1/2 THE FENCE HEIGHT.

19. ALL TEMPORARY BMP'S FOR EROSION & SEDIMENT CONTROL SHALL BE REMOVED ONCE FINAL STABILIZATION IS ACHIEVED.

	AREA	IMPERVIOUS	CN	Q25
PRE-DEVELOPMENT	1.77ac	0.00ac	80	(5)36.12 cls Tc=18.4min.
POST-DEVELOPMENT	1.17ac	4.52ac	89	(5)19.30 cls Tc=20.0min.



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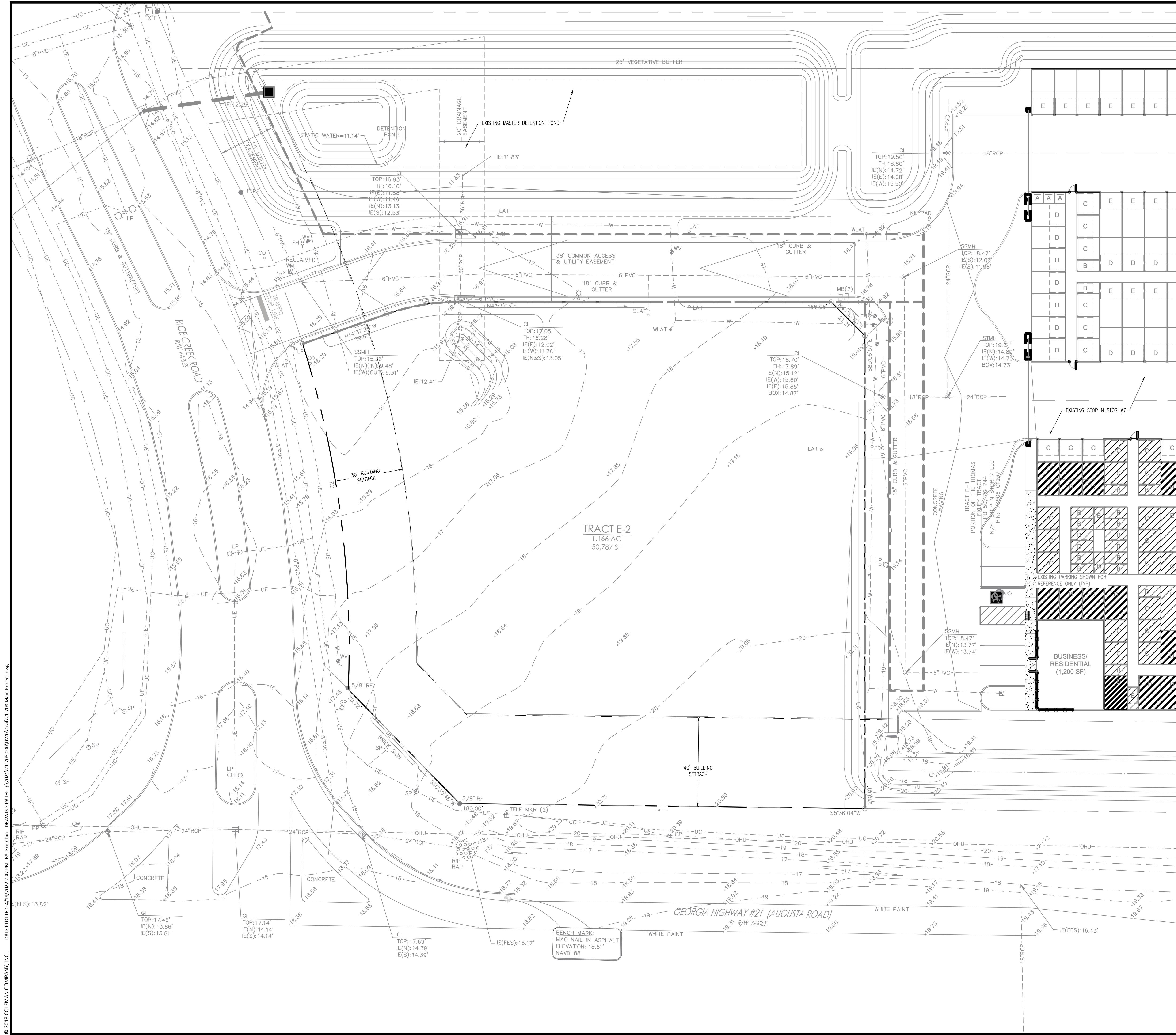
CIVIL CONSTRUCTION PLANS FOR
STOP N STOR SELF STORAGE
HIGHWAY 21 EXPANSION
LOCATED IN PORT WENTWORTH, GEORGIA
PREPARED FOR
STOP N STOR 7, LLC

JOB NUMBER: 21-708.000
DATE: 04/19/2022
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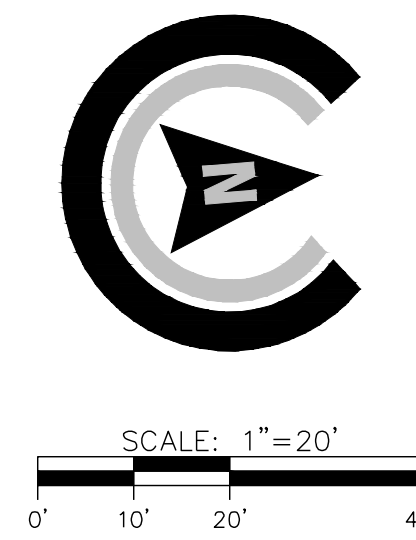
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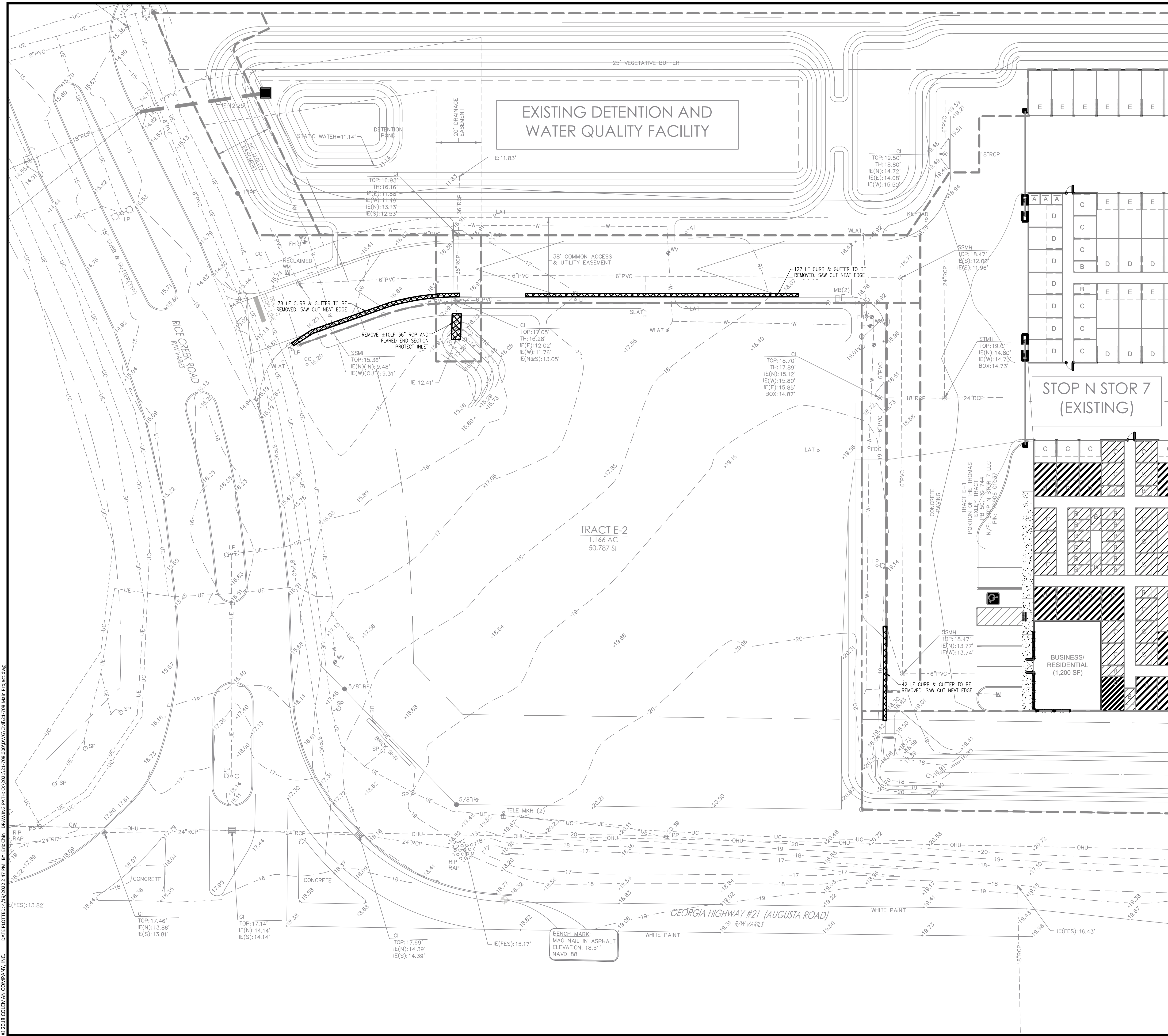
CIVIL CONSTRUCTION PLANS FOR
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 HIGHWAY 21 EXPANSION**
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STOP N STOR 7, LLC

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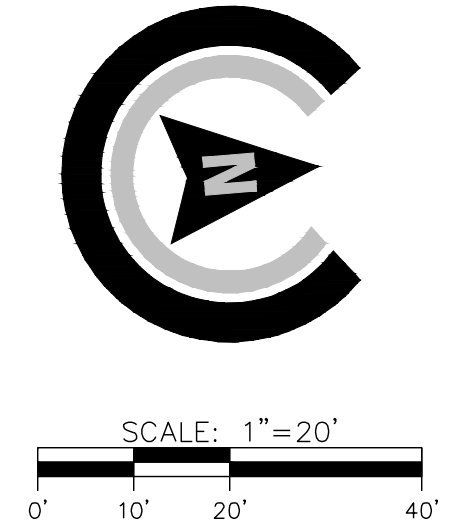
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HIGHWAY 21 EXPANSION**
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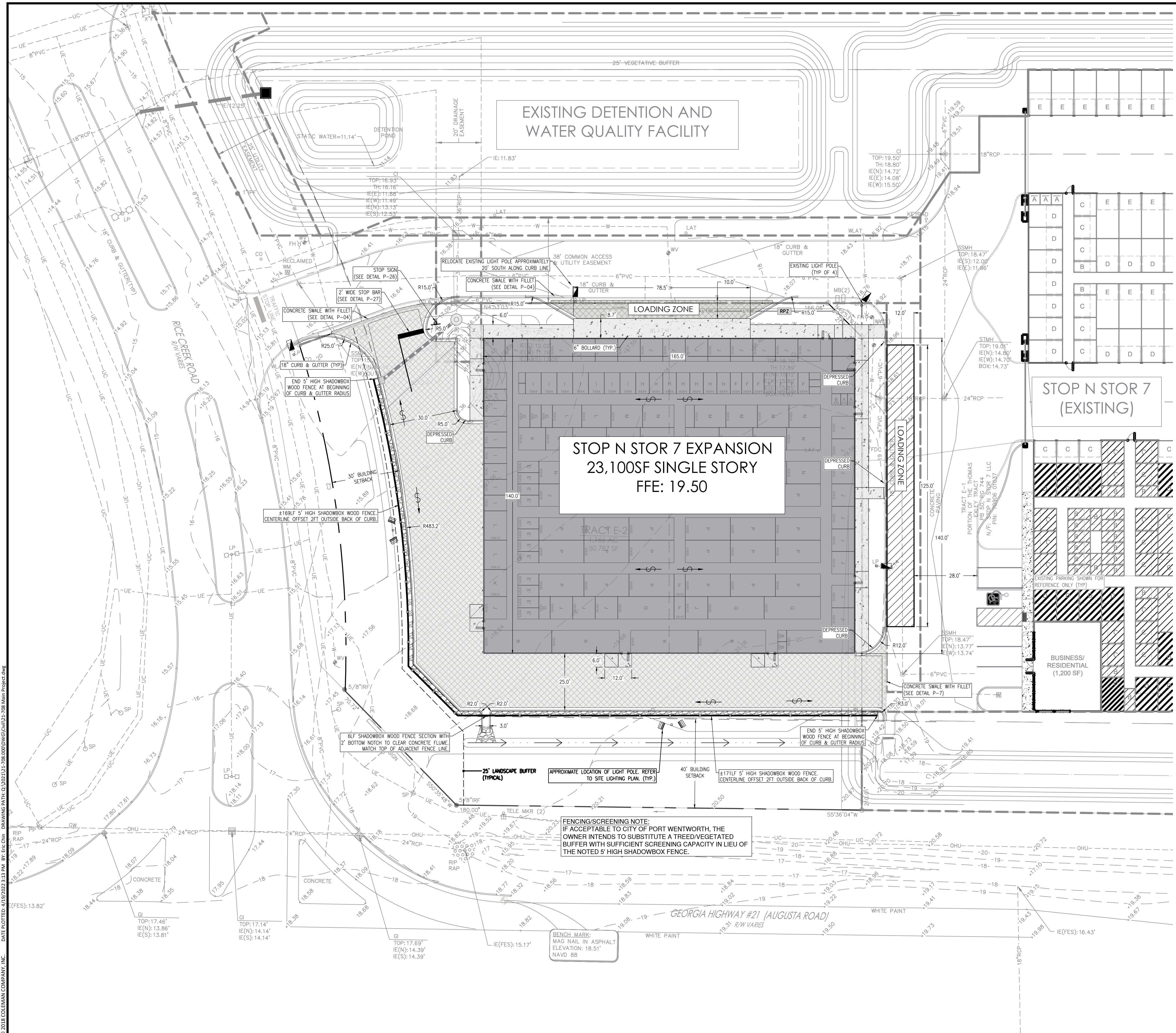
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DEMOLITION PLAN

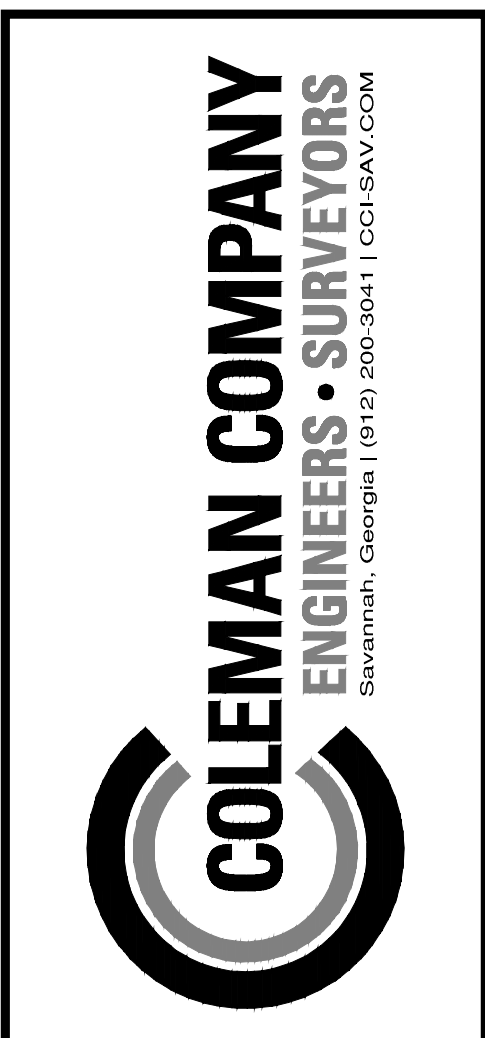
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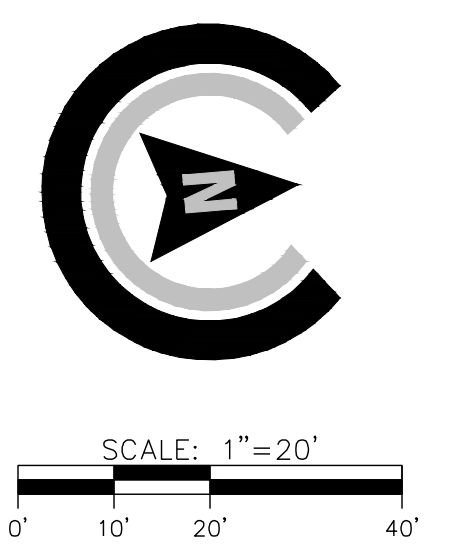
CIVIL CONSTRUCTION PLANS FOR
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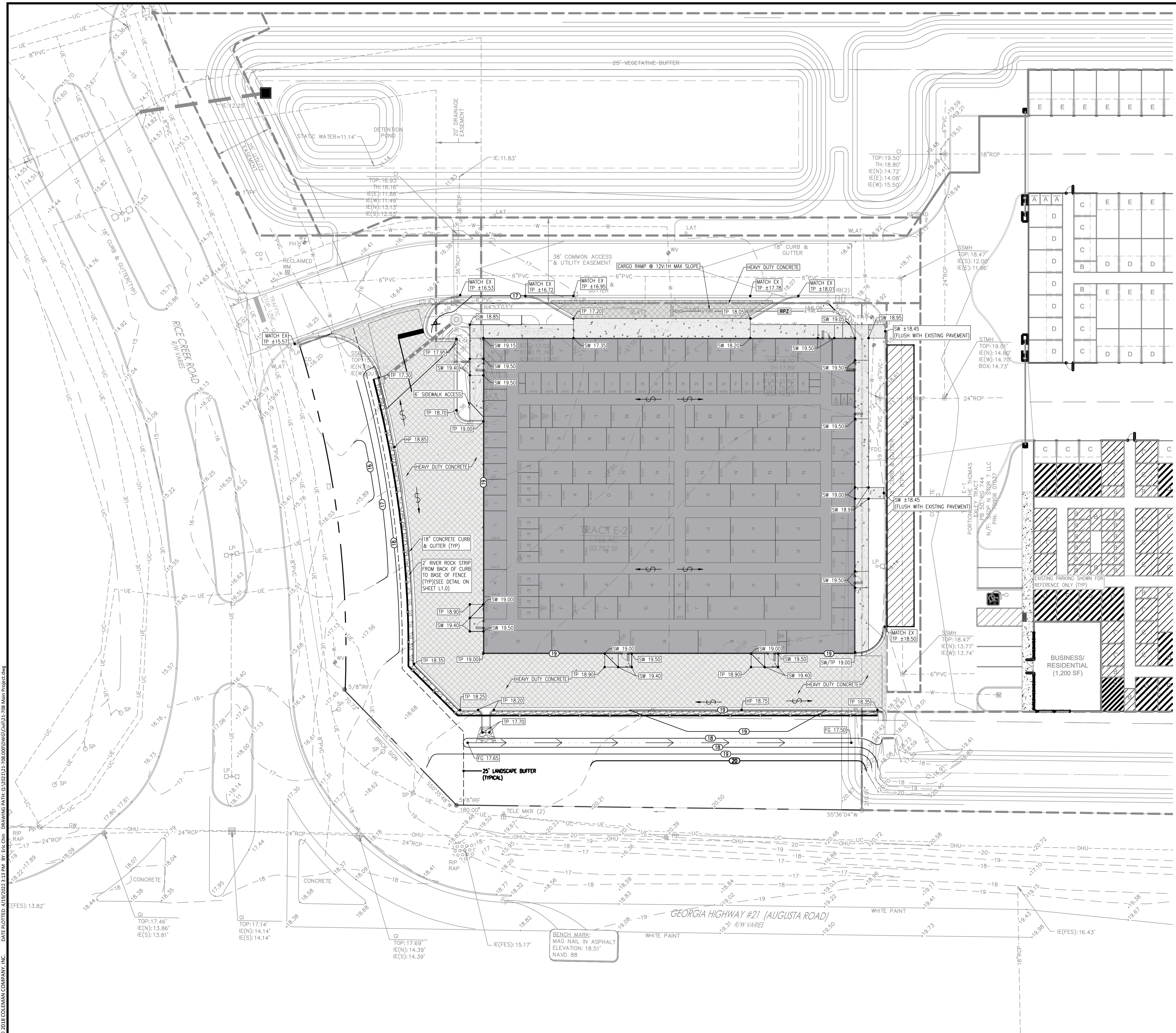
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STAKING PLAN

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1. PARCEL IDENTIFICATION NUMBERS: 70906 01038.
 2. THIS PROPERTY IS CURRENTLY ZONED P-C-2.
 3. LOTS TO BE SERVED BY CITY OF PORT WENTWORTH WATER AND SANITARY SEWER SYSTEMS.
 4. THE HORIZONTAL DATUM OF THIS PLAT IS BASED ON GRID NORTH, GEORGIA STATE PLANE, EAST ZONE, NAD 83.
 5. AS OF THE DATE OF THIS SURVEY, BASED ON MY OBSERVATION THIS PROPERTY IS LOCATED IN ZONE X, NOT A SPECIAL FLOOD HAZARD AREA AS DETERMINED BY FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP NUMBER 13051C00300, EFFECTIVE DATE: 08/16/2018. FEMA MAPS ARE SUBJECT TO REVISIONS AND AMENDMENTS AND SHOULD BE REVIEWED PRIOR TO CONSTRUCTION.
 6. ALL BUILDING SETBACKS ARE TO CONFORM TO LOCAL ZONING ORDINANCES.
 7. THIS PROPERTY IS SUBJECT TO ANY AND ALL EASEMENTS, COVENANTS, OR RESTRICTIONS EITHER RECORDED OR UNRECORDED.
 8. ALL STREETS, RIGHTS-OF-WAY, EASEMENTS, AND ANY SITES FOR PUBLIC USE AS NOTED ON THIS PLAT ARE HEREBY DEDICATED FOR THE USE INTENDED.
 9. ALL ACCESSIBLE PATHS SHALL COMPLY WITH THE LATEST EDITION OF THE AMERICANS WITH DISABILITIES ACT.
- SITE DATA:**
 SITE AREA: 1.17 AC
 PROPOSED OPEN SPACE: 21,677 SF (43%)
 MASTER DETENTION PROVIDED AS SHOWN
- DEVELOPMENT REQUIREMENTS:**
BUILDING SETBACK REQUIREMENTS:
 (TAKEN FROM CITY OF PORT WENTWORTH ZONING ORDINANCE, SECTION 5.7)
 GA HWY #21 RW (MAJOR ARTERY)
 - 40' FROM CENTER OF STREET
 RICE CREEK ROAD RW (CONNECTING ROUTE)
 - 30' FROM CENTER OF STREET
 SIDE
 - 10' FROM PROPERTY LINE
 REAR
 N/A
 NO PARKING REQUIRED FOR SELF STORAGE
 (1) LOADING SPACE REQUIRED





PAVING LEGEND	
	LIGHT DUTY ASPHALT
	HEAVY DUTY ASPHALT
	HEAVY DUTY CONCRETE

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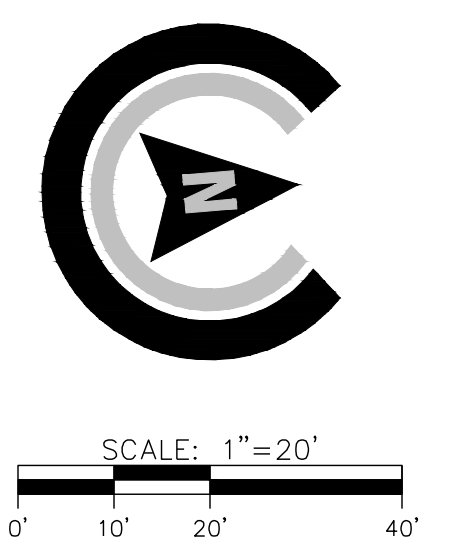
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CIVIL CONSTRUCTION PLANS FOR
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 HIGHWAY 21 EXPANSION**
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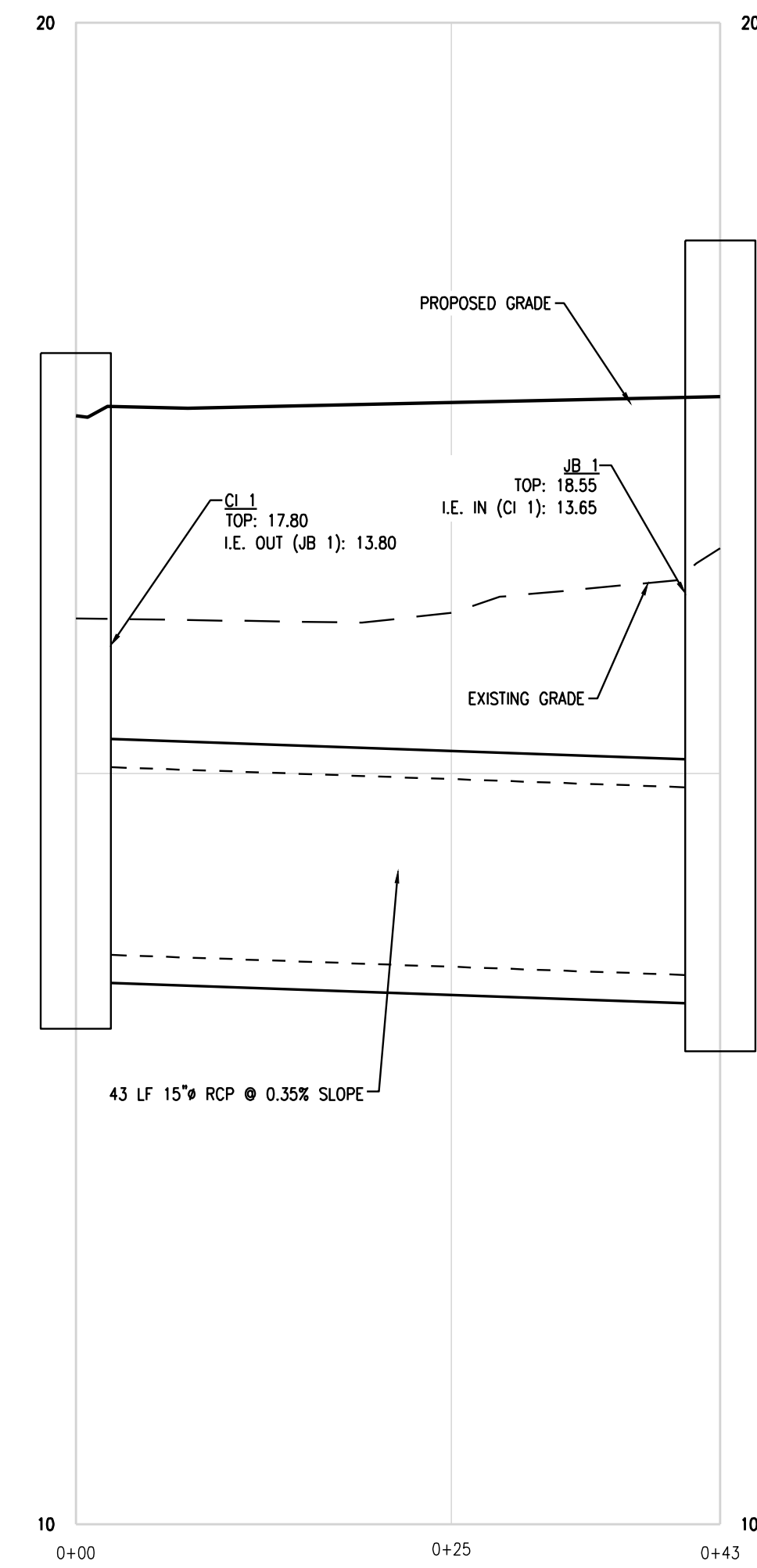
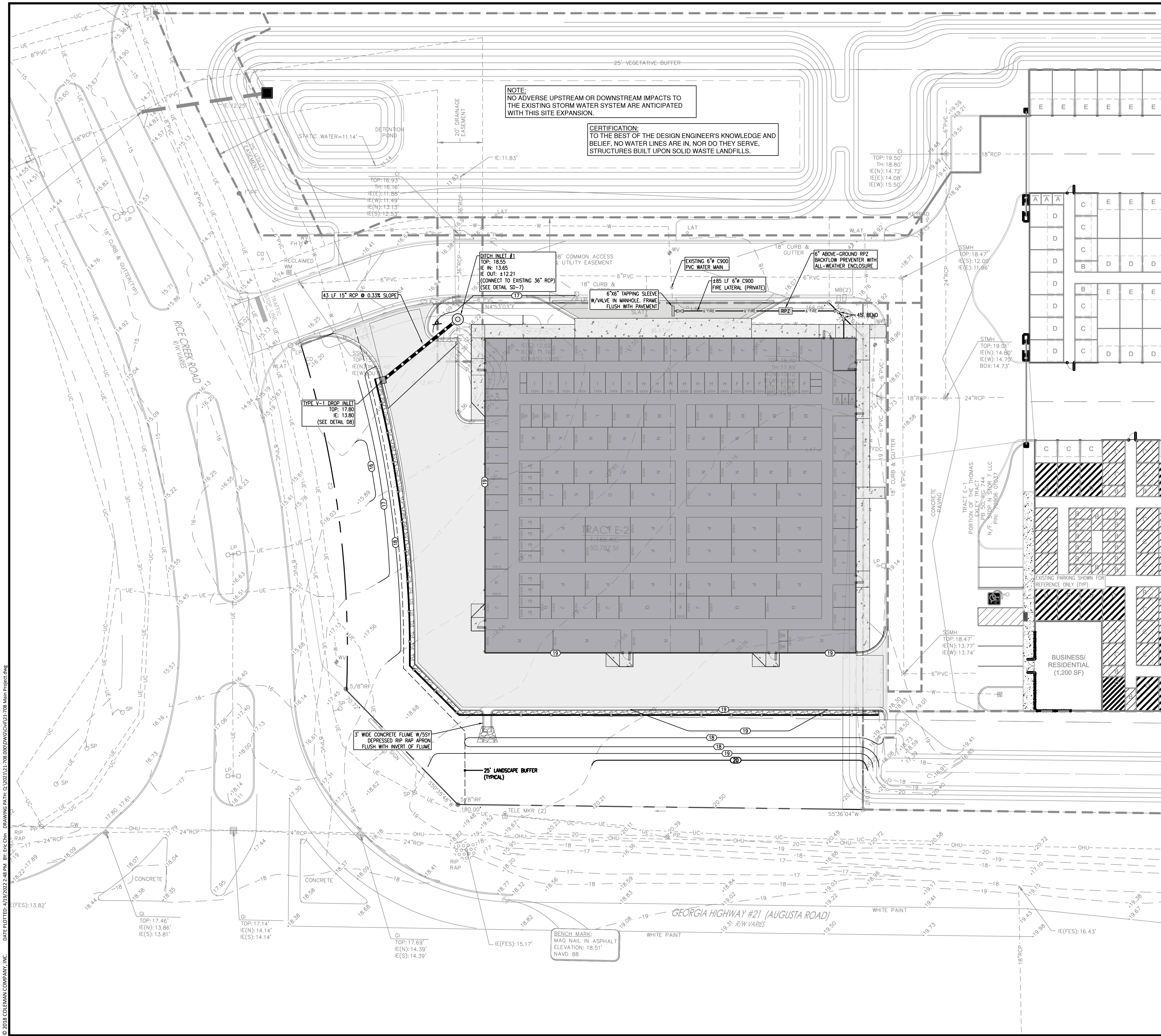
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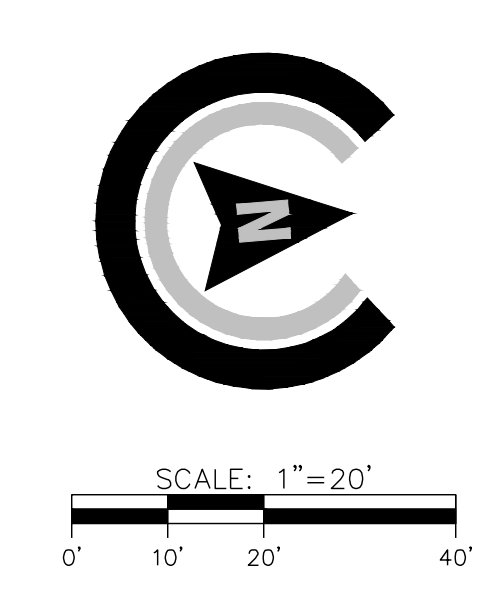
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STORM WATER PROFILE
CI 1 TO JB 1



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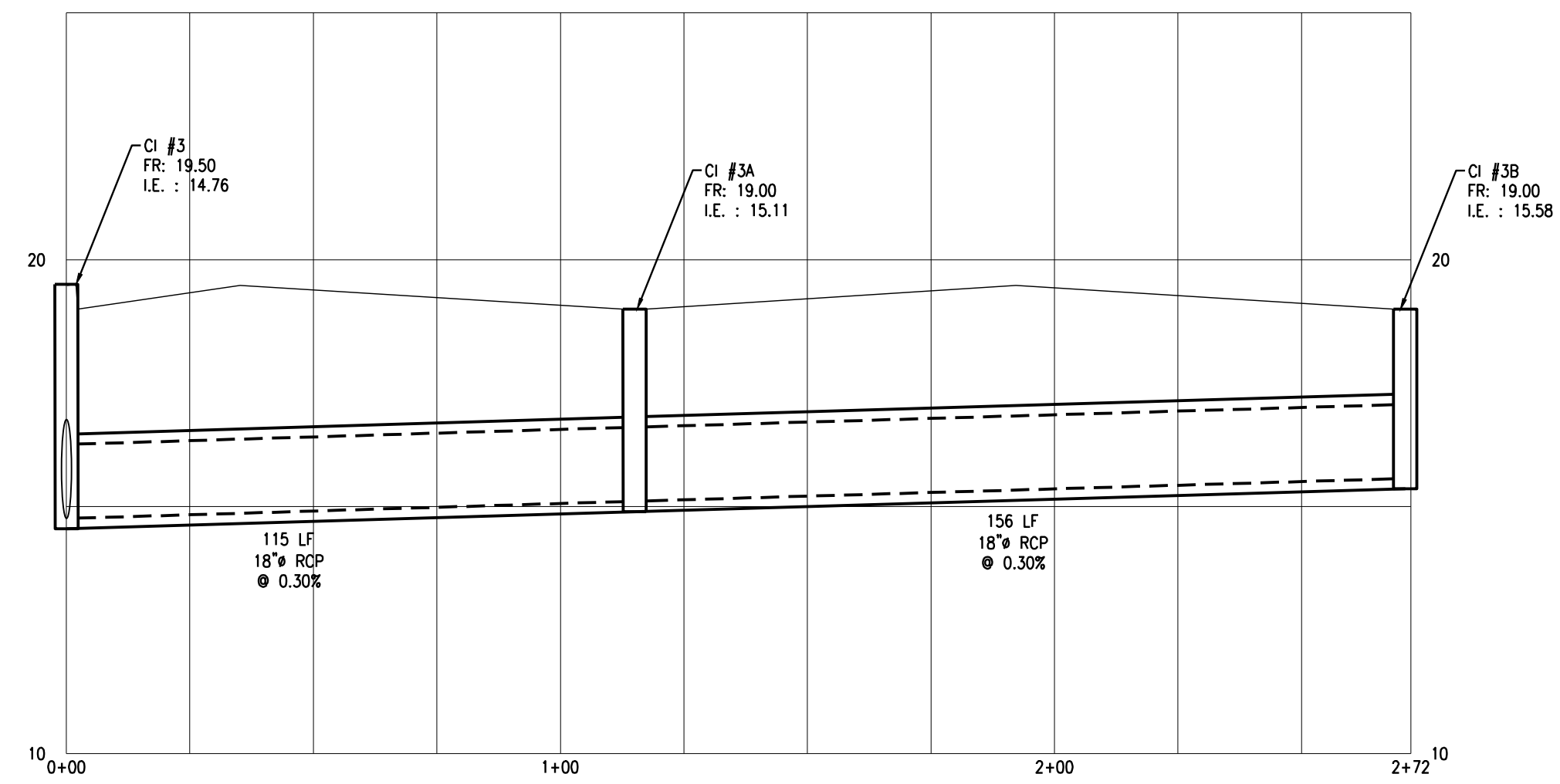
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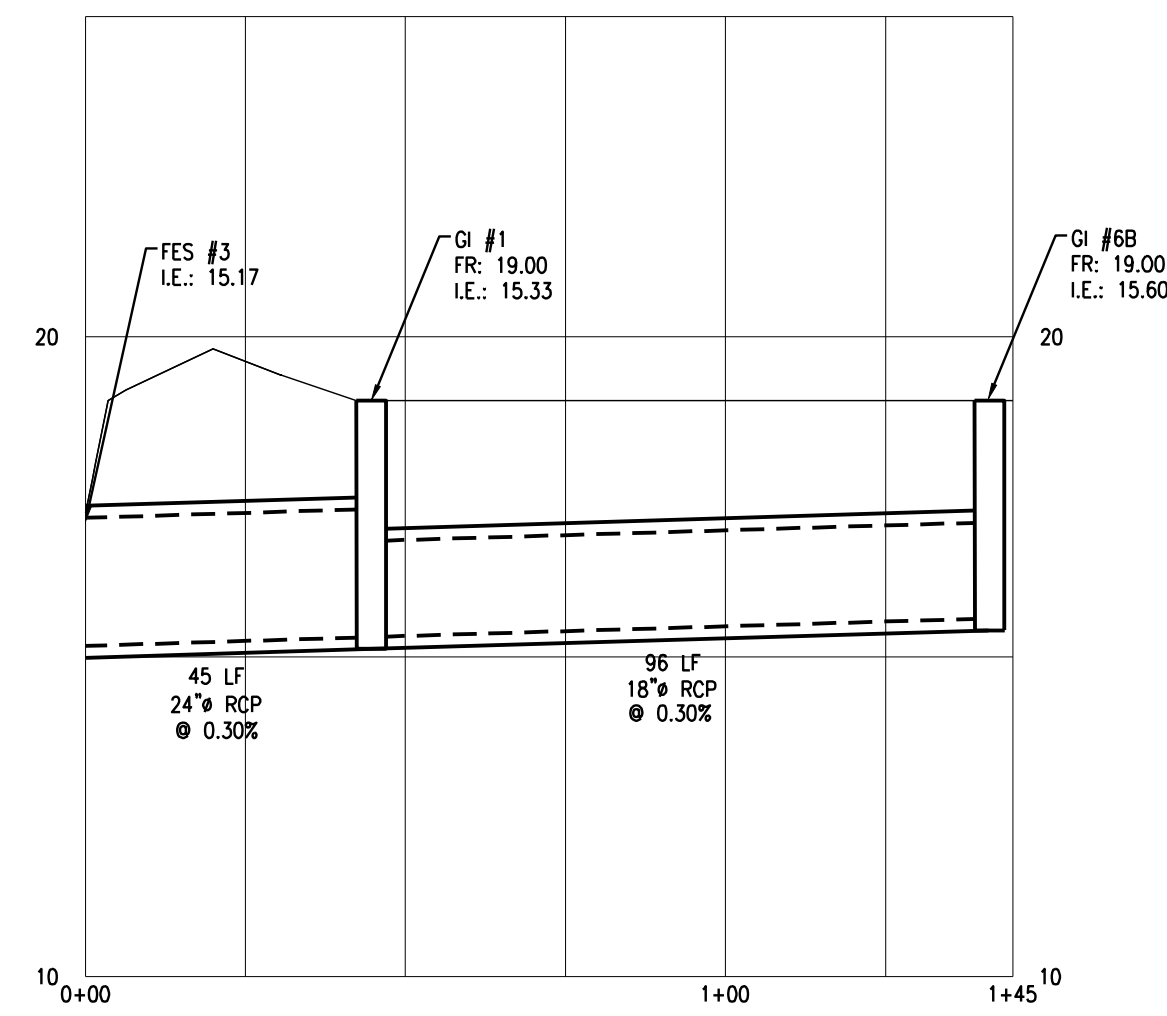
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**DRAINAGE & UTILITY
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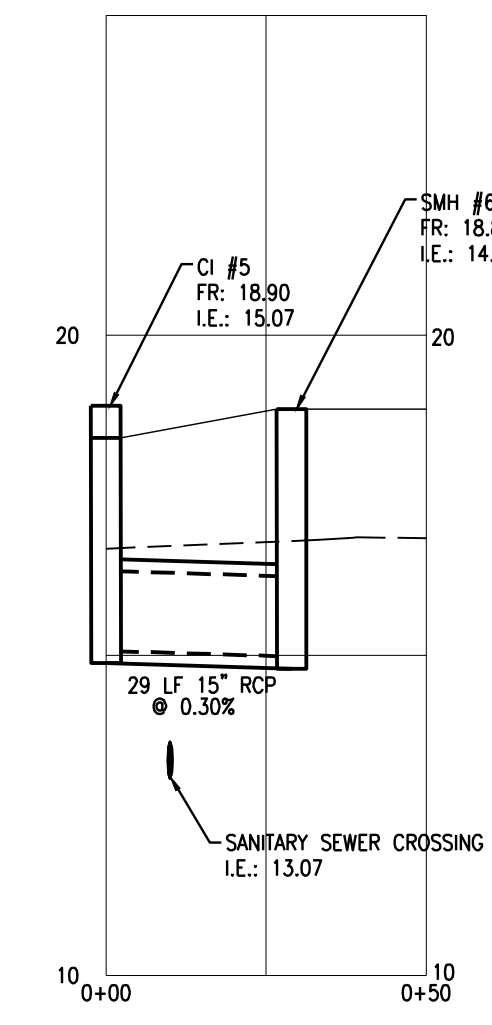
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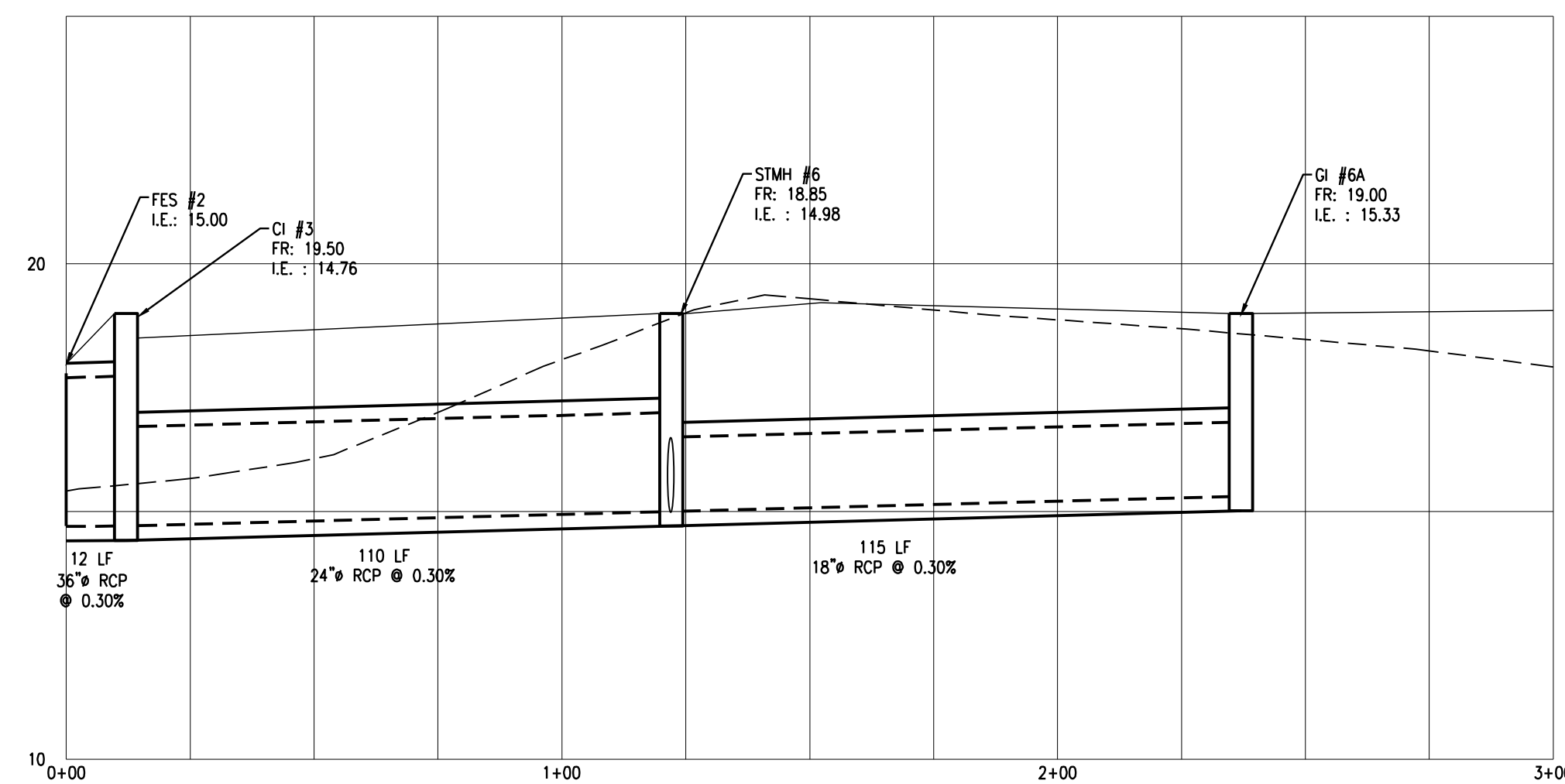
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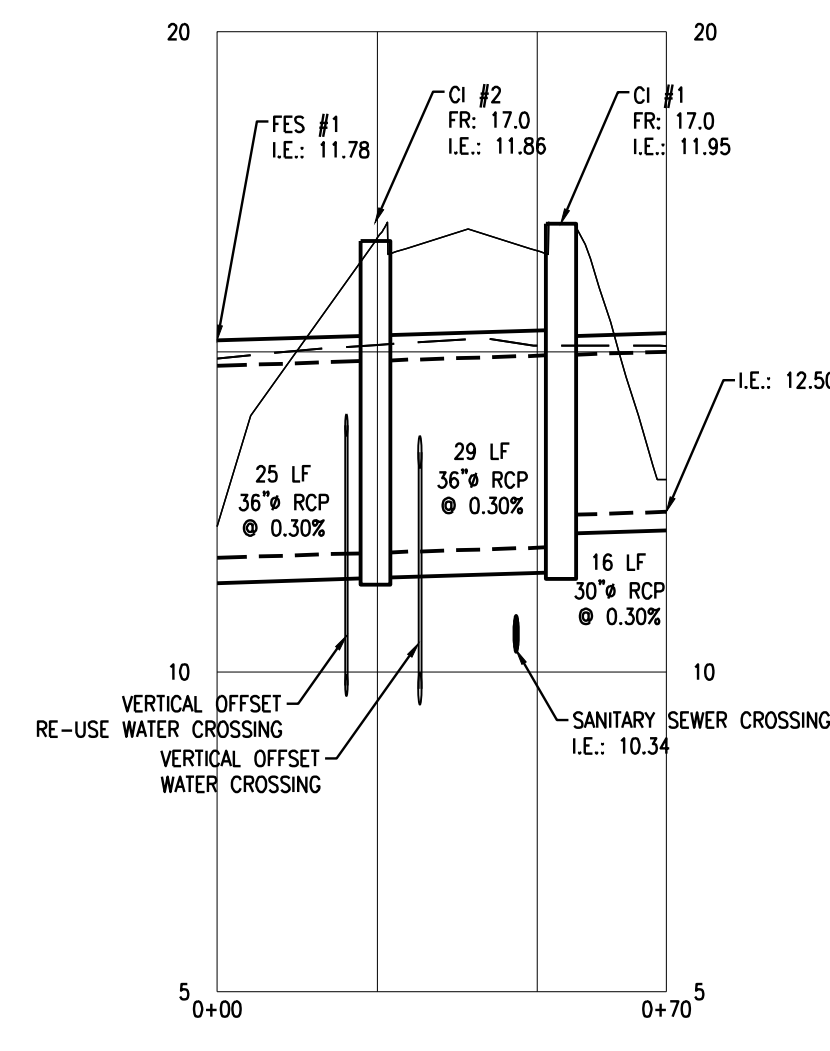
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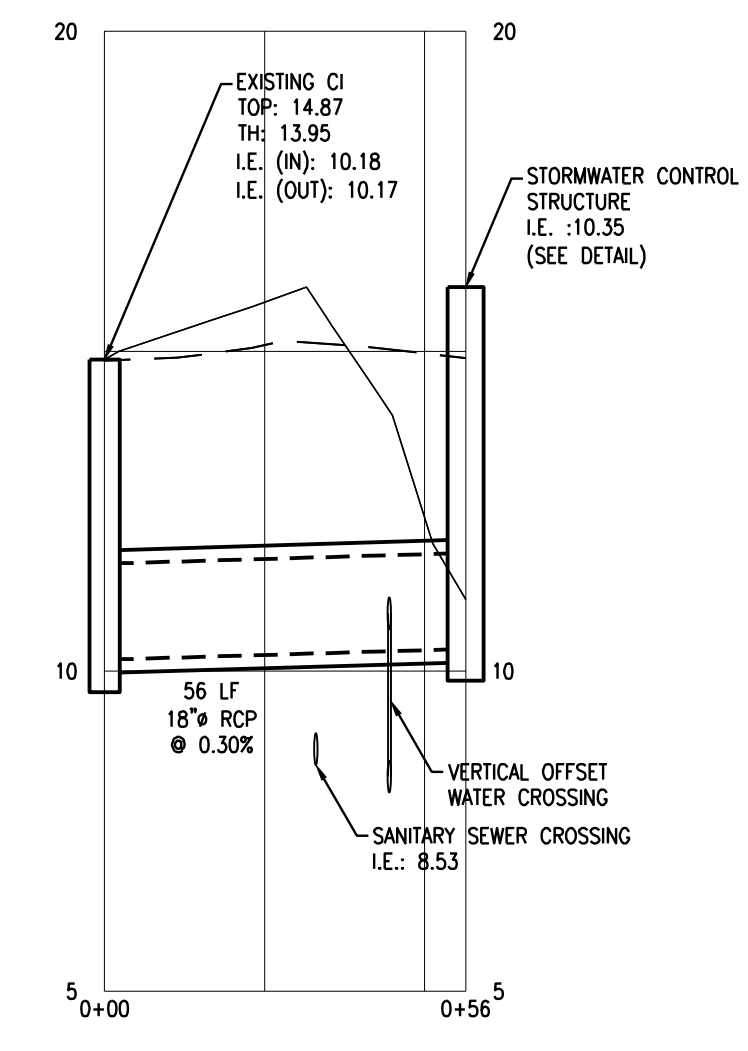
STORM SEWER PROFILE
CI #5 TO SMH #6



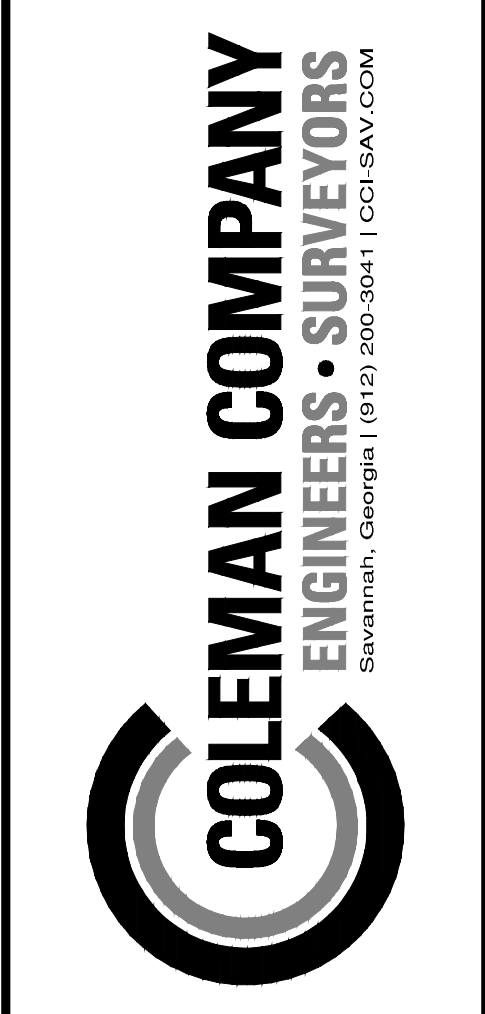
STORM SEWER PROFILE
FES #2 TO CI #6A



STORM SEWER PROFILE
ENTRANCE ROAD CULVERT



STORM SEWER PROFILE
DETENTION POND OUTLET



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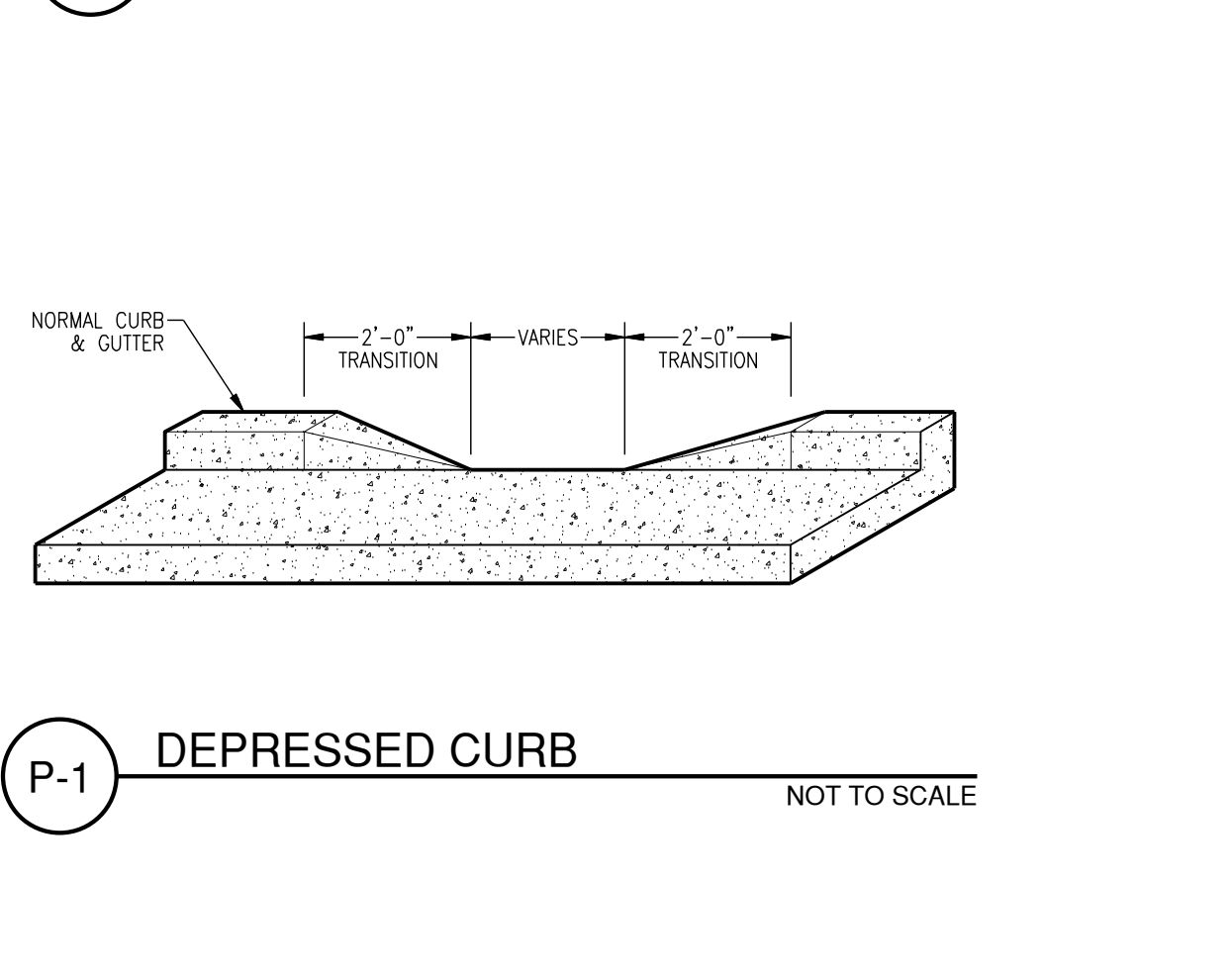
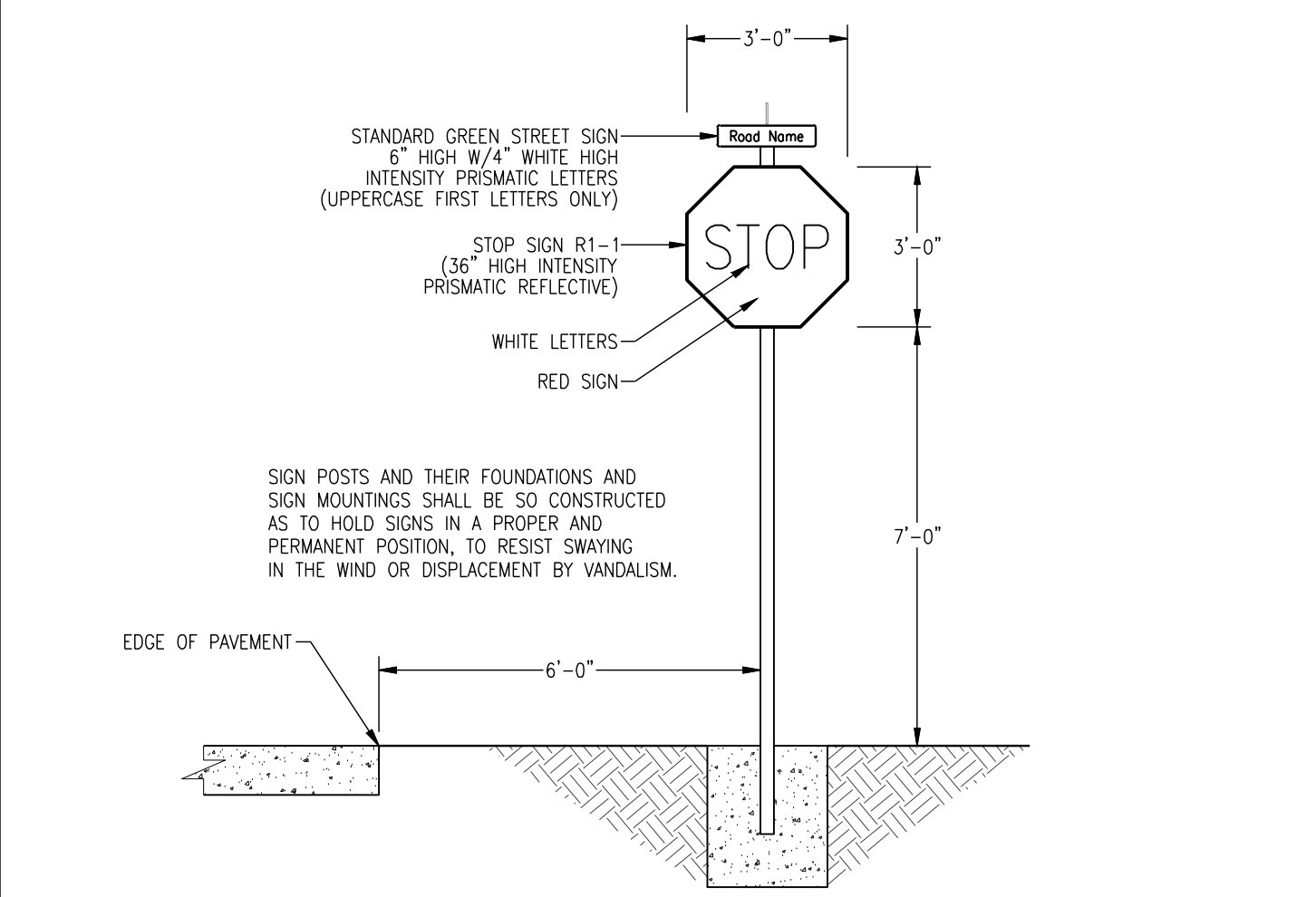
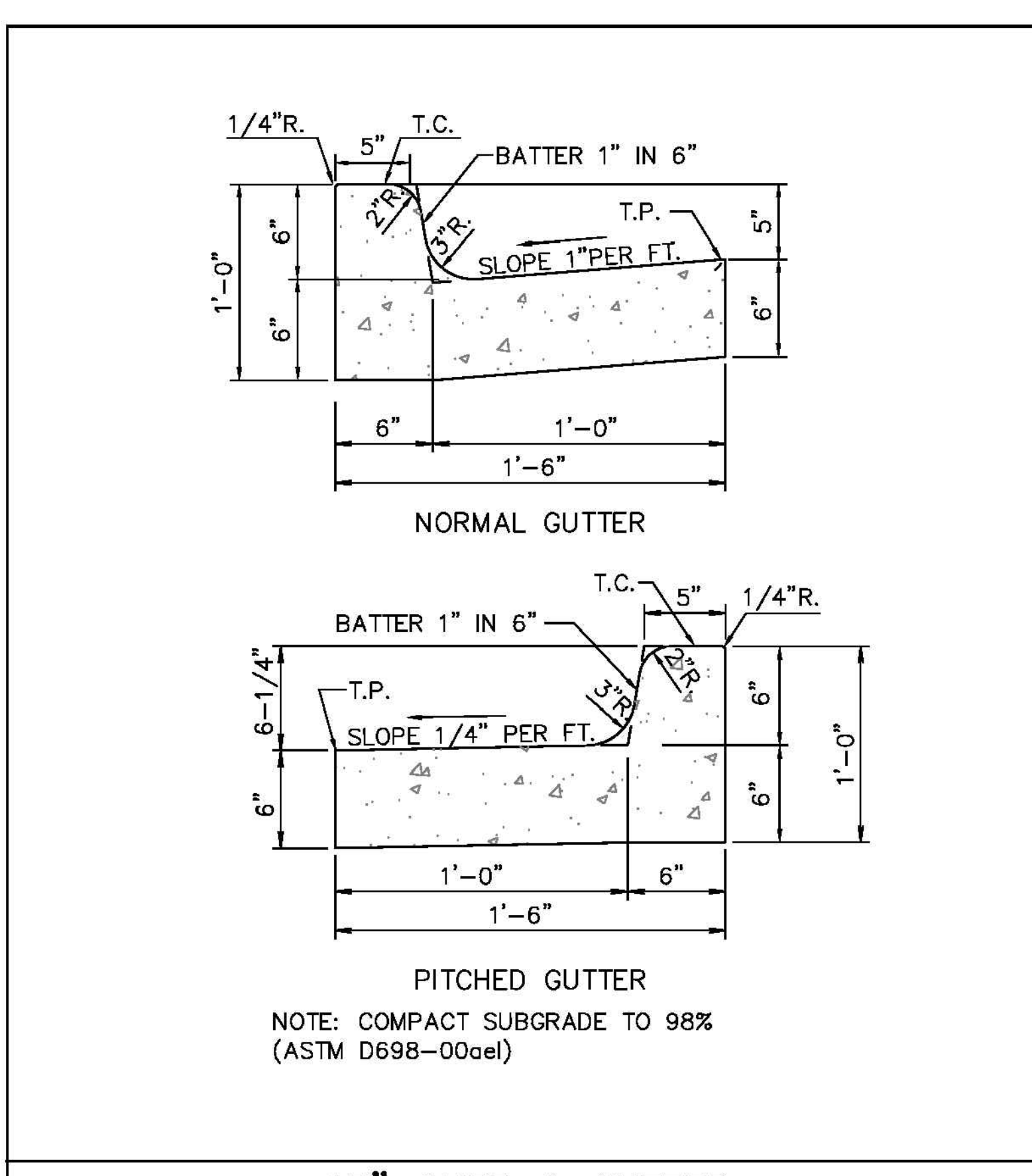
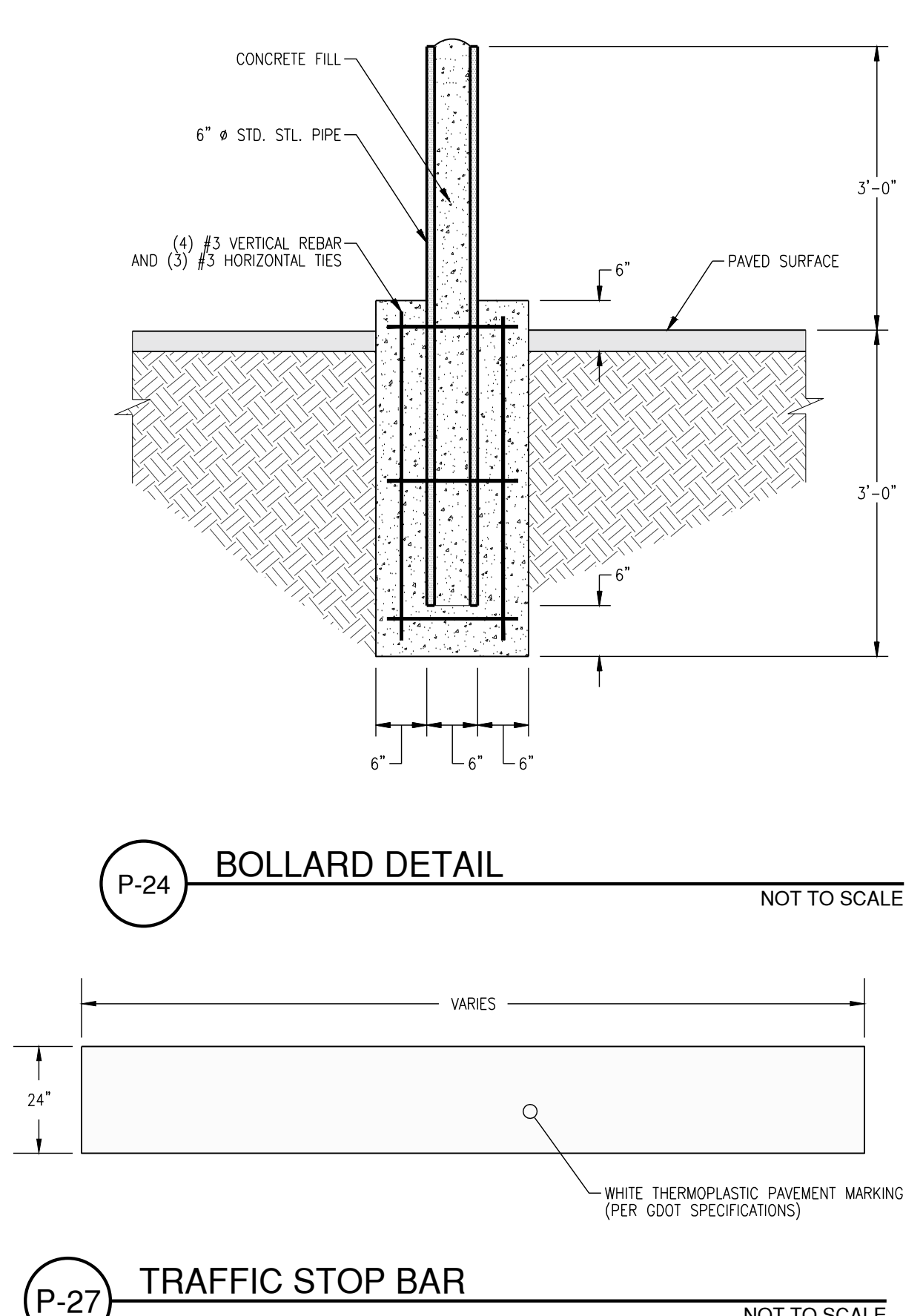
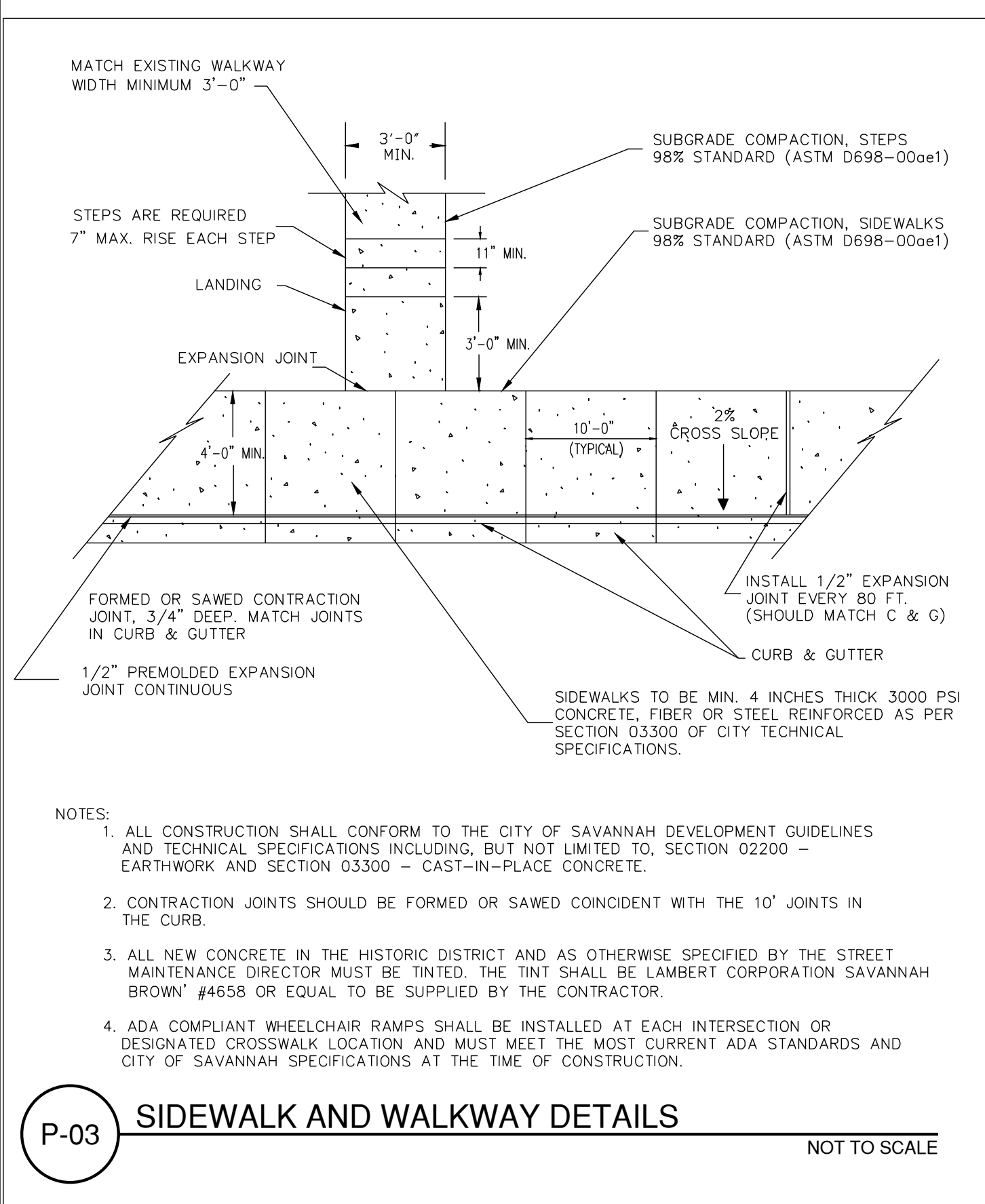
CIVIL CONSTRUCTION PLANS FOR
STOP N STOR SELF STORAGE
HIGHWAY 21 EXPANSION
LOCATED IN PORT WENTWORTH, GEORGIA
PREPARED FOR
STOP N STOR 7, LLC

JOB NUMBER: 21-708.000
DATE: 04/19/2022
DRAWN BY: CCS
CHECKED BY: CCS
SCALE: AS NOTED

EXISTING STORM
PROFILES

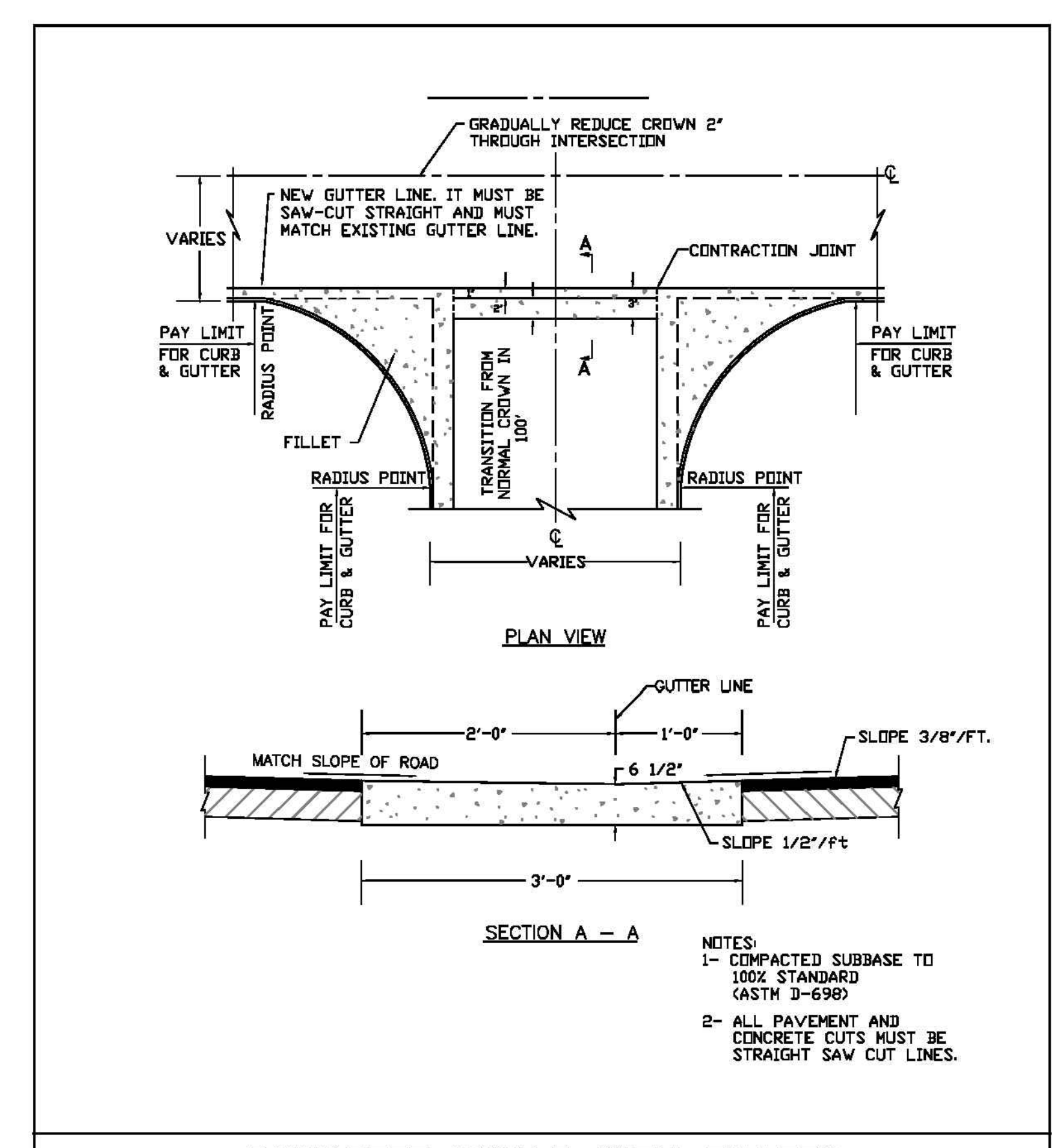
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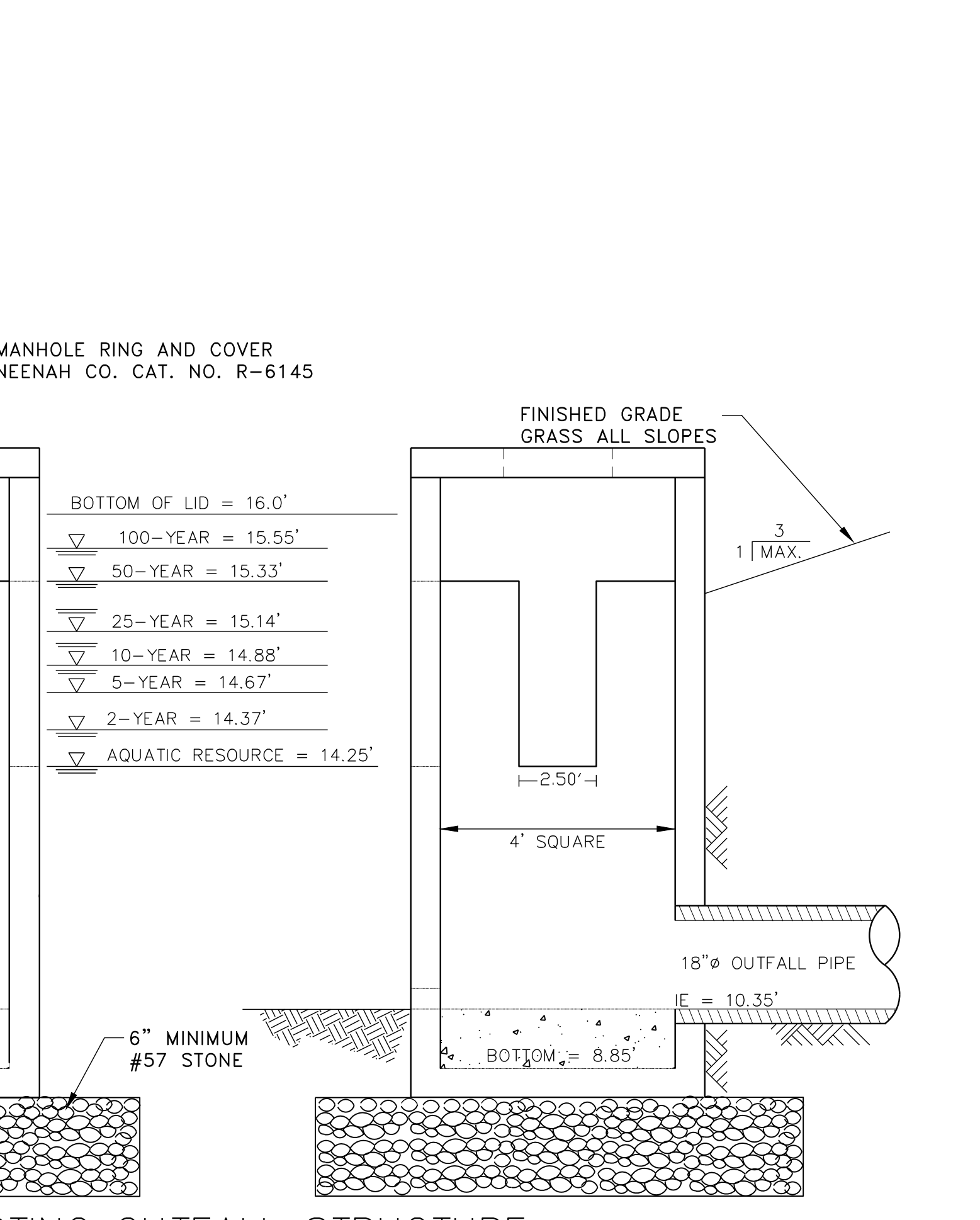
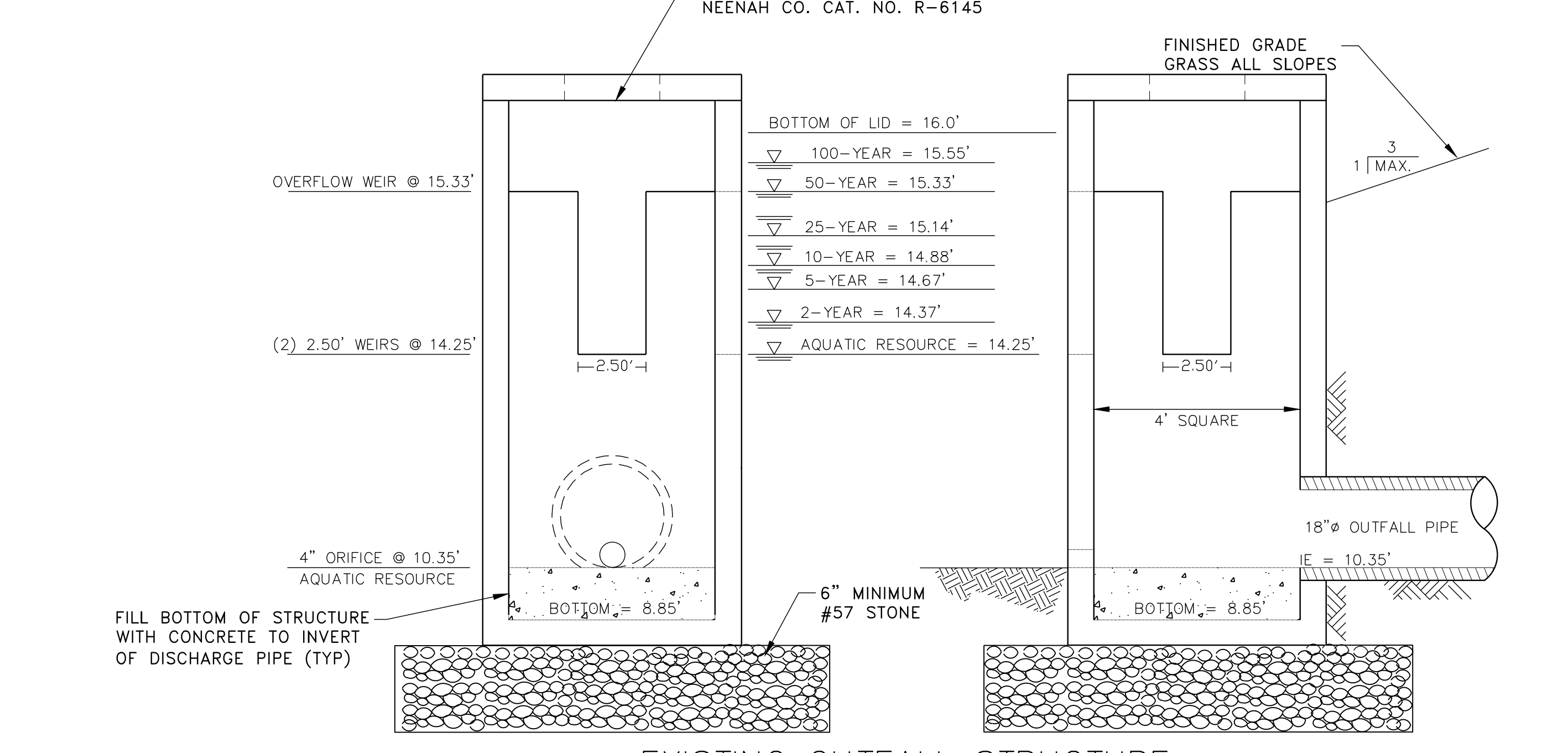
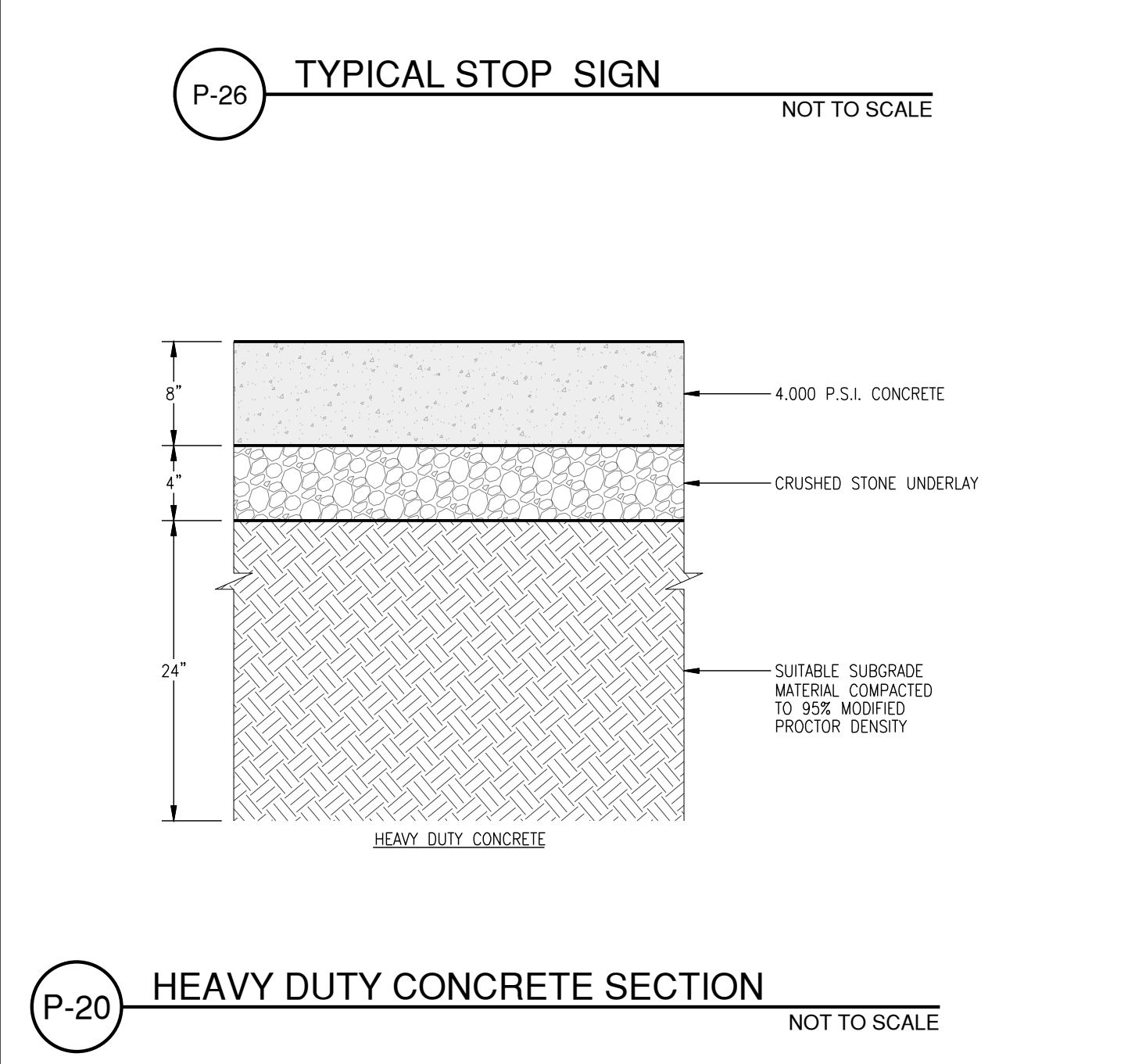
18" CURB & GUTTER
City of Port Wentworth
TECHNICAL DETAILS
P-3

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



CONCRETE SWALE WITH FILLETS
City of Port Wentworth
TECHNICAL DETAILS
P-7

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



COLEMAN COMPANY
ENGINEERS - SURVEYORS
Savannah, Georgia | (912) 900-3041 | CCI@SAV.COM

NOT FOR CONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER
STATE OF GEORGIA
BRUCE G. SINGLETON III

REVISIONS:

CIVIL CONSTRUCTION PLANS FOR
STOP N STOR SELF STORAGE
HIGHWAY 21 EXPANSION
LOCATED IN PORT WENTWORTH, GEORGIA
PREPARED FOR
STOP N STOR 7, LLC

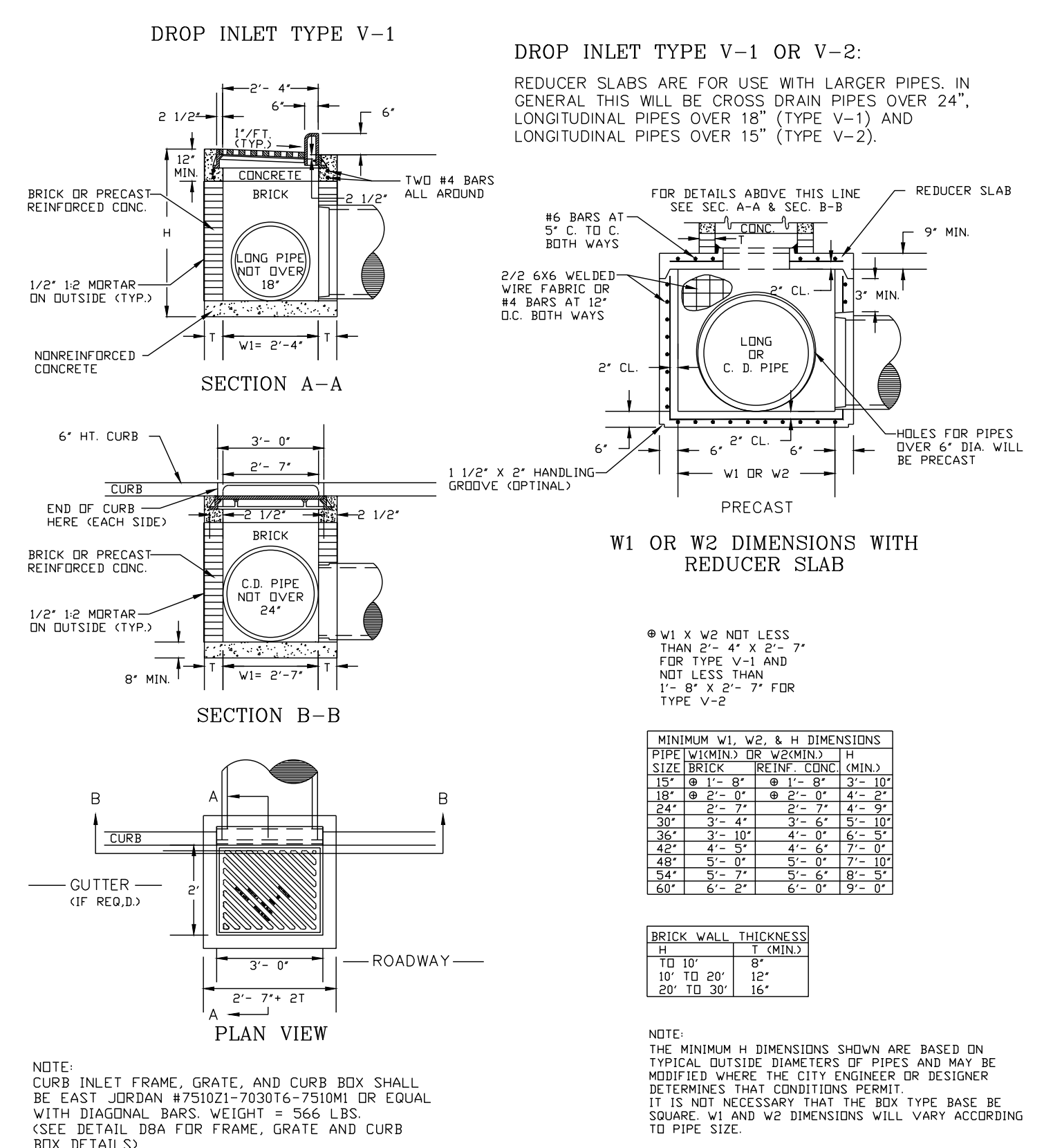
JOB NUMBER: 21-708.000
DATE: 04/19/2022
DRAWN BY: CCS
CHECKED BY: CCS
SCALE: AS NOTED

CONSTRUCTION DETAILS

SHEET:
C7.0

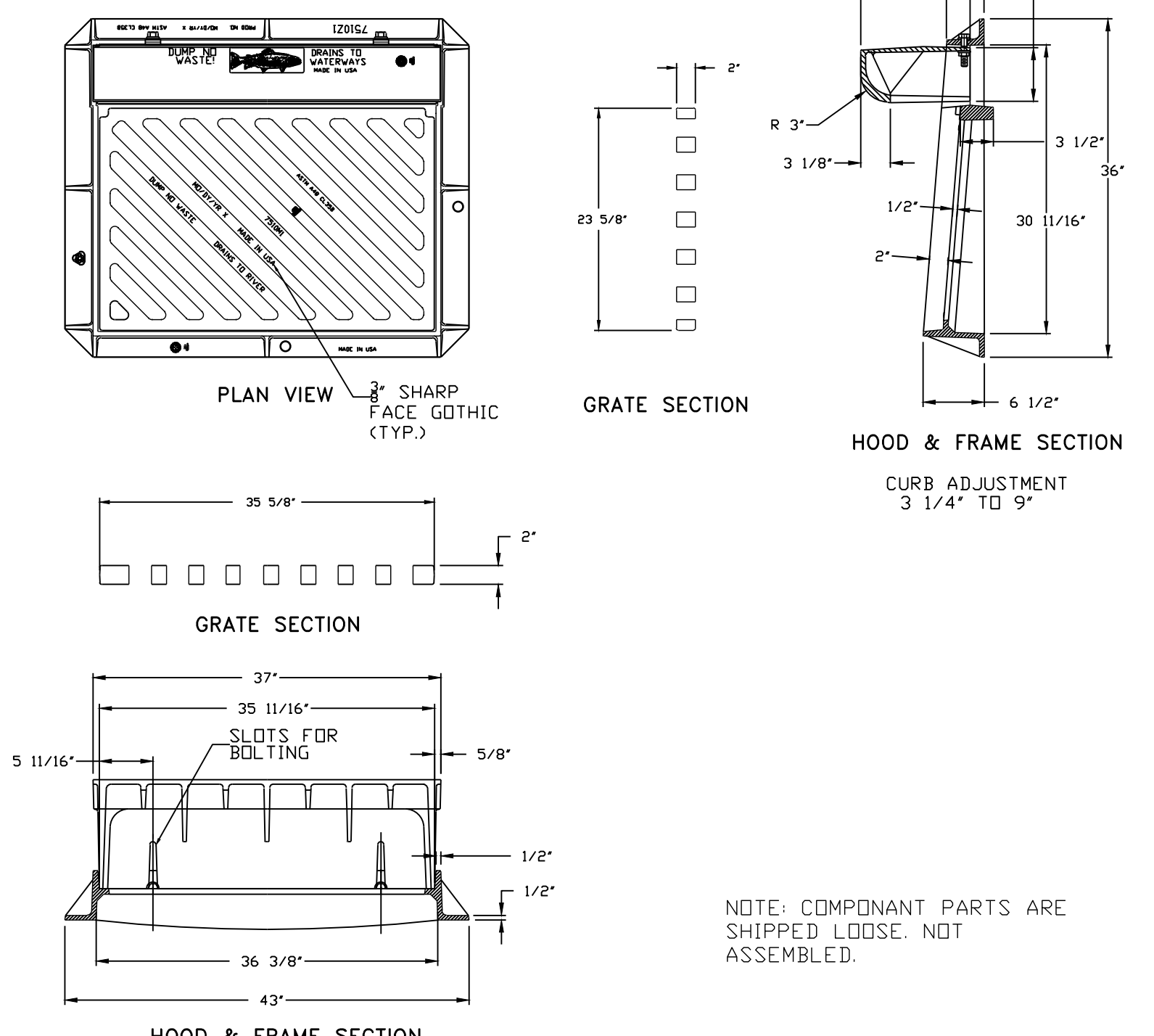


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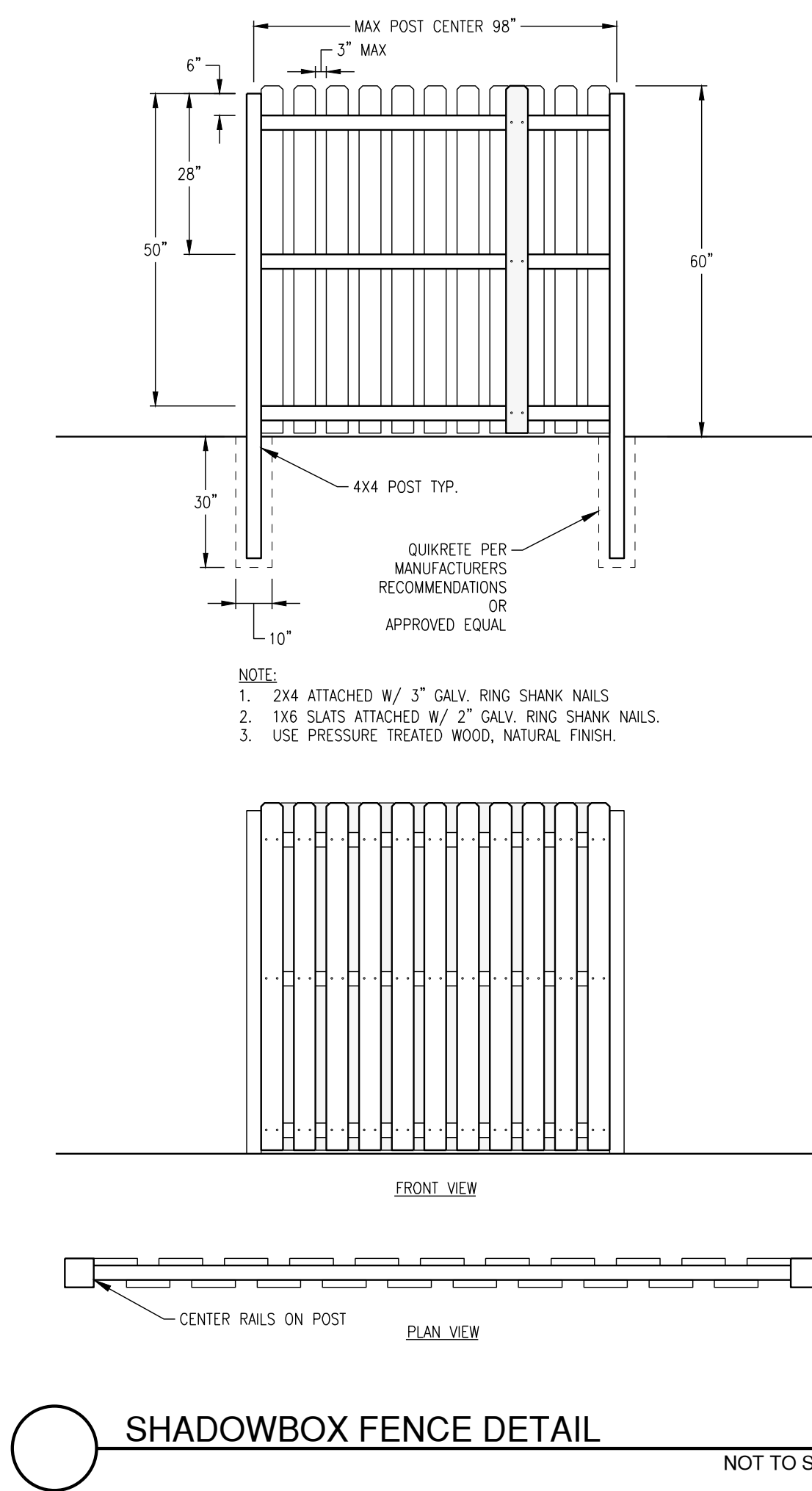


D-8 TYPE V-1 OR V-2 DROP INLET NOT TO SCALE

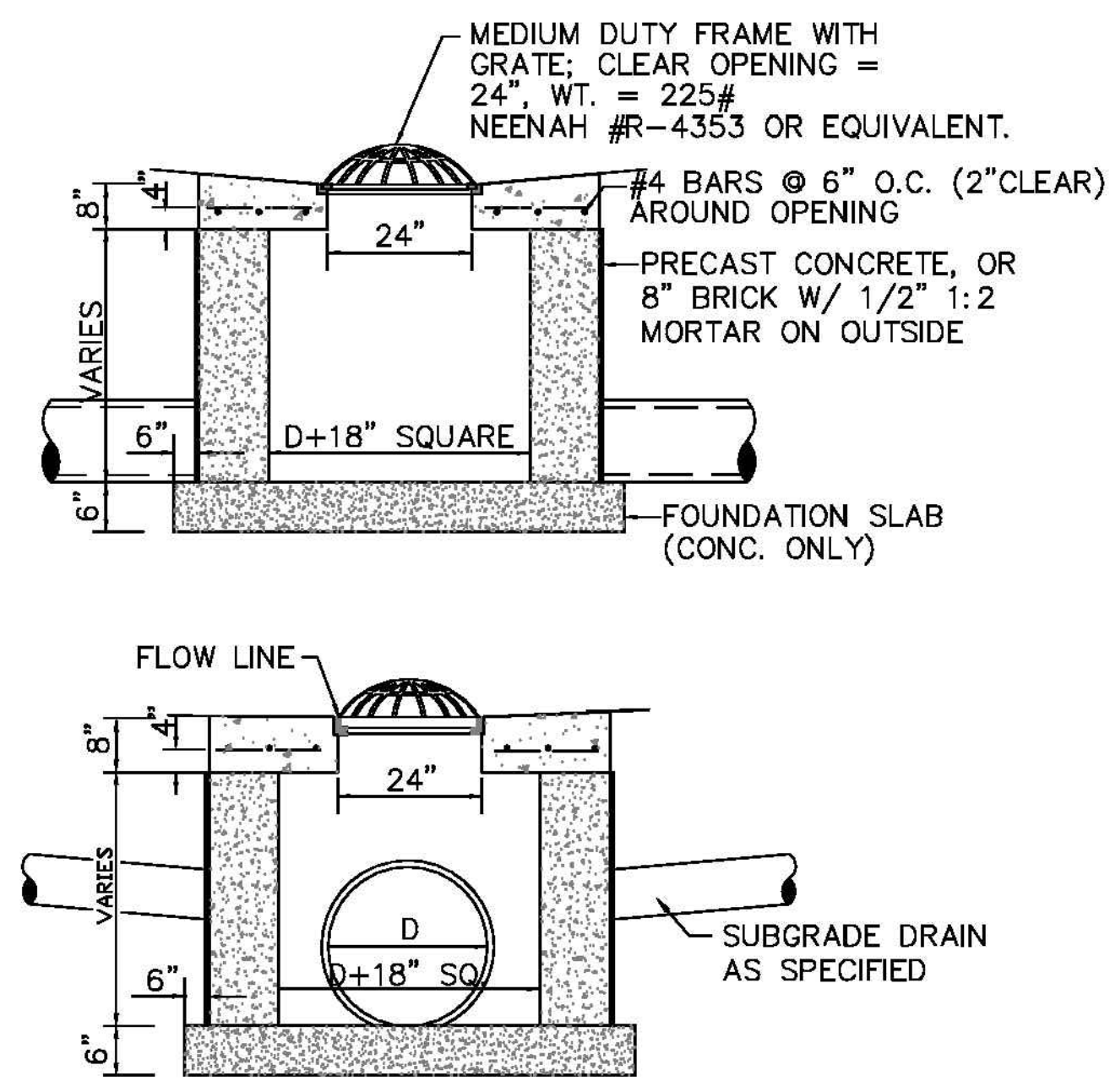
- NOTES:**
1. FRAME AND GRATE TO BE EAST JORDAN CATALOG #7501Z1-7030T6-7510M1 OR EQUIVALENT WITH DIAGONAL BARS (WEIGHT 566 LBS.)
 2. GRATE MUST PROVIDE "DUMP AND WASTE-DRAINS TO RIVER", "MADE IN USA", AND FOUNDRY STAMP



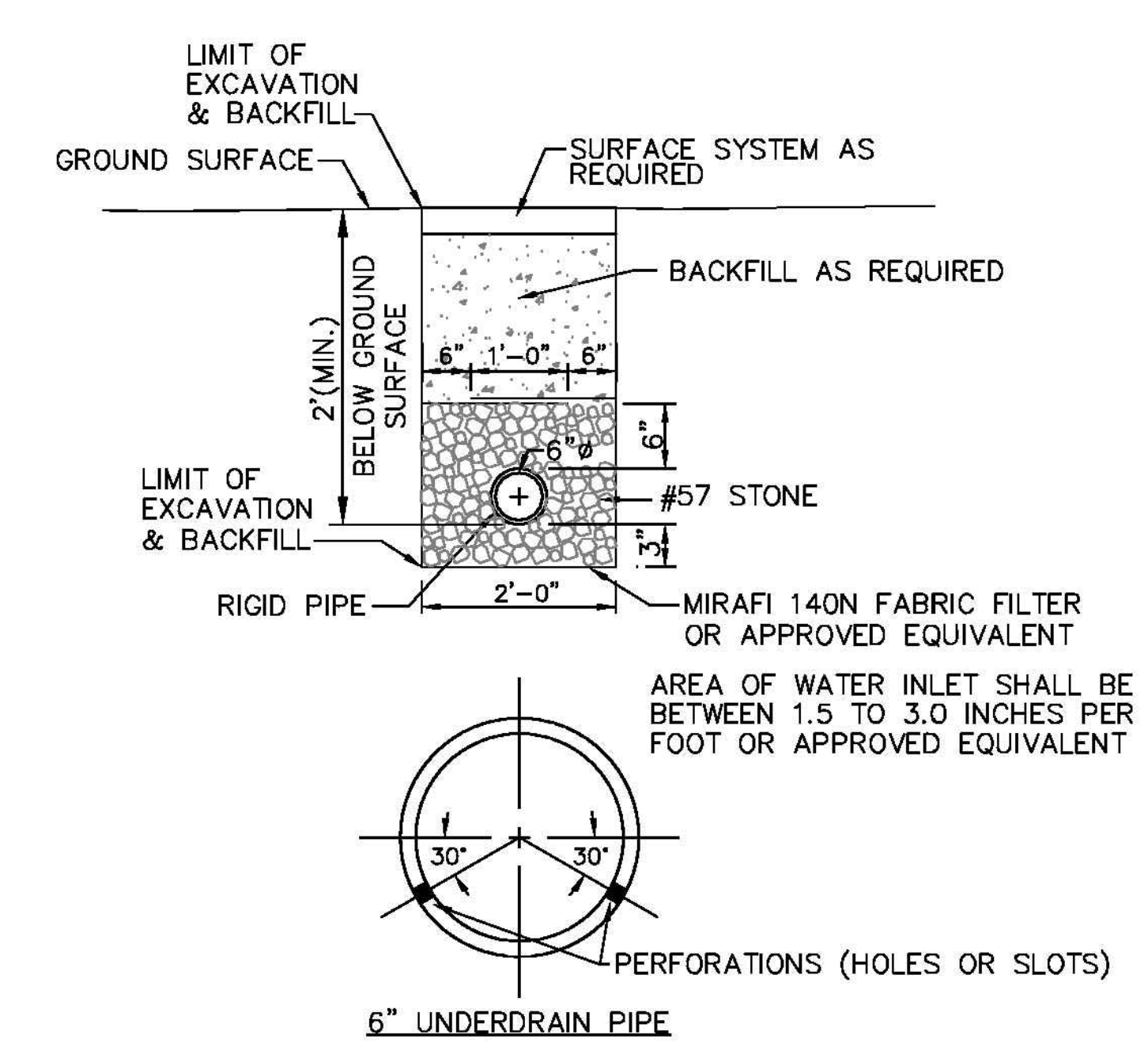
D-8A DROP INLET FRAME, GRATE, AND CURB NOT TO SCALE



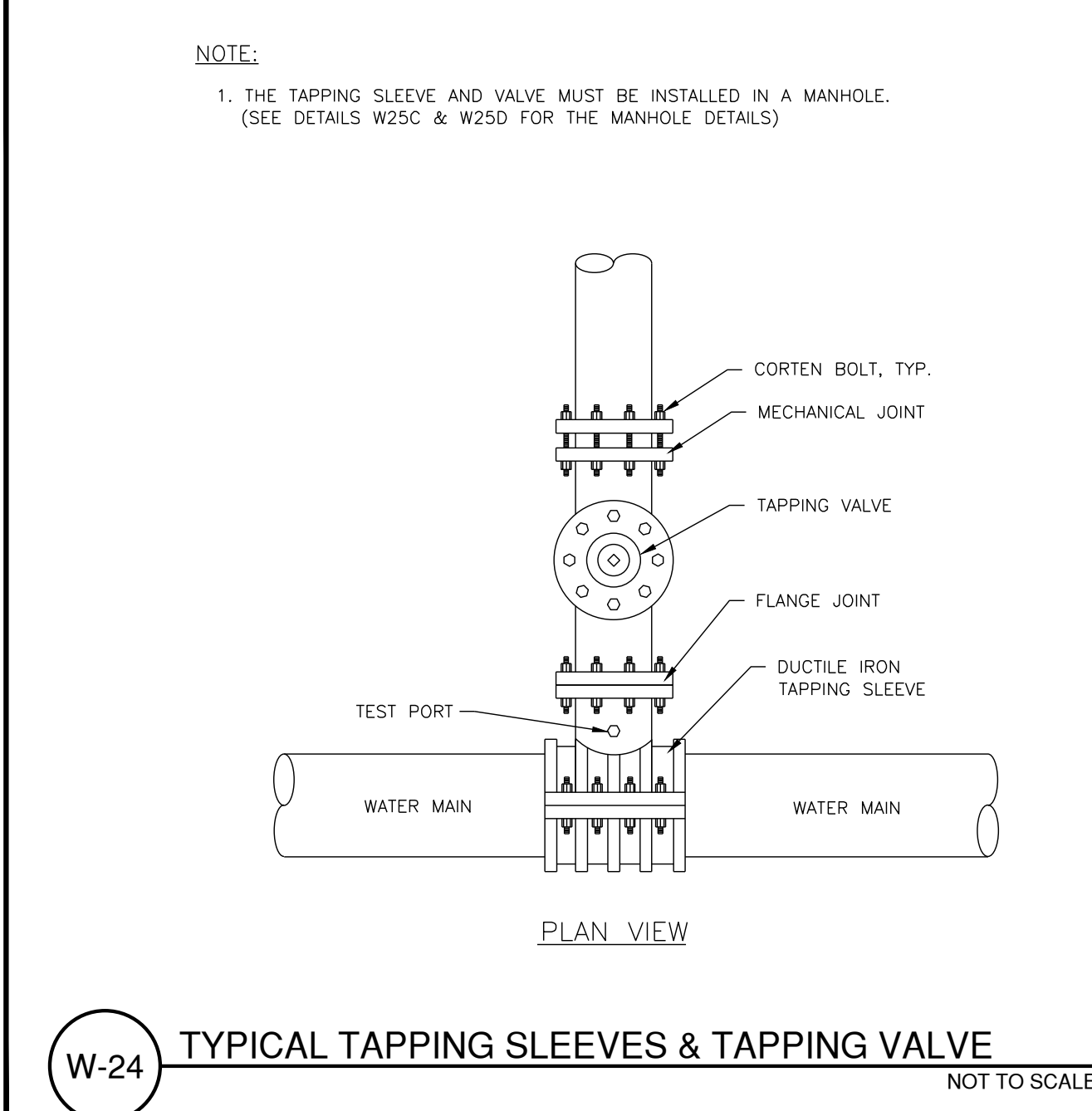
SHADOWBOX FENCE DETAIL NOT TO SCALE



DITCH INLET
City of Port Wentworth
TECHNICAL DETAILS **SD-7**
PREPARED BY STEVENSON & PALMER ENGINEERING, INC. SCALE: N.T.S. DATED: FEBRUARY 2007

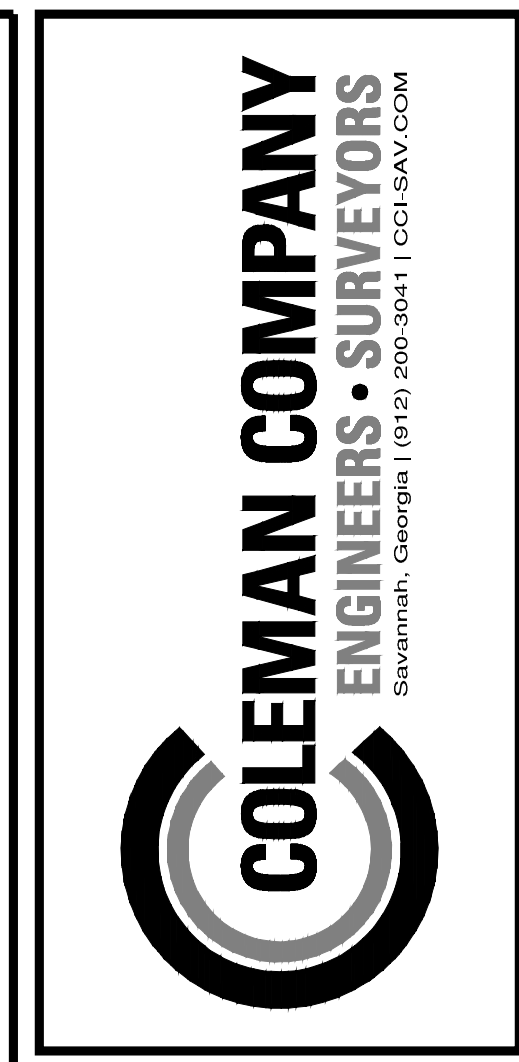


6" UNDERDRAIN PIPE
City of Port Wentworth
TECHNICAL DETAILS **SD-10**
PREPARED BY STEVENSON & PALMER ENGINEERING, INC. SCALE: N.T.S. DATED: FEBRUARY 2007



W-24 TYPICAL TAPPING SLEEVES & TAPPING VALVE NOT TO SCALE

SHADOWBOX FENCE DETAIL - FLUME SECTION NOT TO SCALE



NOT FOR CONSTRUCTION

REVISIONS:

NO.	DESCRIPTION

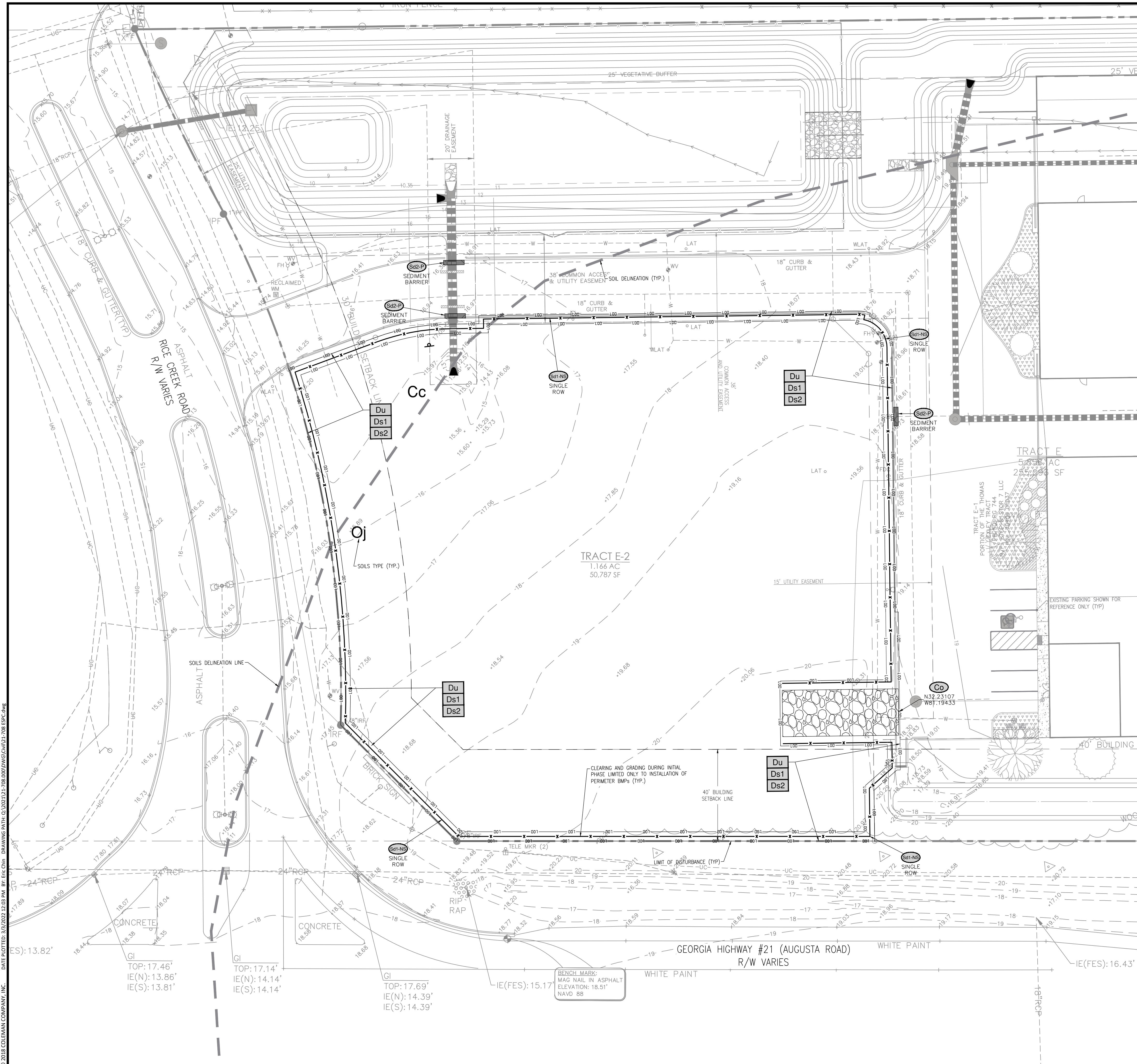
CIVIL CONSTRUCTION PLANS FOR
STOP N STOR SELF STORAGE
HIGHWAY 21 EXPANSION
LOCATED IN PORT WENTWORTH, GEORGIA
PREPARED FOR
STOP N STOR 7, LLC

JOB NUMBER: 21-708.000
DATE: 04/19/2022
DRAWN BY: CCS
CHECKED BY: CCS
SCALE: AS NOTED

CONSTRUCTION DETAILS

SHEET:
C7.1





SEQUENCE OF CONSTRUCTION

- INITIAL PHASE:**
1. INSTALL PERIMETER CONTROLS TO INCLUDE SILT FENCING AND CONSTRUCTION EXIT.
 2. REMOVE DESIGNATED TREES AND CLEAR, GRUB AND GRADE SITE.
 3. LIMIT CLEARING AND GRUBBING OF SITE TO ONLY AREAS NECESSARY FOR CONSTRUCTION AS SHOWN.
- INTERMEDIATE PHASE:**
1. MASS GRADE SITE TO FINAL ELEVATIONS.
 2. INSTALL UNDERGROUND UTILITIES INCLUDING WATER LINES, SANITARY SEWER AND STORM SYSTEMS.
- FINAL PHASE:**
1. STABILIZE ALL REMAINING DISTURBED AREAS.
 2. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND STABILIZE DISTURBED AREAS ACCORDINGLY.

RATIONALE FOR SEDIMENT STORAGE IN SILT FENCE IN INITIAL PHASE:

THE ONLY LAND THAT IS BEING DISTURBED IN THE INITIAL PHASE IS THE SILT FENCE AREA AND CONSTRUCTION ENTRANCE. THIS INITIAL PHASE IS A LINEAR PROJECT AS DEFINED BY THE EROSION CONTROL MANUAL. LINEAR PROJECTS CAN UTILIZE SILT FENCE FOR SEDIMENT STORAGE. ALSO, THE DISTURBED AREA IN THE INITIAL PHASE IS LESS THAN 1 ACRE. FINALLY, THE WAY THE EXISTING SITE IS CONFIGURED, MUCH MORE AREA WOULD NEED TO BE DISTURBED IN THE INITIAL PHASE TO INCLUDE SEDIMENT BASINS AND DIVERSION SWALES TO CONVEY WATER AND SEDIMENT TO SAID BASINS. THUS, SEDIMENT STORAGE IN SILT FENCE IS THE BEST OPTION FOR SEDIMENT STORAGE IN THE INITIAL PHASE.

SEDIMENT STORAGE REQUIREMENTS - TRACT 1

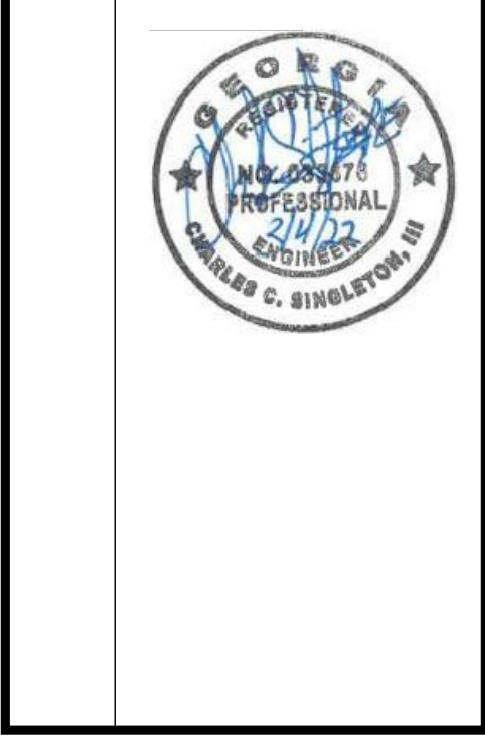
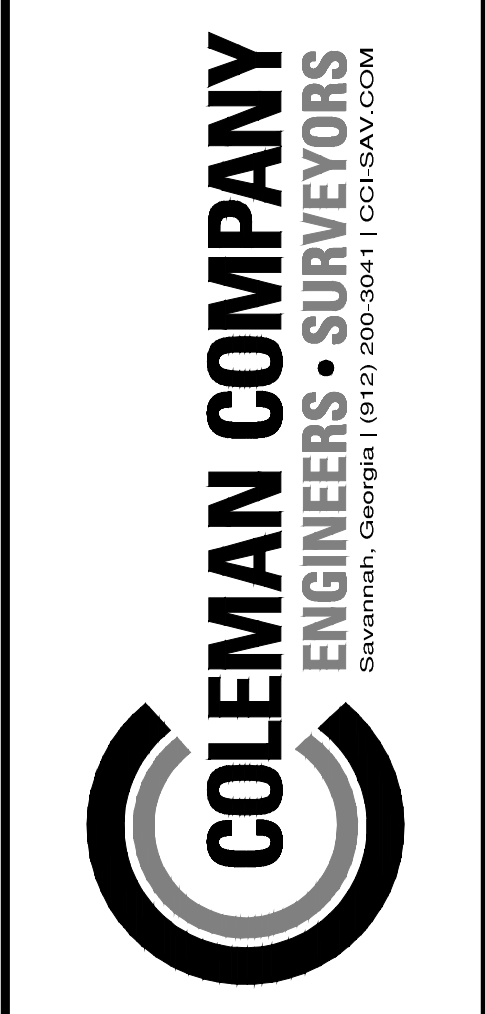
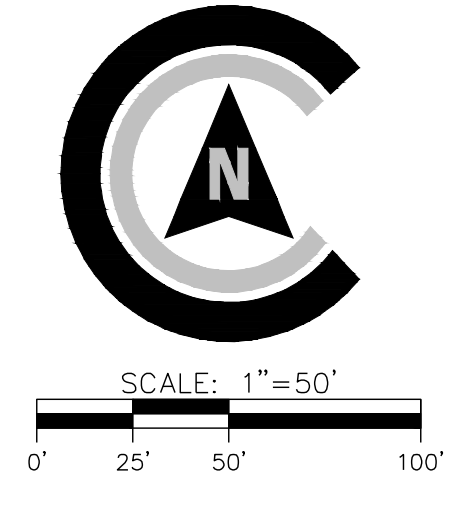
DISTURBED AREA (INITIAL):	954 LF x 4 FT = 1,200 SF (C) = 5,066 SF = 0.12 AC
REQUIRED STORAGE (INITIAL):	0.12 AC x 67 CY/AC = 8.04 CY = 217 CF
STORAGE PROVIDED (INITIAL):	SILT FENCE STORAGE: 842 x LENGTH LENGTH: 954; B: 1.5; H: 1.5; ((1.5/1.5)/2 x 954) = 1,074 CF STORAGE PROVIDED > REQUIRED STORAGE 1,074 CF > 217 CF, THEREFORE ADEQUATE STORAGE IS PROVIDED IN THE INITIAL PHASE.

SOILS LEGEND

Cc	CAPE FEAR SOILS
Oj	OCCILA COMPLEX

DESIGN PROFESSIONAL'S CREDENTIALS:
 ENGINEER'S NAME (PRINTED): CHARLES C. SINGLETON, PE
 GEORGIA PE NUMBER: 033676
 GSWCC LEVEL II CERTIFICATION NUMBER: 12472

NRCS ORIGINAL SUBMITTAL:	03/04/2022



REVISIONS:

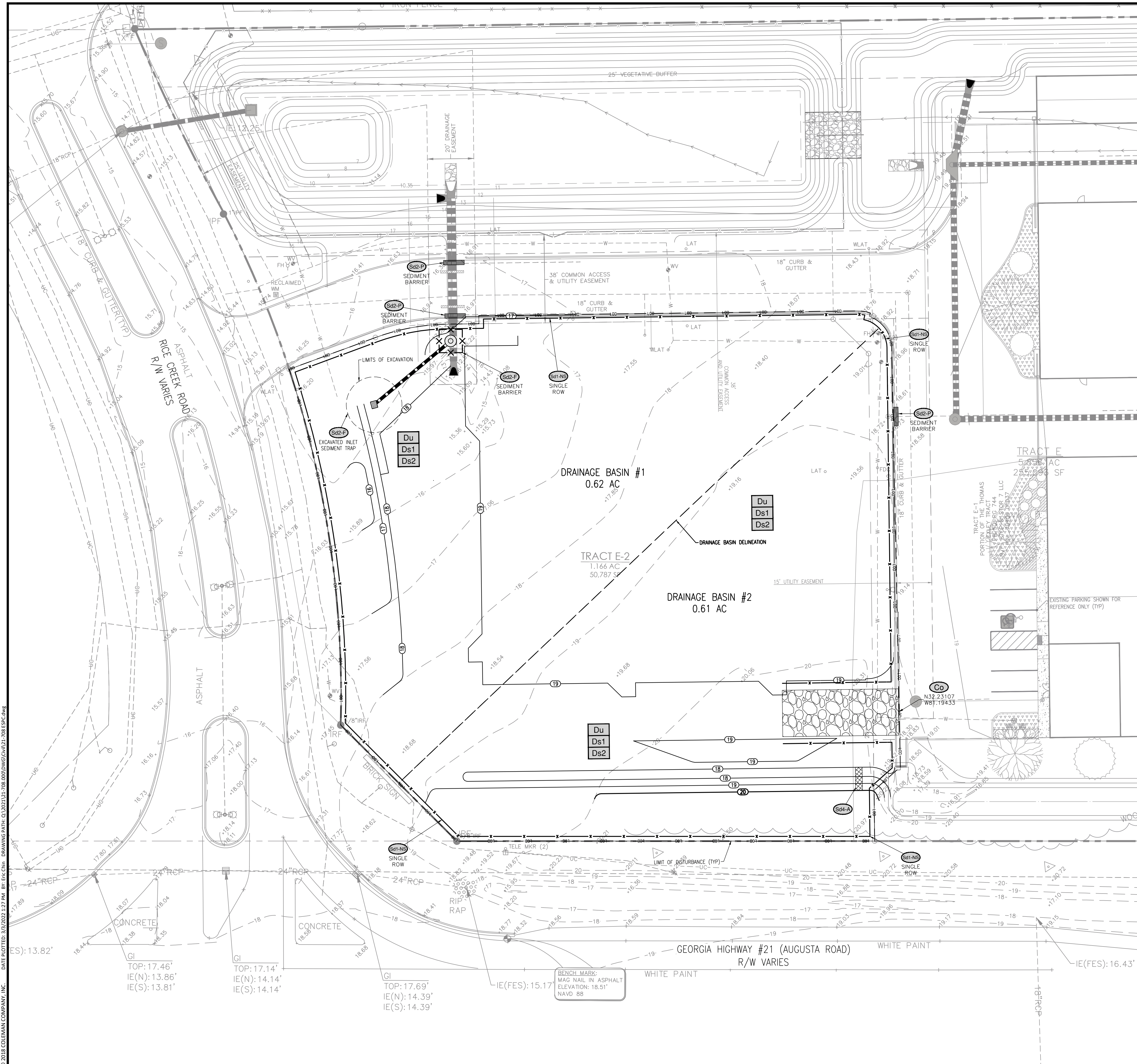
**CIVIL CONSTRUCTION PLANS FOR
 STOP N STOR SELF STORAGE HIGHWAY
 21 EXPANSION**
 LOCATED IN PORT WENTWORTH, GEORGIA
 PREPARED FOR STOP N STOR SELF STORAGE

JOB NUMBER: 21-708
 DATE: 03/04/22
 DRAWN BY: CCS
 CHECKED BY: CCS
 SCALE: AS NOTED

INITIAL ES&PC PLAN

SHEET:
CE1.0

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SEQUENCE OF CONSTRUCTION

- INITIAL PHASE:**
1. INSTALL PERIMETER CONTROLS TO INCLUDE SILT FENCING AND CONSTRUCTION EXIT.
 2. REMOVE DESIGNATED TREES AND CLEAR, GRUB AND GRADE SITE.
 3. LIMIT CLEARING AND GRUBBING OF SITE TO ONLY AREAS NECESSARY FOR CONSTRUCTION AS SHOWN.
- INTERMEDIATE PHASE:**
1. MASS GRADE SITE TO FINAL ELEVATIONS.
 2. INSTALL UNDERGROUND UTILITIES INCLUDING WATER LINES, SANITARY SEWER AND STORM SYSTEMS.
- FINAL PHASE:**
1. STABILIZE ALL REMAINING DISTURBED AREAS.
 2. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND STABILIZE DISTURBED AREAS ACCORDINGLY.

SEDIMENT STORAGE REQUIREMENTS

DRAINAGE BASIN 1:

TO BE SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN

If the EXCAVATED INLET SEDIMENT TRAP is used, show the following information:

1. Drainage area = 0.62 ac
2. Required sediment storage = 67 cy/ac * drainage area
Required sediment storage = 67 cy/ac * 0.62 ac
Required sediment storage = 41.5 cy = 1,120 cu ft
3. Assume excavation depth (minimum of 1.5 ft) = 4 ft
4. Assume slope of sides (shall not be steeper than 2:1) = 2:1
5. Determine required surface area
SA = Required sediment storage / excavation depth
SA = 41.5 cy / 4 ft
SA = 10.38 sq ft
6. Assume shape of excavation and determine dimensions.
(A rectangular shape with 2:1 length to width ratio is recommended.)
Shape: CIRCULAR ft w = _____ ft diameter (if applicable) = 24 ft
Dimensions l = _____ ft

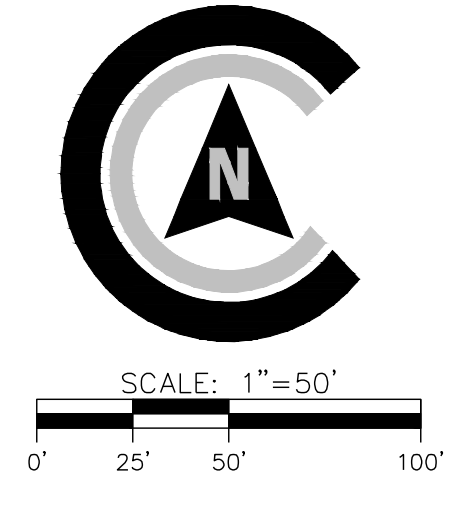
Provide a detail showing the depth, length and width, or diameter (if applicable), and side slopes of the excavation.

DRAINAGE BASIN 2:

0.61 AC DISTURBANCE
PRACTICE STORAGE IN TEMPORARY SEDIMENT TRAP
REQUIRED STORAGE:
0.61 AC * 67 CY/AC = 40.9 CY
40.9 CY = 104 CF
STORAGE PROVIDED:
POND STORAGE: TOP AREA + BOTTOM AREA/2 * (TOP ELEVATION - BOTTOM ELEVATION)
(2,357 SF + 704 SF)/2 * (20 - 18) = 1,530.5 SF * 2 = 3,061 CF
3,061 CF = 113.2 CY
113 > 40.9
PROVIDED > REQUIRED

DESIGN PROFESSIONAL'S CREDENTIALS:
ENGINEER'S NAME (PRINTED): CHARLES C. SINGLETON, PE
GEORGIA PE NUMBER: 033676
GSWCC LEVEL II CERTIFICATION NUMBER: 12472

NRCS ORIGINAL SUBMITTAL:	03/04/2022



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REVISIONS:

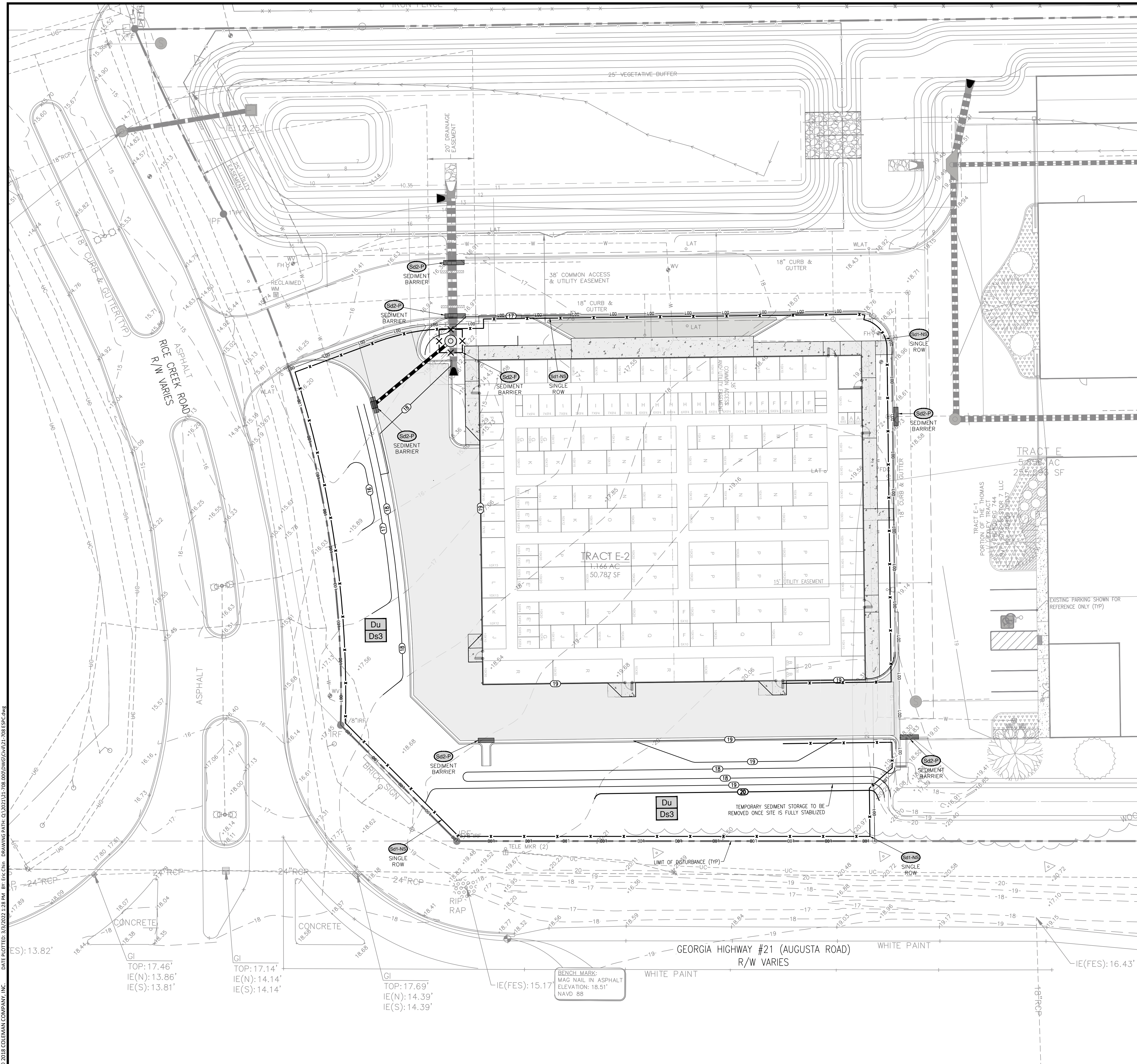
CIVIL CONSTRUCTION PLANS FOR
**STOP N STOR SELF STORAGE HIGHWAY
21 EXPANSION**
LOCATED IN PORT WENTWORTH, GEORGIA
PREPARED FOR STOP N STOR SELF STORAGE

JOB NUMBER: 21-708
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DRAWN BY: CCS
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SCALE: AS NOTED

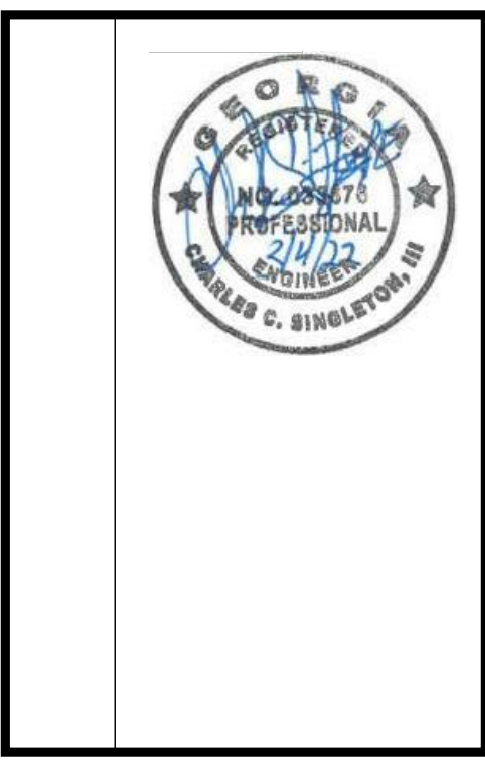
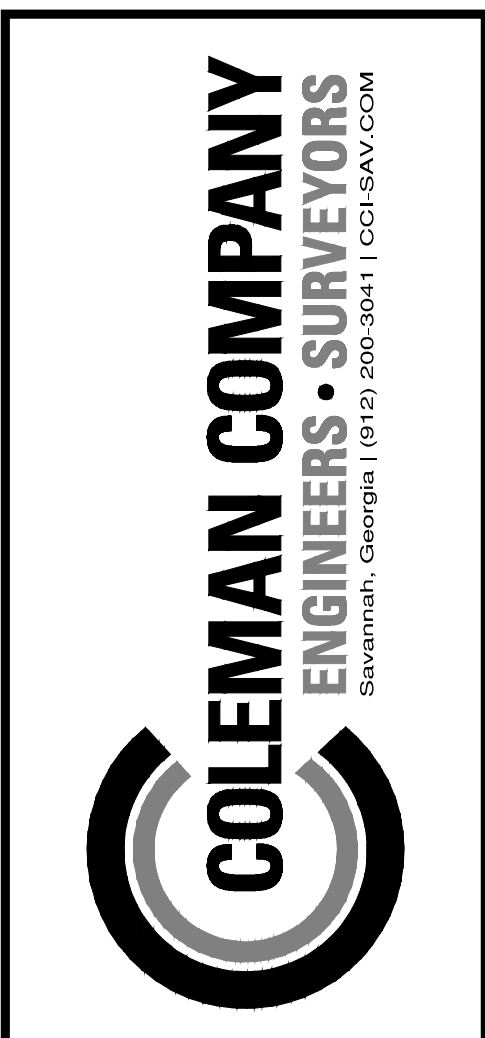
INTERMEDIATE ES&PC
PLAN

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- SEQUENCE OF CONSTRUCTION**
- INITIAL PHASE:**
1. INSTALL PERIMETER CONTROLS TO INCLUDE SILT FENCING AND CONSTRUCTION EXIT.
 2. REMOVE DESIGNATED TREES AND CLEAR, GRUB AND GRADE SITE.
 3. LIMIT CLEARING AND GRUBBING OF SITE TO ONLY AREAS NECESSARY FOR CONSTRUCTION AS SHOWN.
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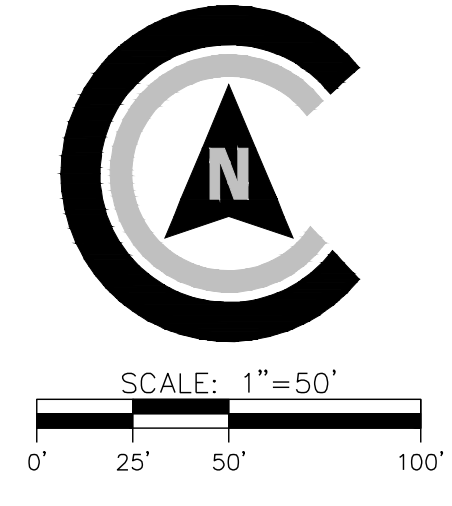


REVISIONS:

CIVIL CONSTRUCTION PLANS FOR
**STOP N STOR SELF STORAGE HIGHWAY
 21 EXPANSION**
 LOCATED IN PORT WENTWORTH, GEORGIA
 PREPARED FOR STOP N STOR SELF STORAGE

DESIGN PROFESSIONAL'S CREDENTIALS:
 ENGINEER'S NAME (PRINTED): CHARLES C. SINGLETON, PE
 GEORGIA PE NUMBER: 033676
 GSWCC LEVEL II CERTIFICATION NUMBER: 12472

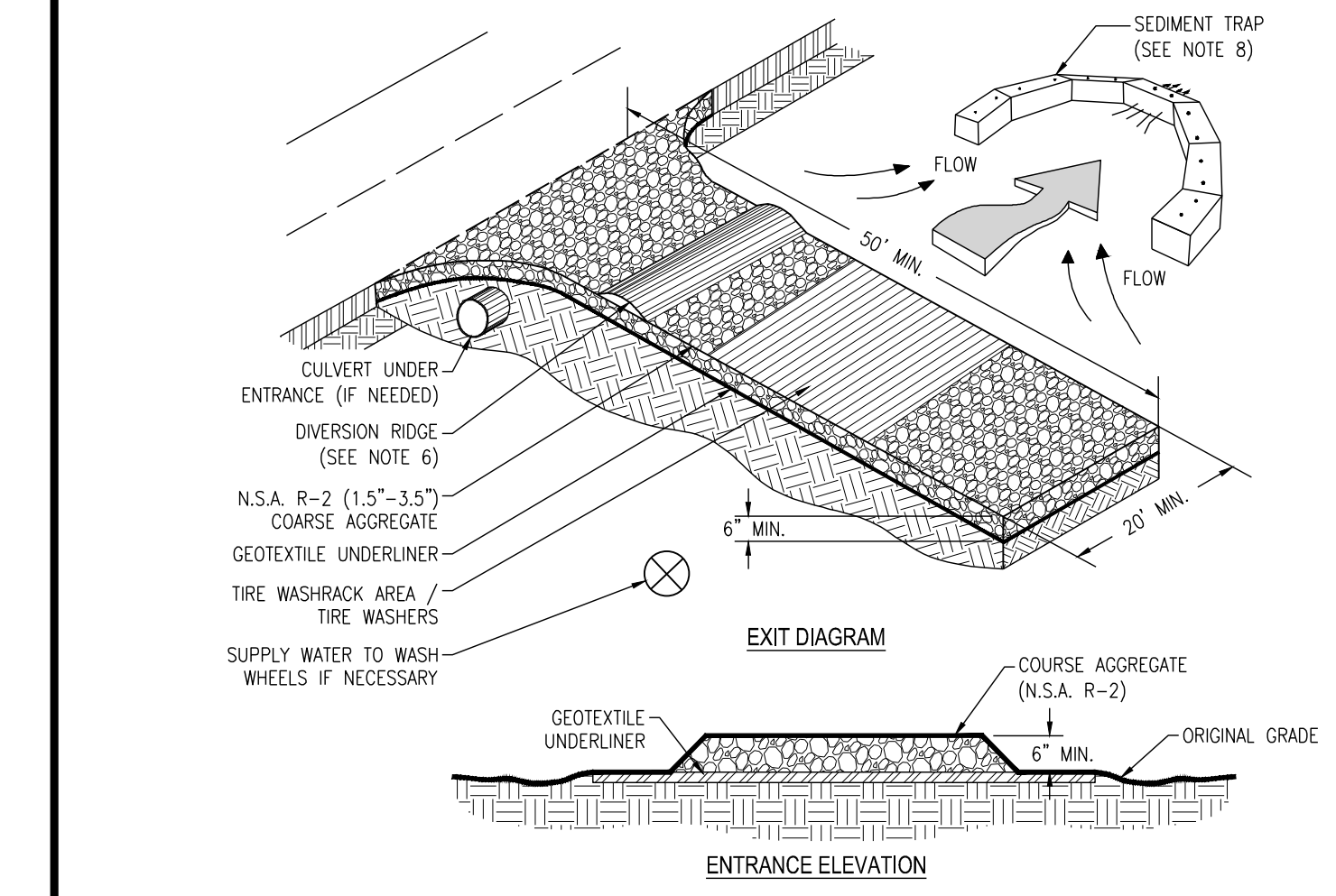
NRCS ORIGINAL SUBMITTAL:	03/04/2022



FINAL ES&PC PLAN

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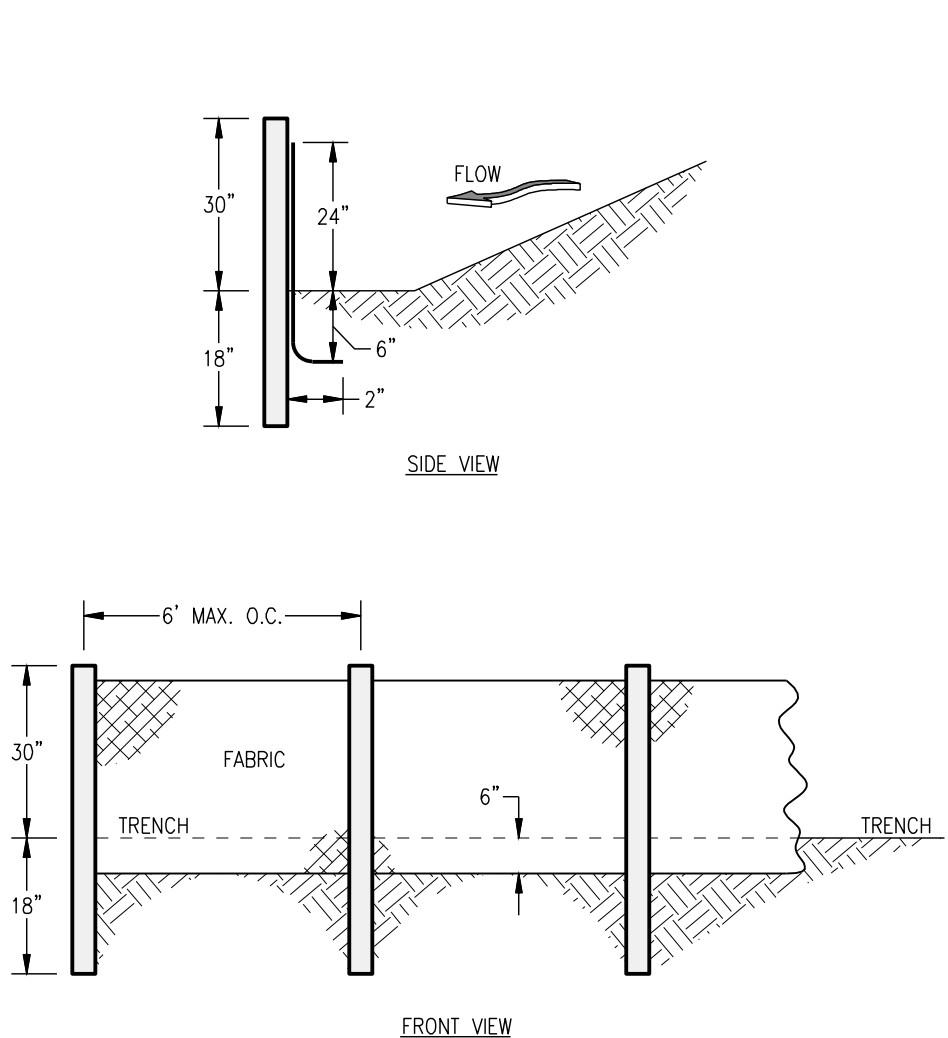
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- NOTES:**
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
 2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
 3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL 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 (OVERT 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.

Sd1-NS

SILT FENCE - TYPE NON-SENSITIVE



NOTE:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

Co CRUSHED STONE CONSTRUCTION EXIT

Ds1

MULCHING WITHOUT TEMPORARY GRASSING:
WOOD MULCH SHALL BE PLACED AT A RATE OF 140 TONS PER ACRE AND APPLIED TO A DEPTH OF 2 TO 3 INCHES.

TEMPORARY GRASSING:
AGRICULTURAL LIME: APPLY 1 TON/ACRE
FERTILIZER: FOR SOILS WITH VERY LOW FERTILITY, APPLY 500-700 LBS. 10-10-10 PER ACRE FERTILIZER SHOULD BE APPLIED BEFORE LAND PREPARATION AND INCORPORATED WITH A DISK, RIPPER OR CHISEL.

PERMANENT GRASSING:
AGRICULTURAL LIME IS REQUIRED 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. SOIL TEST ARE REQUIRED PRIOR TO PERMANENT VEGETATION. PERMANENT GRASSING SHALL BE SOD.

HYDRAULIC SEEDING:
MIX THE SEED (INOCULATED IF NEEDED), FERTILIZER, AND WOOD CELLULOSE OR WOOD PULP FIBER MULCH WITH WATER AND APPLY IN A SLURRY UNIFORMLY OVER THE AREA TO BE TREATED. APPLY WITHIN ONE HOUR AFTER THE MIXTURE IS MADE.

- MULCHING:**
MULCH IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCH APPLIED TO SEEDBED AREAS SHALL ACHIEVE 75% SOIL COVER. SELECT THE MULCHING MATERIAL FROM THE FOLLOWING AND APPLY AS INDICATED.
1. DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEEED SEEDS CAN BE USED. DRY STRAW SHALL BE APPLIED AT A RATE OF 2 TONS PER ACRE. DRY HAY SHALL BE APPLIED AT A RATE OF 2-1/2 TONS PER ACRE.
 2. WOOD CELLULOSE MULCH OR WOOD PULP FIBER WILL BE USED WITH HYDRAULIC SEEDING. IT SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE. DRY STRAW OR DRY HAY SHALL BE APPLIED (AT THE RATE INDICATED ABOVE) AFTER HYDRAULIC SEEDING.
 3. ONE THOUSAND POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER, WHICH INCLUDES A TACKIFIER, SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES 3/4:1 OR STEEPER.
 4. SERCEA LESPEDEZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF THREE TONS PER ACRE.
 5. 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 SUITABLE MATERIALS IN SUFFICIENT QUANTITY MAY BE USED WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED. THIS IS NOT APPROPRIATE FOR SEEDBED AREAS.
 6. WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLOCK SOD, MULCH IS NOT REQUIRED.
 7. BITUMINOUS TREATED ROWING MAY BE APPLIED ON PLANTED AREAS ON SLOPES IN DITCHES OR DRY WATERWAYS TO PREVENT EROSION. BITUMINOUS TREATED ROWING SHALL BE APPLIED WITHIN 24 HOURS AFTER AN AREA HAS BEEN PLANTED. APPLICATION RATES AND MATERIALS MUST MEET GEORGIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
 8. WOOD CELLULOSE AND WOOD PULP FIBERS SHALL NOT CONTAIN GERMINATION OR GROWTH INHIBITING FACTORS. THEY SHALL BE EVENLY DISPersed WHEN AGITATED IN WATER. THE FIBERS SHALL CONTAIN A DYE TO ALLOW VISUAL METERING AND AID IN UNIFORM APPLICATION DURING SEEDING.

APPLYING MULCH:
STRAW OR HAY MULCH WILL BE SPREAD UNIFORMLY WITHIN 24 HOURS AFTER SEEDING AND/OR PLANTING. THE MULCH MAY BE SPREAD BY BLOWER-TYPE SPREADING EQUIPMENT, OTHER SPREADING EQUIPMENT OR BY HAND. MULCH SHALL BE APPLIED TO COVER 75% OF THE SOIL SURFACE. WOOD CELLULOSE OR WOOD PULP FIBER MULCH SHALL BE APPLIED UNIFORMLY WITH HYDRAULIC SEEDING EQUIPMENT.

LIME AND FERTILIZER:
AGRICULTURAL LIME IS REQUIRED UNLESS SOIL TESTS INDICATE OTHERWISE. APPLY AGRICULTURAL LIME AT A RATE OF ONE TON PER ACRE. GRADED AREAS REQUIRE LIME APPLICATION. SOILS CAN BE TESTED TO DETERMINE IF FERTILIZER IS NEEDED. ON REASONABLY FERTILE SOILS, OR SOIL MATERIAL, FERTILIZER IS NOT REQUIRED. FOR SOILS WITH VERY LOW FERTILITY, 500 TO 700 POUNDS OF 10-10-10 FERTILIZER OR THE EQUIVALENT PER ACRE (12-16 LBS./1,000 SQ. FT.) SHALL BE APPLIED BEFORE LAND PREPARATION AND INCORPORATED WITH A DISK, RIPPER OR CHISEL.

Ds2 DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

DEFINITION:
THE ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDINGS FOR SEASONAL PROTECTION ON DISTURBED OR DENUDED AREAS.

CONDITIONS:
TEMPORARY GRASSING, INSTEAD OF MULCH, CAN BE APPLIED TO ROUGH GRADED AREAS THAT WILL BE EXPOSED FOR LESS THAN SIX MONTHS. TEMPORARY VEGETATIVE MEASURES SHOULD BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMIC AND EFFECTIVE STABILIZATION. MOST TYPES OF TEMPORARY VEGETATION ARE IDEAL TO USE AS COMPANION CROPS UNTIL THE PERMANENT VEGETATION IS ESTABLISHED.

SPECIFICATIONS:
GRADING AND SHAPING
EXCESSIVE WATER RUN-OFF SHALL BE REDUCED BY PROPERLY DESIGNED AND INSTALLED EROSION CONTROL PRACTICES SUCH AS CLOSED DRAINS, DITCHES, DIKES, DIVERSIONS, SEDIMENT BARRIERS AND OTHERS.

NO SHAPING OR GRADING IS REQUIRED IF SLOPES CAN BE STABILIZED BY HAND-SEEDED VEGETATION OR IF HYDRAULIC SEEDING EQUIPMENT IS TO BE USED.

SEEDBED PREPARATION:
WHEN A HYDRAULIC SEEDER IS USED, SEEDBED PREPARATION IS NOT REQUIRED. WHEN USING CONVENTIONAL OR HANDSEEDING, SEEDBED PREPARATION IS NOT REQUIRED IF THE SOIL MATERIAL IS LOOSE AND NOT SEALED BY RAINFALL.

WHEN SOIL HAS BEEN SEALED BY RAINFALL OR CONSISTS OF SMOOTH CUT SLOPES, THE SOIL SHALL BE PITTED, TRENCHED OR OTHERWISE SCARIFIED TO PROVIDE A PLACE FOR SEED TO LODGE AND GERMINATE.

LIME AND FERTILIZER:
AGRICULTURAL LIME IS REQUIRED UNLESS SOIL TESTS INDICATE OTHERWISE. APPLY AGRICULTURAL LIME AT A RATE OF ONE TON PER ACRE. GRADED AREAS REQUIRE LIME APPLICATION. SOILS CAN BE TESTED TO DETERMINE IF FERTILIZER IS NEEDED. ON REASONABLY FERTILE SOILS OR SOIL MATERIAL, FERTILIZER IS NOT REQUIRED. FOR SOILS WITH VERY LOW FERTILITY, 500 TO 700 POUNDS OF 10-10-10 FERTILIZER OR THE EQUIVALENT PER ACRE (12-16 LBS./1,000 SQ. FT.) SHALL BE APPLIED BEFORE LAND PREPARATION AND INCORPORATED WITH A DISK, RIPPER OR CHISEL.

SEEDING:
SELECT A GRASS OR GRASS-LEGUME MIXTURE SUITABLE TO THE AREA AND SEASON OF THE SEED SHALL BE APPLIED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDRAULIC SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). DRILL OR CULTIPACKER SEEDERS SHOULD NORMALLY PLACE SEED ONE-QUARTER TO ONE-HALF INCH APPROPRIATE DEPTH OF PLANTING IS TEN TIMES THE SEED DIAMETER. SOIL SHOULD BE "RAKED" LIGHTLY TO COVER SEED WITH SOIL IF SEED BY HAND.

MULCHING:
TEMPORARY VEGETATION CAN, IN MOST CASES, BE ESTABLISHED WITHOUT THE USE OF MULCH WITHOUT SEEDING SHOULD BE CONSIDERED FOR SHORT TERM PROTECTION. REFER TO DS1 - DISTURBED AREA STABILIZATION (WITH MULCHING ONLY).

IRRIGATION:
DURING TIMES OF DROUGHT, WATER SHALL BE APPLIED AT A RATE NOT CAUSING RUNOFF AND EROSION. THE SOIL SHALL BE THOROUGHLY WETTED TO A DEPTH THAT WILL INSURE GERMINATION OF THE SEED. SUBSEQUENT APPLICATIONS SHOULD BE MADE WHEN NEEDED.

SPECIES	RATE PER 1,000 SF	RATE PER ACRE*	PLANTING DATES**
RYE	3.9 LBS	3 BU	9/1-3/1
RYEGRASS	0.9 LB	40 LBS	8/15-4/1
ANNUAL LESPEDEZA	0.9 LB	40 LBS	1/15-3/15
WEEPING LOVEGRASS	0.1 LB	4 LBS	2/15-6/15
SUDANGRASS	1.4 LBS	60 LBS	3/1-8-1
BROWNTOP MILLET	0.9 LB	40 LBS	4/1-7/15
WHEAT	4.1 LBS	3 BU	9/15-2/1

- * UNUSUAL SITE CONDITIONS MAY REQUIRE HEAVIER SEEDING RATES.
- ** SEEDING DATES MAY NEED TO BE ALTERED TO FIT TEMPERATURE VARIATIONS AND CONDITIONS.

Ds3 DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)

DEFINITION:
THE PLANTING OF PERENNIAL VEGETATION SUCH AS TREES, SHRUBS, VINES, GRASSES, OR LEGUMES ON EXPOSED AREAS FOR FINAL PERMANENT STABILIZATION. PERMANENT PERENNIAL VEGETATION SHALL BE USED TO ACHIEVE FINAL STABILIZATION.

CONDITIONS:
PERMANENT PERENNIAL VEGETATION IS USED TO PROVIDE A PROTECTIVE COVER FOR EXPOSED AREAS INCLUDING CUTS, FILLS, DAMS, AND OTHER DENUDED AREAS.

SPECIFICATIONS:
GRADING AND SHAPING
GRADING AND SHAPING MAY NOT BE REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED. VERTICAL BANKS SHALL BE SLOPED TO ENABLE PLANT ESTABLISHMENT.

WHEN CONVENTIONAL SEEDING AND FERTILIZING ARE TO BE DONE, GRADE AND SHAPE WHERE FEASIBLE AND PRACTICAL, SO THAT EQUIPMENT CAN BE USED SAFELY AND EFFICIENTLY DURING SEEDBED PREPARATION, SEEDING, MULCHING AND MAINTENANCE OF THE VEGETATION.

CONCENTRATIONS OF WATER THAT WILL CAUSE EXCESSIVE SOIL EROSION SHALL BE DIVERTED TO A SAFE OUTLET. DIVERSIONS AND OTHER TREATMENT PRACTICES SHALL CONFORM WITH THE APPROPRIATE STANDARDS AND SPECIFICATIONS.

SEEDBED PREPARATION:
SEEDBED PREPARATION MAY NOT BE REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED. WHEN CONVENTIONAL SEEDING IS TO BE USED, SEEDBED PREPARATION WILL BE DONE AS FOLLOWS:

BROADCAST PLANTING:
1. TILLAGE AT A MINIMUM, SHALL ADEQUATELY LOOSEN THE SOIL TO A DEPTH OF 4 TO 6 INCHES; ALLEVIATE COMPACTION; INCORPORATE LIME AND FERTILIZER; SMOOTH AND FIRM THE SOIL; ALLOW FOR THE PROPER PLACEMENT OF SEED, SPRIGS, OR PLANTS; AND ALLOW FOR THE ANCHORING OF STRAW OR HAY MULCH IF A DISK IS TO BE USED.

2. TILLAGE MAY BE DONE WITH ANY SUITABLE EQUIPMENT.
3. TILLAGE SHOULD BE DONE ON THE CONTOUR WHERE FEASIBLE.
4. ON SLOPES TOO STEEP FOR THE SAFE OPERATION OF TILLAGE EQUIPMENT, THE SOIL SURFACE SHALL BE PITTED OR TRENCHED ACROSS THE SLOPE WITH APPROPRIATE HAND TOOLS TO PROVIDE TWO PLACES 8 TO 8 INCHES APART IN WHICH SEED MAY LODGE AND GERMINATE. HYDRAULIC SEEDING MAY ALSO BE USED.

INDIVIDUAL PLANTS:
1. WHERE INDIVIDUAL PLANTS ARE TO BE SET, THE SOIL SHALL BE PREPARED BY EXCAVATING HOLES, OPENING FURROWS, OR DIBBLE PLANTING.

2. FOR NURSERY STOCK PLANTS, HOLES SHALL BE LARGE ENOUGH TO ACCOMMODATE ROOTS WITHOUT CROWDING.

3. WHERE PINE SEEDLINGS ARE TO BE PLANTED, SUBSOIL UNDER THE ROW 36 INCHES DEEP ON THE CONTOUR FOUR TO SIX MONTHS PRIOR TO PLANTING. SUBSOILING SHOULD BE DONE WHEN THE SOIL IS DRY, PREFERABLY IN AUGUST OR SEPTEMBER.

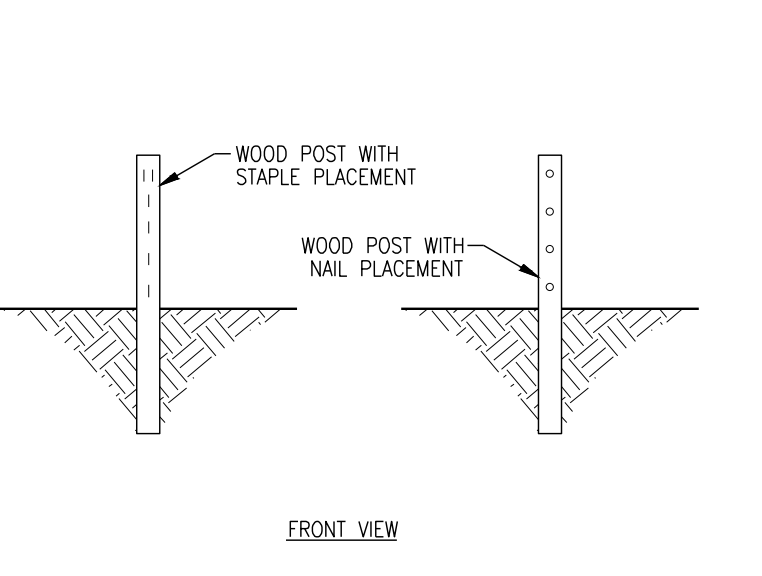
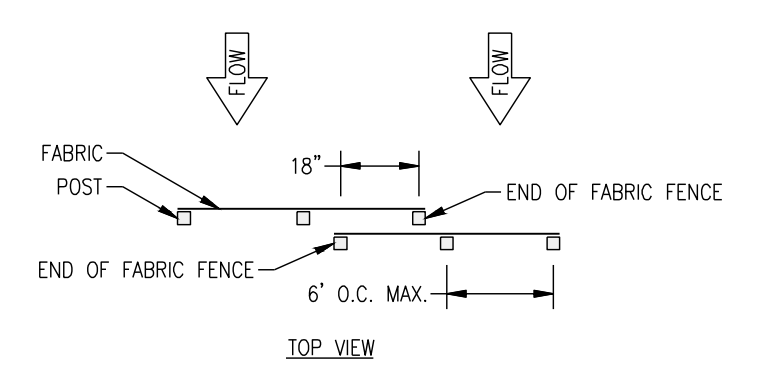
PLANTING:
HYDRAULIC SEEDING

MIX THE SEED (INOCULATED IF NEEDED), FERTILIZER, AND WOOD CELLULOSE OR WOOD PULP FIBER MULCH WITH WATER AND APPLY IN A SLURRY UNIFORMLY OVER THE AREA TO BE TREATED. APPLY WITHIN ONE HOUR AFTER THE MIXTURE IS MADE.

CONVENTIONAL SEEDING:
SEEDING WILL BE DONE ON A FRESHLY PREPARED AND FIRMEED SEEDBED. FOR BROADCAST PLANTING, USE A CULTIPACKER SEEDER, DRILL, ROTARY SEEDER, OTHER MECHANICAL SEEDER, OR HAND SEEDING TO DISTRIBUTE THE SEED UNIFORMLY OVER THE AREA TO BE TREATED. COVER THE SEED LIGHTLY WITH 1/8 TO 1/4 INCH OF SOIL FOR SMALL SEED AND 1/2 TO 1 INCH FOR LARGE SEED WHEN USING A CULTIPACKER OR OTHER SUITABLE EQUIPMENT.

NO-TILL SEEDING:
NO-TILL SEEDING IS PERMISSIBLE INTO ANNUAL COVER CROPS WHEN PLANTING IS DONE FOLLOWING MATURITY OF THE COVER CROP OR IF THE TEMPORARY COVER STAND IS SPARSE ENOUGH TO ALLOW ADEQUATE GROWTH OF THE PERMANENT (PERENNIAL) SPECIES. NO-TILL SEEDING SHALL BE DONE WITH APPROPRIATE NO-TILL SEEDING EQUIPMENT. THE SEED MUST BE UNIFORMLY DISTRIBUTED AND PLANTED AT THE PROPER DEPTH.

3. SYNTHETIC TACKIFIERS OR BINDERS APPROVED BY DOT SHALL BE APPLIED IN



NOTE:
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.

FASTENERS FOR SILT FENCES OVERLAP AT FABRIC ENDS

DESIGN PROFESSIONAL'S CREDENTIALS:

ENGINEER'S NAME (PRINTED):	CHARLES C. SINGLETON, PE
GEORGIA PE NUMBER:	03676
GSWCC LEVEL II CERTIFICATION NUMBER:	12472
NRCS ORIGINAL SUBMITTAL:	03/04/2022

INDIVIDUAL PLANTS:
SHRUBS, VINES AND SPRIGS MAY BE PLANTED WITH APPROPRIATE PLANTERS OR HAND PLANTERS SHALL BE PLANTED MANUALLY IN THE SUBSOIL FURROW. EACH PLANT SHALL BE SET IN A MANNER THAT WILL AVOID CROWDING THE ROOTS. NURSERY STOCK PLANTS SHALL BE PLANTED AT THE SAME DEPTH OR SLIGHTLY DEEPER THAN THEY GREW AT THE NURSERY. THE TIPS OF VINES AND SPRIGS MUST BE AT OR SLIGHTLY ABOVE THE GROUND SURFACE. WHERE INDIVIDUAL HOLES ARE OUG, FERTILIZER SHALL BE PLACED IN THE BOTTOM OF THE HOLE. TWO INCHES OF SOIL SHALL BE ADDED AND THE PLANT SHALL BE SET IN THE HOLE.

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

1. DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEEED SEEDS CAN BE USED. DRY STRAW SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. DRY HAY SHALL BE APPLIED AT A RATE OF 2 1/2 TONS PER ACRE.
2. WOOD CELLULOSE MULCH OR WOOD PULP FIBER SHALL BE USED WITH HYDRAULIC SEEDING. IT SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE. DRY STRAW OR DRY HAY SHALL BE APPLIED (AT THE RATE INDICATED ABOVE) AFTER HYDRAULIC SEEDING.
3. ONE THOUSAND POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER, WHICH INCLUDES A TACKIFIER, SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES 3/4:1 OR STEEPER.
4. SERCEA LESPEDEZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF THREE TONS PER ACRE.
5. 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 SEEDBED AREAS.
6. WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLOCK SOD, MULCH IS NOT REQUIRED.
7. BITUMINOUS TREATED ROWING MAY BE APPLIED ON PLANTED AREAS ON SLOPES, IN DITCHES OR DRY WATERWAYS TO PREVENT EROSION. BITUMINOUS TREATED ROWING SHALL BE APPLIED WITHIN 24 HOURS AFTER AN AREA HAS BEEN PLANTED. APPLICATION RATES AND MATERIALS MUST MEET GEORGIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.

WOOD CELLULOSE AND WOOD PULP FIBERS SHALL NOT CONTAIN GERMINATION OR GROWTH INHIBITING FACTORS. THEY SHALL BE EVENLY DISPersed WHEN AGITATED IN WATER. THE FIBERS SHALL CONTAIN A DYE TO ALLOW VISUAL METERING AND AID IN UNIFORM APPLICATION DURING SEEDING.

APPLYING MULCH:
STRAW OR HAY MULCH WILL BE SPREAD UNIFORMLY WITHIN 24 HOURS AFTER SEEDING AND/OR PLANTING. THE MULCH MAY BE SPREAD BY BLOWER-TYPE SPREADING EQUIPMENT, OTHER SPREADING EQUIPMENT OR BY HAND. MULCH SHALL BE APPLIED TO COVER 75% OF THE SOIL SURFACE.

WOOD CELLULOSE OR WOOD PULP FIBER MULCH SHALL BE APPLIED UNIFORMLY WITH HYDRAULIC SEEDING EQUIPMENT.

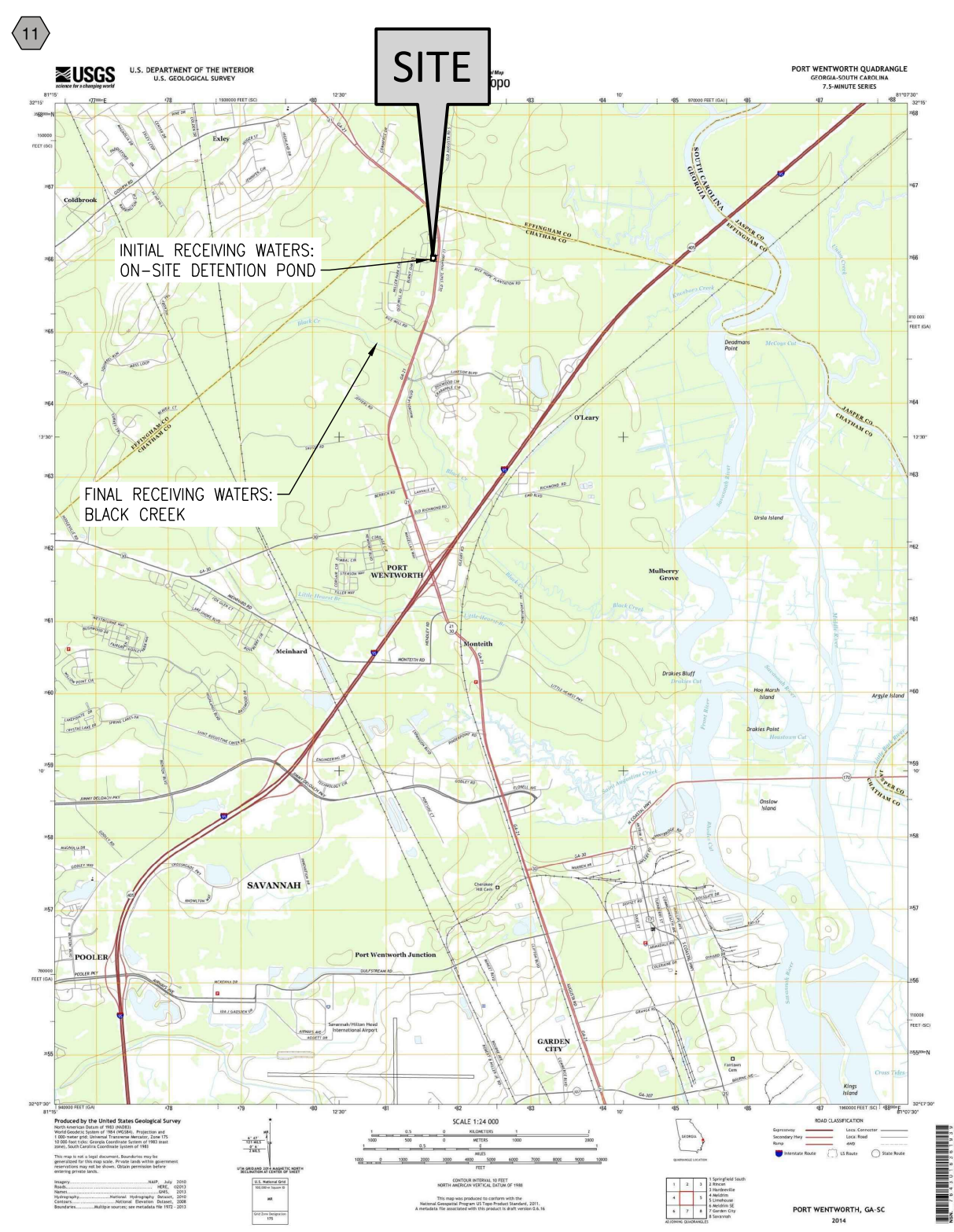
ANCHORING MULCH:
ANCHOR STRAW OR HAY MULCH IMMEDIATELY AFTER APPLICATION BY ONE OF THE FOLLOWING METHODS:

1. EMULSIFIED ASPHALT CAN BE (A) SPRAYED UNIFORMLY ONTO THE MULCH AS IT IS EJECTED FROM THE BLOWER MACHINE OR (B) SPRAYED ON THE MULCH IMMEDIATELY FOLLOWING MULCH APPLICATION WHEN STRAW OR HAY IS SPREAD BY METHODS OTHER THAN SPECIAL BLOWER EQUIPMENT.

THE COMBINATION OF SPECIAL EMULSIONS AND WATER SHALL CONSIST OF A HOMOGENEOUS MIXTURE SATISFACTORY FOR SPRAYING. THE MIXTURE SHALL CONSIST OF 100 GALLONS OF GRADE SS-1H OR CSS-1H EMULSIFIED ASPHALT AND 100 GALLONS OF WATER PER TON OF MULCH.

CARE SHALL BE TAKEN AT ALL TIMES TO PROTECT STATE WATERS, THE PUBLIC, ADJACENT PROPERTY, PAVEMENTS, CURBS, SIDEWALKS, AND ALL OTHER STRUCTURES FROM ASPHALT DISCOLORATION.

2. HAY AND STRAW MULCH SHALL BE PRESSED INTO THE SOIL IMMEDIATELY AFTER THE MULCH IS SPREAD. A SPECIAL "PACKER DISK" OR DISK HARROW WITH THE DISKS SET STRAIGHT MAY BE USED. THE DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISKS SHALL BE DULL ENOUGH TO PRESS THE MULCH INTO THE GROUND WITHOUT CUTTING IT, LEAVING MUCH OF IT IN AN ERECT POSITION. MULCH SHALL NOT BE FLOPED INTO THE SOIL.



CONJUNCTION WITH OR IMMEDIATELY AFTER THE MULCH IS SPREAD, SYNTHETIC TACKIFIERS SHALL BE MIXED AND APPLIED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. REFER TO TB - TACKIFIERS AND BINDERS.

4. RYE OR WHEAT CAN BE INCLUDED WITH FALL AND WINTER PLANTINGS TO STABILIZE THE THEY SHALL BE APPLIED AT A RATE OF ONE-QUARTER TO ONE HALF BUSHEL PER ACRE.
5. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH MAY BE NEEDED TO ANCHOR STRAW OR HAY MULCH ON UNSTABLE SOILS AND CONCENTRATED FLOW THESE MATERIALS SHALL BE INSTALLED AND ANCHORED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

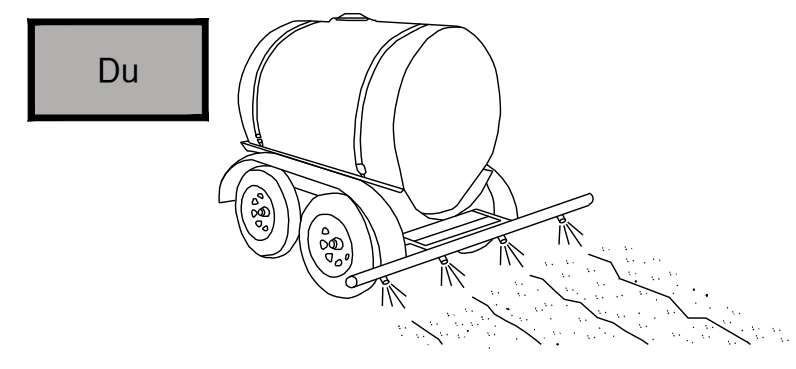
IRRIGATION:
IRRIGATION SHALL BE APPLIED AT A RATE THAT WILL NOT CAUSE RUNOFF.

SEEDING RATES FOR PERMANENT SEEDING

SPECIES	RATE PER 1,000 SF	RATE PER ACRE*	PLANTING DATES**
BAHIA	1.4 LBS	60 LBS	1/1-12/31
BERMUDA	0.2 LB	10 LBS	2/15-7/1
CENTPEDE	BLOCK SOD ONLY	BLOCK SOD ONLY	4/1-7/1
LESPEDEZA	1.7 LB	75 LBS	1/1-12/31
WEEPING LOVE GRASS	0.1 LB	4 LBS	2/1-6/15
SWITCHGRASS	0.9 LBS	40 LBS	3/15-6/1

- * UNUSUAL SITE CONDITIONS MAY REQUIRE HEAVIER SEEDING RATES
- ** SEEDING DATES MAY NEED TO BE ALTERED TO FIT TEMPERATURE VARIATIONS AND CONDITIONS.

DUST CONTROL ON DISTURBED AREAS



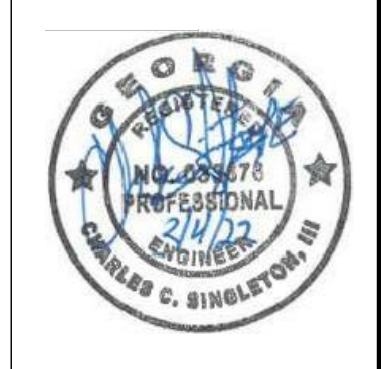
CONTRACTOR SHALL EMPLOY THE FOLLOWING TEMPORARY METHODS TO LIMIT THE SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES:

- | | |
|---|--|
| *TEMPORARY METHODS: <ul style="list-style-type: none"> -MULCHES -VEGETATIVE COVER -SPRAYS ON ADHESIVES -TILLAGE -IRRIGATION -BARRIERS -CALCIUM CHLORIDE | *PERMANENT METHODS: <ul style="list-style-type: none"> -PERMANENT VEGETATION -TOPSOIL -STONE COVER |
|---|--|

ADHESIVE	WATER DILUTION	TYPE OF NOZZLE	APPLICATION RATE (GAL/AC)
ANIONIC ASPHALT EMULSION	7:1	SPRAY	1200
LATEX EMULSION	12 1/2:1	FINE SPRAY	235
RESIN-IN-WATER EMULSION	4:1	FINE SPRAY	300

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REVISIONS:

CIVIL CONSTRUCTION PLANS FOR
STOP N STOR SELF STORAGE HIGHWAY
21 EXPANSION

LOCATED IN PORT WENTWORTH, GEORGIA
PREPARED FOR STOP N STOR SELF STORAGE

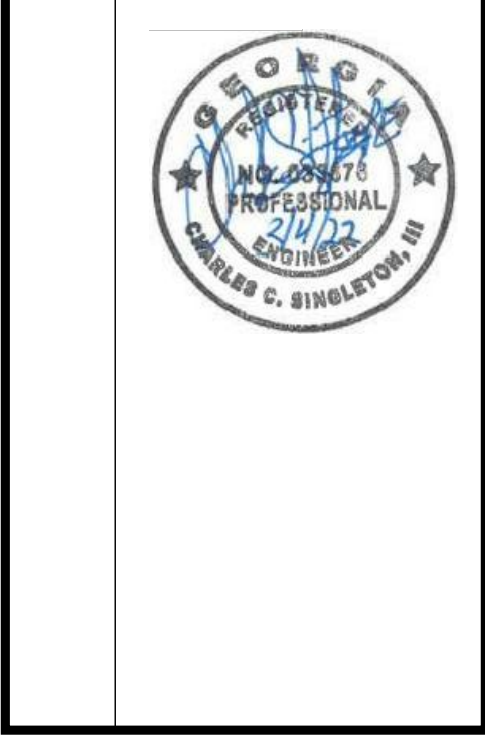
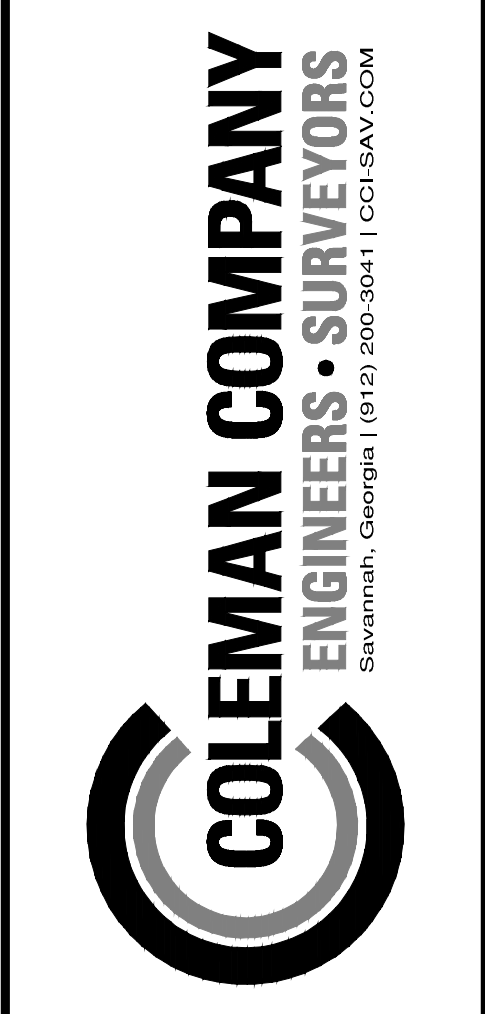
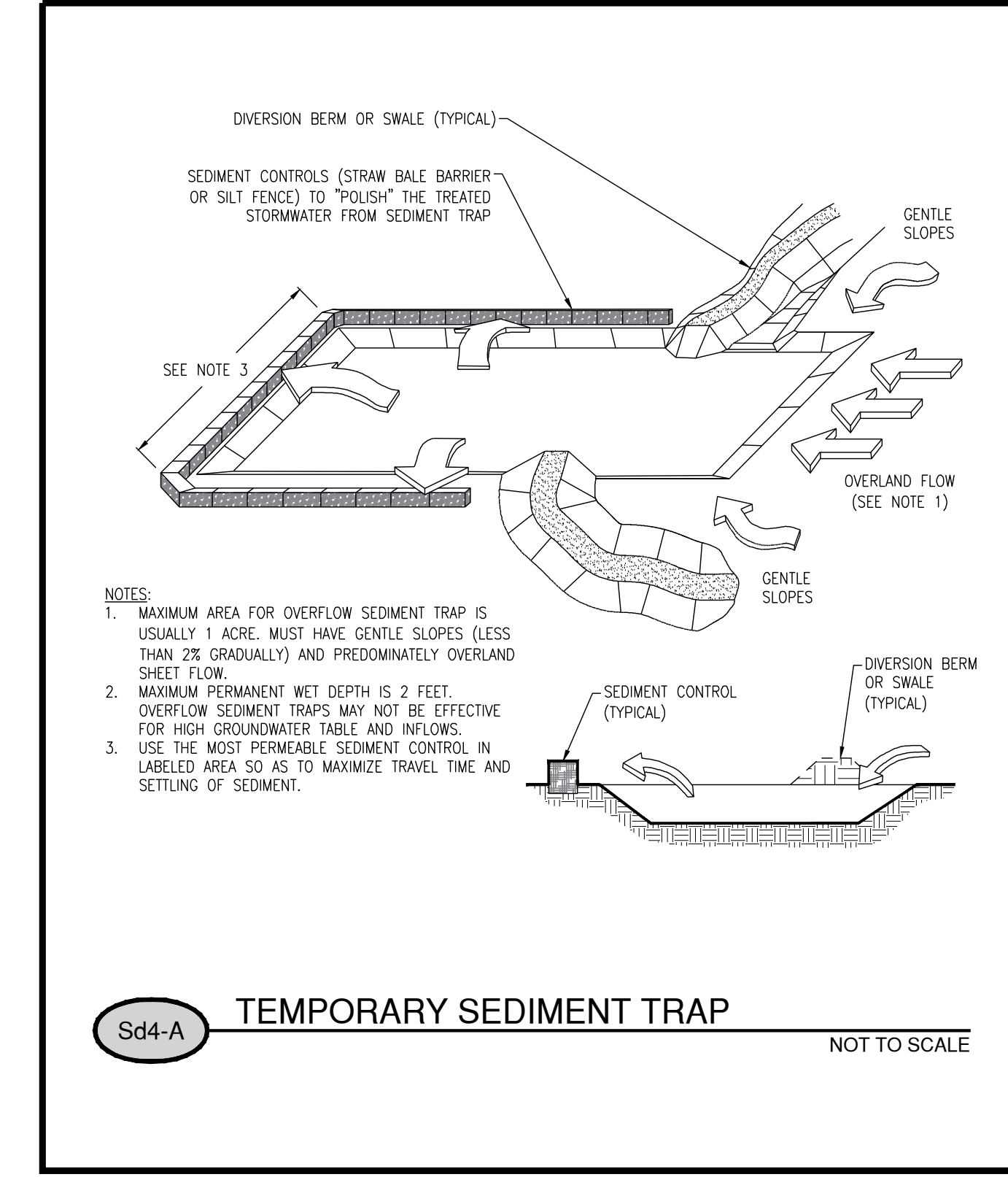
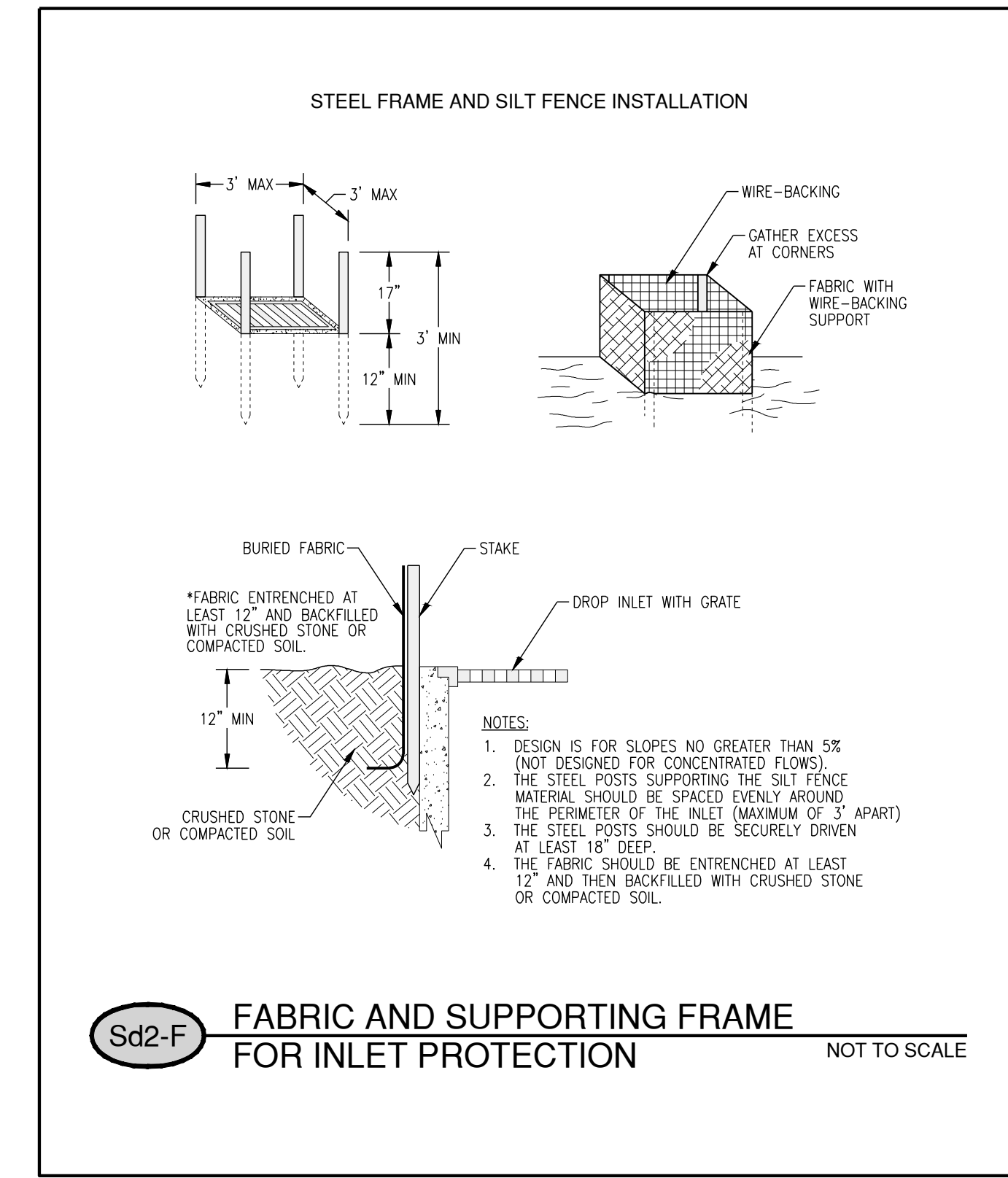
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DATE: 03/04/22
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CHECKED BY: CCS
SCALE: AS NOTED

EROSION CONTROL DETAILS

SHEET: CE4.0



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REVISIONS:

**CIVIL CONSTRUCTION PLANS FOR
STOP N STOR SELF STORAGE HIGHWAY
21 EXPANSION**
LOCATED IN PORT WENTWORTH, GEORGIA
PREPARED FOR STOP N STOR SELF STORAGE

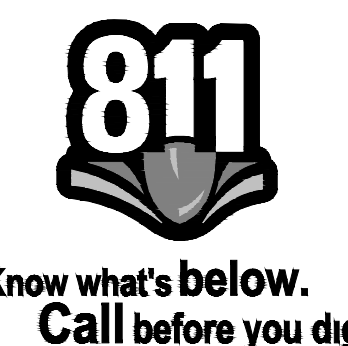
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SCALE:	AS NOTED

EROSION CONTROL
DETAILS

SHEET:
CE4.1

DESIGN PROFESSIONAL'S CREDENTIALS:
ENGINEER'S NAME (PRINTED): CHARLES C. SINGLETON, PE
GEORGIA PE NUMBER: 033676
GSWCC LEVEL II CERTIFICATION NUMBER: 12472

NRCS ORIGINAL SUBMITTAL:	03/04/2022



CLEARING PHASE
PRIOR TO THE LAND DISTURBING CONSTRUCTION, THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE AREA SITE DEVELOPMENT INSPECTOR.
THE CONTRACTOR SHALL OBSERVE THE PROJECT SEQUENCE SHOWN ON THE PLANS. THE CONTRACTOR SHALL MAINTAIN CAREFUL SCHEDULING AND PERFORMANCE TO INSURE THAT LAND STRIPPING OF ITS NATURAL COVER IS EXPOSED ONLY IN SMALL QUANTITIES.
THE OWNER AGREES TO PROVIDE AND MAINTAIN OFF-STREET PARKING ON THE SUBJECT PROPERTY DURING THE ENTIRE CONSTRUCTION PERIOD.
NO STAGING AREAS, MATERIAL STORAGE, CONCRETE WASH OUT AREAS, OR DEBRIS BURN AND BURIAL HOLES SHALL BE LOCATED WITHIN 500 FEET OF DESIGNATED TREE PROTECTION AREAS.
A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE AT ALL TIMES.
THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND-DISTURBING ACTIVITIES.
PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMITS OF LAND DISTURBANCE AND ALL STREAM BUFFERS SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS OR OTHER APPROPRIATE MEANS. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE ACTIVITY SHALL BE DEMARCATED FOR THE DURATION OF THE CONSTRUCTION ACTIVITY. NO LAND DISTURBANCE SHALL OCCUR OUTSIDE THE APPROVED LIMITS INDICATED ON THE APPROVED PLANS.
PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH POINT OF ENTRY TO OR EXIT FROM THE SITE OR ONTO ANY PUBLIC ROADWAY.

THE FOLLOWING INITIAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY.
1. THE CONSTRUCTION EXIT, CONSISTING OF A MINIMUM PAD SIZE OF 20 FEET BY 50 FEET WITH A MINIMUM 6" THICK STONE, SHALL BE PLACED AS SHOWN ON THE PLAN. THE STONE SIZE SHOULD CONSIST OF COURSE AGGREGATE BETWEEN 1-1/2" & 3-1/2" IN DIAMETER AND OVERLAD ON A GEOTEXTILE UNDERLINER. THE GEOTEXTILE UNDERLINER SHALL MEET THE REQUIREMENTS OF ASHTO M288-96, SECTION 7.3 SEPARATION REQUIREMENTS.
2. IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCE/EXITS, ALL PERMETER EROSION CONTROL AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE CLEARING PHASE EROSION CONTROL PLAN.
3. TYPE "NS" SILT FENCE SHOULD BE INSTALLED AT THE PERIMETER OF THE DISTURBED AREA AS SHOWN ON THE PLAN. THE SILT FENCE SHOULD BE PLACED IN ACCORDANCE WITH THE MANUAL FOR EROSION CONTROL IN GEORGIA, TABLE 6-20.2. THE SILT FENCE SHOULD BE KEPT ERECT AT ALL TIMES AND REPAIRED WHEN REQUESTED BY THE INSPECTOR OR THE PROJECT DESIGN PROFESSIONAL OF RECORD. SILT SHOULD BE REMOVED WHEN ACCUMULATION REACHED 1/2 THE HEIGHT OF THE BARRIER. THE PERMETER SILT FENCE SHOULD BE INSPECTED DAILY FOR ANY FAILURES. ANY FAILURES OF SAID FENCING SHOULD BE REPAIRED IMMEDIATELY.
4. INLET SEDIMENT PROTECTION MEASURES SHALL BE INSTALLED ON ALL EXISTING STORM STRUCTURES AS SHOWN ON THE PLAN. SEE SEPARATE DETAILS FOR SPECIFICS ON TYPE OF INLET PROTECTION SPECIFIED.
5. STONE CHECK DAMS SHALL BE INSTALLED IN AREAS OF CONCENTRATED FLOWS AS SHOWN ON THE PLAN.
6. TREE PROTECTION FENCING SHOULD BE INSTALLED PRIOR TO THE START OF ANY LAND DISTURBANCE ACTIVITY AND MAINTAINED UNTIL FINAL LANDSCAPE IS INSTALLED. THE TREE PROTECTION FENCING SHOULD BE INSPECTED DAILY. ANY FAILURES OF SAID FENCING SHOULD BE REPAIRED IMMEDIATELY.

GRADING PHASE
THE FOLLOWING EROSION CONTROL MEASURES SHALL BE IMPLEMENTED DURING THE PRELIMINARY GRADING PHASE OR CONSTRUCTION.
DURING CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN CAREFUL SCHEDULING AND PERFORMANCE TO ENSURE THAT LAND STRIPPING OF ITS NATURAL GROUND COVER IS EXPOSED ONLY IN SMALL QUANTITIES AND THEREFORE LIMITED DURATIONS, BEFORE PERMANENT EROSION PROTECTION IS ESTABLISHED. NOTE SUB PHASES SHOWN ON PLANS.
EARTHWORK OPERATIONS IN THE VICINITY OF STREAM BUFFERS SHALL BE CAREFULLY CONTROLLED TO AVOID DUMPING OR SLOUGHING INTO THE BUFFER AREAS.
SEDIMENT SHALL NOT BE WASHED INTO INLETS. IT SHALL BE REMOVED FROM THE SEDIMENT TRAPS AND DISPOSED OF AND STABILIZED SO THAT IT WILL NOT ENTER THE INLETS AGAIN.
EROSION CONTROL DEVICES SHALL BE INSTALLED IMMEDIATELY AFTER GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE APPROVED PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCURISLY EROSION CONTROL FOR ALL DRAINAGE PATTERNS AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE DESIGN PROFESSIONAL IMMEDIATELY.

THE CONTRACTOR SHALL FURNISH AND MAINTAIN NECESSARY BARRICADES WHILE ROADWAY FRONTAGE IMPROVEMENTS ARE BEING MADE.
TYPE " NS" SILT FENCE SHOULD BE INSTALLED AT THE TOE OF ALL FILL SLOPES 10 FEET OR GREATER IN HEIGHT. THE SILT FENCE SHOULD BE PLACED IN ACCORDANCE WITH THE MANUAL FOR EROSION CONTROL IN GEORGIA, TABLE 6-20.2. THE SILT FENCE SHALL BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED ON THE SLOPE. SILT FENCE SHALL BE REMOVED WHEN ACCUMULATION REACHES 1/2 THE HEIGHT OF THE BARRIER. ADDITIONALLY, DIVERSION DIKES SHALL BE CONSTRUCTED ALONG THE TOP OF ALL SAID FILL SLOPES WITH THE USE OF TEMPORARY DOWN DRAINS TO CONTROL STORM WATER RUN OFF AS SHOWN ON THE PLANS. SEE SEPARATE DETAILS FOR ADDITIONAL INFORMATION.
THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING BARRIERS AT THE TOE OF SLOPES UNDER CONSTRUCTION. THESE BARRIERS SHALL BE AS SHOWN IN THE PLANS. THESE BARRIERS MAY BE RELOCATED AND REUSED AFTER PERMANENT SLOPE STABILIZATION BECOMES FULLY ESTABLISHED, AS THEY ARE RELOCATED, ANY DEFECTIVE MATERIALS IN THE BARRIERS SHALL BE REPLACED. IN ADDITION, ALL DEBRIS AND SILT AT THE PREVIOUS LOCATION SHALL BE REMOVED.
CUT AND FILL SLOPES ARE NOT TO EXCEED " 3H:1V"
AFTER INSTALLATION OF INITIAL EROSION CONTROL MEASURES THE SITE CONTRACTOR SHALL SCHEDULE AN INSPECTION BY THE PROJECT DESIGN PROFESSIONAL. NO OTHER CONSTRUCTION ACTIVITIES SHALL OCCUR UNTIL THE PROJECT DESIGN PROFESSIONAL APPROVES THE INSTALLATION OF SAID EROSION CONTROL MEASURES. IF UNFORESEEN CIRCUMSTANCES PRESENT IN THE FIELD OF WORK, WARRANT ADDITIONAL EROSION CONTROL MEASURES, THE CONTRACTOR MUST CONSTRUCT ANY ADDITIONAL EROSION CONTROL DEVICES DEEMED NECESSARY BY THE SITE INSPECTION.
AFTER APPROVAL OF THE INITIAL EROSION CONTROL INSTALLATION, THE CONTRACTOR MAY PROCEED WITH CLEARING AND GRUBBING ACTIVITIES. AS CLEARING PERMITS THE CONTRACTOR SHALL CONSTRUCT INLET PROTECTION AS SHOWN ON THE CLEARING PHASE PLAN TO CONTROL EROSION AND STORM WATER RUN OFF.
THE DESIGN PROFESSIONAL WHO PREPARED THE EROSION CONTROL INSTALLATION PLAN WILL INSPECT THE INSTALLATION OF THE BMP'S WITHIN SEVEN DAYS AFTER INITIAL CONSTRUCTION ACTIVITY BEGINS.
THE CONTRACTOR CAN UTILIZE CLEARED TREES AS BARRIER BRUSH SEDIMENT CONTROL IN AREAS SHOWN ON THE PLAN WHERE INITIAL GRADING ACTIVITIES WILL NOT OCCUR.
NO BURN OR BURY PITS SHALL BE PERMITTED ON THE CONSTRUCTION SITE WITHOUT WRITTEN PERMISSION BY THE OWNER AND/OR THE ENGINEER OF RECORD.
ADDITIONAL SILT BARRIERS MUST BE PLACED AS SHOWN ON THE PLAN AS ACCESS IS OBTAINED DURING CLEARING. NO GRADING SHALL TAKE PLACE UNTIL SILT BARRIER INSTALLATION AND INLET PROTECTION ARE CONSTRUCTED AS SHOWN ON THE CLEARING PHASE EROSION CONTROL PLAN.
ALL SILT FENCE MUST MEET THE REQUIREMENTS OF SECTION 1171, TEMPORARY SILT FENCE FOR THE DEPARTMENT OF TRANSPORTATION, STATE OF GEORGIA, STANDARD SPECIFICATIONS, 1983 EDITION.
ALL ITEMS IN THIS SECTION OF THE SPECIFICATIONS SHALL MEET THE REQUIREMENTS AS SET FORTH IN SECTION 161, 162, 163, AND 164 OF THE GEORGIA D.O.T. STANDARD SPECIFICATION, FOR ROADS AND BRIDGES.
MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF LAND DISTURBANCE.
ALL DISTURBED AREAS LEFT MULCHED AFTER 30 DAYS SHALL BE STABILIZED WITH TEMPORARY VEGETATION.
SEDIMENT AND EROSION CONTROL MEASURES SHOULD BE CHECKED AFTER EACH RAIN EVENT. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF THE CAPACITY OF THE DEVICE. ADDITIONAL DEVICES MUST BE INSTALLED IF NEW CHANNELS HAVE DEVELOPED.
THE CONSTRUCTION EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACK OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 1"-3" OF STONE, AS CONDITIONS DEMAND. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE ONTO PUBLIC ROADWAY OR INTO STORM DRAIN MUST BE REMOVED IMMEDIATELY.
CONTRACTOR SHALL INSPECT CONTROL MEASURES AT THE END OF EACH WORKING DAY TO ENSURE MEASURES ARE FUNCTIONING PROPERLY.
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 AS DIRECTED BY THE ON SITE INSPECTOR OR THE CIVIL ENGINEER.
FAILURE TO INSTALL, OPERATE, OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB UNTIL SUCH MEASURES ARE CORRECTED BACK TO THE APPROVED EROSION CONTROL PLANS.
THE SITE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTENANCE OF ALL EROSION CONTROL MEASURES INCLUDING REPLACING OR REPAIRING ANY DAMAGED DEVICES DUE TO ANY CONSTRUCTION ACTIVITY BY OTHERS.
TYPE " NS" SILT FENCE SHALL BE PLACED AT THE TOE OF ALL DIRT STOCK PILE AREAS. SEE SEPARATE DETAILS FOR ADDITIONAL INFORMATION.
INLET SEDIMENT PROTECTION MEASURES SHALL BE INSTALLED ON ALL STORM STRUCTURES AS THEY ARE CONSTRUCTED. SEE PLAN VIEW FOR SPECIFIC TYPE AND SEPARATE DETAILS FOR ADDITIONAL INFORMATION.
STONE CHECK DAMS SHALL BE INSTALLED IN AREAS OF CONCENTRATED FLOWS, AS SHOWN ON THE PLAN. SEE SEPARATE DETAIL FOR ADDITIONAL INFORMATION.
ALL DRAINAGE SWALES SHALL BE APPLIED WITH VEGETATIVE COVER AS SOON AS FINAL GRADE IS ACHIEVED.
ALL GRADED AREAS SHALL BE APPLIED WITH VEGETATIVE COVER AS SOON AS FINAL GRADE IS ACHIEVED.
AFTER PRELIMINARY GRADING ACTIVITIES, THE CONTRACTOR SHALL CONSTRUCT INLET PROTECTIONS AS SHOWN ON PLAN. THE CONTRACTOR SHALL MAINTAIN THE INLET PROTECTIONS AS SHOWN UNTIL PERMANENT GRADING COVER IS ESTABLISHED.

FINAL PHASE
THE FOLLOWING EROSION CONTROL MEASURES SHALL BE IMPLEMENTED DURING THE FINAL EROSION CONTROL PHASE OF CONSTRUCTION.
SEDIMENT SHALL NOT BE WASHED INTO INLETS. IT SHALL BE REMOVED FROM THE SEDIMENT TRAPS AND DISPOSED OF AND STABILIZED SO THAT IT WILL NOT ENTER THE INLETS AGAIN.
MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF LAND DISTURBANCE.
ALL DISTURBED AREAS LEFT MULCHED AFTER 30 DAYS SHALL BE STABILIZED WITH TEMPORARY GRASSING.
THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED. SEDIMENT SHALL BE CLEANED OUT OF THE PONDS WHEN IT REACHES THE HALF WAY POINT ON THE RISER.
AFTER CURBING, GRADED AGGREGATE BASE, AND PAVEMENT HAS BEEN INSTALLED, ALL INLET SEDIMENT TRAPS ON SINGLE AND DOUBLE WING CATCH BASINS ALONG WITH ANY CURB INLETS SHALL BE REMOVED AND REPLACED WITH CURB FILTER PROTECTION. SEE SEPARATE DETAIL FOR ADDITIONAL INFORMATION.
ALL AREAS ADJACENT TO ROADWAY AND PARKING AREAS SHOULD HAVE A VEGETATIVE COVER APPLIED AS SOON AS FINAL GRADE IS ACHIEVED BEHIND CURBS.
SEDIMENT AND EROSION CONTROL MEASURES SHOULD BE CHECKED AFTER EACH RAIN EVENT. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF THE CAPACITY OR THE DEVICE. ADDITIONAL DEVICES MUST BE INSTALLED IF NEW CHANNELS HAVE DEVELOPED.
THE CONSTRUCTION EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACK OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 1"-3" OF STONE, AS CONDITIONS DEMAND. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE ONTO PUBLIC ROADWAY OR INTO STORM DRAIN MUST BE REMOVED IMMEDIATELY.
CONTRACTOR SHALL INSPECT CONTROL MEASURES AT THE END OF EACH WORKING DAY TO ENSURE MEASURES ARE FUNCTIONING PROPERLY.
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 AS DIRECTED BY THE ON SITE INSPECTOR OR THE CIVIL ENGINEER.
FAILURE TO INSTALL, OPERATE, OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB UNTIL SUCH MEASURES ARE CORRECTED BACK TO THE APPROVED EROSION CONTROL PLANS.
THE SITE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTENANCE OF ALL EROSION CONTROL MEASURES INCLUDING REPLACING OR REPAIRING ANY DAMAGED DEVICES DUE TO ANY CONSTRUCTION ACTIVITY BY OTHERS.
UPON COMPLETION OF THE PROJECT AND RECEIPT OF CERTIFICATION OF OCCUPANCY, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND DISPOSE OF THEM UNLESS NOTED ON PLANS.
PERMIT COVERAGE
THIS PLAN HAS BEEN PREPARED TO MEET THE REQUIREMENTS UNDER THE STATE OF GEORGIA, DEPARTMENT OF NATURAL RESOURCES, ENVIRONMENTAL PROTECTION DIVISION (EPD), FOR AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES), STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY FOR INFRASTRUCTURE.
AUTHORIZED DISCHARGES
1. ALL DISCHARGES OF STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY THAT WILL RESULT IN LAND DISTURBANCE EQUAL TO OR GREATER THAN ONE ACRE, PART 1.C.1.4.C
2. ALL DISCHARGES COVERED BY THIS PERMIT SHALL BE COMPOSED ENTIRELY OF STORM WATER EXCEPT AS PROVIDED IN PART 1.C.2 AND PART III.A.2 OF THE PERMIT, PART III.A.1
3. AUTHORIZED MIXED STORM WATER DISCHARGES: PART 1.C.2
A. THE INDUSTRIAL SOURCE OF ACTIVITY OTHER THAN CONSTRUCTION IS LOCATED ON THE SAME SITE AS THE CONSTRUCTION ACTIVITY AND IS AN INTEGRAL PART OF THE CONSTRUCTION ACTIVITY.
B. THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES ARE OCCURRING ARE IN COMPLIANCE WITH THE TERMS OF THIS PERMIT.
C. STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE AREAS OF THE SITE WHERE INDUSTRIAL ACTIVITY OTHER THAN CONSTRUCTION ARE OCCURRING ARE COVERED BY DIFFERENT NPDES GENERAL PERMIT OR INDIVIDUAL PERMIT AUTHORIZING SUCH DISCHARGES AND THE DISCHARGES ARE IN COMPLIANCE WITH A DIFFERENT NPDES PERMIT.
4. AUTHORIZED NON-STORMWATER DISCHARGES: PART III.A.2
A. FIRE FIGHTING ACTIVITIES
B. FIRE HYDRANT FLUSHING
C. POTABLE WATER SOURCES INCLUDING WATER LINE FLUSHING
D. IRRIGATION DRAINAGE
E. AIR CONDITIONING CONDENSATE
F. SPRINGS
G. UNCONTAMINATED GROUND WATER
H. FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH PROCESS MATERIALS OR POLLUTANTS.

LIMITATIONS ON COVERAGE PART 1.C.3
1. THE FOLLOWING STORM WATER DISCHARGES FROM CONSTRUCTION SITES ARE NOT AUTHORIZED BY THIS PERMIT:
A. STORM WATER DISCHARGES ASSOCIATED WITH AN INDUSTRIAL ACTIVITY THAT ORIGINATES FROM THE SITE AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED AND THE SITE HAS UNDERGONE FINAL STABILIZATION.
B. DISCHARGES THAT ARE MIXED WITH SOURCES OF NON-STORMWATER OTHER THAN DISCHARGES WHICH ARE IDENTIFIED IN PART III.A.2 OF THIS PERMIT AND WHICH ARE IN COMPLIANCE WITH PART IV.D.5 (NON-STORMWATER DISCHARGES) OF THIS PERMIT.
C. STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY THAT ARE SUBJECT TO AN EXISTING NPDES INDIVIDUAL OR GENERAL PERMIT. SUCH DISCHARGES MAY AUTHORIZED UNDER THIS PERMIT AFTER AN EXISTING PERMIT EXPIRES PROVIDED THE EXISTING PERMIT DID NOT ESTABLISH NUMERIC LIMITATIONS FOR SUCH DISCHARGES.
D. STORMWATER DISCHARGES FROM CONSTRUCTION SITES THAT THE DIRECTOR (EPD) HAS DETERMINED TO BE OR MAY REASONABLY BE EXPECTED TO BE CONTRIBUTING TO A VIOLATION OF A WATER QUALITY STANDARD.
2. WHERE A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO, OR IN EXCESS OF A REPORTING QUANTITY ESTABLISHED UNDER EITHER GEORGIA'S OIL OR HAZARDOUS MATERIAL SPILLS OR RELEASES ACT (O.C.G. 12-14-2, ET SEQ.), 40 CFR 117 OR 40 CFR 302 OCCURS DURING A 24-HOUR PERIOD, THE PERMITTEE IS REQUIRED TO NOTIFY THE FOLLOWING AGENCIES IN ACCORDANCE WITH THE ABOVE-MENTIONED REGULATIONS AS SOON AS HE HAS KNOWLEDGE OF THE DISCHARGE: EPD AT (404) 656-4863 OR (800) 241-4113, OR THE NATIONAL RESPONSE CENTER (NRC) AT (800) 424-8802, PART III.B.1
3. THIS PERMIT DOES NOT AUTHORIZE THE DISCHARGE OF HAZARDOUS SUBSTANCES OR OIL RESULTING FROM AN ONSITE SPILL, PART 111.B.2
WATER QUALITY COMPLIANCE PART 1.C.4
ALL DISCHARGES AUTHORIZED BY THIS PERMIT SHALL NOT CAUSE VIOLATIONS OF GEORGIA'S IN-STREAM WATER QUALITY STANDARDS AS PROVIDED BY THE RULES AND REGULATIONS FOR WATER QUALITY CONTROL, CHAPTER 391-3-6-03.

DESIGN PROFESSIONAL'S CREDENTIALS:
ENGINEER'S NAME (PRINTED): CHARLES C. SINGLETON, PE
GEORGIA PE NUMBER: 033676
GSWCC LEVEL II CERTIFICATION NUMBER: 12472

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SAMPLING METHODOLOGY PART IV.D.5
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 135 (UNLESS OTHER TEST PROCEDURES HAVE BEEN APPROVED), THE GUIDANCE DOCUMENT TITLES " NPDES STORMWATER 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. LARGE MOUTH, CLEAN AND RINSED GLASS OR PLASTIC JARS WITH A MINIMUM SAMPLE SIZE OF 200 MILLILITERS SHOULD BE USED FOR COLLECTING SAMPLES.
3. SAMPLES SHOULD BE TAKEN FROM THE HORIZONTAL AND VERTICAL CENTER OF THE RECEIVING WATER(S) OR THE STORMWATER OUTFALL CHANNEL(S).
4. SAMPLES SHOULD BE WELL MIXED BEFORE TRANSFERRING TO A SECONDARY CONTAINER.
5. 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.
6. IF MANUAL SAMPLING IS EMPLOYED, THE SAMPLING CONTAINER SHOULD BE HELD SO THAT THE OPENING FACES UPSTREAM. THE SAMPLES SHOULD BE KEPT FREE FROM FLOATING DEBRIS, AND CARE SHOULD BE TAKEN TO AVOID STIRRING THE BOTTOM SEDIMENTS IN THE RECEIVING WATER(S) OR IN THE OUTFALL, STORMWATER CHANNEL.
7. THE UPSTREAM SAMPLE FOR EACH RECEIVING WATER(S) MUST BE TAKEN AT 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 VALUE.
8. THE DOWNSTREAM SAMPLE FOR EACH RECEIVING WATER(S) MUST BE TAKEN AT THE DISCHARGE FARTHEST DOWNSTREAM AT THE SITE BUT UPSTREAM OF ANY OTHER STORM WATER 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.
9. PERMITEES DO NOT HAVE TO SAMPLE SHEET FLOW THAT FLOWS ONTO UNDISTURBED NATURAL AREAS OR AREAS STABILIZED BY THE PROJECT.
10. DILUTION OF SAMPLES IS NOT REQUIRED.
11. SAMPLES MAY BE ANALYZED USING A DIRECT READING, PROPERLY CALIBRATED TURBIDIMETER.
12. SAMPLES ARE NOT REQUIRED TO BE COOLED.
13. SAMPLES AND ANALYSIS OF THE RECEIVING WATER(S) OR OUTFALLS BEYOND THE MINIMUM FREQUENCY STATED THE PERMIT MUST BE REPORTED TO EPD AS SPECIFIED IN PART IV.E OF THE PERMIT.
14. TURBIDITY RESULTS WHICH EXCEED 1000 NTU SHALL BE REPORTED AS " EXCEEDS 1000 NTU".

SAMPLING FREQUENCY PART IV.D.6
1. SAMPLING FREQUENCY SHALL OCCUR IN ACCORDANCE WITH PART IV.D.6.D (3) OF THE PERMIT.
2. FOR A QUALIFYING EVENT THE PERMITEE SHALL SAMPLE AT THE BEGINNING OF ANY STORMWATER DISCHARGE TO A MONITORED RECEIVING WATER AND/OR FROM A MONITORED OUTFALL WITHIN FORTY-FIVE (45) MINUTES OF OR AS SOON AS POSSIBLE:
A. WHERE MANUAL AND AUTOMATIC SAMPLING ARE IMPOSSIBLE (AS DEFINED IN THE PERMIT), OR ARE BEYOND THE PERMITEE'S CONTROL, THE PERMITEE SHALL TAKE SAMPLES AS SOON AS POSSIBLE, BUT IN NO CASE MORE THAN TWELVE (12) HOURS AFTER THE BEGINNING OF THE STORMWATER DISCHARGE.
B. NORMAL BUSINESS HOURS, AS DEFINED BY THE PERMIT, ARE MONDAY THROUGH FRIDAY, 8:00 AM TO 5:00 PM EXCLUDING ANY NON-WORKING SATURDAY, NON-WORKING SUNDAY & NON-WORKING FEDERAL HOLIDAY.
3. SAMPLING 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 ALLOWS FOR SAMPLING 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 N.O.T., 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 BMP'S 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 BMP'S ARE PROPERLY DESIGNED, INSTALLED AND MAINTAINED.
4. IF BMP'S 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 BMP'S ARE PROPERLY DESIGNED, INSTALLED AND MAINTAINED.
5. NOTE THAT THE PERMITEE MAY CHOOSE TO MEET THE REQUIREMENTS OF NO. 3.A AND NO. 3.B 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.

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
Co1	DITCHING			A small temporary barrier or dam constructed across a road, drainage ditch or area of concentrated flow.
Ch	CHANNEL STABILIZATION			Improving construction or stabilizing an open channel, existing stream, or ditch.
Co	CONSTRUCTION EXIT			A crushed stone pad located at the construction exit to provide a slope for removal of tires thereby protecting public streets.
Cr	CONSTRUCTION ROAD STABILIZATION			A traveway 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 that 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 slope barrier constructed at storm drain inlets and pond outlets.
Ga	GABION			Rock filler 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	RETIC 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.
So2	INLET SEDIMENT TRAP			A temporary protective device formed at or around an inlet to a storm drain to trap sediment.
Sa3	TEMPORARY SEDIMENT BASH			A basin created by excavation or a dam across a waterway, the surface water runoff is temporarily retained allowing the bulk of the sediment to drop out.
So4	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 SPANNER			A buoyant device that releases/drains water from the surface of sediment ponds, traps, or basins at a controlled rate of flow.
SpE	STEP BURN			A linear control device constructed on a diversion perpendicular to the direction of the runoff to enhance discharge 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.
Sl	STORMWATER OUTLET PROTECTION			A paved or short section of fabric 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.
Wl	VEGETATED STORMWATER OUTLET CHANNEL			Paved or vegetative water outlets for diversions, inlets, basins, 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.
Ce	CHESTNUT OAK VEGETATION			Planting vegetation on dunes that are denuded, artificially constructed, or re-landfilled.
Ds1	DESTURBED AREA STABILIZATION WITH MULCHING ONLY			Establishing temporary protection for disturbed areas where seedlings may not have a suitable growing season to produce an erosion retarding cover.
Ds2	DESTURBED AREA STABILIZATION WITH REEF SEEDING			Establishing a temporary vegetative cover with fast growing seedlings on disturbed areas.
Ds3	DESTURBED AREA STABILIZATION WITH PERM SEEDING			Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
Ds4	DESTURBED AREA STABILIZATION (GRAVING)			A permanent vegetative cover using sods on highly erodible or artificially eroded lands.
Du	DUST CONTROL ON DISTURBED AREAS			Controlling surface wind or movement of dust on construction site, roadways and similar sites.
Fl-Cc	FLOCCULANTS AND COAGULANTS			Substance formulated to assist in the solid/liquid separation of suspended particles in solution.
Sb	STREAMBANK REPAIR (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	TACKLING AND BRIDGES			Substance used to anchor straw or hay mulch by coating the organic material to bind together.

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29 TENTATIVE ACTIVITY SCHEDULE

CONSTRUCTION DATES: Nov. 26, 2021 - May 26,2022	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6
CONSTRUCTION EXIT Co						
SILT FENCE AND OTHER ES&PC PRACTICES						
INLET SEDIMENT TRAP Sd2						
CLEARING AND GRUBBING						
GRADING / UTILITY						
DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING) Ds2						
FINE GRADING AND PAVING						
BUILDING CONSTRUCTION						
DISTURBED AREA STABILIZATION (WITH TEMPORARY VEGETATION) Ds3						
LANDSCAPE INSTALLATION						
MAINTENANCE OF ES&PC BMP's						

4 TWENTY-FOUR HOUR CONTACT RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL
MIC JOHNS
9100 WHITE BLUFF ROAD, SUITE 502
SAVANNAH, GA 31406
(912)-484-0933

5 PRIMARY PERMITTEE / DEVELOPER / OWNER
STOP N STOR SELF STORAGE
9100 WHITE BLUFF ROAD, SUITE 502
SAVANNAH, GA 31406
(912) 572-1300
alan@stopnstorstorage.com

6 THE TOTAL ACREAGE FOR THE SITE IS 5.85 ACRES.
DISTURBED ACREAGE IN THIS PHASE IS 1.22 ACRES.

7 THE GPS LOCATION OF THE CONSTRUCTION EXIT FOR THE SITE IS N32.23107° LATITUDE, W81.19433° LONGITUDE

9 DESCRIPTION AND NATURE OF THE CONSTRUCTION ACTIVITY
THE CLIENT IS PROPOSING THE CONSTRUCTION OF 23,100 SF OF BUILDING FOR SELF STORAGE SPACE AND THE ASSOCIATED PARKING. THE EXISTING CONDITIONS OF THE SITE IS UNDEVELOPED.

11 THE INITIAL RECEIVING WATER FOR THIS PROJECT IS AN EXISTING DETENTION POND THAT OUTFALLS INTO THE RICE CREEK SUBDIVISION AND INTERCONNECTED LAGOON SYSTEM. FINAL RECEIVING WATERS IS BLACK CREEK.

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGN TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND SUBMIT THE INFORMATION, BASED ON MY KNOWLEDGE OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION. THE INFORMATION SUBMITTED IS TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

CHARLES C. SINGLETON, PE - DESIGN PROFESSIONAL - GSWCC LEVEL II CERTIFICATION NUMBER: 12472

12 I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR BY MY AUTHORIZED AGENT, UNDER MY SUPERVISION.

CHARLES C. SINGLETON, PE - DESIGN PROFESSIONAL - GSWCC LEVEL II CERTIFICATION NUMBER: 12472

15 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 STATE WATER QUALITY CONTROL ACT AND THE DOCUMENT "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL) PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBING ACTIVITY WAS PERMITTED. PROVISIONS FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER 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. GAR 100002.

CHARLES C. SINGLETON, PE - DESIGN PROFESSIONAL - GSWCC LEVEL II CERTIFICATION NUMBER: 12472

14 FOR INFRASTRUCTURE PROJECTS THAT BEGIN CONSTRUCTION ACTIVITY AFTER THE EFFECTIVE DATE OF THIS PERMIT, THE PRIMARY PERMITTEE MUST RETAIN THE DESIGN PROFESSIONAL WHO PREPARED THE EROSION, SEDIMENTATION AND POLLUTION CONTROL 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 PERMETER CONTROL BMP'S 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, THE DESIGN PROFESSIONAL WHO PREPARED THE E&SPC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERMETER CONTROL BMP'S WITHIN 7 DAYS AFTER INSTALLATION.

DESIGN PROFESSIONAL 7-DAY VISIT CERTIFICATION

I CERTIFY THE SITE WAS IN COMPLIANCE WITH THE E&SPC PLAN ON THE DATE OF INSPECTION.

INSPECTION REVEALED THE FOLLOWING DISCREPANCIES FROM THE E&SPC PLAN:

THESE DEFICIENCIES MUST BE ADDRESSED IMMEDIATELY AND A RE-INSPECTION SCHEDULED. WORK SHALL NOT PROCEED ON THE SITE UNTIL DESIGN PROFESSIONAL CERTIFICATION IS OBTAINED.

17 *NON-EMERGENCY ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 FT 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.

ADDITIONAL SITE/EROSION CONTROL NOTES:

- A. ZONING: THE PRESENT ZONING CLASSIFICATION FOR THIS SITE IS P-C-2. PIN(S): 7-0906-01-038
- B. BUFFER REQUIREMENTS: AS REQUIRED BY ARTICLES 15 OF SECTION 12-7-6 OF THE "GEORGIA EROSION AND SEDIMENTATION ACT OF 1975", THERE IS ESTABLISHED A 25 FOOT BUFFER ALONG THE BANKS OF ALL STATE WATERS. AS MEASURED HORIZONTALLY FROM THE POINT WHERE VEGETATION HAS BEEN WRESTED BY NORMAL STREAM FLOW OR WAVE ACTION, EXCEPT WHERE THE DIRECTOR DETERMINES TO ALLOW A VARIANCE THAT IS AT LEAST AS PROTECTIVE OF THE NATURAL RESOURCES AND THE ENVIRONMENT, WHERE PERMITTED, ALLOWED BY THE DIRECTOR PURSUANT TO OCGA 12-2-9 OR WHERE A DRAINAGE STRUCTURE OR ROADWAY DRAINAGE STRUCTURE MUST BE CONSTRUCTED, PROVIDED THAT ADEQUATE EROSION CONTROL MEASURES ARE INCORPORATED IN THE PROJECT PLANS AND SPECIFICATIONS AND ARE IMPLEMENTED.
- C. EROSION CONTROL PROGRAM: CLEARING SHALL BE KEPT TO AN ABSOLUTE MINIMUM. VEGETATION AND MULCH SHALL BE APPLIED TO APPLICABLE AREAS IMMEDIATELY AFTER GRADING IS COMPLETED. GRAVEL SHALL BE APPLIED TO PARKING AREAS AND ROADWAYS AS SOON AS GRADING IS COMPLETED. LAND SHALL BE SCHEDULED TO LIMIT EXPOSURE OF BARE SOILS TO EROSION ELEMENTS. STORM WATER MANAGEMENT STRUCTURES SHALL BE EMPLOYED TO PREVENT EROSION IN AREAS OF CONCENTRATED WATER FLOWS. EROSION AT THE EXITS OF ALL STORM WATER STRUCTURES SHALL BE PREVENTED BY THE INSTALLATION OF STORM DRAIN OUTLET PROTECTION DEVICES.
- D. STANDARDS AND SPECIFICATIONS: ALL DESIGNS SHALL CONFORM TO AND ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE PUBLICATION ENTITLED, "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA."
- E. SAFETY PROTECTION: CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN COMPLIANCE WITH ALL APPLICABLE LAWS, RULES AND REGULATIONS.
- F. MAINTENANCE PROGRAM: SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSPECTED DAILY. ANY DAMAGES OBSERVED SHALL BE REPAIRED BY THE END OF THAT DAY. CLEANOUT OF SEDIMENT CONTROL STRUCTURES SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE SPECIFICATIONS AND SEDIMENT DISPOSAL ACCOMPLISHED BY SPREADING ON THE SITE. BARRIERS SHALL REMAIN IN PLACE UNTIL SEDIMENT CONTRIBUTING AREAS ARE STABILIZED, THE SEDIMENT FENCES, AND THE BARRIERS SHALL THEN BE REMOVED AND THE AREAS OCCUPIED BY THESE DEVICES SHALL THEN BE VEGETATED. GUIDELINES FOR THE MAINTENANCE OF ESTABLISHED VEGETATION SHALL BE PROVIDED TO THE OWNER WHEN ALL DISTURBED AREAS ARE STABILIZED.
- G. EROSION CONTROL MEASURES SHALL 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.
- H. MAINTENANCE OF ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES, WHETHER TEMPORARY OR PERMANENT, SHALL BE AT ALL TIMES THE RESPONSIBILITY OF THE OWNER.
- I. BASED ON MY OBSERVATION THIS PROPERTY IS LOCATED IN ZONE X, IS NOT A SPECIAL FLOOD HAZARD AREA AS DETERMINED BY FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP NO. 13051 00030Q EFFECTIVE DATE AUGUST 15, 2018.
- J. THERE ARE NOT STATE WATERS LOCATED ON OR WITHIN 200' OF THIS SITE.
- K. THE POINT OF CONTACT FOR CIVIL SITE WORK FOR THIS PROJECT IS:

COLEMAN COMPANY
1480 Chatham Parkway, Suite 100
SAVANNAH, GA 31405
(912) 200-3041

- 17 *AMENDMENTS/REVISIONS TO THE E&SPC PLAN WHICH HAVE SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
- 18 *WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.
- 19 * 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.
- 20 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.
- 21 * ANY UNDISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.
- 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 AN BIOTA IMPAIRED STREAM SEGMENT MUST COMPLY WITH PART III. C. OF THE PERMIT, INCLUDE THE COMPLETED APPENDIX 1 LISTING ALL THE BMP'S THAT WILL BE USED FOR THOSE AREAS OF THE SITE WHICH DISCHARGE TO THE IMPAIRED STREAM SEGMENT.
- 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 E&SPC PLAN MUST ADDRESS ANY SITE-SPECIFIC CONDITIONS OR REQUIREMENTS INCLUDED IN THE TMDL IMPLEMENTATION PLAN.
- 24 WASH DOWN OF TOOLS, CONCRETE MIXER CHUTES, HOPPERS, AND THE REAR OF THE VEHICLES SHALL BE ALLOWED AT THE CONCRETE WASHOUT AREA, TO BE DESIGNATED IN THE FIELD BY THE CONTRACTOR. WASHOUT OF THE CONCRETE MIXER'S DRUM AT THE CONSTRUCTION SITE IS PROHIBITED.

25 SPILL CLEANUP AND CONTROL PRACTICES
- LOCAL, STATE AND MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND PROCEDURES SHALL BE MADE AVAILABLE TO SITE PERSONNEL.
- MATERIAL AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREAS. TYPICAL MATERIALS AND EQUIPMENT INCLUDES: BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, CAT LITTER, SAND, SAWDUST AND PROPERLY LABELED PLASTIC AND WASTE CONTAINERS.
- SPILL PREVENTION PRACTICES AND PROCEDURES SHALL BE REVIEWED AFTER A SPILL AND ADJUSTED AS NECESSARY TO PREVENT FUTURE SPILLS.
- ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. ALL SPILLS SHALL 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) SHALL BE CONTACTED WITHIN 24 HOURS AT 1-800-424-8802.
- FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL RESPONSE CENTER (NRC) SHALL BE CONTACTED WITHIN 24 HOURS AT 1-800-424-8802.
- FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE EPD SHALL BE CONTACTED WITHIN 24 HOURS AT (900) 241-4113 OR (404) 656-4963.
- FOR SPILLS LESS THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE SPILL SHALL BE CLEANED UP AND LOCAL AGENCIES SHALL BE CONTACTED AS REQUIRED.

THE CONTRACTOR SHALL NOTIFY THE LICENSED PROFESSIONAL WHO PREPARED THIS PLAN IF MORE THAN 1320 GALLONS OF PETROLEUM ARE STORED ONSITE (THIS INCLUDES CAPACITIES OF EQUIPMENT) OR IF ANY ONE PIECE OF EQUIPMENT HAS A CAPACITY GREATER THAN 660 GALLONS. THE CONTRACTOR SHALL NEED A SPILL PREVENTION CONTAINMENT AND COUNTERMEASURES PLAN PREPARED BY THAT LICENSED PROFESSIONAL.

26 MEASURES THAT SHALL BE INSTALLED DURING THE CONSTRUCTION PROCESS TO CONTROL POLLUTANTS IN STORM WATER THAT SHALL REMAIN IN PLACE AFTER CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED: PERMANENT VEGETATIVE STABILIZATION (D.S.). THE SITE SHALL UTILIZE A SERIES OF PRACTICAL BMP'S. DIVERSION DITCHES SHALL BE USED TO CONVEY THE STORM WATER TO THE EXISTING WET DETENTION POND. THE POND IS A CONSTRUCTED BASIN THAT CONTAINS A PERMANENT POOL OF WATER AND TREATS POLLUTED STORM WATER RUNOFF VIA SETTLEMENT. THE WET DETENTION POND DETAINS THE STORM WATER RUNOFF LONG ENOUGH FOR CONTAMINATED SEDIMENTS TO SETTLE AND REMAIN IN THE POND, AS IT EVENTUALLY OUTFALLS THROUGH A SLOTTED BOARD HEADTROUGH. THIS SETTLEMENT PROCESS REMOVES PARTICULATES, ORGANIC MATTER, AND METALS FROM THE WATER WHILE NUTRIENTS ARE REMOVED THROUGH BIOLOGICAL UPTAKE. THE WET DETENTION POND SHALL OUTLET THE STORM WATER RUNOFF AT A SIGNIFICANTLY REDUCED RATE.

27 PRODUCT SPECIFIC PRACTICES
- CONTRACTOR SHALL MAINTAIN WEATHER-PROOF COVER FOR ALL BUILDING MATERIALS AND PRODUCTS STORED ON SITE.
- PETROLEUM BASED PRODUCTS: CONTAINERS FOR PRODUCTS SUCH AS FUELS, LUBRICANTS AND TARS SHALL BE INSPECTED DAILY FOR LEAKS AND SPILLS. THIS INCLUDES ON-SITE VEHICLES AND MACHINERY DAILY INSPECTIONS AND REGULAR PREVENTATIVE MAINTENANCE OF SUCH EQUIPMENT. EQUIPMENT MAINTENANCE AREAS SHALL BE LOCATED AWAY FROM STATE WATER, NATURAL DRAINS AND STORM WATER INLETS. IN ADDITION, TEMPORARY FUELING TANKS SHALL HAVE A SECONDARY CONTAMINMENT LINER TO PREVENT MINIMIZE SITE CONTAMINATION. DISCHARGE OF OILS, FUELS AND LUBRICANTS IS PROHIBITED. PROPER DISPOSAL METHODS SHALL INCLUDE COLLECTION IN A SUITABLE CONTAINER AND DISPOSAL AS REQUIRED BY LOCAL AND STATE REGULATIONS.
- PAINTS/FINISHES/SOLVENTS: ALL PRODUCTS SHALL BE STORED IN TIGHTLY SEALED ORIGINAL CONTAINERS WHEN NOT IN USE. EXCESS PRODUCT SHALL NOT BE DISCHARGED TO THE STORM WATER COLLECTION SYSTEM. EXCESS PRODUCT, MATERIALS USED WITH THESE PRODUCTS AND PRODUCT CONTAINERS SHALL BE DISPOSED OF ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
- CONCRETE TRUCK WASHING: NO CONCRETE TRUCKS SHALL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONSITE.
- FERTILIZERS/HERBICES: THESE PRODUCTS SHALL BE APPLIED AT RATES THAT DO NOT EXCEED THE MANUFACTURER'S SPECIFICATIONS OR 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 SHALL BE UNDER ROOF IN SEALED CONTAINERS. BUILDING MATERIALS - NO BUILDING OR CONSTRUCTION MATERIALS SHALL BE BURIED OR DISPOSED OF ONSITE. ALL SUCH MATERIAL SHALL BE DISPOSED OF IN PROPER WASTE DISPOSAL PROCEDURES.

28 PRACTICES THAT WILL BE USED TO REDUCE THE POLLUTANTS IN STORM WATER DISCHARGES
1. PERMANENT SEEDING: THE SITE SHALL BE STABILIZED USING PERMANENT SEEDING TO PREVENT THE STORM WATER RUNOFF PRIOR TO ENTERING THE DOWNSTREAM CONVEYANCE BY REMOVING SEDIMENT AS WELL AS ANY ATTACHED CHEMICALS FROM RUNOFF. PERMANENT SEEDING ALSO PREVENTS EROSION, REDUCES THE VOLUME AND VELOCITY OF THE RUNOFF AND IMPROVES WATER QUALITY.
2. TEMPORARY DIVERSION DITCHES WILL ACT AS NATURAL BIOFILTERS TO REDUCE STORM WATER VELOCITY AND POLLUTANT LOAD PRIOR TO RELEASE OF THE RUNOFF INTO THE DOWNSTREAM CONVEYANCE. THIS IS ACCOMPLISHED VIA INFILTRATION AND SETTLEMENT.
3. WET POND: THE PERMANENT POOL OF THE WET POND ENHANCES PARTICULATE SETTLING BY INCREASING RESIDENCE TIME AND WILL EFFECTIVELY REMOVE POLLUTANTS FROM THE RUNOFF. BY ALLOWING SETTLEMENT OF THE SEDIMENT AND OTHER POLLUTANTS THAT ARE TRANSFERRED TO THE POND VIA OTHER CONVEYANCES, THIS ELIMINATES THE RELEASE INTO AND IMPROVING THE WATER QUALITY OF THE DOWNSTREAM CONVEYANCE. WET PONDS ALSO SIGNIFICANTLY REDUCE THE VOLUME AND THE VELOCITY OF THE RUNOFF CONTRIBUTING TO THE DOWNSTREAM CONVEYANCE.

30 INSPECTIONS REQUIREMENTS BY THE PERMITTEE: A. PRIMARY PERMITTEE REQUIREMENTS.
(1) EACH DAY WHEN ANY TYPE OF CONSTRUCTION ACTIVITY HAS TAKEN PLACE AT A PRIMARY PERMITTEES SITE, CERTIFIED PERSONNEL PROVIDED BY THE PRIMARY PERMITTEE SHALL INSPECT: (A) ALL AREAS AT THE PRIMARY PERMITTEES 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 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 INSPECTION OCCURS ON ANY FEDERAL HOLIDAY, NON-WORKING SATURDAY, NON-WORKING SUNDAY OR 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 SUBJECT TO VIBRATION; (C) STRUCTURAL CONTROL MEASURES, EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN APPLICABLE TO THE PRIMARY PERMITTEE SITE SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY, WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE 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. THE PRIMARY PERMITTEE MUST AMEND THE PLAN IN ACCORDANCE WITH PART IV.D.4.B. (6) WHEN A SECONDARY PERMITTEE NOTIFIES THE PRIMARY PERMITTEE OF ANY PLAN DEFICIENCIES.
(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.B.(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.

31 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 STORM WATER 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 OF THIS PERMIT. SAMPLING REPORTS MUST BE SUBMITTED TO EPD USING THE ELECTRONIC SUBMITTAL SERVICE PROVIDED BY THE EPD. SAMPLING REPORTS MUST BE SUBMITTED TO EPD UNTIL SUCH TIME AS A NOTICE 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 CORRECTIONS 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 C OF THIS PERMIT. THE APPLICABLE 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 NOTICE IS SUBMITTED IN ACCORDANCE WITH PART VI.

32 RETENTION OF RECORDS
1. THE PRIMARY PERMITTEE SHALL RETAIN THE FOLLOWING RECORDS AT THE CONSTRUCTION SITE OR THE RECORDS SHALL BE READILY AVAILABLE AT A DESIGNATED ALTERNATE LOCATION FROM COMMENCEMENT OF CONSTRUCTION UNTIL SUCH TIME AS A NOTICE IS SUBMITTED IN ACCORDANCE WITH PART VI:
a. A COPY OF ALL 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 SAMPLING INFORMATION, RESULTS, AND REPORTS REQUIRED BY THIS PERMIT;
e. A COPY OF ALL NOTICES OF INTENT SUBMITTED TO EPD AND A COPY OF ALL V.I.4. OF THIS PERMIT;
f. A COPY OF ALL VIOLATION SUMMARIES AND VIOLATION SUMMARY REPORTS GENERATED IN ACCORDANCE WITH PART III.D.2. OF THIS PERMIT; AND
g. DAILY RAINFALL INFORMATION COLLECTED IN ACCORDANCE WITH PART IV.D.4.A.(2). OF THIS PERMIT.
2. COPIES OF ALL NOTICES OF INTENT, NOTICES OF TERMINATION, INSPECTION REPORTS, SAMPLING REPORTS (INCLUDING ALL CALIBRATION AND MAINTENANCE RECORDS AND ORIGINAL STRIP CHART RECORDINGS FOR CONTINUOUS MONITORING INSTRUMENTATION) OR OTHER REPORTS REQUESTED BY THE EPD, EROSION, SEDIMENTATION AND POLLUTION CONTROL PLANS, RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT TO BE COVERED BY THIS PERMIT AND ALL OTHER RECORDS REQUIRED BY THIS PERMIT SHALL BE RETAINED BY THE PERMITTEE WHO EITHER PRODUCED OR USED IT FOR A PERIOD OF AT LEAST TEN YEARS FROM THE DATE THAT THE NOTICE IS SUBMITTED IN ACCORDANCE WITH PART VI. OF THIS PERMIT. THESE RECORDS MUST BE MAINTAINED AT THE PERMITTEE'S PRIMARY PLACE OF BUSINESS ONCE THE CONSTRUCTION ACTIVITY HAS CEASED AT THE PERMITTED SITE. THIS PERIOD MAY BE EXTENDED BY REQUEST OF THE EPD AT ANY TIME UPON WRITTEN NOTIFICATION TO THE PERMITTEE.

33 SAMPLING FREQUENCY AND REPORTING OF SAMPLING RESULTS REQUIREMENTS: SAMPLING REQUIREMENTS
THIS PERMIT REQUIRES THE MONITORING OF NEPHELOMETRIC TURBIDITY IN RECEIVING WATER(S) OR OUTFALLS IN ACCORDANCE WITH THIS PERMIT. THIS PARAGRAPH SHALL NOT APPLY TO ANY LAND DISTURBANCE ASSOCIATED WITH THE CONSTRUCTION OF A FAMILY HOME WHICH ARE NOT PART OF A SUBDIVISION OR PLANNED COMMON DEVELOPMENT UNLESS FINE (5) ACRES OR MORE WILL BE DISTURBED. THE FOLLOWING PROCEDURES CONSTITUTE EPD'S GUIDELINES FOR SAMPLING TURBIDITY.
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 DEVELOPMENT; (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 THROUGH MANDATORY FIELD VEGETATION INTO WHICH THE STORM WATER 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 STORM WATER(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:
(1) 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.
(2) SAMPLE CONTAINERS SHOULD BE LABELED PRIOR TO COLLECTING THE SAMPLES.
(3) SAMPLES SHOULD BE WELL MIXED BEFORE TRANSFERRING TO A SECONDARY CONTAINER.
(4) LARGE MOUTH, WELL CLEANED AND RINSED GLASS OR PLASTIC JARS SHOULD BE USED FOR COLLECTING SAMPLES. THE JARS SHOULD BE CLEARED THROUGHOUT TO AVOID CONTAMINATION OF SAMPLES.
(5) MANUAL, AUTOMATIC 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 ANALYSIS OR AUTOMATIC 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.
(6) 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), 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 STORM WATER OUTFALLS USING THE FOLLOWING MINIMUM GUIDELINES:
(A) THE UPSTREAM POINTS FOR EACH RECEIVING WATER(S) MUST BE TAKEN IMMEDIATELY UPSTREAM OF THE CONFLUENCE OF THE FIRST STORM WATER DISCHARGE FROM THE PERMITTED ACTIVITY (I.E., THE DISCHARGE FARTHEST UPSTREAM AT THE SITE) BUT DOWNSTREAM OF ANY OTHER STORM WATER 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 VALUE.
(B) THE DOWNSTREAM SAMPLE FOR EACH RECEIVING WATER(S) MUST BE TAKEN DOWNSTREAM OF THE CONFLUENCE OF THE LAST STORM WATER DISCHARGE FROM THE PERMITTED ACTIVITY (I.E., THE DISCHARGE FARTHEST DOWNSTREAM AT THE SITE) BUT UPSTREAM OF ANY OTHER STORM WATER 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 STORM WATER OUTFALL CHANNEL(S).
(D) CARE SHOULD BE TAKEN TO AVOID STIRRING THE BOTTOM SEDIMENTS IN THE RECEIVING WATER(S) OR IN THE OUTFALL STORM WATER 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 SHEETFLOW 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 STRUCTURE AND AREAS COVERED BY 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 STORM WATER 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.
(I) 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 PROVIDES FOR SAMPLING AT ANY TIME OF THE DAY OR WEEK.

34 SAMPLE ANALYSIS
STORM WATER SHALL BE SAMPLED FOR NEPHELOMETRIC TURBIDITY UNITS (NTU) AT THE OUTFALL LOCATION. THE DISCHARGE OF STORMWATER RUNOFF FROM DISTURBED AREAS WHERE BEST MANAGEMENT PRACTICES HAVE NOT BEEN PROPERLY DESIGNED, INSTALLED, AND MAINTAINED SHALL CONSTITUTE A SEPARATE VIOLATION FOR EACH DAY ON WHICH SUCH CONDITION RESULTS IN THE TURBIDITY OF THE DISCHARGE EXCEEDING THE VALUE SELECTED FROM APPENDIX B IN PERMIT NO. GAR100002. THE NTU IS BASED UPON THE DISTURBED ACREAGE OF 1.17 ACRES FOR THE CONSTRUCTION SITE, THE SURFACE WATER DRAINAGE AREA OF 0.000 SQUARE MILES, AND RECEIVING WATER WHICH SUPPORTS WARM WATER FISHERIES.

APPENDIX B
NEPHELOMETRIC TURBIDITY UNIT (NTU) TABLES - WARM WATER (SUPPORTING WARM WATER FISHERIES)
STATE OF GEORGIA, DEPARTMENT OF NATURAL RESOURCES, ENVIRONMENTAL PROTECTION DIVISION, PAGE 49 OF 49, PERMIT NO. GAR100002

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+
1.00-1.0	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

*REFER TO GA DEPARTMENT OF NATURAL RESOURCES ENVIRONMENTAL PROTECTION DIVISION GENERAL PERMIT NO. GAR100002 FOR INFRASTRUCTURE FOR DEFINITIONS AND DETAILS.**

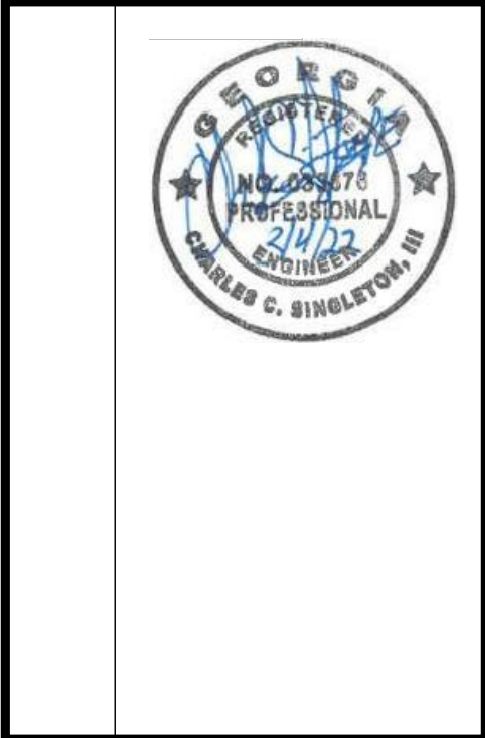
ESTIMATED PEAK DISCHARGE OR RUNOFF CURVE NUMBER FOR PRE AND POST CONDITIONS:

	PRE	POST
25 YEAR	14.66	12.68

RUNOFF CURVE NUMBER	
PRE-DEVELOPED	73
POST-DEVELOPED	91
RCS METHOD USED FOR LARGE SITE	

35 THE EXISTING SITE HAS THE FOLLOWING CAPE FEAR SOILS (C₂) AND OCILLA COMPLEX (O₂)

COLEMAN COMPANY
ENGINEERS - SURVEYORS
Savannah, Georgia | (912) 200-3041 | COLS@SAV.COM



REVISIONS:

CIVIL CONSTRUCTION PLANS FOR
STOP N STOR SELF STORAGE HIGHWAY
21 EXPANSION
LOCATED IN PORT WENTWORTH, GEORGIA
PREPARED FOR STOP N STOR SELF STORAGE

JOB NUMBER: 21-708
DATE: 03/04/22
DRAWN BY: CCS
CHECKED BY: CCS
SCALE: AS NOTED

NPDES PRMIT
NOTES

SHEET:
CE5.1

DESIGN PROFESSIONAL'S CREDENTIALS:
ENGINEER'S NAME (PRINTED): CHARLES C. SINGLETON, PE
LICENSE NUMBER: 33866
GSWCC LEVEL II CERTIFICATION NUMBER: 12472

NRCS ORIGINAL SUBMITTAL: 03/04/2022

REVISIONS:

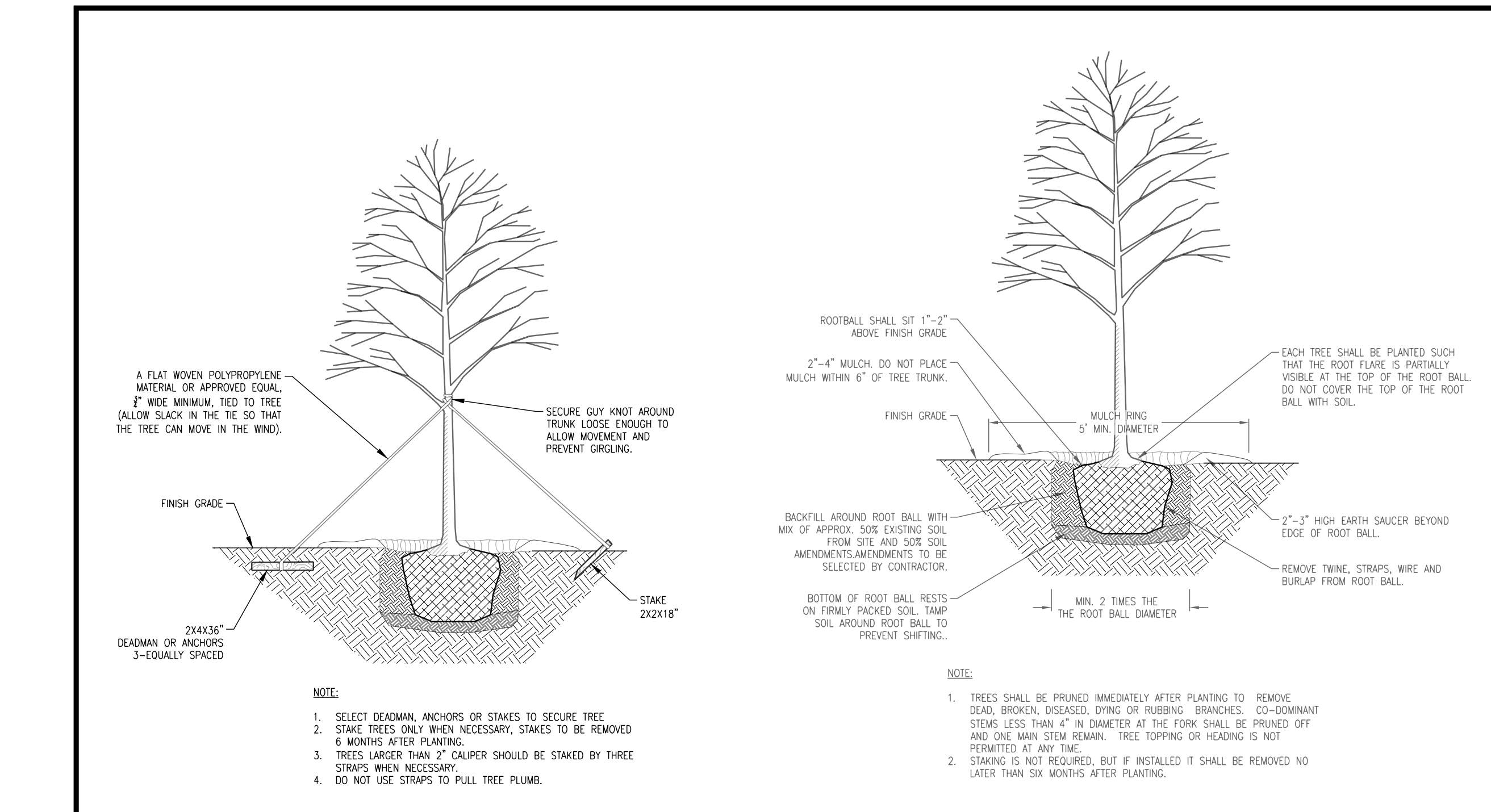
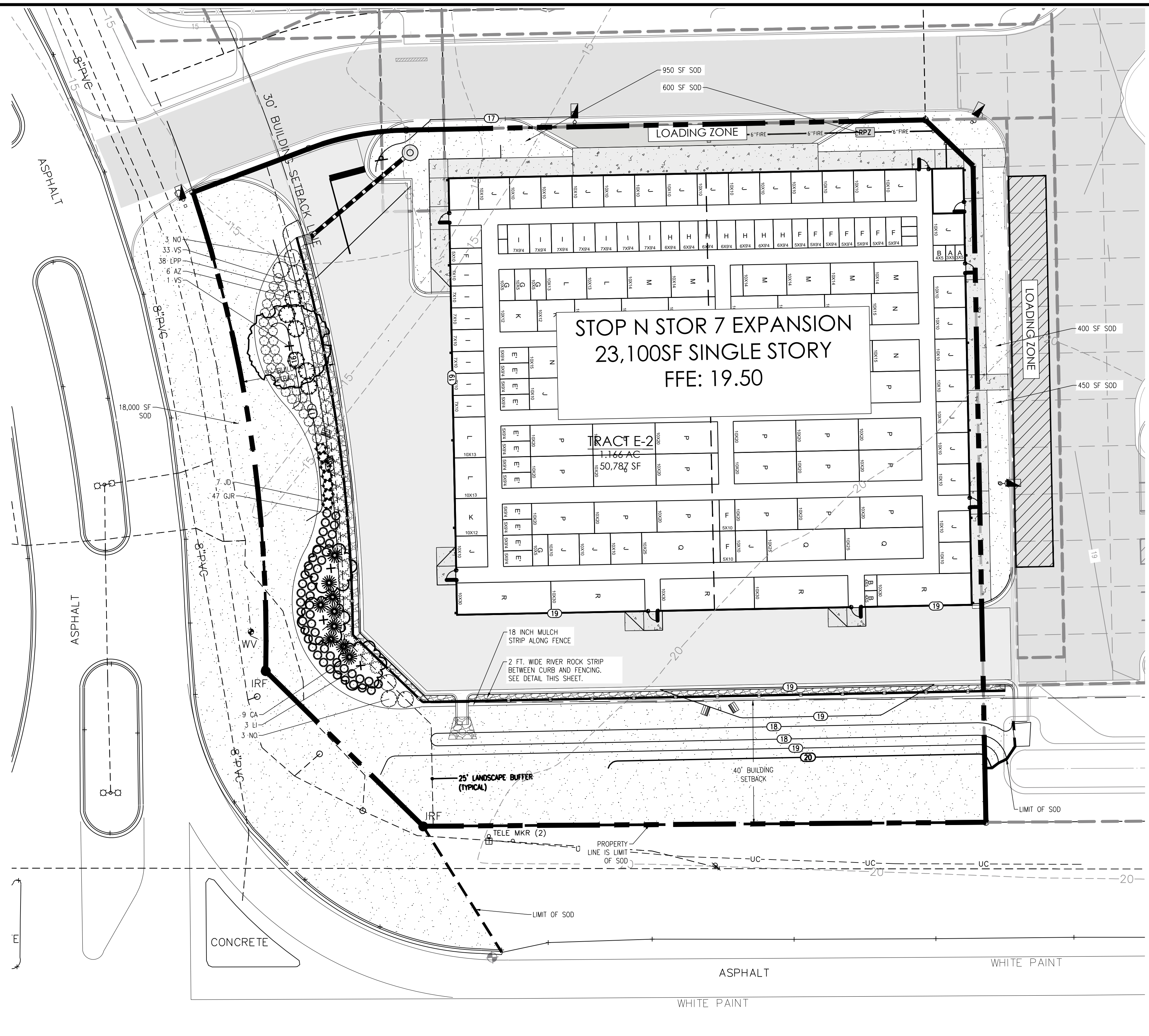
NO.	DATE	DESCRIPTION

LANDSCAPE PLANS FOR
STOP N STOR 7 EXPANSION
HWY. 21 EXPANSION
LOCATED IN PORTWORTH, GEORGIA
PREPARED FOR STOP N STOR 7, LLC

JOB NUMBER: 21-708
DATE: 04/19/2022
DRAWN BY: LJS
CHECKED BY: STAFF
SCALE: AS NOTED

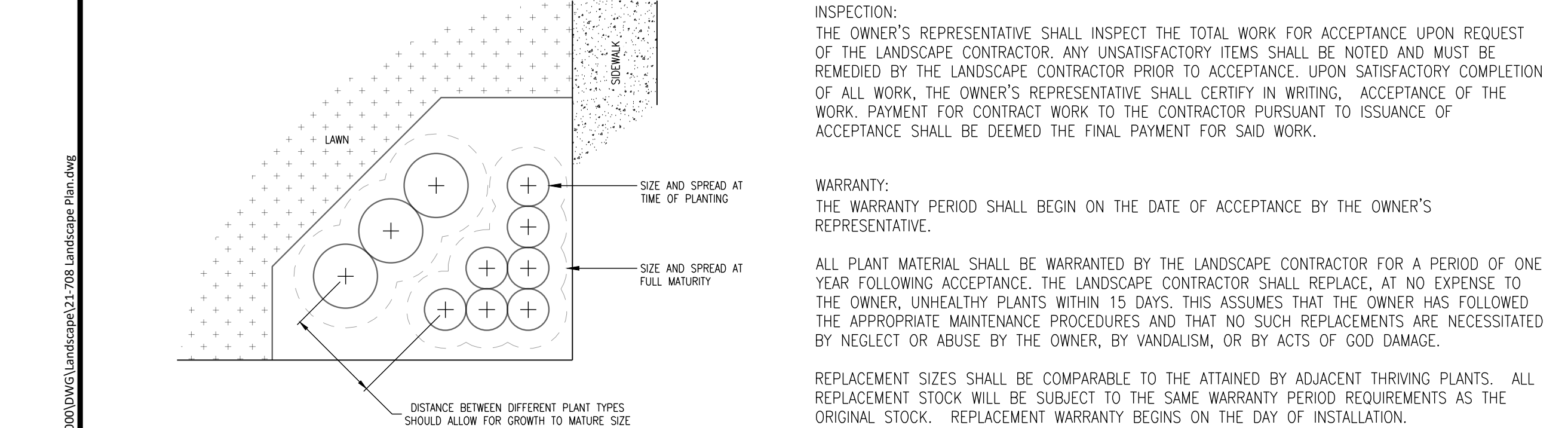
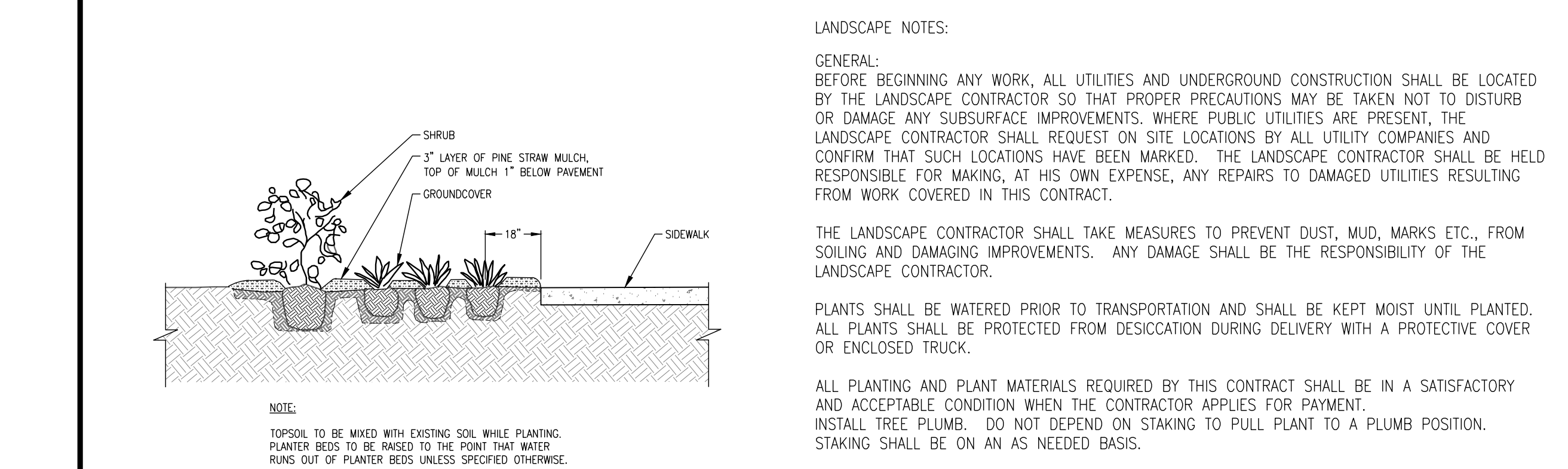
LANDSCAPE PLAN

SHEET:
L1.0

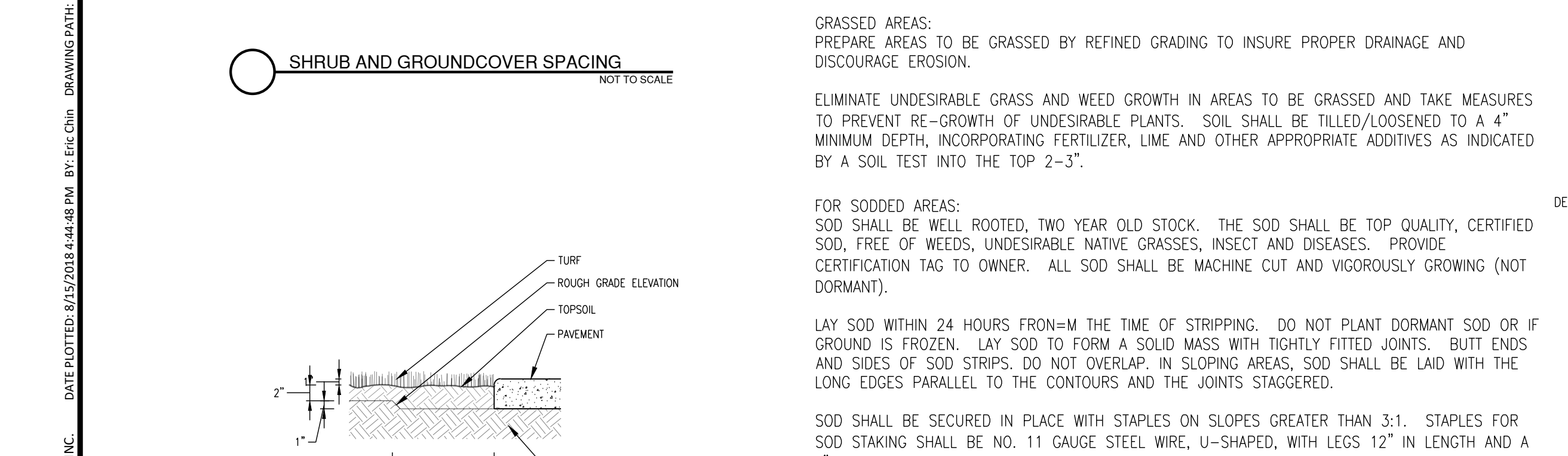


TREE STAKING
2" CAL. AND ABOVE
NOT TO SCALE

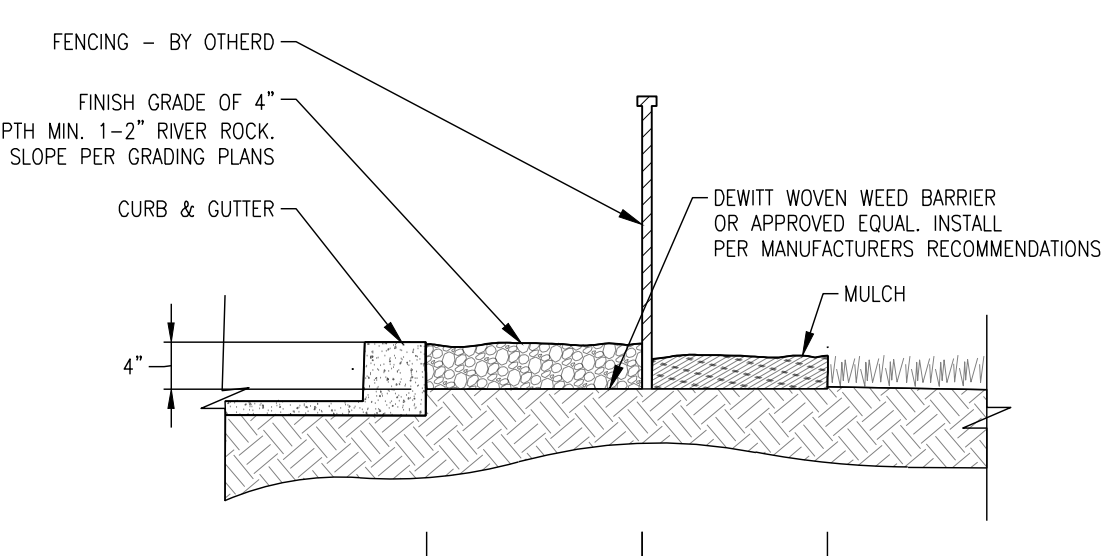
TREE PLANTING DETAIL
NOT TO SCALE



SHRUB AND GROUNDCOVER SPACING
NOT TO SCALE



FINISHED GRADE OF TURF AT PAVEMENT
NOT TO SCALE

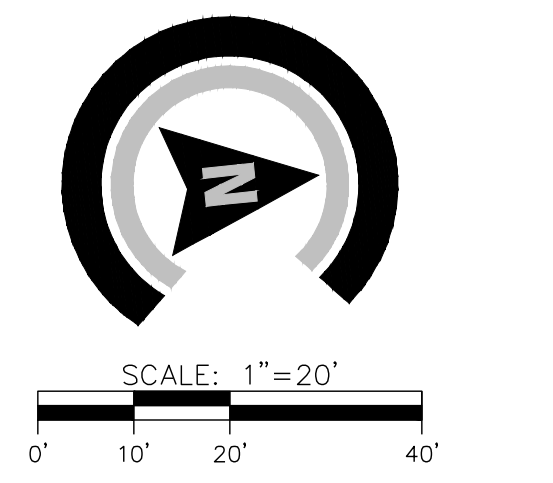


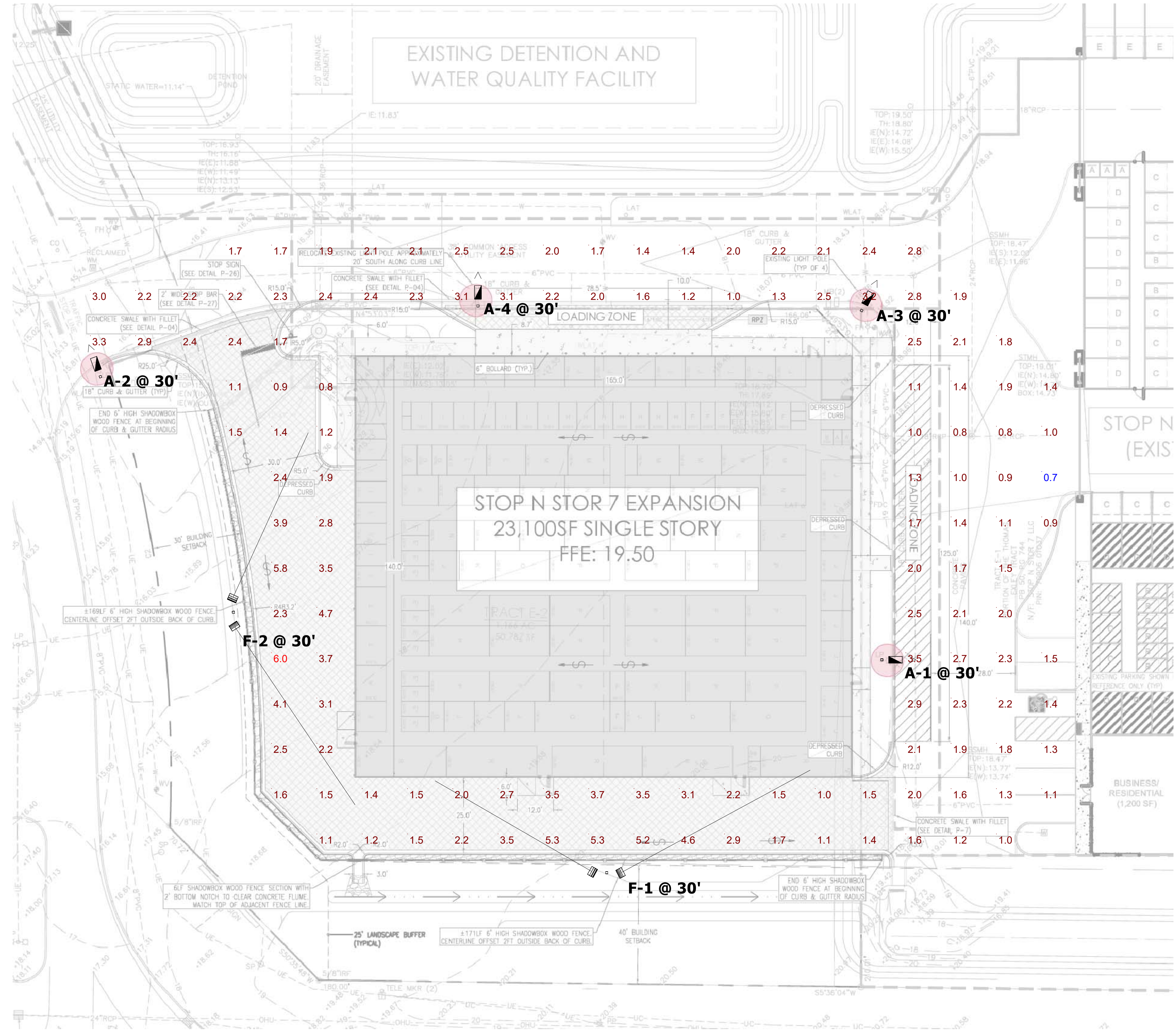
4\"/>

PLANT LIST

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS
TREES						
LI	3	LAGERSTROMIA INDICA 'RED ROCKET'	RED ROCKET CRAPE MYRTLE	6-7' HT.	AS SHOWN	3-5 CANES MINIMUM. TREE-FORM
QV	1	QUERCUS VIRGINANA	LIVE OAK	2\"/>		
SHRUBS						
AZ	6	ALPINA ZERUMBET 'VARIEGATA'	VARIEGATED SHELL GINGER	18-24\"/>		
GJR	47	GARDENIA JASMINOIDES 'RADICANS'	TRAILING GARDENIA	15-18\"/>		
CA	9	CANNA AMERICANA 'VARIEGATA'	BENGAL TIGER CANNA	18-24\"/>		
JD	7	JUNIPERUS DAURICA 'PARSONII'	PARSON'S JUNIPER	15-18\"/>		
LPP	38	LOROPETALUM CHINENSIS 'PURPLE PIXIE'	PURPLE PIXIE LOROPETALUM	15-18\"/>		
NO	6	NERIUM OLEANDER	OLEANDER	24-30\"/>		
VS	33	VIBURNUM SAMPSONIUM	SANDANKWA VIBURNUM	18-24\"/>		
TURF						
SOD	20,400 SF	EREMOCHLOA OPHIUROIDES	CENTPEDE SOD			2 YEAR CERTIFIED, SEASON PERMITTING

- NOTES:
1. PLANT LIST QUANTITIES ARE FOR REFERENCE ONLY. KEYED PLANS SHALL GOVERN OVER PLANT LIST.
 2. ALL PLANTS/PLANT BEDS SHALL RECEIVE A 3" LAYER OF FRESH PINE STRAW MULCH.
 3. THE GENERAL CONTRACTOR SHALL SUPPLY ROUGH GRADES $\pm 0.2'$ WITH POSITIVE DRAINAGE PATTERNS ESTABLISHED. THE LANDSCAPE CONTRACTOR WILL FINE GRADE FOR PLANTING OPERATIONS.
 4. SEE SPECIFICATIONS THIS SHEET FOR FURTHER INSTRUCTIONS.
 5. TOPSOIL SHALL BE STRIPPED AND STOCKPILED BY THE GRADING CONTRACTOR. STOCKPILED TOPSOIL SHALL BE SPREAD BY THE GRADING CONTRACTOR TO A DEPTH OF 4 INCHES IF QUANTITIES ARE SUFFICIENT. GRADING CONTRACTOR SHALL PROVIDE STOCKPILED TOPSOIL FOR LANDSCAPE CONTRACTOR USE FOR BACKFILLING LANDSCAPE ISLANDS.
 6. ALL PLANT MATERIAL SHALL MEET OR EXCEED SIZE AND SHAPE RELATIONSHIPS SPECIFIED IN THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
 7. ALL SIZES SPECIFIED REFER TO THE SIZE AT THE TIME OF PLANTING.





Plan View
Scale - 1" = 20'

Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Number Lamps	Filename	Lumens per Lamp	LLF	Wattage
A	A	4	COOPER LIGHTING SOLUTIONS - STREETWORKS (FORMERLY EATON)	ARCH-L-PA3-180-740-U-T4W	Existing Location ARCHEON-L ROADWAY AND AREA LUMINAIRE (3) TO GRI. 4000K. 775lm LIGHT ENGINES WITH 24 LEDS AND TYPE IV WIDE OPTICS	72	ARCH-L-PA3-180-740-U-T4W (1).ies	370	0.912	181
F	F	2	EATON - STREETWORKS (FORMER COOPER LIGHTING)	UFLL-L-C100-X-U-66	NIGHT CONDOR LED FLOODLIGHT WIDE OPTIC	4	UFLL-L-C100-X-U-66.ies	Absolute	0.912	504

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	2.2 fc	6.0 fc	0.7 fc	8.6:1	3.1:1

- Notes**
- Readings are shown in units of maintained footcandles.
 - Total Light Loss Factor (LLF) = .912 LLF for LED
 - Test Plane = 0' Above grade
 - Fixture Mounting Height = 30' Above grade
 - Fixture Spacing = See Plan view.
 - This photometric layout was calculated using specific criteria. Any deviation from stated parameters will affect actual performance.
 - These lighting calculations are not a substitute for independent engineering analysis of lighting system suitability and safety.

Disclaimer
This lighting design is not a professional engineering drawing and is provided for informational purposes only, without warranty as to accuracy, completeness, reliability or otherwise. Frazier Photometrics is not responsible for specifying the lighting or illumination requirements for any specific project. It is the obligation of the end-user to consult with a professional engineering advisor to determine whether this lighting design meets the applicable project requirements for lighting system performance, safety, suitability and effectiveness for use in a particular application. End-user environment and application (including, but not limited to, voltage variation and dirt accumulation) can cause actual field performance to differ from the calculated photometric performance represented in this lighting design. In no event will Frazier Photometrics be held responsible for any loss resulting from any use of this lighting design.

HYDROLOGY NARRATIVE

STOP N STOR 7 - EXPANSION
PORT WENTWORTH, GA

03.04.2022

Project# 21-708





CONTENTS

PROJECT NARRATIVE.....	3
STORMWATER RUNOFF REDUCTION	3
STORMWATER QUALITY PROTECTION	4
EXHIBITS:	
I - COASTAL STORMWATER SUPPLEMENT EXHIBIT & SPREADSHEET	
APPENDICES:	
A — CALCULATION METHODS & REFERENCE EQUATIONS	
B — PREVIOUSLY APPROVED HYDROLOGIC ANALYSIS REPORT	



PROJECT NARRATIVE

The site is located at the northwest corner of the intersection of US HWY 21 and Rice Creek Road in City of Port Wentworth, GA. The 1.17 acre parcel is an existing outlot that was created at the time of the adjacent 4.69 acre Stop N Stor development, located at 8901 US HWY 21.

This project proposes to expand the existing storage facility and develop the existing outlot into a 23,100 square foot self-storage facility.

At the time of the existing Stop n Stor development, the stormwater system was master planned to include this parcel. The previous plan was approved by Port Wentworth City Council on June 6, 2014. The original Hydrologic Analysis report that was approved as part of the original development plans is attached as an addendum to this narrative.

Within the original report, stormwater detention, aquatic resource protection, overbank flood protection, and extreme flood protection requirements have been previously met for the entire 5.86 acre site.

The only stormwater requirements that have not been previously met for the 1.17 acre outlot is the stormwater runoff reduction and stormwater quality protection requirements. This report proposes to update the existing CSS spreadsheet to include the 1.17 acre outlot to demonstrate that this project meets all stormwater requirements.

STORMWATER RUNOFF REDUCTION

Post-Construction Stormwater Management will meet the criteria, recommended by the GA Coastal Stormwater Supplement to the maximum extent practical. Per Port Wentworth requirements, a development site must be designed with the use of green infrastructure practices reduce the first 1.2 inches of any rainfall event.

To accomplish this requirement, the site is taking advantage of existing disconnected downspouts, vegetated filter strips, a dry swale, and a micropool. These practices provide runoff reduction “credits” to meet the runoff reduction criteria to the maximum extent practical

The amount of Stormwater runoff reduction needed to satisfy the Stormwater runoff reduction criteria, known as the runoff reduction volume (RRV), can be calculated using the following equations:

$$RRV = \frac{(P)(RV)(A)}{12}$$

Where:

RRV = runoff reduction volume (Ac-Ft)

P = target runoff reduction rainfall, 1.2 inches

RV = volumetric runoff coefficient

A = site area (Ac)

12 = unit conversion factor (in./ft.)

A site’s volumetric runoff coefficient, RV, is directly related to the amount of impervious cover found on the site:

$$RV = 0.05 + 0.009(I)$$



Where:

I = Site Imperviousness (%)

Per Section 4.4.1 of the GCSS Stormwater generated from the 1.2 inch rain event that is not reduced on the developed site should be intercepted and treated in one or more stormwater management practices that provide at least an 80 percent reduction in the total suspended solids and that reduce nitrogen and bacteria loads to the maximum extent practical (Criteria #2)

The following spreadsheets summarize the results of the runoff reduction calculations. The attached Exhibit I illustrates the areas of runoff reduction treatment practices.

Runoff Reduction Required = 15,586 cu-ft. Runoff Reduction Achieved = 14,060 cu-ft (90%).

STORMWATER QUALITY PROTECTION

As reducing the stormwater runoff volume generated by the 1.2 inch storm event can be expected to reduce annual post-construction stormwater runoff volumes and pollutant load by more than 80% on development sites, this stormwater quality protection criteria can be satisfied by simply satisfying the Stormwater Runoff Reduction criteria (Criteria #1). In the event that volume generated by the 1.2 inch event cannot be completely reduced on a developed site due to site characteristics or constraints, it should be intercepted and treated in one or more stormwater management practices that provide at least an 80 percent reduction in the total suspended solids and that reduce nitrogen and bacteria loads to the maximum extent practical.

To satisfy this requirement the remaining stormwater volume from the 1.2 inch event is retained in the stormwater quality micropool. The proposed stormwater quality micropool provides a total of 4,035 cu. ft. of water quality storage volume, which is more than the remaining required 1,526 cu. ft. of water quality storage volume. Stormwater ponds, including micropools, are considered General Application Structural Controls. Table 3.1.2-1 in the Georgia Stormwater Management Manual, Vol. 2, August 2001 identifies stormwater ponds as having a pollutant removal efficiency of 80% for Total Suspended Solids, 30% for Total Nitrogen, and 70% for Fecal Coliform. With runoff reduction credits acquired under Criteria #1 in conjunction with the pollutant removal provided in the stormwater pond, it is our belief that Criteria #1 and #2 have been met to the maximum extent practical.

EXHIBIT I
COASTAL STORMWATER SUPPLEMENT EXHIBIT &
SPREADSHEET

Coastal Stormwater Supplement Site Planning & Design Worksheet
Revised July 2014

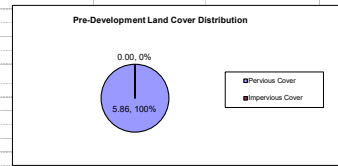
Site Data

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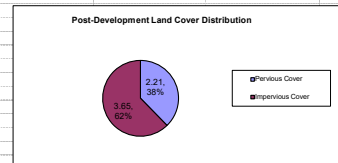
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	calculation cells
	constant values

Step 1: Enter Site Information

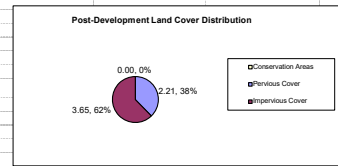
Pre-Development Land Cover (acres)					
Land Cover Type	HSG A Soils	HSG B Soils	HSG C Soils	HSG D Soils	Totals
Pervious Cover	0.00	0.00	3.41	2.45	5.86
Impervious Cover	0.00	0.00	0.00	0.00	0.00
Total					5.86



Post-Development Land Cover (acres)					
Land Cover Type	HSG A Soils	HSG B Soils	HSG C Soils	HSG D Soils	Totals
Pervious Cover	0.00	0.00	0.90	1.31	2.21
Impervious Cover	0.00	0.00	2.51	1.14	3.65
Total					5.86



Runoff Reduction Rainfall Event (inches)	1.2
Post-Development Site Imperviousness (%)	62%
Post-Development Site Runoff Coefficient, Rv	0.61
Target Runoff Reduction Volume, RRV (acre-feet)	0.36
Target Runoff Reduction Volume, RRV (cubic feet)	15,586

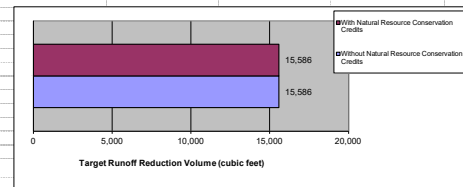


Step 2: Apply Better Site Planning Techniques

Natural Resource Conservation Credits					
	HSG A Soils	HSG B Soils	HSG C Soils	HSG D Soils	Total
Primary Conservation Areas (acres)	0.0	0.0	0.0	0.0	0.0
Secondary Conservation Areas (acres)	0.0	0.0	0.0	0.0	0.0
Total (acres)					0.00

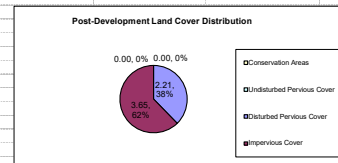
Target Runoff Reduction Volume with Natural Resource Conservation Credits, RRV

Target Runoff Reduction Volume, RRV (acre-feet)	0.36
Target Runoff Reduction Volume, RRV (cubic feet)	15,586



Step 3: Apply Better Site Design Techniques

Reduced Clearing and Grading Credits					
	HSG A soils	HSG B Soils	HSG C Soils	HSG D Soils	Total
Undisturbed Pervious Cover (Acres)	0.0	0.0	0.0	0.0	0.00

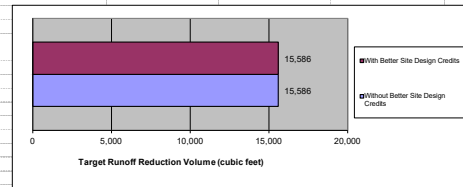


Revised Post-Development Land Cover (acres)					
Land Cover Type	HSG A soils	HSG B Soils	HSG C Soils	HSG D Soils	Totals
Conservation Areas	0.00	0.00	0.00	0.00	0.00
Undisturbed Pervious Cover	0.00	0.00	0.00	0.00	0.00
Disturbed Pervious Cover	0.00	0.00	0.90	1.31	2.21
Impervious Cover	0.00	0.00	2.51	1.14	3.65
Total					5.86

Restoration of Disturbed Pervious Surfaces	
Soil Restoration (Acres)	0.0
Site Reforestation/Vegetation (Acres)	0.0
Soil Restoration w/ Site Reforestation/Revegetation (Acres)	0.0

Target Runoff Reduction Volume After Application of Better Site Design Credits, RRV

Target Runoff Reduction Volume, RRV (acre-feet)	0.36
Target Runoff Reduction Volume, RRV (cubic feet)	15,586



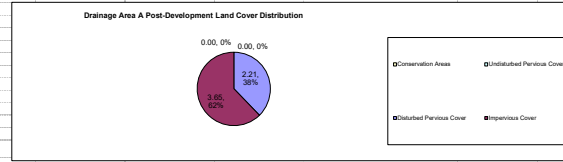
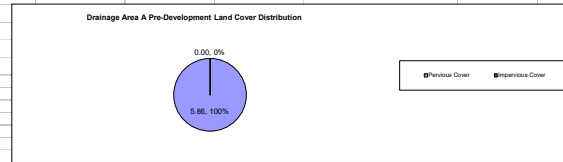
Note: Remainder of Better Site Design Techniques are considered to be "self-crediting."

Coastal Stormwater Supplement Site Planning & Design Worksheet
 Revised July 2014

Drainage Area A
Drainage Area Information

Drainage Area A Pre-Development Land Cover (acres)					
Land Cover Type	HSG A soils	HSG B Soils	HSG C Soils	HSG D Soils	Totals
Pervious Cover	0.00	0.00	3.41	2.45	5.86
Impervious Cover	0.00	0.00	0.00	0.00	0.00
				Total	5.86

Drainage Area A Post-Development Land Cover (acres)					
Land Cover Type	HSG A soils	HSG B Soils	HSG C Soils	HSG D Soils	Totals
Conservation Areas	0.00	0.00	0.00	0.00	0.00
Undisturbed Pervious Cover	0.00	0.00	0.00	0.00	0.00
Disturbed Pervious Cover	0.00	0.00	0.90	1.31	2.21
Impervious Cover	0.00	0.00	2.51	1.14	3.65
				Total	5.86



Low Impact Development Practices

Alternatives to Impervious Surfaces

Low Impact Development Practice	Size of Contributing Drainage Area (acres)	Impervious Cover in Contributing Drainage Area (acres)	Direct Runoff Reduction Volume Received by Practice (cubic feet)	Description of Runoff Reduction Credit	Runoff Reduction Volume Received from Upstream Practices	Total Runoff Reduction Volume Received by Practice (cubic feet)	Treatment Volume Received from Upstream Practices (cubic feet)	Total Treatment Volume Received by Practice (cubic feet)	Method for Calculating Storage	Storage Volume Provided by Practice (cubic feet)	Adjustment to Runoff Reduction Volume (cubic feet)	Remaining Runoff Reduction Volume (cubic feet)	Adjustment to Treatment Volume (cubic feet)	Remaining Treatment Volume (cubic feet)	Downstream Practice to be Employed
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	

"Receiving" Low Impact Development Practices

Simple Downspout Disconnection, C/D Soils 1	2.35	2.35	9724.8	30% of volume received by the practice	0.0	9724.8	0.0	9724.8	N/A	N/A	2917.4	6807.3	2917.4	6807.3	Dry Swale, Non-Underdrained 1
Dry Swale, Non-Underdrained 1	2.14	0.82	3680.8	100% of storage volume	6807.3	10488.2	6807.3	10488.2	Surface Area x (Ponding Depth + Depth of Planting Bed x Void Ratio)	10520.0	10488.2	0.0	10488.2	0.0	Vegetated Filter Strip, C/D Soils 1
Vegetated Filter Strip, C/D Soils 1	1.37	0.48	2180.2	30% of volume received by the practice	0.0	2180.2	0.0	2180.2	N/A	N/A	654.1	1526.1	654.1	1526.1	Stormwater Pond, Wetland, or Wet Swale 1
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	

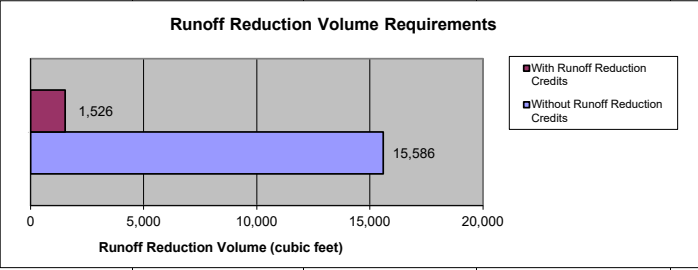
Treatment Only Practices

Stormwater Pond, Wetland, or Wet Swale 1	0.00	0.00	0.0	None	1526.1	1526.1	1526.1	1526.1	Volume in Wet Pool and Extended Detention	4035.0	0.0	1526.1	1526.1	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
Totals	5.86	3.65									14059.6		15585.8		

Coastal Stormwater Supplement Site Planning & Design Worksheet
Revised July 2014

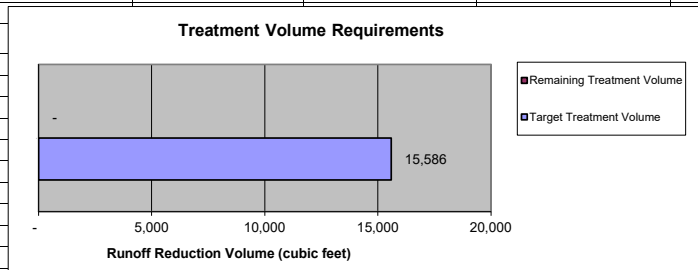
Stormwater Runoff Reduction Summary

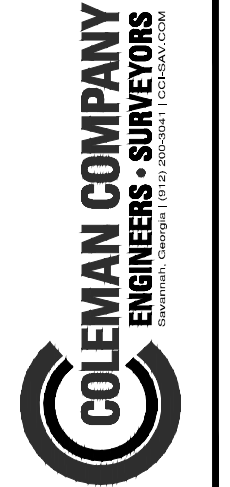
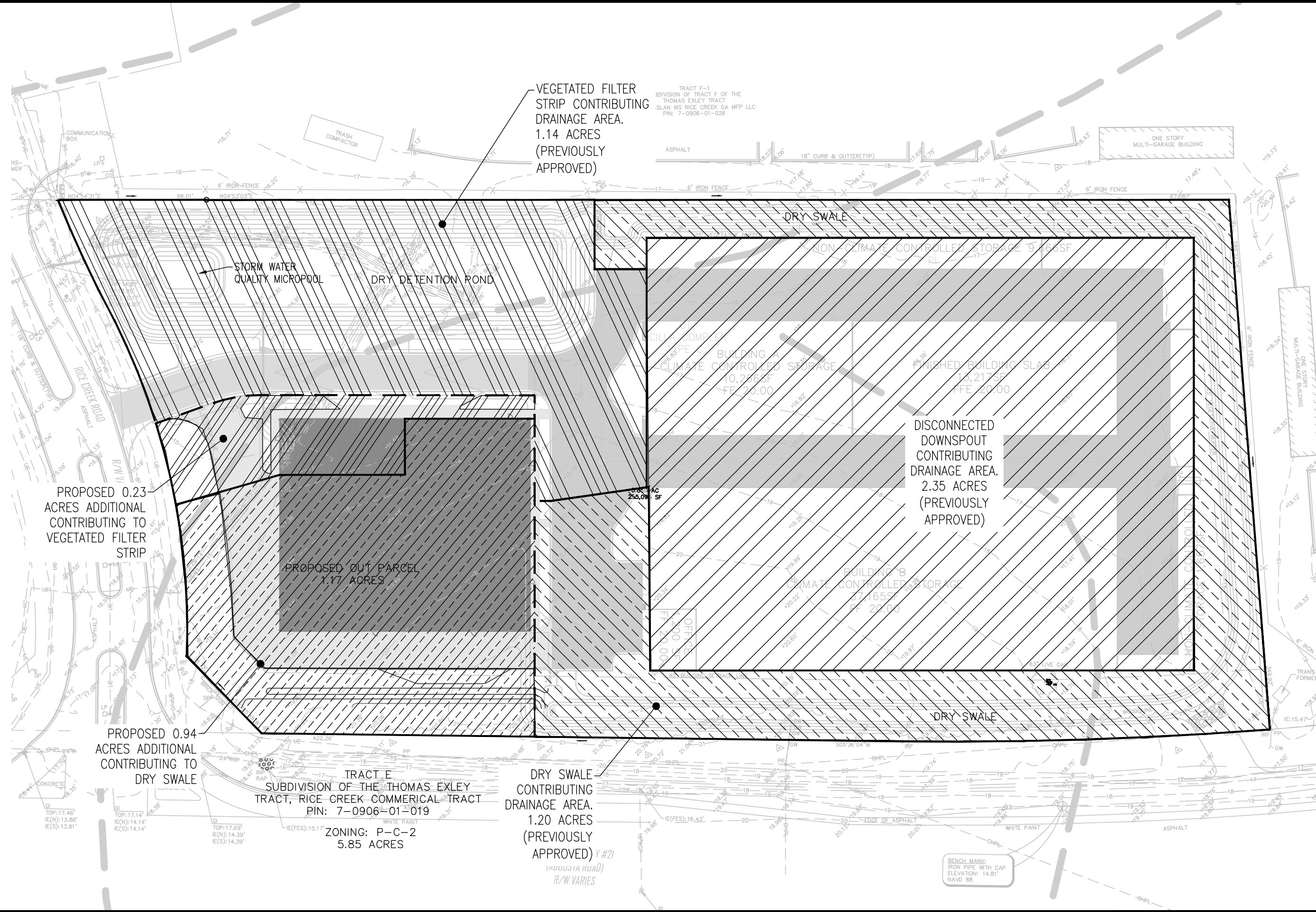
Target Runoff Reduction and Treatment Volume, RRv (cubic feet)	15,586
Total Adjustment to Runoff Reduction Volume, RRv (cubic feet)	14,060
Percentage of Target Runoff Reduction Volume Achieved	90%
Runoff Reduction Volume Achieved (in)	1.08
Runoff Reduction Volume Remaining (cubic feet)	1,526



Note: If any of the target runoff reduction volume cannot be reduced on the development site, due to site characteristics or constraints, it should be intercepted and treated in one or more stormwater management practices that: (1) provide for at least an 80 percent reduction in TSS loads; and (2) reduce nitrogen and bacteria loads to the maximum extent practical.

Treatment Volume Achieved (cubic feet)	15,586
Treatment Volume Remaining (cubic feet)	-





GEORGIA COASTAL STORMWATER SUPPLEMENT EXHIBIT FOR
STOP N STOR # 7 EXPANSION
PORT WENTWORTH, GA
PREPARED FOR:
STOP N STOR 7, LLC

JOB NUMBER: 21-708
DATE: 03/04/2022
DRAWN BY: WRG
CHECKED BY: WRG
SCALE: AS NOTED
SHEET: EX-1.0

APPENDIX A
CALCULATION METHODS
& REFERENCE EQUATIONS

APPENDIX A

CALCULATION METHODS & REFERENCE EQUATIONS

The hydrologic analysis in this report was based on the methodologies and equations presented in Urban Hydrology for Small Watersheds (TR-55) and the GA Stormwater Management Manual Vol. 2. The specific approaches used to calculate each of the hydrologic parameters are described below.

TIME OF CONCENTRATION

SHEET FLOW

It was assumed that the most hydraulically distant points for each of the drainage basins sheet flows for the first 100 ft (from GA Stormwater Management Manual pg 2.1-25). The travel time for the sheet flow segments was then calculated using the following formula (GA Stormwater Management Manual Vol. 2 2016 Edition equation 3.1.8):

$$T_t = \frac{0.42 (nL)^{0.8}}{60 (P_2)^{0.5} (S)^{0.4}}$$

where, T_t = travel time (hr)

n = Manning roughness coefficient for sheet flow

L = flow length (ft)

P_2 = 2-year, 24-hour rainfall (in)

S = land slope (ft/ft)

The “ n ” values were taken from GA Stormwater Management Manual Vol. 2 2016 Edition Table 3.1.5-2 and the value of P_2 can be determined from data given from NOAA Atlas 14 for Savannah, GA (from GA Stormwater Management Manual Vol. 2 2016 Edition). The slopes (S) of the surfaces along the flow paths used for the hydraulic lengths were calculated from the topographic survey data.

SHALLOW CONCENTRATED FLOW

To estimate the travel time for the shallow concentrated flow segments, first, the average velocity was determined using the following equations (from GA Stormwater Management Manual Vol. 2 2016 Edition Equation 3.1.9-3.1.10):

Unpaved surface:

$$V = 16.13 (S)^{0.5}$$

where, V = average velocity (ft/s)

S = land slope (ft/ft)

Paved surface:

$$V = 20.33 (S)^{0.5}$$

where, V = average velocity (ft/s)

S = land slope (ft/ft)



These two equations are based on the solution of Manning's equation (from GA Stormwater Management Manual Vol. 2 2016 Edition Equation 3.1.11) with different assumptions for n (Manning's roughness coefficient) and r (hydraulic radius, ft). For unpaved areas, n is 0.05 and r is 0.4; for paved areas, n is 0.025 and r is 0.2.

CHANNEL FLOW

The velocity of the water in the ditch can be calculated using Manning's equation for Open Channel flow (from GA Stormwater Management Manual Vol. 2 2016 Edition Equation 3.1.11):

$$V = \frac{1.49 (R)^{2/3} (S)^{1/2}}{n}$$

where, V = average velocity (ft/s)

R = hydraulic radius (ft)

S = land slope (ft/ft)

n = Manning roughness coeff. for open channel flow

The total time of concentration (t_c) for each of the basins was determined by adding the travel times for the sheet, shallow concentrated, and open channel flow segments.

RAINFALL INTENSITIES

The rainfall intensity (I) is the average rainfall rate in in/hr for a duration equal to the time of concentration for a selected return period. Once a particular return period has been selected for design and a time of concentration calculated for the drainage area, the rainfall intensity can be determined from data given from NOAA Atlas 14 (from GA Stormwater Management Manual Vol. 2 2016 Edition pg. 65).

RUNOFF RATES

The SCS method applicable to the Savannah metropolitan area is based on a storm event that has Type III time distribution. The empirical relationship: $I_a = 0.2 S$ is used in the SCS method to estimate the initial abstraction, which represents the surface storage, interception, evaporation, and infiltration that occurs prior to runoff. Using this definition for I_a , the following equation is used to estimate the direct runoff from a 24-hr rainfall event (from GA Stormwater Management Manual Vol. 2 2016 Edition, equation 3.1.5):

$$Q = \frac{(P - 0.2 S)^2}{(P + 0.8 S)}$$

where, Q = accumulated direct runoff (in)

P = accumulated rainfall (in)

S = potential maximum soil retention (in)

and $S = (1000/CN) - 10$



Computations for the peak discharge method proceed as follows (from GA Stormwater Management Manual Vol. 2 2016 Edition):

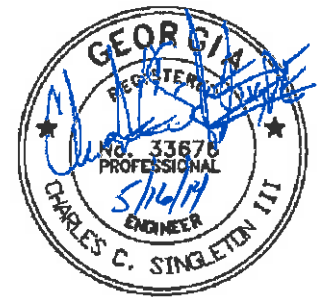
- (Step 1) The 24-hour rainfall depth is determined from the precipitation data in the NOAA Atlas 14 publication, or online using the *Precipitation Frequency Data Server* database (<http://hdsc.nws.noaa.gov/hdsc/pfds/>).
- (Step 2) The runoff curve number, CN, is estimated from Table 3.1.5-1

Using those values, along with the respective Curve Numbers for each basin, the runoff volumes were calculated for each drainage basin.

APPENDIX B
PREVIOUSLY APPROVED
HYDROLOGIC ANALYSIS REPORT

HYDROLOGIC ANALYSIS AND RUNOFF REDUCTION CALCULATIONS FOR RICE CREEK STOP N STOR

LOCATED IN:
PORT WENTWORTH, GEORGIA
PROJECT No. 13-284
May 16, 2014



PREPARED BY:
COLEMAN COMPANY, INC.
17 PARK OF COMMERCE, SUITE 201
SAVANNAH, GEORGIA 31405

PREPARED FOR:
ALAN DASHER
9100 WHITE BLUFF ROAD, SUITE 509
SAVANNAH, GEORGIA 31406



● TABLE OF CONTENTS ●

	<i>Page</i>
Site Overview	3
Pre-Development Analysis	4
Watershed Delineation	4
SCS Curve Numbers	4
Time of Concentration	5
<i>Sheet Flow</i>	5
<i>Shallow Concentration Flow</i>	6
<i>Channel Flow</i>	6
Runoff Rates	6
Post-Development Analysis	7
Catchment Areas	7
SCS Curve Numbers	7
Time of Concentration	8
<i>Sheet Flow</i>	8
<i>Shallow Concentration Flow</i>	9
<i>Channel Flow</i>	9
Runoff Rates	10
Conclusions	11
Georgia Coastal Stormwater Supplement Requirements	12
Stormwater Runoff Reduction	12
Stormwater Quality Protection	13
Aquatic Resource Protection	13
Overbank Flood Protection	14
Extreme Flood Protection	14

Appendices

A – Coastal Stormwater Supplement Site Planning and Design Worksheet

B – Aquatic Resource Protection Orifice Sizing Calculations

C – Calculation Methods & Reference Equations

D – Pre and Post Development Flow Calculations (Hydraflow Output)

Exhibit I – Pre-Development Drainage Conditions and Map

Exhibit II – Post-Development Drainage Conditions and Map

Exhibit III – Runoff Reduction Exhibit

Exhibit IV – Outlet Control Structure Details

● SITE OVERVIEW ●

The subject project area for Rice Creek Stop n Stor totals approximately 5.86 acres of land owned by Stop n Stor 6, LLC. The site is located in Port Wentworth, Georgia at the intersection of Rice Creek Road and Georgia Highway 21. The existing site is currently an undeveloped wooded lot. The plan for this development is to construct a self-storage facility, and all of the infrastructure to support it. A 1.17 acre portion of this property will be left as an undeveloped outparcel for future development.

Stormwater management for the proposed storage facility and developed outparcel will be in the form of a grass filter strip, dry swale, and dry pond with micro-pool.

Hydrologic estimates of the storm water runoff that would occur during storm events with 2, 5, 10, 25, 50-year and 100-year return frequencies were made utilizing the SCS Method for both the Pre-Development and Post-Development conditions. The results are presented below.

PRE-DEVELOPMENT ANALYSIS

Watershed Delineation

A single drainage basin was used to model the 5.86 acre pre-development project area included in this analysis, as seen in Exhibit I. This basin consists of the entire property and is bordered on two sides by paved roadways that provide a natural boundary for this basin. The basin drains offsite through a ditch that is collected by a 12" PVC pipe and enters into an existing stormwater management system of the neighboring subdivision development. Stormwater runoff generated from the basin begins as sheet flow, then transitions to shallow concentrated flow, and then channel flow.

SCS Curve Numbers

The following table lists the area of each soil type, the cover conditions, and the corresponding curve numbers.

Basin	Soil Symbol	Soil Name	Hydr. Group	Cover Type	Hydrologic Condition	Area (ac)	CN	Comp CN
A	Oj	Ocilla Complex	C	Wood	Good	1.54	70	73
	Pl	Pelham Loamy Sand	D	Wood	Good	1.00	77	
	Cc	Cape Fear soils	D	Wood	Good	3.32	77	

Table 1: Runoff Curve Numbers for the Pre-Developed basin

Time of Concentration

The travel times for the sheet, shallow concentrated, and channel flow segments were calculated using the TR55 Method.

As indicated on Exhibit I, the longest hydraulic flow path for the drainage basin was selected to calculate the time of concentration. Generally the stormwater runoff begins as sheet flow, then transitions to shallow concentration flow, and then is collected in a ditch as channel flow before leaving the subject property.

The total time of concentration for the basin was then calculated as the sum of the component times in each flow regime. The results are summarized below.

Drainage Basin	Travel Time in Flow Regime (min)			Total Time of Concentration T _c (min)
	Sheet Flow	Shallow Conc. Flow	Channel Flow	
A	19.68	7.20	2.46	29.34

Table 2: Summary of the time of Concentration for the Pre-Developed basin

Sheet Flow

Exhibit I shows the hydraulic flow-paths used for each drainage basin. As indicated, the runoff was assumed to sheet flow for the first 100 ft. The roughness coefficient, n, and ground slope, S, along with the resultant travel time for the sheet flow segment of the basin is tabulated below.

Drainage Basin	Roughness Coefficient n (--)	Travel Length (ft)	Ground Slope S (ft/ft)	Travel Time T _{SH} (min)
A	0.40	100	0.015	19.68

Table 3: Pre-Developed Sheet Flow travel time for the basin

Shallow Concentrated Flow

After the first 100 ft of sheet flow, the runoff then travels as shallow concentrated flow until it enters an onsite drainage ditch. The following table shows the length and slope of the shallow concentrated flow-path, the average velocity, and the resulting travel time for the drainage basin.

Drainage Basin	Flow path Length (ft)	Ground Slope S (ft/ft)	Travel Time T_{sc} (min)
A	439	0.004	7.20

Table 4: Pre-Developed Shallow Concentrated Flow travel time for the basin

Channel Flow

Once the runoff reaches the existing drainage ditch, it becomes channel flow. The channel length, roughness coefficient, n, and ground slope, S, cross sectional area, velocity along with the resultant travel time for the channel flow segment of the basin is tabulated below.

Drainage Basin	Channel Length (ft)	Channel Roughness Coefficient (--)	Channel Slope S (ft/ft)	Cross Sectional Area (ft²)	Wetted Perimeter (ft)	Average Velocity (ft/s)	Travel Time T_{CF} (min)
A	271	0.05	0.003	12.0	10.20	1.82	2.46

Table 5: Pre-Developed Channel Flow travel time for the basin

Runoff Rates

The above data were input into Bentley PondPack V8i, a hydraulic modeling software package developed by Haestad Methods. The software was used to generate the runoff hydrographs for the drainage basin based on the SCS Hydrograph Method. The output from the program is included in the attached Appendix B Pre Development Flow Calculations. The following table summarizes the peak storm water runoff rates calculated for the Pre-Developed condition.

Peak Runoff Rates (cfs)	Storm Recurrence Interval					
	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year
Basin A	6.47	9.52	11.42	14.66	17.29	19.93

Table 6: Peak Run-Off Rates for the Pre-Developed basin

● POST-DEVELOPMENT ANALYSIS ●

Catchment Areas

Exhibit II shows the proposed development of the site as a self-storage facility with outparcel for future development. As indicated on the drawing, multiple storage buildings, a parking area, and detention pond with grassed swale will be constructed. The site will be graded in such a way as to convey most storm water to the slotted drain system. The slotted drain system discharges into the grassed swale, which in turn discharges to the dry detention pond. The dry detention pond then discharges into the existing stormwater management system.

SCS Curve Numbers

The drainage basin is comprised of several different soil types and cover conditions. The following table lists the area of each soil type, the cover conditions and the corresponding curve numbers. For the undeveloped outparcel, a maximum 80% impervious/20% pervious ratio was used to account for future development.

Basin	Soil Symbol	Soil Name	Hydr. Group	Cover Type	Hydrologic Condition	Area (ac)	CN	Comp CN
A	Oj	Ocilla Complex	C	Lawn	Good	0.78	74	91
	Pl	Pelham Loamy Sand	D	Lawn	Good	0.51	80	
	Cc	Cape Fear soils	D	Lawn	Good	0.82	80	
	N/A	N/A	N/A	Impervious Area	N/A	3.75	98	

Table 7: Post-Developed SCS Curve Numbers for the basin

Time Of Concentration

The travel times for the sheet flow, shallow concentrated flow, and channel flow segments were calculated using the same basic approach as in the Pre-Developed case.

As indicated on Exhibit II, the longest hydraulic flow path for the drainage basin was selected to calculate the time of concentration. Generally the stormwater runoff begins as sheet flow across the drive isle, then channel flow in the curb gutter, to channel flow in the dry swale system before discharging into the detention pond.

The total time of concentration for the basin was then calculated as the sum of the three component times in each flow regime. The results are summarized below.

Drainage Basin	Travel Time in Flow Regime (min)			Total Time of Concentration T _c (min)
	Sheet Flow	Shallow Conc. Flow	Channel Flow	
A	0.90	1.26	15.54	17.70

Table 8: Summary of the time of Concentration for the Post-Developed basin

Sheet Flow

Exhibit II shows the hydraulic flow-path used for the drainage basin. As indicated, the runoff was assumed to sheet flow for the first 64 ft. The roughness coefficient, n, and ground slope, S, along with the resultant travel time for the sheet flow segment of the basin is tabulated below.

Drainage Basin	Roughness Coefficient n (-)	Travel Length (ft)	Ground Slope S (ft/ft)	Travel Time T _{SH} (min)
A	0.011	64	0.011	0.9

Table 9: Post-Developed Sheet Flow travel time for the basin

Shallow Concentrated Flow

After the first 65 ft of sheet flow, the runoff then travels as shallow concentrated flow in the curb gutter until it enters the dry swale. The following table shows the length and slope of the shallow concentrated flow-path, the average velocity, and the resulting travel time for the drainage basin.

Drainage Basin	Flow path Length (ft)	Ground Slope S (ft/ft)	Travel Time T_{SC} (min)
A	138	0.008	1.26

Table 10: Post-Developed Shallow Concentrated Flow travel time for the basin

Channel Flow

Once the runoff reaches the dry swale, it becomes channel flow. The channel length, roughness coefficient, n, and ground slope, S, cross sectional area, velocity along with the resultant travel time for the channel flow segment of the basin is tabulated below.

Drainage Basin	Channel Length (ft)	Channel Roughness Coefficient (--)	Channel Slope S (ft/ft)	Cross Sectional Area (ft²)	Wetted Perimeter (ft)	Average Velocity (ft/s)	Travel Time T_{CF} (min)
A	1,186	0.05	0.001	21.5	15.69	1.27	15.54

Table 11: Post-Developed Channel Flow travel time for the basin

Runoff Rates

The above data were input into Bentley PondPack V8i, a hydraulic modeling software package developed by Haestad Methods. The Software was used to generate the runoff hydrographs for the drainage basins based on the SCS Hydrograph Method. The model then routes the hydrograph through the proposed detention facilities and respective outfall structure providing stage-storage information and discharge rates. The output from the program is included in Appendix C Post-Development Flow Calculations. The following table summarizes the peak storm water runoff rates calculated for the Post Developed conditions.

Peak Runoff Rates (cfs)	Storm Recurrence Interval					
	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year
Basin A	1.50	5.34	8.15	12.68	15.90	17.28

Table 12: Peak Run-Off Rates for the Post-Developed basin

CONCLUSIONS

The following table summarizes the results of the Pre-Developed and Post-Developed runoff analysis.

Storm Recurrence Interval	Total Peak Runoff Rates (cfs)	
	Pre-Developed	Post-Developed
2-yr	6.47	1.50
5-yr	9.52	5.34
10-yr	11.42	8.15
25-yr	14.66	12.68
50-yr	17.29	15.90
100-yr	19.93	17.28

Table 13: Total Pre & Post Developed Peak Runoff Rates

As the table shows, the proposed development activities will not result in any additional runoff from the subject site from the required design storms.

Georgia Coastal Stormwater Supplement Requirements

The Georgia Coastal Stormwater Supplement, April 2009 (GCSS) has five criteria for Post-Construction Stormwater Management:

1. Stormwater Runoff Reduction
2. Stormwater Quality Protection
3. Aquatic Resource Protection
4. Overbank Flood Protection
5. Extreme Flood Protection

Below are the approaches taken to satisfy these requirements:

Stormwater Runoff Reduction

Post-Construction Stormwater Management for Rice Creek Stop n Stor will meet the criteria, recommended by the GA Coastal Stormwater Supplement to the maximum extent practical. A development site must be designed with the use of green infrastructure practices reduce the first 1.2 inches of any rainfall event.

To accomplish this requirement, the project area will use disconnected downspouts, a dry swale, vegetated filter strips, and a micropool. These practices provide runoff reduction “credits” to meet the runoff reduction criteria to the maximum extent practical.

The amount of Stormwater runoff reduction needed to satisfy the Stormwater runoff reduction criteria, known as the runoff reduction volume (RR_V), can be calculated using the following equations:

$$RR_V = \frac{(P)(R_V)(A)}{12}$$

Where:

RR_V = runoff reduction volume (Ac-Ft)

P = target runoff reduction rainfall, 1.2 inches

R_V = volumetric runoff coefficient

A = site area (Ac)

12 = unit conversion factor (in./ft.)

A site’s volumetric runoff coefficient, R_V , is directly related to the amount of impervious cover found on the site:

$$R_V = 0.05 + 0.009(I)$$

Where:

I = Site Imperviousness (%)

Per Section 4.4.1 of the GCSS Stormwater generated from the 1.2 inch rain event that is not reduced on the developed site should be intercepted and treated

in one or more stormwater management practices that provide at least an 80 percent reduction in the total suspended solids and that reduce nitrogen and bacteria loads to the maximum extent practical (Criteria #2)

The spreadsheets found in Appendix A summarize the results of the runoff reduction calculations. The attached Exhibit III illustrates the areas of green infrastructure practices.

Stormwater Quality Protection

As reducing the stormwater runoff volume generated by the 1.2 inch storm event can be expected to reduce annual post-construction stormwater runoff volumes and pollutant load by more than 80% on development sites, this stormwater quality protection criteria can be satisfied by simply satisfying the Stormwater Runoff Reduction criteria (Criteria #1). In the event that volume generated by the 1.2 inch event cannot be completely reduced on a developed site due to site characteristics or constraints, it should be intercepted and treated in one or more stormwater management practices that provide at least an 80 percent reduction in the total suspended solids and that reduce nitrogen and bacteria loads to the maximum extent practical.

To satisfy this requirement the remaining stormwater volume from the 1.2 inch event is retained in the stormwater quality micropool. The proposed stormwater quality micropool provides a total of 4,035 cu. ft. of water quality storage volume, which is more than the remaining required 1,025 cu. ft. of water quality storage volume.

Stormwater ponds, including micropools, are considered General Application Structural Controls. Table 3.1.2-1 in the Georgia Stormwater Management Manual, Vol. 2, August 2001 identifies stormwater ponds as having a pollutant removal efficiency of 80% for Total Suspended Solids, 30% for Total Nitrogen, and 70% for Fecal Coliform. With runoff reduction credits acquired under Criteria #1 in conjunction with the pollutant removal provided in the stormwater pond, it is our belief that Criteria #1 and #2 have been met to the maximum extent practical.

Aquatic Resource Protection

This criteria requires 24 hours of extended detention for the stormwater runoff volume generated by the 1-year, 24 hour storm event. This requirement is being satisfied through the use of a 3.0" orifice outlet structure in the proposed dry pond. This orifice was designed to the proper size and invert elevation to allow for the 24 hour extended detention of the storm water runoff volume generated by the 1-year, 24 hour storm event. No other routing methods were utilized until this requirement was met first. The orifice sizing calculations can be found in Appendix B.

Overbank Flood Protection

This criteria requires that the peak discharge generated by the 25-year, 24-hour storm event under the post-development conditions does not exceed the peak discharge generated by the same storm event under pre-developed conditions. This requirement is being satisfied in the proposed dry detention pond. The hydrology study and subsequent pond routing model indicates that the post-developed discharge rates for the 25-year, 24-hour storm do not exceed the peak discharge rates of pre-developed conditions.

Extreme Flood Protection

This criteria requires that the peak discharge generated by the 100-year, 24-hour storm event under the post-development conditions be safely passed through the stormwater management facility. This requirement is being satisfied in the proposed dry detention pond. The hydrology study and subsequent pond routing model indicates that the post-developed discharge rates for the 100-year, 24-hour storm can safely be passed to the downstream storm sewer system and does not adversely impact the downstream conditions.

Appendix A
Coastal Stormwater Supplement Site Planning and Design Worksheet

Coastal Stormwater Supplement Site Planning & Design Worksheet
Revised December 2013

Site Data

Site Name: 13-284 Rice Creek Stop N Stor

data input cells
 calculation cells
 constant values

Step 1: Enter Site Information

Pre-Development Land Cover (acres)

Land Cover Type	HSG A Soils	HSG B Soils	HSG C Soils	HSG D Soils	Totals
Pervious Cover	0.00	0.00	2.24	2.45	4.69
Impervious Cover	0.00	0.00	0.00	0.00	0.00
Total					4.69

Pre-Development Land Cover Distribution



Post-Development Land Cover (acres)

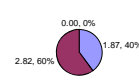
Land Cover Type	HSG A Soils	HSG B Soils	HSG C Soils	HSG D Soils	Totals
Pervious Cover	0.00	0.00	0.56	1.31	1.87
Impervious Cover	0.00	0.00	1.68	1.14	2.82
Total					4.69

Post-Development Land Cover Distribution



Runoff Reduction Rainfall Event (inches)	1.2
Post-Development Site Imperviousness (%)	60%
Post-Development Site Runoff Coefficient, Rv	0.59
Target Runoff Reduction Volume, RRv (acre-feet)	0.28
Target Runoff Reduction Volume, RRv (cubic feet)	12,077

Post-Development Land Cover Distribution

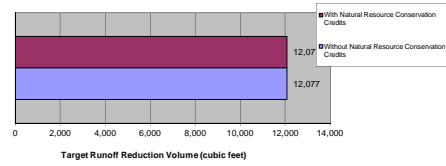


Step 2: Apply Better Site Planning Techniques

Natural Resource Conservation Credits	HSG A Soils	HSG B Soils	HSG C Soils	HSG D Soils	Total
Primary Conservation Areas (acres)	0.0	0.0	0.0	0.0	0.0
Secondary Conservation Areas (acres)	0.0	0.0	0.0	0.0	0.0
Total (acres)					0.00

Target Runoff Reduction Volume with Natural Resource Conservation Credits, RRv

Target Runoff Reduction Volume, RRv (acre-feet)	0.28
Target Runoff Reduction Volume, RRv (cubic feet)	12,077

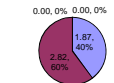


Step 3: Apply Better Site Design Techniques

Reduced Clearing and Grading Credits

Undisturbed Pervious Cover (Acres)	HSG A soils	HSG B Soils	HSG C Soils	HSG D Soils	Total
0.0	0.0	0.0	0.0	0.0	0.00

Post-Development Land Cover Distribution

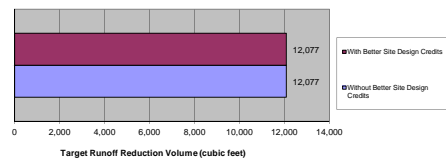


Revised Post-Development Land Cover (acres)

Land Cover Type	HSG A soils	HSG B Soils	HSG C Soils	HSG D Soils	Totals
Conservation Areas	0.00	0.00	0.00	0.00	0.00
Undisturbed Pervious Cove	0.00	0.00	0.00	0.00	0.00
Disturbed Pervious Cove	0.00	0.00	0.56	1.31	1.87
Impervious Cover	0.00	0.00	1.68	1.14	2.82
Total					4.69

Restoration of Disturbed Pervious Surfaces

Soil Restoration (Acres)	0.0
Site Reforestation/Vegetation (Acres)	0.0
Soil Restoration w/ Site Reforestation/Revegetation (Acres)	0.0



Target Runoff Reduction Volume After Application of Better Site Design Credits, RRv

Target Runoff Reduction Volume, RRv (acre-feet)	0.28
Target Runoff Reduction Volume, RRv (cubic feet)	12,077

Note: Remainder of Better Site Design Techniques are considered to be "self-crediting."

Coastal Stormwater Supplement Site Planning & Design Worksheet

Revised December 2013

Drainage Area A

Drainage Area Information

Drainage Area A Pre-Development Land Cover (acres)

Land Cover Type	HSG A soils	HSG B Soils	HSG C Soils	HSG D Soils	Totals
Pervious Cover	0.00	0.00	2.24	2.45	4.69
Impervious Cover	0.00	0.00	0.00	0.00	0.00
Total					4.69

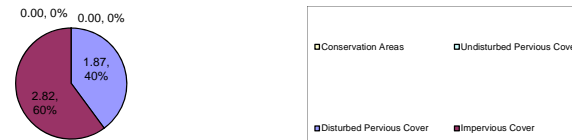
Drainage Area A Pre-Development Land Cover Distribution



Drainage Area A Post-Development Land Cover (acres)

Land Cover Type	HSG A soils	HSG B Soils	HSG C Soils	HSG D Soils	Totals
Conservation Areas	0.00	0.00	0.00	0.00	0.00
Undisturbed Pervious Cover	0.00	0.00	0.00	0.00	0.00
Disturbed Pervious Cover	0.00	0.00	0.56	1.31	1.87
Impervious Cover	0.00	0.00	1.68	1.14	2.82
Total					4.69

Drainage Area A Post-Development Land Cover Distribution



Low Impact Development Practices

Alternatives to Impervious Surfaces

Low Impact Development Practice	Size of Contributing Drainage Area (acres)	Impervious Cover in Contributing Drainage Area (acres)	Direct Runoff Reduction Volume Received by Practice (cubic feet)	Description of Runoff Reduction Credit	Runoff Reduction Volume Received from Upstream Practices	Total Runoff Reduction Volume Received by Practice (cubic feet)	Treatment Volume Received from Upstream Practices (cubic feet)	Total Treatment Volume Received by Practice (cubic feet)	Method for Calculating Storage	Storage Volume Provided by Practice (cubic feet)	Adjustment to Runoff Reduction Volume (cubic feet)	Remaining Runoff Reduction Volume (cubic feet)	Adjustment to Treatment Volume (cubic feet)	Remaining Treatment Volume (cubic feet)	Downstream Practice to be Employed
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	

"Receiving" Low Impact Development Practices

Simple Downspout Disconnection, C/D Soils 1	2.35	2.35	9724.8	30% of volume received by the practice	0.0	9724.8	0.0	9724.8	N/A	N/A	2917.4	6807.3	2917.4	6807.3	Dry Swale, Non-Underdrained 1
Dry Swale, Non-Underdrained 1	1.20	0.16	888.6	100% of storage volume	6807.3	7696.0	6807.3	7696.0	Surface Area x (Ponding Depth + Depth of Planting Bed x Void)	7696.0	7696.0	0.0	7696.0	0.0	Vegetated Filter Strip, C/D Soils 1
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	0.0	0.0	0.0	0.0	0.0	
Vegetated Filter Strip, C/D Soils 1	1.14	0.31	1463.6	30% of volume received by the practice	0.0	1463.6	0.0	1463.6	N/A	N/A	439.1	1024.5	439.1	1024.5	Stormwater Pond, Wetland, or Wet Swale 1
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	

Treatment Only Practices

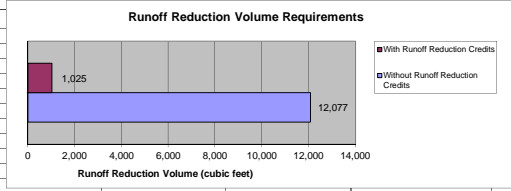
Stormwater Pond, Wetland, or Wet Swale 1	0.00	0.00	0.0	None	1024.5	1024.5	1024.5	1024.5	Volume in Wet Pool and Extended Detention	1025.0	0.0	1024.5	1024.5	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	

None	0.00	0.00	0.0	N/A	0.0	0.0	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	
Totals	4.69	2.82									11052.5		12077.0		

Coastal Stormwater Supplement Site Planning & Design Worksheet
Revised December 2013

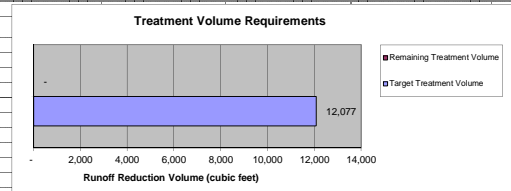
Stormwater Runoff Reduction Summary

Target Runoff Reduction and Treatment Volume, RRv (cubic feet)	12,077
Total Adjustment to Runoff Reduction Volume, RRv (cubic feet)	11,052
Percentage of Target Runoff Reduction Volume Achieved	92%
Runoff Reduction Volume Achieved (in)	1.10
Runoff Reduction Volume Remaining (cubic feet)	1,025



Note: If any of the target runoff reduction volume cannot be reduced on the development site, due to site characteristics or constraints, it should be intercepted and treated in one or more stormwater management practices that: (1) provide for at least an 80 percent reduction in TSS loads; and (2) reduce nitrogen and bacteria loads to the maximum extent practical.

Treatment Volume Achieved (cubic feet)	12,077
Treatment Volume Remaining (cubic feet)	-



Appendix B
Aquatic Resource Protection Orifice Sizing Calculations

Water Quality Calculations

Project Name: 13-284 Rice Creek Stop N Stor
 Basin/Pond: Dry Detention Pond

Total Area Draining to Pond = 5.86 Acres
 Curve Number for Total Area = 90.7
 On-site Area Draining to Pond = 5.86 Acres
 On-Site Percent of Impervious Cover (I) = 64 %

Aquatic Resource Protection Calculations

Aquatic Resource Protection Volume Calculations

P (1-year, 24-hour rainfall) = 3.6 in

S = (1000 / CN) - 10 = (1000 / 90.7) - 10 = 1.025 in.

Q = (P - 0.2 x S)² / (P + 0.8 x S) = (3.36 - 0.2 x 1.025)² / (3.36 + 0.8 x 1.025) = 2.607 in.

AR_V = Q x A = 2.607 x (1 ft / 12 in) x 5.86 x (43,560 sf / ac) = 55,464 ft³

AR_V Storage Provided = 55,547 ft³

AR_V Provided = 55,547 ft³

Surface Elev. of AR_V Provided = 14.25 ft

Surface Elev. of W_{QV} Provided = 10.35 ft

Depth of AR_V Provided (h) = 3.90 ft

Aquatic Resource Protection Orifice Design

Q_A = S / (3,600 sec/hr x 24 hr) = 55,464 / (3,600 sec/hr x 24 hr) = 0.642

A = Q_A / (0.6 x (64.4 x h/2)^{0.5}) = 0.642 / (0.6 x (64.4 x 3.90 / 2)^{0.5}) = 0.0955 ft²

A = πr

r = (A / π)^{0.5} = (0.0955 / π)^{0.5} = 0.174 ft
 d = 2r = 0.349 ft = 4.184 in.

Therefore, Use 4 in.

Appendix C

Calculation Methods & Reference Equations

The hydrologic analysis in this report was based on the methodologies and equations presented in Urban Hydrology for Small Watersheds (TR-55) and the Georgia Storm water Management Manual. The specific approaches used to calculate each of the hydrologic parameters are described below.

Time of Concentration

Sheet Flow

It was assumed that the most hydraulically distant points for each of the drainage basins sheet flows for the first 100 ft (from GA Storm water Management Manual pg. 2.1-25). The travel time for the sheet flow segments was then calculated using the following formula (GA Storm water Management Manual equation 2.1.9):

$$T_t = \frac{0.42 (n L)^{0.8}}{60 (P_2)^{0.5} (S)^{0.4}}$$

where, T_t = travel time (hr)
 n = Manning roughness coefficient for sheet flow
 L = flow length (ft)
 P_2 = 2-year, 24-hour rainfall (in)
 S = land slope (ft/ft)

A value of 0.40 was assigned for n , corresponding to Woods with Light Underbrush (from GA Storm water Management Manual Table 2.1.5-2) and the value of P_2 was set as 4.8 inches (from GA Storm water Management Manual Table A-13) for Savannah, GA. The slopes (S) of the surfaces along the flow paths used for the hydraulic lengths were calculated from the topographic survey data.

Shallow Concentrated Flow

To estimate the travel time for the shallow concentrated flow segments, first, the average velocity was determined using the following equation (from GA Storm water Management Manual Equation 2.1.10) for an Unpaved surface:

$$V = 16.13 (S)^{0.5}$$

where, V = average velocity (ft/s)
 S = land slope (ft/ft)

Channel Flow

The velocity of the water in the ditch can be calculated using Manning's equation for Open Channel flow (from GA Storm water Management Manual Equation 2.1.12):

$$V = \frac{1.49 (R)^{2/3} (S)^{1/2}}{n}$$

where, V = average velocity (ft/s)
 R = hydraulic radius (ft)
 S = land slope (ft/ft)
 n = Manning roughness coeff. for open channel flow

The total time of concentration (t_c) for each of the basins was determined by adding the travel times for the sheet, shallow concentrated, and open channel flow segments.

Rainfall Intensities

The rainfall intensity for storms with 25-year and 100-year return frequencies in the Savannah metropolitan area can be calculated with the following equations (from GA Storm water Management Manual Table A-13):

$$I_{25\text{-yr}} = 167.17 / (t_c + 28)^{0.8597}$$

$$I_{100\text{-yr}} = 220.0 / (t_c + 32)^{0.8671}$$

where, i = rainfall intensity (in/hr)
 t_c = time of concentration (min)

Runoff Rates

The SCS method applicable to the Savannah metropolitan area is based on a storm event that has Type III time distribution. The empirical relationship: $I_a = 0.2 S$ is used in the SCS method to estimate the initial abstraction, which represents the surface storage, interception, evaporation, and infiltration that occurs prior to runoff. Using this definition for I_a , the following equation is used to estimate the direct runoff from a 24-hr rainfall event (from GA Storm water Management Manual, equation 2.1.6):

$$Q = \frac{(P - 0.2 S)^2}{(P + 0.8 S)}$$

where, Q = accumulated direct runoff (in)
 P = accumulated rainfall (in)
 S = potential maximum soil retention (in)
 and $S = (1000/CN) - 10$

Appendix D
Pre and Post Development Flow Calculations
(PondPack Output)

13-284

Rice Creek Stop N Stor

Project Summary

Title	Rice Creek Stop N Stor
Engineer	Charles Singleton, P.E.
Company	Coleman Company, Inc.
Date	5/16/2014

Notes	Project #: 13-284
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13-284

Rice Creek Stop N Stor

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)
PRE	2-year	2	1.030	12.450	6.47
PRE	5-year	5	1.499	12.450	9.52
PRE	10-year	10	1.793	12.450	11.42
PRE	25-year	25	2.300	12.450	14.66
PRE	50-year	50	2.717	12.450	17.29
PRE	100-year	100	3.141	12.450	19.93
POST	2-year	2	1.830	12.250	14.54
POST	5-year	5	2.398	12.250	18.82
POST	10-year	10	2.742	12.250	21.36
POST	25-year	25	3.317	12.250	25.59
POST	50-year	50	3.778	12.250	28.95
POST	100-year	100	4.241	12.250	32.30

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)
O-1	2-year	2	1.030	12.450	6.47
O-1	5-year	5	1.499	12.450	9.52
O-1	10-year	10	1.793	12.450	11.42
O-1	25-year	25	2.300	12.450	14.66
O-1	50-year	50	2.717	12.450	17.29
O-1	100-year	100	3.141	12.450	19.93
O-3	2-year	2	0.877	14.050	1.50
O-3	2-year	2	-0.113	8.050	-0.25
O-3	5-year	5	1.367	12.850	5.34
O-3	5-year	5	-0.089	7.800	-0.21
O-3	10-year	10	1.670	12.750	8.15
O-3	10-year	10	-0.078	7.550	-0.19
O-3	25-year	25	2.188	12.650	12.68
O-3	25-year	25	-0.061	6.150	-0.16
O-3	50-year	50	2.611	12.650	15.90
O-3	50-year	50	-0.049	5.850	-0.13
O-3	100-year	100	3.042	12.650	17.28
O-3	100-year	100	-0.039	5.550	-0.11

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
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13-284**Rice Creek Stop N Stor**

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
PO-1 (IN)	2-year	2	1.830	12.250	14.54	(N/A)	(N/A)
PO-1 (OUT)	2-year	2	0.877	14.050	1.50	14.37	1.331
PO-1 (Reverse)	2-year	2	-0.113	8.050	-0.25	(N/A)	(N/A)
PO-1 (IN)	5-year	5	2.398	12.250	18.82	(N/A)	(N/A)
PO-1 (OUT)	5-year	5	1.367	12.850	5.34	14.67	1.464
PO-1 (Reverse)	5-year	5	-0.089	7.800	-0.21	(N/A)	(N/A)
PO-1 (IN)	10-year	10	2.742	12.250	21.36	(N/A)	(N/A)
PO-1 (OUT)	10-year	10	1.670	12.750	8.15	14.88	1.557
PO-1 (Reverse)	10-year	10	-0.078	7.550	-0.19	(N/A)	(N/A)
PO-1 (IN)	25-year	25	3.317	12.250	25.59	(N/A)	(N/A)
PO-1 (OUT)	25-year	25	2.188	12.650	12.68	15.14	1.696
PO-1 (Reverse)	25-year	25	-0.061	6.150	-0.16	(N/A)	(N/A)
PO-1 (IN)	50-year	50	3.778	12.250	28.95	(N/A)	(N/A)
PO-1 (OUT)	50-year	50	2.611	12.650	15.90	15.33	1.808
PO-1 (Reverse)	50-year	50	-0.049	5.850	-0.13	(N/A)	(N/A)
PO-1 (IN)	100-year	100	4.241	12.250	32.30	(N/A)	(N/A)
PO-1 (OUT)	100-year	100	3.042	12.650	17.28	15.55	1.944
PO-1 (Reverse)	100-year	100	-0.039	5.550	-0.11	(N/A)	(N/A)

13-284

Subsection: Time of Concentration Calculations
Label: POST

Rice Creek Stop N Stor

Return Event: 2 years
Storm Event: 2yr

Time of Concentration Results

Segment #1: TR-55 Channel Flow	
Flow Area	21.5 ft ²
Hydraulic Length	1,186.00 ft
Manning's n	0.050
Slope	0.001 ft/ft
Wetted Perimeter	15.69 ft
Average Velocity	1.27 ft/s
Segment Time of Concentration	0.259 hours

Segment #2: TR-55 Sheet Flow	
Hydraulic Length	64.00 ft
Manning's n	0.011
Slope	0.011 ft/ft
2 Year 24 Hour Depth	4.8 in
Average Velocity	1.21 ft/s
Segment Time of Concentration	0.015 hours

Segment #3: TR-55 Shallow Concentrated Flow	
Hydraulic Length	138.00 ft
Is Paved?	True
Slope	0.008 ft/ft
Average Velocity	1.82 ft/s
Segment Time of Concentration	0.021 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.294 hours

13-284

Subsection: Time of Concentration Calculations
Label: POST

Rice Creek Stop N Stor

Return Event: 2 years
Storm Event: 2yr

==== SCS Channel Flow

$$T_c = \frac{R = Q_a / W_p}{V = (1.49 * (R^{2/3}) * (S_f^{0.5})) / n}$$

$$(L_f / V) / 3600$$

R= Hydraulic radius
A_q= Flow area, square feet
W_p= Wetted perimeter, feet

Where:
V= Velocity, ft/sec
S_f= Slope, ft/ft
n= Manning's n
T_c= Time of concentration, hours
L_f= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

Unpaved surface:
 $V = 16.1345 * (S_f^{0.5})$

T_c = Paved Surface:
 $V = 20.3282 * (S_f^{0.5})$

$$(L_f / V) / 3600$$

V= Velocity, ft/sec
S_f= Slope, ft/ft
T_c= Time of concentration, hours
L_f= Flow length, feet

==== SCS TR-55 Sheet Flow

$$T_c = \frac{(0.007 * ((n * L_f)^{0.8}))}{((P^{0.5}) * (S_f^{0.4}))}$$

T_c= Time of concentration, hours
n= Manning's n
L_f= Flow length, feet
P= 2yr, 24hr Rain depth, inches
S_f= Slope, %

13-284

Subsection: Time of Concentration Calculations
Label: PRE

Rice Creek Stop N Stor

Return Event: 2 years
Storm Event: 2yr

Time of Concentration Results

Segment #1: TR-55 Sheet Flow

Hydraulic Length	100.00 ft
Manning's n	0.400
Slope	0.015 ft/ft
2 Year 24 Hour Depth	4.8 in
Average Velocity	0.08 ft/s
Segment Time of Concentration	0.328 hours

Segment #2: TR-55 Shallow Concentrated Flow

Hydraulic Length	439.00 ft
Is Paved?	False
Slope	0.004 ft/ft
Average Velocity	1.02 ft/s
Segment Time of Concentration	0.120 hours

Segment #3: TR-55 Channel Flow

Flow Area	12.0 ft ²
Hydraulic Length	271.00 ft
Manning's n	0.050
Slope	0.003 ft/ft
Wetted Perimeter	10.20 ft
Average Velocity	1.82 ft/s
Segment Time of Concentration	0.041 hours

Time of Concentration (Composite)

Time of Concentration (Composite)	0.489 hours
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13-284

Subsection: Time of Concentration Calculations
Label: PRE

Rice Creek Stop N Stor

Return Event: 2 years
Storm Event: 2yr

==== SCS Channel Flow

$$T_c = \frac{R = Q_a / W_p}{V = (1.49 * (R^{2/3}) * (S_f^{-0.5})) / n}$$

$$(L_f / V) / 3600$$

Where:
R= Hydraulic radius
A_q= Flow area, square feet
W_p= Wetted perimeter, feet
V= Velocity, ft/sec
S_f= Slope, ft/ft
n= Manning's n
T_c= Time of concentration, hours
L_f= Flow length, feet

==== SCS TR-55 Shallow Concentration Flow

$$\text{Unpaved surface:} \\ V = 16.1345 * (S_f^{0.5})$$

$$T_c = \frac{\text{Paved Surface:} \\ V = 20.3282 * (S_f^{0.5})}{(L_f / V) / 3600}$$

Where:
V= Velocity, ft/sec
S_f= Slope, ft/ft
T_c= Time of concentration, hours
L_f= Flow length, feet

==== SCS TR-55 Sheet Flow

$$T_c = \frac{(0.007 * ((n * L_f)^{0.8})) / ((P^{0.5}) * (S_f^{0.4}))}{T_c = \text{Time of concentration, hours}}$$

Where:
n= Manning's n
L_f= Flow length, feet
P= 2yr, 24hr Rain depth, inches
S_f= Slope, %

Unit Hydrograph Method (Computational Notes)**Definition of Terms**

At	Total area (acres): $A_t = A_i + A_p$
Ai	Impervious area (acres)
Ap	Pervious area (acres)
CNi	Runoff curve number for impervious area
CNp	Runoff curve number for pervious area
fLoss	f loss constant infiltration (depth/time)
gKs	Saturated Hydraulic Conductivity (depth/time)
Md	Volumetric Moisture Deficit
Psi	Capillary Suction (length)
hK	Horton Infiltration Decay Rate (time^{-1})
fo	Initial Infiltration Rate (depth/time)
fc	Ultimate(capacity)Infiltration Rate (depth/time)
Ia	Initial Abstraction (length)
dt	Computational increment (duration of unit excess rainfall) Default dt is smallest value of $0.1333T_c$, r_{tm} , and t_h (Smallest dt is then adjusted to match up with T_p)
UDdt	User specified override computational main time increment (only used if UDdt is $\Rightarrow .1333T_c$)
D(t)	Point on distribution curve (fraction of P) for time step t
K	$2 / (1 + (T_r/T_p))$: default $K = 0.75$: (for $T_r/T_p = 1.67$)
Ks	Hydrograph shape factor = Unit Conversions * K : $= ((1\text{hr}/3600\text{sec}) * (1\text{ft}/12\text{in}) * ((5280\text{ft})^2/\text{sq.mi})) * K$ Default $K_s = 645.333 * 0.75 = 484$
Lag	Lag time from center of excess runoff (dt) to T_p : $\text{Lag} = 0.6T_c$
P	Total precipitation depth, inches
Pa(t)	Accumulated rainfall at time step t
Pi(t)	Incremental rainfall at time step t
qp	Peak discharge (cfs) for 1in. runoff, for 1hr, for 1 sq.mi. $= (K_s * A * Q) / T_p$ (where $Q = 1\text{in. runoff}$, $A = \text{sq.mi.}$)
Qu(t)	Unit hydrograph ordinate (cfs) at time step t
Q(t)	Final hydrograph ordinate (cfs) at time step t
Rai(t)	Accumulated runoff (inches) at time step t for impervious area
Rap(t)	Accumulated runoff (inches) at time step t for pervious area
Rii(t)	Incremental runoff (inches) at time step t for impervious area
Rip(t)	Incremental runoff (inches) at time step t for pervious area
R(t)	Incremental weighted total runoff (inches)
Rtm	Time increment for rainfall table
Si	S for impervious area: $S_i = (1000/CN_i) - 10$
Sp	S for pervious area: $S_p = (1000/CN_p) - 10$
t	Time step (row) number
Tc	Time of concentration
Tb	Time (hrs) of entire unit hydrograph: $T_b = T_p + T_r$
Tp	Time (hrs) to peak of a unit hydrograph: $T_p = (dt/2) + \text{Lag}$
Tr	Time (hrs) of receding limb of unit hydrograph: $T_r = \text{ratio of } T_p$

13-284

Rice Creek Stop N Stor

Subsection: Unit Hydrograph Equations

Unit Hydrograph Method

Computational Notes

Precipitation

Column (1)	Time for time step t
Column (2)	$D(t)$ = Point on distribution curve for time step t
Column (3)	$P_i(t) = P_a(t) - P_a(t-1)$: Col.(4) - Preceding Col.(4)
Column (4)	$P_a(t) = D(t) \times P$: Col.(2) x P

Pervious Area Runoff (using SCS Runoff CN Method)

	$Rap(t)$ = Accumulated pervious runoff for time step t
	If $(P_a(t))$ is $\leq 0.2Sp$ then use: $Rap(t) = 0.0$
	If $(P_a(t))$ is $> 0.2Sp$ then use:
	$Rap(t) = (Col.(4) - 0.2Sp)^{**2} / (Col.(4) + 0.8Sp)$
	$Rip(t)$ = Incremental pervious runoff for time step t
Column (5)	$Rip(t) = Rap(t) - Rap(t-1)$
Column (6)	$Rip(t) = Col.(5)$ for current row - Col.(5) for preceding row.

Impervious Area Runoff

Column (7 & 8)...	Did not specify to use impervious areas.
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Incremental Weighted Runoff

Column (9)	$R(t) = (A_p/At) \times Rip(t) + (A_i/At) \times Rii(t)$
	$R(t) = (A_p/At) \times Col.(6) + (A_i/At) \times Col.(8)$

SCS Unit Hydrograph Method

Column (10)	$Q(t)$ is computed with the SCS unit hydrograph method using $R(t)$ and $Qu(t)$.
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13-284

Subsection: Unit Hydrograph Summary
 Label: POST

Rice Creek Stop N Stor

Return Event: 2 years
 Storm Event: 2yr

Storm Event	2yr
Return Event	2 years
Duration	24.000 hours
Depth	4.8 in
Time of Concentration (Composite)	0.294 hours
Area (User Defined)	255,217.000 ft ²
Computational Time Increment	0.039 hours
Time to Peak (Computed)	12.248 hours
Flow (Peak, Computed)	14.55 ft ³ /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	14.54 ft ³ /s
Drainage Area	
SCS CN (Composite)	90.737
Area (User Defined)	255,217.000 ft ²
Maximum Retention (Pervious)	1.0 in
Maximum Retention (Pervious, 20 percent)	0.2 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.8 in
Runoff Volume (Pervious)	1.836 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.830 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.294 hours
Computational Time Increment	0.039 hours
Unit Hydrograph Shape Factor	323.000
K Factor	0.501
Receding/Rising, Tr/Tp	2.996

13-284

Subsection: Unit Hydrograph Summary

Label: POST

Rice Creek Stop N Stor

Return Event: 2 years

Storm Event: 2yr

SCS Unit Hydrograph Parameters

Unit peak, qp	15.07 ft ³ /s
Unit peak time, Tp	0.196 hours
Unit receding limb, Tr	0.588 hours
Total unit time, Tb	0.784 hours

13-284

Subsection: Unit Hydrograph Summary
 Label: POST

Rice Creek Stop N Stor

Return Event: 5 years
 Storm Event: 5yr

Storm Event	5yr
Return Event	5 years
Duration	24.000 hours
Depth	6.0 in
Time of Concentration (Composite)	0.294 hours
Area (User Defined)	255,217.000 ft ²
Computational Time Increment	0.039 hours
Time to Peak (Computed)	12.248 hours
Flow (Peak, Computed)	18.82 ft ³ /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	18.82 ft ³ /s
Drainage Area	
SCS CN (Composite)	90.737
Area (User Defined)	255,217.000 ft ²
Maximum Retention (Pervious)	1.0 in
Maximum Retention (Pervious, 20 percent)	0.2 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.9 in
Runoff Volume (Pervious)	2.406 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.398 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.294 hours
Computational Time Increment	0.039 hours
Unit Hydrograph Shape Factor	323.000
K Factor	0.501
Receding/Rising, Tr/Tp	2.996

13-284

Subsection: Unit Hydrograph Summary

Label: POST

Rice Creek Stop N Stor

Return Event: 5 years

Storm Event: 5yr

SCS Unit Hydrograph Parameters

Unit peak, qp	15.07 ft ³ /s
Unit peak time, Tp	0.196 hours
Unit receding limb, Tr	0.588 hours
Total unit time, Tb	0.784 hours

13-284

Subsection: Unit Hydrograph Summary
 Label: POST

Rice Creek Stop N Stor

Return Event: 10 years
 Storm Event: 10yr

Storm Event	10yr
Return Event	10 years
Duration	24.000 hours
Depth	6.7 in
Time of Concentration (Composite)	0.294 hours
Area (User Defined)	255,217.000 ft ²
Computational Time Increment	0.039 hours
Time to Peak (Computed)	12.248 hours
Flow (Peak, Computed)	21.37 ft ³ /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	21.36 ft ³ /s
Drainage Area	
SCS CN (Composite)	90.737
Area (User Defined)	255,217.000 ft ²
Maximum Retention (Pervious)	1.0 in
Maximum Retention (Pervious, 20 percent)	0.2 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.6 in
Runoff Volume (Pervious)	2.750 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.742 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.294 hours
Computational Time Increment	0.039 hours
Unit Hydrograph Shape Factor	323.000
K Factor	0.501
Receding/Rising, Tr/Tp	2.996

13-284

Subsection: Unit Hydrograph Summary
Label: POST

Rice Creek Stop N Stor

Return Event: 10 years
Storm Event: 10yr

SCS Unit Hydrograph Parameters

Unit peak, qp	15.07 ft ³ /s
Unit peak time, Tp	0.196 hours
Unit receding limb, Tr	0.588 hours
Total unit time, Tb	0.784 hours

13-284

Subsection: Unit Hydrograph Summary
 Label: POST

Rice Creek Stop N Stor

Return Event: 25 years
 Storm Event: 25yr

Storm Event	25yr
Return Event	25 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.294 hours
Area (User Defined)	255,217.000 ft ²
Computational Time Increment	0.039 hours
Time to Peak (Computed)	12.248 hours
Flow (Peak, Computed)	25.60 ft ³ /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	25.59 ft ³ /s
Drainage Area	
SCS CN (Composite)	90.737
Area (User Defined)	255,217.000 ft ²
Maximum Retention (Pervious)	1.0 in
Maximum Retention (Pervious, 20 percent)	0.2 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.8 in
Runoff Volume (Pervious)	3.327 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.317 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.294 hours
Computational Time Increment	0.039 hours
Unit Hydrograph Shape Factor	323.000
K Factor	0.501
Receding/Rising, Tr/Tp	2.996

13-284

Subsection: Unit Hydrograph Summary

Label: POST

Rice Creek Stop N Stor

Return Event: 25 years

Storm Event: 25yr

SCS Unit Hydrograph Parameters

Unit peak, qp	15.07 ft ³ /s
Unit peak time, Tp	0.196 hours
Unit receding limb, Tr	0.588 hours
Total unit time, Tb	0.784 hours

13-284

Subsection: Unit Hydrograph Summary
 Label: POST

Rice Creek Stop N Stor

Return Event: 50 years
 Storm Event: 50yr

Storm Event	50yr
Return Event	50 years
Duration	24.000 hours
Depth	8.9 in
Time of Concentration (Composite)	0.294 hours
Area (User Defined)	255,217.000 ft ²
Computational Time Increment	0.039 hours
Time to Peak (Computed)	12.248 hours
Flow (Peak, Computed)	28.97 ft ³ /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	28.95 ft ³ /s
Drainage Area	
SCS CN (Composite)	90.737
Area (User Defined)	255,217.000 ft ²
Maximum Retention (Pervious)	1.0 in
Maximum Retention (Pervious, 20 percent)	0.2 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	7.8 in
Runoff Volume (Pervious)	3.790 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.778 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.294 hours
Computational Time Increment	0.039 hours
Unit Hydrograph Shape Factor	323.000
K Factor	0.501
Receding/Rising, Tr/Tp	2.996

13-284

Subsection: Unit Hydrograph Summary

Label: POST

Rice Creek Stop N Stor

Return Event: 50 years

Storm Event: 50yr

SCS Unit Hydrograph Parameters

Unit peak, qp	15.07 ft ³ /s
Unit peak time, Tp	0.196 hours
Unit receding limb, Tr	0.588 hours
Total unit time, Tb	0.784 hours

13-284

Subsection: Unit Hydrograph Summary
 Label: POST

Rice Creek Stop N Stor

Return Event: 100 years
 Storm Event: 100yr

Storm Event	100yr
Return Event	100 years
Duration	24.000 hours
Depth	9.8 in
Time of Concentration (Composite)	0.294 hours
Area (User Defined)	255,217.000 ft ²
Computational Time Increment	0.039 hours
Time to Peak (Computed)	12.248 hours
Flow (Peak, Computed)	32.32 ft ³ /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	32.30 ft ³ /s
Drainage Area	
SCS CN (Composite)	90.737
Area (User Defined)	255,217.000 ft ²
Maximum Retention (Pervious)	1.0 in
Maximum Retention (Pervious, 20 percent)	0.2 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	8.7 in
Runoff Volume (Pervious)	4.254 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	4.241 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.294 hours
Computational Time Increment	0.039 hours
Unit Hydrograph Shape Factor	323.000
K Factor	0.501
Receding/Rising, Tr/Tp	2.996

13-284

Subsection: Unit Hydrograph Summary

Label: POST

Rice Creek Stop N Stor

Return Event: 100 years

Storm Event: 100yr

SCS Unit Hydrograph Parameters

Unit peak, qp	15.07 ft ³ /s
Unit peak time, Tp	0.196 hours
Unit receding limb, Tr	0.588 hours
Total unit time, Tb	0.784 hours

13-284

Subsection: Unit Hydrograph Summary
 Label: PRE

Rice Creek Stop N Stor

Return Event: 2 years
 Storm Event: 2yr

Storm Event	2yr
Return Event	2 years
Duration	24.000 hours
Depth	4.8 in
Time of Concentration (Composite)	0.489 hours
Area (User Defined)	255,233.000 ft ²
Computational Time Increment	0.065 hours
Time to Peak (Computed)	12.447 hours
Flow (Peak, Computed)	6.47 ft ³ /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.450 hours
Flow (Peak Interpolated Output)	6.47 ft ³ /s
Drainage Area	
SCS CN (Composite)	73.030
Area (User Defined)	255,233.000 ft ²
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.1 in
Runoff Volume (Pervious)	1.039 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.030 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.489 hours
Computational Time Increment	0.065 hours
Unit Hydrograph Shape Factor	323.000
K Factor	0.501
Receding/Rising, Tr/Tp	2.996

13-284

Subsection: Unit Hydrograph Summary

Label: PRE

Rice Creek Stop N Stor

Return Event: 2 years

Storm Event: 2yr

SCS Unit Hydrograph Parameters

Unit peak, qp	9.08 ft ³ /s
Unit peak time, Tp	0.326 hours
Unit receding limb, Tr	0.976 hours
Total unit time, Tb	1.302 hours

13-284

Subsection: Unit Hydrograph Summary
 Label: PRE

Rice Creek Stop N Stor

Return Event: 5 years
 Storm Event: 5yr

Storm Event	5yr
Return Event	5 years
Duration	24.000 hours
Depth	6.0 in
Time of Concentration (Composite)	0.489 hours
Area (User Defined)	255,233.000 ft ²
Computational Time Increment	0.065 hours
Time to Peak (Computed)	12.447 hours
Flow (Peak, Computed)	9.53 ft ³ /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.450 hours
Flow (Peak Interpolated Output)	9.52 ft ³ /s
Drainage Area	
SCS CN (Composite)	73.030
Area (User Defined)	255,233.000 ft ²
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.1 in
Runoff Volume (Pervious)	1.510 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.499 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.489 hours
Computational Time Increment	0.065 hours
Unit Hydrograph Shape Factor	323.000
K Factor	0.501
Receding/Rising, Tr/Tp	2.996

13-284

Subsection: Unit Hydrograph Summary

Label: PRE

Rice Creek Stop N Stor

Return Event: 5 years

Storm Event: 5yr

SCS Unit Hydrograph Parameters

Unit peak, qp	9.08 ft ³ /s
Unit peak time, Tp	0.326 hours
Unit receding limb, Tr	0.976 hours
Total unit time, Tb	1.302 hours

13-284

Subsection: Unit Hydrograph Summary
 Label: PRE

Rice Creek Stop N Stor

Return Event: 10 years
 Storm Event: 10yr

Storm Event	10yr
Return Event	10 years
Duration	24.000 hours
Depth	6.7 in
Time of Concentration (Composite)	0.489 hours
Area (User Defined)	255,233.000 ft ²

Computational Time Increment	0.065 hours
Time to Peak (Computed)	12.447 hours
Flow (Peak, Computed)	11.43 ft ³ /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.450 hours
Flow (Peak Interpolated Output)	11.42 ft ³ /s

Drainage Area	
SCS CN (Composite)	73.030
Area (User Defined)	255,233.000 ft ²
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.7 in
Runoff Volume (Pervious)	1.806 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.793 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.489 hours
Computational Time Increment	0.065 hours
Unit Hydrograph Shape Factor	323.000
K Factor	0.501
Receding/Rising, Tr/Tp	2.996

13-284

Subsection: Unit Hydrograph Summary

Label: PRE

Rice Creek Stop N Stor

Return Event: 10 years

Storm Event: 10yr

SCS Unit Hydrograph Parameters	
Unit peak, qp	9.08 ft ³ /s
Unit peak time, Tp	0.326 hours
Unit receding limb, Tr	0.976 hours
Total unit time, Tb	1.302 hours

13-284

Subsection: Unit Hydrograph Summary
 Label: PRE

Rice Creek Stop N Stor

Return Event: 25 years
 Storm Event: 25yr

Storm Event	25yr
Return Event	25 years
Duration	24.000 hours
Depth	7.9 in
Time of Concentration (Composite)	0.489 hours
Area (User Defined)	255,233.000 ft ²

Computational Time Increment	0.065 hours
Time to Peak (Computed)	12.447 hours
Flow (Peak, Computed)	14.67 ft ³ /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.450 hours
Flow (Peak Interpolated Output)	14.66 ft ³ /s

Drainage Area	
SCS CN (Composite)	73.030
Area (User Defined)	255,233.000 ft ²
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.7 in
Runoff Volume (Pervious)	2.316 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.300 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.489 hours
Computational Time Increment	0.065 hours
Unit Hydrograph Shape Factor	323.000
K Factor	0.501
Receding/Rising, Tr/Tp	2.996

13-284

Subsection: Unit Hydrograph Summary

Label: PRE

Rice Creek Stop N Stor

Return Event: 25 years

Storm Event: 25yr

SCS Unit Hydrograph Parameters

Unit peak, qp	9.08 ft ³ /s
Unit peak time, Tp	0.326 hours
Unit receding limb, Tr	0.976 hours
Total unit time, Tb	1.302 hours

13-284

Subsection: Unit Hydrograph Summary
 Label: PRE

Rice Creek Stop N Stor

Return Event: 50 years
 Storm Event: 50yr

Storm Event	50yr
Return Event	50 years
Duration	24.000 hours
Depth	8.9 in
Time of Concentration (Composite)	0.489 hours
Area (User Defined)	255,233.000 ft ²
Computational Time Increment	0.065 hours
Time to Peak (Computed)	12.447 hours
Flow (Peak, Computed)	17.30 ft ³ /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.450 hours
Flow (Peak Interpolated Output)	17.29 ft ³ /s
Drainage Area	
SCS CN (Composite)	73.030
Area (User Defined)	255,233.000 ft ²
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.6 in
Runoff Volume (Pervious)	2.735 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.717 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.489 hours
Computational Time Increment	0.065 hours
Unit Hydrograph Shape Factor	323.000
K Factor	0.501
Receding/Rising, Tr/Tp	2.996

13-284

Subsection: Unit Hydrograph Summary

Label: PRE

Rice Creek Stop N Stor

Return Event: 50 years

Storm Event: 50yr

SCS Unit Hydrograph Parameters

Unit peak, qp	9.08 ft ³ /s
Unit peak time, Tp	0.326 hours
Unit receding limb, Tr	0.976 hours
Total unit time, Tb	1.302 hours

13-284

Subsection: Unit Hydrograph Summary
 Label: PRE

Rice Creek Stop N Stor

Return Event: 100 years
 Storm Event: 100yr

Storm Event	100yr
Return Event	100 years
Duration	24.000 hours
Depth	9.8 in
Time of Concentration (Composite)	0.489 hours
Area (User Defined)	255,233.000 ft ²

Computational Time Increment	0.065 hours
Time to Peak (Computed)	12.447 hours
Flow (Peak, Computed)	19.95 ft ³ /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.450 hours
Flow (Peak Interpolated Output)	19.93 ft ³ /s

Drainage Area	
SCS CN (Composite)	73.030
Area (User Defined)	255,233.000 ft ²
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.5 in
Runoff Volume (Pervious)	3.161 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.141 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.489 hours
Computational Time Increment	0.065 hours
Unit Hydrograph Shape Factor	323.000
K Factor	0.501
Receding/Rising, Tr/Tp	2.996

13-284

Subsection: Unit Hydrograph Summary

Label: PRE

Rice Creek Stop N Stor

Return Event: 100 years

Storm Event: 100yr

SCS Unit Hydrograph Parameters

Unit peak, qp	9.08 ft ³ /s
Unit peak time, Tp	0.326 hours
Unit receding limb, Tr	0.976 hours
Total unit time, Tb	1.302 hours

13-284

Subsection: Interconnected Pond Routing Summary
 Label: PO-1

Rice Creek Stop N Stor

Return Event: 2 years
 Storm Event: 2yr

Infiltration					
Infiltration Method (Computed)	No Infiltration				
Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	10.35	ft	Flow Tolerance (Minimum)	0.000	ft ³ /s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft ³ /s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	14.050	14.37	1.331

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft ³ /s)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Pond Inflow....	12.250	14.54	0.000	0.00
Pond Outflow...	14.050	1.50	8.050	-0.25

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	1.830	Forward	0.000	Reverse
Pond Outflow...	0.113	Reverse	0.877	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	1.943 ac-ft
Volume (Total Out ICPM)	0.877 ac-ft
Volume (Ending)	1.065 ac-ft
Elevation (Ending)	13.74 ft
Difference	0.001 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.1 %

13-284

Rice Creek Stop N Stor

Subsection: Interconnected Pond Routing Summary
 Label: PO-1

Return Event: 5 years
 Storm Event: 5yr

Infiltration					
Infiltration Method (Computed)	No Infiltration				
Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	10.35	ft	Flow Tolerance (Minimum)	0.000	ft ³ /s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft ³ /s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	12.850	14.67	1.464

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft ³ /s)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Pond Inflow....	12.250	18.82	0.000	0.00
Pond Outflow...	12.850	5.34	7.800	-0.21

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	2.398	Forward	0.000	Reverse
Pond Outflow...	0.089	Reverse	1.367	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	2.488 ac-ft
Volume (Total Out ICPM)	1.367 ac-ft
Volume (Ending)	1.119 ac-ft
Elevation (Ending)	13.88 ft
Difference	0.002 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.1 %

13-284

Subsection: Interconnected Pond Routing Summary
 Label: PO-1

Rice Creek Stop N Stor

Return Event: 10 years
 Storm Event: 10yr

Infiltration					
Infiltration Method (Computed)	No Infiltration				
Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	10.35	ft	Flow Tolerance (Minimum)	0.000	ft ³ /s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft ³ /s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	12.750	14.88	1.557

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft ³ /s)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Pond Inflow....	12.250	21.36	0.000	0.00
Pond Outflow...	12.750	8.15	7.550	-0.19

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	2.742	Forward	0.000	Reverse
Pond Outflow...	0.078	Reverse	1.670	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	2.819 ac-ft
Volume (Total Out ICPM)	1.670 ac-ft
Volume (Ending)	1.148 ac-ft
Elevation (Ending)	13.96 ft
Difference	0.002 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.1 %

13-284

Subsection: Interconnected Pond Routing Summary
 Label: PO-1

Rice Creek Stop N Stor

Return Event: 25 years
 Storm Event: 25yr

Infiltration					
Infiltration Method (Computed)	No Infiltration				
Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	10.35	ft	Flow Tolerance (Minimum)	0.000	ft ³ /s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft ³ /s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	12.650	15.14	1.696

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft ³ /s)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Pond Inflow....	12.250	25.59	0.000	0.00
Pond Outflow...	12.650	12.68	6.150	-0.16

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	3.317	Forward	0.000	Reverse
Pond Outflow...	0.061	Reverse	2.188	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	3.377 ac-ft
Volume (Total Out ICPM)	2.188 ac-ft
Volume (Ending)	1.188 ac-ft
Elevation (Ending)	14.06 ft
Difference	0.002 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

13-284

Subsection: Interconnected Pond Routing Summary
 Label: PO-1

Rice Creek Stop N Stor

Return Event: 50 years
 Storm Event: 50yr

Infiltration					
Infiltration Method (Computed)	No Infiltration				
Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	10.35	ft	Flow Tolerance (Minimum)	0.000	ft ³ /s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft ³ /s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	12.650	15.33	1.808

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft ³ /s)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Pond Inflow....	12.250	28.95	0.000	0.00
Pond Outflow...	12.650	15.90	5.850	-0.13

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	3.778	Forward	0.000	Reverse
Pond Outflow...	0.049	Reverse	2.611	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	3.828 ac-ft
Volume (Total Out ICPM)	2.611 ac-ft
Volume (Ending)	1.215 ac-ft
Elevation (Ending)	14.12 ft
Difference	0.002 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

13-284

Subsection: Interconnected Pond Routing Summary
 Label: PO-1

Rice Creek Stop N Stor

Return Event: 100 years
 Storm Event: 100yr

Infiltration					
Infiltration Method (Computed)	No Infiltration				
Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	10.35	ft	Flow Tolerance (Minimum)	0.000	ft ³ /s
Volume (Starting)	0.000	ac-ft	Maximum Iterations	35	
Outflow (Starting)	0.00	ft ³ /s	ICPM Time Step	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ac-ft)
	12.650	15.55	1.944

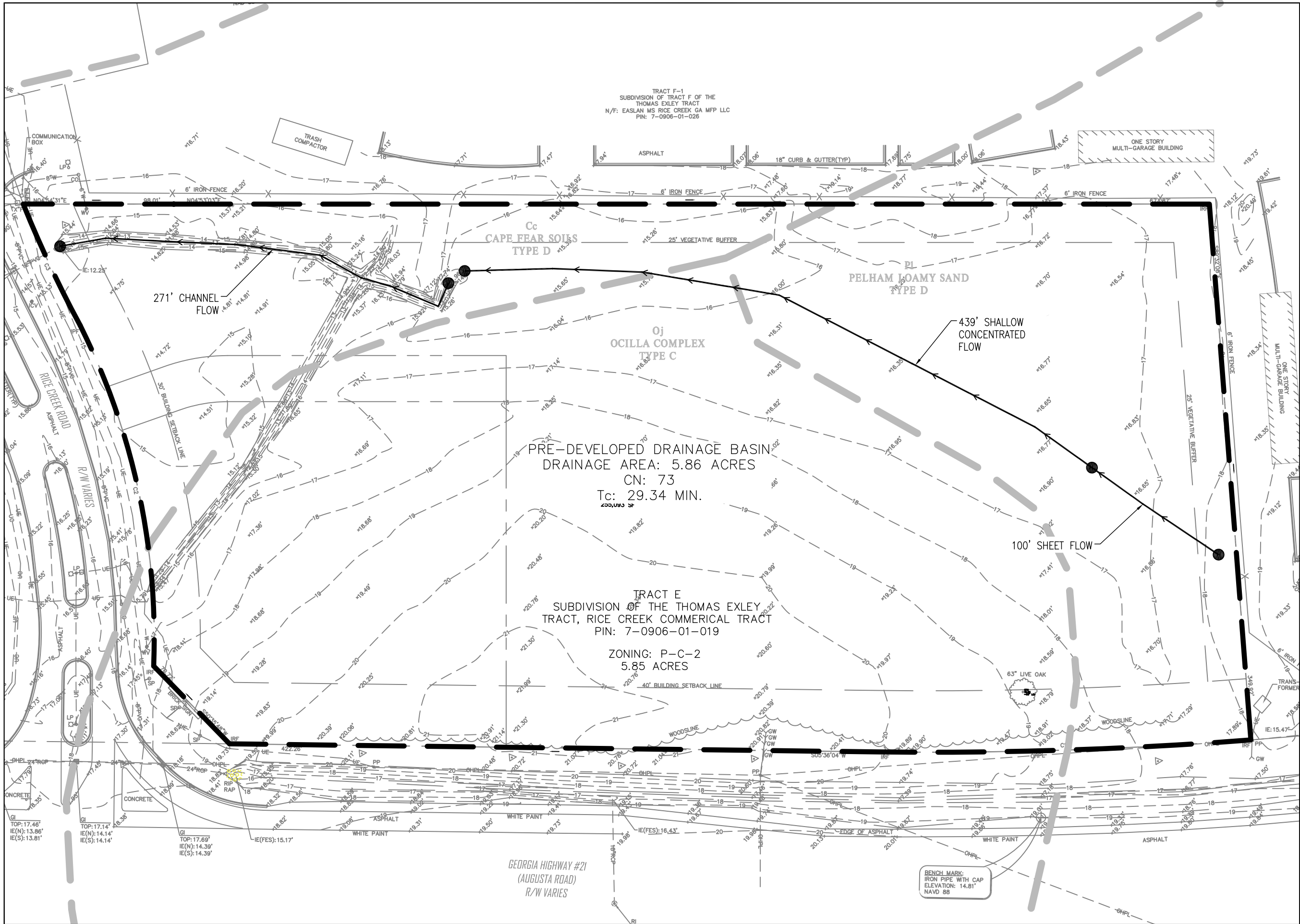
	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft ³ /s)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Pond Inflow....	12.250	32.30	0.000	0.00
Pond Outflow...	12.650	17.28	5.550	-0.11

	Total Volume In		Total Volume Out	
	Volume (ac-ft)	Direction	Volume (ac-ft)	Direction
Pond Inflow....	4.241	Forward	0.000	Reverse
Pond Outflow...	0.039	Reverse	3.042	Forward

Mass Balance (ac-ft)	
Volume (Initial ICPM)	0.000 ac-ft
Volume (Total In ICPM)	4.280 ac-ft
Volume (Total Out ICPM)	3.042 ac-ft
Volume (Ending)	1.237 ac-ft
Elevation (Ending)	14.16 ft
Difference	0.002 ac-ft
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

Exhibit I
PRE-DEVELOPED
DRAINAGE CONDITIONS AND MAP

Fri, 16 May 2014 - 12:23pm wgreen
 DRAWING PATH: J:\13-284\DWG\13-284 Hydro Exhibits.dwg



COLEMAN COMPANY, INC.
 17 PARK OF COMMERCE | SUITE 201
 SAVANNAH, GA 31405
 (D) 912.200.3041 | (F) 912.200.3056

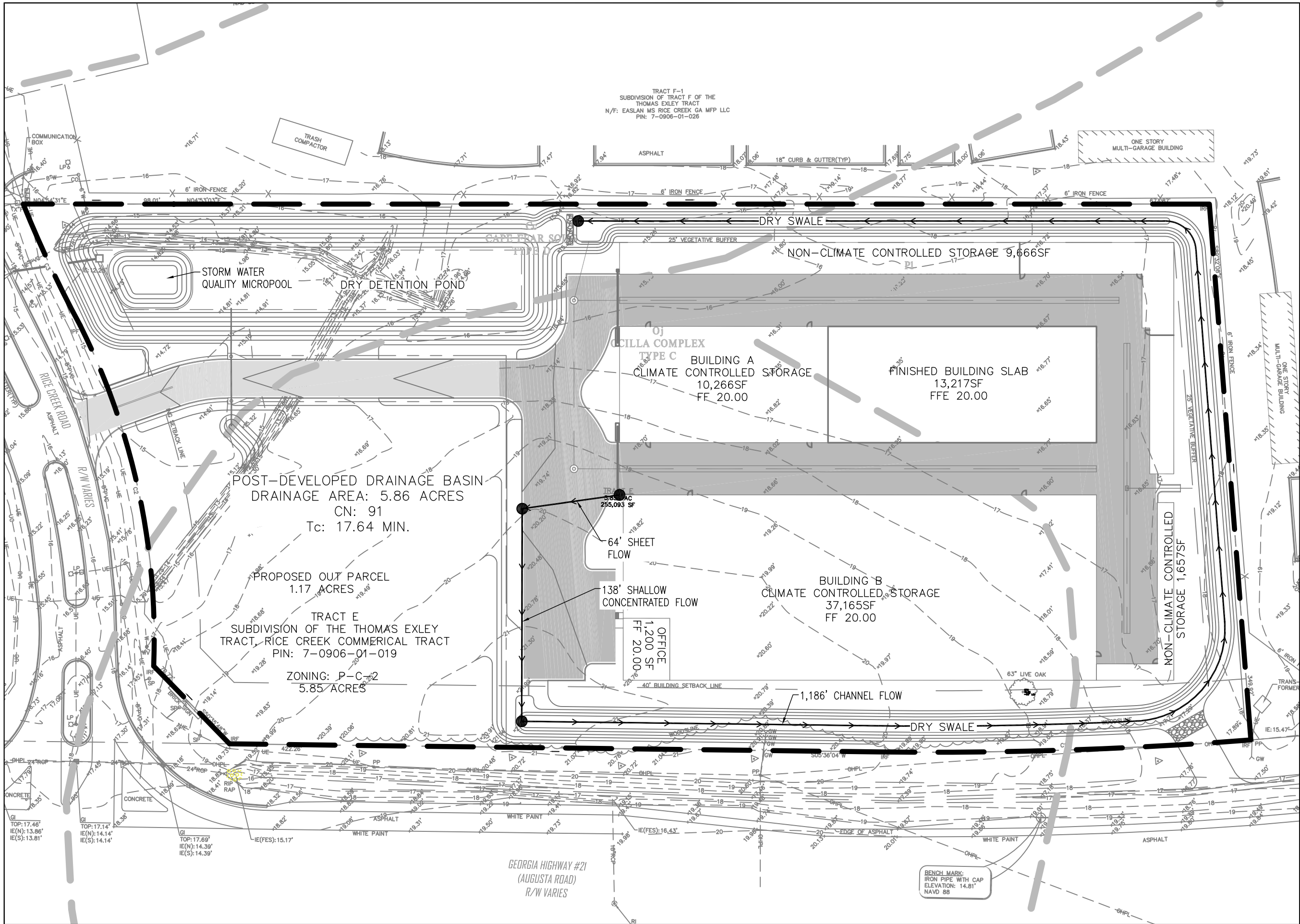
RICE CREEK STOP N STOR
 PRE-DEVELOPMENT HYDROLOGIC ANALYSIS EXHIBIT
 PREPARED FOR:
 ALAN DASHER

DATE: 05/16/2014
 SCALE: 1"=60'
 JOB #: 13-284
 DRAWN BY: WRG
 CHECKED BY: CCS

SHEET
 EX-1.0

Exhibit II
POST-DEVELOPED
DRAINAGE CONDITIONS AND MAP

Fri, 16 May 2014 - 12:24pm wgreen
 DRAWING PATH: J:\13-284\DWG\13-284 Hydro Exhibits.dwg



TRACT F-1
 SUBDIVISION OF TRACT F OF THE
 THOMAS EXLEY TRACT
 N/F: EASLAN MS RICE CREEK GA MFP LLC
 PIN: 7-0906-01-026

TRACT E
 SUBDIVISION OF THE THOMAS EXLEY
 TRACT, RICE CREEK COMMERCIAL TRACT
 PIN: 7-0906-01-019
 ZONING: P-C-2
 5.85 ACRES

POST-DEVELOPED DRAINAGE BASIN
 DRAINAGE AREA: 5.86 ACRES
 CN: 91
 Tc: 17.64 MIN.

BUILDING A
 CLIMATE CONTROLLED STORAGE
 10,266SF
 FF 20.00

BUILDING B
 CLIMATE CONTROLLED STORAGE
 37,165SF
 FF 20.00

FINISHED BUILDING SLAB
 13,217SF
 FFE 20.00

NON-CLIMATE CONTROLLED STORAGE 9,666SF

NON-CLIMATE CONTROLLED STORAGE 1,657SF

OFFICE
 1,200 SF
 FF 20.00

STORM WATER QUALITY MICROPOND

DRY DETENTION POND

TRASH COMPACTOR

COMMUNICATION BOX

ONE STORY MULTI-GARAGE BUILDING

63" LIVE OAK

TRANSFORMER

BENCH MARK:
 IRON PIPE WITH CAP
 ELEVATION: 14.81'
 NAVD 88

GEORGIA HIGHWAY #21
 (AUGUSTA ROAD)
 R/W VARIES

RICE CREEK STOP N STOR
 POST-DEVELOPMENT HYDROLOGIC ANALYSIS EXHIBIT
 PREPARED FOR:
 ALAN DASHER

DATE: 05/16/2014
 SCALE: 1"=60'
 JOB #: 13-284
 DRAWN BY: WRG
 CHECKED BY: CCS

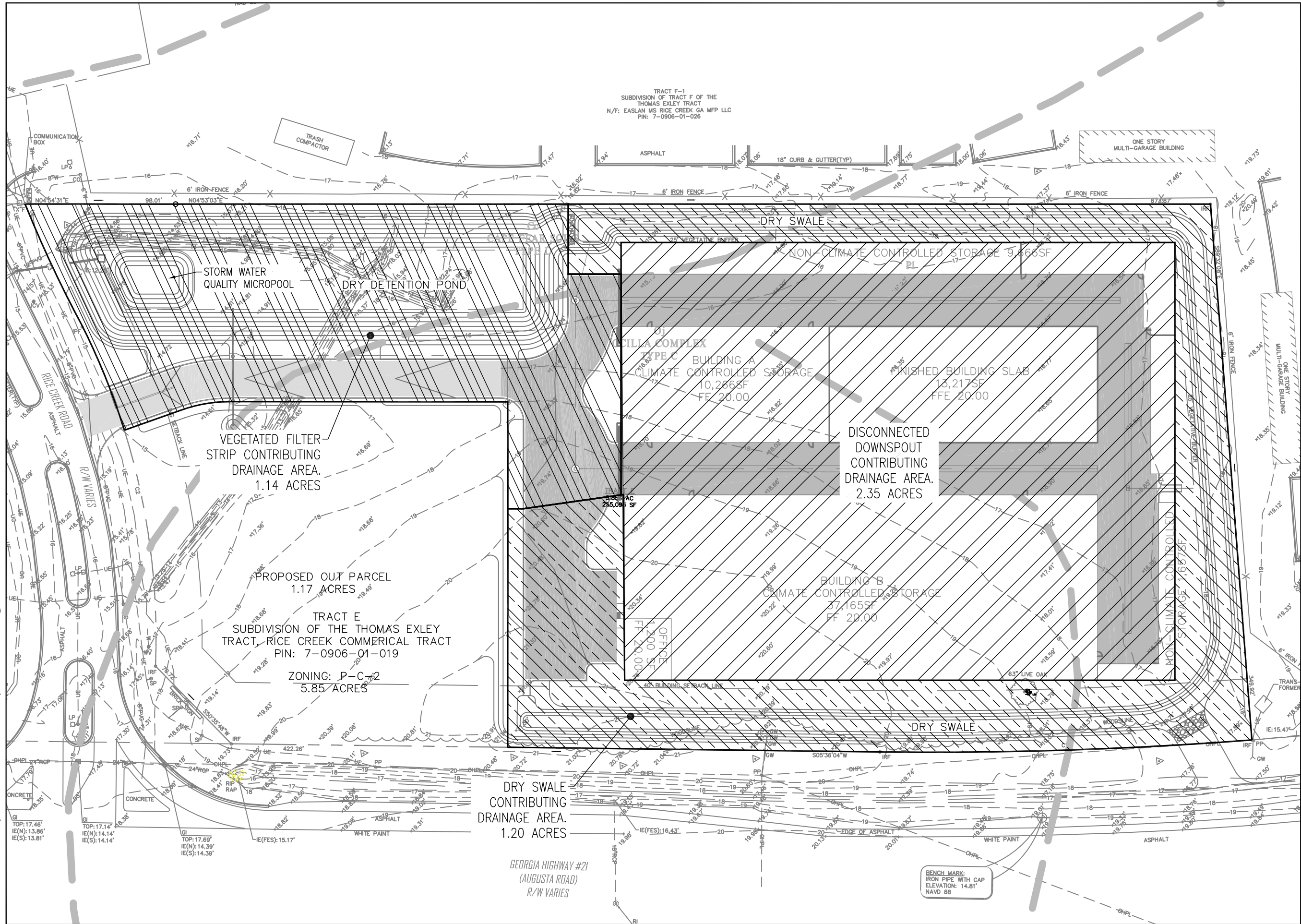
SHEET
 EX-2.0

COLEMAN COMPANY, INC.
 17 PARK OF COMMERCE | SUITE 201
 SAVANNAH, GA 31405
 (D) 912.200.3041 | (F) 912.200.3056

ENGINEERS & SURVEYORS

Exhibit III
RUNOFF REDUCTION EXHIBIT

Fri, 16 May 2014 - 12:24pm wgreen
 DRAWING PATH: J:\13-284\DWG\13-284 Hydro Exhibits.dwg



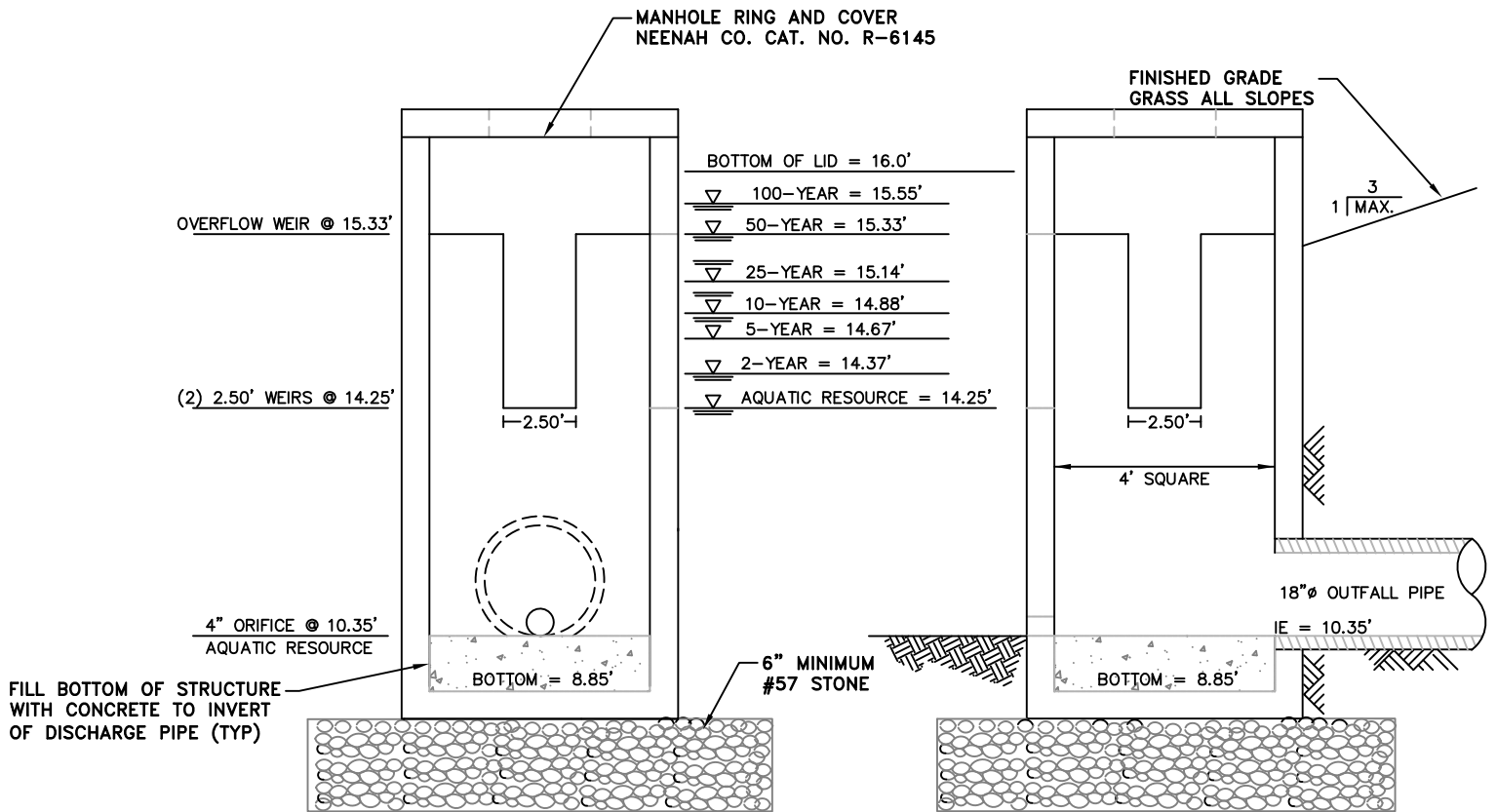
COLEMAN COMPANY, INC.
 17 PARK OF COMMERCE | SUITE 201
 SAVANNAH, GA 31405
 (D) 912.200.3041 | (F) 912.200.3056

RICE CREEK STOP N STOR
 GEORGIA COASTAL STORMWATER SUPPLEMENT EXHIBIT
 PREPARED FOR:
 ALAN DASHER

DATE: 05/16/2014
 SCALE: 1"=60'
 JOB #: 13-284
 DRAWN BY: WRG
 CHECKED BY: CCS

SHEET
 EX-3.0

Exhibit IV
OUTLET CONTROL STRUCTURE DETAILS



OUTFALL STRUCTURE

NOT TO SCALE



City Council
7224 GA Highway 21
Port Wentworth, GA 31407

Meeting: 04/28/22 07:00 PM
Department: Development Services
Category: Planning/Zoning Item
Prepared By: Melanie Ellis
Department Head: Brian Harvey

SCHEDULED

AGENDA ITEM (ID # 2645)

DOC ID: 2645

Site Plan Review Application submitted by Felipe Toledo, P.E., Thomas & Hutton, on behalf of Chance Raehn, Chesterfield, LLC., for PIN # 7-0906-01-039 (Augusta Road) for a Specific Development Site Plan to allow a Warehouse in a P-I-1 (Planned Industrial) Zoning District

Issue/Item: Site Plan Review Application submitted by Felipe Toledo, P.E., Thomas & Hutton, on behalf of Chance Raehn, Chesterfield, LLC., for PIN # 7-0906-01-039 (Augusta Road) for a Specific Development Site Plan to allow a Warehouse in a P-I-1 (Planned Industrial) Zoning District

Background: The subject property is currently vacant woodland. There are no buildings or structures on the subject property. This parcel was approved to be rezoned to P-I-1 during the November 19, 2020 regularly scheduled City Council meeting.

Facts and Findings: The subject parcel is located in the Georgia International Trade Center and will be accessed using Trade Center Parkway. The site plan consist of a 733,321 square foot warehouse building, associated parking and stormwater detention and drainage. The project has been proposed to connect to Effingham County water and sewer utilities. This application is currently under review by City Engineers T.R. Long Engineering. The subject property is identified as "suburban character area"; however, the use is contiguous to an existing warehouse development in Effingham County.

Funding: N/A

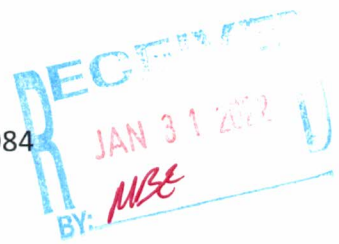
Recommendation: The Planning Commission will hear this application on Monday, April 11, 2022 at 6:30 P.M. / **UPDATE: THE PLANNING COMMISSION VOTED UNANIMOUSLY TO APPROVE THIS APPLICATION.**

ATTACHMENTS:

- 7-0906-01-039 CHATHAM BLD S-SITE PLAN APRIL 2022 - Application (PDF)
- 7-0906-01-039 CHATHAM BLD S-SITE PLAN APRIL 2022 - Timeline (DOCX)
- 7-0906-01-039 CHATHAM BLD S-SITE PLAN APRIL 2022 - 1st Comment Letter TR Long 3.10.22 (PDF)
- 7-0906-01-039 CHATHAM BLD S-SITE PLAN APRIL 2022 - 1st Return Comment Letter T&H 3.14.22 (PDF)
- Planning Commission Minutes April 11, 2022 DRAFT (PDF)

220122

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: Augusta RD, Port Wentworth, GA 31407

PIN #(s): 7-0906-01-039

Zoning: Industrial Estimated Cost of Construction: \$ 35,000,000

Type of Construction: Warehouse

Applicant's Name: Felipe Toledo, P.E - Thomas & Hutton

Mailing Address: 50 Park of Commerce Way Savannah, GA 31405

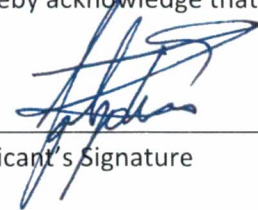
Phone #: 912-721-4090 Email: toledo.f@tandh.com

Owner's Name (if Different form Applicant): Chance Raehn - Chesterfield, LLC

Mailing Address: 100 Bull Street Savannah, GA 31401
Suite 200

Phone #: 912-721-8662 Email: craehn@chesterfieldllc.com

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


Applicant's Signature

10/11/2021
Date

Chance Raehn
Owner's Signature (if Different form Applicant)

October 13, 2021
Date

Please see page 2 for required submittal checklist

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 (either flash drive or CD)
- 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



Applicant's Signature

10/11/2021

Date

CITY OF PORT WENTWORTH
(912) 964-4379

REC#: 00342544 2/03/2022 3:08 PM
OPER: ME TERM: 011
REF#: CK 1681

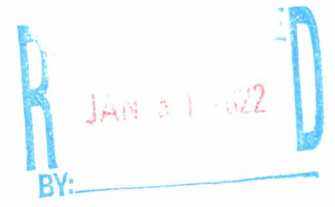
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220122 886.00CR
CHESTERFIELD, LLC
7-0906-01-039
DEV-SPR 886.00CR

TENDERED: 886.00 CHECK
APPLIED: 886.00-

CHANGE: 0.00

WWW.CITYOFPORTWENTWORTH.COM

PIN	Owner Name	Property Address	Owner Address (If different from Property Address)
7-0976-01-041	Varnedoe, Sam L	Saussy Rd, Port Wentworth GA 31407	PO Box 2379, Tybee Island, GA 31328-2379
7-0906-01-001B	GW Investments LLC	Augusta Rd, Port Wentworth GA 31407	660 E 39th St, Savannah, GA 31401-9275
7-0906-01-029	Exley, Thomas L	Augusta Rd, Port Wentworth GA 31407	PO Box 416, Springfield, GA 31329-0416
7-0906-01-032	Rice Creek Investors NO 2 LLC & Landmark 24 HMS of Savannah LLC	Rice Creek RD, Port Wentworth GA 31407	
7-0906-C01-068	125 Rivermarsh Drive LLC	27 Hasty Point Rd, Port Wentworth GA 31407-6071	525 Suncrest Blvd, Savannah, GA 31410-2219
7-0906-C01-069	Mills, Shirley Ann	25 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-070	BEP Rice Hope LLC	23 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-071	BEP Rice Hope LLC	21 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-072	BEP Rice Hope LLC	19 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-073	BEP Rice Hope LLC	17 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-074	BEP Rice Hope LLC	15 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-075	Rice Creek HOA of Port Wentworth GE	Hasty Point Rd, Port Wentworth GA 31407 (Drainage Easement)	
7-0906-C01-076	BEP Rice Hope LLC	13 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-077	BEP Rice Hope LLC	11 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-078	BEP Rice Hope LLC	9 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-079	BEP Rice Hope LLC	7 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-080	BEP Rice Hope LLC	5 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-081	BEP Rice Hope LLC	3 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-082	BEP Rice Hope LLC	1 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-083	BEP Rice Hope LLC	2 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-084	Morentin, Greg A	4 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-085	Johnson, Patricia A	6 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-086	Pitts, Deyvonndra L	8 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-087	Hodge, Erik K	10 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-088	Thompson, Jonathan R	12 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-089	Kelly, Patrick J & Kelly, Donna M	14 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-090	Governor, Dlynda R & Eugene, Ralph	16 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-091	Ware, Andria Denise	18 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-092	Howard, Michael Paul & Kent, Jonathan	20 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-093	Luke, Nadia & Placide, Norbert M	22 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-094	Warnock, Cheryl W	24 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-095	Bacon, Sean & Lakea V	26 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-096	Huss, Eric C	28 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-097	Richardson, Kenneth J	30 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-098	Overstreet, Michael S	32 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-099	BEP Rice Hope LLC	34 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-100	BEP Rice Hope LLC	36 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-101	BEP Rice Hope LLC	38 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-102	BEP RH Tract 1 LLC	40 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-103	BEP RH Tract 1 LLC	42 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-104	BEP RH Tract 1 LLC	44 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-105	BEP RH Tract 1 LLC	46 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-106	BEP RH Tract 1 LLC	48 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-107	BEP RH Tract 1 LLC	50 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-108	Fisher Isle Investments LLC	52 Hasty Point Rd, Port Wentworth GA 31407-6071	120 Commerce CT, Pooler, GA 31322
7-0906-C01-109	Fisher Isle Investments LLC	54 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C01-110	Eden Lake Investments LLC	56 Hasty Point Rd, Port Wentworth GA 31407-6071	120 Commerce CT, Pooler, GA 31322
7-0906-C01-111	Fisher Isle Investments LLC	58 Hasty Point Rd, Port Wentworth GA 31407-6071	120 Commerce CT, Pooler, GA 31322
7-0906-C01-112	Fisher Isle Investments LLC	60 Hasty Point Rd, Port Wentworth GA 31407-6071	120 Commerce CT, Pooler, GA 31322
7-0906-C04-029	Simmons, Latisha Diane	38 Miller Pond Rd, Port Wentworth GA 31407-6071	
7-0906-C04-030	Mcintyre, Katina	40 Miller Pond Rd, Port Wentworth GA 31407-6071	
7-0906-C04-037	Harvey, Jacquelyn E & Roberts, Brenda O	39 Miller Pond Rd, Port Wentworth GA 31407-6071	
7-0906-C04-038	Montoyalopez, Carlos Andres	41 Miller Pond Rd, Port Wentworth GA 31407-6071	
7-0906-C04-039	Harrison, Calvin Gregory & Kimedra, Dionne	31 Miller Pond Rd, Port Wentworth GA 31407-6071	
7-0906-C04-040	Garcia-Degro, Santos I	29 Hasty Point Rd, Port Wentworth GA 31407-6071	
7-0906-C04-053	Fisher Isle Investments LLC	25 Miriam Jordan Rd, Port Wentworth GA 31407	120 Commerce CT, Pooler, GA 31322
7-0906-C04-054	Garnett Ridge Investments LLC	27 Miriam Jordan Rd, Port Wentworth GA 31407	120 Commerce CT, Pooler, GA 31322
7-0906-C04-067	Fisher Isle Investments LLC	26 Miriam Jordan Rd, Port Wentworth GA 31407	120 Commerce CT, Pooler, GA 31322
7-0906-C04-068	Fisher Isle Investments LLC	28 Miriam Jordan Rd, Port Wentworth GA 31407	120 Commerce CT, Pooler, GA 31322



50 PARK OF COMMERCE WAY
SAVANNAH, GA 31405 | 912.234.5300
THOMASANDHUTTON.COM

January 27th, 2022

Mr. Brian Harvey
City of Port Wentworth
7224 Georgia Highway 21
Port Wentworth, Georgia 31407

Re: Georgia International Trade Center
Building 4A (Chatham Building)
Effingham County, Georgia
J-26838.0029

Dear Mr. Harvey:

On behalf of our client, Chesterfield, LLC, we submit specific development plans and documents for the above referenced project for review. We request that the plans and documents be examined by the City of Port Wentworth for conformance with the applicable standards and development requirements. The following documents are enclosed:

- Three (3) copies of the GITC 4A Specific Development Plans dated 01/26/2021
- Two (2) copies of the GITC 4A Stormwater Management Report dated 01/26/2022
- One (1) copy of the Standard Sewer Calculations
- One (1) copy of the Pump Station Calculations
- One (1) Site Plan Review Application
- One (1) list of property owners within 250 feet of property

Georgia International Trade Center is a master planned industrial park. The scope of this project is to construct an approximately 733,000 warehouse facility with an associated roadway, parking and utility infrastructure.

The project site is located off the Trade Center Parkway on the south side of State Route 21, approximately 3.7 miles from the intersection of Interstate 95. The proposed activities will disturb approximately 88 acres. The parcel is currently owned by the Chesterfield, LLC.

If you have any questions, please call me at (912) 721-4090 or email me at toledo.f@tandh.com.

Sincerely,

THOMAS & HUTTON

Felipe Toledo, P.E.
Project Manager

Enclosures

114 North Commerce Street
Hinesville, Georgia 31313
Office: (912) 368-5664
Fax: (912) 368-7206



308 Commercial Drive
Savannah, Georgia 31406
Office: (912) 335-1046
Fax: (912) 355-1642

March 10, 2022

Mr. Brian Harvey
City of Port Wentworth
7224 Georgia Highway 21
Port Wentworth, Georgia 31407

Re: Chesterfield Building S Site Plan
Chatham County
Port Wentworth, Georgia

Dear Mr. Harvey,

T. R. Long Engineering, P.C. has reviewed the site development plan as well as the drainage report for the above referenced project as prepared by Thomas and Hutton and dated January 26, 2022. We offer the following comments for consideration prior to approval by the City.

1. Update the sheet references on the index page.
2. No drainage report was received to review.
3. The layout information provided for the project not sufficient to layout the paved areas, drainage facilities and the like. Please provide detailed layout information.
4. Consider adding an air release valve on the 2" force main near the 18" pipe crossing at station 13+00.
5. Add a 10" meter between the public water system and the 10" private water main around the building.
6. Please add labels for the major fittings for the 10" private water main around the building.
7. The copy of the plans that we reviewed appears to be missing a decimal point in the label for the water meters and backflow devices. Please review and update as necessary.
8. It appears that this facility will utilize water and sewer services from Effingham County. Please confirm that this is correct and provide documentation of approval from Effingham County.
9. This site flows into Black Creek. Please provide documentation that this site will not increase the stormwater flows to this creek in accordance with Port Wentworth requirements.
10. Please provide documentation that the proposed development will not increase the FEMA Flood elevation along Black Creek.
11. Please confirm that RI#8 has the capacity to handle the flow rates generated by all of the required design storms.
12. The ditch between Pond 1 and Pond 4 appears to be flat. There is no change in contour with elevation of 9 that would indicate that there is positive flow between the ponds. Please provide additional spot grades along this ditch.
13. Please label the double line of pipe draining into Pond 1 near the southwestern corner of the site.
14. Please label the Pond 1 outlet structure, outlet pipe and emergency overflow structure in the plan view.

Should you have any questions, comments or need additional information please contact us.

Sincerely,

A handwritten signature in blue ink that reads "Trent R. Long".

Trent R. Long, P.E.



50 PARK OF COMMERCE WAY
SAVANNAH, GA 31405 | 912.234.5300
THOMASANDHUTTON.COM

March 14, 2022

Mr. Brian Harvey
City of Port Wentworth
7224 Georgia Highway 21
Port Wentworth, Georgia 31407

Re: Georgia International Trade Center-
Building 4A
Effingham County, Georgia
J-26838.0029

Dear Mr. Harvey:

On behalf of our client, Chesterfield, LLC, we resubmit specific development plans and documents for the above referenced project for review. We request that the plans and documents be examined by GSWCC for conformance with the applicable requirements. The following documents are enclosed:

1. Three (3) copies of GITC Building 4A Specific Development Plans dated 03/11/2022.
2. One (2) copy of the stormwater management report

The plans have been revised to address comments from T.R. Long Engineering dated 03/10/2022. Below is a summary of the comments and our responses:

Note: Responses are in **bold italics**.

Plan Review – GITC Building 4A

1. Update the sheet references on the index page.
Sheet references have been updated.
2. No drainage report was received to review.
Please find attached the stormwater management report to review.
3. The layout information provided for the project not sufficient to layout the paved areas, drainage facilities, and the like. Please provide detailed layout information.
Labels have been added the PGD plans to provide more details to the layout.
4. Consider adding an air release valve on the 2" force main near the 18" pipe crossing at station 13+00.
Air release valve has been added near the 18" pipe crossing at station 12+75.

Mr. Brian Harvey
City of Port Wentworth
March 14, 2022

5. Add a 10" meter between the public water system and the private water main around the building.
A 10" meter has been added between the public and private water systems.
6. Please add labels for major fittings for the 10" private water main around the building.
Labels have been added to all fitting on the private 10" main
7. The copy of the plans we reviewed appear to be missing a decimal point in the label for the water meters and backflow devices. Please review and update as necessary.
Decimal point is denoted on all backflow device and water meter labels.
8. It appears that this facility will utilize water and sewer services from Effingham County. Please confirm that this is correct and provide documentation of approval from Effingham County.
This facility will utilize water and sewer services from Effingham County. Currently there are discussion with Effingham County to enter an intergovernmental agreement between them and the city of Port Wentworth to service this tract with water and sewer. We will provide a copy of the agreement once available to us.
9. This site flows into Black Creek. Please provide documentation that this site will not increase the stormwater flows to this creek in accordance with Port Wentworth
Please see the attached storm report for the post development flows.
10. Please provide documentation that the proposed development will not increase the FEMA flood elevation along black creek.
Please see the attached storm report and flood plain mitigation exhibit.
11. Please confirm that RI #8 has the capacity to handle the flows generated by all the required design storms.
Please see the Secondary Pipe Sizing calculations in the storm report. RI # 8 has the capacity to handle the 25-year, 24-hour storm as required by the City of Port Wentworth.
12. The ditch between pond 1 and pond 4 appears to be flat. There is no change in contour with the elevation of 9 that would indicate that there is positive flow between the ponds. Please provide additional spot grades along this ditch
The ditch between pond 1 and 4 is flat. Spot shots have been provided along the ditch.
13. Please label the double line of pipe draining to pond 1 near the southwestern corner of the site.
Labels have been added to southwestern pipes draining to pond 1
14. Please label the pond 1 outlet structure, outlet pipe and emergency overflow structure in the plan view.
The outlet control structure, pipe, and emergency spillway have been labeled in the plan view.

If you have any additional comments or questions, please call me at (912) 721-4170 or email me at chambless.j@thomasandhutton.com. Otherwise, please issue your approval for this development.

Mr. Brian Harvey
City of Port Wentworth
March 14, 2022

Sincerely,

THOMAS & HUTTON

A handwritten signature in blue ink, appearing to read "JOC", written in a cursive style.

Jason O. Chambless, P.E.

JOC

Enclosure

Cut/Fill Report

Generated: 2021-10-21 13:54:12

By user: jean.s

Drawing: Z:\26838\26838.0029\Engineering\Drawings\Base\Floodplain
Mitigation\Z:\26838\26838.0029\Engineering\Drawings\Base\Floodplain
Mitigation\26838.0029 - Volume Surface.dwg

Volume Summary							
Name	Type	Cut Factor	Fill Factor	2d Area (Sq. Ft.)	Cut (Cu. Yd.)	Fill (Cu. Yd.)	Net (Cu. Yd.)
Voume Surface - BFE V EX	full	1.000	1.000	3603423.89	256484.70	229700.04	26784.66<Cut>
Voume Surface - BFE V PROPOSED	full	1.000	1.000	3422246.71	269325.61	241688.47	27637.15<Cut>

Pre-Development Flood Plain Volume:

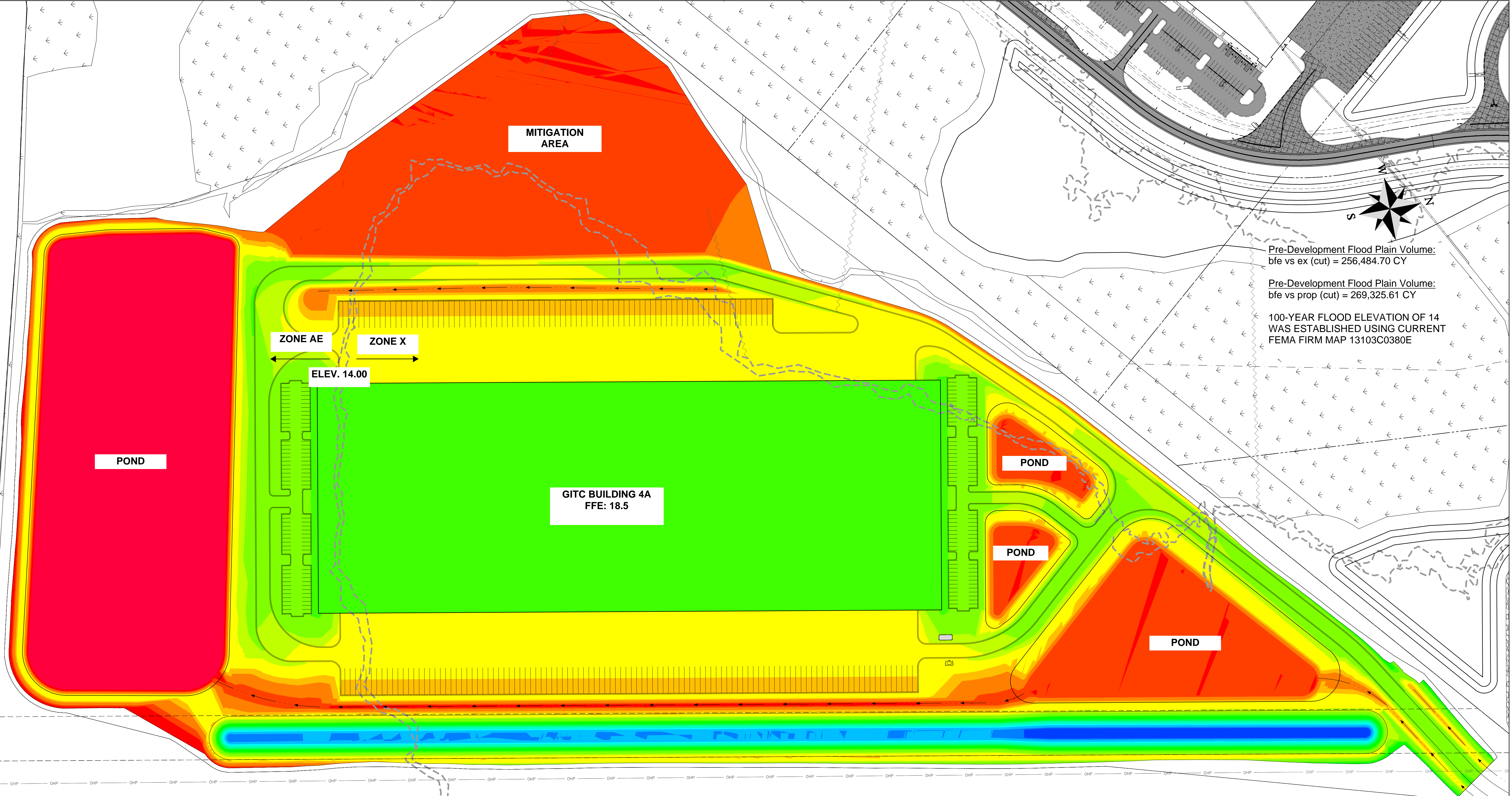
bfe vs ex (cut) = 256,484.70 CY

Pre-Development Flood Plain Volume:

bfe vs prop (cut) = 269,325.61 CY

269,325.61 > = 256,484.70 **Flood Plain Mitigation Met**

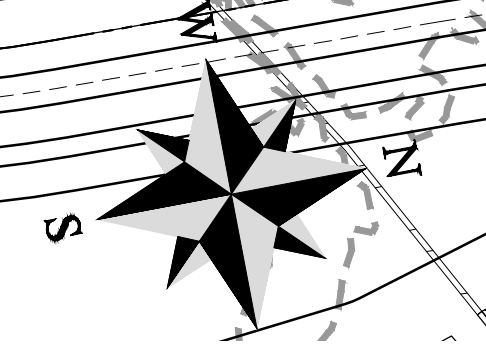
Z:\PROJECTS\2022\220318\GTC 4A\GTC 4A_MITIGATION_EXHIBIT.dwg - 12/22/2022 1:53 PM



Pre-Development Flood Plain Volume:
bfe vs ex (cut) = 256,484.70 CY

Pre-Development Flood Plain Volume:
bfe vs prop (cut) = 269,325.61 CY

100-YEAR FLOOD ELEVATION OF 14
WAS ESTABLISHED USING CURRENT
FEMA FIRM MAP 13103C0380E



POND

ZONE AE

ZONE X

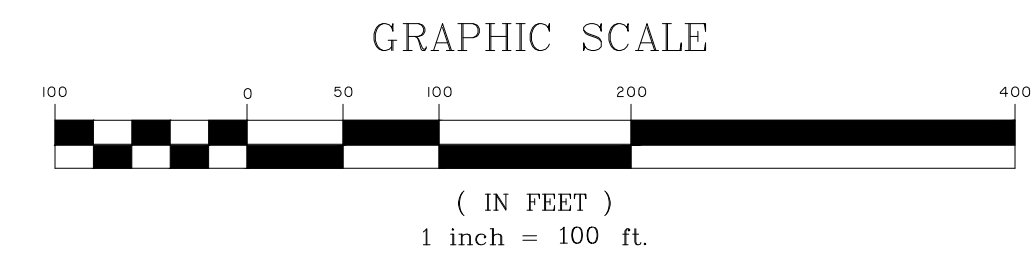
ELEV. 14.00

GITC BUILDING 4A
FFE: 18.5

POND

POND

POND



GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

FLOOD PLAIN MITIGATION EXHIBIT

GITC 4A

PORT WENTWORTH, GEORGIA

PREPARED FOR:

CHESTERFIELD, LLC

PREPARED BY:



50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

www.thomasandhutton.com

JOB NO: J-26838.00029	DATE: 03/11/2022
DRAWN: SGJ	SCALE: 1" = 100'
REVIEWED: FIT	SHEET: 1



PROJECT NARRATIVE

GITC- Building 4A is a proposed development located along the west side of the proposed Trade Center Boulevard within Georgia International Trade Center in unincorporated Effingham County, Georgia. The development will consist of a ±733,821 sf building which includes an assumed ±8,000 sf office area. The proposed gravity mains for this project will be routed to a proposed pump station. The wastewater will then be routed to an existing sewer system and eventually to Effingham Water Reclamation Facility.

CONTRIBUTORY FLOW

Description	Square Footage		UCL		Average Day Flow
Warehouse (3B):	733,821	sq. ft. @	0.01	gpd/sf	7338 gpd
* UCL is Unit Contributory Loading			TOTAL	=	7,338 gpd

AVERAGE DAY FLOW

$$\begin{aligned}
 & 24 \text{ hours per day of flow} & = & 1440 \text{ min/day} \\
 & 7,338 \text{ gpd} / 1440 \text{ min/day} & = & 5.1 \text{ gpm} \\
 & \text{Will design for} & = & 10.0 \text{ gpm}
 \end{aligned}$$

PEAK FACTOR

Average daily flows will vary continuously throughout each day with peak flows occurring at some point. The peak factor, which is applied to the average day flow to obtain the peak day flow, is derived from *the equation suggested for use by ASCE and WPCF, Gravity Sanitary Sewer Design and Construction, p.39 (1982)*
 Use Peak Factor of **2.5**

PEAK DAY FLOW $10.0 \text{ gpm} \times 2.5 = 25.0 \text{ gpm, say} = 25.0 \text{ gpm}$





DESIGN FLOW

A 4-inch force main has been selected to adequately serve the demand ADF.
 Therefore, a minimum pumping rate of [25] gpm is required to maintain a velocity greater than 2 ft/sec.

Therefore,

THE DESIGN FLOW = **25** gpm

WETWELL DESIGN

The wetwell will be designed based on a peak flow of **25** gpm. A 4 ft diameter wetwell will be used. The required storage volume of the wetwell is computed from the following equation:

$$t = \frac{V}{(Q - S)} + \frac{V}{S}$$

Where:

- V = Volume of wetwell (gallons)
- Q = Pumping rate (gpm) = **25** gpm
- S = Average flow into wetwell (gpm) = **10.0** gpm
- t = Time for one pump cycle (minutes) = **10** minutes

Storage Volume:

Solve equation for V:

$$V = \frac{t * Q}{4} \quad \mathbf{62.5} \text{ gallons}$$



REQUIRED S Calculate Cross-Sectional Area of Wetwell:

$$A = \frac{\pi * (D_{inside})^2}{4}$$

Where:

D_{inside} = Inside diameter of wetwell = 4 feet
 A = Cross-sectional area of wetwell = 12.57 ft²

Calculate Required Depth:

Using equation for volume:

$$V = A * d$$

Where:

V = Volume of wetwell (gallons) = 62.5 gal
 A = Cross-sectional area of wetwell (ft²) = 12.57 ft²
 d = Depth of the wetwell (feet)

Solve equation for depth:

$$d = \frac{V}{A} = \frac{V(gal) * \left(\frac{1ft^3}{7.48gal}\right)}{A(ft^2)} = 0.664918713 \text{ ft}$$

Therefore,

THE STORAGE DEPTH = 0.66 ft, say 1 ft

WETWELL E Top Elevation	14.00
Influent Elevation	2.00
High Water Alarm	1.50
H.W.L. - Start Lead Pump	1.00
L.W.L. - Stop Pumps	0.00
Bottom Elevation	-1.00

~using C = 120



FORCE MAIN DESIGN

The force main will be constructed of **PVC** **ASTM D2241, SDR21** pipe.
 The force main will be constructed of **120** will be used to calculate friction head.
 A Hazen-Williams coefficient of C=
 The force main velocity will be designed for a range of 2 to 5 ft/sec.

DISCHARGE PIPING

FM Size (in.)	Flow (gpm)	Velocity (fps)	Friction Head (ft/100')
1	25	10.21	57.33
1.5	25	4.54	7.96
2	25	2.55	1.96
3	25	1.13	0.27
4	25	0.64	0.07
5	25	0.41	0.02

FORCEMAIN

FM Size (in.)	Flow (gpm)	Velocity (fps)	Friction Head (ft/100')
1	25	10.21	57.33
1.5	25	4.54	7.96
2	25	2.55	1.96
3	25	1.13	0.27
4	25	0.64	0.07
5	25	0.41	0.02

Select a **2** -inch force main to satisfy the velocity requirements. Based on the material specifications selected, the actual inside diameter for this forcemain shall be **2.149** -inch.

EQUIVALENT LENGTH OF DISCHARGE FORCE MAIN

Description	Quantity	Unit Equiv. Length of Straight Pipe	Equivalent Length of Force Main
2" Ø FM Straight Pipe	5 l.f.	1.000 l.f.	5.000 l.f.
2" - 90° Bend	2 ea.	5.000 l.f.	10.000 l.f.
2" - 45° Bend	1 ea.	2.667 l.f.	2.667 l.f.
2" Plug Valve	1 ea.	15.000 l.f.	15.000 l.f.
2" Check Valve	1 ea.	16.667 l.f.	16.667 l.f.
Total Equivalent Length of Discharge Pipe			49.333 l.f.

EQUIVALENT LENGTH OF FORCE MAIN

Description	Quantity	Unit Equiv. Length of Straight Pipe	Equivalent Length of Force Main
2" Ø FM Straight Pipe	3350 l.f.	1.000 l.f.	3350.000 l.f.
2" Plug Valve	1 ea.	16.118 l.f.	16.118 l.f.
2" Check Valve	1 ea.	17.908 l.f.	17.908 l.f.
2" Ball Valve	1 ea.	0.537 l.f.	0.537 l.f.
Total Equivalent Length of Force Main			3384.56 l.f.

Select a **2** -inch force main to satisfy the velocity requirements. Based on the material specifications selected, the actual inside diameter for this forcemain shall be **2.149** -inch.

TOTAL DYNAMIC HEAD

Total Dynamic Head (TDH) = Static Head + Friction Head through Discharge Piping + Friction Head through Force Main

Static Head

Static Head	=	Force Main Discharge Elevation (high point on FM) – L.W.L.
Elevation of Highest Point of F.M.	=	15 ft <i>(Obtained from profile)</i>
L.W.L.	=	0.00 ft
Total Static Head	=	15.00 ft



Friction Head through Discharge Piping

$$\begin{aligned} \text{Friction Head} &= (\text{equivalent length of discharge pipe}) * (\text{head loss per 100 ft}) / 100 \\ \text{Total Equiv. Length of Discharge Pipe} &= 49 \text{ ft} \\ \text{Pumping Rate} &= 25 \text{ gpm} \\ \text{C-factor} &= 120 \\ \text{Friction loss} &= 1.96 \text{ ft}/(100 \text{ ft}) \\ &= 0.97 \text{ ft} \end{aligned}$$

**Total Head
 Loss through
 Discharge
 Piping**

Friction Head through Force Main

$$\begin{aligned} \text{Friction Head} &= (\text{equivalent length of force main}) * (\text{head loss per 100 ft}) / 100 \\ \text{Total Equiv. Length of Force Main} &= 3,385 \text{ ft} \\ \text{Pumping Rate} &= 25 \text{ gpm} \\ \text{C-factor} &= 120 \\ \text{Friction loss} &= 1.96 \text{ ft}/(100 \text{ ft}) \\ &= 66.36 \text{ ft} \end{aligned}$$

**Total Head
 Loss through
 Force Main**

$$\begin{aligned} \text{Total Dynamic Head (TDH)} &= \text{Static Head} + \text{Friction Head through Discharge Piping and through Force Main} \\ &= 82.32 \text{ ft} \end{aligned}$$

~using C = 120

SYSTEM HEAD CURVE System Head Curve @ 25 GPM, 82.32 TDH

Q (gpm)	Static Head (ft.)	Friction Head in Discharge Piping (ft.)	Friction Head through Force Main (ft.)	TDH (ft.)
10	15.00	0.18	12.18	27.36
15	15.00	0.38	25.79	41.17
20	15.00	0.64	43.91	59.55
25	15.00	0.97	66.36	82.32
30	15.00	1.36	92.98	109.33
35	15.00	1.80	123.66	140.46
40	15.00	2.31	158.31	175.62
45	15.00	2.87	196.85	214.72
50	15.00	3.49	239.22	257.71
55	15.00	4.16	285.35	304.51

The system head curve is plotted on the attached manufacturer's pump curve.

PRELIMINARY PUMP SELECTION

Preliminary pump selection indicates that a **[Zoeller X7012 2 HP 3-phase Submersible Grinder Pump]** will deliver the desired flow rate and total dynamic head.

WETWELL FLOTATION CHECK

Wetwell flotation calculations are performed to insure that, during high water condition, the wetwell will not float. During high water table conditions, two counter-acting forces are present. The downward force (FD) as the result of the weight of the wetwell plus the overburden weight and the Buoyant force (FB) as the result of the high water table. To insure that the wetwell will not float during high water table conditions, the ratio (FD/FB) must be greater than 1.0.

Downward Force

$$F_D = \text{Weight of Concrete Collar} + \text{Overburden Weight}$$

Concrete Collar Weight

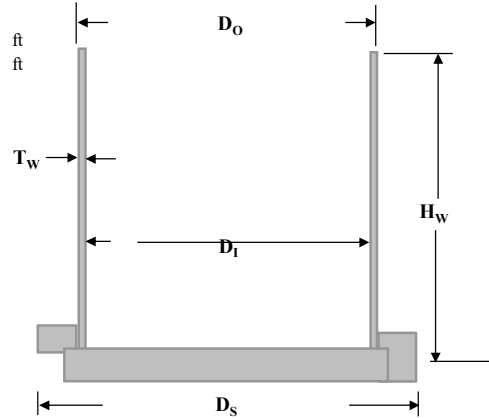
$$V_{collar} = \frac{\pi}{4} (D_S^2 - D_O^2) (T_S)$$

$D_S = \text{Collar diameter} = 6 \text{ ft}$
 $D_O = \text{Outside diameter} = 4 \text{ ft}$
 $T_S = \text{Collar thickness} = 1 \text{ ft}$

$V_{slab} = \text{Volume of collar} = 15.71 \text{ ft}^3$

$$F_{D(collar)} = (\rho_{concrete})(V_{collar})$$

$V_{collar} = \text{Volume of collar} = 15.71$
 $\rho_{concrete} = \text{Density of concrete} = 150$
 $F_{D(collar)} = \text{Downward force of collar} = 2,356.13$



Overburden Weight

$$V_{overburden} = \frac{\pi}{4} (D_S^2 - D_O^2) (H_W)$$

$D_S = \text{Bottom slab diameter} = 6 \text{ ft}$
 $D_O = \text{Outside diameter} = 4 \text{ ft}$
 $H_W = \text{Height of wetwell walls} = 20.00 \text{ ft}$
 $V_{overburden} = \text{Volume of the overburden soil} = 314.15 \text{ ft}^3$

$$F_{D(overburden)} = (\rho_{soil})(V_{overburden})$$

$\rho_{soil} = \text{Density of soil} = 100 \text{ lb/ft}^3$
 $V_{overburden} = \text{Volume of the overburden soil} = 314.15 \text{ ft}^3$
 $F_{D(overburden)} = \text{Downward force of overburden soil} = 31,415.00 \text{ lb}$



Total Downward Force (F_D)

$$F_D = F_{D(collar)} + F_{D(overburden)} = 33,771 \text{ lb}$$

Buoyant Force (F_B)

Total Volume:

$$V_D = V_{wetwell} + V_{collar}$$

$V_{wetwell} = \text{Volume of wetwell}$



$$V_{\text{wetwell}} = \frac{\pi}{4}(D_o^2)(H_w) = 251.32 \text{ ft}^3$$
$$V_{\text{collar}} = \text{Volume of concrete collar} = 15.71 \text{ ft}^3$$
$$V_D = \text{Total displaced volume} = 267.03 \text{ ft}^3$$

Buoyant Force:

$$F_B = (V_D)(\rho_{\text{water}})$$
$$V_D = \text{Total displaced volume} = 267.03 \text{ ft}^3$$
$$\rho_{\text{water}} = \text{Density of water} = 62.4 \text{ lb/ft}^3$$
$$F_B = \text{Buoyancy Force} = 16,662.52 \text{ lb}$$

Factor of Safety (FOS)

$$FOS = \frac{F_D}{F_B} = 2.03$$

Since the FOS is greater than 1.5 the wetwell will not float under high groundwater conditions.

Company: Goforth Williamson, Inc.
 Name: Dustin McDowell
 Date: 01/18/2022



Pump:

Size: 2 HP, 1.25" DC, High He Dimensions:
 Type: X7012 Grinder Pump Suction: ---
 Synch Speed: 3600 rpm Discharge: ---
 Dia: 6.125 in
 Solids Capacity: ---
 Motor Type: EXP PROOF

Fluid:

Name: Water
 SG: 1 Vapor Pressure: 0.256 psi a
 Density: 62.4 lb/ft³ Atm Pressure: 14.7 psi a
 Viscosity: 1.1 cP
 Temperature: 60 °F Margin Ratio: 1

Search Criteria:

Flow: 25 US gpm Near Miss: ---
 Head: 83.32 ft Static Head: 15 ft

Pump Limits:

Temperature: --- Sphere Size: ---
 Wkg Pressure: ---

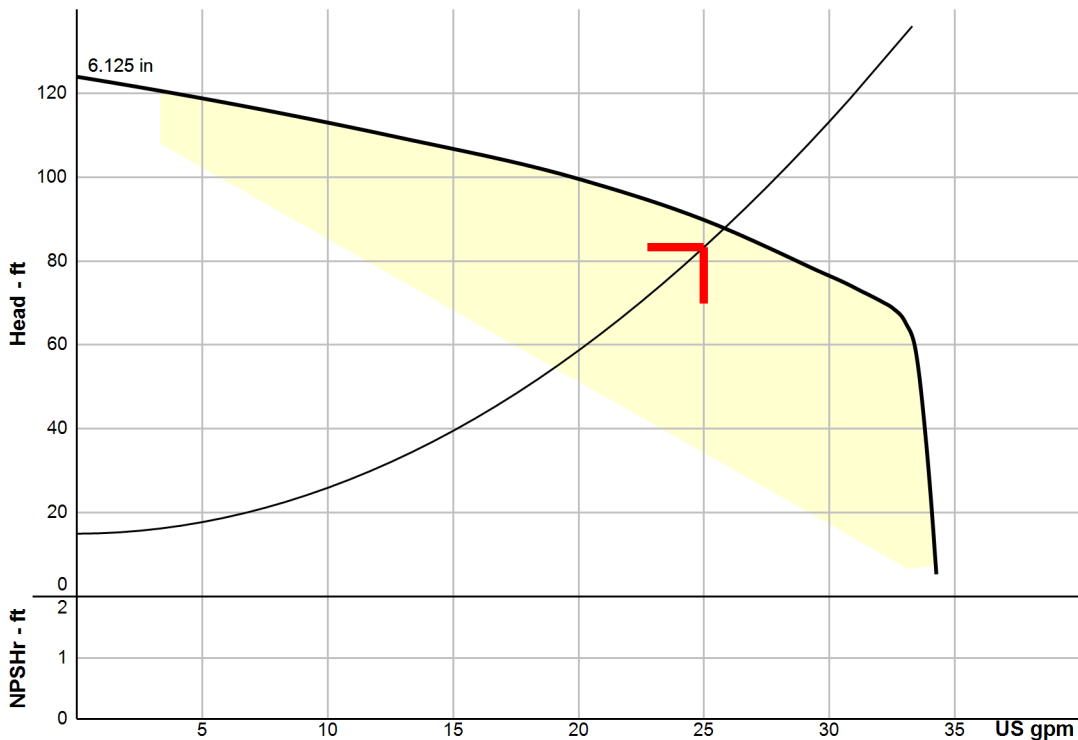
Motor:

Standard: NEMA Size: 3 hp
 Enclosure: TEFC Speed: 3600 rpm
 Frame: 182T
 Sizing Criteria: Max Power on Design Curve

Pump Selection Warnings:

None

--- Duty Point ---	
Flow:	25.8 US gpm
Head:	87.8 ft
Eff:	---
Power:	2 hp
NPSHr:	---
Speed:	3450 rpm
--- Design Curve ---	
Shutoff Head:	124 ft
Shutoff dP:	53.7 psi
Min Flow:	--- US gpm
BEP:	--- %
NOL Power:	2 hp @ 33.8 US gpm
--- Max Curve ---	
Max Power:	2 hp @ 33.8 US gpm



Performance Evaluation:

Flow	Speed	Head	Efficiency	Power	NPSHr
US gpm	rpm	ft	%	hp	ft
30	3450	76.4	---	2	---
25	3450	89.6	---	2	---
20	3450	99.6	---	2	---
15	3450	106	---	2	---
10	3450	113	---	2	---

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SECTION: Z4.30.050

ZM2596

1121

Supersedes

0519

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HAZARDOUS LOCATION SERIES

CLASS I, DIVISION 1, GROUPS C & D
 CLASS I, ZONE 1, GROUPS IIA & IIB
 2 HP GRINDER PUMPS TECHNICAL DATA



Certified to CSA Standard C22.2 No. 145

Tested to FM Standard 3600 & 3615

MODELS:	<input type="checkbox"/> X7011	<input type="checkbox"/> X7012	<input type="checkbox"/> X7013
CONFIGURATION:	REVERSING	HIGH HEAD	HIGH FLOW
PUMP NAME PLATE HORSEPOWER:	2.0	2.0	2.0
SERVICE FACTOR:	1.2	1.2	1.2
NEC LOCKED ROTOR CODE:	K	K	K
MAXIMUM KW INPUT:	3.9	3.9	3.9
STANDARD IMPELLER DIAMETER:	5.515" (140.0 mm)	6.188" (157.2 mm)	6.188" (157.2 mm)
DISCHARGE SIZE:	1.25" NPT	1.25" NPT	1.25" NPT

IMPELLER TYPE:	VORTEX	TANDEM SEALS:	STANDARD
CUTTER & PLATE:	440C SS HARDENED TO ROCKWELL C55-60	MOTOR DESIGN LETTER:	NEMA B (3 Ph) NEMA L (1Ph)
PUMP NET WEIGHT: lbs.	139 lbs. (63.0 kg)	POWER CORD LENGTH: ft(m) (20' STANDARD) (6.1 m)	<input type="checkbox"/> 25' <input type="checkbox"/> 35' <input type="checkbox"/> 50' (7.6 m) (10.7 m) (15.2 m)
O-RINGS:	VITON	POWER CORD:	14 GAUGE SOW
MOTOR SHAFT:	416 SS	STATOR & LEAD WIRES INSULATION:	CLASS F
RPM:	3450	MAXIMUM STATOR TEMPERATURE:	311 °F (155 °C)
MOTOR TYPE:	SUBMERSIBLE EXPLOSION PROOF*		

SHAFT SEAL CONSTRUCTION:	STANDARD	CARBON/CERAMIC UPPER CARBON/SILICON CARBIDE LOWER
	OPTIONAL UPPER	<input type="checkbox"/> CARBON /SILICON CARBIDE <input type="checkbox"/> SILICON CARBIDE/SILICON CARBIDE
	OPTIONAL LOWER	<input type="checkbox"/> SILICON CARBIDE/SILICON CARBIDE
STANDARD SENSING DEVICES**	MOTOR THERMAL SHUTOFF	THERMAL SENSORS
	MOISTURE DETECTION	MOISTURE SENSING PROBES
IMPELLER MATERIAL	DUCTILE IRON	<input type="checkbox"/> OPTIONAL BRONZE
IMPELLER TRIM - MODELS X7011 & X7013 ONLY:	<input type="checkbox"/> OPTIONAL	DESIGN POINT: ____ GPM @ ____' TDH, IMPELLER DIA. ____"
MAXIMUM WATER TEMPERATURE:		104 °F (40 °C)

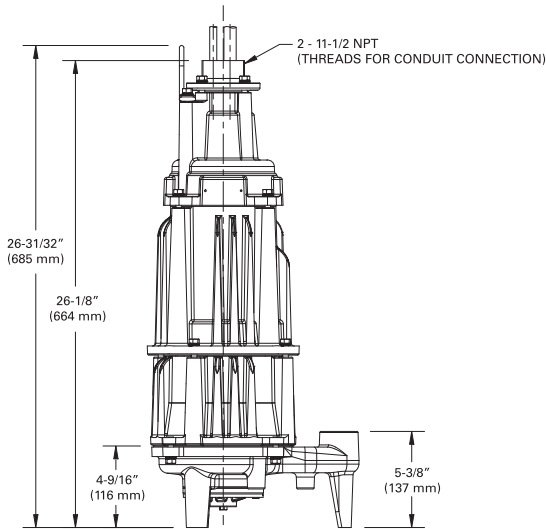
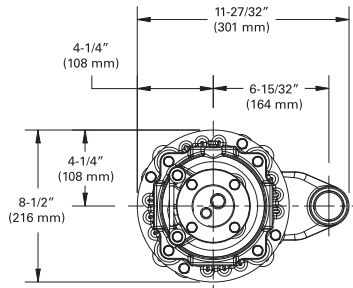
* Level sensors must be intrinsically safe to maintain rating.

** Requires a circuit in control panel to function.

MODEL	HP	SERVICE FACTOR	<input type="checkbox"/> 200V / 1 PH		<input type="checkbox"/> 230V / 1 PH		<input type="checkbox"/> 200V / 3 PH		<input type="checkbox"/> 230V / 3 PH		<input type="checkbox"/> 460V / 3 PH		<input type="checkbox"/> 575V / 3 PH	
			FLA	LRA	FLA	LRA	FLA	LRA	FLA	LRA	FLA	LRA	FLA	LRA
X7011	2.0	1.2	20.0	60.7	17.2	57.3	12.3	47.0	10.8	41.9	5.5	20.6	4.5	16.2
X7012	2.0	1.2	20.0	60.7	17.2	57.3	12.3	47.0	10.8	41.9	5.5	20.6	4.5	16.2
X7013	2.0	1.2	20.0	60.7	17.2	57.3	12.3	47.0	10.8	41.9	5.5	20.6	4.5	16.2

FEATURES

- Durable epoxy coated cast iron construction
- Bearings - upper and lower ball bearing
- Stainless steel motor shaft
- Motor - 2 HP, 60 Hz, 3450 RPM, 1 & 3 Ph, oil-filled, hermetically sealed, thermal sensor protected
- Dual mechanical shaft seals - upper carbon/ceramic, Lower silicon carbide/carbon
- Viton O-ring seals and cover gasket
- Impeller - Non-clogging ductile iron (X7011 & X7013) or bronze (X7012) vortex impeller
- X7011 Reversing model
- X7012 High head model
- X7013 High flow model
- 20 for UL Listed 3-wire SOOW cord. Longer cords available in 25', 35' & 50'.
- Hardened 440C stainless steel cutter and disc, Rockwell C55-60
- 304 SS hardware
- 1.25" NPT discharge
- 100% computerized tested

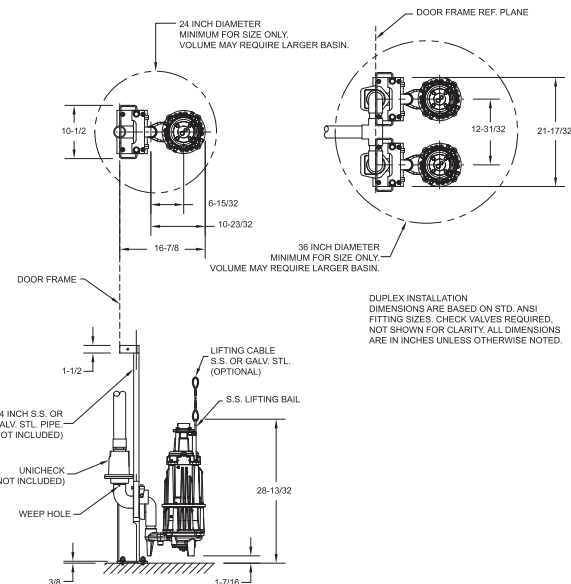


SK2837

Standad all models - 20 ft. cord - 2 HP				
X7011 Models	Control Section			Listed
	Volts	Ph	Amps	cCSAus
EX7011	230	1	17.2	Yes
IX7011	200	1	20.0	Yes
FX7011	230	3	10.8	Yes
JX7011	200	3	12.3	Yes
GX7011	460	3	5.5	Yes
BAX7011	575	3	4.5	Yes

Standad all models - 20 ft. cord - 2 HP				
X7012 Models	Control Section			Listed
	Volts	Ph	Amps	cCSAus
E7X012	230	1	17.2	Yes
IX7012	200	1	20.0	Yes
FX7012	230	3	10.8	Yes
JX7012	200	3	12.3	Yes
GX7012	460	3	5.5	Yes
BAX7012	575	3	4.5	Yes

Standad all models - 20 ft. cord - 2 HP				
X7013 Models	Control Section			Listed
	Volts	Ph	Amps	cCSAus
EX7013	230	1	17.2	Yes
IX7013	200	1	20.0	Yes
FX7013	230	3	10.8	Yes
JX7013	200	3	12.3	Yes
GX7013	460	3	5.5	Yes
BAX7013	575	3	4.5	Yes



SK2842

RESERVE POWERED DESIGN

For unusual conditions a reserve safety factor is engineered into the design of every Zoeller® pump.

Zoeller® Engineered Products • 3649 Cane Run Road • Louisville, Kentucky 40211-1961 • (502) 778-2731

SWPA Data Categories Presented -- Data on this sheet supply design information as the minimum recommended by the Submersible Wastewater Pump Association and is defined in accordance with SWPA's Standardized Definitions for Pump and Motor Characteristics. The accuracy of the data is the responsibility of Zoeller® Engineered Products.



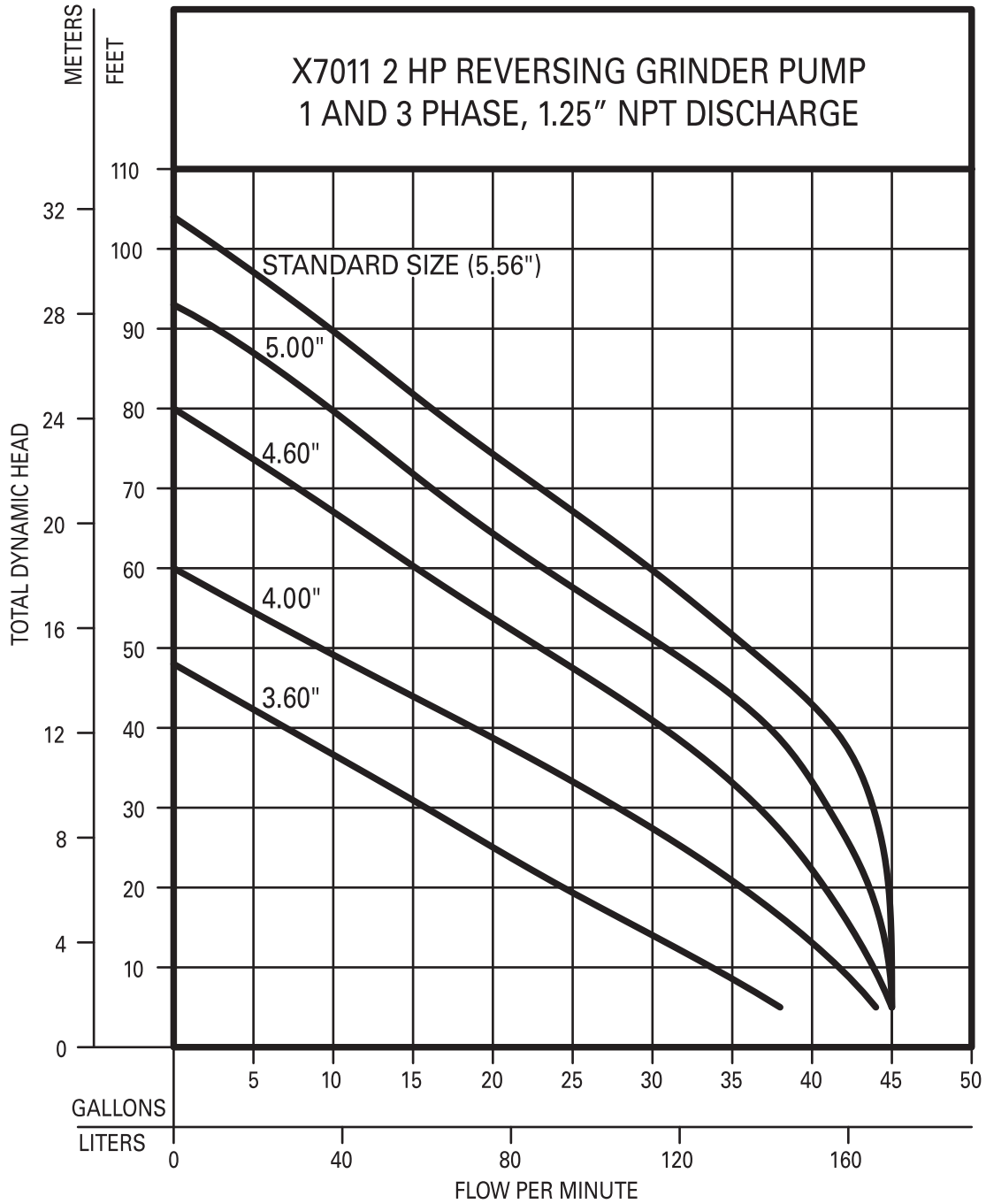
Patent No.
6,364,620

X7011 REVERSING

CLASS I, DIVISION 1, GROUPS C & D
CLASS I, ZONE 1, GROUPS IIA & IIB
PERFORMANCE DATA
2HD Grinder Pump



CSA US
Certified to CSA Standard
C22.2 No. 145
Tested to FM Standard
3600 & 3615



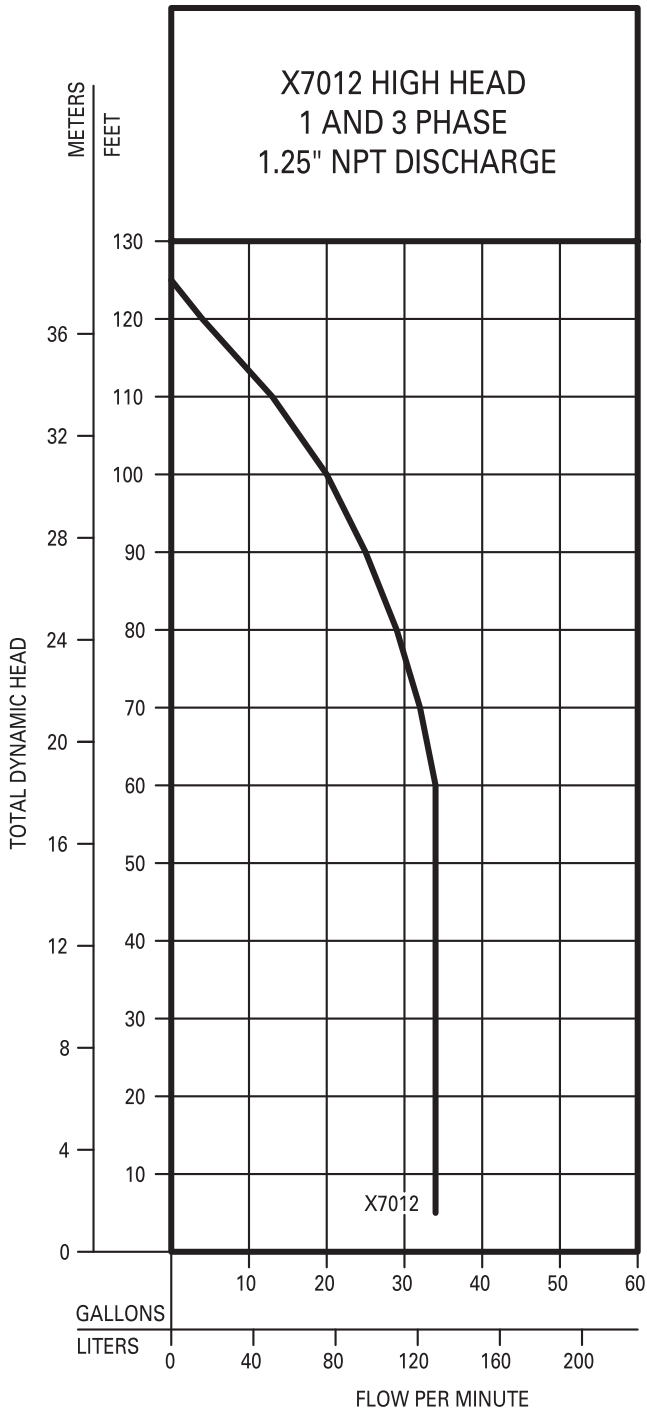
ZEPB0572

MODELS X7012 & X7013
CLASS I, DIVISION 1, GROUPS C & D
CLASS I, ZONE 1, GROUPS IIA & IIB
PERFORMANCE DATA
2HP Grinder Pump

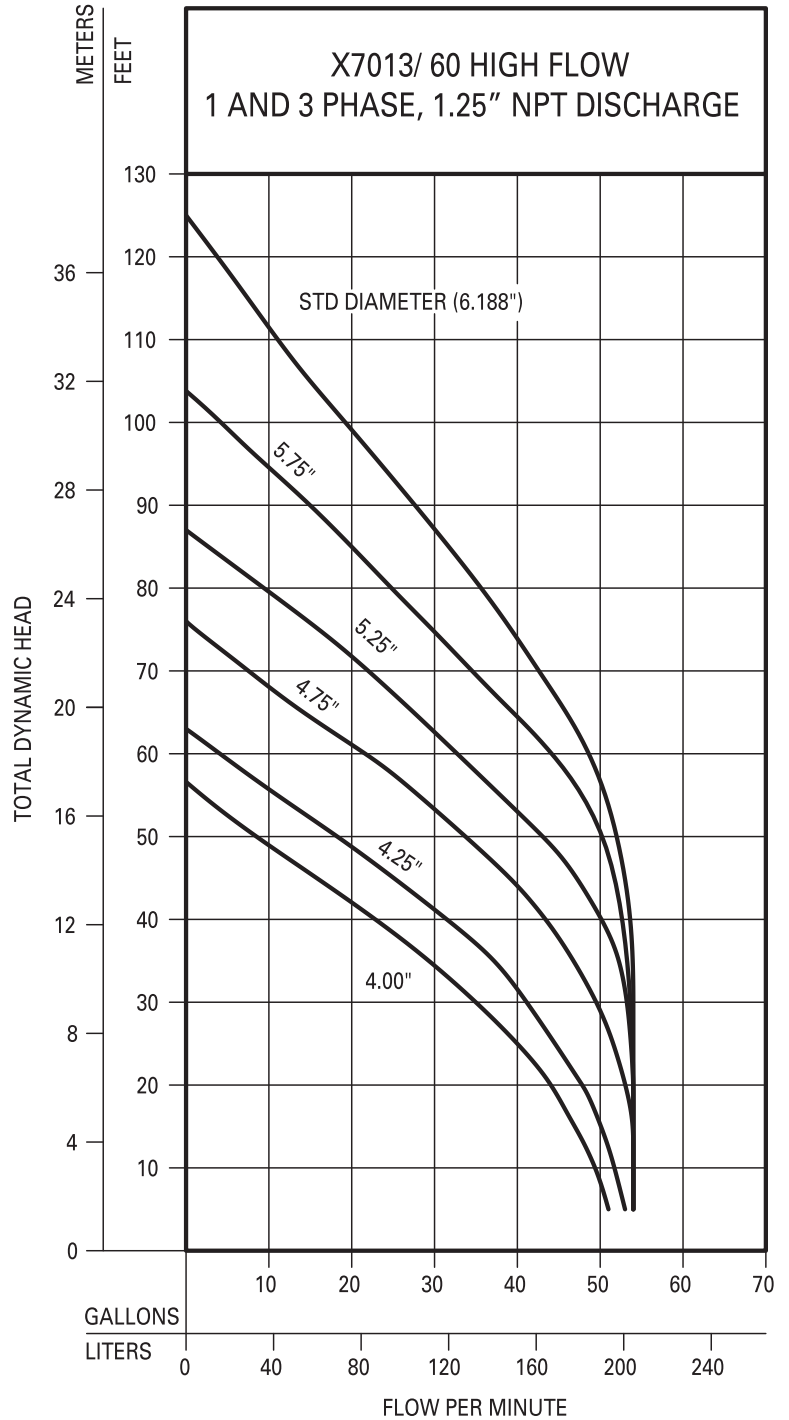


Certified to CSA Standard
C22.2 No. 145

Tested to FM Standard
3600 & 3615



016532



155279

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SECTION: Z4.30.095

ZM2632

0920

Supersedes

0918

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.



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X70 HAZARDOUS LOCATION SERIES

CLASS I DIVISION 1 GROUPS C&D

CLASS I, ZONE 1, GROUPS IIA & IIB

2 HP GRINDER PUMP GUIDE SPECIFICATIONS

X7012 and X7013 High Head - Single Directional Models



1.01 GENERAL

Contractor shall furnish all labor, material, equipment and incidentals required to provide ____ (QTY.) Model X____ cCSAus certified centrifugal grinder pump(s) rated for Class I Division 1 Groups C & D and Class I, Zone 1, Groups IIA & IIB locations as specified herein.

2.01 OPERATING CONDITIONS

Each submersible pump shall be rated at 2 HP, ____ volts, ____ phase, ____ HZ, 3450 R.P.M. The unit shall produce ____ G.P.M. at ____ feet of T.D.H. The submersible pump shall be capable of handling sanitary sewage and grinding it into fine slurry enabling it to be pumped over long distances in pipelines as small as 1.25" in diameter.

3.01 CONSTRUCTION

The centrifugal grinder pump shall be equal to the X7012 (High Head) model or X7013 (High Flow) submersible type as manufactured by Zoeller Engineered Products of Louisville, Ky. (800-928-7867) and listed by cCSAus for hazardous locations. The castings shall be constructed of class 30 cast iron. The motor housing shall be finned and oil-filled to dissipate heat. Air-filled motors shall not be considered equal since they do not properly dissipate heat from the motor. All external-mating parts shall be machined and sealed with a Viton square ring. All fasteners exposed to the liquid shall be 300 series stainless steel. The motor shall be protected in the event of cord damage with a sealed chamber which will prevent moisture wicking into the motor housing. The motor shall be protected on the lower side with a tandem mechanical seal arrangement with each seal having a separate spring assembly. The oil-filled seal chamber located between the two mechanical seals shall contain 2 probes to detect seal leakage. The upper and lower ball bearings shall be capable of handling all thrust loads. The pump housing shall be of the concentric design thereby equalizing the pressure forces inside the housing, which will extend the service life of the seals and bearings. The pump shall have a SS lifting bracket.

4.01 ELECTRICAL POWER CORD

The pump shall be supplied with 20' (____ 25', ____ 35' or ____ 50' optional) of multiconductor power cord. It shall be SOOW type cord capable of continued exposure to the pumped liquid. Power cord shall be sized for the rated full load amp loading of the pump in accordance with the National Electric Code. The power and sensor cords shall enter into the upper chamber through an epoxy filled entryway, though a compression grommet with each conductor individually spliced and sealed. The chamber shall be isolated from the motor housing, protecting the motor from moisture.

5.01 MOTOR

The rated oil-filled motor with Class I Division 1 Groups C & D and Class I, Zone 1, Groups IIA & IIB construction shall be a Class F insulated NEMA B design. At maximum load, the winding temperature will not exceed 250 degrees F unsubmerged. Since air-filled motors are not capable of dissipating heat, they shall not be considered equal. Single-phase units shall have an integral thermal overload switch in the windings for protecting the motor. Start capacitors and relay shall be mounted externally from the pump in a panel within 50 feet of the pump location. Three phase units shall have a bimetallic thermal sensor and shall use magnetic starters with overload relays in the control panel for further protection.

6.01 BEARINGS AND SHAFT

Upper and lower ball bearings made of high carbon chromium steel shall be provided to prevent shaft deflection by withstanding all thrust and radial loads. The bearing system shall be designed to enable proper cutter alignments from shut off head to maximum load at 5 feet of TDH. The motor shaft shall be made of 416 SS and have a minimum diameter of 1.0".

7.01 SEALS

Pump shall have a dual mechanical seal configuration with the seals mounted in tandem. Each seal assembly having silicon carbide / carbon lower and carbon / ceramic upper faces with Buna-N elastomer and 316 SS spring. It shall be equal to a Crane Type 21 configuration. Double seals with a common intermediate spring and lip seals shall not be considered equal.

Optional seal faces shall be:

___ Silicon carbide / carbon ___ Upper.

___ Silicon carbide / silicon carbide ___ Lower / ___ Upper.

8.01 IMPELLER

The impeller shall be a fully balanced ductile Iron (X7013) or bronze (X7012) vortex type with pump out vanes on the back shroud to keep debris away from the seal area. It shall be keyed and bolted to the motor shaft.

An optional model X7013 impeller shall be ___ bronze.

8.02 CUTTER MECHANISM

The cutter and plate shall be constructed of 440C SS with a Rockwell C hardness of 55 - 60. The stationary cutter plate shall contain multiple machined orifices which enable the slurry to flow into the pump housing at an equalized pressure and velocity. The dual-blade angled cutter, rotating at 3450 RPM, shall shear all solids into a small particulate before passing through the small orifices. Because of the extended service life of the dual-blade angled cutter, other cutter designs with tight clearances and those that grind on the circumference of the rotary plate shall not be considered equal.

9.01 PAINTING

The exterior castings of the pump shall be protected with green powder coated epoxy finish.

10.01 SUPPORT

The pump shall have cast iron support legs enabling it to be a freestanding unit. The legs will be high enough to allow solids and long stringy debris to enter the cutter assembly.

For those installations requiring a field assembled rail system:

___ Non-sparking Z-Rail disconnect system with pump suspended by means of a sealed pump plate attached to the pump.

Pump plate and guide brackets shall be brass. Rail pipes and lifting cables are to be provided by others.

___ SS intermediate stabilizer required for rail systems used where basin depths are greater than 12 feet.

For those "Outdoor" installations requiring a factory assembled basin package:

___ Simplex system with a _____" diameter by _____" depth basin with a non-sparking Z-Rail disconnect system.

___ Duplex system with a _____" diameter by _____" depth basin with a non-sparking Z-Rail disconnect system.

11.01 TESTING

Each pump shall be operated and tested in liquid during the production process. It shall be checked at its maximum running point for performance, amps, grounding, winding insulation, and water tightness.

___ An optional certified test based on the Hydraulic Institute or SWPA (Submersible Wastewater Pump Association) Test Standard for submersible pumps.

___ Start up services at the job site by an authorized representative of Zoeller Engineered Products shall be required. Start-up report form ZM1074 should be completed in the presence of the installers and returned to the Project Engineer or Zoeller Engineered Products.

12.01 WARRANTY

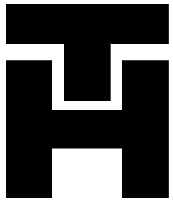
Standard warranty shall be 18 months from date of manufacture, 12 months from date of purchase (proof of purchase required) or 12 months from the date of startup when a start up report is on file with Zoeller Company.



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GITC - Building 4A
 Chesterfield LLC
 Thomas & Hutton
 Wastewater Design Considerations

Job: 26838.0029
 Date: 1/5/22
 Revised:
 By: SGJ

DESIGN FLOW

GITC- Buildings 4A is a proposed development located along the west side of the proposed Trade Center Boulevard within Georgia International Trade Center in unincorporated Effingham County, Georgia. The development will consist of a ± 733,821 sf building. The proposed gravity mains for this project will be routed to a proposed pump station. The wastewater will then be routed to an existing sewer system along Trade Center Parkway and eventually to Effingham Water Reclamation Facility.

Description	Square Footage	UCL		Average Day Flow
Warehouse (3A)	733,821 sq. ft. @	0.01	gpd/sf	= 7,338 gpd
* UCL is Unit Contributory Loading			TOTAL	= 7,338 gpd

AVERAGE DAY FLOW

$$\begin{aligned}
 &12 \text{ hours per day of flow} &= &720 \text{ min/day} \\
 &7,338 \text{ gpd} / 720 \text{ min/day} &= &10.2 \text{ gpm}
 \end{aligned}$$

PEAK FACTOR

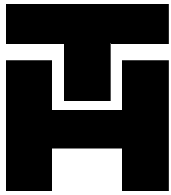
Average daily flows will vary continuously throughout each day with peak flows occurring at some point. The peak factor, which is applied to the average day flow to obtain the peak day flow, is derived from *the equation suggested for use by ASCE and WPCF, Gravity Sanitary Sewer Design and Construction, p.39 (1982)*

Use Peak Factor of **2.5**

PEAK DAY FLOW

$$10 \text{ gpm} \times 2.5 = 25 \text{ gpm}$$





CH Use Mannings Equation to Calculate Maximum Allowable Flow

$$Q_m = (1.49/n) \times A \times R^{.67} \times S^{.5}$$

where: Q_m = Maximum Flowrate (cfs)

n = Mannings Roughness Coefficient

A = Cross Sectional Area (sf)

R = Hydraulic Radius (ft)

S = Slope (ft/ft)

Calculate Cross Sectional Area of Pipe

$$\text{Dia (in)} = \mathbf{8}$$

$$A \text{ (sf)} = \text{PI} \times d^2 / 4$$

$$A \text{ (sf)} = \mathbf{0.35}$$

Calculate Hydraulic Radius

$$R \text{ (ft)} = \text{Area} / \text{Wetted Perimeter (Pw)}$$

where P_w = inside circumference of pipe (assuming full flow condition)

$$P_w = 2.0944$$

$$R \text{ (ft)} = \mathbf{0.17}$$

Select Variables

$$n = \mathbf{0.014} \text{ Roughness Coefficient}$$

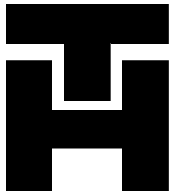
$$S \text{ (ft/ft)} = \mathbf{0.004} \text{ Slope}$$

$$Q_m \text{ (cfs)} = 0.71$$

$$Q_m \text{ (gpm)} = 317 \text{ 8" capacity}$$

$$Q_r \text{ (gpm)} = 25 \text{ (} Q_r \text{ is peak flow)}$$

Gravity line is adequate in size



GITC - Building 4A
Chesterfield LLC
Thomas & Hutton
Wastewater Design Considerations

Job: 26838.0029
Date: 1/5/22
Revised:
By: SGJ

EQ1 The ERU's anticipated for the domestic flow of this development are as follows:

Average Daily Flow = 7,338 gpd
1 ERU = 300 GPD 300 gpd

Total ERU's (domestic) = 24.4607 ERU's

Say	91
-----	----

Chesterfield.

SITE DEVELOPMENT
OF



GITC - BUILDING 4A

CHATHAM & EFFINGHAM COUNTY, GEORGIA

PREPARED FOR:
CHESTERFIELD LLC
100 BULL STREET
SUITE 200
SAVANNAH, GEORGIA 31401

TM#
04660008A00

LAT: N 32.2269
LONG: W 81.2133

JANUARY 26, 2022
REVISED: MARCH 11, 2022

J-26838.0029

PREPARED BY:

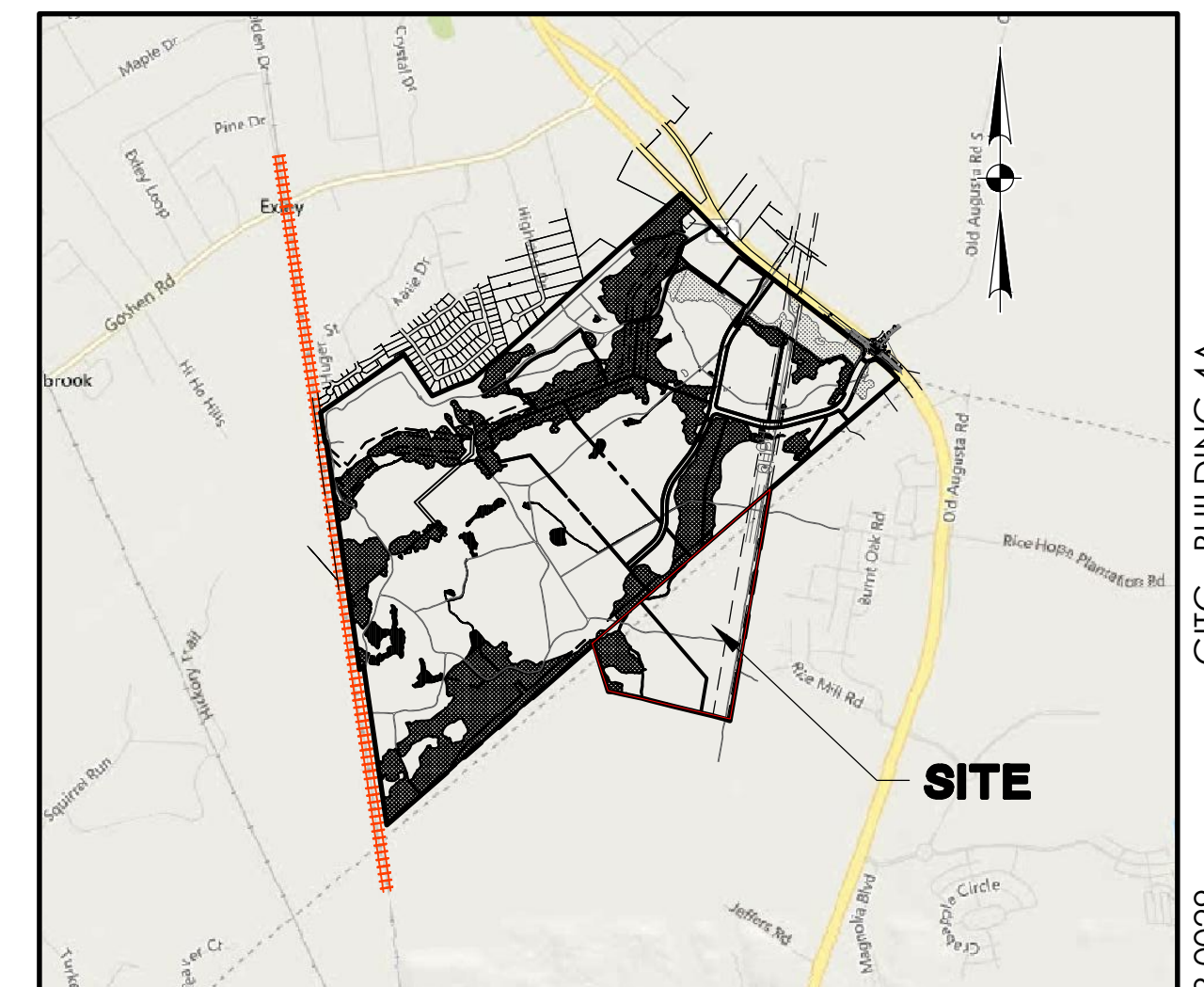


REVISION HISTORY

REV. NO.	REVISION	BY	DATE
I	REVISED PER CITY OF PORT WENTWORTH COMMENTS	SGJ	3/10/22

SUBMITTAL HISTORY

CITY OF PORT WENTWORTH	DATE
SUBMITTED TO	1/26/22



VICINITY MAP
SCALE: 1" = 3000'

Sheet Number	Sheet Title
CO.0	COVER SHEET
G1.1	GENERAL NOTES
G2.1	SHEET INDEX
G3.1	EXISTING CONDITIONS PLAN
G3.2	EXISTING CONDITIONS PLAN
G3.3	EXISTING CONDITIONS PLAN
G3.4	EXISTING CONDITIONS PLAN
G4.1	ACCESSIBLE ROUTE PLAN
ECO.1	ES & PC NOTES
ECO.2	ES & PC NOTES
ECO.3	ES & PC NOTES
EC1.1	ES&PC PLAN - INITIAL
EC1.2	ES&PC PLAN - INITIAL
EC1.3	ES&PC PLAN - INITIAL
EC1.4	ES&PC PLAN - INITIAL
EC2.1	ES & PC PLAN - INTERMEDIATE
EC2.2	ES & PC PLAN - INTERMEDIATE
EC2.3	ES & PC PLAN - INTERMEDIATE
EC2.4	ES & PC PLAN - INTERMEDIATE
EC3.1	ES & PC PLAN - FINAL
EC3.2	ES & PC PLAN - FINAL
EC3.3	ES & PC PLAN - FINAL
EC3.4	ES & PC PLAN - FINAL
EC4.1	EROSION CONTROL DETAILS
EC4.2	EROSION CONTROL DETAILS
C1.1	STRIPING, SIGNAGE, AND LAYOUT PLAN
C1.2	STRIPING, SIGNAGE, AND LAYOUT PLAN
C1.3	STRIPING, SIGNAGE, AND LAYOUT PLAN
C1.4	STRIPING, SIGNAGE, AND LAYOUT PLAN
C2.1	WATER AND SEWER PLAN
C2.2	WATER AND SEWER PLAN
C2.3	WATER AND SEWER PLAN
C2.4	WATER AND SEWER PLAN
C2.5	SEWER PROFILE
C2.6	FORCEMAIN PROFILE
C2.7	WATER PROFILE
C2.8	WATER AND SEWER DETAILS
C2.9	WATER AND SEWER DETAILS
C2.10	WATER AND SEWER DETAILS
C2.11	WATER AND SEWER DETAILS
C2.12	WATER AND SEWER DETAILS
C2.13	PUMP STATION DETAILS
C3.1	PAVING, GRADING & DRAINAGE PLAN
C3.2	PAVING, GRADING & DRAINAGE PLAN
C3.3	PAVING, GRADING & DRAINAGE PLAN
C3.4	PAVING, GRADING & DRAINAGE PLAN
C3.5	ROAD PLAN & PROFILE
C3.6	ROAD PLAN & PROFILE
C4.1	PAVING GRADING AND DRAINAGE DETAILS
C4.2	PAVING GRADING AND DRAINAGE DETAILS
C4.3	PAVING GRADING AND DRAINAGE DETAILS



J-26838.0029
 01/26/2022
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GITC - BUILDING 4A

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
CLEARING LIMITS	CL CL
LIMITS OF DISTURBANCE	LOD
BUFFER ZONE	
COASTAL DUNE STABILIZATION	
DISTURBED AREA STABILIZATION (MULCHING ONLY)	
DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)	
DISTURBED AREA STABILIZATION (PERMANENT VEGETATION)	
DISTURBED AREA STABILIZATION (SODDING)	
DUST CONTROL	
FLOCCULANTS AND COAGULANTS	
STREAMBANK STABILIZATION	
SLOPE STABILIZATION	
TYPE I TACKIFIERS	
TYPE II TACKIFIERS	
TYPE III TACKIFIERS	
TYPE IV TACKIFIERS	
TYPE V TACKIFIERS	
CHECK DAM (STONE)	
CHECK DAM (HAY BALE)	
COMPOST FILTER SOCK	
CHANNEL STABILIZATION CATEGORY 1	
CHANNEL STABILIZATION CATEGORY 2	
CHANNEL STABILIZATION CATEGORY 3	
CONSTRUCTION EXIT	
CONSTRUCTION ROAD STABILIZATION	
STREAM DIVERSION (GEOTEXTILE, FILM OR SOD)	
STREAM DIVERSION (GEOTEXTILE ONLY)	
STREAM DIVERSION (GEOTEXTILE, RIPRAP)	
DIVERSION	

ABBREVIATIONS

HDPE	HIGH DENSITY POLYETHYLENE	JB	JUNCTION BOX	SDMH	STORM DRAINAGE MANHOLE
BOT	BOTTOM	LF	LINEAR FEET	SF	SQUARE FEET
CI	CURB INLET	MAX	MAXIMUM	SS	SANITARY SEWER
CPP	CORRUGATED PLASTIC PIPE	MIN	MINIMUM	TC	TOP OF CURB
DIP	DUCTILE IRON PIPE	MH	MANHOLE	TG	TOP OF GUTTER
EL	ELEVATION	OC	ON CENTER	TP	TOP OF PAVEMENT
FG	FINISH GRADE	PC	POINT OF CURVE	TW	TOP OF WALK
FH	FIRE HYDRANT	PH	POST HYDRANT	TYP	TYPICAL
FM	FORCE MAIN (SANITARY SEWER)	PT	POINT OF TANGENT	W	WATER
FP	FINISH PAD	PVC	POLYVINYL CHLORIDE	W/	WITH
FR	FRAME	RCP	REINFORCED CONCRETE PIPE	WV	WATER VALVE
GI	GRATE INLET	RJP	RESTRAINED JOINT PIPE	YI	YARD INLET
GV	GATE VALVE	R/W	RIGHT-OF-WAY		
INV	INVERT ELEVATION	SD	STORM DRAINAGE		

WATER LEGEND

DESCRIPTION	EXISTING	PROPOSED
WATER MAIN		
SINGLE SERVICE LATERAL		
DOUBLE SERVICE LATERAL		
VALVE AND BOX		
FIRE HYDRANT W/VALVE & BOX		
POST HYDRANT		
REDUCER		
BACKFLOW PREVENTOR		
CROSS		
TEE		
90° BEND - HORIZONTAL		
45° BEND - HORIZONTAL		
22-1/2° BEND - HORIZONTAL		
11-1/4° BEND - HORIZONTAL		
BEND - VERTICAL		
CAP		

SEWER LEGEND

DESCRIPTION	EXISTING	PROPOSED
GRAVITY PIPE		
SINGLE SERVICE LATERAL		
DOUBLE SERVICE LATERAL		
MANHOLE		
CLEANOUT		
FORCEMAIN		
VALVE AND BOX		
FLUSH HYDRANT		
REDUCER		
BACKFLOW PREVENTOR		
CROSS		
TEE		
90° BEND - HORIZONTAL		
45° BEND - HORIZONTAL		
22-1/2° BEND - HORIZONTAL		
11-1/4° BEND - HORIZONTAL		
BEND - VERTICAL		
PLUG \ CAP		

DRAINAGE LEGEND

DESCRIPTION	EXISTING	PROPOSED
PIPE		
DITCH		
CURB INLET		
GRATE INLET		
JUNCTION BOX		
OUTLET STRUCTURE		

OTHER UTILITIES LEGEND

DESCRIPTION	EXISTING
NATURAL GAS	
TELEPHONE	
UNDERGROUND TELEPHONE	
ELECTRICITY	
UNDERGROUND ELECTRICITY	

GENERAL NOTES

- CONTRACTOR SHALL VERIFY LOCATION & DEPTH OF ALL UTILITIES PRIOR TO BEGINNING WORK & NOTIFY ENGINEER OF ANY DISCREPANCIES.
- THE CONTRACTOR SHALL USE EXTREME CARE NOT TO DAMAGE EXISTING TREES WHICH ARE TO REMAIN.
- ALL STORM DRAIN PIPE JOINTS SHALL BE WRAPPED WITH FILTER FABRIC.
- CONTRACTOR SHALL LIMIT CLEARING ACTIVITIES & TREE REMOVAL TO AREAS INDICATED ON PLAN. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AREA CLEARED OUTSIDE THE LIMITS AND ANY DAMAGE TO REMAINING TREES.
- ALL ELEVATIONS REFER TO NAVD 88 DATUM.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNDERGROUND UTILITIES AND SHALL COORDINATE ALL WORK WITH THE OWNER AND UTILITY COMPANIES.
- THE DATA, TOGETHER WITH ALL OTHER INFORMATION SHOWN ON THESE PLANS OR IN ANY WAY INDICATED THEREBY, WHETHER BY DRAWINGS OR NOTES, OR IN ANY OTHER MANNER, ARE BASED UPON FIELD INVESTIGATIONS AND ARE BELIEVED TO BE INDICATIVE OF ACTUAL CONDITIONS. HOWEVER, THE SAME ARE SHOWN AS INFORMATION ONLY, ARE NOT GUARANTEED, AND DO NOT BIND THOMAS & HUTTON.
- ALL EXCAVATION AND BACKFILLING SHALL BE PERFORMED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS.
- ALL PROPOSED ELEVATIONS SHOWN ARE TOP OF PAVEMENT OR FINAL DIRT GRADE (INCLUDING TOPSOIL) IN GRASSED AREAS UNLESS OTHERWISE INDICATED.
- CALL BEFORE YOU DIG: I-800-282-7411. FOR COUNTY WATER AND SANITARY SEWER LINE LOCATIONS, CONTACT THE UTILITIES PROTECTION CENTER (I-800-282-7411) A MINIMUM OF SEVENTY-TWO (72) HOURS PRIOR TO DIGGING.
- GRASSED AND LANDSCAPE AREAS SHALL BE GRADED AS NECESSARY TO PROVIDE POSITIVE DRAINAGE. ALL PRECAUTIONS SHALL BE TAKEN TO PROTECT TREES RETAINED. PROVIDE 4" MIN. TOPSOIL IN ALL LANDSCAPED AREAS.
- WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SANITARY SEWER, STORM SEWER, OR SEWER MANHOLE. THE DISTANCE SHALL BE MEASURED EDGE-TO-EDGE. A MINIMUM 18 INCHES VERTICAL SEPARATION MUST BE MAINTAINED.
- WHEN CONDITIONS PREVENT A HORIZONTAL SEPARATION OF 10 FEET, THE WATER MAIN MAY BE LAID CLOSER TO A SEWER (ON A CASE-BY-CASE BASIS) PROVIDED THE WATER MAIN IS LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER AT SUCH AN ELEVATION WHERE THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER. IT IS ADVISED THE SEWER BE CONSTRUCTED OF MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS OF CONSTRUCTION AND BE PRESSURE TESTED TO ASSURE WATER-TIGHTNESS PRIOR TO BACKFILLING.
- THE MINIMUM DEPTH OF COVER OVER WATER LINES SHALL NOT BE LESS THAN 36" IN ANY CASE. WHERE IT IS IMPOSSIBLE TO MAINTAIN 36" COVER AND 18" MINIMUM SEPARATION, THE 36" COVER WILL BE MAINTAINED AND BOTH WATER AND SEWER LINES WILL BE CONSTRUCTED OF ONE SECTION EACH OF DUCTILE IRON PIPE. THE PIPES SHALL BE SUPPORTED AND CENTERED AT THE CROSSING WITH MECHANICAL JOINTS ON EACH LINE AT BOTH SIDES OF THE CROSSING.
- THE REQUIRED MINIMUM 3 FT. OF COVER SHALL BE MAINTAINED ON THE EXISTING DOMESTIC AND FIRE SERVICE LINES. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGE TO EXISTING WATER VALVES AND HYDRANTS. AT NO TIME SHALL FLOW TO DOMESTIC WATER AND FIRE PROTECTION SUPPLY LINES BE INTERRUPTED.
- 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 PIPE, FITTINGS AND OTHER ACCESSORIES SHALL BE KEPT FREE FROM DIRT AND FOREIGN MATTER AT ALL TIMES.
- ANY DEFECTIVE, DAMAGED, OR UNSOUND PIPE SHALL BE REJECTED. ALL FOREIGN MATTER OR DIRT SHALL BE REMOVED FROM THE INSIDE OF THE PIPE BEFORE IT IS LOWERED INTO ITS POSITION IN THE TRENCH AND SHALL BE KEPT CLEAN BY ACCEPTABLE MEANS DURING AND AFTER LAYING. CARE SHALL BE TAKEN TO PREVENT DIRT FROM ENTERING THE JOINT SPACE. AT TIMES WHEN PIPE LAYING IS NOT IN PROGRESS, THE OPEN ENDS OF THE PIPE SHALL BE CLOSED BY ACCEPTABLE MEANS AND NO TRENCH WATER SHALL BE PERMITTED TO ENTER THE PIPE.
- CLEAN THE INTERIORS OF ALL PIPE BY BRUSHING, SWABBING OR WASHING OUT OF ALL DIRT BEFORE LAYING.
- FLUSH THE NEW WATER, SEWER, AND NON-POTABLE PIPE LINES UNTIL THE WATER RUNS CLEAR AT THE END OF ALL MAINS AND LATERALS. THIS SHOULD BE COMPLETED AFTER THE PRESSURE TEST AND BEFORE DISINFECTION. A MINIMUM FLUSHING VELOCITY OF 2.5 1/SEC MUST BE ACHIEVED TO PURGE ALL FOREIGN MATERIAL FROM ALL PROPOSED MAINS.
- ALL JURISDICTIONAL WETLANDS ARE SUBJECT TO FEDERAL PROSECUTION BY THE ARMY CORPS OF ENGINEERS FOR WETLAND VIOLATIONS.
- CONTRACTOR IS RESPONSIBLE FOR CONNECTING BUILDING ROOF LEADS, WATER CONNECTIONS, AND SANITARY CONNECTIONS. ALL LOCATIONS AND ELEVATIONS TO BE VERIFIED WITH BUILDING ARCHITECTURAL, PLUMBING AND FIRE PROTECTION PLANS. CONTRACTOR REQUIRED TO COORDINATE ALL BUILDING LEAD LOCATIONS AND ELEVATIONS WITH BUILDING CONTRACTOR PRIOR TO INSTALLATION.
- REFERENCE SURVEYS:
22.1. THOMAS & HUTTON TOPO SURVEY DATED 2018
- ALL WATER USED FOR CONSTRUCTION SHALL BE METERED THROUGH AN ACCEPTABLE BACKFLOW PREVENTION DEVICE AND FIRE HYDRANT METER OBTAINED FROM EFFINGHAM COUNTY.
- AN ACCEPTABLE WATER SUPPLY FOR FIRE PROTECTION, EITHER TEMPORARY OR PERMANENT, SHALL BE MADE AVAILABLE AS SOON AS COMBUSTIBLE MATERIAL ARRIVES ON THE SITE.
- ALL MATERIALS USED AND COME INTO CONTACT WITH DRINKING WATER DURING ITS DISTRIBUTION SHALL NOT ADVERSELY AFFECT DRINKING WATER QUALITY AND PUBLIC HEALTH AND MUST BE CERTIFIED FOR CONFORMANCE WITH AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION STANDARD 61 (ANSI/NSF STANDARD 61).
- IN ALL WATER LINE PROJECTS, CARE WILL BE TAKEN TO KEEP THE INTERIOR OF THE WATER PIPE CLEAN PRIOR TO CONNECTION TO THE COUNTY SYSTEM. THIS WILL BE ACCOMPLISHED BY STRICT ADHERENCE TO EFFINGHAM COUNTY SPECIFICATIONS.
- THE WATER SERVICE LATERAL SERVING THE FACILITY SHALL BE INSTALLED BY THE DEVELOPER/CONTRACTOR FROM THE WATER MAIN TO THE BUILDING.
- CONTRACTOR RESPONSIBLE FOR PROVIDING ENGINEER AS-BUILT SURVEY IN AUTOCAD FORMAT. AS-BUILT SURVEY TO INCLUDE TWO COPIES OF SURVEY AND BE SIGNED BY REGISTERED LAND SURVEYOR IN THE STATE OF GEORGIA.
- ACCORDING TO FEMA PANEL 13103C0380E THIS PROJECT IS LOCATED IN ZONE X AND ZONE AE (14).
- A SITE SPECIFIC GEOTECHNICAL REPORT, GITC CHATHAM TRACT BUILDING 4A, HAS BEEN PREPARED BY TERRACON CONSULTANTS, INC. DATED 10/22/2021. CONTRACTOR TO COORDINATE WITH GEOTECHNICAL CONSULTANT TO ENSURE APPROPRIATE MEASURES ARE TAKEN TO COMPLY WITH THE FINDINGS OF THE REPORT AND SPECIFICATIONS.

GENERAL INFORMATION

COUNTY EFFINGHAM COUNTY
TOWN N/A
ZONING PUB

OWNER:
CHESTERFIELD LLC
100 BULL STREET, SUITE 200
SAVANNAH, GEORGIA 31401
912-721-8662

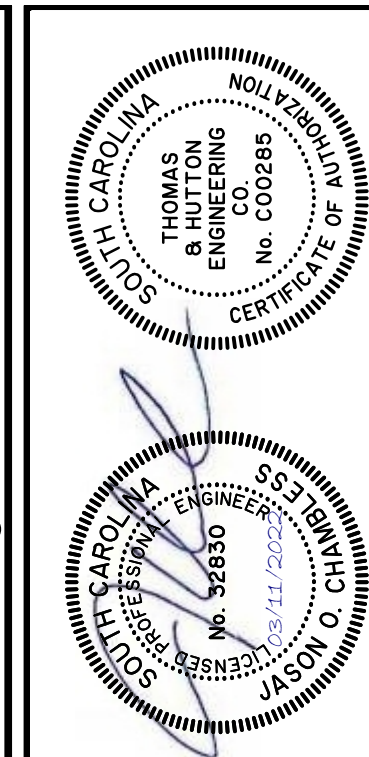
ENGINEER:
THOMAS & HUTTON
50 PARK OF COMMERCE WAY
SAVANNAH, GA 31405
(912) 234-5300

SURVEYOR:
THOMAS & HUTTON
50 PARK OF COMMERCE WAY
SAVANNAH, GA 31405
(912) 234-5300

PREPARED FOR:
CHESTERFIELD LLC
100 BULL STREET, SUITE 200
SAVANNAH, GEORGIA 31401



Know what's below.
Call before you dig.



NO.	REVISIONS	DATE

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50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300
www.thomasandhutton.com

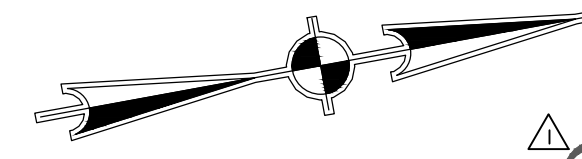
CHESTERFIELD LLC
CHATHAM & EFFINGHAM COUNTY, GEORGIA
GITC - BUILDING 4A
GENERAL NOTES

JOB NO:	J-26838.0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JGC
SCALE:	NTS

G1.1

PERMIT SET - FOR REVIEW PURPOSES ONLY

7:14:58 AM 1/26/2022 10:00:00 AM



ECI.3, EC2.3, ECI.3
CI.3, C2.3, C3.3

ECI.2, EC2.2, ECI.2
CI.2, C2.2, C3.2

ECI.4, EC2.4, ECI.4
CI.4, C2.4, C3.4

ECI.1, EC2.1, ECI.1
CI.1, C2.1, C3.1

EXISTING BUILDING 2C

EXISTING BUILDING 2B

EXISTING BUILDING 1D

PROPOSED CHATHAM BUILDING (4A)

EXISTING BUILDING 1C

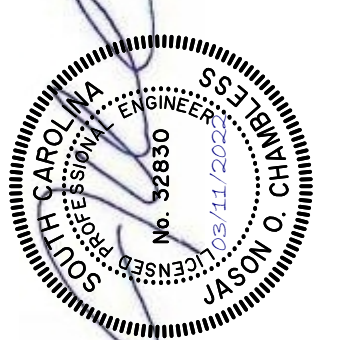
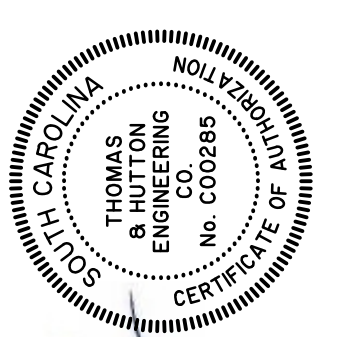
TRADE CENTER BLVD
EFFINGHAM COUNTY
CHATHAM COUNTY

TRADE CENTER PKWY
EFFINGHAM COUNTY
CHATHAM COUNTY

GRAPHIC SCALE



(IN FEET)
1 inch = 200 ft.



NO.	REVISIONS	BY	DATE
1	REVISED PER CITY OF PORT WENTWORTH COMMENTS	SGJ	3/10/22

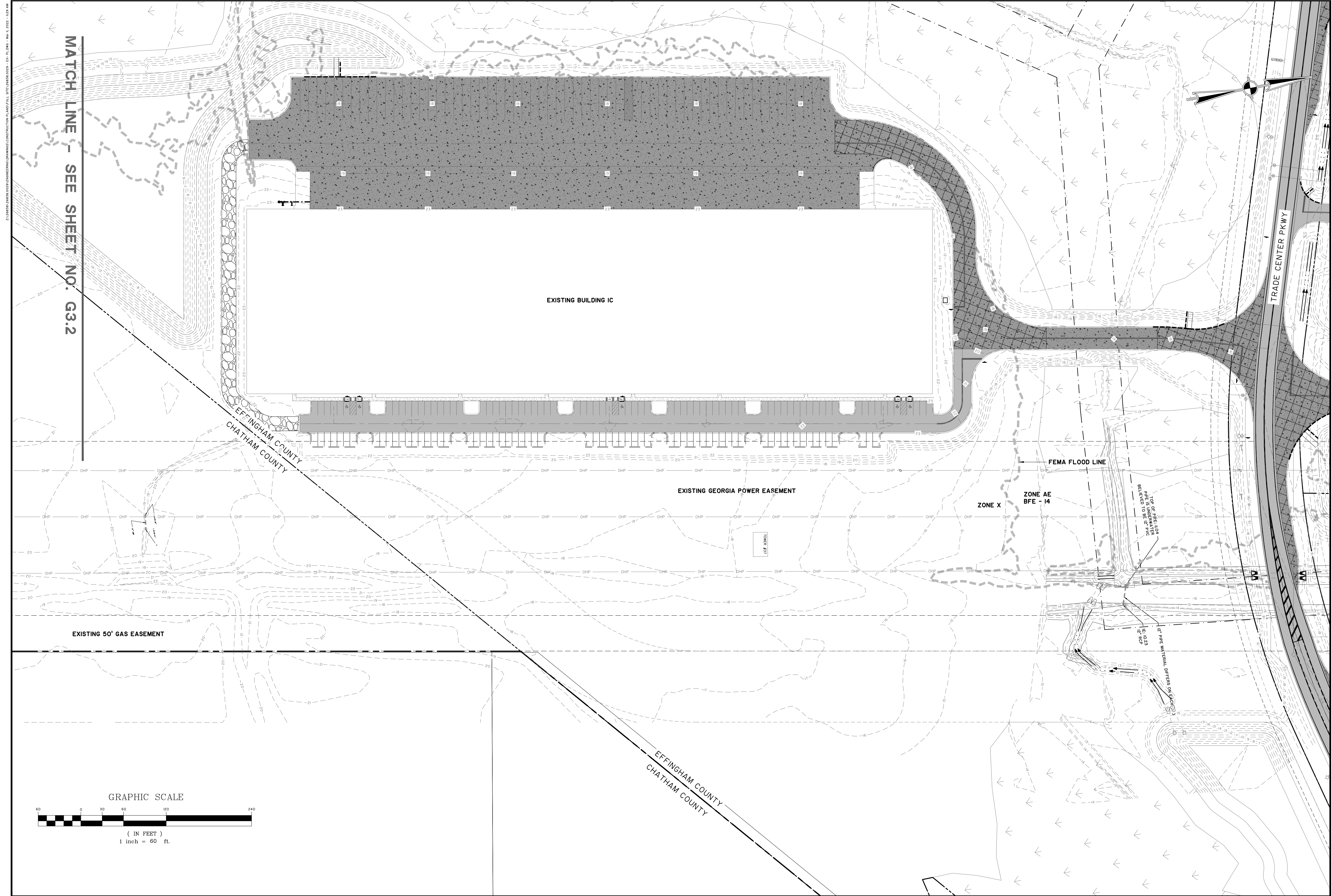
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CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA
 GITC - BUILDING 4A
 SHEET INDEX

JOB NO:	J-26838.0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JGC
SCALE:	1" = 200'

G2.1

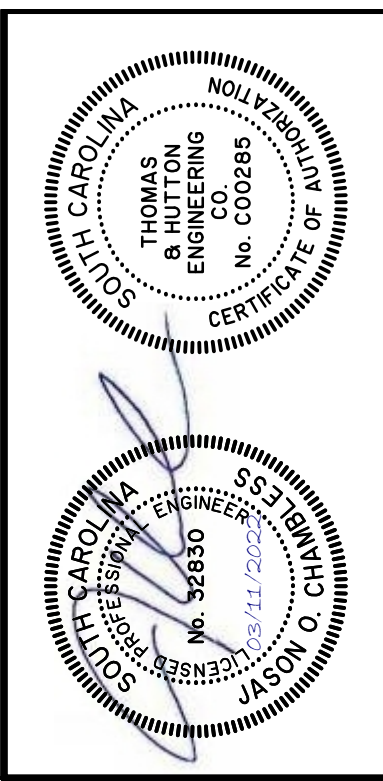
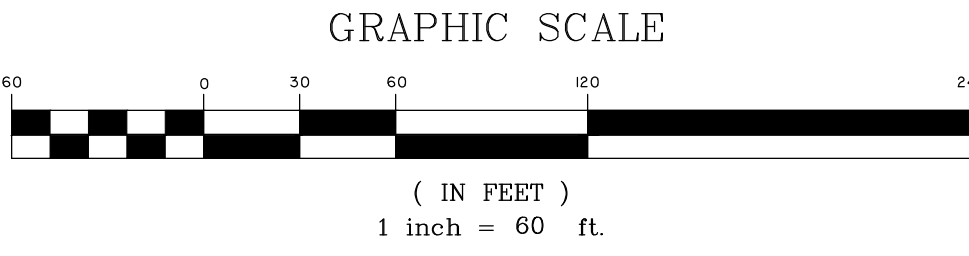
PERMIT SET - FOR REVIEW PURPOSES ONLY



MATCH LINE - SEE SHEET NO. G3.2

EFFINGHAM COUNTY
CHATHAM COUNTY

EFFINGHAM COUNTY
CHATHAM COUNTY



NO.	REVISIONS	BY	DATE

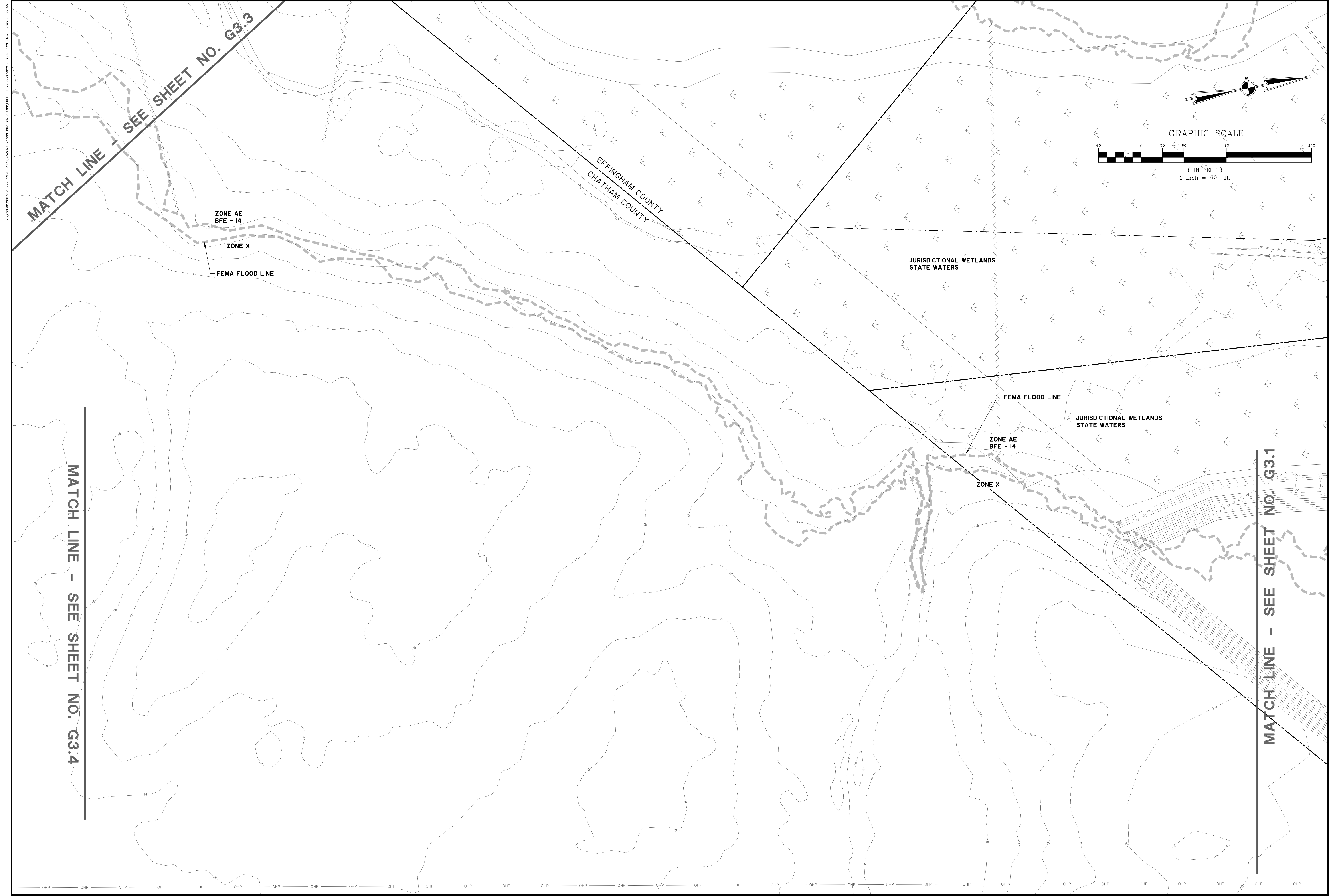
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CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA
 GITC - BUILDING 4 A
 EXISTING CONDITIONS PLAN

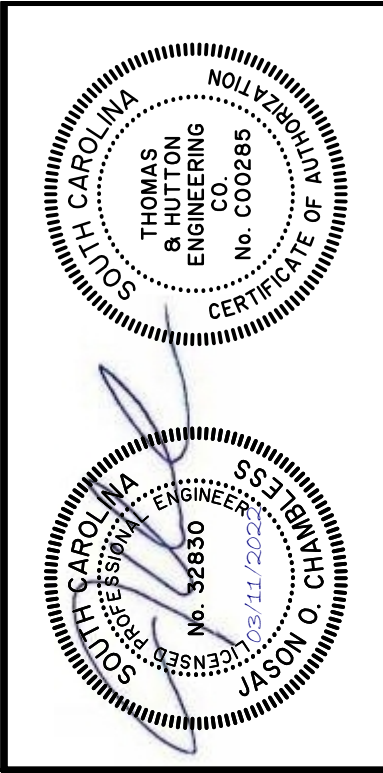
JOB NO:	J-26838.0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JOC
SCALE:	1" = 60'

G3.1

PERMIT SET - FOR REVIEW PURPOSES ONLY



Z:\03\18\1808\003\CONSTRUCTION\PLANS\TULL SITE\1808\003 - EX - PL 1808 - REV 12.2022 - 10:58 AM



NO.	REVISIONS	BY	DATE

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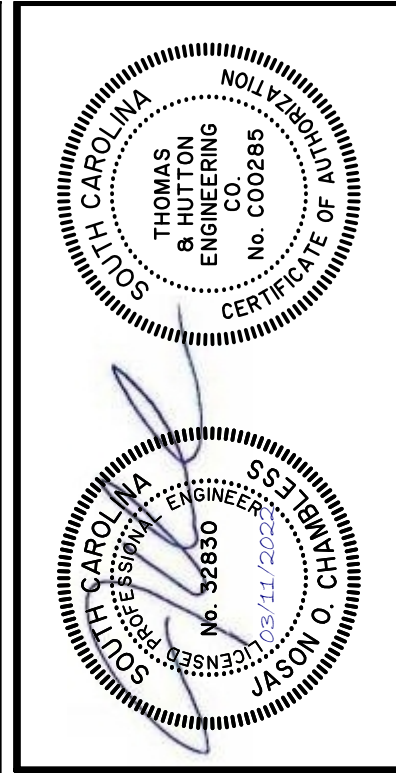
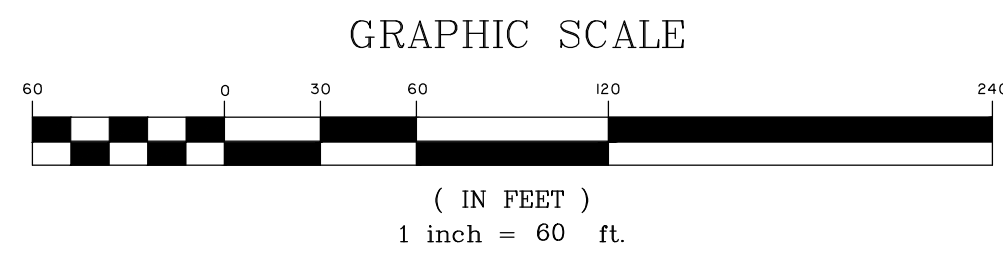
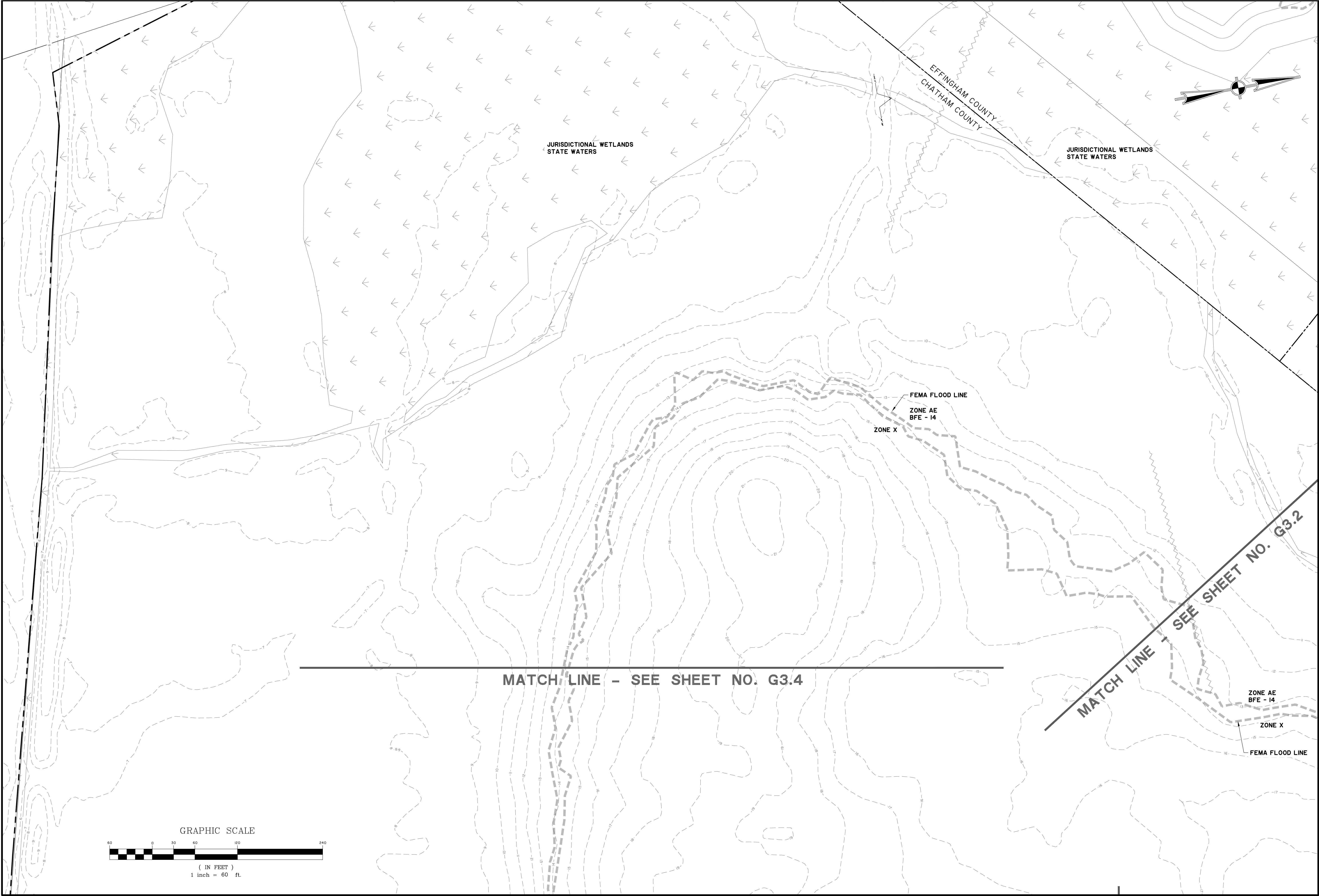
CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA
 GITC - BUILDING 4 A
 EXISTING CONDITIONS PLAN

JOB NO: J-26838.0029
 DATE: 01/26/2022
 DRAWN: SGJ
 DESIGNED: SGJ
 REVIEWED: FIT
 APPROVED: JOC
 SCALE: 1" = 60'

G3.2

PERMIT SET - FOR REVIEW PURPOSES ONLY

Z:\04545\04545.DWG - CIVIL ENGINEERING\04545\04545.DWG - CIVIL ENGINEERING - 01/26/2022 - 10:58 AM



NO.	REVISIONS	BY	DATE

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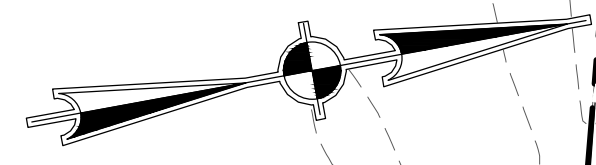
CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA
 GITC - BUILDING 4A
 EXISTING CONDITIONS PLAN

JOB NO: J-26838.0029
 DATE: 01/26/2022
 DRAWN: SGJ
 DESIGNED: SGJ
 REVIEWED: FIT
 APPROVED: JOC
 SCALE: 1" = 60'

G3.3

PERMIT SET - FOR REVIEW PURPOSES ONLY

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MATCH LINE - SEE SHEET NO. G3.3

ZONE AE
BFE - 14
FEMA FLOOD LINE
ZONE X

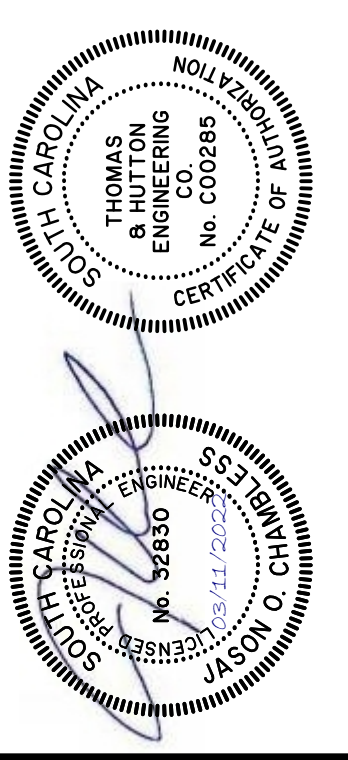
MATCH LINE - SEE SHEET NO. EC1.2



GRAPHIC SCALE

(IN FEET)
1 inch = 60 ft.

EXISTING 245' GEORGIA POWER EASEMENT



NO.	REVISIONS	BY	DATE

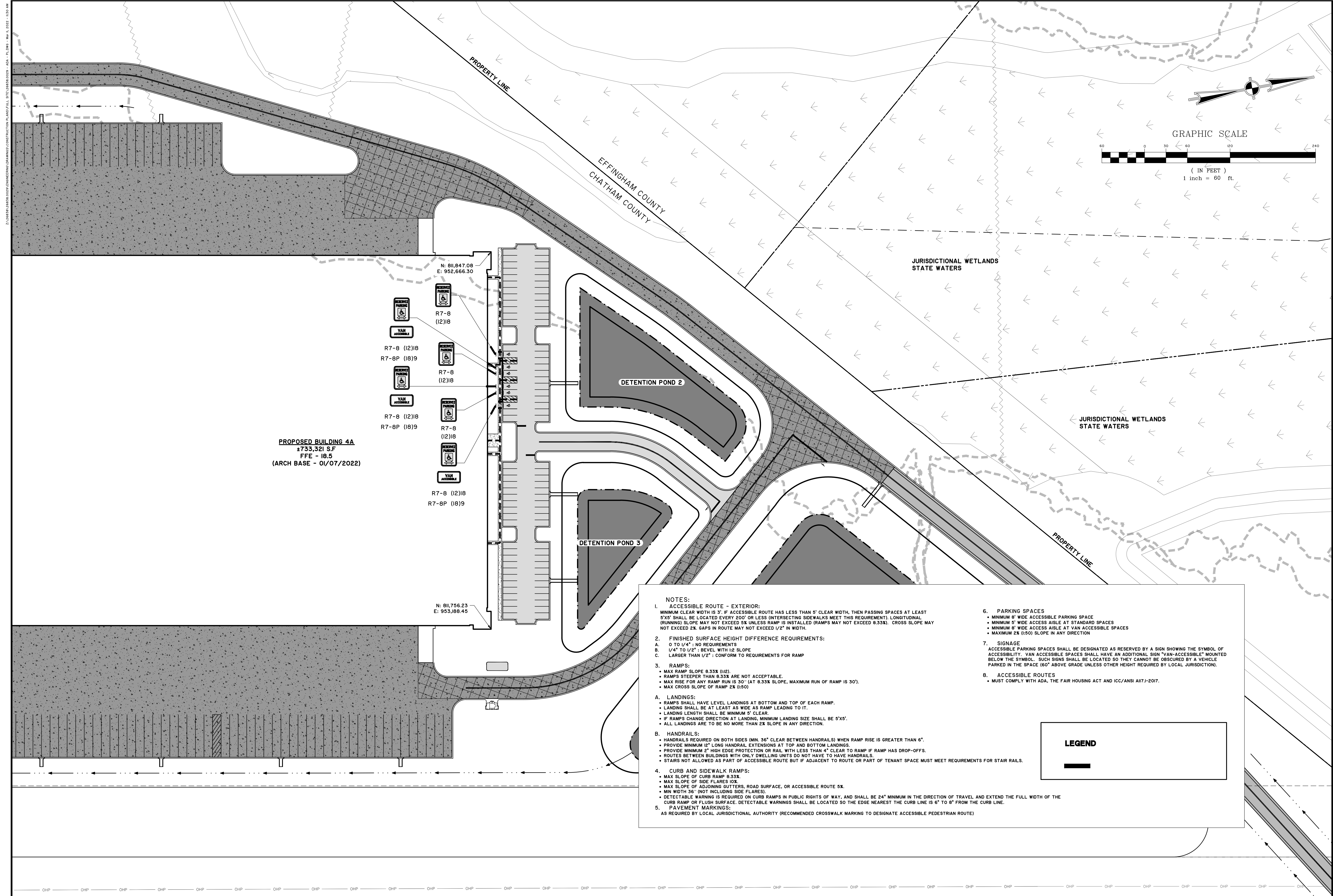
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CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA
 GITC - BUILDING 4 A
 EXISTING CONDITIONS PLAN

JOB NO: J-26838.0029
 DATE: 01/26/2022
 DRAWN: SGJ
 DESIGNED: SGJ
 REVIEWED: FIT
 APPROVED: JOC
 SCALE: 1" = 60'

G3.4

PERMIT SET - FOR REVIEW PURPOSES ONLY



PROPOSED BUILDING 4A
 2733.321 S.F.
 FFE - 18.5
 (ARCH BASE - 01/07/2022)

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 E: 952,666.30

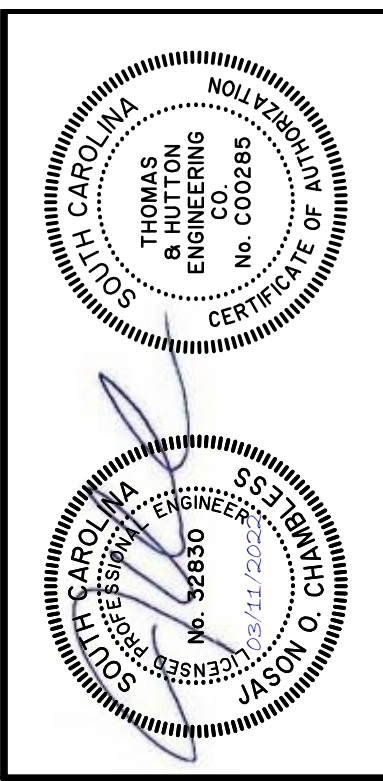
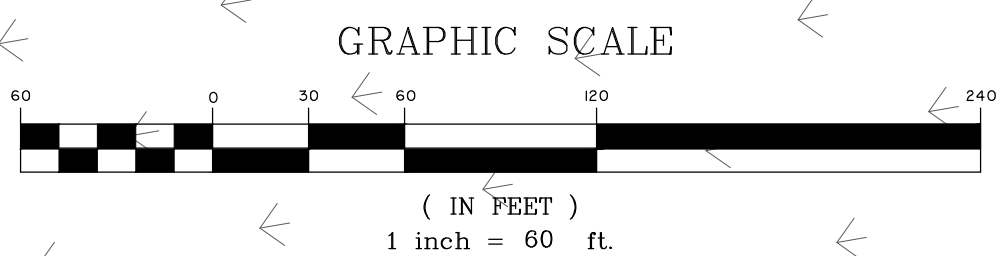
N: 811,756.23
 E: 953,186.45

- R7-8 (12)18
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NOTES:

- ACCESSIBLE ROUTE - EXTERIOR:**
 - MINIMUM CLEAR WIDTH IS 3' IF ACCESSIBLE ROUTE HAS LESS THAN 5' CLEAR WIDTH, THEN PASSING SPACES AT LEAST 5'x5' SHALL BE LOCATED EVERY 200' OR LESS (INTERSECTING SIDEWALKS MEET THIS REQUIREMENT). LONGITUDINAL (RUNNING) SLOPE MAY NOT EXCEED 5% UNLESS RAMP IS INSTALLED (RAMPS MAY NOT EXCEED 8.33%). CROSS SLOPE MAY NOT EXCEED 2%. GAPS IN ROUTE MAY NOT EXCEED 1/2" IN WIDTH.
- FINISHED SURFACE HEIGHT DIFFERENCE REQUIREMENTS:**
 - A. 0 TO 1/4" - NO REQUIREMENTS
 - B. 1/4" TO 1/2" - BEVEL WITH 1:2 SLOPE
 - C. LARGER THAN 1/2" - CONFORM TO REQUIREMENTS FOR RAMP
- RAMPS:**
 - MAX RAMP SLOPE 8.33% (1:12)
 - RAMPS STEEPER THAN 8.33% ARE NOT ACCEPTABLE.
 - MAX RISE FOR ANY RAMP RUN IS 30" (AT 8.33% SLOPE, MAXIMUM RUN OF RAMP IS 30')
 - MAX CROSS SLOPE OF RAMP 2% (1:50)
- LANDINGS:**
 - RAMPS SHALL HAVE LEVEL LANDINGS AT BOTTOM AND TOP OF EACH RAMP.
 - LANDING SHALL BE AT LEAST AS WIDE AS RAMP LEADING TO IT.
 - LANDING LENGTH SHALL BE MINIMUM 5' CLEAR.
 - IF RAMPS CHANGE DIRECTION AT LANDING, MINIMUM LANDING SIZE SHALL BE 6'x5'.
 - ALL LANDINGS ARE TO BE NO MORE THAN 2% SLOPE IN ANY DIRECTION.
- HANDRAILS:**
 - HANDRAILS REQUIRED ON BOTH SIDES (MIN. 36" CLEAR BETWEEN HANDRAILS) WHEN RAMP RISE IS GREATER THAN 6".
 - PROVIDE MINIMUM 12" LONG HANDRAIL EXTENSIONS AT TOP AND BOTTOM LANDINGS.
 - PROVIDE MINIMUM 2" HIGH EDGE PROTECTION OR RAIL WITH LESS THAN 4" CLEAR TO RAMP IF RAMP HAS DROP-OFFS.
 - ROUTES BETWEEN BUILDINGS WITH ONLY DWELLING UNITS DO NOT HAVE TO HAVE HANDRAILS.
 - STAIRS NOT ALLOWED AS PART OF ACCESSIBLE ROUTE BUT IF ADJACENT TO ROUTE OR PART OF TENANT SPACE MUST MEET REQUIREMENTS FOR STAIR RAILS.
- CURB AND SIDEWALK RAMPS:**
 - MAX SLOPE OF CURB RAMP 8.33%
 - MAX SLOPE OF SIDE FLARES 10%
 - MAX SLOPE OF ADJOINING CUTTERS, ROAD SURFACE, OR ACCESSIBLE ROUTE 5%
 - MIN WIDTH 36" (NOT INCLUDING SIDE FLARES)
 - DETECTABLE WARNING IS REQUIRED ON CURB RAMPS IN PUBLIC RIGHTS OF WAY, AND SHALL BE 24" MINIMUM IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE. DETECTABLE WARNINGS SHALL BE LOCATED SO THE EDGE NEAREST THE CURB LINE IS 5" TO 8" FROM THE CURB LINE.
- PAVEMENT MARKINGS:**
 - AS REQUIRED BY LOCAL JURISDICTIONAL AUTHORITY (RECOMMENDED CROSSWALK MARKING TO DESIGNATE ACCESSIBLE PEDESTRIAN ROUTE)
- PARKING SPACES**
 - MINIMUM 8' WIDE ACCESSIBLE PARKING SPACE
 - MINIMUM 5' WIDE ACCESS AISLE AT STANDARD SPACES
 - MINIMUM 8' WIDE ACCESS AISLE AT VAN ACCESSIBLE SPACES
 - MAXIMUM 2% (1:50) SLOPE IN ANY DIRECTION
- SIGNAGE**
 - ACCESSIBLE PARKING SPACES SHALL BE DESIGNATED AS RESERVED BY A SIGN SHOWING THE SYMBOL OF ACCESSIBILITY. VAN ACCESSIBLE SPACES SHALL HAVE AN ADDITIONAL SIGN "VAN-ACCESSIBLE" MOUNTED BELOW THE SYMBOL. SUCH SIGNS SHALL BE LOCATED SO THEY CANNOT BE OBTURED BY A VEHICLE PARKED IN THE SPACE (60" ABOVE GRADE UNLESS OTHER HEIGHT REQUIRED BY LOCAL JURISDICTION).
- ACCESSIBLE ROUTES**
 - MUST COMPLY WITH ADA, THE FAIR HOUSING ACT AND ICC/ANSI A117.1-2017.

LEGEND



NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
 50 Park of Commerce Way
 Savannah, GA 31405 • 912.234.5300
 www.thomasandhutton.com

CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA
 GITC - BUILDING 4A
 ACCESSIBLE ROUTE PLAN

JOB NO:	J-26838.0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JOC
SCALE:	1" = 60'

G4.1

PERMIT SET - FOR REVIEW PURPOSES ONLY

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST - COMMON DEVELOPMENT CONSTRUCTION PROJECTS

SWCD: OGEECHEE RIVER
PROJECT NAME: G1TC - BUILDING 4A
CITY/COUNTY: CHATHAM & EFFINGHAM COUNTY, GEORGIA

ADDRESS: AUGUSTA RD, PORT WENTWORTH, GA 31407
DATE ON PLANS: 01/26/2022
REVISED DATE:

ATTACHED YES

1. THE APPLICABLE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN CHECKLIST ESTABLISHED BY THE COMMISSION AS OF JANUARY 1 OF THE YEAR IN THE LAND-DISTURBING ACTIVITY WAS PERMITTED. (THE COMPLETED CHECKLIST MUST BE SUBMITTED WITH THE ES&PC PLAN OR THE PLAN WILL NOT BE REVIEWED) (PERMIT IV.D.1 PG 26)

PLEASE FIND THE CURRENT STAND ALONE EROSION, SEDIMENTATION AND POLLUTION CONTROL CHECKLIST ATTACHED WITH THIS PLAN

ALL YES

2. LEVEL II CERTIFICATION NUMBER ISSUED BY THE COMMISSION, SIGNATURE AND SEAL OF THE CERTIFIED DESIGN PROFESSIONAL. (SIGNATURE, SEAL AND LEVEL II NUMBER MUST BE ON EACH SHEET PERTAINING TO ES&PC PLAN OR THE PLAN WILL NOT BE REVIEWED)

PLEASE FIND ON EACH SHEET OF THIS PLAN THE GSWCC LEVEL II CERTIFICATION NUMBER, SIGNATURE AND SEAL FOR MR. JASON CHAMBLESS, PE.

EC0J YES

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 I OF THIS CHECK LIST. (A COPY OF THE WRITTEN APPROVAL BY EPD MUST BE ATTACHED TO THE PLAN FOR THE PLAN TO BE REVIEWED. (PERMIT IV.D.3 PG 27))

LIMITS OF DISTURBANCE EXCEEDS 50 ACRES. TOTAL DISTURBANCE FOR THE PROJECT IS 88.7 ACRES.

EC0J YES

4. THE NAME AND PHONE NUMBER OF 24-HOUR LOCAL CONTACT RESPONSIBLE FOR EROSION, SEDIMENTATION AND POLLUTION CONTROLS. (PERMIT II.B.1.c PG 12)

CHANCE RAEHN
(912) 667-0828

EC0J YES

5. PROVIDE NAME, ADDRESS, EMAIL ADDRESS AND PHONE NUMBER OF PRIMARY PERMITTEE. (PERMIT II.B.1.b PG 12)

CHESTERFIELD, LLC
100 BULL STREET, SUITE 200
SAVANNAH, GA 31401
MR. CHANCE RAEHN ; (912) 667-0828 ; CRAHN@CHESTERFIELDLLC.COM

EC0J YES

6. NOTE TOTAL AND DISTURBED ACREAGE OF THE PROJECT OR PHASE UNDER CONSTRUCTION. (PERMIT IV.D.2.c PG 27)

TOTAL PARCEL ACREAGE IS 126.5 ACRES. DISTURBANCE FOR THIS PROJECT IS 88.7 ACRES IN CHATHAM COUNTY AND 2.8 ACRES IN EFFINGHAM COUNTY.

EC0J YES

7. PROVIDE THE GPS LOCATION OF THE CONSTRUCTION EXIT FOR THE SITE. GIVE THE LATITUDE AND LONGITUDE IN DECIMAL DEGREES. (PERMIT II.B.1.a PG 12)

CONSTRUCTION EXIT IS LOCATED AT:
LAT: N 32.14722 ; LONG: W 81.17250

ALL YES

8. INITIAL DATE OF THE PLAN AND THE DATES OF ANY REVISIONS MADE TO THE PLAN INCLUDING THE ENTITY WHO REQUESTED THE REVISIONS.

PLEASE FIND THE INITIAL DATE OF THE PLAN AND ALL REVISIONS ON THE COVER SHEET AS WELL AS EACH INDIVIDUAL SHEET OF THE PLAN.

EC0J YES

9. DESCRIPTION OF THE NATURE OF CONSTRUCTION ACTIVITY. (PERMIT IV.D.2.a PG 27)

THE CONSTRUCTION ACTIVITY AT THE SITE WILL INVOLVE THE CLEARING AND MASS GRADING OF 88.7 ACRES FOR THE CONSTRUCTION OF A 733,200 SF WAREHOUSE FACILITY AND ASSOCIATED PARKING. EROSION CONTROL MEASURES, DRAINAGE INFRASTRUCTURE AND PONDS WILL BE IMPLEMENTED TO FACILITATE DRAINAGE AND MINIMIZE EROSION. PRE SIRE CONDITIONS CONSISTS OF WOODED UPLANDS AND WETLANDS.

COVER YES

10. PROVIDE VICINITY MAP SHOWING SITE'S RELATION TO SURROUNDING AREAS. INCLUDE DESIGNATION OF SPECIFIC PHASE, IF NECESSARY. (PERMIT IV.D.2.b PG 27)

PLEASE FIND THE VICINITY MAP LOCATED ON THE COVER SHEET OF THE PLANS

EC0J.03 YES

11. IDENTIFY THE PROJECT RECEIVING WATERS AND DESCRIBE ALL SENSITIVE ADJACENT AREAS INCLUDING STREAMS, LAKES, RESIDENTIAL AREAS, WETLANDS, MARSHLANDS, ETC. WHICH MAY BE AFFECTED. (PERMIT IV.D.2.f PG 27)

THE RECEIVING WATERS FOR THE PROJECT IS BLACK CREEK WHICH WILL ULTIMATELY OUTFALL TO THE SAVANNAH RIVER.

EC0J 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 AUTHORIZED AGENT UNDER MY SUPERVISION.

Signature of Jason Chambliss, PE

JASON CHAMBLESS, PE
GSWCC LEVEL II DESIGN PROFESSIONAL
CERTIFICATION #0000055539
EXPIRATION DATE: 9/12/2023

EC0J YES

13. DESIGN PROFESSIONAL'S CERTIFICATION STATEMENT AND SIGNATURE THAT THE PERMITTEE'S ES&PC PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BMP'S AND SAMPLING TO MEET PERMIT REQUIREMENTS AS STATED ON PART IV PAGE 19 OF THE PERMIT.

I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION & 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 STORM WATER 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. GAR 100001.

JASON CHAMBLESS, PE
GSWCC LEVEL II DESIGN PROFESSIONAL
CERTIFICATION #0000055539
EXPIRATION DATE: 9/12/2023

EC0J 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 BMP'S WITHIN 7 DAYS AFTER INSTALLATION, IN ACCORDANCE WITH PART IV.A.5 PAGE 25 OF THE PERMIT.

THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMP'S WITHIN 7 DAYS AFTER INSTALLATION.

DESIGN PROFESSIONAL 7-DAY VISIT CERTIFICATION
DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMP'S WITHIN 7 DAYS AFTER INSTALLATION.

DATE OF INSPECTION:
I CERTIFY THE SITE WAS WITH THE ES&PC PLAN ON THE DATE OF INSPECTION.

GSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION #

INSPECTION REVEALED THE FOLLOWING DISCREPANCIES FROM THE ES&PC PLAN

THESE DEFICIENCIES MUST BE ADDRESSED IMMEDIATELY AND A RE-INSPECTION SCHEDULED. WORK SHALL NOT PROCEED ON THE SITE UNTIL DESIGN PROFESSIONAL CERTIFICATION IS OBTAINED.

EC0J 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." (PART IV.(f)-(iv) PG 19-24 OF THE PERMIT).

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

16. PROVIDE A DESCRIPTION OF ANY BUFFER ENCROACHMENTS AND INDICATE WHETHER A BUFFER VARIANCE IS REQUIRED.

THERE WILL BE NO BUFFER ENCROACHMENTS AS PART OF THE PROJECT THUS A BUFFER VARIANCE IS NOT REQUIRED.

EC0J YES

17. CLEARLY NOTE THE STATEMENT THAT "AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL." (PART IV.C PG 26 OF PERMIT).

AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.

EC0J 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. (PERMIT IV.D.3.c(i) PG 30).

WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.

EC0J YES

19. CLEARLY NOTE THE 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.

EC0J YES

20. CLEARLY NOTE THE 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.

EC0J 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." (PERMIT IV.D.3.a(i) PG 28).

ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.

N/A

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 AN BIOTA IMPAIRED STREAM SEGMENT MUST COMPLY WITH PART III.C OF THE PERMIT. INCLUDE THE COMPLETED APPENDIX I LISTING ALL THE BMP'S THAT WILL BE USED FOR THOSE AREAS OF THE SITE WHICH DISCHARGE TO THE IMPAIRED STREAM SEGMENT. (PART III.C.2.A - V, PG 19-21)

THE SITE IS LOCATED MORE THAN 1 LINEAR MILE UPSTREAM OF THE NEAREST IMPAIRED STREAM SEGMENT.

N/A

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. (PERMIT III.C.I PG 15)

THE SITE IS LOCATED MORE THAN 1 LINEAR MILE UPSTREAM OF THE NEAREST IMPAIRED STREAM SEGMENT.

NA

24. BMP'S 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. (PERMIT IV.D.3.c(i6) PG 31).

CONCRETE WASHOUT AREA WILL NOT BE REQUIRED DURING THIS STAGE OF CONSTRUCTION

EC0J YES

25. PROVIDE BMP'S FOR THE REMEDIATION OF ALL PETROLEUM SPILLS AND LEAKS. (PERMIT IV.D.3.c.(5) PG 31).

PETROLEUM BASED PRODUCTS- CONTAINERS FOR PRODUCTS SUCH AS FUELS, LUBRICANTS AND TARS WILL BE INSPECTED DAILY FOR LEAKS AND SPILLS. THIS INCLUDES ON-SITE VEHICLE AND MACHINERY INSPECTIONS AND REGULAR PREVENTATIVE MAINTENANCE FOR 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. HAVE EQUIPMENT TO CONTAIN AND CLEAN UP PETROLEUM SPILLS IN FUEL STORAGE AREAS OR ON MAINTENANCE AND FUELING VEHICLES. STORE IN COVERED AREAS PROTECTED WITH DIKES. REGULARLY INSPECT FOR CRACKS OR LEAKAGE IN CONTAINERS/TANKS.

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.
MATERIALS 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, RAGS, GLOVES, GOGGLES, CAT LITTER, SAND, SAWDUST, AND PROPERLY LABELED PLASTIC AND MEAL WASTE CONTAINERS.
SPILL PREVENTION PRACTICES AND PROCEDURES WILL BE REVIEWED AFTER A SPILL AND ADJUSTED AS NECESSARY TO PREVENT FUTURE SPILLS.
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
FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE GEORGIA EPD WILL BE CONTACTED WITHIN

EC0J 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. (PERMIT IV.D.3.b PG 29).

THE MAIN PERMANENT EROSION CONTROL PRACTICE AT THE POND DISCHARGES IS RIP-RAP. THE PONDS INCLUDE DISCHARGE POINTS TO HELP SPREAD THE FLOW OVER A LARGE AREA AND TO DECREASE VELOCITIES. PERMANENT GRASSING AND LANDSCAPING WILL BE INSTALLED TO PROTECT EARTHEN AREAS FROM EROSION ONCE CONSTRUCTION IS COMPLETE.

EC0J YES

27. DESCRIPTION OF PRACTICES TO PROVIDE COVER FOR BUILDING MATERIALS AND BUILDING PRODUCTS ON SITE. (PERMIT IV.D.3.c.(2) PG 30).

THE CONTRACTOR IS TO PROVIDE COVER FOR: BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS THAT ARE STORED ON SITE BY USING PLASTIC SHEETING AS COVER AND PROTECTION FROM PRECIPITATION. THE ABOVE PRODUCTS WILL BE STORED IN A LOCATION THAT WOULD MINIMIZE EXPOSURE TO PRECIPITATION AND TO STORMWATER.

EC0J YES

28. DESCRIPTION OF THE PRACTICES THAT WILL BE USED TO REDUCE THE POLLUTANTS IN STORM WATER DISCHARGES. (PERMIT IV PG 24)

POLLUTANT PREVENTION

THE FOLLOWING MATERIALS ARE EXPECTED ONSITE DURING CONSTRUCTION: PETROLEUM BASED FUELS AND LUBRICANTS FOR EQUIPMENT, ADDITIVES FOR SOIL STABILIZATION, PESTICIDES, FERTILIZERS, HERBICIDES, CRUSHED STONE, CONCRETE PRODUCTS, ASPHALT, TAR, LUMBER, PAINTS/STAINS/FINISHING TREATMENTS, PAINT SOLVENTS, CLEANING SOLVENTS, PLASTICS AND METAL PIPES.

PRACTICES SUCH AS GOOD HOUSEKEEPING, PROPER HANDLING OF HAZARDOUS PRODUCTS AND PROPER SPILL CONTROL PRACTICES WILL BE FOLLOWED TO REDUCE THE RISK OF SPILLS FROM DISCHARGING INTO STORM WATER RUNOFF.

GOOD HOUSEKEEPING

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

PRODUCT SPECIFIC PRACTICES

FERTILIZER/HERBICIDES/PESTICIDES/DETERGENTS- THESE 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 SEDIMENTATION CONTROL IN GEORGIA. ANY STORAGE OF THESE MATERIALS WILL BE UNDER ROOF IN SEALED CONTAINERS. DO NOT DISCHARGE WASH WATER INTO STORM WATER SYSTEM. INSTALL CURBS OR DIKES AROUND STORAGE AREA TO PROTECT AGAINST SPILLS. LIMIT USE OF DETERGENTS ON-SITE.

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 THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

CONCRETE TRUCK WASHING- CONCRETE WASHOUT SHALL OCCUR ONLY IN THE WASH PAD VICINITY DELINEATED IN THE PLANS.

BUILDING MATERIALS- NO BUILDING OR CONSTRUCTION MATERIALS WILL BE BURIED OR DISPOSED OF ONSITE. ALL SUCH MATERIAL WILL BE DISPOSED OF IN PROPER WASTE DISPOSAL PROCEDURES.



GSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION #0000055539 EXPIRATION DATE: 9/12/2023

Table with columns: NO., REVISIONS, COMMENTS, DATE. Row 2: 2, REVISED PER GSWCC COMMENTS, 7/28/2022.

THOMAS & HUTTON logo and contact information: 50 Park of Commerce Way, Savannah, GA 31405 • 912.234.5300 www.thomasandhutton.com

CHESTERFIELD LLC CHATHAM & EFFINGHAM COUNTY, GEORGIA
G1TC - BUILDING 4A
ES & PC NOTES
JOB NO: J-26838.0029
DATE: 01/26/2022
DRAWN: S6J
DESIGNED: S6J
REVISED: FIT
APPROVED: JGC
SCALE: N.T.S.

EC0.1

PERMIT SET - FOR REVIEW PURPOSES ONLY

**EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST -
COMMON DEVELOPMENT CONSTRUCTION PROJECTS**

SWCD: OGEECHEE RIVER
PROJECT NAME: GITC - BUILDING 4A
CITY/COUNTY: CHATHAM & EFFINGHAM COUNTY, GEORGIA

ADDRESS: AUGUSTA RD, PORT WENTWORTH, GA 31407
DATE ON PLANS: 01/26/2022
REVISED DATE:

ECO.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 BMP'S, CLEARING AND GRUBBING ACTIVITIES, EXCAVATION ACTIVITIES, UTILITY ACTIVITIES, TEMPORARY AND FINAL STABILIZATION). (PERMIT IV.D.2b PG 27)

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.

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. 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. BUILDING CONSTRUCTION- BUILDINGS UTILITIES, PAVING.	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.

CONSTRUCTION SCHEDULE															
ACTIVITY	MONTH 1														MONTH 12
PERIMETER BMP'S															
TEMPORARY SEDIMENT CONTROL BMP'S															
SITE CLEARING															
SITE GRADING															
TEMPORARY GRASSING															
PERMANENT GRASSING															
FINAL STABILIZATION/ BMP REMOVAL															
BMP MAINTENANCE															

ECO.2 YES

30. PROVIDE COMPLETE REQUIREMENTS OF INSPECTIONS AND RECORD KEEPING BY THE PRIMARY PERMITEE. (PERMIT IV.D.4a PG 31-33).

INSPECTIONS AND RECORD KEEPING

- A. PRIMARY PERMITEE:
- EACH DAY WHEN ANY TYPE OF CONSTRUCTION ACTIVITY HAS TAKEN PLACE AT A PRIMARY PERMITEE'S SITE, CERTIFIED PERSONNEL PROVIDED BY THE PRIMARY PERMITEE SHALL INSPECT: (a) ALL AREAS OF THE PRIMARY PERMITEE'S SITE WHERE PETROLEUM PRODUCTS ARE STORED, USED, OR HANDLED FOR SPILLS AND LEAKS FROM VEHICLES AND EQUIPMENT. (b) ALL LOCATIONS AT THE PRIMARY PERMITEE'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.
 - MEASURE AND RECORD RAINFALL WITHIN DISTURBED AREAS OF THE SITE THAT HAVE 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.

- CERTIFIED PERSONAL (PROVIDED BY THE PRIMARY PERMITEE) 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 OR GREATER (UNLESS SUCH STORM ENDS AFTER 5:00PM ON ANY FRIDAY OR ON ANY NON-WORKING SATURDAY, NON-WORKING SUNDAY OR ANY 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 PERMITEE'S CONSTRUCTION SITE. (b) AREAS USED BY THE PRIMARY PERMITEE 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 PERMITEE'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 PERMITEE MUST COMPLY WITH PART IV.D.4.a.(4). THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.
- CERTIFIED PERSONNEL (PROVIDED BY PRIMARY PERMITEE) 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).
- 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.
- 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 PROJECT 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.

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

JASON CHAMBLESS
THOMAS & HUTTON
50 PARK OF COMMERCE WAY
SAVANNAH, GA 31405
912.721.4170

ECO.2 YES

31. PROVIDE COMPLETE REQUIREMENTS OF SAMPLING FREQUENCY AND REPORTING OF SAMPLING RESULTS. (PART IV.D.6.4 PG 35-37 & PART IV.E PG 37)

- RT IV.D.6.4 PG 35-37 & PART IV.E PG 37)
- SAMPLING REQUIREMENTS. THIS PERMIT REQUIRES THE MONITORING OF NEPHELOMETRIC TURBIDITY IN RECEIVING WATER(S) OR OUTFALLS IN ACCORDANCE WITH THIS PERMIT. THIS PARAGRAPH SHALL NOT APPLY TO ANY LAND DISTURBANCE ASSOCIATED WITH THE CONSTRUCTION OF SINGLE-FAMILY HOMES WHICH ARE NOT PART OF A SUBDIVISION OR PLANNED COMMON DEVELOPMENT UNLESS FIVE (5) ACRES OR MORE WILL BE DISTURBED. THE FOLLOWING PROCEDURES CONSTITUTE EPD'S GUIDELINES FOR SAMPLING TURBIDITY.
- SAMPLING REQUIREMENTS SHALL INCLUDE THE FOLLOWING:
 - 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 LOCATED DURING MANDATORY FIELD VERIFICATION, INTO WHICH THE STORM WATER IS DISCHARGED AND (b) THE RECEIVING WATER AND/OR OUTFALL SAMPLING LOCATIONS. WHEN THE PERMITEE HAS CHOSEN TO USE A USGS TOPOGRAPHIC MAP AND THE RECEIVING WATER(S) IS NOT SHOWN ON THE USGS TOPOGRAPHIC MAP, THE LOCATION FOR THE RECEIVING WATER(S) MUST BE HAND-DRAWN ON THE USGS TOPOGRAPHIC MAP FROM WHERE THE STORM WATER(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;
 - 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;
 - WHEN THE PERMITEE 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
 - ANY ADDITIONAL INFORMATION EPD DETERMINES NECESSARY TO BE PART OF THE PLAN. EPD WILL PROVIDE WRITTEN NOTICE TO THE PERMITEE OF THE INFORMATION NECESSARY AND THE TIME LINE FOR SUBMITTAL.
 - 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.

- SAMPLE CONTAINERS SHOULD BE LABELED PRIOR TO COLLECTING THE SAMPLES.
- SAMPLES SHOULD BE WELL MIXED BEFORE TRANSFERRING TO A SECONDARY CONTAINER.
- 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.
- 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 PERMITEE 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.
- SAMPLING AND ANALYSIS OF THE RECEIVING WATER(S) OR OUTFALLS BEYOND THE MINIMUM FREQUENCY STATED IN THE PERMIT MUST BE REPORTED TO EPD AS SPECIFIED IN PART IV.E. OF THE PERMIT.

- SAMPLING POINTS: THERE WILL BE 2 STORM WATER SAMPLING LOCATIONS. THE SAMPLING LOCATION WILL BE THE DOWNSTREAM POINTS, PER NPDES PERMIT GAR 100001, FOR CONSTRUCTION ACTIVITIES, THE PRIMARY PERMITEE MUST COMPLETE ALL SAMPLING.
- FOR CONSTRUCTION ACTIVITIES THE PRIMARY PERMITEE 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 STORM WATER OUTFALL(S) USING THE FOLLOWING MINIMUM GUIDELINES:
 - THE UPSTREAM SAMPLE FOR EACH RECEIVING WATER(S) MUST BE TAKEN IMMEDIATELY UPSTREAM OF THE CONFLUENCE OF THE FIRST STORM WATER DISCHARGE FROM THE PERMITTED ACTIVITY (I.E., THE DISCHARGE FARTHEST UPSTREAM AT THE SITE) BUT DOWNSTREAM OF ANY OTHER STORM WATER 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 VALUE.
 - THE DOWNSTREAM SAMPLE FOR EACH RECEIVING WATER(S) MUST BE TAKEN DOWNSTREAM OF THE CONFLUENCE OF THE LAST STORM WATER DISCHARGE FROM THE PERMITTED ACTIVITY (I.E., THE DISCHARGE FARTHEST DOWNSTREAM AT THE SITE) BUT UPSTREAM OF ANY OTHER STORM WATER 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.
 - IDEALLY THE SAMPLES SHOULD BE TAKEN FROM THE HORIZONTAL AND VERTICAL CENTER OF THE RECEIVING WATER(S) OR THE STORM WATER OUTFALL CHANNEL(S).
 - CARE SHOULD BE TAKEN TO AVOID STIRRING THE BOTTOM SEDIMENTS IN THE RECEIVING WATER(S) OR IN THE OUTFALL STORM WATER CHANNEL.
 - THE SAMPLING CONTAINER SHOULD BE HELD SO THAT THE OPENING FACES UPSTREAM.
 - THE SAMPLES SHOULD BE KEPT FREE FROM FLOATING DEBRIS.
 - PERMITEES DO NOT HAVE TO SAMPLE SHEETFLOW 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).

- 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 STORM WATER 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.
- SAMPLING FREQUENCY
 - THE PRIMARY PERMITEE MUST SAMPLE IN ACCORDANCE WITH THE PLAN AT LEAST ONCE FOR EACH RAINFALL EVENT DESCRIBED BELOW. FOR A QUALIFYING EVENT, THE PERMITEE SHALL SAMPLE AT THE BEGINNING OF ANY STORM WATER DISCHARGE TO A MONITORED RECEIVING WATER AND/OR FROM A MONITORED OUTFALL LOCATION WITHIN FORTY-FIVE (45) MINUTES OR AS SOON AS POSSIBLE.
 - HOWEVER, WHERE MANUAL AND AUTOMATIC SAMPLING ARE IMPOSSIBLE (AS DEFINED IN THIS PERMIT), OR ARE BEYOND THE PERMITEE'S CONTROL, THE PERMITEE SHALL TAKE SAMPLES AS SOON AS POSSIBLE, BUT IN NO CASE MORE THAN TWELVE (12) HOURS AFTER THE BEGINNING OF THE STORM WATER DISCHARGE.
 - SAMPLING BY THE PERMITEE SHALL OCCUR FOR THE FOLLOWING QUALIFYING EVENTS:
 - 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 STORM WATER 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;
 - 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 STORM WATER DISCHARGE THAT OCCURS DURING NORMAL BUSINESS HOURS AS DEFINED IN THE 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 LOCATIONS, WHICHEVER COMES FIRST;
 - AT THE TIME OF SAMPLING PERFORMED PURSUANT TO (A) AND (B) ABOVE, IF BMP'S 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 BMP'S ARE PROPERLY DESIGNED, INSTALLED AND MAINTAINED;
 - WHERE SAMPLING PURSUANT TO (A), (B) OR (C) ABOVE IS REQUIRED BUT NOT POSSIBLE (OR NOT REQUIRED BECAUSE THERE WAS NO DISCHARGE), THE PERMITEE, 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 PERMITEE OF ANY SUBSEQUENT SAMPLING OBLIGATIONS UNDER (A), (B) OR (C) ABOVE; AND
 - 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 PERMITEE 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**
- THE APPLICABLE PERMITEES 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 PERMITEE TO SUBMIT THE SAMPLING RESULTS ON A MORE FREQUENT BASIS. SAMPLING AND ANALYSIS OF ANY STORM WATER 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.
 - ALL SAMPLING REPORT SHALL INCLUDE THE FOLLOWING INFORMATION:
 - THE RAINFALL AMOUNT, DATE, EXACT PLACE AND TIME OF SAMPLING OR MEASUREMENTS;
 - THE NAME(S) OF THE CERTIFIED PERSONNEL WHO PERFORMED THE SAMPLING AND MEASUREMENTS;
 - THE DATE(S) ANALYSES WERE PERFORMED;
 - THE TIME(S) ANALYSES WERE INITIATED;
 - THE NAME(S) OF THE CERTIFIED PERSONNEL WHO PERFORMED THE ANALYSES;
 - REFERENCES AND WRITTEN PROCEDURES, WHEN AVAILABLE, FOR THE ANALYTICAL TECHNIQUES OR METHODS USED;
 - THE RESULTS OF SUCH ANALYSES, INCLUDING THE BENCH SHEETS, INSTRUMENT READOUTS, COMPUTER DISKS OR TAPES, ETC., USED TO DETERMINE THESE RESULTS;



CSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION #0000055539 EXPIRATION DATE: 9/12/2023

NO.	REVISED PER CSWCC COMMENTS	END	BY	DATE
2		7/21/20		

THOMAS & HUTTON
50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300
www.thomasandhutton.com

CHESTERFIELD LLC
CHATHAM & EFFINGHAM COUNTY, GEORGIA
GITC - BUILDING 4A
ES & PC NOTES

JOB NO:	J-26838.0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FGT
APPROVED:	JGC
SCALE:	N.T.S.

ECO.2

PERMIT SET - FOR REVIEW PURPOSES ONLY

**EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST -
COMMON DEVELOPMENT CONSTRUCTION PROJECTS**

SWDC: OGEEGHEE RIVER
PROJECT NAME: GITC - BUILDING 4A
CITY/COUNTY: CHATHAM & EFFINGHAM COUNTY, GEORGIA

ADDRESS: AUGUSTA RD, PORT WENTWORTH, GA 31407
DATE ON PLANS: 01/26/2022
REVISED DATE:

- 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.

EPD OFFICE:
COASTAL DISTRICT - BRUNSWICK OFFICE
GEORGIA ENVIRONMENTAL PROTECTION DIVISION
400 COMMERCE CENTER DRIVE
BRUNSWICK, GA 31523-8687
912-264-7284

ECO.3 YES 32. PROVIDE COMPLETE DETAILS FOR RETENTION OF RECORDS AS PER PART IV.F. PG 38 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 A DESIGNATED ALTERNATE LOCATION FROM COMMENCEMENT OF CONSTRUCTION UNTIL SUCH TIME AS A NOTICE OF TERMINATION IS SUBMITTED IN ACCORDANCE WITH PART VI.

- COPY OF ALL NOTICES OF INTENT SUBMITTED TO EPD.
- A COPY OF THE ES&PC PLAN REQUIRED IN PERMIT No. GAR 10000.
- THE DESIGN PROFESSIONAL'S REPORT OF THE RESULTS OF THE INSPECTION CONDUCTED IN ACCORDANCE WITH PART IV.A.5 IN PERMIT No. GAR 10000.
- A COPY OF ALL SAMPLING INFORMATION, RESULTS, AND REPORTS REQUIRED BY IN PERMIT No. GAR 10000.
- A COPY OF ALL INSPECTION REPORTS GENERATED IN ACCORDANCE WITH PART IV.D.4.a OF PERMIT No. GAR 10000.
- A COPY OF ALL VIOLATION SUMMARIES AND VIOLATION SUMMARY REPORTS GENERATED IN ACCORDANCE WITH PART III.D.2 IN PERMIT No. GAR 10000.
- DAILY RAINFALL INFORMATION COLLECTED IN ACCORDANCE WITH PART IV.D.4.a.(2), IN PERMIT No. GAR 10000.

2. COPIES OF ALL NOTICES OF INTENT, NOTICES OF TERMINATION, INSPECTION REPORTS, SAMPLING REPORTS (INCLUDING ALL CALIBRATION AND MAINTENANCE RECORDS AND ALL ORIGINAL STRIP CHART RECORDINGS FOR CONTINUOUS MONITORING INSTRUMENTATION) OR OTHER REPORTS REQUESTED BY THE EPD, EROSION, SEDIMENTATION AND POLLUTION CONTROL PLANS, RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT TO BE COVERED BY THIS PERMIT AND ALL OTHER RECORDS REQUIRED BY THIS PERMIT SHALL BE RETAINED BY THE PERMITTEE WHO EITHER PRODUCED OR USED IT FOR A PERIOD OF AT LEAST THREE YEARS FROM THE DATE THAT THE NOTICE OF TERMINATION IS SUBMITTED IN ACCORDANCE WITH PART VI OF THE GAR10000. THESE RECORDS MUST BE MAINTAINED AT THE PERMITTEE'S PRIMARY PLACE OF BUSINESS OR AT A DESIGNATED ALTERNATIVE LOCATION ONCE THE CONSTRUCTION ACTIVITY HAS CEASED AT THE PERMITTED SITE. THIS PERIOD MAY BE EXTENDED BY REQUEST OF THE EPD AT ANY TIME UPON WRITTEN NOTIFICATION TO THE PERMITTEE.

ECO.3 YES 33. DESCRIPTION OF ANALYTICAL METHODS TO BE USED TO COLLECT AND ANALYZE THE SAMPLES FROM EACH LOCATION. (PERMIT IV.D.6.a.(3) PG 33-35)

STORM WATER SAMPLES ARE TO BE ANALYZED IN ACCORDANCE WITH METHODOLOGY AND TEST PROCEDURES ESTABLISHED BY 40 CFR PART 136 AND THE GUIDANCE DOCUMENT TITLED "NPDES STORM WATER SAMPLING GUIDANCE DOCUMENT EPA 833-B-92-001.

ECO.3 YES 34. APPENDIX B RATIONALE FOR NTU VALUES AT ALL OUTFALL SAMPLING POINTS WHERE APPLICABLE. (PERMIT IV.D.6.a.(3) PG 33)

STORM WATER IS TO BE SAMPLED FOR NEPHELOMETRIC TURBIDITY UNITS (NTU) AT THE OUTFALL LOCATIONS. A DISCHARGE OF STORM WATER RUNOFF FROM DISTURBED AREAS WHERE BEST MANAGEMENT PRACTICES HAVE NOT BEEN PROPERLY DESIGNED, INSTALLED, AND MAINTAINED SHALL CONSTITUTE A SEPARATE VIOLATION FOR EACH DAY ON WHICH SUCH CONDITION RESULTS IN THE TURBIDITY OF THE DISCHARGE EXCEEDING 50, THE VALUE THAT WAS SELECTED FROM APPENDIX B IN PERMIT No. GAR 10000. THE NTU IS BASED UPON THE DISTURBED ACREAGE OF 84 ACRES FOR THE PROJECT SITE, THE SURFACE WATER DRAINAGE AREA OF LESS THAN 4.99 SQUARE MILES AND RECEIVING WATER WHICH SUPPORTS WARM WATER FISHERIES. APPENDIX B WAS USED TO DETERMINE THE NTU ALLOWABLE AND DOWNSTREAM SAMPLING WILL BE PERFORMED FOR THIS PROJECT.

Appendix B Nephelometric Turbidity Unit (NTU) Table Warm Water (Supporting Warm Water Fisheries)							
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+
75	150	200	400	750	750	750	750
50	100	100	200	300	500	750	750
10.01-25	50	50	100	100	200	300	750
25.01-50	50	50	100	100	200	300	750
50.01-100	50	50	100	100	150	300	600
100.01+	50	50	50	50	100	200	100

ECIJ-1.3 YES 35. DELINEATE ALL SAMPLING LOCATIONS, PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES INTO WHICH STORM WATER IS DISCHARGED. (PERMIT IV.D.6.a.(3) PG 33)

PLEASE SEE PLAN SHEETS FOR DELINEATION OF SAMPLING LOCATIONS, PERENNIAL, INTERMITTENT STREAMS AND OTHER WATER BODIES INTO WHICH STORM WATER IS DISCHARGED.

ECO.3 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 BMP'S, (2) INTERMEDIATE GRADING AND DRAINAGE BMP'S, AND (3) FINAL BMP'S. FOR CONSTRUCTION SITES WHERE THERE WILL BE NO MASS GRADING AND THE INITIAL PERIMETER CONTROL BMP'S, INTERMEDIATE GRADING AND DRAINAGE BMP'S, AND FINAL BMP'S ARE THE SAME, THE PLAN MAY COMBINE ALL OF THE BMP'S INTO A SINGLE PHASE. (PERMIT IV.D.3 PG 27)

INITIAL PHASE - THE INITIAL PHASE OF THE ES&PC PLAN WILL INCLUDE THE INSTALLATION OF THE CONSTRUCTION EXIT AND SILT FENCE. TYPE NS & S SILT FENCE WILL BE USED. STORM PONDS AND DITCHES WILL BE CONSTRUCTED AND MAINTAINED DURING SITE CLEARING. STORM DRAIN OUTLET PROTECTION WILL BE INSTALLED AND MAINTAINED AT DISCHARGE LOCATIONS. DUST CONTROL AND MULCHING WILL BE IMPLEMENTED AS NECESSARY TO PROVIDE INITIAL SEDIMENT STORAGE.

INTERMEDIATE PHASE - THE INTERMEDIATE GRADING AND DRAINAGE BMP'S WILL INCLUDE THE MAINTENANCE OF ALL SILT FENCE. STORM DRAIN OUTLET PROTECTION WILL BE INSTALLED AND MAINTAINED AT DISCHARGE LOCATIONS. DUST CONTROL, MULCHING, AND TEMPORARY SEEDING WILL BE IMPLEMENTED AS NECESSARY.

FINAL PHASE - THE FINAL GRADING AND DRAINAGE BMP'S WILL INCLUDE THE MAINTENANCE OF ALL SILT FENCE. STORM DRAIN OUTLET PROTECTION WILL BE IMPLEMENTED FOR SITE STABILIZATION. ONCE THE SITE IS STABILIZED, ALL TEMPORARY BMP'S ARE TO BE REMOVED.

ALL YES 37. GRAPHIC SCALE AND NORTH ARROW.

GRAPHIC SCALE AND NORTH ARROW ARE LOCATED ON EACH PLAN SHEET.

ECIJ-1.3 YES 38. EXISTING AND PROPOSED CONTOUR LINES WITH CONTOUR LINES DRAWN AT AN INTERVAL IN ACCORDANCE WITH THE FOLLOWING:

EXISTING AND PROPOSED CONTOUR LINES DRAWN AT AN INTERVAL OF 1' ARE SHOWN ON EACH PLAN SHEET.

N/A 39. USE OF ALTERNATIVE BMP'S WHOSE PERFORMANCE HAS BEEN DOCUMENTED TO BE EQUIVALENT TO OR SUPERIOR TO CONVENTIONAL BMP'S 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.gswcc.org. (PERMIT IV.D.3.a.(4) PG 29)

NOT APPLICABLE FOR THIS PROJECT.

N/A 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.

NOT APPLICABLE FOR THIS PROJECT.

N/A 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. (PERMIT IV.D.2.a PG 27)

THERE ARE NO BUFFERS ASSOCIATED WITH THIS PROJECT.

ECO.3 YES 42. DELINEATION OF ON-SITE WETLANDS AND ALL STATE WATERS LOCATED ON AND WITHIN 200 FEET OF THE PROJECT SITE.

THE WETLANDS ARE DELINEATED ON THE PLANS.

ALL YES 43. DELINEATION AND ACREAGE OF CONTRIBUTING DRAINAGE BASINS ON THE PROJECT SITE. (PERMIT IV.D.2.a PG 27)

ALL CONTRIBUTING DRAINAGE BASINS ON THE PROJECT SITE ARE CLEARLY DELINEATED IN AN EXHIBIT AS PART OF THE ATTACHED STORM WATER REPORT.

ATTACHED YES 44. PROVIDE HYDROLOGY STUDY AND MAPS OF DRAINAGE BASINS FOR BOTH PRE- AND POST-DEVELOPMENT CONDITIONS.

PLEASE SEE ATTACHED REPORT WITH DETAILS FOR PRE AND POST DEVELOPMENT HYDROLOGY.

ECO.3 YES 45. AN ESTIMATE OF THE RUNOFF COEFFICIENT OR PEAK DISCHARGE FLOW OF THE SITE PRIOR TO AND AFTER CONSTRUCTION ACTIVITIES ARE COMPLETED. (PERMIT IV.D.2.d PG 27)

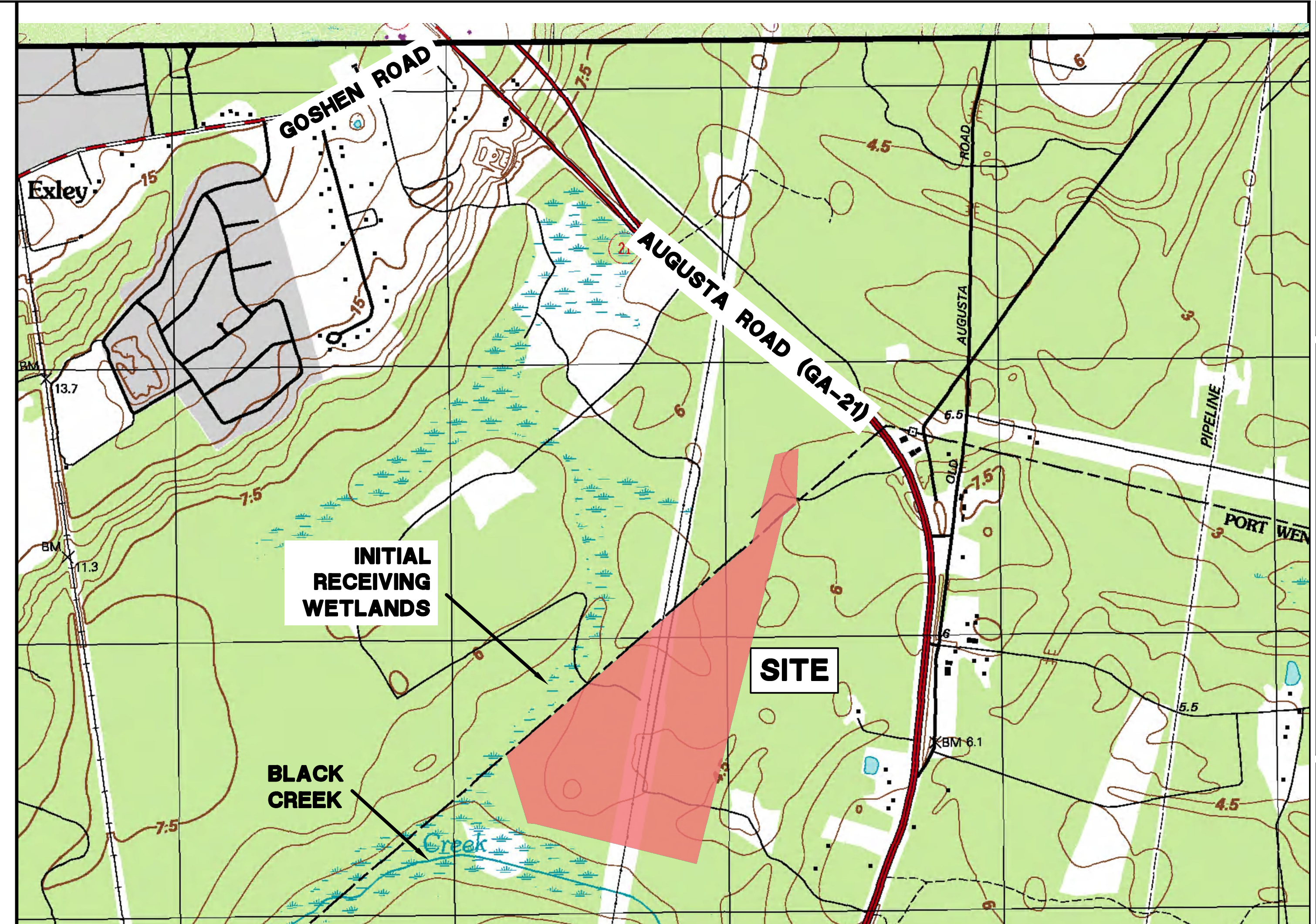
RUNOFF COEFFICIENT: PRE-CONSTRUCTION CN = 76
POST-CONSTRUCTION CN = 87

ECIJ-1.3 YES 46. STORM-DRAIN PIPE AND WEIR VELOCITIES WITH APPROPRIATE OUTLET PROTECTION TO ACCOMMODATE DISCHARGES WITHOUT EROSION. IDENTIFY/DELINEATE ALL STORM WATER DISCHARGE POINTS.

THE RIP-RAP CHARTS CONTAIN THE STORMWATER VELOCITIES. THE STORMWATER DISCHARGE POINTS ARE INDICATED ON THE PLANS.

ECO.3 YES 47. SOIL SERIES FOR THE PROJECT SITE AND THEIR DELINEATION.

SOILS ARE DELINEATED ON THE EROSION CONTROL SHEETS. THE SOILS FOR THE SITE ARE Bda -BLADEN (C/D), SuA-SURRENCY (C/D).



1:24000 QUAD MAP RECEIVING WATERS
1" = 1,000'

ECIJ-1.3 YES 48. THE LIMITS OF DISTURBANCE FOR EACH PHASE OF CONSTRUCTION.

PLEASE SEE THE PLAN FOR THE DELINEATION OF THE LIMITS OF DISTURBANCE.

ECO.3 YES 49. PROVIDE A MINIMUM OF 134 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 BMP'S AND ALL CALCULATIONS USED BY THE STORAGE DESIGN PROFESSIONAL TO OBTAIN THE REQUIRED SEDIMENT 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. (PERMIT IV.D.3.a.(3) PG 28)

AN RT-B WAS SELECTED AS THE DEWATERING STRUCTURE FOR THIS PROJECT. WHILE WE DO AGREE THAT AN RT-B DOES NOT ONLY DEWATER FROM THE TOP BUT IN THIS INSTANCE, WE BELIEVE IT IS THE BEST OPTION TO KEEP SEDIMENT FROM ESCAPING THE POND, THE USE OF SKIMMER MORE OFTEN THAN NOT RESULTS IN CLOGGING OR SEDIMENT LEAVING THE SITE THROUGH THE SPILLWAY. THE RT-B ALLOWS FOR A MORE SUSTAINED DEWATERING.

SEDIMENT STORAGE - THE PERMIT REQUIRES A MINIMUM OF 134 CUBIC YARDS OF SEDIMENT STORAGE PER ACRE DRAINED.

THE SEDIMENT STORAGE REQUIREMENT WILL BE ACHIEVED BY UTILIZING THE NEW STORM POND.

SEDIMENT STORAGE REQUIRED
ACREAGE = 84.0
REQUIRED ON SITE SEDIMENT STORAGE = 84.0 AC X 134 CY/AC = 11,256 CY

POND #1:
TOTAL AREA: 389,874 SF (AT BOTTOM - ELEV. 0.0), 473,416 SF (2' ABOVE BOTTOM - ELEV. 14.0)
 $(\frac{1}{2} (389,874 + 473,416) * 2 FT) / 27 = 31,973 CY$

31,973 CY EXCEEDS THE REQUIRED 11,256 CY

ECIJ-1.3 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.

PLEASE SEE THE PLAN SHEETS FOR THE LOCATION OF BEST MANAGEMENT PRACTICES THAT ARE CONSISTENT WITH AND NO LESS STRINGENT THAN THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA USING THE UNIFORM CODING SYMBOLS FROM THE MANUAL, CHAPTER 6 WITH ACCOMPANYING LEGEND.

ECIJ-2.3 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.

PLEASE SEE THE DETAIL SHEET FOR DETAILED DRAWINGS FOR ALL STRUCTURAL PRACTICES WITH SPECIFICATIONS MEETING THE GUIDELINES SET FORTH IN THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA.

ECIJ-2.3 YES

52. PROVIDE VEGETATIVE PLAN, NOTING ALL TEMPORARY AND PERMANENT VEGETATIVE PRACTICES, INCLUDING 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 APPROPRIATE GEOGRAPHIC REGION OF GEORGIA.

PLEASE SEE THE PLAN AND DETAIL SHEETS FOR THE VEGETATIVE PLAN NOTING ALL TEMPORARY AND PERMANENT VEGETATIVE PRACTICES INCLUDING SPECIES, PLANTING DATES AND SEEDING, FERTILIZER, LIME AND MULCHING RATES. THIS PLAN IS SPECIFIC TO THE SITE AND APPROPRIATE FOR TIME OF YEAR THAT SEEDING WILL TAKE PLACE AND FOR THE APPROPRIATE GEOGRAPHIC REGION OF GEORGIA.



CSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION
#0000055539
EXPIRATION DATE:
9/12/2023

NO.	REVISIONS	BY	DATE

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CHESTERFIELD LLC
CHATHAM & EFFINGHAM COUNTY, GEORGIA
GITC - BUILDING 4A
ES & PC NOTES

JOB NO: J-26838.0029
DATE: 01/26/2022
DRAWN: SGJ
DESIGNED: SGJ
REVIEWED: FIT
APPROVED: JGC
SCALE: N.T.S.

EC0.3

EFFECTIVE JANUARY 1, 2021

PERMIT SET - FOR REVIEW PURPOSES ONLY

2024.08.15 10:00 AM C:\PROJECTS\2024\20240815\20240815.DWG - EC1.1 - INITIAL PHASE - REV. 01/26/2022 - 10:00 AM

MATCH LINE - SEE SHEET NO. EC1.2

EROSION CONTROL LEGEND	
DESCRIPTION	PLAN SYMBOL
DISTURBED AREA STABILIZATION (MULCHING ONLY)	Ds1
DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)	Ds2
DISTURBED AREA STABILIZATION (PERMANENT VEGETATION)	Ds3
DUST CONTROL	Du
CHECK DAM (STONE)	Cd-S
CONSTRUCTION EXIT	Co
DIVERSION	Di
SLOTTED BOARD DAM WITH STONE	Rt-B
SILT FENCE - TYPE NS	Sd1-NS
SILT FENCE - TYPE S	Sd1-S
INLET SEDIMENT TRAP (CURB INLET)	Sd2-P
STORM DRAIN OUTLET PROTECTION	St

INITIAL PHASE:

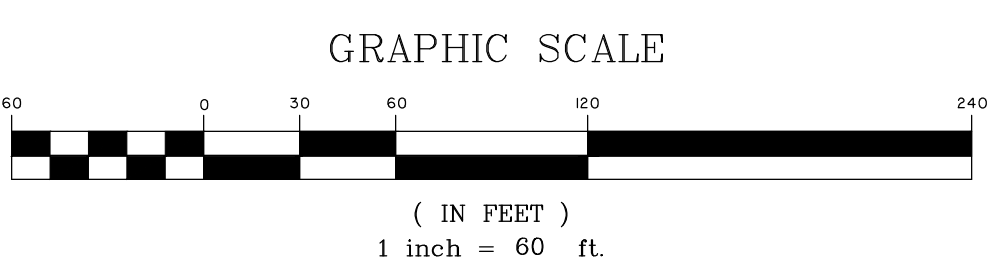
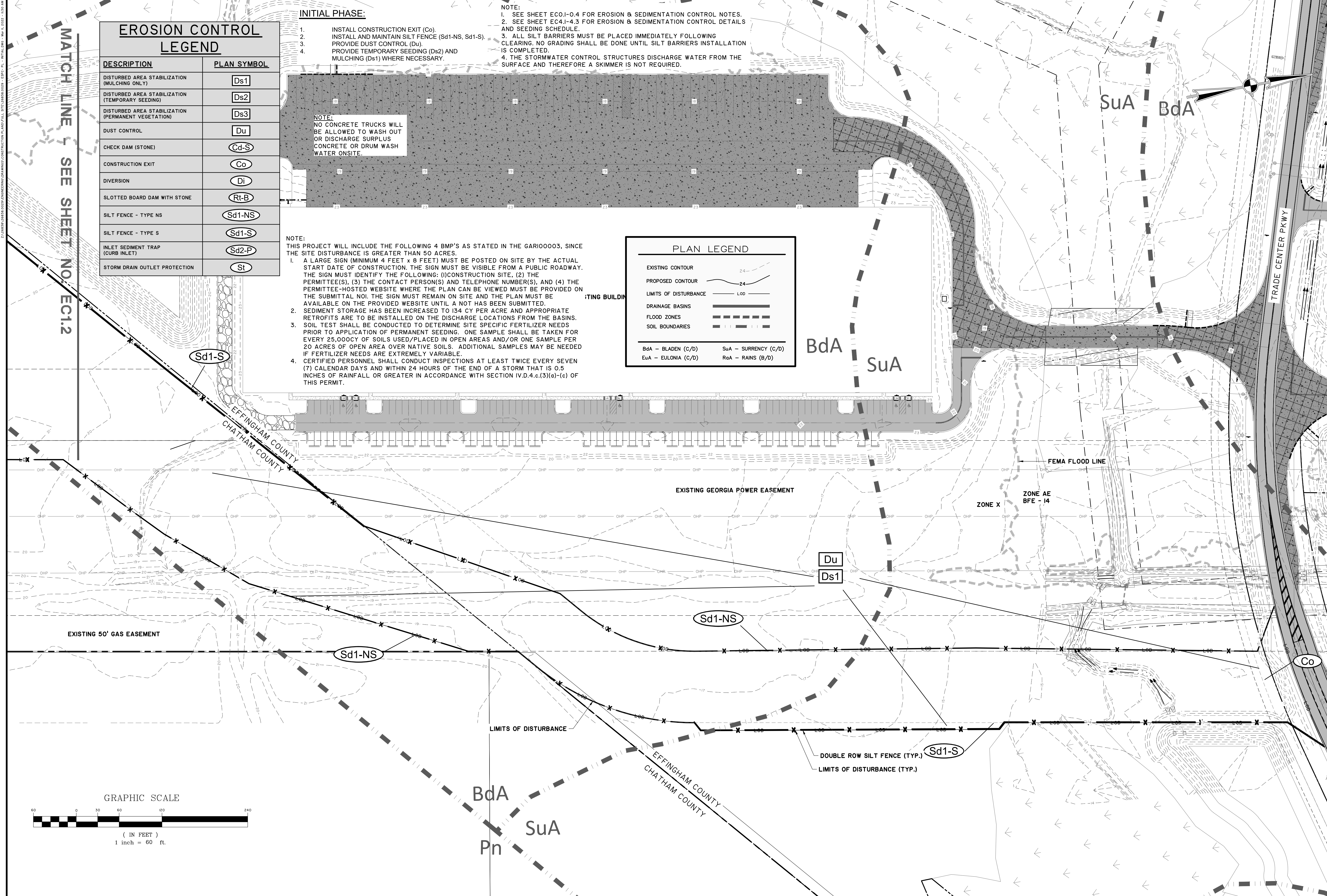
1. INSTALL CONSTRUCTION EXIT (Co).
2. INSTALL AND MAINTAIN SILT FENCE (Sd1-NS, Sd1-S).
3. PROVIDE DUST CONTROL (Du).
4. PROVIDE TEMPORARY SEEDING (Ds2) AND MULCHING (Ds1) WHERE NECESSARY.

NOTE:
 1. SEE SHEET EC0.1-0.4 FOR EROSION & SEDIMENTATION CONTROL NOTES.
 2. SEE SHEET EC4.1-4.3 FOR EROSION & SEDIMENTATION CONTROL DETAILS AND SEEDING SCHEDULE.
 3. ALL SILT BARRIERS MUST BE PLACED IMMEDIATELY FOLLOWING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIERS INSTALLATION IS COMPLETED.
 4. THE STORMWATER CONTROL STRUCTURES DISCHARGE WATER FROM THE SURFACE AND THEREFORE A SKIMMER IS NOT REQUIRED.

NOTE:
 NO CONCRETE TRUCKS WILL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONSITE.

- NOTE:**
 THIS PROJECT WILL INCLUDE THE FOLLOWING 4 BMP'S AS STATED IN THE GAR100003, SINCE THE SITE DISTURBANCE IS GREATER THAN 50 ACRES.
1. A LARGE SIGN (MINIMUM 4 FEET X 8 FEET) MUST BE POSTED ON SITE BY THE ACTUAL START DATE OF CONSTRUCTION. THE SIGN MUST BE VISIBLE FROM A PUBLIC ROADWAY. THE SIGN MUST IDENTIFY THE FOLLOWING: (1) CONSTRUCTION SITE, (2) THE PERMITTEE(S), (3) THE CONTACT PERSON(S) AND TELEPHONE NUMBER(S), AND (4) THE PERMITTEE-HOSTED WEBSITE WHERE THE PLAN CAN BE VIEWED MUST BE PROVIDED ON THE SUBMITTAL NO. THE SIGN MUST REMAIN ON SITE AND THE PLAN MUST BE AVAILABLE ON THE PROVIDED WEBSITE UNTIL A NOT HAS BEEN SUBMITTED.
 2. SEDIMENT STORAGE HAS BEEN INCREASED TO 134 CY PER ACRE AND APPROPRIATE RETROFITS ARE TO BE INSTALLED ON THE DISCHARGE LOCATIONS FROM THE BASINS. SOIL TEST SHALL BE CONDUCTED TO DETERMINE SITE SPECIFIC FERTILIZER NEEDS PRIOR TO APPLICATION OF PERMANENT SEEDING. ONE SAMPLE SHALL BE TAKEN FOR EVERY 25,000CY OF SOILS USED/PLACED IN OPEN AREAS AND/OR ONE SAMPLE PER 20 ACRES OF OPEN AREA OVER NATIVE SOILS. ADDITIONAL SAMPLES MAY BE NEEDED IF FERTILIZER NEEDS ARE EXTREMELY VARIABLE.
 3. CERTIFIED PERSONNEL SHALL CONDUCT INSPECTIONS AT LEAST TWICE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OF RAINFALL OR GREATER IN ACCORDANCE WITH SECTION IV.D.4.c.(3)(a)-(c) OF THIS PERMIT.
 4. CERTIFIED PERSONNEL SHALL CONDUCT INSPECTIONS AT LEAST TWICE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OF RAINFALL OR GREATER IN ACCORDANCE WITH SECTION IV.D.4.c.(3)(a)-(c) OF THIS PERMIT.

PLAN LEGEND	
EXISTING CONTOUR	24
PROPOSED CONTOUR	24
LIMITS OF DISTURBANCE	LOD
DRAINAGE BASINS	
FLOOD ZONES	
SOIL BOUNDARIES	
BdA - BLADEN (C/D)	SuA - SURRENCY (C/D)
EuA - EULONIA (C/D)	RaA - RAINS (B/D)



CSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION #0000055539 EXPIRATION DATE: 9/12/2023

NO.	REVISIONS	BY	DATE

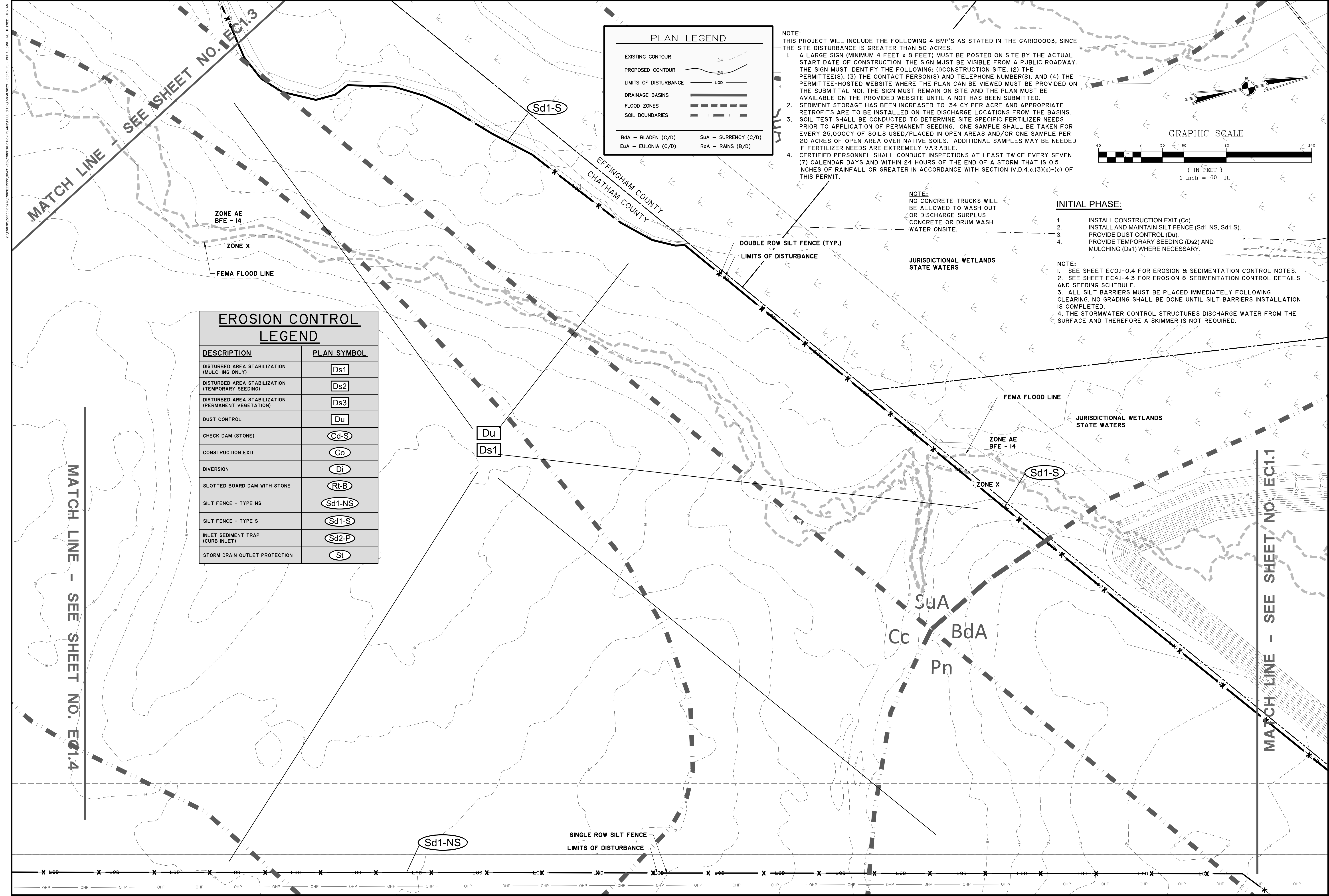
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CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA
 GITC - BUILDING 4 A
 ES&PC PLAN - INITIAL

JOB NO:	J-26838.0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JOC
SCALE:	1" = 60'

EC1.1

PERMIT SET - FOR REVIEW PURPOSES ONLY



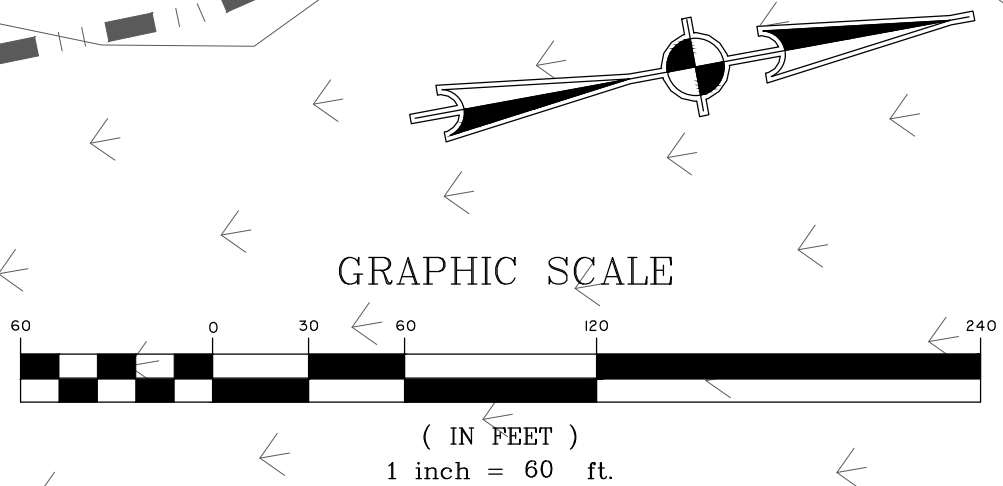
PLAN LEGEND

EXISTING CONTOUR	
PROPOSED CONTOUR	
LIMITS OF DISTURBANCE	
DRAINAGE BASINS	
FLOOD ZONES	
SOIL BOUNDARIES	

BdA - BLADEN (C/D)	SuA - SURRENCY (C/D)
EuA - EULONIA (C/D)	RaA - RAINS (B/D)

NOTE:
THIS PROJECT WILL INCLUDE THE FOLLOWING 4 BMP'S AS STATED IN THE GAR00003, SINCE THE SITE DISTURBANCE IS GREATER THAN 50 ACRES.

1. A LARGE SIGN (MINIMUM 4 FEET x 8 FEET) MUST BE POSTED ON SITE BY THE ACTUAL START DATE OF CONSTRUCTION. THE SIGN MUST BE VISIBLE FROM A PUBLIC ROADWAY. THE SIGN MUST IDENTIFY THE FOLLOWING: (1) CONSTRUCTION SITE, (2) THE PERMITTEE(S), (3) THE CONTACT PERSON(S) AND TELEPHONE NUMBER(S), AND (4) THE PERMITTEE-HOSTED WEBSITE WHERE THE PLAN CAN BE VIEWED. THE SIGN MUST BE PROVIDED ON THE SUBMITTAL NO. THE SIGN MUST REMAIN ON SITE AND THE PLAN MUST BE AVAILABLE ON THE PROVIDED WEBSITE UNTIL A NOT HAS BEEN SUBMITTED.
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4. CERTIFIED PERSONNEL SHALL CONDUCT INSPECTIONS AT LEAST TWICE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OF RAINFALL OR GREATER IN ACCORDANCE WITH SECTION IV.D.4.c.(3)(d)-(c) OF THIS PERMIT.



INITIAL PHASE:

1. INSTALL CONSTRUCTION EXIT (Co).
2. INSTALL AND MAINTAIN SILT FENCE (Sd1-NS, Sd1-S).
3. PROVIDE DUST CONTROL (Du).
4. PROVIDE TEMPORARY SEEDING (Ds2) AND MULCHING (Ds1) WHERE NECESSARY.

NOTE:
1. SEE SHEET EC01-0.4 FOR EROSION & SEDIMENTATION CONTROL NOTES.
2. SEE SHEET EC41-4.3 FOR EROSION & SEDIMENTATION CONTROL DETAILS AND SEEDING SCHEDULE.
3. ALL SILT BARRIERS MUST BE PLACED IMMEDIATELY FOLLOWING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIERS INSTALLATION IS COMPLETED.
4. THE STORMWATER CONTROL STRUCTURES DISCHARGE WATER FROM THE SURFACE AND THEREFORE A SKIMMER IS NOT REQUIRED.

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
DISTURBED AREA STABILIZATION (MULCHING ONLY)	
DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)	
DISTURBED AREA STABILIZATION (PERMANENT VEGETATION)	
DUST CONTROL	
CHECK DAM (STONE)	
CONSTRUCTION EXIT	
DIVERSION	
SLOTTED BOARD DAM WITH STONE	
SILT FENCE - TYPE NS	
SILT FENCE - TYPE S	
INLET SEDIMENT TRAP (CURB INLET)	
STORM DRAIN OUTLET PROTECTION	



CSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION #0000055539 EXPIRATION DATE: 9/12/2023

NO.	REVISIONS	BY	DATE

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ES&PC PLAN - INITIAL

JOB NO: J-26838.0029
DATE: 01/26/2022
DRAWN: SGJ
DESIGNED: SGJ
REVIEWED: FIT
APPROVED: JOC
SCALE: 1" = 60'

EC1.2

PERMIT SET - FOR REVIEW PURPOSES ONLY

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
DISTURBED AREA STABILIZATION (MULCHING ONLY)	Ds1
DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)	Ds2
DISTURBED AREA STABILIZATION (PERMANENT VEGETATION)	Ds3
DUST CONTROL	Du
CHECK DAM (STONE)	Cd-S
CONSTRUCTION EXIT	Co
DIVERSION	Di
SLOTTED BOARD DAM WITH STONE	Rt-B
SILT FENCE - TYPE NS	Sd1-NS
SILT FENCE - TYPE S	Sd1-S
INLET SEDIMENT TRAP (CURB INLET)	Sd2-P
STORM DRAIN OUTLET PROTECTION	St

PLAN LEGEND

EXISTING CONTOUR	24
PROPOSED CONTOUR	24
LIMITS OF DISTURBANCE	L 000
DRAINAGE BASINS	---
FLOOD ZONES	---
SOIL BOUNDARIES	---

BdA - BLADEN (C/D)	SuA - SURRENCY (C/D)
EuA - EULONIA (C/D)	RaA - RAINS (B/D)

NOTE:

- THIS PROJECT WILL INCLUDE THE FOLLOWING 4 BMP'S AS STATED IN THE GAR100003, SINCE THE SITE DISTURBANCE IS GREATER THAN 50 ACRES.
1. A LARGE SIGN (MINIMUM 4 FEET x 8 FEET) MUST BE POSTED ON SITE BY THE ACTUAL START DATE OF CONSTRUCTION. THE SIGN MUST BE VISIBLE FROM A PUBLIC ROADWAY. THE SIGN MUST IDENTIFY THE FOLLOWING: (1) CONSTRUCTION SITE, (2) THE PERMITTEE(S), (3) THE CONTACT PERSON(S) AND TELEPHONE NUMBER(S), AND (4) THE PERMITTEE-HOSTED WEBSITE WHERE THE PLAN CAN BE VIEWED MUST BE PROVIDED ON THE SUBMITTAL NOI. THE SIGN MUST REMAIN ON SITE AND THE PLAN MUST BE AVAILABLE ON THE PROVIDED WEBSITE UNTIL A NOT HAS BEEN SUBMITTED.
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NOTE:

1. SEE SHEET EC01-0.3 FOR EROSION & SEDIMENTATION CONTROL NOTES.
2. SEE SHEET EC41-4.2 FOR EROSION & SEDIMENTATION CONTROL DETAILS AND SEEDING SCHEDULE.
3. ALL SILT BARRIERS MUST BE PLACED IMMEDIATELY FOLLOWING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIERS INSTALLATION IS COMPLETED.
4. THE STORMWATER CONTROL STRUCTURES DISCHARGE WATER FROM THE SURFACE AND THEREFORE A SKIMMER IS NOT REQUIRED.

NOTE:

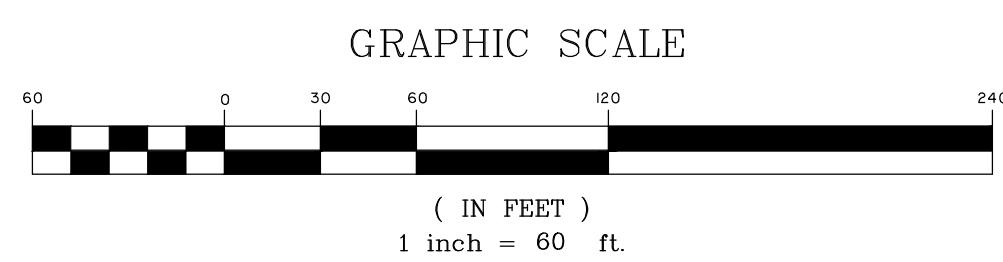
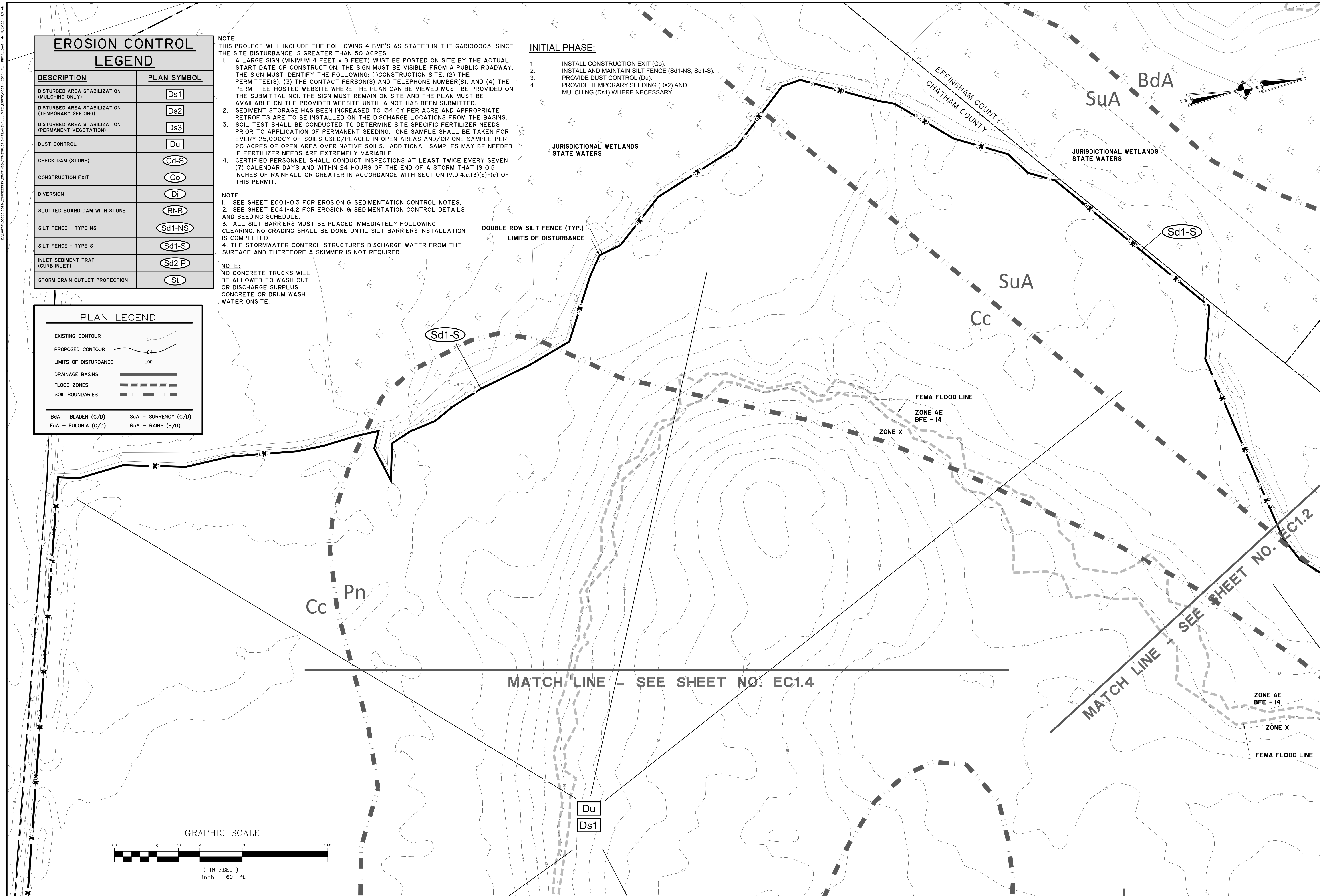
NO CONCRETE TRUCKS WILL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONSITE.

INITIAL PHASE:

1. INSTALL CONSTRUCTION EXIT (Co).
2. INSTALL AND MAINTAIN SILT FENCE (Sd1-NS, Sd1-S).
3. PROVIDE DUST CONTROL (Du).
4. PROVIDE TEMPORARY SEEDING (Ds2) AND MULCHING (Ds1) WHERE NECESSARY.

JURISDICTIONAL WETLANDS
STATE WATERS

DOUBLE ROW SILT FENCE (TYP.)
LIMITS OF DISTURBANCE



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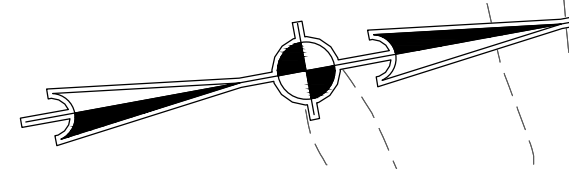
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DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JOC
SCALE:	1" = 60'

EC1.3

PERMIT SET - FOR REVIEW PURPOSES ONLY

2:14:58 PM 02/26/2022 10:00 AM 245' GEORGIA POWER EASEMENT - INITIAL PLAN - INITIAL SHEET - 01/26/2022 - 10:00 AM



Sd1-S

Cc Pn

MATCH LINE - SEE SHEET NO. EC1.3

Du
Ds1

ZONE AE
BFE - 14
FEMA FLOOD LINE
ZONE X

EROSION CONTROL LEGEND	
DESCRIPTION	PLAN SYMBOL
DISTURBED AREA STABILIZATION (MULCHING ONLY)	Ds1
DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)	Ds2
DISTURBED AREA STABILIZATION (PERMANENT VEGETATION)	Ds3
DUST CONTROL	Du
CHECK DAM (STONE)	Cd-S
CONSTRUCTION EXIT	Co
DIVERSION	Di
SLOTTED BOARD DAM WITH STONE	Rt-B
SILT FENCE - TYPE NS	Sd1-NS
SILT FENCE - TYPE S	Sd1-S
INLET SEDIMENT TRAP (CURB INLET)	Sd2-P
STORM DRAIN OUTLET PROTECTION	St

INITIAL PHASE:

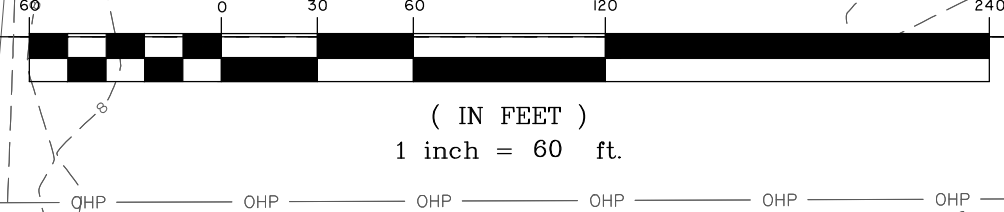
1. INSTALL CONSTRUCTION EXIT (Co).
2. INSTALL AND MAINTAIN SILT FENCE (Sd1-NS, Sd1-S).
3. PROVIDE DUST CONTROL (Du).
4. PROVIDE TEMPORARY SEEDING (Ds2) AND MULCHING (Ds1) WHERE NECESSARY.

NOTE:

1. SEE SHEET ECO.1-0.3 FOR EROSION & SEDIMENTATION CONTROL NOTES.
2. SEE SHEET EC4.1-4.2 FOR EROSION & SEDIMENTATION CONTROL DETAILS AND SEEDING SCHEDULE.
3. ALL SILT BARRIERS MUST BE PLACED IMMEDIATELY FOLLOWING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIERS INSTALLATION IS COMPLETED.
4. THE STORMWATER CONTROL STRUCTURES DISCHARGE WATER FROM THE SURFACE AND THEREFORE A SKIMMER IS NOT REQUIRED.

PLAN LEGEND	
EXISTING CONTOUR	
PROPOSED CONTOUR	
LIMITS OF DISTURBANCE	
DRAINAGE BASINS	
FLOOD ZONES	
SOIL BOUNDARIES	
BdA - BLADEN (C/D)	Sua - SURRENCY (C/D)
EuA - EULONIA (C/D)	RoA - RAINS (B/D)

EXISTING 245' GEORGIA POWER EASEMENT
GRAPHIC SCALE



Sd1-NS

LIMITS OF DISTURBANCE

MATCH LINE - SEE SHEET NO. EC1.2



GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION
#0000055539
EXPIRATION DATE:
9/12/2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300
www.thomasandhutton.com

CHESTERFIELD LLC
CHATHAM & EFFINGHAM COUNTY, GEORGIA
GITC - BUILDING 4 A
ES&PC PLAN - INITIAL

JOB NO: J-26838.0029
DATE: 01/26/2022
DRAWN: SGJ
DESIGNED: SGJ
REVIEWED: FIT
APPROVED: JOC
SCALE: 1" = 60'

EC1.4

PERMIT SET - FOR REVIEW PURPOSES ONLY

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
DISTURBED AREA STABILIZATION (MULCHING ONLY)	Ds1
DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)	Ds2
DISTURBED AREA STABILIZATION (PERMANENT VEGETATION)	Ds3
DUST CONTROL	Du
CHECK DAM (STONE)	Cd-S
CONSTRUCTION EXIT	Co
DIVERSION	Di
SLOTTED BOARD DAM WITH STONE	Rt-B
SILT FENCE - TYPE NS	Sd1-NS
SILT FENCE - TYPE S	Sd1-S
INLET SEDIMENT TRAP (CURB INLET)	Sd2-P
STORM DRAIN OUTLET PROTECTION	St

INTERMEDIATE PHASE:

1. MAINTAIN ALL EROSION CONTROL MEASURES INSTALLED IN PREVIOUS PHASES.
2. INSTALL INLET SEDIMENT TRAPS (Sd-G).
3. INSTALL STORM DRAIN OUTLET PROTECTION (St).
4. PROVIDE DUST CONTROL (Du).
5. PROVIDE TEMPORARY SEEDING (Ds2) AND MULCHING (Ds1) WHERE NECESSARY.

NOTE:

1. SEE SHEET ECO-I-0.4 FOR EROSION & SEDIMENTATION CONTROL NOTES.
 2. SEE SHEET EC4-I-4.3 FOR EROSION & SEDIMENTATION CONTROL DETAILS AND SEEDING SCHEDULE.
 3. ALL SILT BARRIERS MUST BE PLACED IMMEDIATELY FOLLOWING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIERS INSTALLATION IS COMPLETED.
 4. THE STORMWATER CONTROL STRUCTURES DISCHARGE WATER FROM THE SURFACE AND THEREFORE A SKIMMER IS NOT REQUIRED.
- THIS PROJECT WILL INCLUDE THE FOLLOWING 4 BMP'S AS STATED IN THE GAR100003, SINCE THE SITE DISTURBANCE IS GREATER THAN 50 ACRES.
A LARGE SIGN (MINIMUM 4 FEET x 8 FEET) MUST BE POSTED ON SITE BY THE ACTUAL START DATE OF CONSTRUCTION. THE SIGN MUST BE VISIBLE FROM A PUBLIC ROADWAY. THE SIGN MUST IDENTIFY THE FOLLOWING: (1) CONSTRUCTION SITE, (2) THE PERMITTEE(S), (3) THE CONTACT PERSON(S) AND TELEPHONE NUMBER(S), AND (4) THE PERMITTEE-HOSTED WEBSITE WHERE THE PLAN CAN BE VIEWED. THE SIGN MUST BE PROVIDED ON THE SUBMITTAL NO. THE SIGN MUST REMAIN ON SITE AND THE PLAN MUST BE AVAILABLE ON THE PROVIDED WEBSITE UNTIL A NOT HAS BEEN SUBMITTED.
2. SEDIMENT STORAGE HAS BEEN INCREASED TO 134 CY PER ACRE AND APPROPRIATE RETROFITS ARE TO BE INSTALLED ON THE DISCHARGE LOCATIONS FROM THE BASINS.
 3. SOIL TEST SHALL BE CONDUCTED TO DETERMINE SITE SPECIFIC FERTILIZER NEEDS PRIOR TO APPLICATION OF PERMANENT SEEDING. ONE SAMPLE SHALL BE TAKEN FOR EVERY 25,000CY OF SOILS USED/PLACED IN OPEN AREAS AND/OR ONE SAMPLE PER 20 ACRES OF OPEN AREA OVER NATIVE SOILS. ADDITIONAL SAMPLES MAY BE NEEDED IF FERTILIZER NEEDS ARE EXTREMELY VARIABLE.
 4. CERTIFIED PERSONNEL SHALL CONDUCT INSPECTIONS AT LEAST TWICE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OF RAINFALL OR GREATER IN ACCORDANCE WITH SECTION IV.D.4.c.(3)(g)-(c) OF THIS PERMIT.

NOTE:
NO CONCRETE TRUCKS WILL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONSITE.

PLAN LEGEND

EXISTING CONTOUR	24
PROPOSED CONTOUR	24
LIMITS OF DISTURBANCE	LOD
DRAINAGE BASINS	
FLOOD ZONES	
SOIL BOUNDARIES	

BdA - BLADEN (C/D)	SuA - SURRENCY (C/D)
EuA - EULONIA (C/D)	RaA - RAINS (B/D)



CSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION
#0000055539
EXPIRATION DATE:
9/12/2023

NO.	REVISIONS	DATE	BY

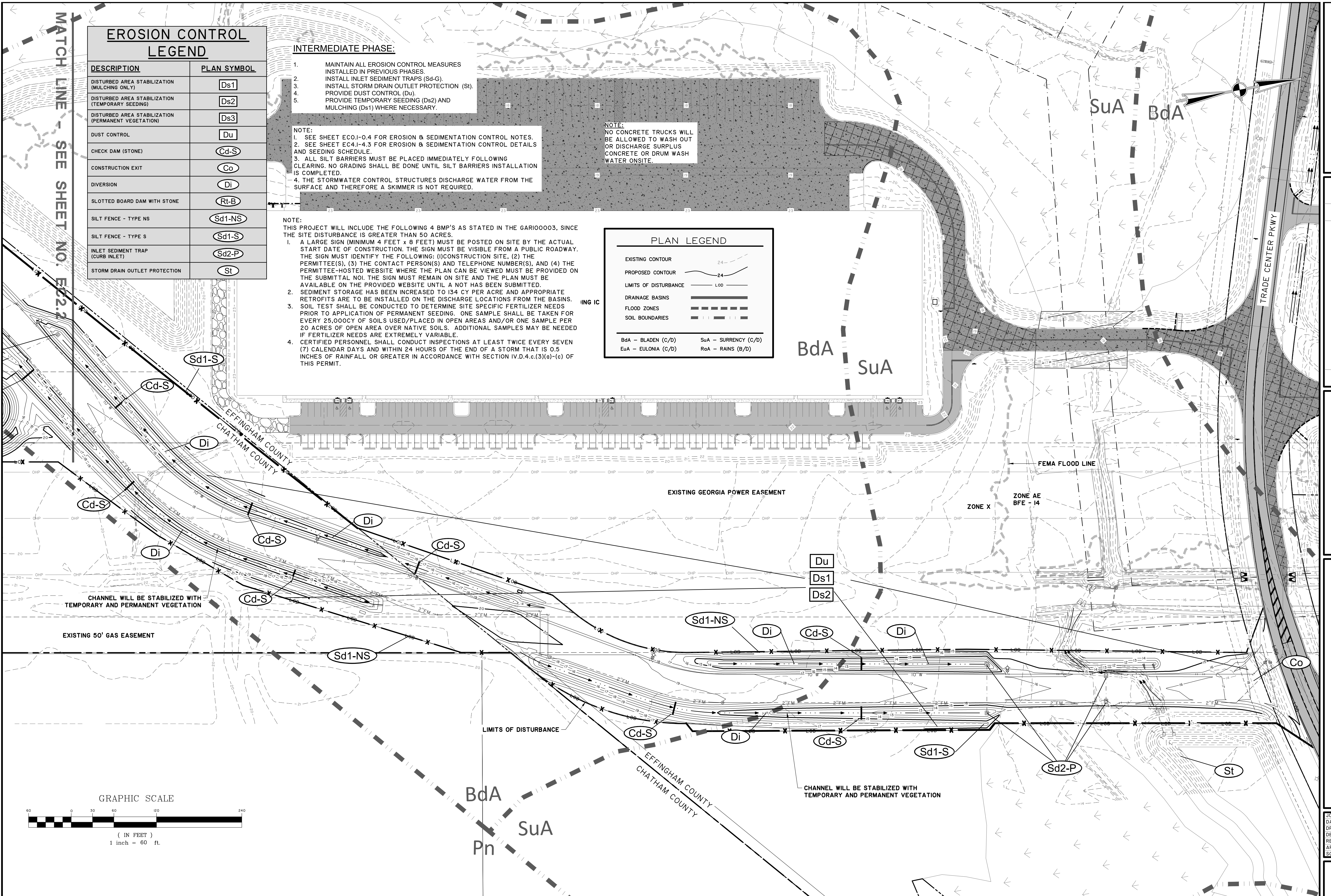
THOMAS & HUTTON
 50 Park of Commerce Way
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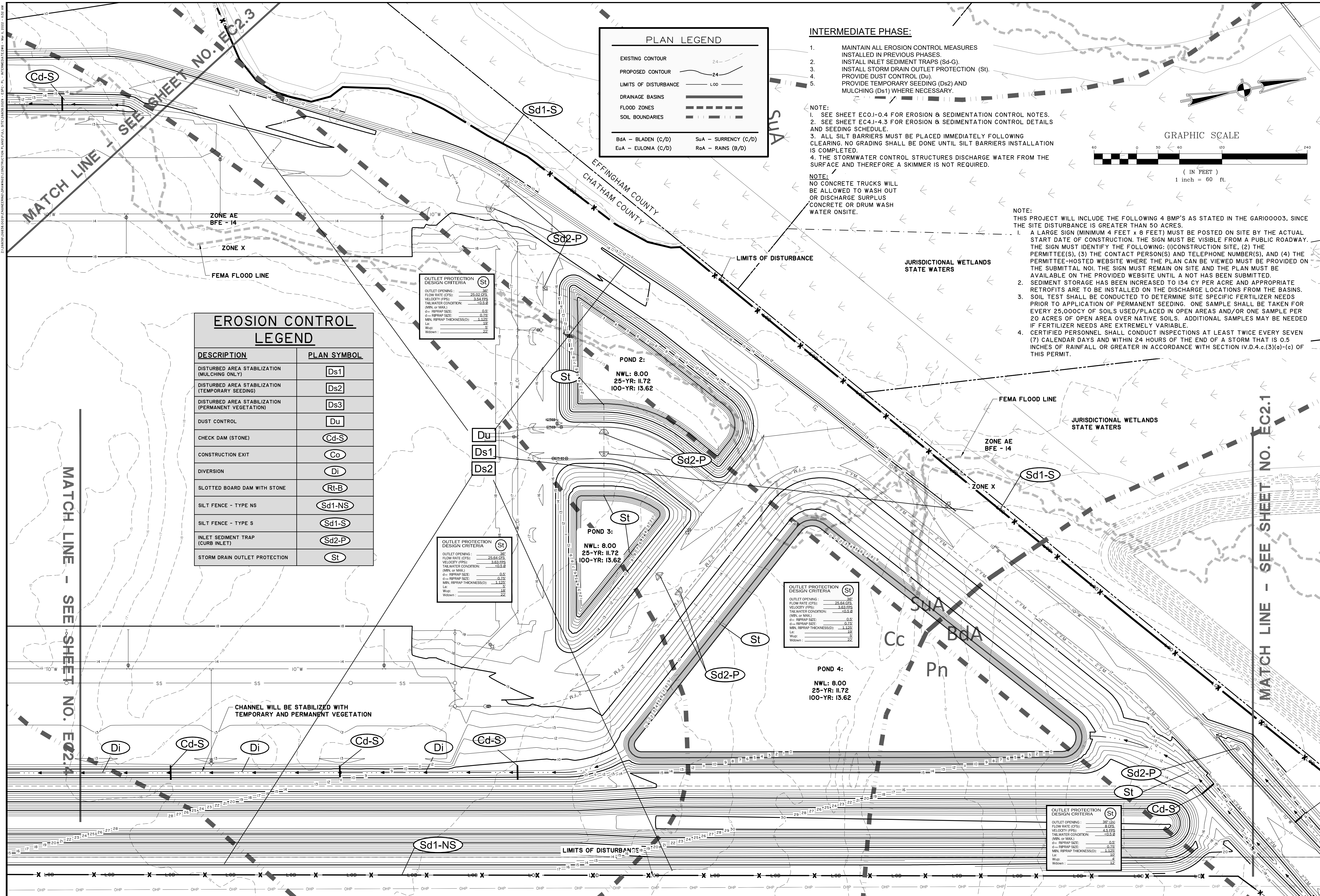
CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA
 GITC - BUILDING 4 A
 ES & PC PLAN - INTERMEDIATE

JOB NO:	J-26838.0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JOC
SCALE:	1" = 60'

EC2.1

PERMIT SET - FOR REVIEW PURPOSES ONLY





PLAN LEGEND

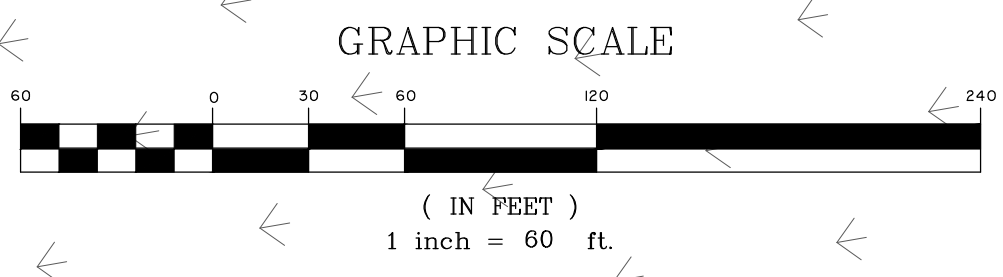
EXISTING CONTOUR	24
PROPOSED CONTOUR	24
LIMITS OF DISTURBANCE	LOD
DRAINAGE BASINS	
FLOOD ZONES	
SOIL BOUNDARIES	

BdA - BLADEN (C/D)	SuA - SURRENCY (C/D)
EuA - EULONIA (C/D)	RaA - RAINS (B/D)

- INTERMEDIATE PHASE:**
1. MAINTAIN ALL EROSION CONTROL MEASURES INSTALLED IN PREVIOUS PHASES.
 2. INSTALL INLET SEDIMENT TRAPS (Sd-G).
 3. INSTALL STORM DRAIN OUTLET PROTECTION (St).
 4. PROVIDE DUST CONTROL (Du).
 5. PROVIDE TEMPORARY SEEDING (Ds2) AND MULCHING (Ds1) WHERE NECESSARY.

NOTE:
 1. SEE SHEET ECOJ-0.4 FOR EROSION & SEDIMENTATION CONTROL NOTES.
 2. SEE SHEET EC4.I-4.3 FOR EROSION & SEDIMENTATION CONTROL DETAILS AND SEEDING SCHEDULE.
 3. ALL SILT BARRIERS MUST BE PLACED IMMEDIATELY FOLLOWING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIERS INSTALLATION IS COMPLETED.
 4. THE STORMWATER CONTROL STRUCTURES DISCHARGE WATER FROM THE SURFACE AND THEREFORE A SKIMMER IS NOT REQUIRED.

NOTE:
 NO CONCRETE TRUCKS WILL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONSITE.



EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
DISTURBED AREA STABILIZATION (MULCHING ONLY)	Ds1
DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)	Ds2
DISTURBED AREA STABILIZATION (PERMANENT VEGETATION)	Ds3
DUST CONTROL	Du
CHECK DAM (STONE)	Cd-S
CONSTRUCTION EXIT	Co
DIVERSION	Di
SLOTTED BOARD DAM WITH STONE	Rt-B
SILT FENCE - TYPE NS	Sd1-NS
SILT FENCE - TYPE S	Sd1-S
INLET SEDIMENT TRAP (CURB INLET)	Sd2-P
STORM DRAIN OUTLET PROTECTION	St

OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING:	36"
FLOW RATE (CFS):	25.64 CFS
VELOCITY (FPS):	3.63 FPS
TAILWATER CONDITION:	<0.5 F
(MIN. or MAX.):	0.5
G ₅₀ RIPRAP SIZE:	0.75
MIN. RIPRAP THICKNESS:	1.12
L ₅₀ :	12
W ₅₀ :	12
W _{min} :	22

OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING:	36"
FLOW RATE (CFS):	25.64 CFS
VELOCITY (FPS):	3.63 FPS
TAILWATER CONDITION:	<0.5 F
(MIN. or MAX.):	0.5
G ₅₀ RIPRAP SIZE:	0.75
MIN. RIPRAP THICKNESS:	1.12
L ₅₀ :	12
W ₅₀ :	12
W _{min} :	22

OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING:	36"
FLOW RATE (CFS):	25.64 CFS
VELOCITY (FPS):	3.63 FPS
TAILWATER CONDITION:	<0.5 F
(MIN. or MAX.):	0.5
G ₅₀ RIPRAP SIZE:	0.75
MIN. RIPRAP THICKNESS:	1.12
L ₅₀ :	12
W ₅₀ :	12
W _{min} :	22

OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING:	36"
FLOW RATE (CFS):	25.64 CFS
VELOCITY (FPS):	3.63 FPS
TAILWATER CONDITION:	<0.5 F
(MIN. or MAX.):	0.5
G ₅₀ RIPRAP SIZE:	0.75
MIN. RIPRAP THICKNESS:	1.12
L ₅₀ :	12
W ₅₀ :	12
W _{min} :	22

POND 2:
 NWL: 8.00
 25-YR: 11.72
 100-YR: 13.62

POND 3:
 NWL: 8.00
 25-YR: 11.72
 100-YR: 13.62

POND 4:
 NWL: 8.00
 25-YR: 11.72
 100-YR: 13.62

CSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION #0000055539 EXPIRATION DATE: 9/12/2023

NO.	REVISIONS	DATE

THOMAS & HUTTON
 50 Park of Commerce Way
 Savannah, GA 31405 • 912.234.5300
 www.thomasandhutton.com

CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA

GITC - BUILDING 4 A

ES & PC PLAN - INTERMEDIATE

JOB NO: J-26838.0029
 DATE: 01/26/2022
 DRAWN: SGJ
 DESIGNED: SGJ
 REVIEWED: FIT
 APPROVED: JOC
 SCALE: 1" = 60'

EC2.2

PERMIT SET - FOR REVIEW PURPOSES ONLY

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
DISTURBED AREA STABILIZATION (MULCHING ONLY)	Ds1
DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)	Ds2
DISTURBED AREA STABILIZATION (PERMANENT VEGETATION)	Ds3
DUST CONTROL	Du
CHECK DAM (STONE)	Cd-S
CONSTRUCTION EXIT	Co
DIVERSION	Di
SLOTTED BOARD DAM WITH STONE	Rt-B
SILT FENCE - TYPE NS	Sd1-NS
SILT FENCE - TYPE S	Sd1-S
INLET SEDIMENT TRAP (CURB INLET)	Sd2-P
STORM DRAIN OUTLET PROTECTION	St

PLAN LEGEND

EXISTING CONTOUR	24
PROPOSED CONTOUR	24
LIMITS OF DISTURBANCE	LoD
DRAINAGE BASINS	---
FLOOD ZONES	---
SOIL BOUNDARIES	---
BdA - BLADEN (C/D)	SuA - SURRENCY (C/D)
EuA - EULONIA (C/D)	RaA - RAINS (B/D)

NOTE:
 THIS PROJECT WILL INCLUDE THE FOLLOWING 4 BMP'S AS STATED IN THE GARIO0003, SINCE THE SITE DISTURBANCE IS GREATER THAN 50 ACRES.
 1. A LARGE SIGN (MINIMUM 4 FEET x 8 FEET) MUST BE POSTED ON SITE BY THE ACTUAL START DATE OF CONSTRUCTION. THE SIGN MUST BE VISIBLE FROM A PUBLIC ROADWAY. THE SIGN MUST IDENTIFY THE FOLLOWING: (1) CONSTRUCTION SITE, (2) THE PERMITTEE(S), (3) THE CONTACT PERSON(S) AND TELEPHONE NUMBER(S), AND (4) THE PERMITTEE-HOSTED WEBSITE WHERE THE PLAN CAN BE VIEWED. THE SIGN MUST BE PROVIDED ON THE SUBMITTAL NOI. THE SIGN MUST REMAIN ON SITE AND THE PLAN MUST BE AVAILABLE ON THE PROVIDED WEBSITE UNTIL A NOT HAS BEEN SUBMITTED.
 2. SEDIMENT STORAGE HAS BEEN INCREASED TO 134 CY PER ACRE AND APPROPRIATE RETROFITS ARE TO BE INSTALLED ON THE DISCHARGE LOCATIONS FROM THE BASINS.
 3. SOIL TEST SHALL BE CONDUCTED TO DETERMINE SITE SPECIFIC FERTILIZER NEEDS PRIOR TO APPLICATION OF PERMANENT SEEDING. ONE SAMPLE SHALL BE TAKEN FOR EVERY 25,000CY OF SOILS USED/PLACED IN OPEN AREAS AND/OR ONE SAMPLE PER 20 ACRES OF OPEN AREA OVER NATIVE SOILS. ADDITIONAL SAMPLES MAY BE NEEDED IF FERTILIZER NEEDS ARE EXTREMELY VARIABLE.
 4. CERTIFIED PERSONNEL SHALL CONDUCT INSPECTIONS AT LEAST TWICE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OF RAINFALL OR GREATER IN ACCORDANCE WITH SECTION IV.D.4.c.(3)(a)-(c) OF THIS PERMIT.

NOTE:
 1. SEE SHEET ECO1-0.4 FOR EROSION & SEDIMENTATION CONTROL NOTES.
 2. SEE SHEET EC4.1-4.3 FOR EROSION & SEDIMENTATION CONTROL DETAILS AND SEEDING SCHEDULE.
 3. ALL SILT BARRIERS MUST BE PLACED IMMEDIATELY FOLLOWING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIERS INSTALLATION IS COMPLETED.
 4. THE STORMWATER CONTROL STRUCTURES DISCHARGE WATER FROM THE SURFACE AND THEREFORE A SKIMMER IS NOT REQUIRED.

NOTE:
 NO CONCRETE TRUCKS WILL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONSITE.

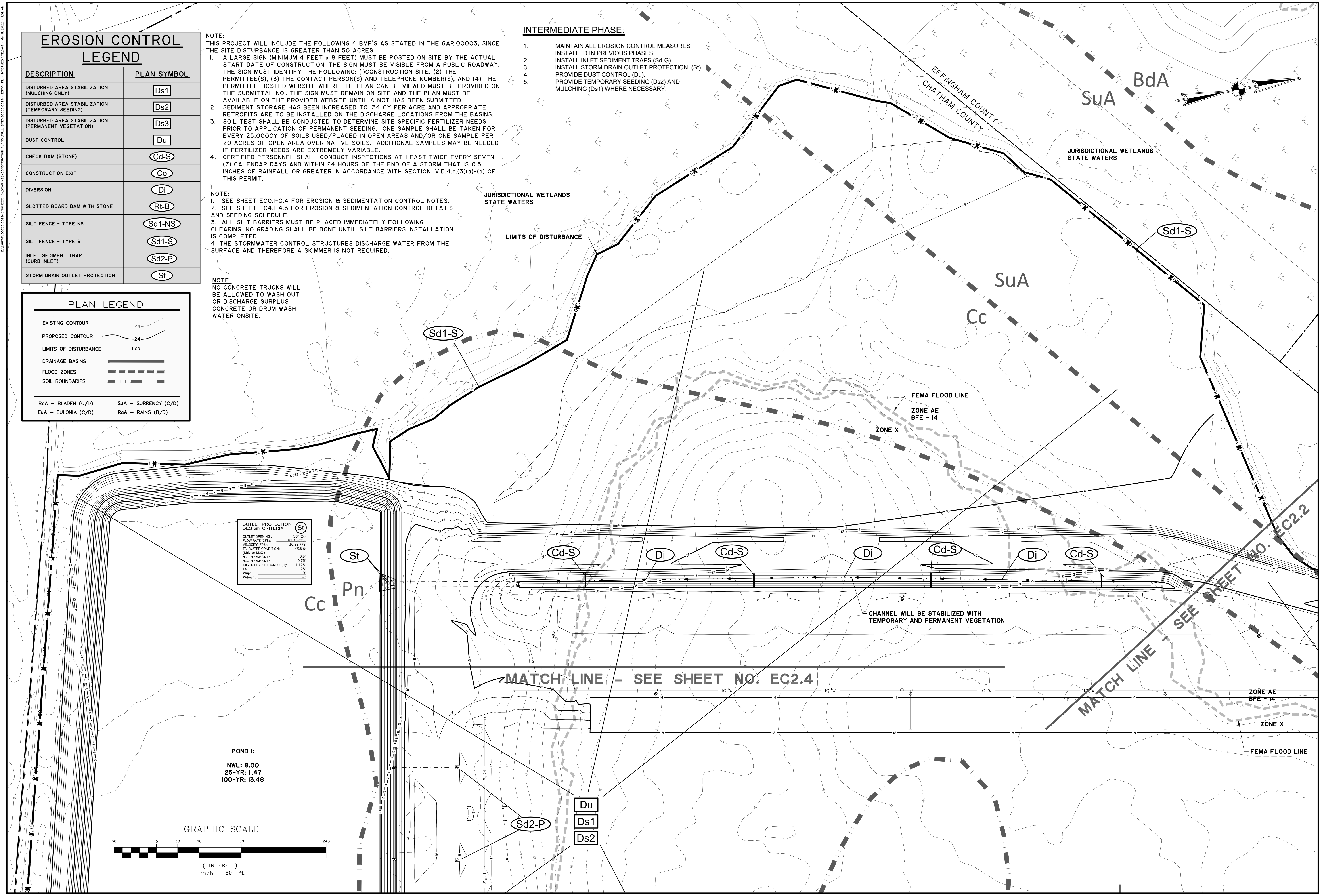
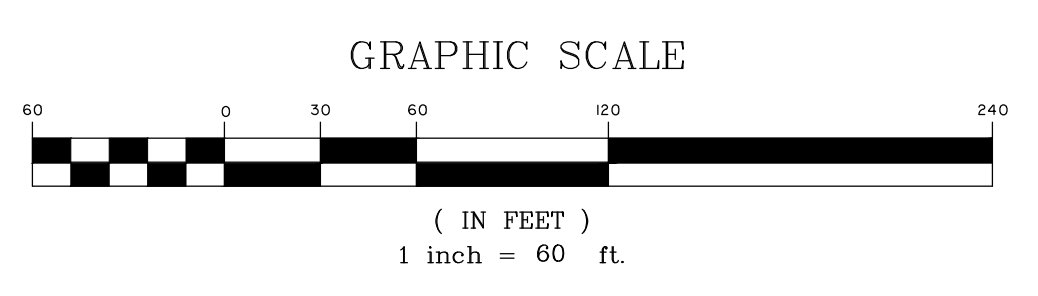
INTERMEDIATE PHASE:

1. MAINTAIN ALL EROSION CONTROL MEASURES INSTALLED IN PREVIOUS PHASES.
2. INSTALL INLET SEDIMENT TRAPS (Sd-G).
3. INSTALL STORM DRAIN OUTLET PROTECTION (St).
4. PROVIDE DUST CONTROL (Du).
5. PROVIDE TEMPORARY SEEDING (Ds2) AND MULCHING (Ds1) WHERE NECESSARY.

OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING:	36" (24)
FLOW RATE (FPS):	81.13 (9.5)
VELOCITY (FPS):	10.38 (1.2)
TOTAL WATER CONDITION:	< 0.5
GRIN OR MAJ:	0.2
GRIN RIBBON SIZE:	0.75
MIN. RIBBON THICKNESS:	1.125
GR:	25
WSP:	9
WSPW:	31

POND I:
 NWL: 8.00
 25-YR: 11.47
 100-YR: 13.48



CSWCC LEVEL II
 DESIGN PROFESSIONAL
 CERTIFICATION
 #0000055539
 EXPIRATION DATE:
 9/12/2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
 50 Park of Commerce Way
 Savannah, GA 31405 • 912.234.5300
 www.thomasandhutton.com

CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA
 G1C - BUILDING 4 A
 ES & PC PLAN - INTERMEDIATE

JOB NO:	J-26838.0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JGC
SCALE:	1" = 60'

EC2.3

PERMIT SET - FOR REVIEW PURPOSES ONLY

2:UTURN HUBBARD COUNTY GEORGIA CONSTRUCTION PLANNING & DESIGN, INC. - 10/12/2022 - 10:58 AM



CSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION
#0000055539
EXPIRATION DATE:
9/12/2023

NO.	REVISIONS	BY	DATE

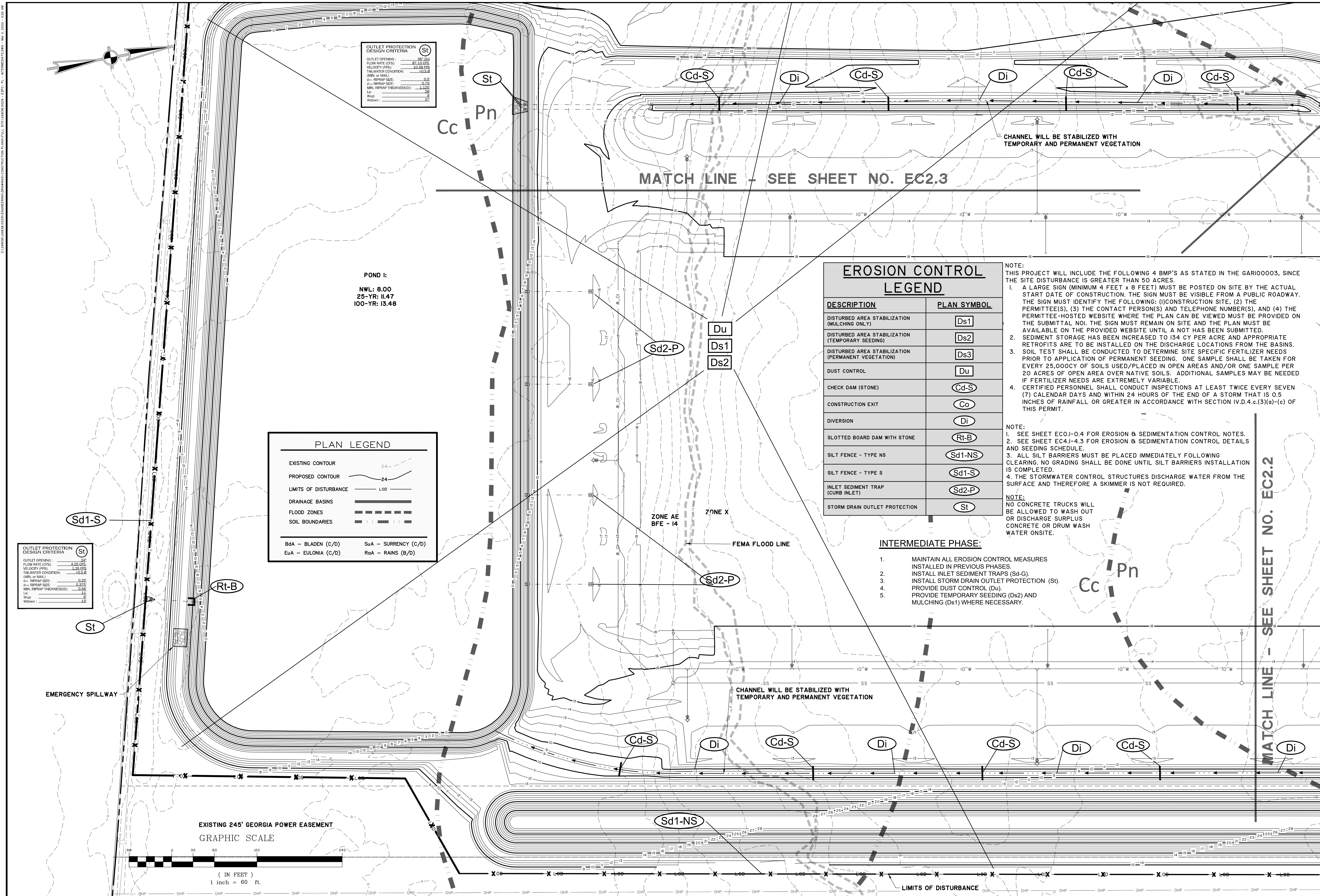
THOMAS & HUTTON
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Savannah, GA 31405 • 912.234.5300
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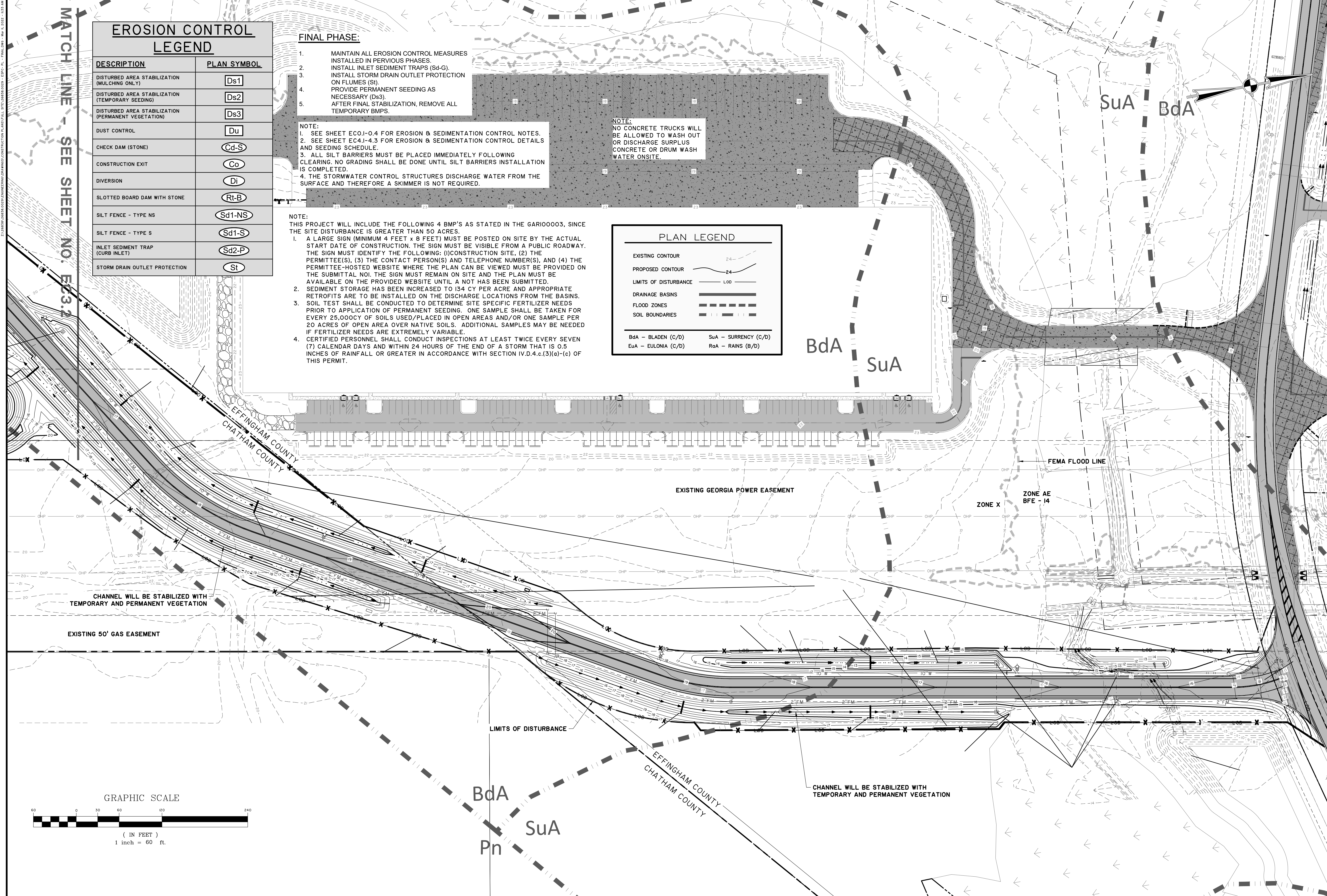
CHESTERFIELD LLC
CHATHAM & EFFINGHAM COUNTY, GEORGIA
GITC - BUILDING 4 A
ES & PC PLAN - INTERMEDIATE

JOB NO: J-26838.0029
DATE: 01/26/2022
DRAWN: SGJ
DESIGNED: SGJ
REVIEWED: FIT
APPROVED: JOC
SCALE: 1" = 60'

EC2.4

PERMIT SET - FOR REVIEW PURPOSES ONLY





EROSION CONTROL LEGEND	
DESCRIPTION	PLAN SYMBOL
DISTURBED AREA STABILIZATION (MULCHING ONLY)	Ds1
DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)	Ds2
DISTURBED AREA STABILIZATION (PERMANENT VEGETATION)	Ds3
DUST CONTROL	Du
CHECK DAM (STONE)	Cd-S
CONSTRUCTION EXIT	Co
DIVERSION	Di
SLOTTED BOARD DAM WITH STONE	Rt-B
SILT FENCE - TYPE NS	Sd1-NS
SILT FENCE - TYPE S	Sd1-S
INLET SEDIMENT TRAP (CURB INLET)	Sd2-P
STORM DRAIN OUTLET PROTECTION	St

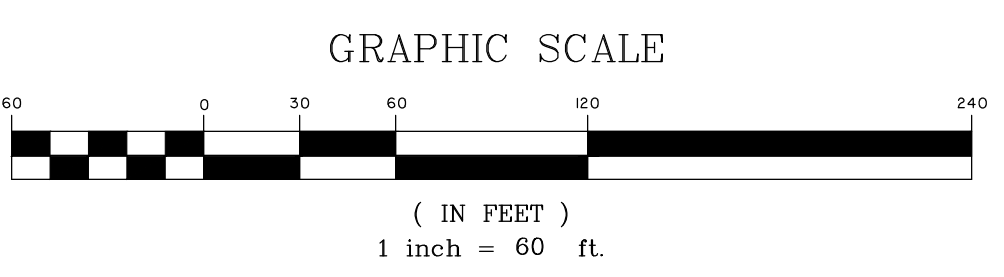
- FINAL PHASE:**
1. MAINTAIN ALL EROSION CONTROL MEASURES INSTALLED IN PVIOUS PHASES.
 2. INSTALL INLET SEDIMENT TRAPS (Sd-G).
 3. INSTALL STORM DRAIN OUTLET PROTECTION ON FLUMES (St).
 4. PROVIDE PERMANENT SEEDING AS NECESSARY (Ds3).
 5. AFTER FINAL STABILIZATION, REMOVE ALL TEMPORARY BMP'S.
- NOTE:**
1. SEE SHEET EC01-0.4 FOR EROSION & SEDIMENTATION CONTROL NOTES.
 2. SEE SHEET EC41-4.3 FOR EROSION & SEDIMENTATION CONTROL DETAILS AND SEEDING SCHEDULE.
 3. ALL SILT BARRIERS MUST BE PLACED IMMEDIATELY FOLLOWING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIERS INSTALLATION IS COMPLETED.
 4. THE STORMWATER CONTROL STRUCTURES DISCHARGE WATER FROM THE SURFACE AND THEREFORE A SKIMMER IS NOT REQUIRED.

NOTE:
NO CONCRETE TRUCKS WILL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONSITE.

- NOTE:**
THIS PROJECT WILL INCLUDE THE FOLLOWING 4 BMP'S AS STATED IN THE GAR100003, SINCE THE SITE DISTURBANCE IS GREATER THAN 50 ACRES.
A LARGE SIGN (MINIMUM 4 FEET x 8 FEET) MUST BE POSTED ON SITE BY THE ACTUAL START DATE OF CONSTRUCTION. THE SIGN MUST BE VISIBLE FROM A PUBLIC ROADWAY. THE SIGN MUST IDENTIFY THE FOLLOWING: (1) CONSTRUCTION SITE, (2) THE PERMITTEE(S), (3) THE CONTACT PERSON(S) AND TELEPHONE NUMBER(S), AND (4) THE PERMITTEE-HOSTED WEBSITE WHERE THE PLAN CAN BE VIEWED MUST BE PROVIDED ON THE SUBMITTAL NOI. THE SIGN MUST REMAIN ON SITE AND THE PLAN MUST BE AVAILABLE ON THE PROVIDED WEBSITE UNTIL A NOT HAS BEEN SUBMITTED.
1. SEDIMENT STORAGE HAS BEEN INCREASED TO 134 CY PER ACRE AND APPROPRIATE RETROFITS ARE TO BE INSTALLED ON THE DISCHARGE LOCATIONS FROM THE BASINS.
 2. SOIL TEST SHALL BE CONDUCTED TO DETERMINE SITE SPECIFIC FERTILIZER NEEDS PRIOR TO APPLICATION OF PERMANENT SEEDING. ONE SAMPLE SHALL BE TAKEN FOR EVERY 25,000CY OF SOILS USED/PLACED IN OPEN AREAS AND/OR ONE SAMPLE PER 20 ACRES OF OPEN AREA OVER NATIVE SOILS. ADDITIONAL SAMPLES MAY BE NEEDED IF FERTILIZER NEEDS ARE EXTREMELY VARIABLE.
 3. CERTIFIED PERSONNEL SHALL CONDUCT INSPECTIONS AT LEAST TWICE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OF RAINFALL OR GREATER IN ACCORDANCE WITH SECTION IV.D.4.c.(3)(g)-(c) OF THIS PERMIT.

PLAN LEGEND	
EXISTING CONTOUR	24
PROPOSED CONTOUR	24
LIMITS OF DISTURBANCE	L00
DRAINAGE BASINS	
FLOOD ZONES	
SOIL BOUNDARIES	

BdA - BLADEN (C/D) SuA - SURRENCY (C/D)
EuA - EULONIA (C/D) RaA - RAINS (B/D)



NO.	REVISIONS	BY	DATE

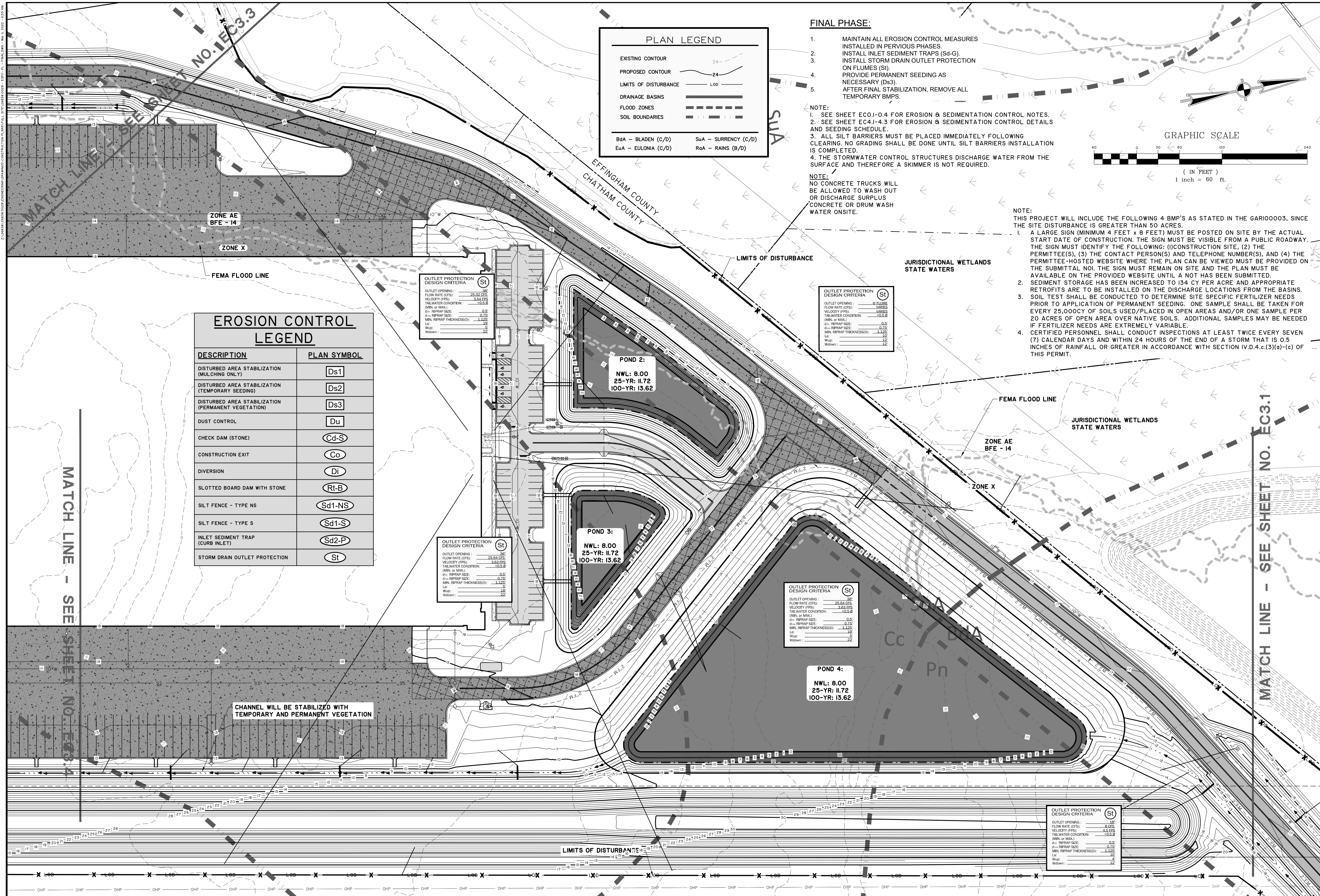
THOMAS & HUTTON
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www.thomasandhutton.com

CHESTERFIELD LLC
CHATHAM & EFFINGHAM COUNTY, GEORGIA
G1TC - BUILDING 4 A
ES & PC PLAN - FINAL

JOB NO:	J-26838.0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JOC
SCALE:	1" = 60'

EC3.1

PERMIT SET - FOR REVIEW PURPOSES ONLY



PLAN LEGEND

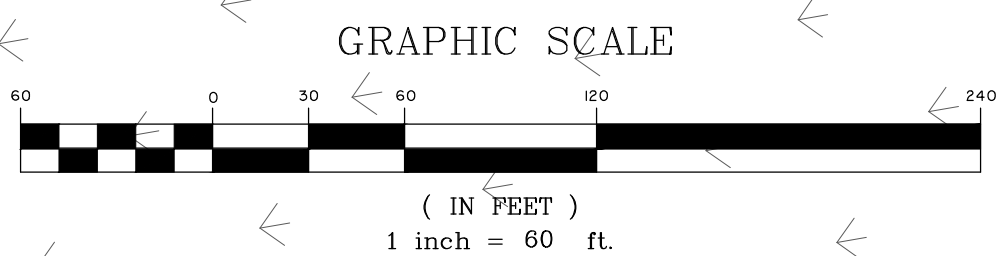
EXISTING CONTOUR	24
PROPOSED CONTOUR	24
LIMITS OF DISTURBANCE	LOD
DRAINAGE BASINS	[Symbol]
FLOOD ZONES	[Symbol]
SOIL BOUNDARIES	[Symbol]

BdA - BLADEN (C/D)	SuA - SURRENCY (C/D)
EuA - EULONIA (C/D)	RoA - RAINS (B/D)

- FINAL PHASE:**
1. MAINTAIN ALL EROSION CONTROL MEASURES INSTALLED IN PVIOUS PHASES.
 2. INSTALL INLET SEDIMENT TRAPS (Sd-G).
 3. INSTALL STORM DRAIN OUTLET PROTECTION ON FLUMES (SI).
 4. PROVIDE PERMANENT SEEDING AS NECESSARY (Ds3).
 5. AFTER FINAL STABILIZATION, REMOVE ALL TEMPORARY BMPs.

NOTE:
 1. SEE SHEET ECOJ-0.4 FOR EROSION & SEDIMENTATION CONTROL NOTES.
 2. SEE SHEET EC4.I-4.3 FOR EROSION & SEDIMENTATION CONTROL DETAILS AND SEEDING SCHEDULE.
 3. ALL SILT BARRIERS MUST BE PLACED IMMEDIATELY FOLLOWING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIERS INSTALLATION IS COMPLETED.
 4. THE STORMWATER CONTROL STRUCTURES DISCHARGE WATER FROM THE SURFACE AND THEREFORE A SKIMMER IS NOT REQUIRED.

NOTE:
 NO CONCRETE TRUCKS WILL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONSITE.



NOTE:
 THIS PROJECT WILL INCLUDE THE FOLLOWING 4 BMPs AS STATED IN THE GAR100003, SINCE THE SITE DISTURBANCE IS GREATER THAN 50 ACRES.

1. A LARGE SIGN (MINIMUM 4 FEET X 8 FEET) MUST BE POSTED ON SITE BY THE ACTUAL START DATE OF CONSTRUCTION. THE SIGN MUST BE VISIBLE FROM A PUBLIC ROADWAY. THE SIGN MUST IDENTIFY THE FOLLOWING: (1) CONSTRUCTION SITE, (2) THE PERMITTEE(S), (3) THE CONTACT PERSON(S) AND TELEPHONE NUMBER(S), AND (4) THE PERMITTEE-HOSTED WEBSITE WHERE THE PLAN CAN BE VIEWED MUST BE PROVIDED ON THE SUBMITTAL NOI. THE SIGN MUST REMAIN ON SITE AND THE PLAN MUST BE AVAILABLE ON THE PROVIDED WEBSITE UNTIL A NOT HAS BEEN SUBMITTED.
2. SEDIMENT STORAGE HAS BEEN INCREASED TO 134 CY PER ACRE AND APPROPRIATE RETROFITS ARE TO BE INSTALLED ON THE DISCHARGE LOCATIONS FROM THE BASINS.
3. SOIL TEST SHALL BE CONDUCTED TO DETERMINE SITE SPECIFIC FERTILIZER NEEDS PRIOR TO APPLICATION OF PERMANENT SEEDING. ONE SAMPLE SHALL BE TAKEN FOR EVERY 25,000CY OF SOILS USED/PLACED IN OPEN AREAS AND/OR ONE SAMPLE PER 20 ACRES OF OPEN AREA OVER NATIVE SOILS. ADDITIONAL SAMPLES MAY BE NEEDED IF FERTILIZER NEEDS ARE EXTREMELY VARIABLE.
4. CERTIFIED PERSONNEL SHALL CONDUCT INSPECTIONS AT LEAST TWICE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OF RAINFALL OR GREATER IN ACCORDANCE WITH SECTION IV.D.4.c.(3)(a)-(c) OF THIS PERMIT.

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
DISTURBED AREA STABILIZATION (MULCHING ONLY)	Ds1
DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)	Ds2
DISTURBED AREA STABILIZATION (PERMANENT VEGETATION)	Ds3
DUST CONTROL	Du
CHECK DAM (STONE)	Cd-S
CONSTRUCTION EXIT	Co
DIVERSION	Di
SLOTTED BOARD DAM WITH STONE	Rt-B
SILT FENCE - TYPE NS	Sd1-NS
SILT FENCE - TYPE S	Sd1-S
INLET SEDIMENT TRAP (CURB INLET)	Sd2-P
STORM DRAIN OUTLET PROTECTION	St

OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING:	36"
FLOW RATE (CFS):	25.64 CFS
VELOCITY (FPS):	3.63 FPS
TAILWATER CONDITION:	<0.5 ft
(MIN. or MAX.):	0.5
d= RIPRAP SIZE:	0.75
MIN. RIPRAP THICKNESS:	1.12
L:	12
Wup:	12
Wdown:	22

OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING:	36"
FLOW RATE (CFS):	25.64 CFS
VELOCITY (FPS):	3.63 FPS
TAILWATER CONDITION:	<0.5 ft
(MIN. or MAX.):	0.5
d= RIPRAP SIZE:	0.75
MIN. RIPRAP THICKNESS:	1.12
L:	12
Wup:	12
Wdown:	22

OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING:	36"
FLOW RATE (CFS):	25.64 CFS
VELOCITY (FPS):	3.63 FPS
TAILWATER CONDITION:	<0.5 ft
(MIN. or MAX.):	0.5
d= RIPRAP SIZE:	0.75
MIN. RIPRAP THICKNESS:	1.12
L:	12
Wup:	12
Wdown:	22

OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING:	36"
FLOW RATE (CFS):	25.64 CFS
VELOCITY (FPS):	3.63 FPS
TAILWATER CONDITION:	<0.5 ft
(MIN. or MAX.):	0.5
d= RIPRAP SIZE:	0.75
MIN. RIPRAP THICKNESS:	1.12
L:	12
Wup:	12
Wdown:	22

OUTLET PROTECTION DESIGN CRITERIA (St)

OUTLET OPENING:	36"
FLOW RATE (CFS):	25.64 CFS
VELOCITY (FPS):	3.63 FPS
TAILWATER CONDITION:	<0.5 ft
(MIN. or MAX.):	0.5
d= RIPRAP SIZE:	0.75
MIN. RIPRAP THICKNESS:	1.12
L:	12
Wup:	12
Wdown:	22

POND 2:
 NWL: 8.00
 25-YR: 11.72
 100-YR: 13.62

POND 3:
 NWL: 8.00
 25-YR: 11.72
 100-YR: 13.62

POND 4:
 NWL: 8.00
 25-YR: 11.72
 100-YR: 13.62

CHANNEL WILL BE STABILIZED WITH TEMPORARY AND PERMANENT VEGETATION

GEORGIA
 PROFESSIONAL ENGINEER
 No. 03372
 JASON ORNE
 CSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION #0000055539 EXPIRATION DATE: 9/12/2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
 50 Park of Commerce Way
 Savannah, GA 31405 • 912.234.5300
 www.thomasandhutton.com

CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA
 G1TC - BUILDING 4 A
 ES & PC PLAN - FINAL

JOB NO:	J-26838.0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JOC
SCALE:	1" = 60'

EC3.2

PERMIT SET - FOR REVIEW PURPOSES ONLY

EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
DISTURBED AREA STABILIZATION (MULCHING ONLY)	Ds1
DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)	Ds2
DISTURBED AREA STABILIZATION (PERMANENT VEGETATION)	Ds3
DUST CONTROL	Du
CHECK DAM (STONE)	Cd-S
CONSTRUCTION EXIT	Co
DIVERSION	Di
SLOTTED BOARD DAM WITH STONE	Rt-B
SILT FENCE - TYPE NS	Sd1-NS
SILT FENCE - TYPE S	Sd1-S
INLET SEDIMENT TRAP (CURB INLET)	Sd2-P
STORM DRAIN OUTLET PROTECTION	St

PLAN LEGEND

EXISTING CONTOUR	24
PROPOSED CONTOUR	24
LIMITS OF DISTURBANCE	LoD
DRAINAGE BASINS	---
FLOOD ZONES	---
SOIL BOUNDARIES	---
BdA - BLADEN (C/D)	SuA - SURRENCY (C/D)
EuA - EULONIA (C/D)	RaA - RAINS (B/D)

NOTE:
THIS PROJECT WILL INCLUDE THE FOLLOWING 4 BMP'S AS STATED IN THE GARIO0003, SINCE THE SITE DISTURBANCE IS GREATER THAN 50 ACRES.

- A LARGE SIGN (MINIMUM 4 FEET x 8 FEET) MUST BE POSTED ON SITE BY THE ACTUAL START DATE OF CONSTRUCTION. THE SIGN MUST BE VISIBLE FROM A PUBLIC ROADWAY. THE SIGN MUST IDENTIFY THE FOLLOWING: (1) CONSTRUCTION SITE, (2) THE PERMITTEE(S), (3) THE CONTACT PERSON(S) AND TELEPHONE NUMBER(S), AND (4) THE PERMITTEE-HOSTED WEBSITE WHERE THE PLAN CAN BE VIEWED. THE SIGN MUST BE PROVIDED ON THE SUBMITTAL NOI. THE SIGN MUST REMAIN ON SITE AND THE PLAN MUST BE AVAILABLE ON THE PROVIDED WEBSITE UNTIL A NOT HAS BEEN SUBMITTED.
- SEDIMENT STORAGE HAS BEEN INCREASED TO 134 CY PER ACRE AND APPROPRIATE RETROFITS ARE TO BE INSTALLED ON THE DISCHARGE LOCATIONS FROM THE BASINS.
- SOIL TEST SHALL BE CONDUCTED TO DETERMINE SITE SPECIFIC FERTILIZER NEEDS PRIOR TO APPLICATION OF PERMANENT SEEDING. ONE SAMPLE SHALL BE TAKEN FOR EVERY 25,000CY OF SOILS USED/PLACED IN OPEN AREAS AND/OR ONE SAMPLE PER 20 ACRES OF OPEN AREA OVER NATIVE SOILS. ADDITIONAL SAMPLES MAY BE NEEDED IF FERTILIZER NEEDS ARE EXTREMELY VARIABLE.
- CERTIFIED PERSONNEL SHALL CONDUCT INSPECTIONS AT LEAST TWICE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OF RAINFALL OR GREATER IN ACCORDANCE WITH SECTION IV.D.4.c.(3)(a)-(c) OF THIS PERMIT.

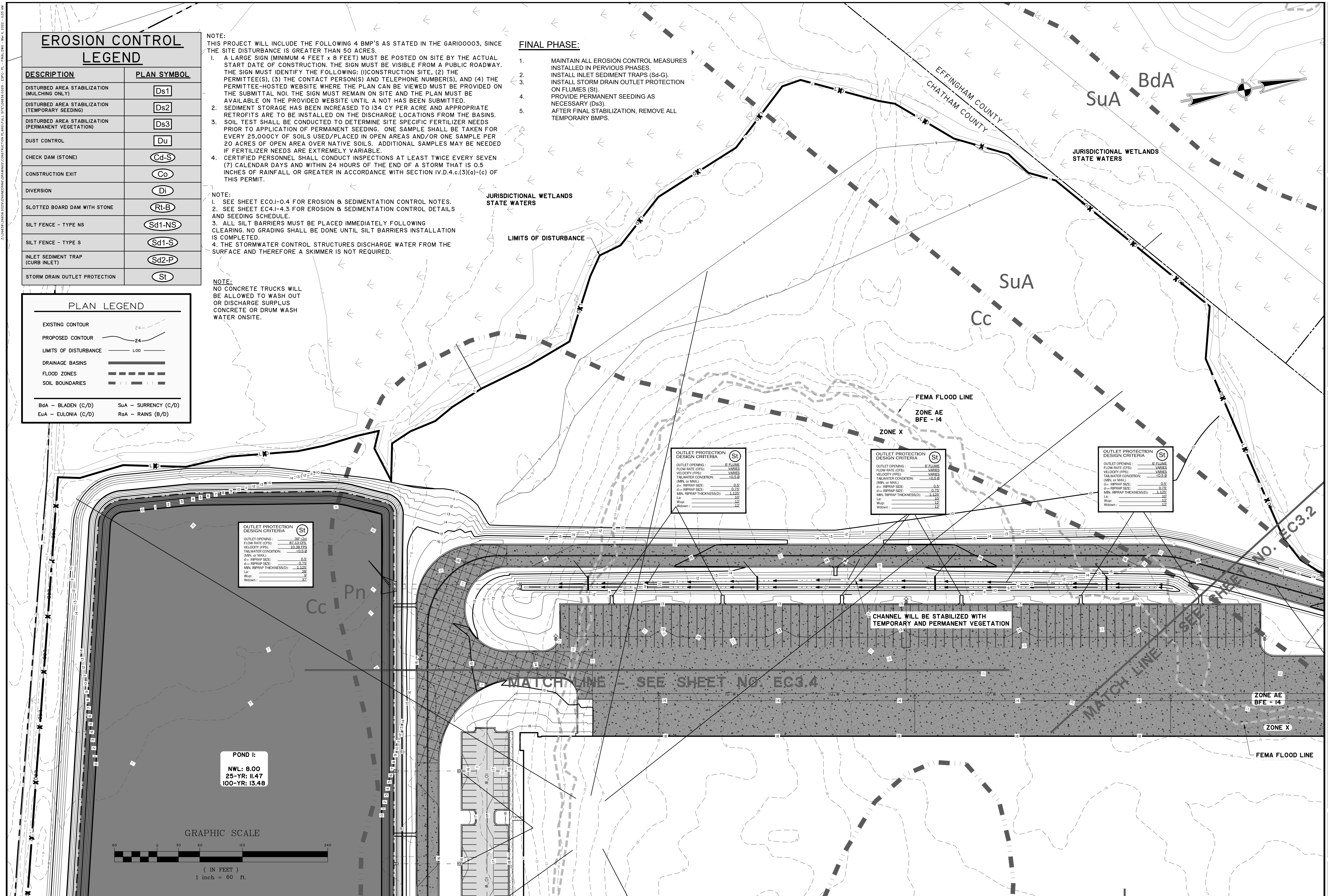
NOTE:

- SEE SHEET ECOJ-0.4 FOR EROSION & SEDIMENTATION CONTROL NOTES.
- SEE SHEET EC4.1-4.3 FOR EROSION & SEDIMENTATION CONTROL DETAILS AND SEEDING SCHEDULE.
- ALL SILT BARRIERS MUST BE PLACED IMMEDIATELY FOLLOWING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIERS INSTALLATION IS COMPLETED.
- THE STORMWATER CONTROL STRUCTURES DISCHARGE WATER FROM THE SURFACE AND THEREFORE A SKIMMER IS NOT REQUIRED.

NOTE:
NO CONCRETE TRUCKS WILL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON SITE.

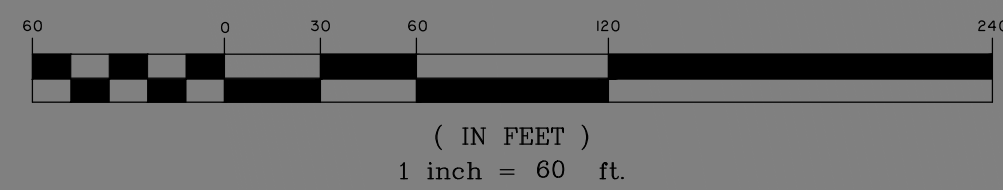
FINAL PHASE:

1. MAINTAIN ALL EROSION CONTROL MEASURES INSTALLED IN PVIOUS PHASES.
2. INSTALL INLET SEDIMENT TRAPS (Sd-G).
3. INSTALL STORM DRAIN OUTLET PROTECTION ON FLUMES (St).
4. PROVIDE PERMANENT SEEDING AS NECESSARY (Ds3).
5. AFTER FINAL STABILIZATION, REMOVE ALL TEMPORARY BMP'S.



POND I:
NWL: 8.00
25-YR: 11.47
100-YR: 13.48

GRAPHIC SCALE



CSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION #0000055539 EXPIRATION DATE: 9/12/2023

NO.	REVISIONS	DATE	BY

THOMAS & HUTTON
 50 Park of Commerce Way
 Savannah, GA 31405 • 912.234.5300
 www.thomasandhutton.com

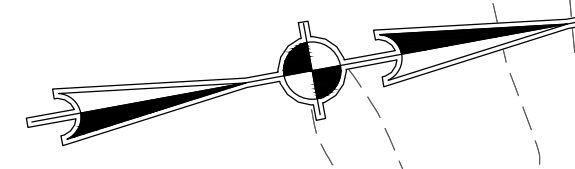
CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA
 G1TC - BUILDING 4 A
 ES & PC PLAN - FINAL

JOB NO:	J-26838.0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JGC
SCALE:	1" = 60'

EC3.3

PERMIT SET - FOR REVIEW PURPOSES ONLY

Z:\PROJECTS\245 GEORGIA POWER EASEMENT\CONSTRUCTION\PLAN\245 GEORGIA POWER EASEMENT - EC3.PLT - FINAL.DWG - REV. 02/2022 - 10:58 AM



OUTLET PROTECTION DESIGN CRITERIA	
OUTLET OPENING:	36" DIA.
FLOW RATE (CFS):	87.13 CFS
VELOCITY (FPS):	10.38 FPS
TAIL WATER CONDITION:	—0.5' B
(MIN. or MAX.)	0.0'
d ₅₀ RIPRAP SIZE:	0.75'
MIN. RIPRAP THICKNESS:	1.152'
L ₅₀ :	28'
W ₅₀ :	9'
W ₁₀₀ :	37'

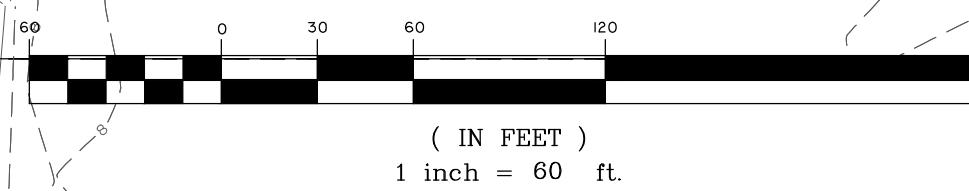
POND I:
 NWL: 8.00
 25-YR: 11.47
 100-YR: 13.48

PLAN LEGEND	
EXISTING CONTOUR	24'
PROPOSED CONTOUR	24'
LIMITS OF DISTURBANCE	L00
DRAINAGE BASINS	
FLOOD ZONES	
SOIL BOUNDARIES	
BdA - BLADEN (C/D)	SuA - SURRENCY (C/D)
EuA - EULONIA (C/D)	RaA - RAINS (B/D)

OUTLET PROTECTION DESIGN CRITERIA	
OUTLET OPENING:	24"
FLOW RATE (CFS):	4.20 CFS
VELOCITY (FPS):	1.35 FPS
TAIL WATER CONDITION:	—0.5' B
(MIN. or MAX.)	0.0'
d ₅₀ RIPRAP SIZE:	0.375'
MIN. RIPRAP THICKNESS:	0.52'
L ₅₀ :	11'
W ₅₀ :	13'

20' EMERGENCY SPILLWAY
 INV: 12.50', 3:1 SIDESLOPES

EXISTING 245' GEORGIA POWER EASEMENT
 GRAPHIC SCALE



EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
DISTURBED AREA STABILIZATION (MULCHING ONLY)	
DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)	
DISTURBED AREA STABILIZATION (PERMANENT VEGETATION)	
DUST CONTROL	
CHECK DAM (STONE)	
CONSTRUCTION EXIT	
DIVERSION	
SLOTTED BOARD DAM WITH STONE	
SILT FENCE - TYPE NS	
SILT FENCE - TYPE S	
INLET SEDIMENT TRAP (CURB INLET)	
STORM DRAIN OUTLET PROTECTION	

NOTE:
 THIS PROJECT WILL INCLUDE THE FOLLOWING 4 BMP'S AS STATED IN THE GAR100003, SINCE THE SITE DISTURBANCE IS GREATER THAN 50 ACRES.
 1. A LARGE SIGN (MINIMUM 4 FEET x 8 FEET) MUST BE POSTED ON SITE BY THE ACTUAL START DATE OF CONSTRUCTION. THE SIGN MUST BE VISIBLE FROM A PUBLIC ROADWAY. THE SIGN MUST IDENTIFY THE FOLLOWING: (1) CONSTRUCTION SITE, (2) THE PERMITTEE(S), (3) THE CONTACT PERSON(S) AND TELEPHONE NUMBER(S), AND (4) THE PERMITTEE-HOSTED WEBSITE WHERE THE PLAN CAN BE VIEWED. THE SIGN MUST BE AVAILABLE ON THE PROVIDED WEBSITE UNTIL A NOT HAS BEEN SUBMITTED.
 2. SEDIMENT STORAGE HAS BEEN INCREASED TO 134 CY PER ACRE AND APPROPRIATE RETROFITS ARE TO BE INSTALLED ON THE DISCHARGE LOCATIONS FROM THE BASINS.
 3. SOIL TEST SHALL BE CONDUCTED TO DETERMINE SITE SPECIFIC FERTILIZER NEEDS PRIOR TO APPLICATION OF PERMANENT SEEDING. ONE SAMPLE SHALL BE TAKEN FOR EVERY 25,000 SQ YD OF SOILS USED/PLACED IN OPEN AREAS AND/OR ONE SAMPLE PER 20 ACRES OF OPEN AREA OVER NATIVE SOILS. ADDITIONAL SAMPLES MAY BE NEEDED IF FERTILIZER NEEDS ARE EXTREMELY VARIABLE.
 4. CERTIFIED PERSONNEL SHALL CONDUCT INSPECTIONS AT LEAST TWICE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OF RAINFALL OR GREATER IN ACCORDANCE WITH SECTION IV.D.4.c.(3)(a)-(c) OF THIS PERMIT.

NOTE:
 1. SEE SHEET EC01-0.4 FOR EROSION & SEDIMENTATION CONTROL NOTES.
 2. SEE SHEET EC41-4.3 FOR EROSION & SEDIMENTATION CONTROL DETAILS AND SEEDING SCHEDULE.
 3. ALL SILT BARRIERS MUST BE PLACED IMMEDIATELY FOLLOWING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIERS INSTALLATION IS COMPLETED.
 4. THE STORMWATER CONTROL STRUCTURES DISCHARGE WATER FROM THE SURFACE AND THEREFORE A SKIMMER IS NOT REQUIRED.

NOTE:
 NO CONCRETE TRUCKS WILL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONSITE.

FINAL PHASE:

1. MAINTAIN ALL EROSION CONTROL MEASURES INSTALLED IN PREVIOUS PHASES.
2. INSTALL INLET SEDIMENT TRAPS (Sd-G).
3. INSTALL STORM DRAIN OUTLET PROTECTION ON FLUMES (SI).
4. PROVIDE PERMANENT SEEDING AS NECESSARY (Ds3).
5. AFTER FINAL STABILIZATION, REMOVE ALL TEMPORARY BMP'S.

CHANNEL WILL BE STABILIZED WITH TEMPORARY AND PERMANENT VEGETATION

CHANNEL WILL BE STABILIZED WITH TEMPORARY AND PERMANENT VEGETATION

ZONE AE
 BFE - 14

ZONE X
 FEMA FLOOD LINE

WATCHLINE - SEE SHEET NO. EC3.2



CSWCC LEVEL II
 DESIGN PROFESSIONAL
 CERTIFICATION
 #0000055539
 EXPIRATION DATE:
 9/12/2023

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
 50 Park of Commerce Way
 Savannah, GA 31405 • 912.234.5300
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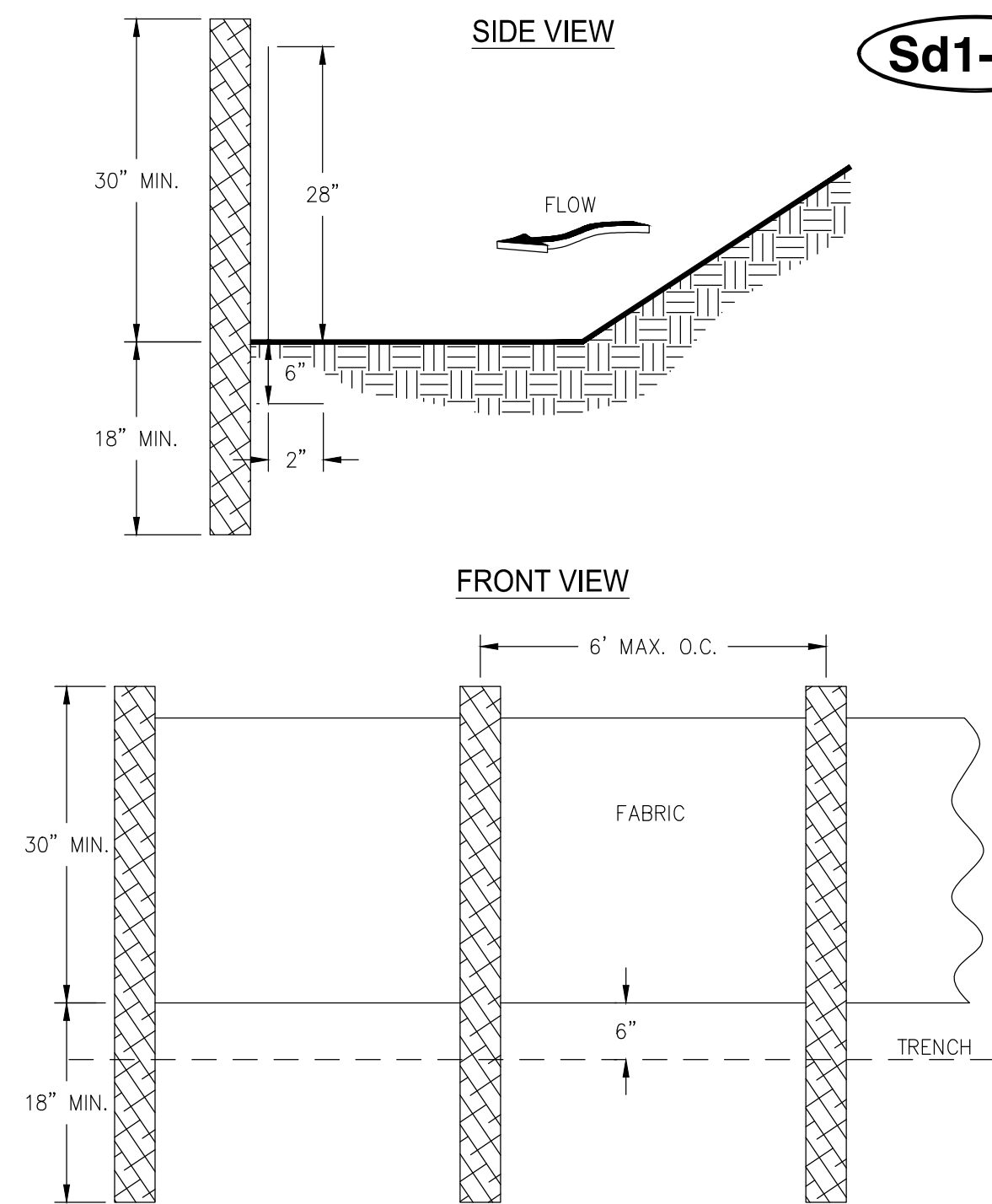
CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA
 G1TC - BUILDING 4 A
 ES & PC PLAN - FINAL

JOB NO: J-26838.0029
 DATE: 01/26/2022
 DRAWN: SGJ
 DESIGNED: SGJ
 REVIEWED: FIT
 APPROVED: JGC
 SCALE: 1" = 60'

EC3.4

PERMIT SET - FOR REVIEW PURPOSES ONLY

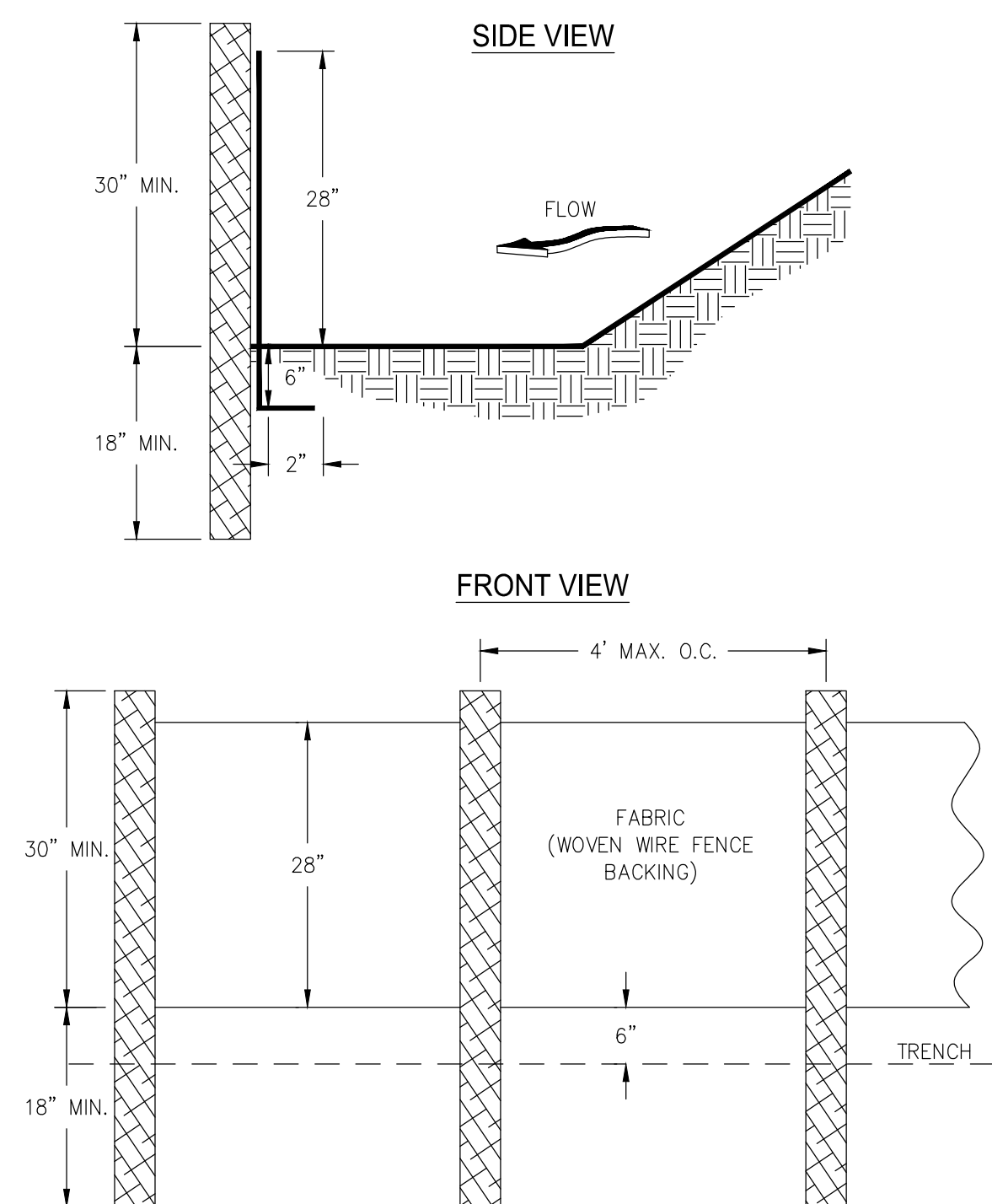
SILT FENCE - TYPE NON-SENSITIVE



Sd1-NS

- NOTES:
 1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
 2. HEIGHT (28") IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

SILT FENCE - TYPE SENSITIVE



Sd1-S

- NOTES:
 1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
 2. HEIGHT (28") IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

Table 2. Fertilizer Requirements for Temporary Vegetation

Types of Species	Planting Year	Fertilizer (N-P-K)	Rate (lbs./acre)	N Top Dressing Rate (lbs./acre)
Cool season grasses	First	6-12-12	1500	50-100
	Second	6-12-12	1000	---
	Maintenance	10-10-10	400	30
Cool season grasses & legumes	First	6-12-12	1500	0-50
	Second	0-10-10	1000	---
	Maintenance	0-10-10	400	---
Temporary cover crops seeded alone	First	10-10-10	500	30
Warm season grasses	First	6-12-12	1500	50-100
	Second	6-12-12	800	50-100
	Maintenance	10-10-10	400	30

- Apply agricultural lime at the rate determined by soil test pH.

Table 2. Fertilizer Requirements for Permanent Vegetation

Types of Species	Planting Year	Fertilizer (N-P-K)	Rate (lbs./ acre)	N Top Dressing Rate (lbs./acre)
Cool season grasses	First	6-12-12	1500	50-100
	Second	6-12-12	1000	---
	Maintenance	10-10-10	400	30
Cool grasses and legumes	First	6-12-12	1500	0-50
	Second	0-10-10	1000	---
	Maintenance	0-10-10	400	---
Warm season grasses	First	6-12-12	1500	50-100
	Second	6-12-12	800	50-100
	Maintenance	10-10-10	400	30
Warm season grasses and legumes	First	6-12-12	1500	50
	Second	0-10-10	1000	---
	Maintenance	0-10-10	400	---

- Apply agricultural lime at a rate of 1-2 tons/ acre unless soil tests indicate otherwise.

Ds3

SILT FENCE MAINTENANCE

MAINTENANCE

- Remove the sediment once it has accumulated to **one-half** the original height of the barrier.
- Replace barrier whenever it has deteriorated to such an extent that the effectiveness of the product is reduced (~ 6 months) or the height of the product is not maintaining 80% of its properly installed height.
- Remove and dispose of all accumulated sediment at the barrier before it is removed.
- Leave in place until all disturbed areas are permanently stabilized.

SEEDING RATES FOR TEMPORARY & PERMANENT COVER

MONTH	TEMPORARY COVER	RATE PER ACRE		PERMANENT COVER	RATE PER ACRE	
		SEEDED ALONE	ADDED TO MIX		SEEDED ALONE	ADDED TO MIX
JANUARY	* LESPEDEZA, ANNUAL * RYE * RYEGRASS, ANNUAL * WHEAT	40 lbs. 3 bu. 40 lbs. 3 bu.	10 lbs. .5 bu. -	* BAHIA, PENSACOLA BERMUDA, UNHULLED CENTIPEDE, SOD LESPEDEZA, SEDICEA 1	60 lbs. 10 lbs. -	30 lbs. 6 lbs. -
FEBRUARY	* LESPEDEZA, ANNUAL * LOVEGRASS, WEEPING * RYE * RYEGRASS, ANNUAL	40 lbs. 4 lbs. 3 bu. 40 lbs.	10 lbs. 2 lbs. .5 bu. -	* BAHIA, PENSACOLA CENTIPEDE, SOD LESPEDEZA, SEDICEA 1 * LESPEDEZA, SEDICEA 2 * LOVEGRASS, WEEPING	60 lbs. 75 lbs. 75 lbs. 4 lbs.	30 lbs. -
MARCH	* LESPEDEZA, ANNUAL * LOVEGRASS, WEEPING * RYEGRASS, ANNUAL * SUDANGRASS	40 lbs. 4 lbs. 40 lbs. 60 lbs.	10 lbs. 2 lbs. -	* BAHIA, PENSACOLA BERMUDA, UNHULLED CENTIPEDE, SOD * LESPEDEZA, SEDICEA 1 LESPEDEZA, SEDICEA 2 LOVEGRASS, WEEPING	60 lbs. 10 lbs. 75 lbs. 75 lbs. 4 lbs.	30 lbs. 6 lbs. -
APRIL	* LOVEGRASS, WEEPING * MILLET, BROWNTOP * MILLET, PEARL * SUDANGRASS	4 lbs. 40 lbs. 50 lbs. 60 lbs.	2 lbs. 10 lbs. -	* BAHIA, PENSACOLA BERMUDA, UNHULLED CENTIPEDE, SOD * LESPEDEZA, SEDICEA 1 LESPEDEZA, SEDICEA 2 LOVEGRASS, WEEPING	60 lbs. 10 lbs. 75 lbs. 75 lbs. 4 lbs.	30 lbs. 6 lbs. -
MAY	* LOVEGRASS, WEEPING * MILLET, BROWNTOP * MILLET, PEARL * SUDANGRASS	4 lbs. 40 lbs. 50 lbs. 60 lbs.	2 lbs. 10 lbs. -	* BAHIA, PENSACOLA BERMUDA, UNHULLED CENTIPEDE, SOD * LESPEDEZA, SEDICEA 1 LESPEDEZA, SEDICEA 2 LOVEGRASS, WEEPING	60 lbs. 10 lbs. 75 lbs. 75 lbs. 4 lbs.	30 lbs. 6 lbs. -
JUNE	* LOVEGRASS, WEEPING * MILLET, BROWNTOP * MILLET, PEARL * SUDANGRASS	4 lbs. 40 lbs. 50 lbs. 60 lbs.	2 lbs. 10 lbs. -	* BAHIA, PENSACOLA BERMUDA, UNHULLED * LESPEDEZA, SEDICEA 1 * LESPEDEZA, SEDICEA 2 * LOVEGRASS, WEEPING	60 lbs. 10 lbs. 75 lbs. 4 lbs.	30 lbs. 6 lbs. -

SEEDING RATES FOR TEMPORARY & PERMANENT COVER

MONTH	TEMPORARY COVER	RATE PER ACRE		PERMANENT COVER	RATE PER ACRE	
		SEEDED ALONE	ADDED TO MIX		SEEDED ALONE	ADDED TO MIX
JULY	* MILLET, BROWNTOP * MILLET, PEARL * SUDANGRASS	40 lbs. 50 lbs. 60 lbs.	10 lbs. -	* BAHIA, PENSACOLA LESPEDEZA, SEDICEA 1	60 lbs. 75 lbs.	30 lbs. -
AUGUST	* MILLET, PEARL * RYEGRASS, ANNUAL	50 lbs. 40 lbs.	-	* BAHIA, PENSACOLA * LESPEDEZA, SEDICEA 1	60 lbs. 75 lbs.	30 lbs. -
SEPTEMBER	* BARLEY * OATS * RYE * RYEGRASS, ANNUAL * WHEAT	3 bu. 4 bu. 3 bu. 40 lbs. 3 bu.	.5 bu. 1 bu. .5 bu. -	* BAHIA, PENSACOLA LESPEDEZA, SEDICEA 1	60 lbs. 75 lbs.	30 lbs. -
OCTOBER	* BARLEY * OATS * RYE * RYEGRASS, ANNUAL * WHEAT	3 bu. 4 bu. 3 bu. 40 lbs. 3 bu.	.5 bu. 1 bu. .5 bu. -	* BAHIA, PENSACOLA LESPEDEZA, SEDICEA 1	60 lbs. 75 lbs.	30 lbs. -
NOVEMBER	* BARLEY * OATS * RYE * RYEGRASS, ANNUAL * WHEAT	3 bu. 4 bu. 3 bu. 40 lbs. 3 bu.	.5 bu. 1 bu. .5 bu. -	* BAHIA, PENSACOLA BERMUDA, UNHULLED CENTIPEDE, SOD LESPEDEZA, SEDICEA 1	60 lbs. 10 lbs. 75 lbs.	30 lbs. 6 lbs. -
DECEMBER	* BARLEY * OATS * RYE * RYEGRASS, ANNUAL * WHEAT	3 bu. 4 bu. 3 bu. 40 lbs. 3 bu.	.5 bu. 1 bu. .5 bu. -	* BAHIA, PENSACOLA BERMUDA, UNHULLED CENTIPEDE, SOD LESPEDEZA, SEDICEA 1	60 lbs. 10 lbs. 75 lbs.	30 lbs. 6 lbs. -

- NOTES:
 ALL PERMANENT GRASS PLANTINGS SHALL BE MULCHED
 * INDICATES MARGINAL (BUT PERMISSIBLE) PLANTING DATE
 1. UNSCARIFIED
 2. SCARIFIED
 3. CENTIPEDE SOD CAN BE USED AS PERMANENT COVER ANYTIME EXCEPT JUNE THRU OCTOBER

Ds2 Ds3

DUST CONTROL

DEFINITION: CONTROLLING SURFACE AND AIR MOVEMENT OF DUST ON LAND-DISTURBING ACTIVITIES.
 PURPOSE: PREVENT THE MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES AND PREVENT THE MOVEMENT OF AIRBORNE SUBSTANCES THAT MAY BE HARMFUL TO HEALTH.

TEMPORARY METHODS	PERMANENT METHODS
- MULCHES - TEMPORARY VEGETATIVE COVER - SPRAY ON ADHESIVES - TILLAGE - IRRIGATION - BARRIERS - CALCIUM CHLORIDE	- PERMANENT VEGETATION - TOPSOILING - COARSE AGGREGATE - STONE COVER

INSTALLATION:
 APPLY ACCORDING TO APPROVED PLAN, IF SHOWN. MULCH DISTURBED AREAS AND TACKIFY WITH RESINS SUCH AS ASPHALT, CURASOL, OR TERRACK ACCORDING TO MANUFACTURERS RECOMMENDATIONS. STABILIZE DISTURBED AREAS WITH TEMPORARY OR PERMANENT VEGETATION COVER SURFACES WITH CRUSHED STONE OR GRAVEL. APPLY CALCIUM CHLORIDE AT A RATE TO KEEP SURFACES MOIST. APPLY SPRAY-ON ADHESIVES TO MINERAL SOILS (NOT MUCK SOILS AS DESCRIBED IN TABLE 1).

TABLE 1. SPRAY-ON ADHESIVE APPLICATION REQUIREMENTS

ADHESIVE	WATER DILUTION	NOZZLE TYPE	APPLICATION (GAL / ACRE)
ANIONIC ASPHALT EMULSION	7:1 *	COARSE SPRAY	1,200
LATEX EMULSION	12.5:1 *	FINE SPRAY	235
RESIN-IN-WATER EMULSION	4:1 *	FINE SPRAY	300

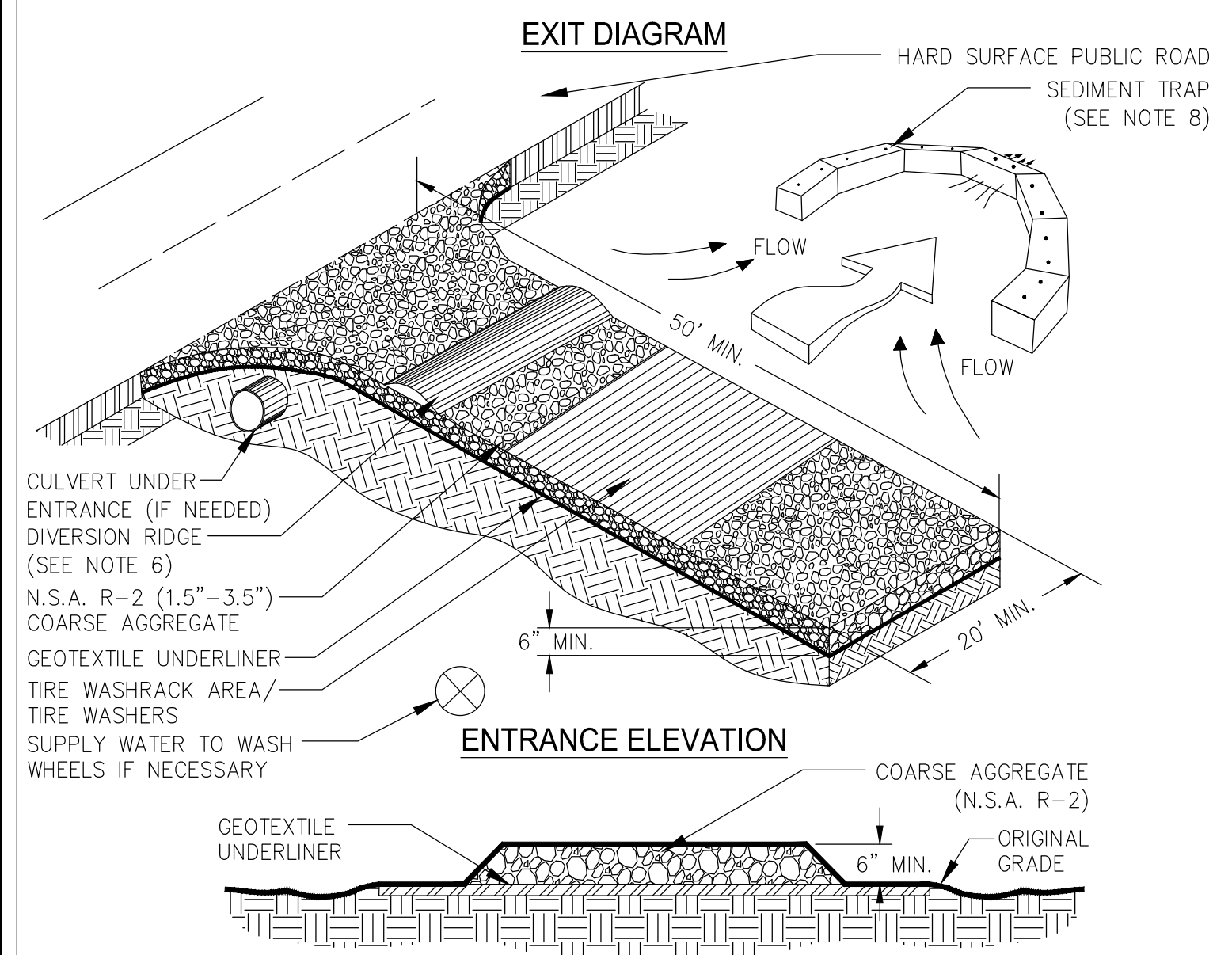
MAINTENANCE:
 PROHIBIT TRAFFIC ON SURFACE AFTER SPRAYING.
 SUPPLEMENT SURFACE COVERING AS NEEDED.

Du

DUST CONTROL

NOT TO SCALE

CRUSHED STONE CONSTRUCTION EXIT



- 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.



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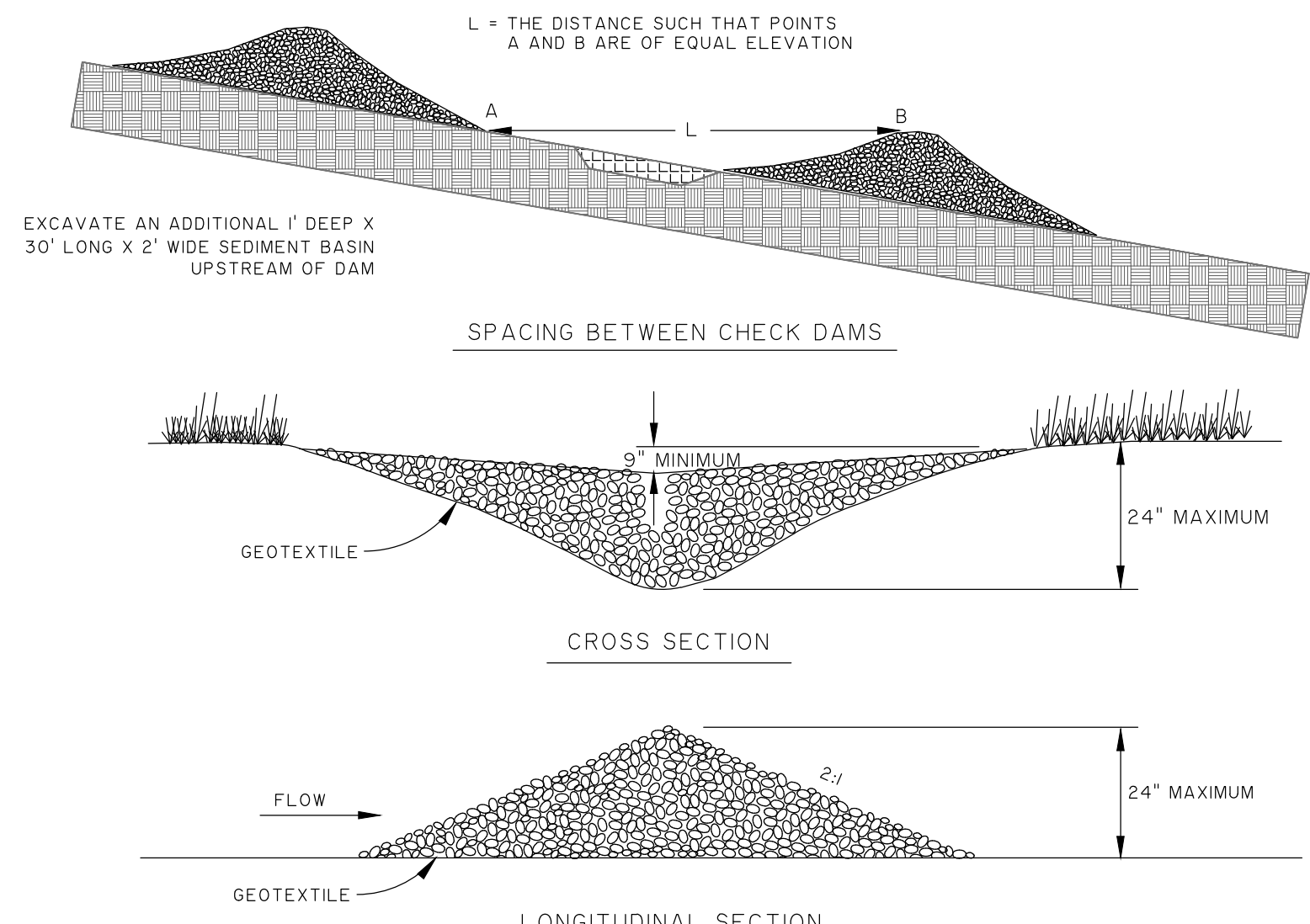
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CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA
 G17C - BUILDING 4 A
 EROSION CONTROL DETAILS

JOB NO:	J-26838-0029
DATE:	01/26/2022
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SCALE:	1" = 1'

EC4.1

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EXCAVATE AN ADDITIONAL 1' DEEP X 30' LONG X 2' WIDE SEDIMENT BASIN UPSTREAM OF DAM

SPACING BETWEEN CHECK DAMS

CROSS SECTION

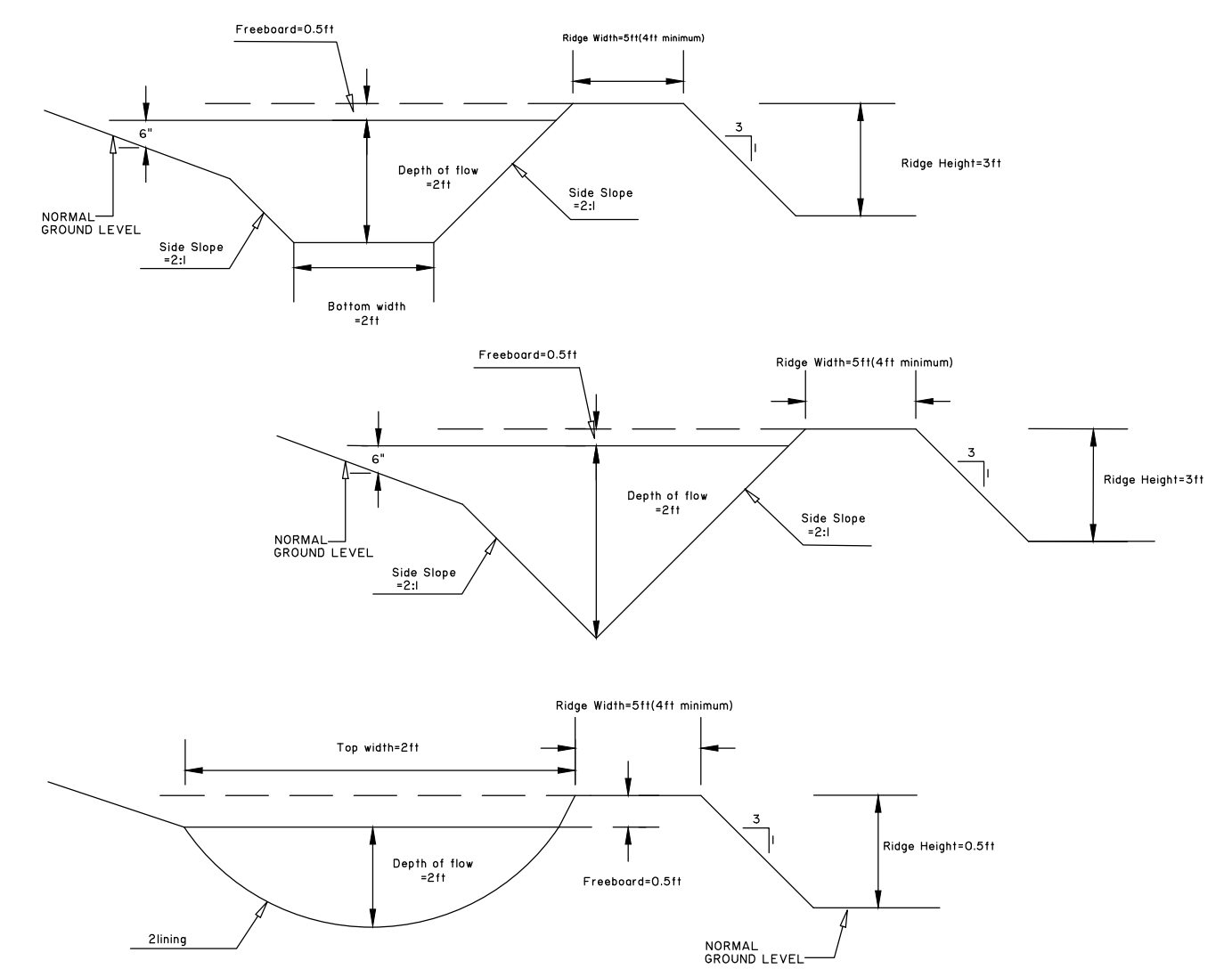
LONGITUDINAL SECTION

- NOTE:
1. STONE TO BE GRADED SIZE 2-10 INCH STONE. MECHANICAL OR HAND PLACEMENT SHALL BE REQUIRED TO INSURE COMPLETE COVERAGE OF ENTIRE WIDTH OF DITCH OR SWALE AND THAT CENTER OF DAM IS LOWER THAN EDGES.
 2. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED. SEDIMENT SHOULD BE REMOVED WHEN IT REACHES A DEPTH OF ONE-HALF THE ORIGINAL DAM HEIGHT OR BEFORE. CHECK DAMS MUST BE REMOVED AT THE COMPLETION OF THEIR USEFUL LIFE. AFTER REMOVAL, THE AREA BENEATH THE DAM SHOULD BE SEEDED AND MULCHED IMMEDIATELY.
 3. THIS PRACTICE IS APPLICABLE FOR USE IN SMALL OPEN CHANNELS AND IS NOT TO BE USED IN A LIVE CHANNEL.

CHECK DAM-STONE

NOT TO SCALE

Cd-S

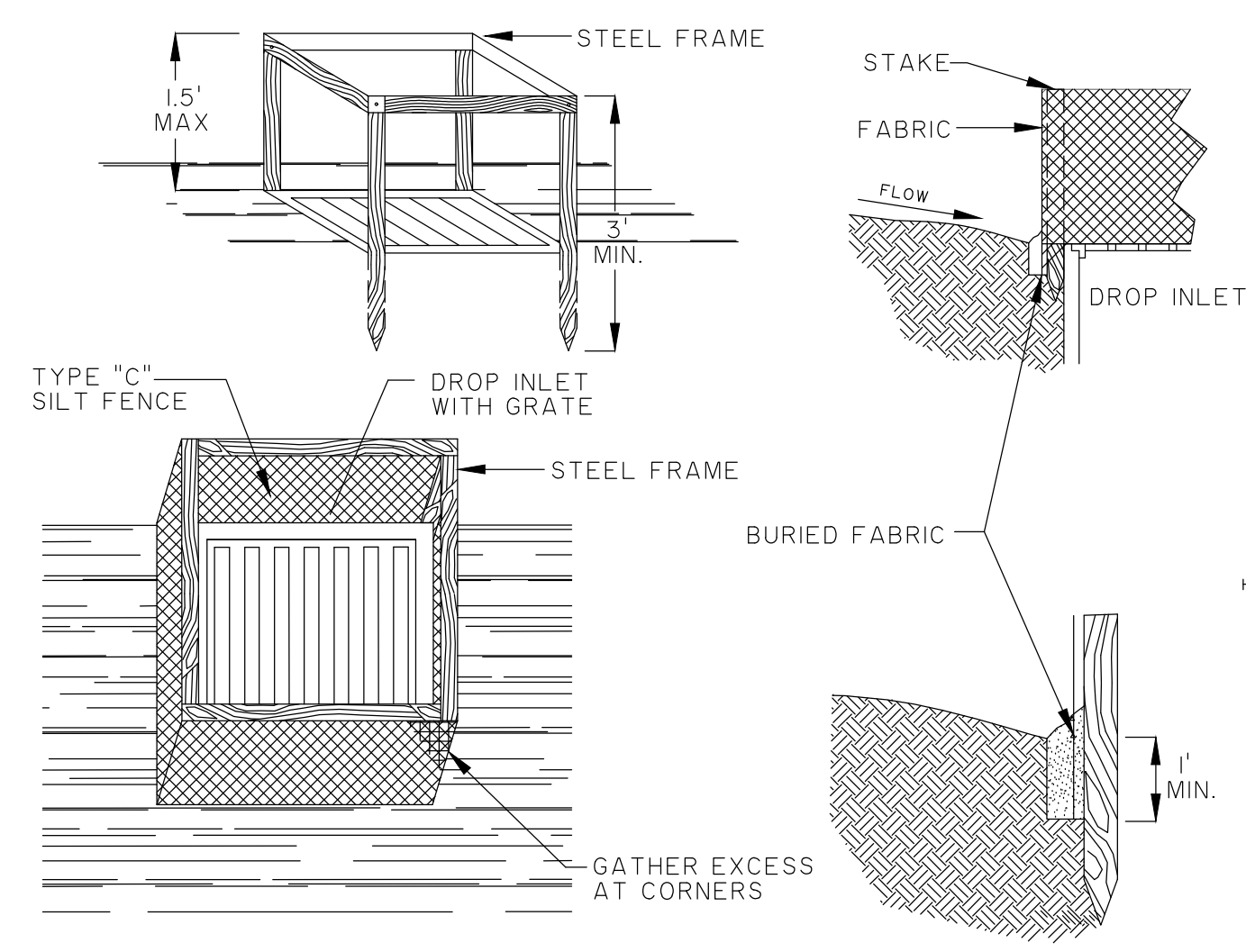


- DIVERSIONS ARE APPLICABLE WHEN:
1. RUNOFF FROM HIGHER AREAS IS OR HAS POTENTIAL FOR DAMAGING PROPERTY, CAUSING EROSION, CONTRIBUTING TO POLLUTION, FLOODING, INTERFERING WITH OR PREVENTING THE ESTABLISHMENT OF VEGETATION ON LOWER AREAS.
 2. SURFACE AND/OR SHALLOW SUBSURFACE FLOW IS DAMAGING SLOPING UPLAND.
 3. THE LENGTH OF SLOPE NEEDS TO BE REDUCED SO THAT SOIL LOSS WILL BE REDUCED TO A MINIMUM. THIS STANDARD APPLIES TO TEMPORARY AND PERMANENT DIVERSIONS IN DEVELOPMENTS INVOLVING LAND-DISTURBING ACTIVITIES.
 4. THE RIDGE SHALL BE COMPACTED AND DESIGNED TO HAVE STABLE SIDE SLOPES, WHICH SHALL NOT BE STEEPER THAN 2:1. THE RIDGE SHALL HAVE A MINIMUM WIDTH OF FOUR FEET AT THE DESIGN WATER ELEVATION AFTER SETTLEMENT. ITS DESIGN SHALL ALLOW TEN PERCENT FOR SETTLEMENT.
 5. LAND SLOPE MUST BE TAKEN INTO CONSIDERATION WHEN CHOOSING CHANNEL DIMENSIONS. ON THE STEEPER SLOPES, NARROW AND DEEP CHANNELS MAY BE REQUIRED. ON THE MORE GENTLE SLOPES, BROAD, SHALLOW CHANNELS ARE USUALLY APPLICABLE. THE WIDE, SHALLOW SECTION WILL BE EASIER TO MAINTAIN. SINCE SEDIMENT DEPOSITION IS OFTEN A PROBLEM IN DIVERSIONS, THE DESIGNED FLOW VELOCITY SHOULD BE KEPT AS HIGH AS THE CHANNEL LINING WILL PERMIT.
 6. EACH DIVERSION MUST HAVE AN ADEQUATE OUTLET. THE OUTLET MAY BE A CONSTRUCTED OR NATURAL WATERWAY, A STABILIZED VEGETATED AREA OR A STABILIZED OPEN CHANNEL. IN ALL CASES, THE OUTLET MUST DISCHARGE IN SUCH A MANNER AS TO NOT CAUSE AN EROSION PROBLEM. PROTECTED OUTLETS SHALL BE CONSTRUCTED AND STABILIZED PRIOR TO CONSTRUCTION OF THE DIVERSION.

DIVERSION

NOT TO SCALE

Di

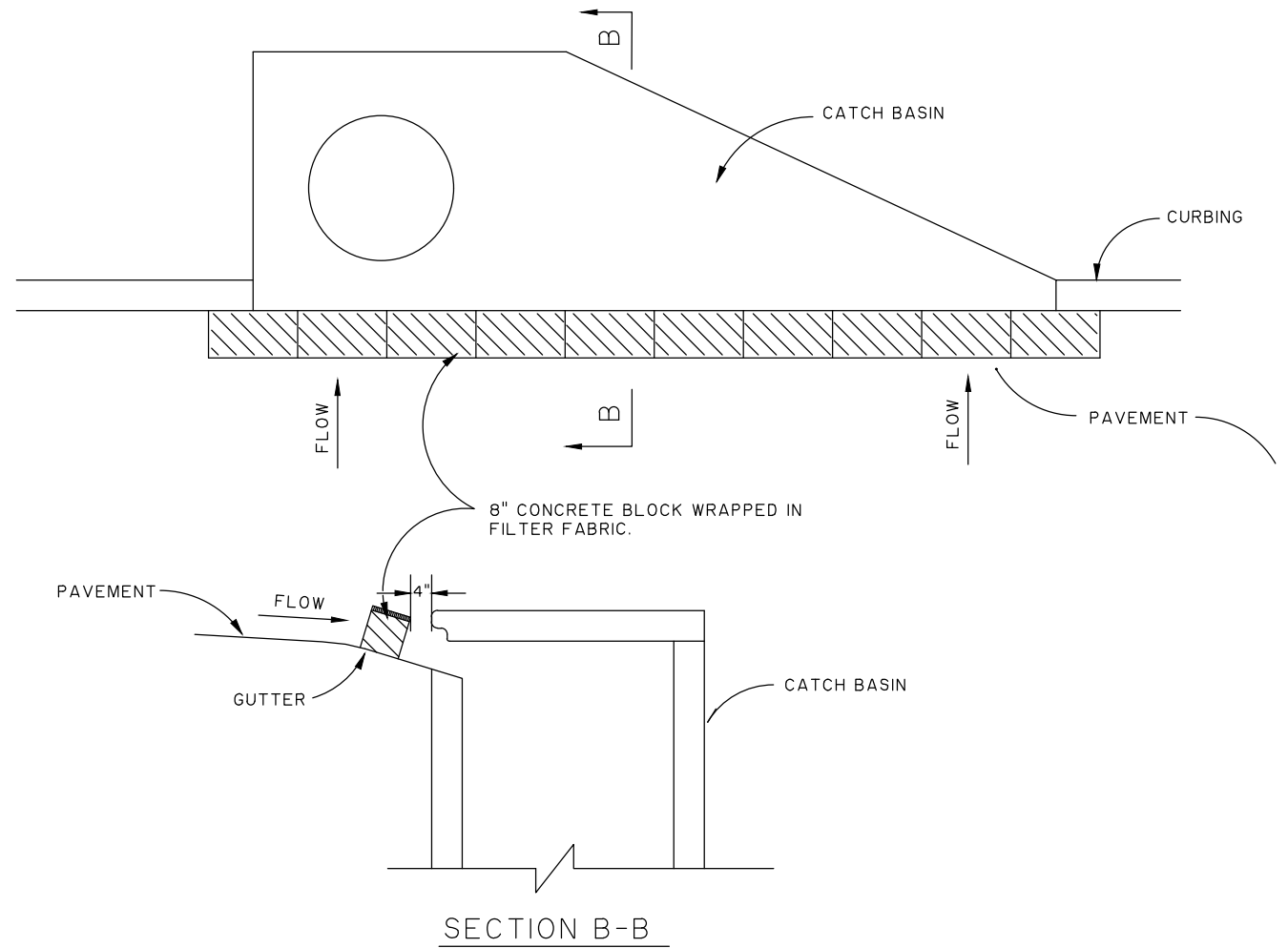


- NOTE:
1. THE STAKES SHALL BE SPACED EVENLY AROUND THE PERIMETER OF THE INLET A MAXIMUM OF 3 FEET APART, AND SECURELY DRIVEN INTO THE GROUND, APPROXIMATELY 16 INCHES DEEP. THE FABRIC SHALL BE ENTRENCHED 12 INCHES AND BACKFILLED WITH CRUSHED STONE OR COMPACTED SOIL. FABRIC AND WIRE SHALL BE SECURELY FASTENED TO THE POSTS, AND FABRIC ENDS MUST BE OVERLAPPED A MINIMUM OF 18 INCHES OR WRAPPED TOGETHER AROUND A POST TO PROVIDE A CONTINUOUS BARRIER AROUND THE INLET.
 2. THE TRAP SHALL BE INSPECTED DAILY AND REPAIRS MADE AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE HEIGHT OF THE TRAP.
 3. 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 AGAIN ENTER THE INLET. 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, THEN SMOOTHED AND COMPACTED. APPROPRIATELY STABILIZE ALL DISTURBED AREAS AROUND THE INLET.

INLET SEDIMENT TRAP
FILTER FABRIC W/ SUPPORTING FRAME

NOT TO SCALE

Sd2-F

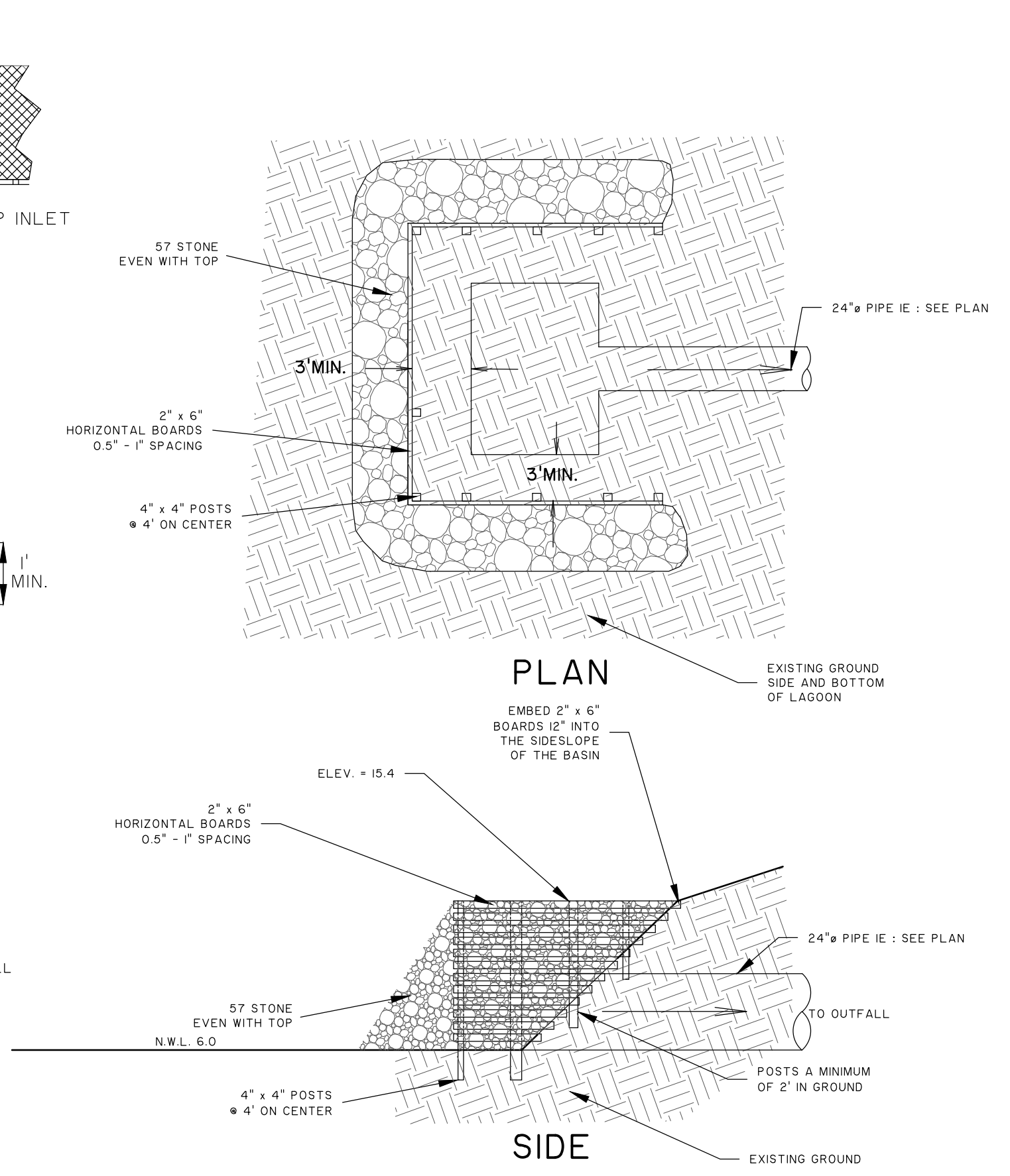


- NOTE:
1. ONCE PAVEMENT HAS BEEN INSTALLED, A CURB INLET FILTER SHALL BE INSTALLED ON INLETS RECEIVING RUNOFF FROM DISTURBED AREAS. THIS METHOD OF INLET PROTECTION SHALL BE REMOVED IF A SAFETY HAZARD IS CREATED.
 2. A GAP OF APPROXIMATELY 4 INCHES SHALL BE LEFT BETWEEN THE INLET FILTER AND THE INLET TO ALLOW FOR OVERFLOW AND PREVENT HAZARDOUS PONDING IN THE ROADWAY. PROPER INSTALLATION AND MAINTENANCE ARE CRUCIAL DUE TO POSSIBLE PONDING IN THE ROADWAY, RESULTING IN A HAZARDOUS CONDITION.
 3. THE TRAP SHALL BE INSPECTED DAILY AND AFTER EACH RAIN AND REPAIRS MADE AS NEEDED. SEDIMENT SHALL BE REMOVED FROM CURB INLET PROTECTION IMMEDIATELY.

INLET SEDIMENT TRAP
CURB INLET PROTECTION

NOT TO SCALE

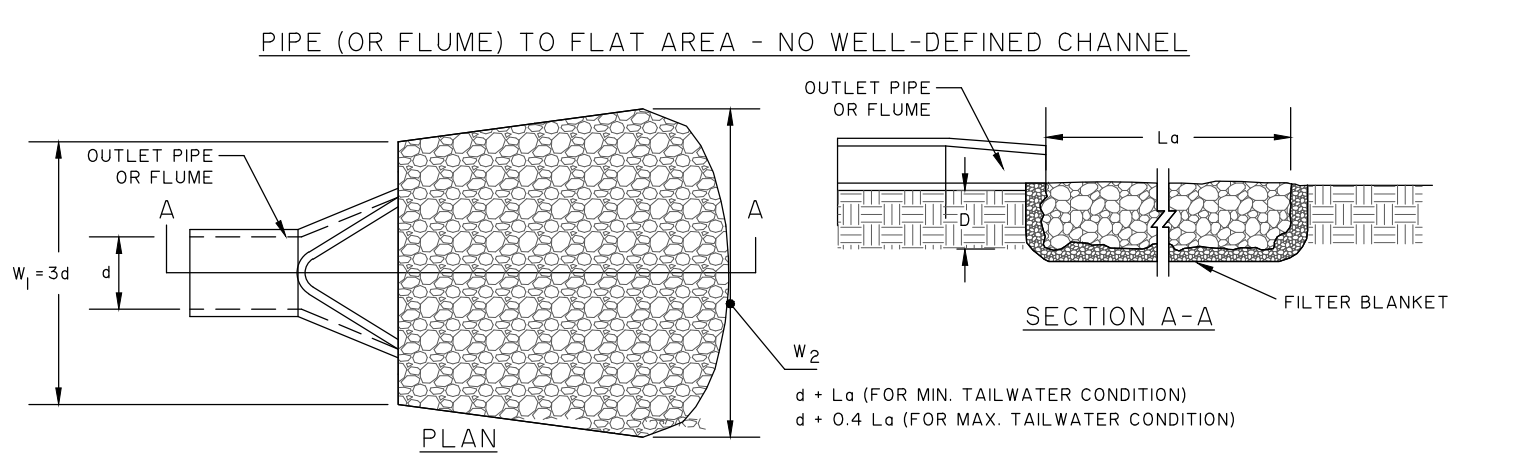
Sd2-P



SLOTTED BOARD DAM WITH STONE
DETAIL FOR POND

NOT TO SCALE

Rt-B



- NOTES:
1. L_a = LENGTH THE RIP-RAP APRON
 2. d = OUTLET PIPE DIAMETER
 3. ϕ_{50} = AVERAGE RIP RAP STONE DIAMETER
 4. ϕ_{MAX} = MAXIMUM RIP RAP STONE DIAMETER = 1.5 TIMES ϕ_{50}
 5. D = RIP RAP APRON DEPTH = 1.5 TIMES ϕ_{MAX} BUT NOT LESS THAN 6"
 6. W_1 = UPSTREAM RIP RAP APRON WIDTH = $3d$
 7. W_2 = DOWNSTREAM RIP RAP APRON WIDTH, SEE DETAIL.
 8. 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.
 9. INSPECT RIP RAP OUTLET STRUCTURES AFTER HEAVY RAINS TO SEE IF ANY EROSION AROUND OR BELOW THE RIP RAP HAS TAKEN PLACE OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

STORM DRAIN OUTLET PROTECTION
FOR PIPE OR CONCRETE FLUME

NOT TO SCALE

S1

TO BE SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN

Storage Calculations

1. Required stormwater storage = 0 cy (as determined by local ordinance)
2. Required sediment storage = 11,256 cy (67 cy/ac * 19.00 ac disturbed area)
3. Total required storage = (1) 0 + (2) 11,273 = (2) 11,256 cy
4. Available storage = 31,973 cy
5. Is the available storage (4) greater than the total required storage (3)? yes
6. If "no", the sediment storage capacity of the pond must be increased. Choose the method to be used:
 Raise the invert of the outlet structure _____ inches
 Undercut the pond _____ feet
 Other _____
7. Clean-out elevation = -11 (Elevation corresponding to 22 cy/ac * 19.00 ac disturbed area)
8. Is the length-width ratio $2:1$ or greater? yes no
9. If "no", the length of fow must be increased. Choose the method to be used:
 Bafes (Type of bafe: _____)
 Other _____

Note the CMP diameter and height if a half-round CMP retrofit is to be used.
Diameter = _____ inches Height = _____ feet

APPLICABLE TO EXISTING Rt-B

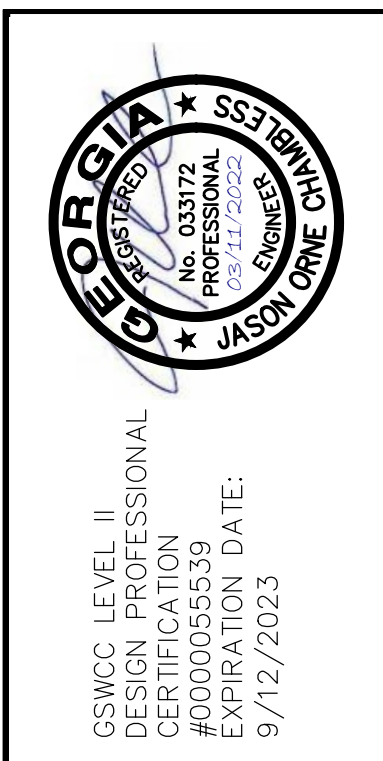
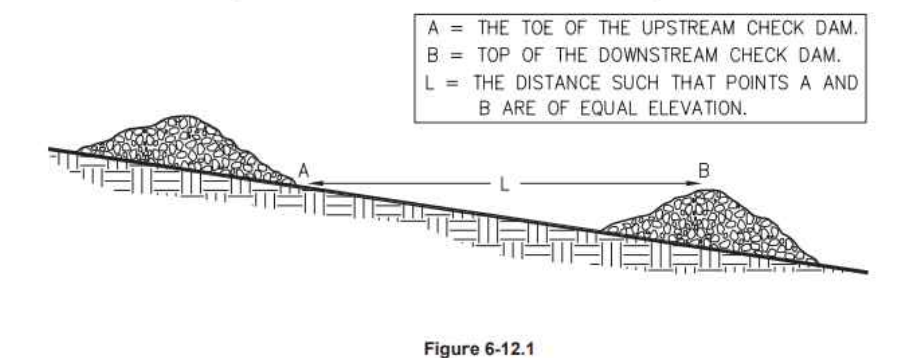
SLOTTED BOARD DAM MAINTENANCE

- MAINTENANCE**
- Clean-out when one-third sediment storage capacity is lost. Indicate this elevation with a mark on the outlet structure or a post inserted in the pond.
 - Remove all trash and debris.
 - Remove retrofit and accumulated sediment when the project is completed.
 - Stabilize all disturbed areas immediately with permanent vegetation.

TO BE SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN

1. cfs in the channel/ditch that the check dam is being used in: ~1 CFS
2. Above 2.0 cfs: Yes No
3. If Yes, list BMP being used in conjunction with check dams: N/A

STONE CHECK DAM
SPACING BETWEEN CHECK DAMS



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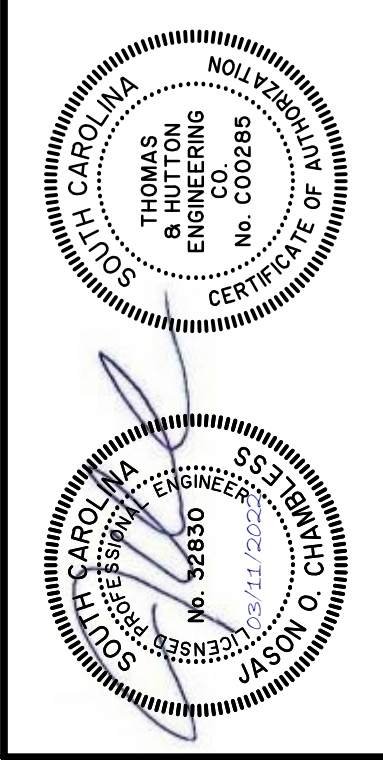
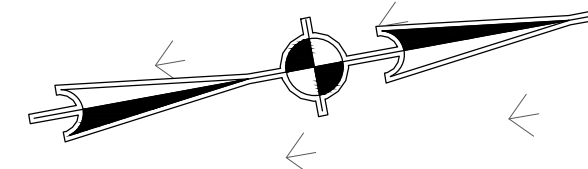
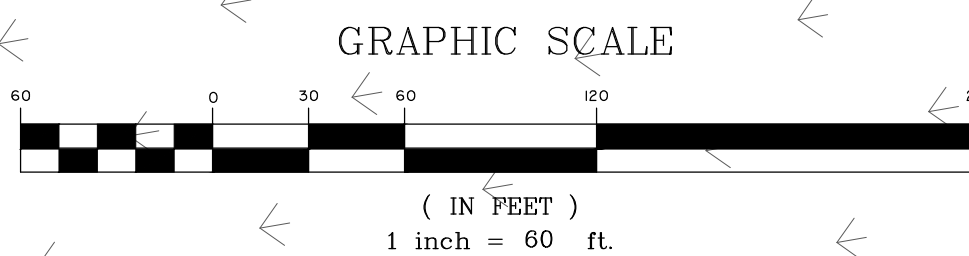
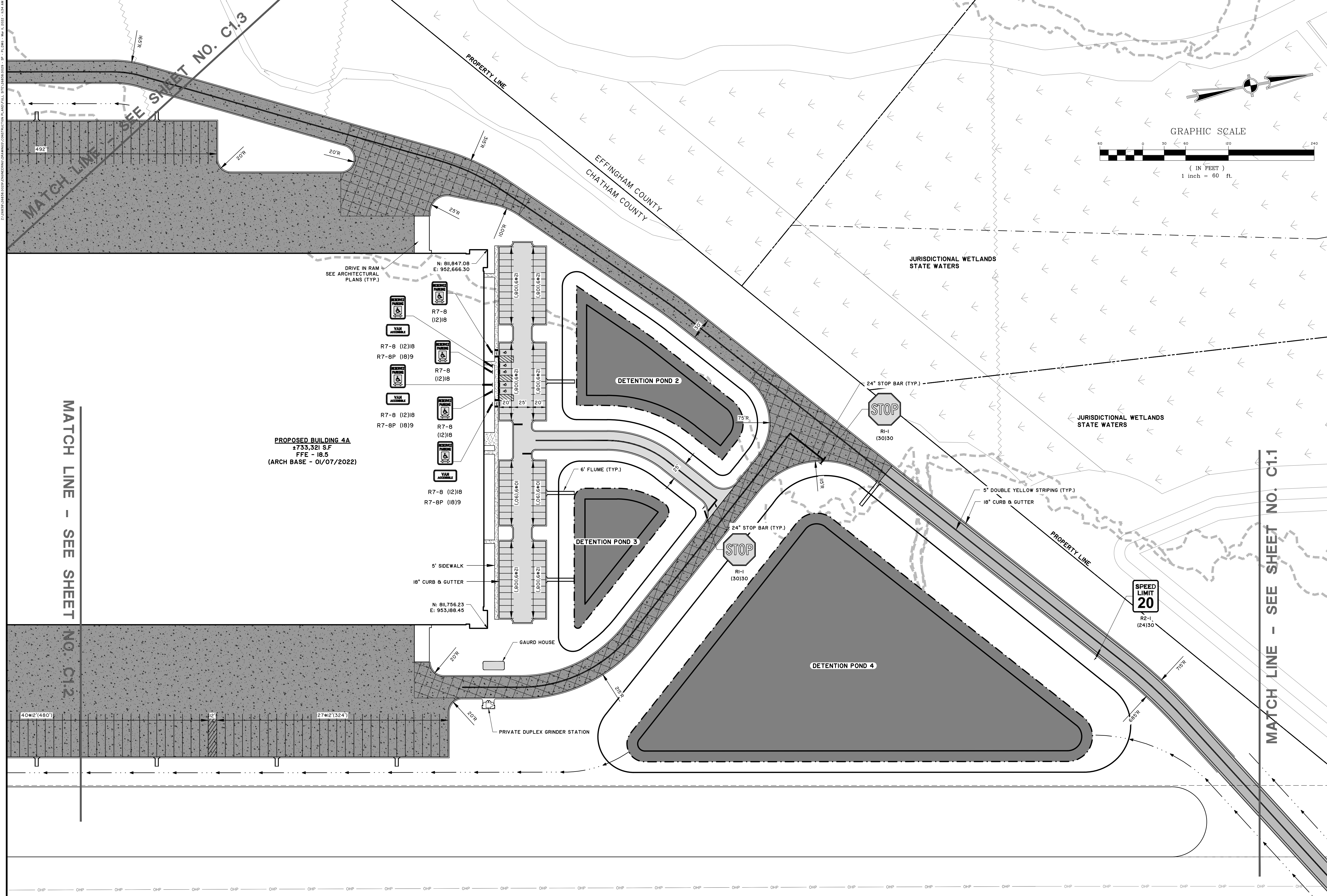
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G1C - BUILDING 4 A
EROSION CONTROL DETAILS

JOB NO:	J-26838.0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JGC
SCALE:	1" = 1'

EC4.2

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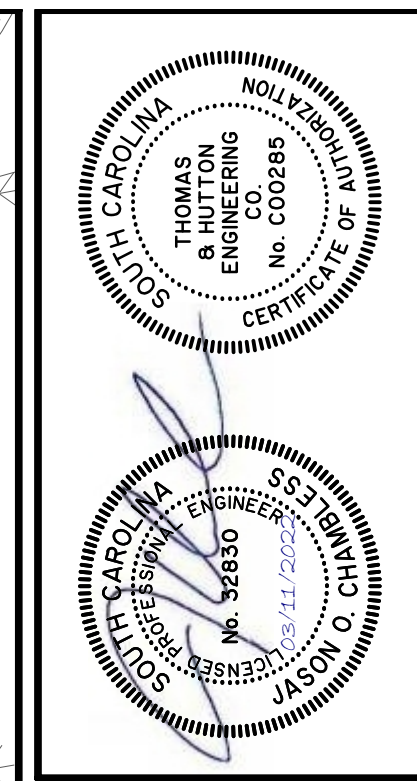
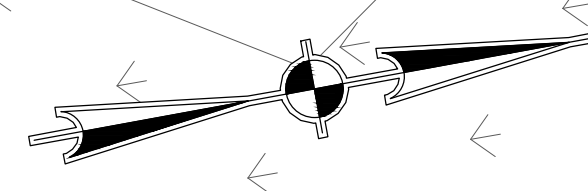
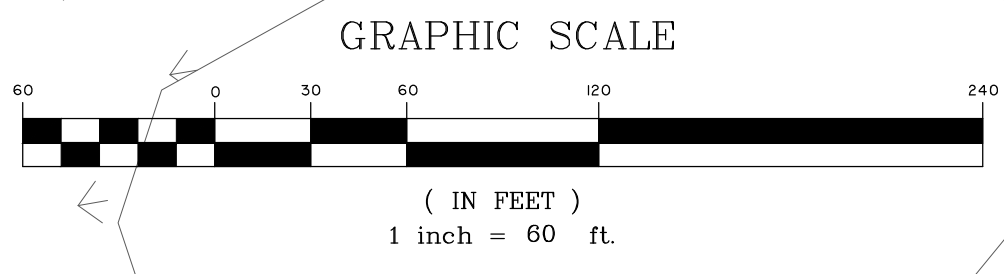
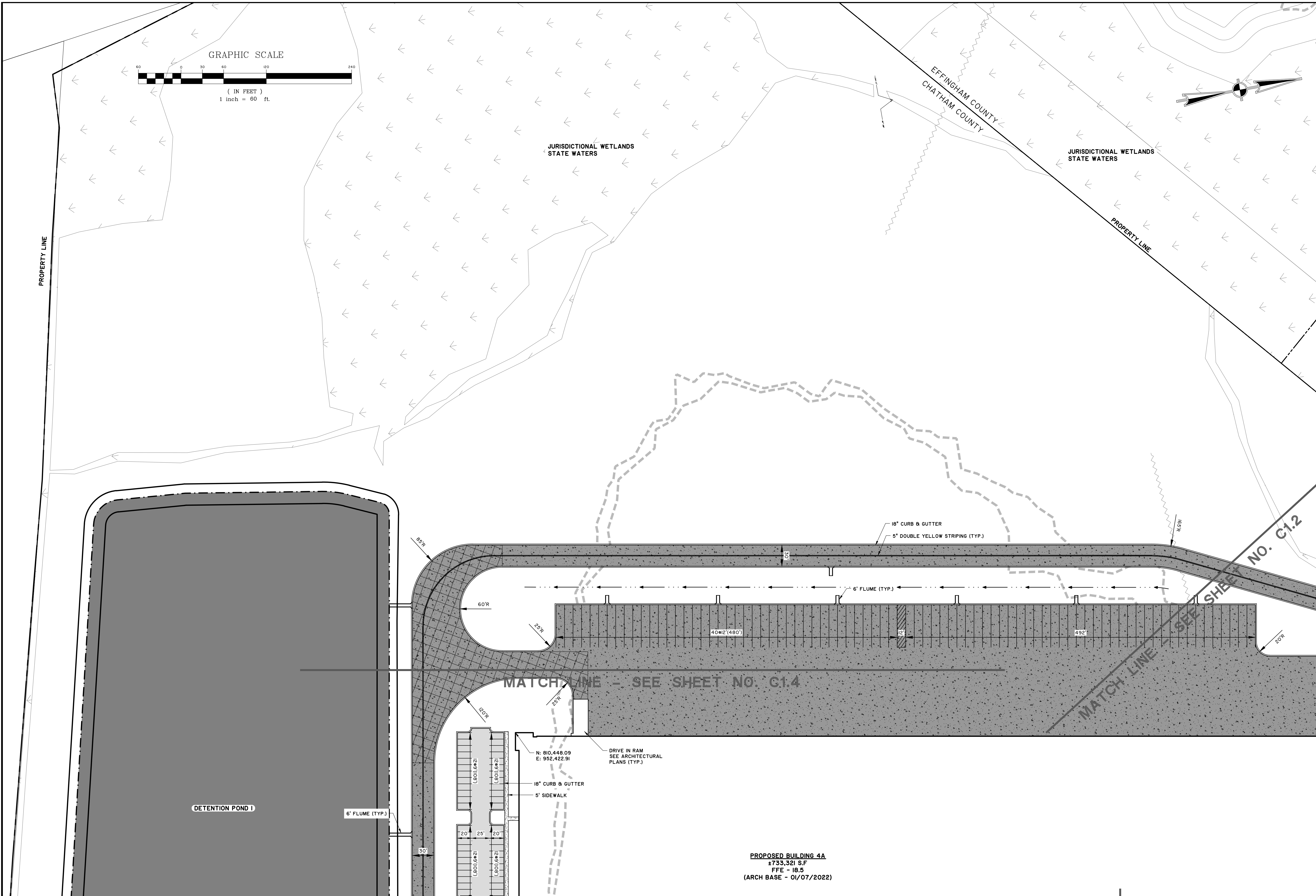
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 GITC - BUILDING 4A
 STRIPING, SIGNAGE, AND LAYOUT PLAN

JOB NO:	J-26838.0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JOC
SCALE:	1" = 60'

C1.2

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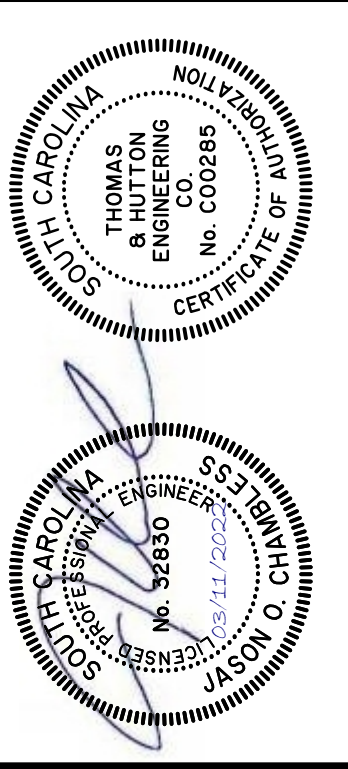
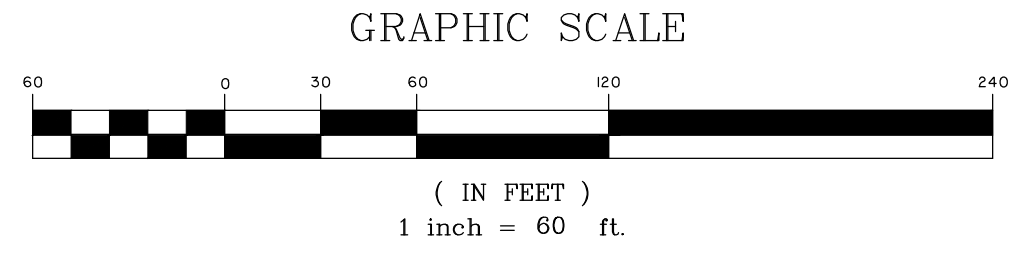
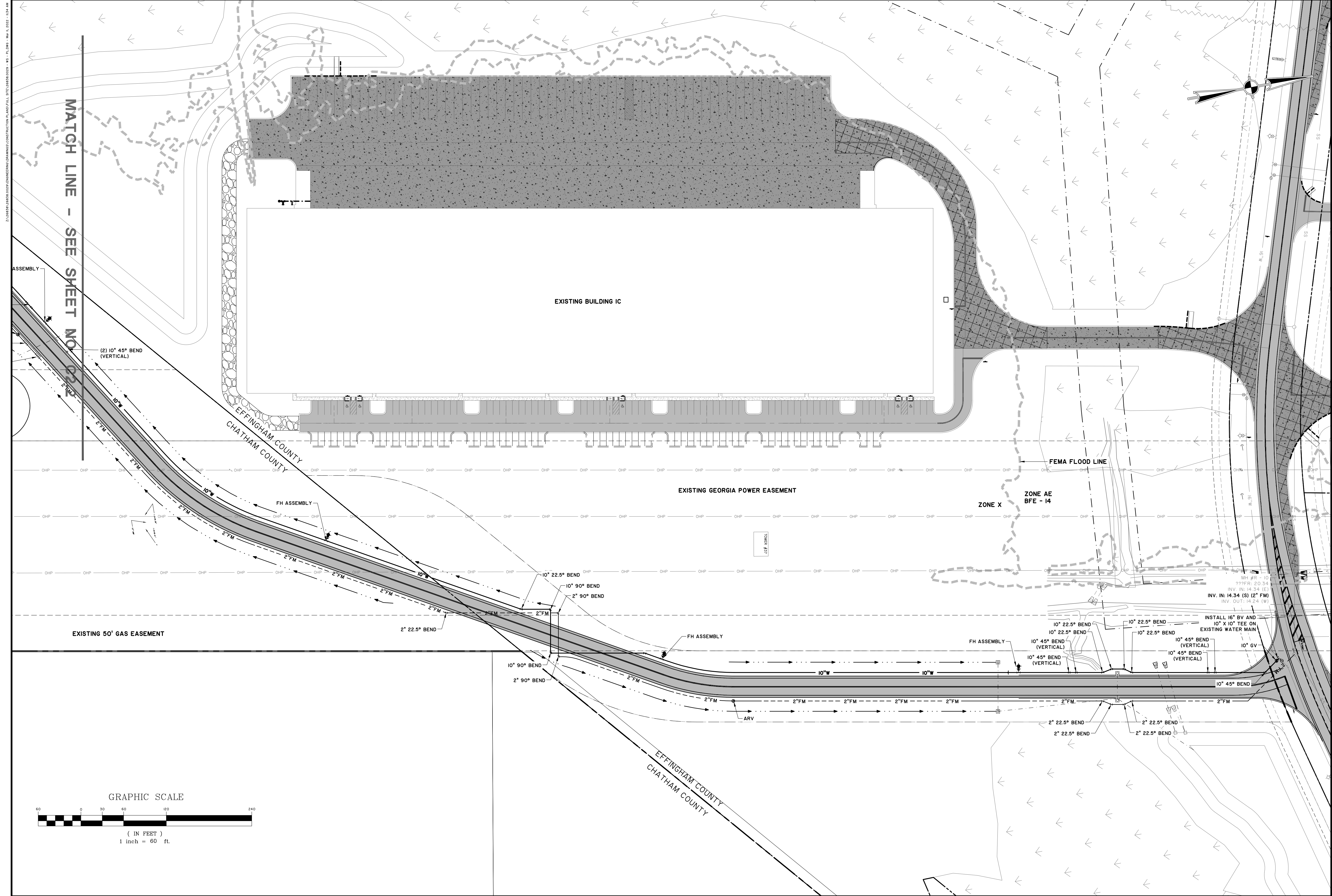
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 GITC - BUILDING 4A
 STRIPING, SIGNAGE, AND LAYOUT PLAN

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SCALE:	1" = 60'

C1.3

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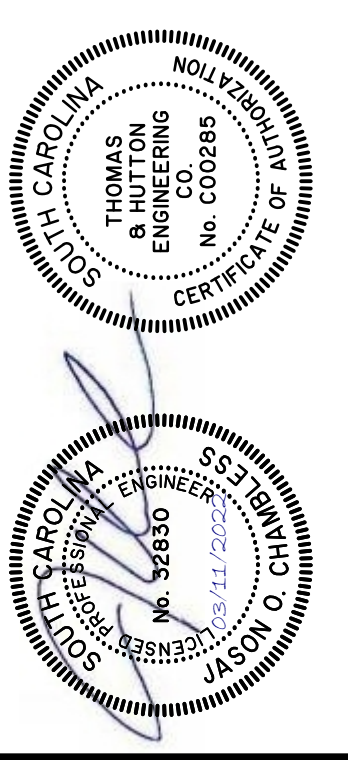
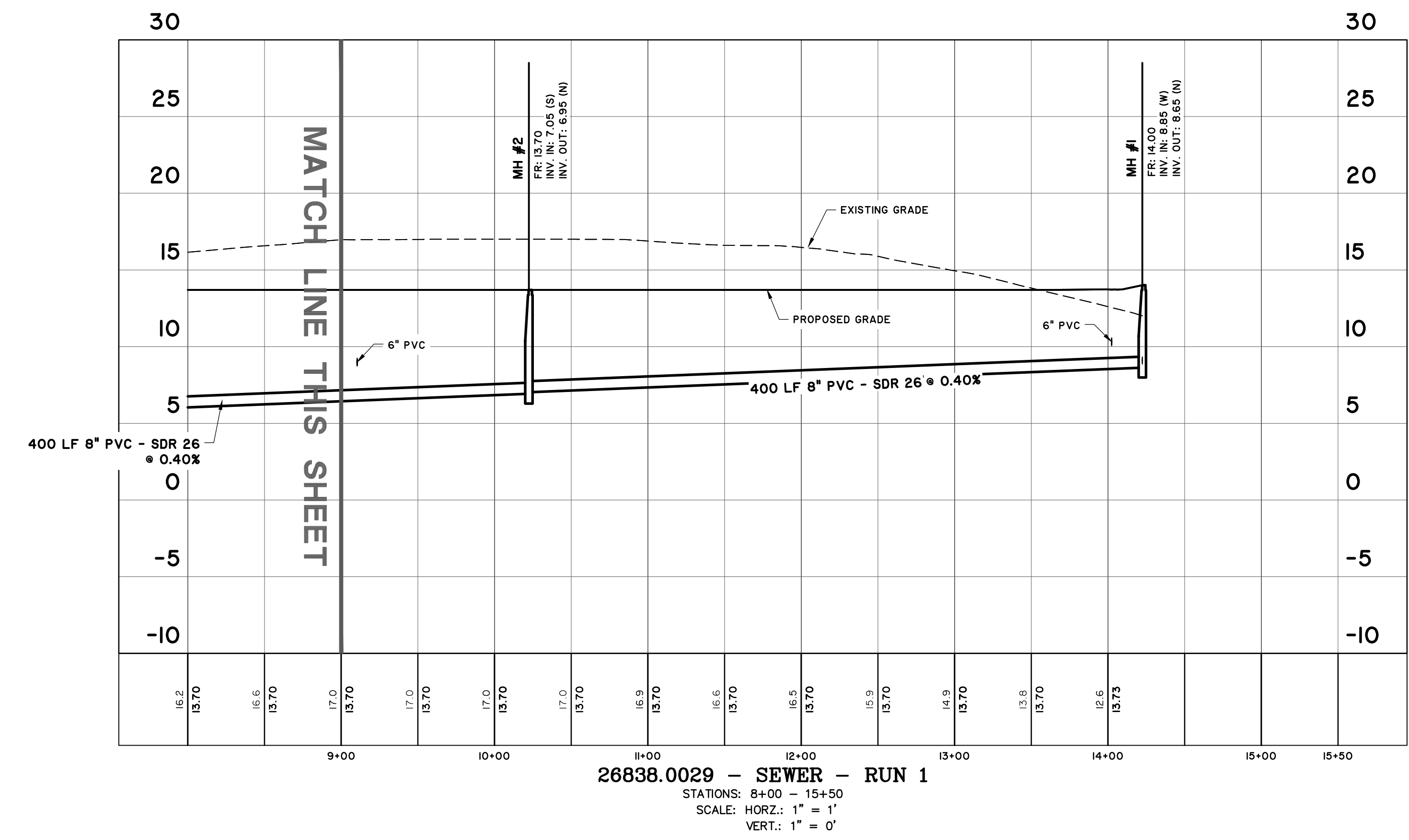
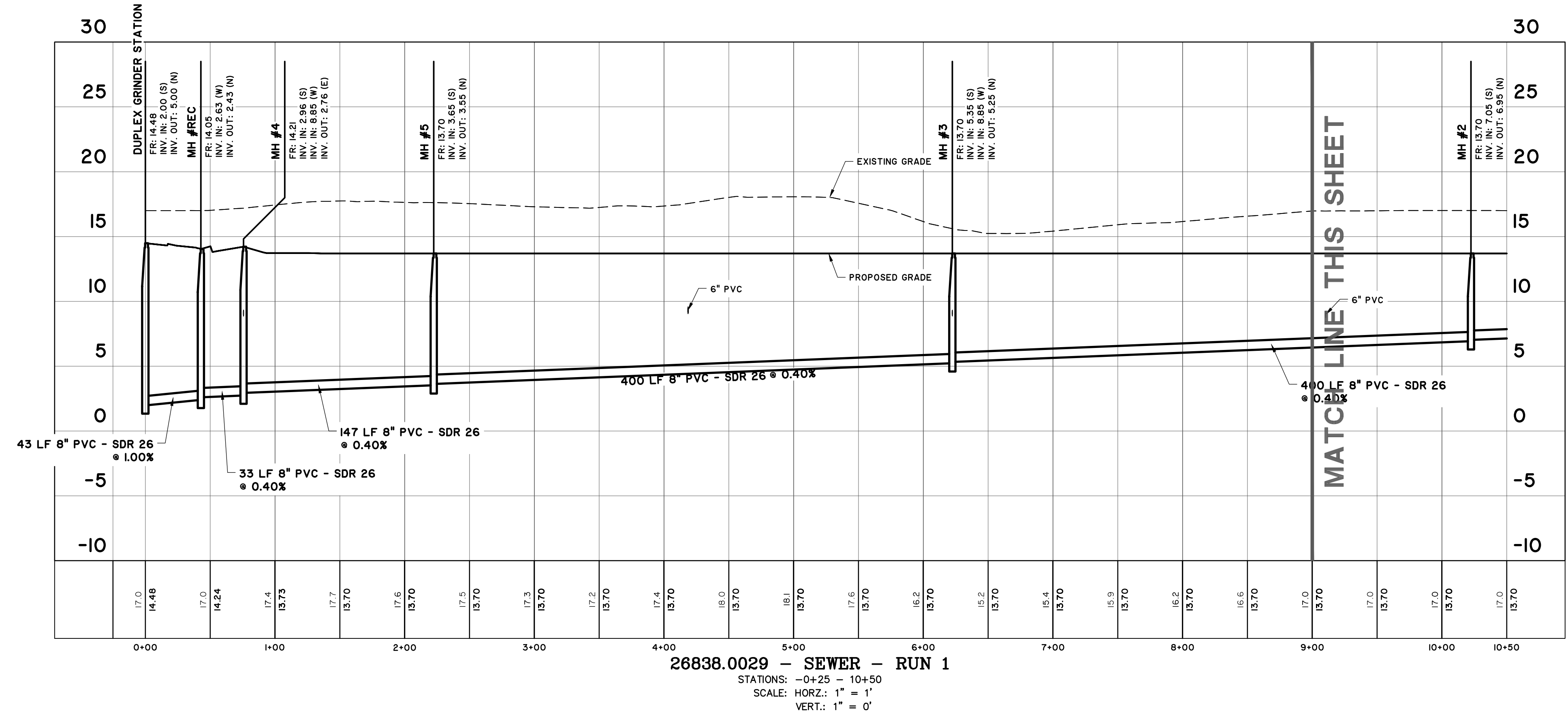
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 WATER AND SEWER PLAN

JOB NO:	J-26838.0029
DATE:	01/26/2022
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SCALE:	1" = 60'

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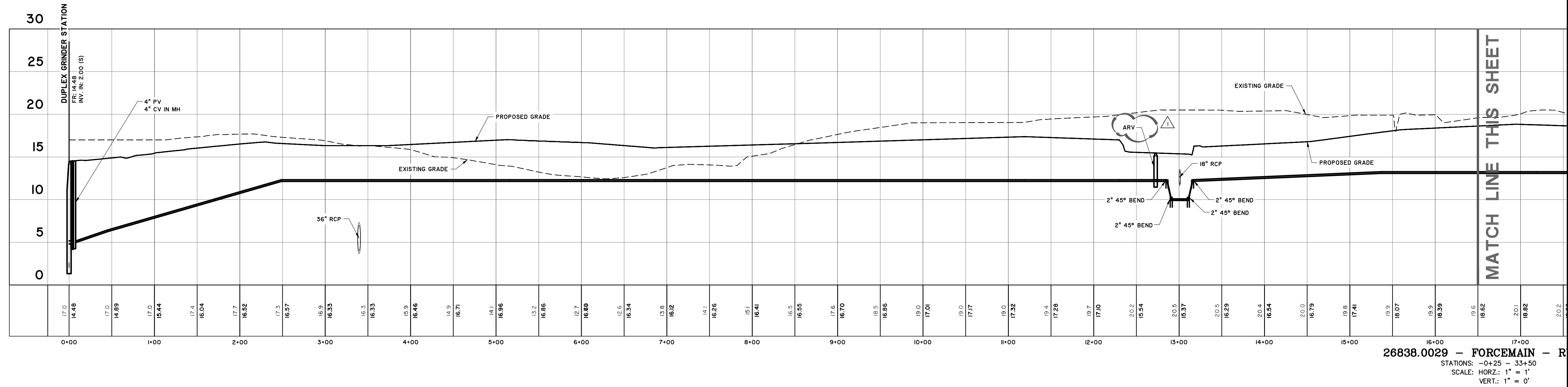
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 SEWER PROFILE

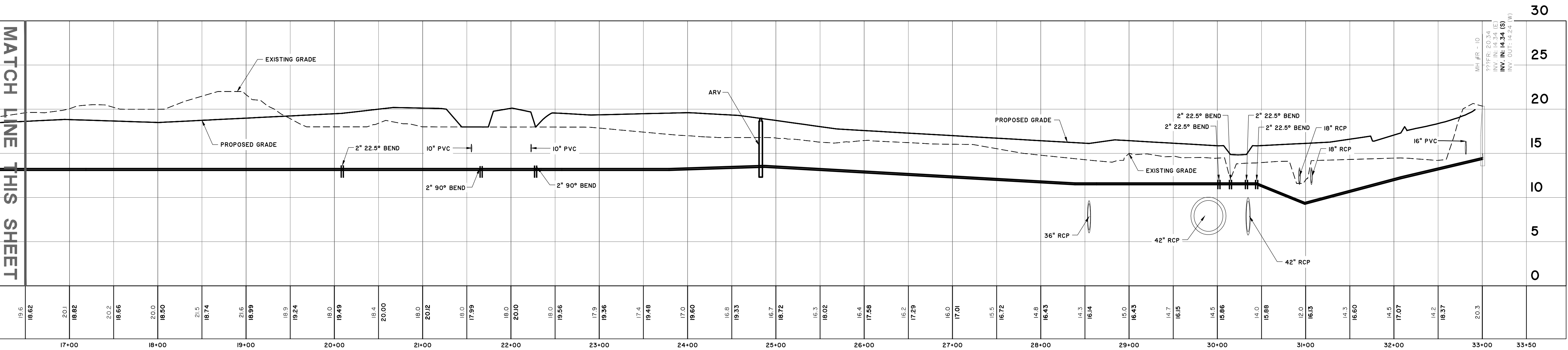
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SCALE:	AS NOTED

C2.5

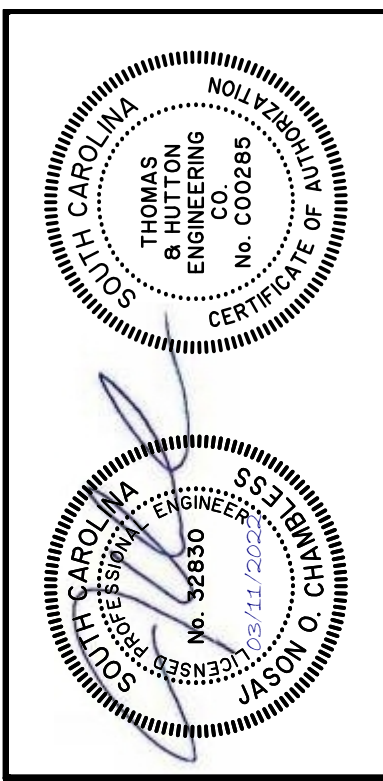
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26838.0029 - FORCEMAIN - R
 STATIONS: -0+25 - 33+50
 SCALE: HORZ.: 1" = 1'
 VERT.: 1" = 0'



9 - FORCEMAIN - RUN 1
 STATIONS: -0+25 - 33+50
 SCALE: HORZ.: 1" = 1'
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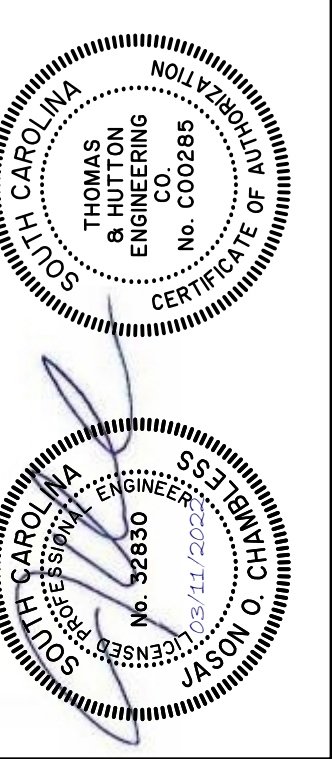
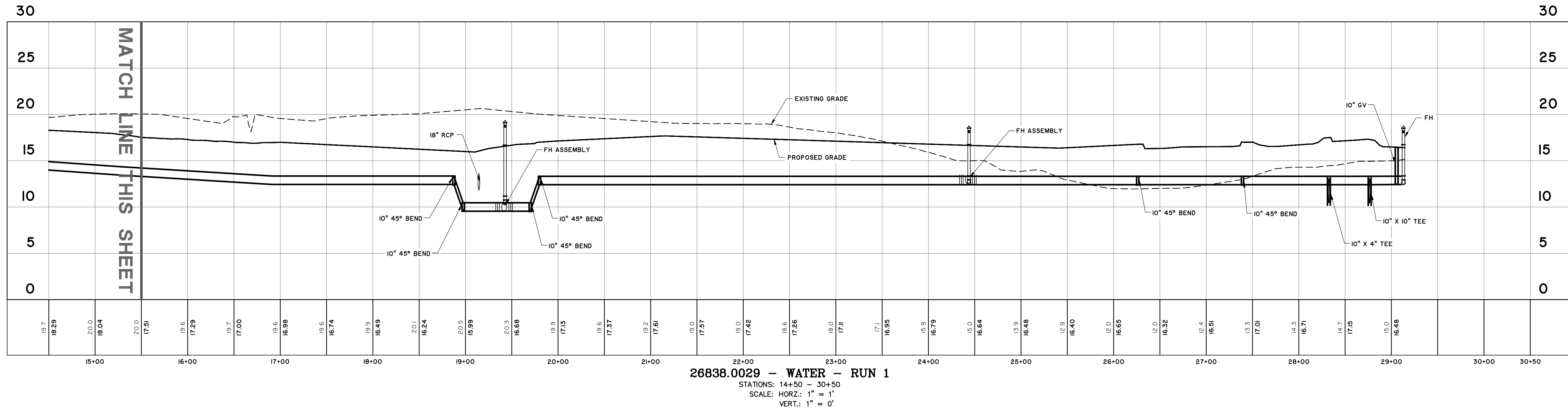
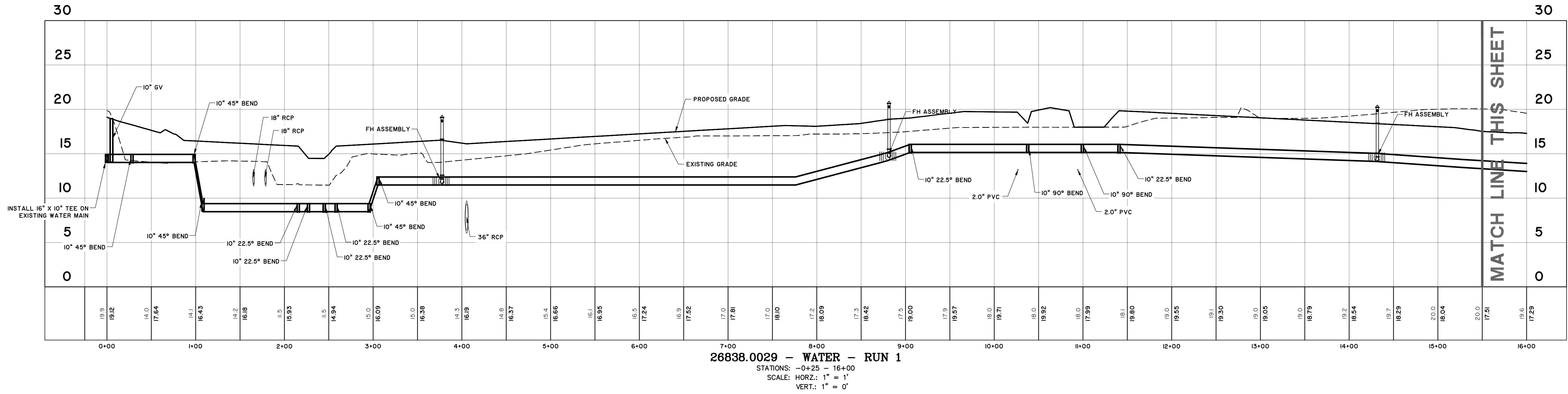
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 FORCEMAIN PROFILE

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C2.6

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 WATER PROFILE

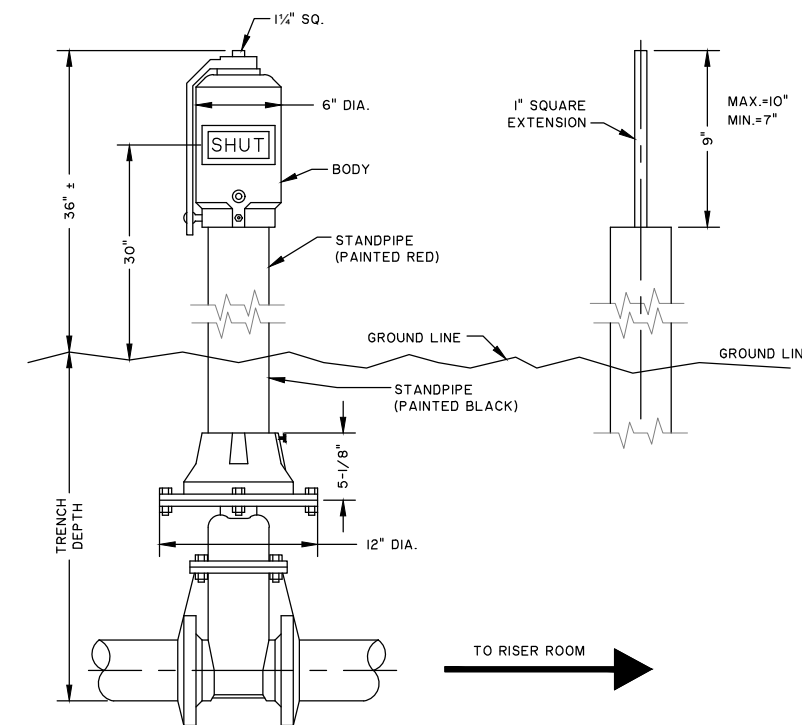
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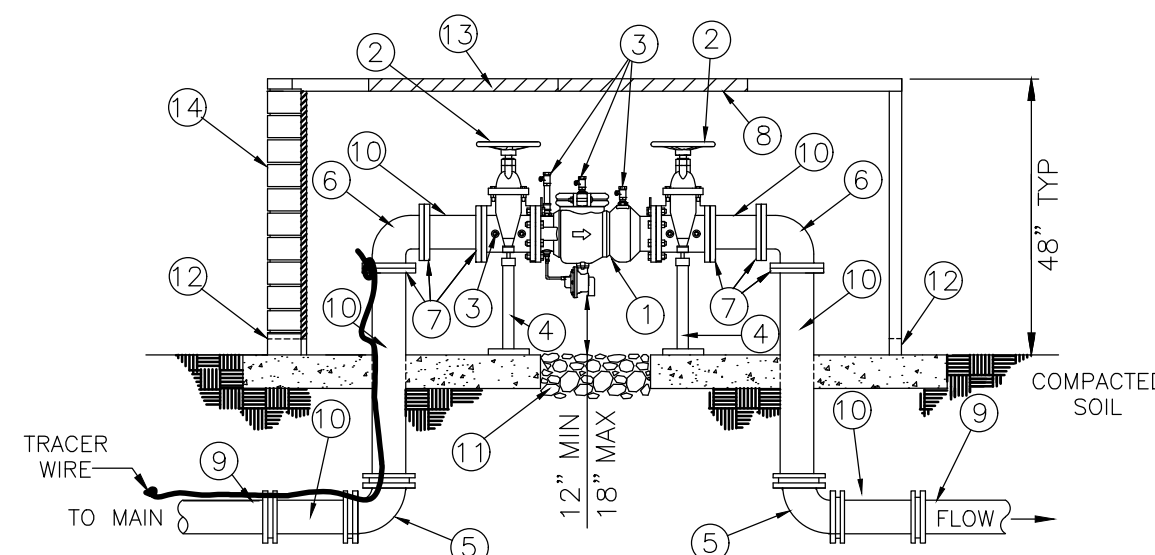
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- FIELD ADJUSTMENT INSTRUCTIONS**
1. REMOVE THE BODY FROM THE TOP OF THE INDICATOR POST ASSEMBLY.
 2. CUT THE REQUIRED LENGTH OFF THE BOTTOM OF THE STANDPIPE FOR THE GROUND LINE TO MATCH UP WITH STANDPIPE GROUND LINE MARK.
 3. CUT THE 1" SQ. EXTENSION AT A DISTANCE OF 9" ABOVE THE TOP OF THE STANDPIPE.
 4. SET THE "OPEN" AND "SHUT" TARGETS FOR THE APPROPRIATE VALVE SIZE.
 5. RE-ATTACH THE BODY TO THE TOP OF THE INDICATOR POST ASSEMBLY.
 6. ALL PIPING SHALL BE INSTALLED WITH AN ELECTRICALLY CONTROLLED TAMPER SWITCH.

NOTE:
POST INDICATOR VALVE SHALL BE LOCATED AT A MINIMUM 5'-11" FROM BUILDING



POST INDICATOR & POST INDICATOR VALVE



MATERIALS		
ITEM	QUAN	DESCRIPTION
1	1	REDUCED PRESSURE ZONE DEVICE W/ DETECTOR & DETECTOR CHECK
2	2	O.S & Y RESILIENT GATE VALVES
3	4	TEST COCKS W/ NO-LEAD BRASS PLUGS
4	2	2" SCH 40 GALV. PIPE STAND & BASE BOLTED TO FLANGE
5	2	MJ 45° OR 90° BENDS
6	2	FLANGED 45° OR 90° BENDS
7	6	RESTRAINED ADAPTER FLANGE, MEGALUG (OR EQUIVALENT)
8	1	2" X 2" MIN. HATCH W/ LOCKING HASP (BELOW GRADE VAULT)
9	1	DI PIPE OR PVC W/ RESTRAINED MECHANICAL JOINT W/ MEGALUG (OR EQUIV)
10	1	DUCTILE IRON PIPE, CUT TO FIT W/ MEGALUG (OR EQUIVALENT)
11	1	GRAVEL OR CONCRETE SLAB WITH GRAVEL DRAIN (BELOW GRADE VAULT)
12	2	DRAIN PORTS SIZE ACCORDING TO PIPE SIZE (ABOVE GRADE VAULT)
13	1	3/8" ALUMINUM TREAD PLATE / HATCH COVER W/ SUPPORT FRAME AS NECESSARY
14	1	BOX-CONCRETE BLOCK, POURED CONCRETE OR PREFABRICATED BOX, HOT BOX OR EQUAL, ALL BACKFLOWS SHALL BE ENCLOSED

NOTES:

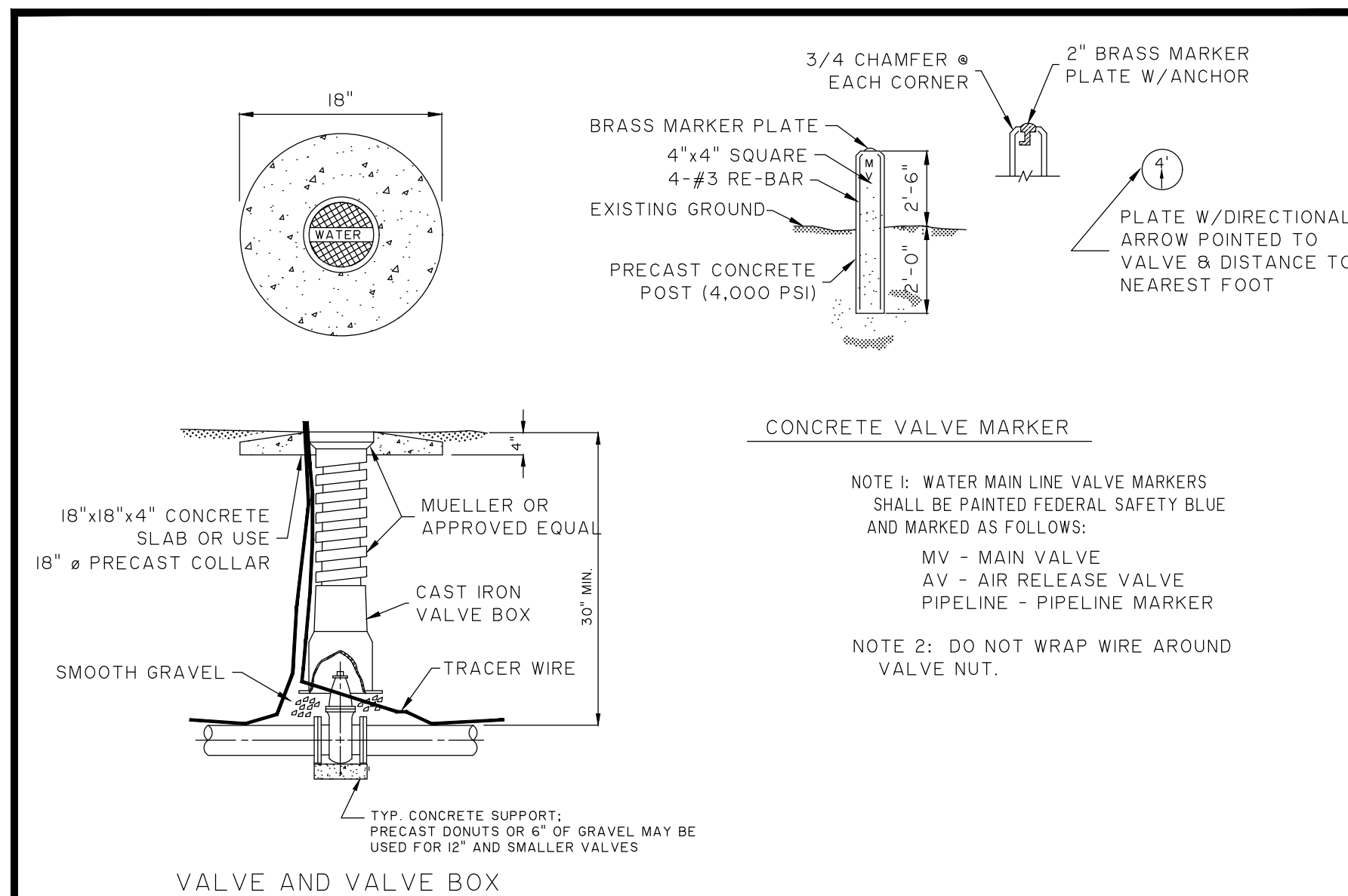
1. FOR FINAL APPROVAL, ASSEMBLY MUST BE CENTERED IN ENCLOSURE (IF APPLICABLE). UNDER NO CONDITION WILL ANY CONNECTION BE ALLOWED BETWEEN THE BACKFLOW PREVENTER AND SERVICE METER. BACKFLOW PREVENTER SHALL ALWAYS BE INSTALLED IMMEDIATELY DOWNSTREAM OF METER.
2. UNDER NO CIRCUMSTANCE SHALL TEST PORTS BE MODIFIED OR UTILIZED FOR ANY USE OTHER THAN BACKFLOW DEVICE TESTING.

TYPICAL OUTSIDE INSTALLATION
(3", 4", 6", 8", 10", & 12" SIZES)

REDUCED PRESSURE DETECTOR ASSEMBLY FOR FIRE SYSTEM (3" AND LARGER)

STANDARD CONSTRUCTION DETAILS

SCALE: N.T.S.
DATE: JAN 2017
PLATE NUMBER: **W20B**



CONCRETE VALVE MARKER

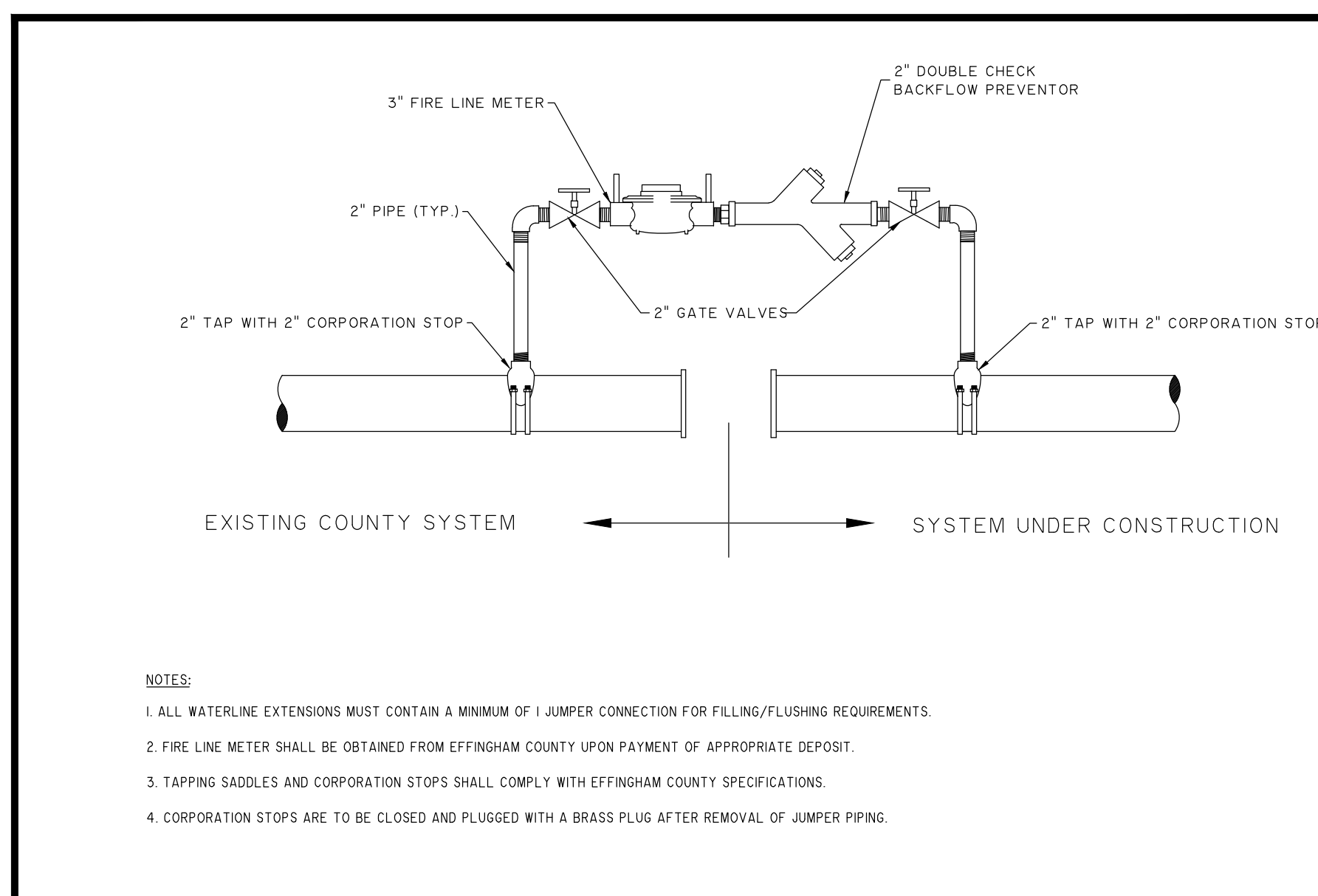
NOTE 1: WATER MAIN LINE VALVE MARKERS SHALL BE PAINTED FEDERAL SAFETY BLUE AND MARKED AS FOLLOWS:
MV - MAIN VALVE
AV - AIR RELEASE VALVE
PIPELINE - PIPELINE MARKER

NOTE 2: DO NOT WRAP WIRE AROUND VALVE NUT.

EFFINGHAM COUNTY

VALVE DETAIL

SCALE: N.T.S.
DATE: August 2004
W-2



EXISTING COUNTY SYSTEM ← SYSTEM UNDER CONSTRUCTION

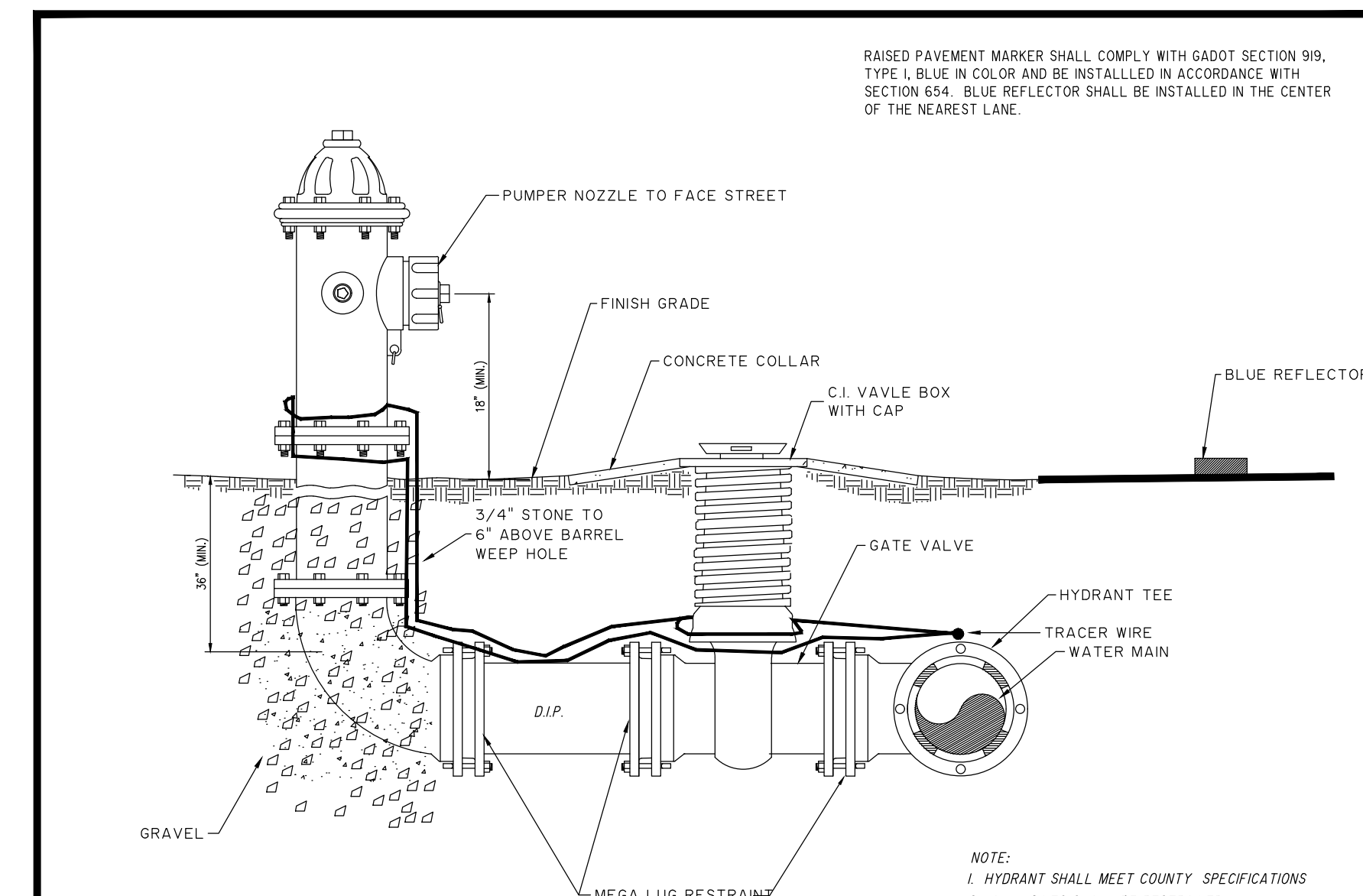
NOTES:

1. ALL WATERLINE EXTENSIONS MUST CONTAIN A MINIMUM OF 1 JUMPER CONNECTION FOR FILLING/FLUSHING REQUIREMENTS.
2. FIRE LINE METER SHALL BE OBTAINED FROM EFFINGHAM COUNTY UPON PAYMENT OF APPROPRIATE DEPOSIT.
3. TAPPING SADDLES AND CORPORATION STOPS SHALL COMPLY WITH EFFINGHAM COUNTY SPECIFICATIONS.
4. CORPORATION STOPS ARE TO BE CLOSED AND PLUGGED WITH A BRASS PLUG AFTER REMOVAL OF JUMPER PIPING.

EFFINGHAM COUNTY

JUMPER CONNECTION DETAIL

SCALE: N.T.S.
DATE: August 2004
W-5



FIRE HYDRANT DETAIL

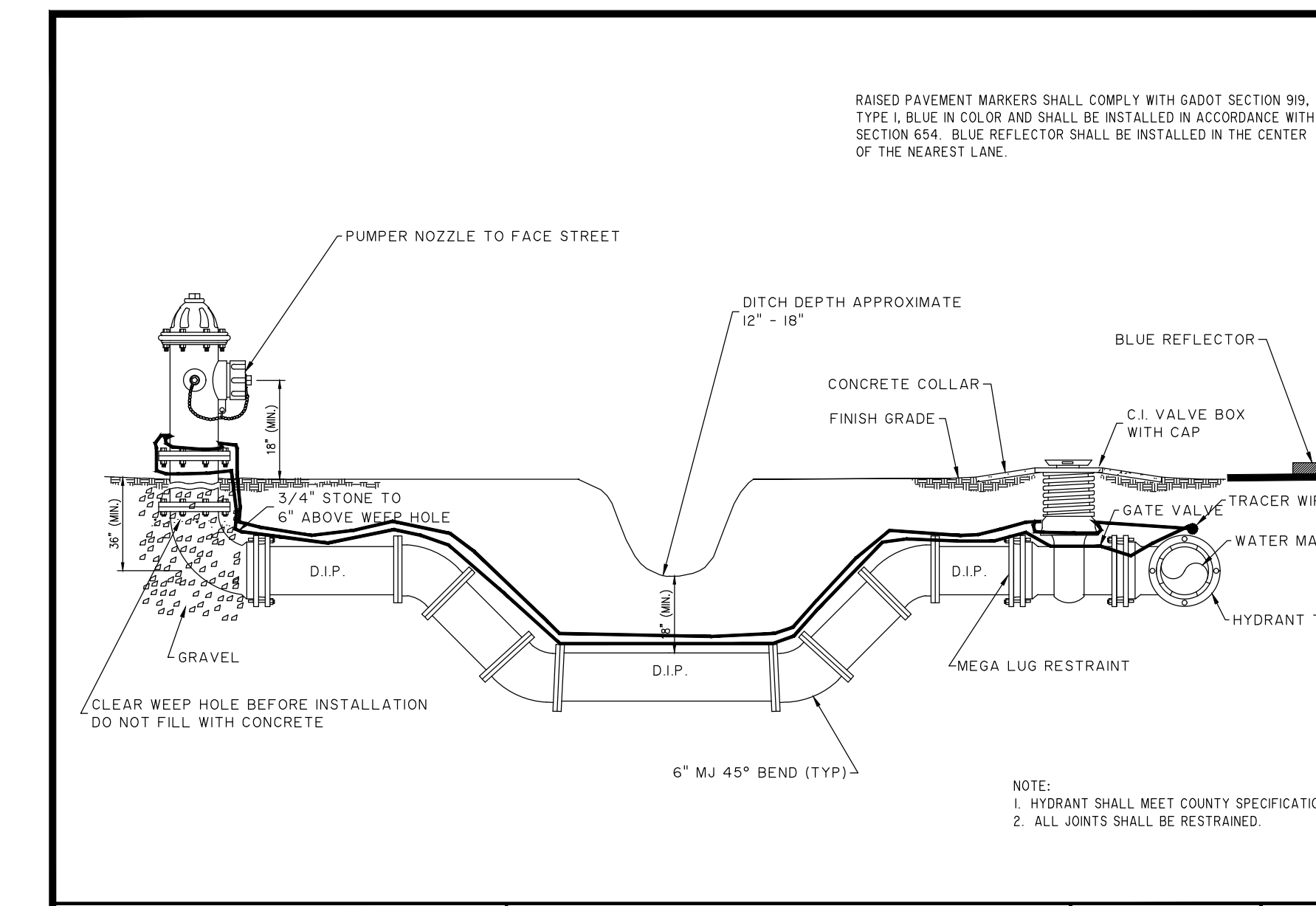
RAISED PAVEMENT MARKER SHALL COMPLY WITH GADSDEN SECTION 919, TYPE I, BLUE IN COLOR AND BE INSTALLED IN ACCORDANCE WITH SECTION 654. BLUE REFLECTOR SHALL BE INSTALLED IN THE CENTER OF THE NEAREST LANE.

NOTE:
1. HYDRANT SHALL MEET COUNTY SPECIFICATIONS
2. ALL JOINTS SHALL BE RESTRAINED.

EFFINGHAM COUNTY

FIRE HYDRANT DETAIL

SCALE: N.T.S.
DATE: August 2004
W-3



FIRE HYDRANT DETAIL UNDER DITCH

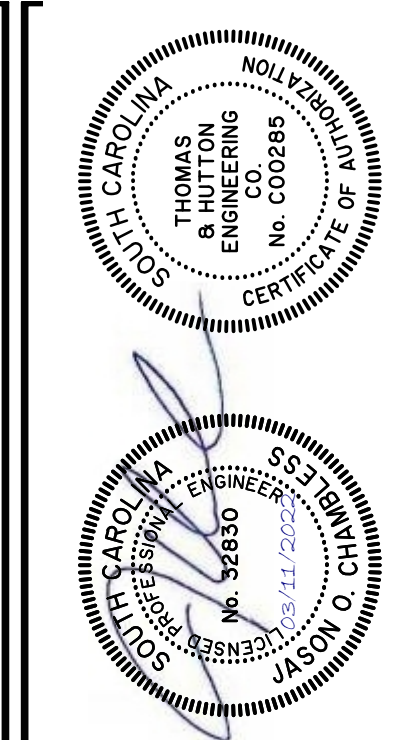
RAISED PAVEMENT MARKERS SHALL COMPLY WITH GADSDEN SECTION 919, TYPE I, BLUE IN COLOR AND SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 654. BLUE REFLECTOR SHALL BE INSTALLED IN THE CENTER OF THE NEAREST LANE.

NOTE:
1. HYDRANT SHALL MEET COUNTY SPECIFICATIONS.
2. ALL JOINTS SHALL BE RESTRAINED.

EFFINGHAM COUNTY

FIRE HYDRANT DETAIL UNDER DITCH

SCALE: N.T.S.
DATE: August 2004
W-4



NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300
www.thomasandhutton.com

CHESTERFIELD LLC
CHATHAM & EFFINGHAM COUNTY, GEORGIA
GITC - BUILDING 4-A
WATER AND SEWER DETAILS

JOB NO:	J-26838-0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FT
APPROVED:	JOC
SCALE:	" = 1'

C2.8

PERMIT SET - FOR REVIEW PURPOSES ONLY

2022/08/08 08:55:13 10/26/2022 10:00:00 AM 10/26/2022 10:00:00 AM 10/26/2022 10:00:00 AM

MATERIALS		
ITEM	QUAN.	DESCRIPTION
1	2	RESILIENT TYPE GATE VALVES OS&Y (FOR 2" & LARGER LESS THAN 2" BALL VALVE)
2	1	REDUCED PRESSURE ZONE DEVICE/DOUBLE CHECK VALVE
3	4	BRASS 90° (DOMESTIC MADE)
4	1	STRAINER
5	2	BRASS NIPPLE (DOMESTIC MADE)
6		MINIMUM 12" CLEARANCE
7	2	BRASS PLUGS INSERTED IN TEST COCKS
8		6" GRAVEL & DRAIN
9		POLYETHYLENE PIPE WITH COMPRESSION FITTINGS
10	*	COUNTY APPROVED ENCLOSURE WITH HATCH COVER FOR BFP
11		CUT BRASS (DOMESTIC MADE)
12		UNION

* RECOMMENDED FOR FREEZE PROTECTION

EFFINGHAM COUNTY BACKFLOW PREVENTER DETAIL
3/4", 1", 1-1/2", 2"

SCALE: N.T.S. W-12
DATE: August 2004

EFFINGHAM COUNTY MASTER WATER METER
INSTALLATION DETAIL - 3" TO 10"

SCALE: N.T.S. W-17
DATE: August 2004

MATERIALS		
ITEM	QUAN.	DESCRIPTION
1	1	DOUBLE CHECK VALVE ASSEMBLY
2	2	NON-RISING RESILIENT SEAT GATE VALVES
3	4	TEST COCKS
4	2	COMPANION FLANGE
5		DUCTILE IRON PIPE, CUT TO FIT
6	8	CARBON STEEL EYE BOLTS
7		3/4 GALV. ALL THREAD ROD
8		MEGA LUG OR EQUIVALENT FOR DUCTILE PIPE
9	2	2" SCH. 40 GALV. PIPE STAND & BASE BOLTED TO FLANGE
10		PIT-CEMENT BLOCK, POURED CONCRETE, OR PREFABRICATED BOX PER COUNTY SPECS.
11		3/8 ALUM. FLOOR PLATE / HATCH COVER W/FLUSH HANDLE
12		2" X 2" MIN. HATCH

NOTE:
 1. FOR FINAL APPROVAL, ASSEMBLY MUST BE CENTERED IN ENCLOSURE (IF APPLICABLE), UNDER NO CONDITION WILL ANY CONNECTION BE ALLOWED BETWEEN THE SERVICE METER AND A BACKFLOW PREVENTER USED FOR SYSTEM CONTAINMENT. BACKFLOW PREVENTER SHALL ALWAYS BE INSTALLED DOWNSTREAM OF METER.
 2. IF A PRESSURE MONITOR IS TO BE INSTALLED, ADD A TEE, VALVE, FITTINGS, AND MOUNT ON SUPPLY SIDE PRIOR TO BACKFLOW PREVENTION DEVICE; UNDER NO CIRCUMSTANCE, SHALL TEST PORTS BE MODIFIED OR UTILIZED FOR THIS OR OTHER APPLICATION, OTHER THAN BACKFLOW DEVICE TESTING.

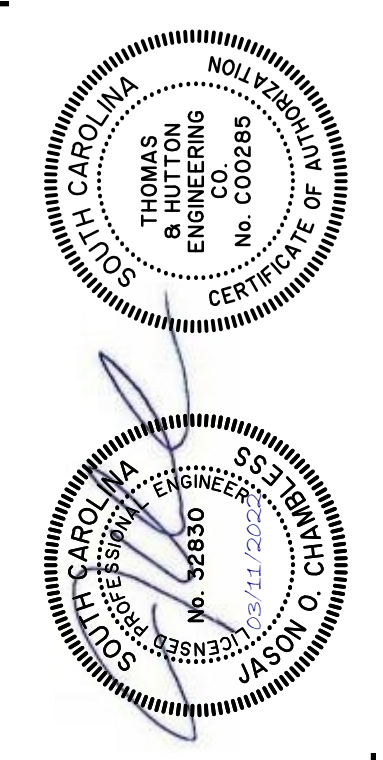
EFFINGHAM COUNTY DOUBLE CHECK VALVE ASSEMBLY

SCALE: N.T.S. W-18
DATE: August 2004

GENERAL NOTES:
 1. WATER METER AND STRETCH BOX FOR THE 3/4" & 1" WATER METERS SHALL BE PURCHASED FROM EFFINGHAM COUNTY.
 2. THE INSTALLATION OF THE METER AND BOX SHALL BE DONE BY THE CUSTOMER REQUIRING SERVICE.
 3. IF A WATER TAP IS REQUIRED FOR THE WATER SERVICE IT SHALL BE THE RESPONSIBILITY OF THE CUSTOMER REQUIRING SERVICE TO EXCAVATE THE WATER MAIN, EFFINGHAM COUNTY SHALL TAP THE WATER MAIN ONLY.
 4. THE CUSTOMER REQUIRING SERVICE SHALL BE RESPONSIBLE FOR ALL BACKFILLING AND/OR REPAIRS OF EXCAVATED AREAS.
 5. THE 2" OR 1-1/2" WATER METER SHALL BE PURCHASED FROM THE COUNTY. CONCRETE METER VAULT SHALL BE THE RESPONSIBILITY OF THE CUSTOMER REQUESTING WATER SERVICE.

EFFINGHAM COUNTY WATER METER INSTALLATION
2" SERVICE PIPE & 1-1/2" & 2" WATER METERS
IRRIGATION ONLY

SCALE: N.T.S. W-15
DATE: August 2004



NO.	REVISIONS	BY	DATE

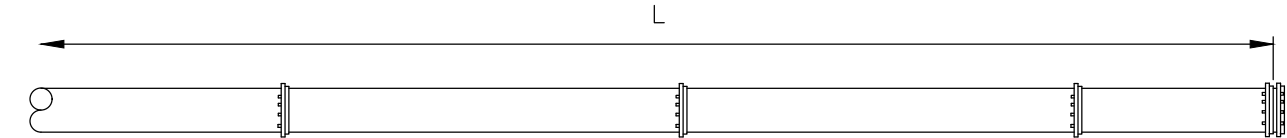
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CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA
 GITC - BUILDING 4-A
WATER AND SEWER DETAILS

JOB NO:	J-26838 0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JOC
SCALE:	1" = 1'

C2.9

PERMIT SET - FOR REVIEW PURPOSES ONLY



NOTE:
RESTRAINTS SHOWN IN TABLES ARE FOR MUNICIPAL SUPPLIED WATER PRESSURES. SEE FIRE PROTECTION DRAWINGS FOR RESTRAINTS ON FIRE PROTECTION SYSTEM.

PIPE DIA.	L
4	58
6	82
8	107
10	128
12	151
16	193
20	234
24	273

PIPE DIA.	L
4	39
6	55
8	72
10	87
12	102
16	131
20	159
24	185

MINIMUM RESTRAINED LENGTH (L)

PE WRAPPED DIP:
SOIL TYPE: SM
TRENCH TYPE: 3
COVER: 3'
TEST PRESSURE: 150 PSI

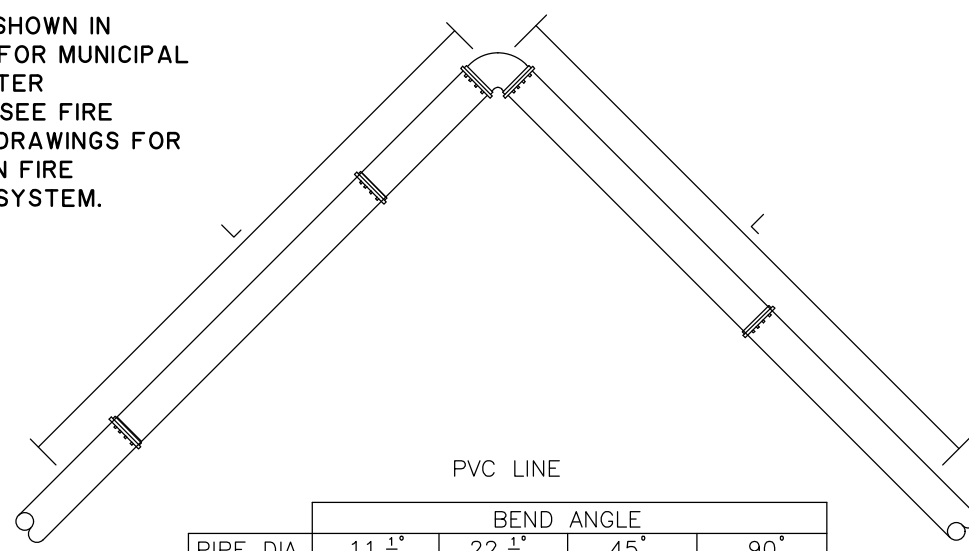
PVC DESIGN:
SOIL TYPE: SM
TRENCH TYPE: 3
COVER: 3' <12" DIA.
4' >12" DIA.
TEST PRESSURE: 150 PSI

NOTES:

- LENGTH OF RESTRAINT SHOWN IS IN FEET. FITTING DIAMETERS ARE IN INCHES.
- WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
- FOR LINE STUBS (SEE DETAIL W34), THE LENGTH OF RESTRAINT (L) SHALL BE FROM THE VALVE AND NOT THE CAP.
- INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER.

DEAD END RESTRAINT

NOTE:
RESTRAINTS SHOWN IN TABLES ARE FOR MUNICIPAL SUPPLIED WATER PRESSURES. SEE FIRE PROTECTION DRAWINGS FOR RESTRAINTS ON FIRE PROTECTION SYSTEM.



PIPE DIA.	BEND ANGLE		
	11 1/2"	22 1/2"	45"
4	2	4	8
6	3	5	11
8	4	7	14
10	4	8	16
12	5	9	19
16	5	9	19
20	6	11	23
24	8	16	26

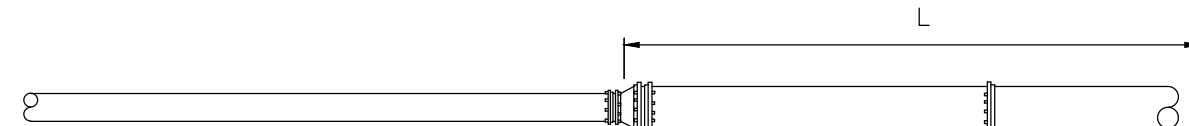
PIPE DIA.	BEND ANGLE		
	11 1/2"	22 1/2"	45"
4	3	5	9
6	3	6	12
8	4	8	16
10	5	9	19
12	6	11	22
16	7	14	28
20	8	16	33
24	9	19	38

MINIMUM RESTRAINED LENGTH (L)

NOTES:

- LENGTH OF RESTRAINT SHOWN IS IN FEET. PIPE DIAMETERS ARE IN INCHES.
- WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
- INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER.

HORIZONTAL BEND RESTRAINT



NOTE:
RESTRAINTS SHOWN IN TABLES ARE FOR MUNICIPAL SUPPLIED WATER PRESSURES. SEE FIRE PROTECTION DRAWINGS FOR RESTRAINTS ON FIRE PROTECTION SYSTEM.

REDUCER	L
6X4	29
8X4	52
8X6	31
10X4	71
10X6	53
10X8	29
12X4	89
12X6	74
12X8	54
12X10	30
16X6	111
16X8	96
16X10	78
16X12	56
20X10	117
20X12	100
20X16	56
24X12	137
24X16	101
24X20	56

REDUCER	L
6X4	43
8X4	77
8X6	45
10X4	104
10X6	79
10X8	43
12X4	131
12X6	110
12X8	80
12X10	45
16X6	163
16X8	141
16X10	115
16X12	82
20X10	172
20X12	147
20X16	82
24X12	201
24X16	149
24X20	82

PVC DESIGN:
SOIL TYPE: SM
TRENCH TYPE: 3
COVER: 3' <12" DIA.
4' >12" DIA.
TEST PRESSURE: 150 PSI

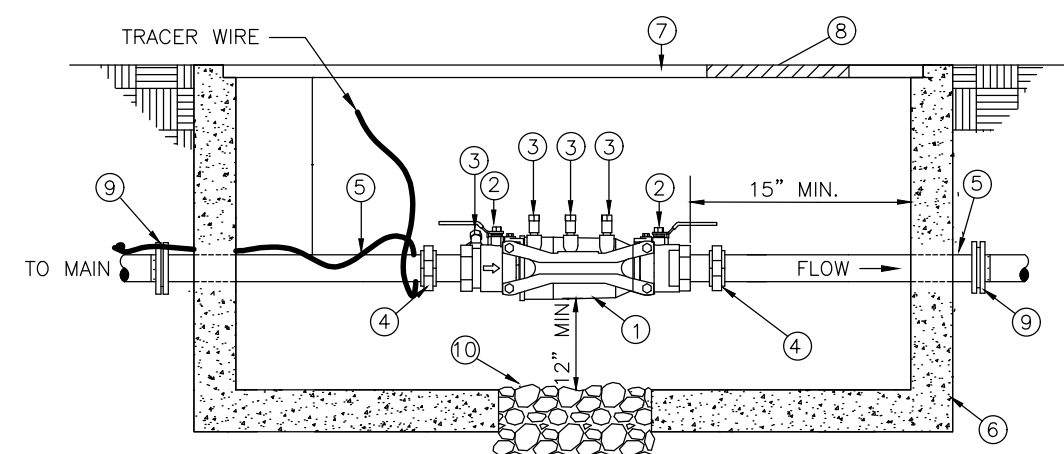
PE WRAPPED DIP:
SOIL TYPE: SM
TRENCH TYPE: 3
COVER: 3'
TEST PRESSURE: 150 PSI

U = MINIMUM UNINTERRUPTED 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:

- LENGTH OF RESTRAINT SHOWN IS IN FEET. FITTING DIAMETERS ARE IN INCHES.
- WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
- INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER.

REDUCER RESTRAINT



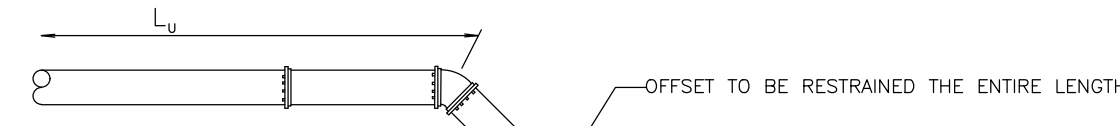
ITEM	QUAN.	DESCRIPTION
1	1	DOUBLE CHECK VALVE ASSEMBLY
2	2	BALL VALVES
3	4	TEST COCKS W/ NO-LEAD BRASS PLUGS
4	2	NO-LEAD BRASS UNION
5		COPPER OR NO-LEAD BRASS PIPE, CUT TO FIT
6	1	VALVE PIT-CEMENT BLOCK, POURED CONCRETE, OR PREFABRICATED BOX PER CITY SPECS.
7	1	3/8 ALUM. FLOOR PLATE / HATCH COVER W/FLUSH HANDLE
8	1	2" X 2" MIN. HATCH W/ LOCKING HASP
9	2	2" CIS NO-LEAD BRASS FITTING
10	1	#57 STONE GRAVEL DRAIN

NOTES:

- FOR FINAL APPROVAL, ASSEMBLY MUST BE CENTERED IN ENCLOSURE (IF APPLICABLE). UNDER NO CONDITION WILL ANY CONNECTION BE ALLOWED BETWEEN THE SERVICE METER AND BACKFLOW PREVENTER USED FOR SYSTEM CONTAINMENT. BACKFLOW PREVENTER SHALL ALWAYS BE INSTALLED DOWNSTREAM OF METER.
- IF A PRESSURE MONITOR IS TO BE INSTALLED, ADD A TEE, VALVE, FITTINGS, AND MOUNT ON SUPPLY SIDE PRIOR TO BACKFLOW PREVENTION DEVICE; UNDER NO CIRCUMSTANCE, SHALL TEST PORTS BE MODIFIED OR UTILIZED FOR THIS OR OTHER APPLICATION, OTHER THAN BACKFLOW DEVICE TESTING.

TYPICAL BELOW GRADE INSTALLATION (3/4", 1", 1-1/2", & 2" SIZES)

DOUBLE CHECK VALVE ASSEMBLY FOR DOMESTIC SYSTEM (2" AND SMALLER)



NOTE:
RESTRAINTS SHOWN IN TABLES ARE FOR MUNICIPAL SUPPLIED WATER PRESSURES. SEE FIRE PROTECTION DRAWINGS FOR RESTRAINTS ON FIRE PROTECTION SYSTEM.

PIPE DIA.	BEND ANGLE		
	11 1/2"	22 1/2"	45"
4	4	1	8
6	6	1	11
8	8	2	15
10	9	2	18
12	11	2	21
16	10	3	21
20	13	3	25
24	15	4	29

PVC DESIGN:
SOIL TYPE: SM
TRENCH TYPE: 3
COVER: 3' <12" DIA.
4' >12" DIA.
TEST PRESSURE: 150 PSI

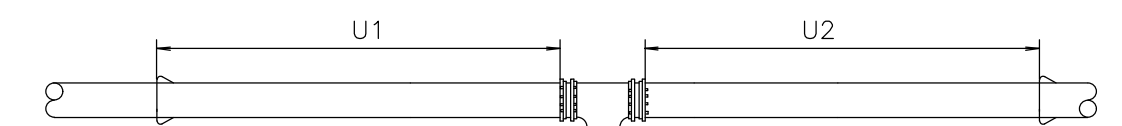
PIPE DIA.	BEND ANGLE		
	11 1/2"	22 1/2"	45"
4	6	1	12
6	9	2	17
8	11	2	22
10	13	2	26
12	15	3	30
16	19	3	39
20	23	4	47
24	27	4	55

PE WRAPPED DIP:
SOIL TYPE: SM
TRENCH TYPE: 3
COVER: 3'
TEST PRESSURE: 150 PSI

NOTES:

- LENGTH OF RESTRAINT SHOWN IS IN FEET. PIPE DIA. IS IN INCHES
- WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
- INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER.

VERTICAL BEND RESTRAINT



PIPE	U1	U2	10'	20'
4X4	3	*	16X10	4
6X4	*	*	16X12	25
8X6	5	*	16X16	61
8X4	*	*	20X6	*
8X6	*	*	20X8	*
8X8	18	*	20X10	*
10X4	*	*	20X12	10
10X6	*	*	20X16	48
10X8	8	*	20X20	81
10X10	28	11	24X6	*
12X4	*	*	24X8	*
12X6	*	*	24X10	*
12X8	*	*	24X12	*
12X10	20	*	24X16	35
12X12	39	3	24X20	69
16X6	*	*	24X24	101
16X8	*	*		63

PVC DESIGN:
SOIL TYPE: SM
TRENCH TYPE: 3
COVER: 3' <12" DIA.
4' >12" DIA.
TEST PRESSURE: 150 PSI

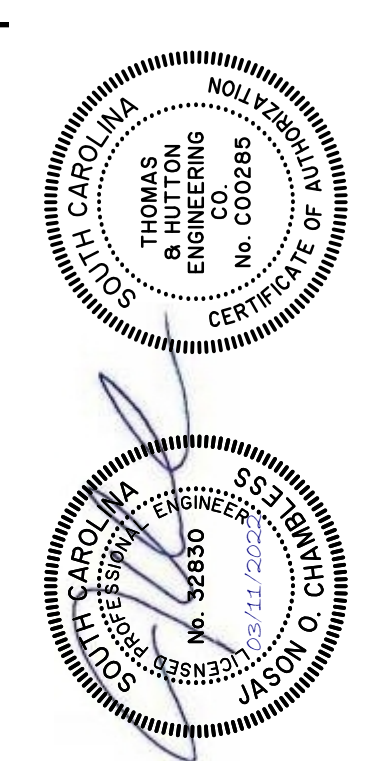
MINIMUM RESTRAINED LENGTH (L)

NOTE:
RESTRAINTS SHOWN IN TABLES ARE FOR MUNICIPAL SUPPLIED WATER PRESSURES. SEE FIRE PROTECTION DRAWINGS FOR RESTRAINTS ON FIRE PROTECTION SYSTEM.

NOTES:

- LENGTH OF RESTRAINT SHOWN IS IN FEET. FITTING DIAMETERS ARE IN INCHES.
- WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
- U1 AND U2 = UNINTERRUPTED STRAIGHT RUNS OF PIPE IN EACH DIRECTION.
- U_r = THE SMALLER OF U1 OR U2.
- L = MINIMUM RESTRAINED LENGTH ALONG THE BRANCH.
- WHERE U_r IS LESS THAN 5', RESTRAIN TEE AS A 90° HORIZONTAL BEND.
- INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER.

TEE RESTRAINT (PVC PIPE)



NO.	REVISIONS	BY	DATE

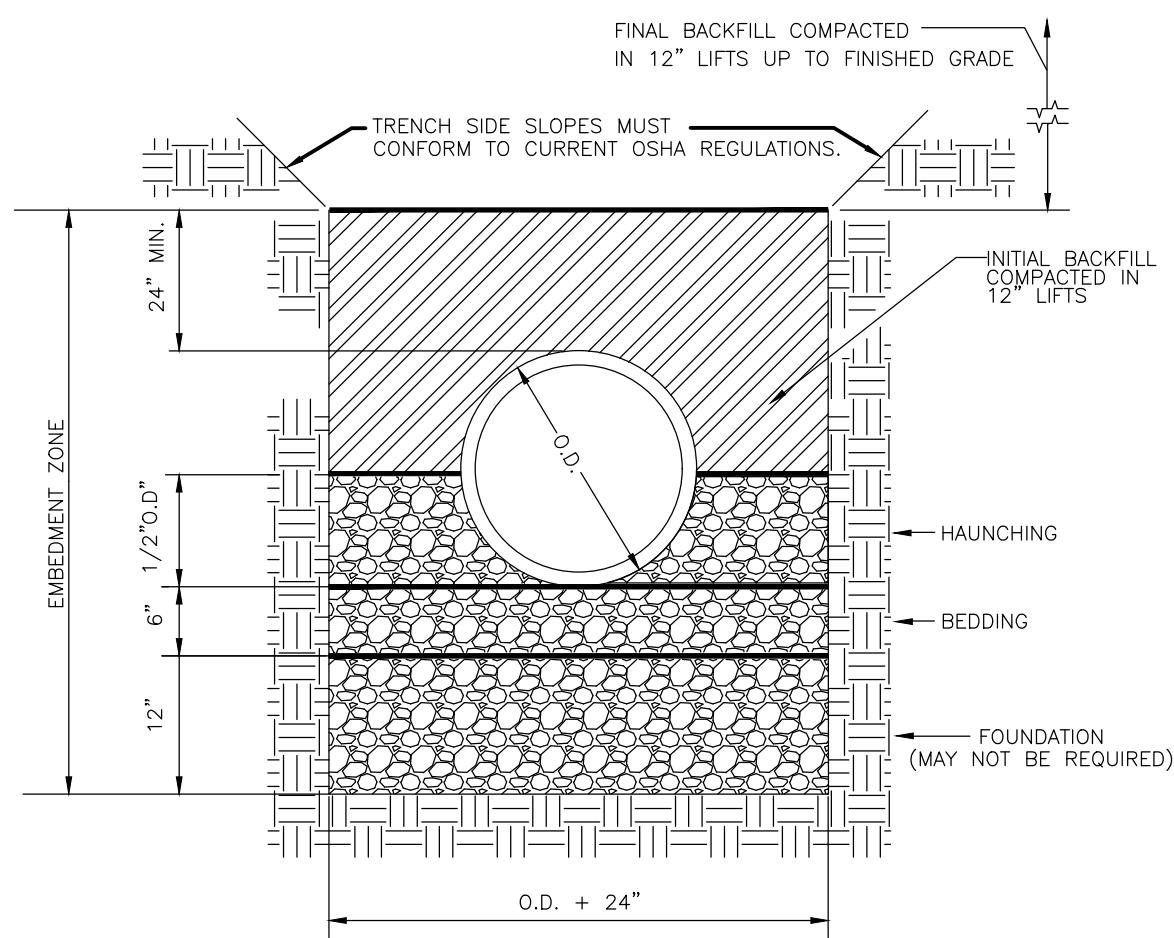
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CHESTERFIELD LLC
CHATHAM & EFFINGHAM COUNTY, GEORGIA
GITC - BUILDING 4-A
WATER AND SEWER DETAILS

JOB NO:	J-26838-0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JOC
SCALE:	" = 1"

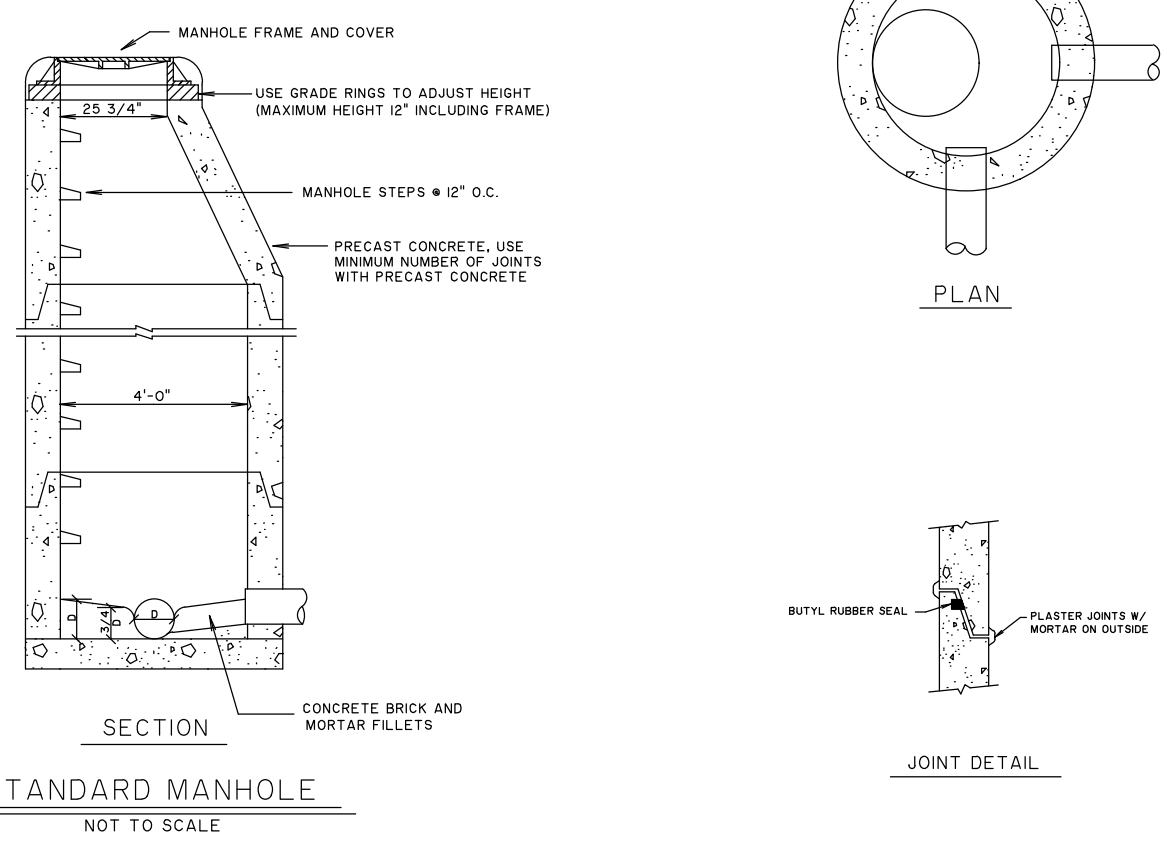
C2.10

PERMIT SET - FOR REVIEW PURPOSES ONLY

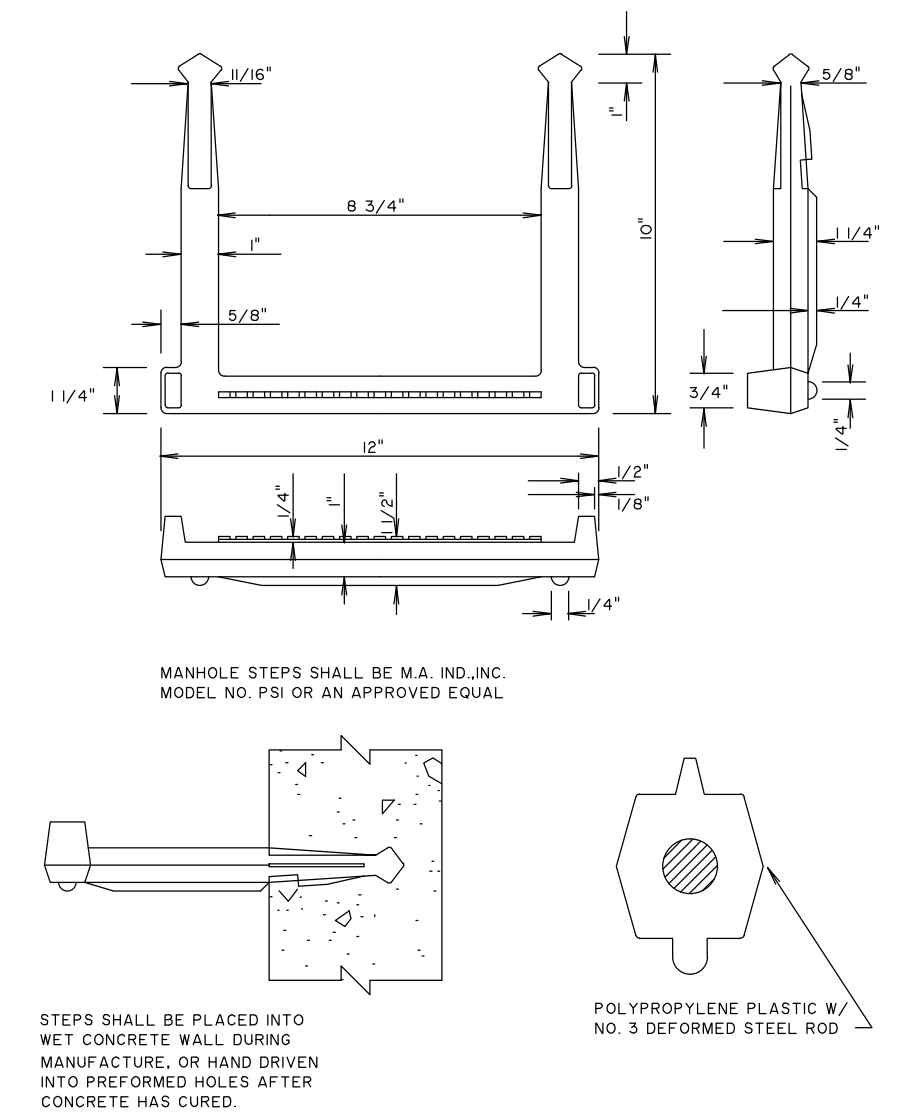


- NOTES:**
- FOUNDATION, BEDDING AND HAUNCHING SHALL BE #57 STONE.
 - INITIAL BACKFILL FOR GRAVITY SEWER SHALL BE CLASS II OR BETTER SELECT COMMON FILL.
 - INITIAL BACKFILL FOR SANITARY FORCEMAIN SHALL BE CLASS III OR BETTER SELECT COMMON FILL.
 - FINAL BACKFILL SHALL BE CLASS III OR BETTER COMMON FILL.
 - SEE EFFINGHAM COUNTY STANDARD SPECIFICATIONS FOR MORE DETAILS.

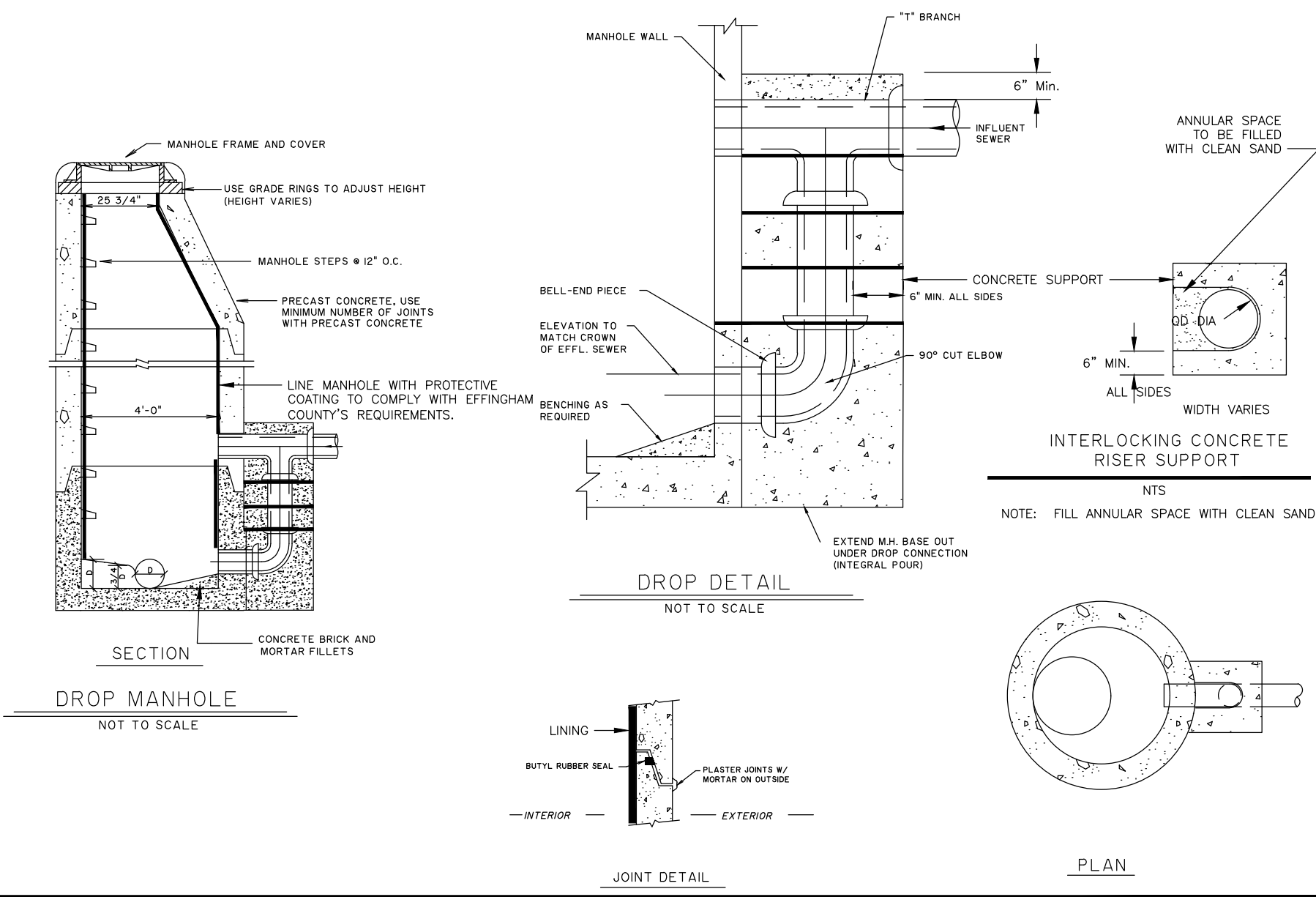
STANDARD PIPE BEDDING	
STANDARD CONSTRUCTION DETAILS	SCALE: N.T.S. DATE: JAN 2017 PLATE NUMBER: S16



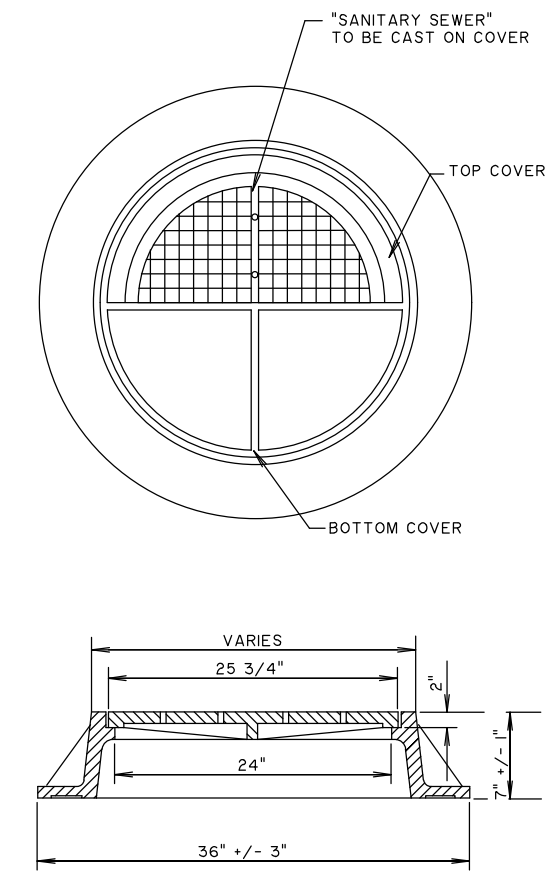
EFFINGHAM COUNTY	STANDARD MANHOLE	SCALE: N.T.S. DATE: August 2004	S-1
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EFFINGHAM COUNTY	MANHOLE STEP DETAIL	SCALE: N.T.S. DATE: August 2004	S-2
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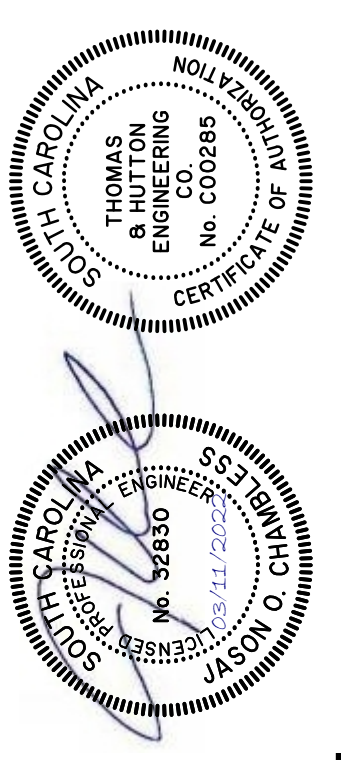


EFFINGHAM COUNTY	OUTSIDE DROP MANHOLE	SCALE: N.T.S. DATE: August 2004	S-6
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EFFINGHAM COUNTY	MANHOLE COVER & FRAME DETAIL	SCALE: N.T.S. DATE: August 2004	S-3
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- NOTES:**
- CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE, DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL CLEANED BY SHOTBLASTING OR BY SOME OTHER APPROVED METHOD. CASTING SHALL NOT BE PAINTED.
 - MATERIALS USED IN THE MANUFACTURE OF CASTINGS SHOULD CONFORM TO AASHTO M193/ASTM A48, CLASS 35B OR ASTM A48, CLASS 30, FOR GRAY IRON.
 - ALL CASTINGS SHALL BE MANUFACTURED TRUE TO PATTERN. COMPONENT PARTS SHALL FIT TOGETHER IN A SATISFACTORY MANNER. ROUND FRAMES AND COVERS SHALL BE OF NON-ROCKING DESIGN, OR SHALL HAVE MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING UNDER TRAFFIC. FRAME SHALL BE SUITABLE FOR CAST IRON OR STEEL RISER RING FOR UPWARD ADJUSTMENT OF COVER. CLEAR OPENING SHALL BE 24".
 - MANHOLE COVER SHALL BE 25-3/4" IN DIAMETER AND SHALL BE 2-INCHES THICK AT THE BEARING SURFACE.
 - CASTINGS SHALL BE PROVIDED WITH THE INSCRIPTION "SANITARY SEWER" CAST INTO THE COVER IN LETTERING AT LEAST 2-INCHES HIGH. MANUFACTURER'S NAME, IF IT APPEARS ON THE COVER, SHALL BE CONFINED TO THE PERIPHERY.
 - MANHOLE COVERS AND FRAMES SHALL BE USF 227, OR EQUAL AND SHALL BE THE TYPE SHOWN ON THIS DETAIL.



NO.	REVISIONS	BY	DATE

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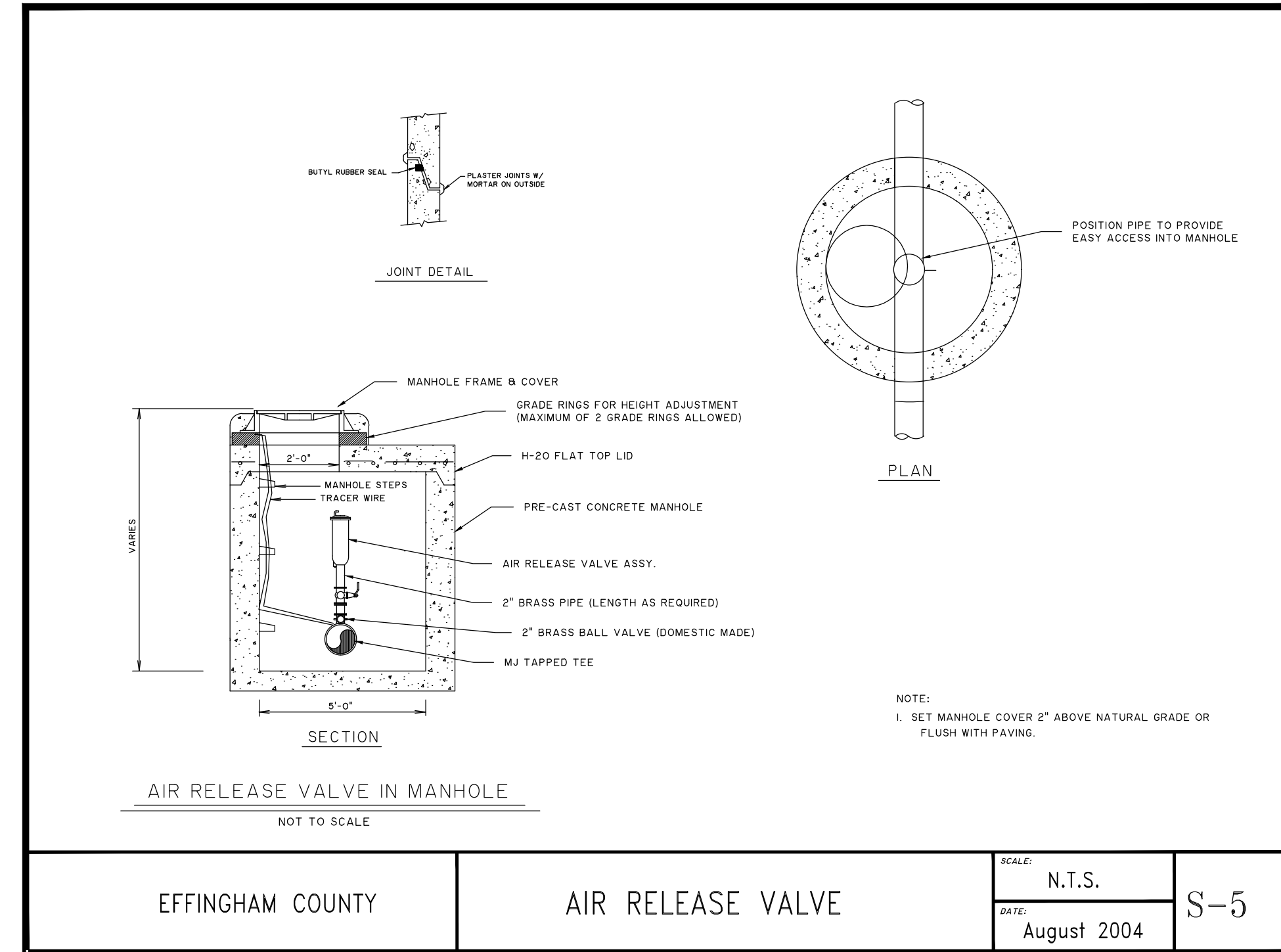
CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA
 GITC - BUILDING 4-A
WATER AND SEWER DETAILS

JOB NO:	J-26838 0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JOC
SCALE:	" = 1"

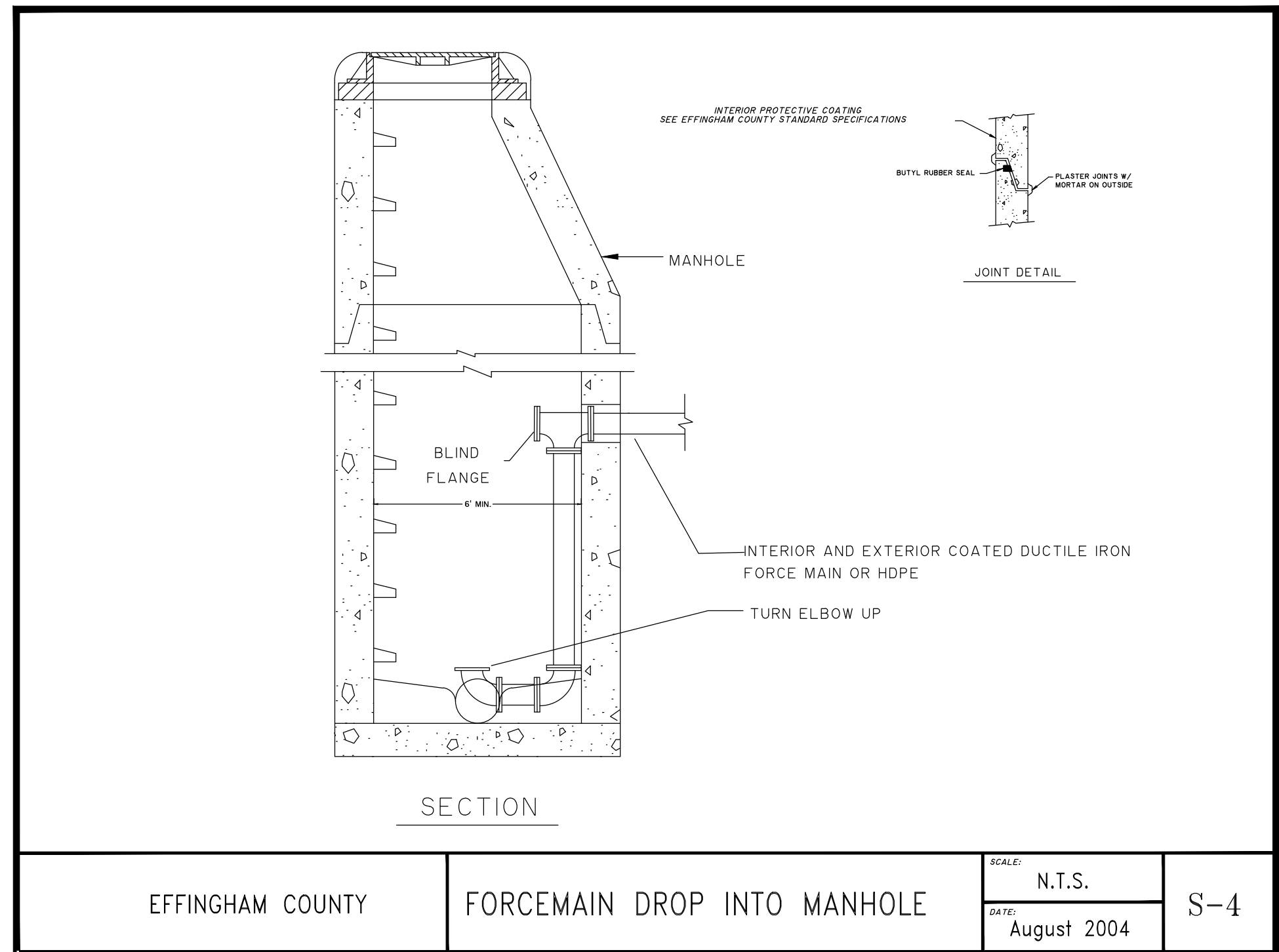
C2.11

PERMIT SET - FOR REVIEW PURPOSES ONLY

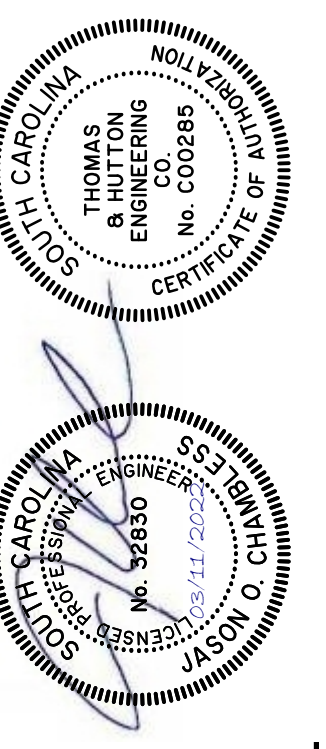
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EFFINGHAM COUNTY	AIR RELEASE VALVE	SCALE: N.T.S.	S-5
		DATE: August 2004	



EFFINGHAM COUNTY	FORCEMAIN DROP INTO MANHOLE	SCALE: N.T.S.	S-4
		DATE: August 2004	



NO.	REVISIONS	BY	DATE

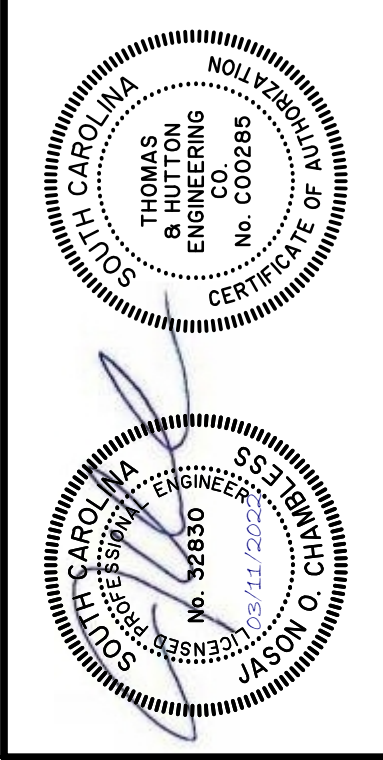
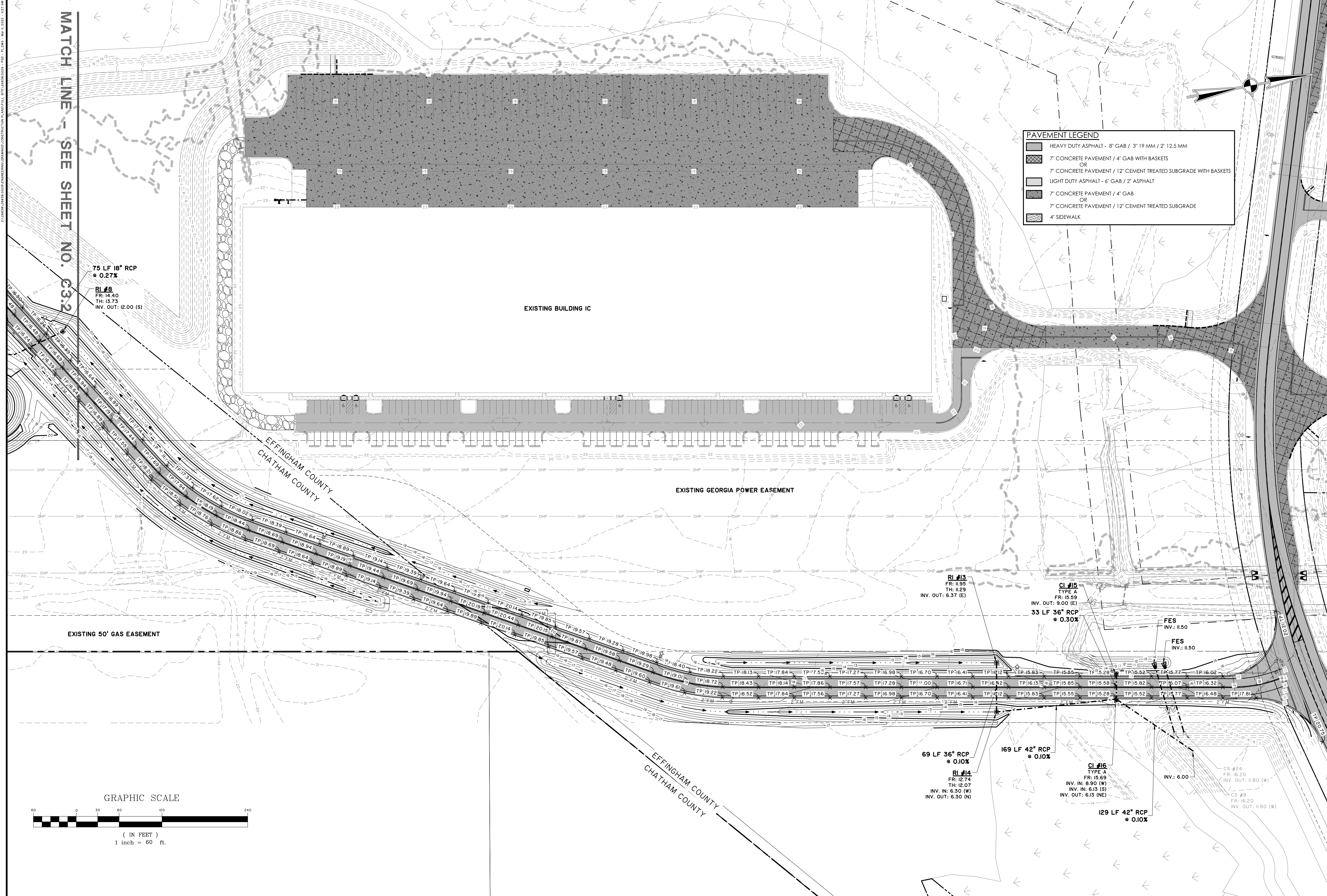
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 G1C - BUILDING 4A
WATER AND SEWER DETAILS

JOB NO: J-26838-0029
 DATE: 01/26/2022
 DRAWN: SGJ
 DESIGNED: SGJ
 REVIEWED: FIT
 APPROVED: JOC
 SCALE: 1" = 1'

C2.12

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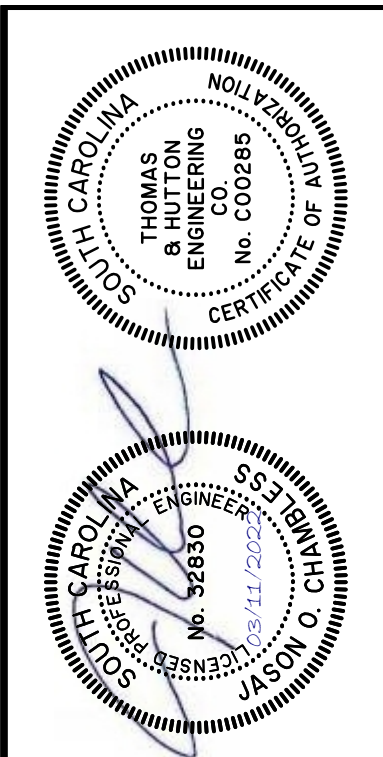
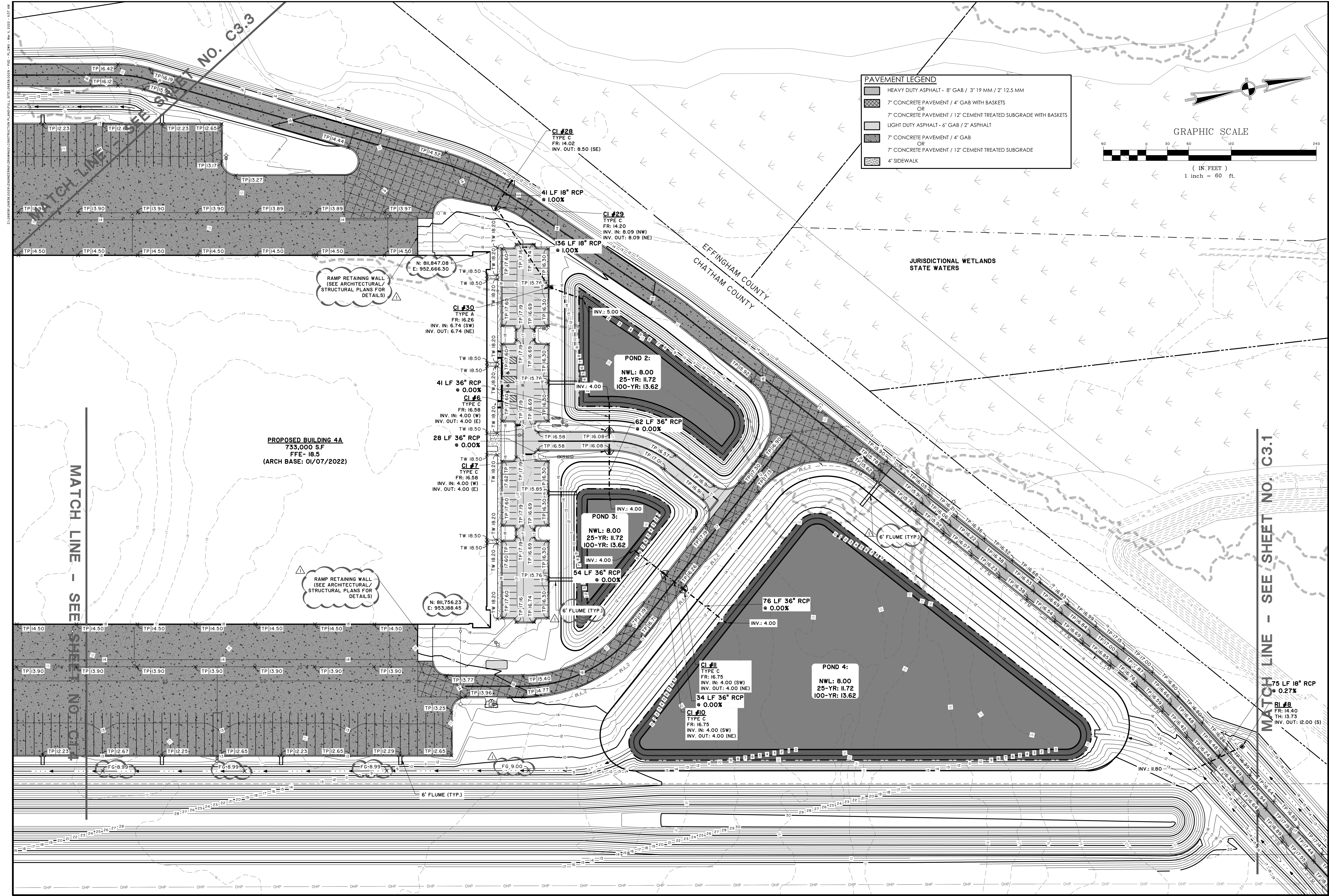
GITC - BUILDING 4A

PAVING, GRADING & DRAINAGE PLAN

JOB NO:	J-26838.0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JOC
SCALE:	1" = 60'

C3.1

PERMIT SET - FOR REVIEW PURPOSES ONLY



NO.	REVISIONS	DATE	BY
1	REVISED PER CITY OF PORT WENTWORTH COMMENTS	3/10/22	SGJ

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PAVING, GRADING & DRAINAGE PLAN

JOB NO: J-26838.0029
 DATE: 01/26/2022
 DRAWN: SGJ
 DESIGNED: SGJ
 REVIEWED: FIT
 APPROVED: JOC
 SCALE: 1" = 60'

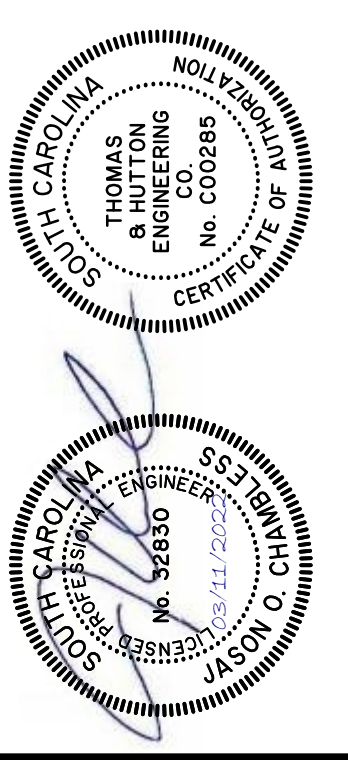
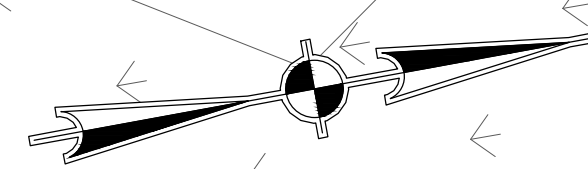
C3.2

PERMIT SET - FOR REVIEW PURPOSES ONLY

2:\Users\james\Documents\Projects\2022\20220301\20220301.dwg - PLOT DATE: 03/07/2022 - 10:37 AM

PAVEMENT LEGEND

	HEAVY DUTY ASPHALT - 8" GAB / 3" 19 MM / 2" 12.5 MM
	7" CONCRETE PAVEMENT / 4" GAB WITH BASKETS OR 7" CONCRETE PAVEMENT / 12" CEMENT TREATED SUBGRADE WITH BASKETS
	LIGHT DUTY ASPHALT - 6" GAB / 2" ASPHALT
	7" CONCRETE PAVEMENT / 4" GAB OR 7" CONCRETE PAVEMENT / 12" CEMENT TREATED SUBGRADE
	4" SIDEWALK



NO.	REVISIONS	BY	DATE
1	REVISED PER CITY OF PORT WENTWORTH COMMENTS	SGJ	3/07/22

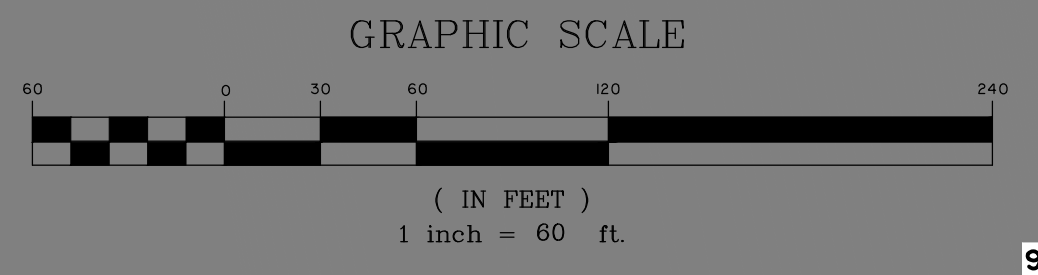
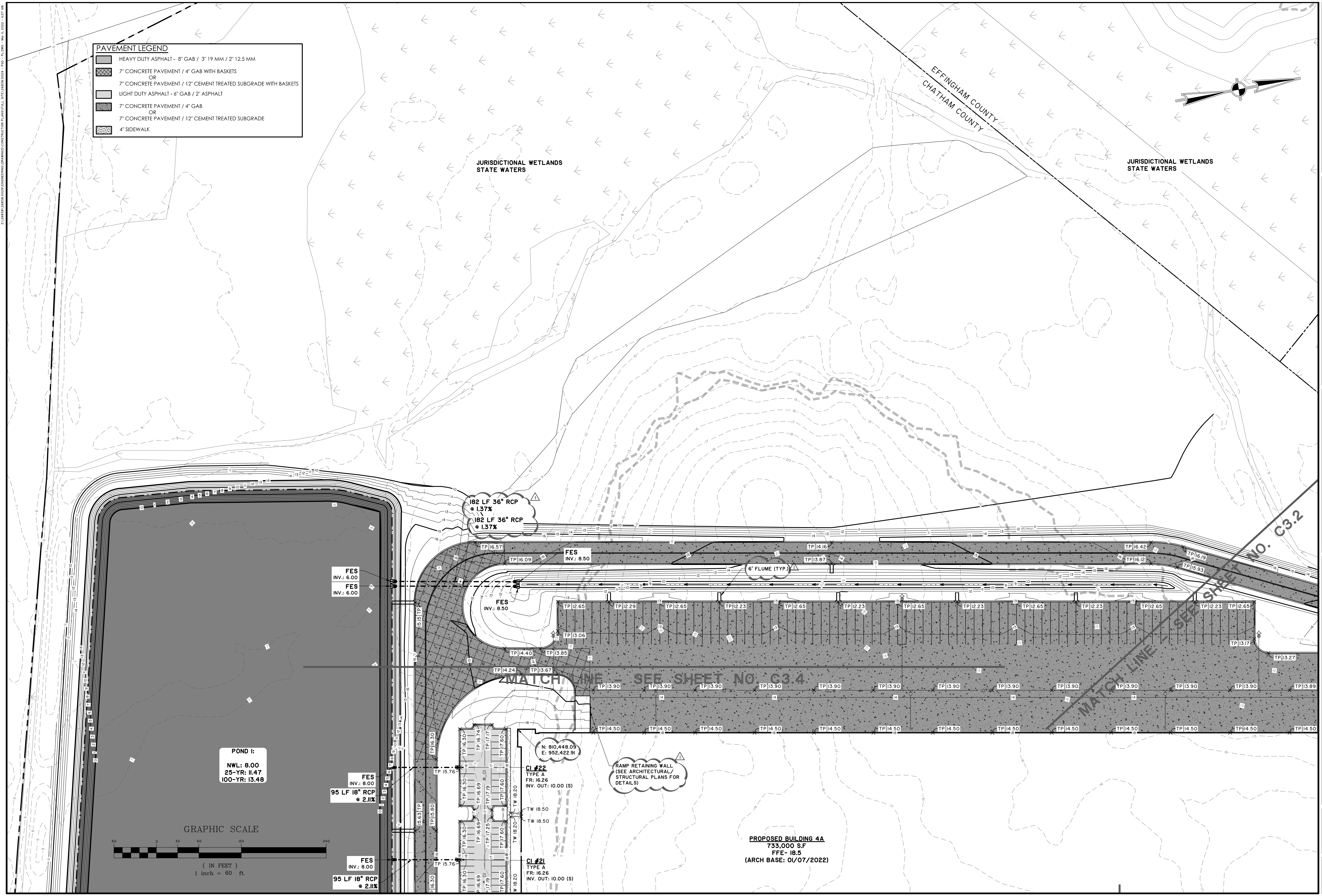
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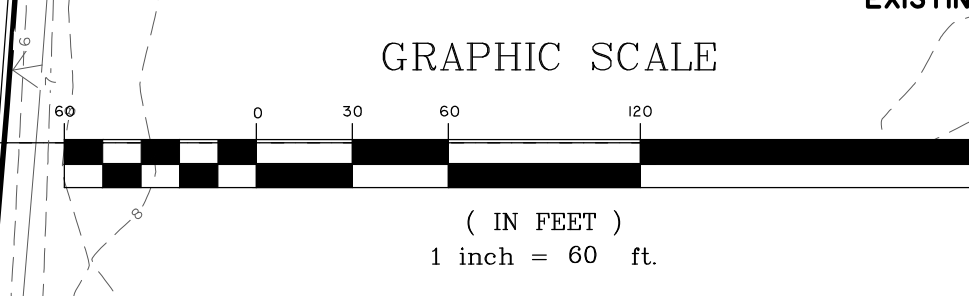
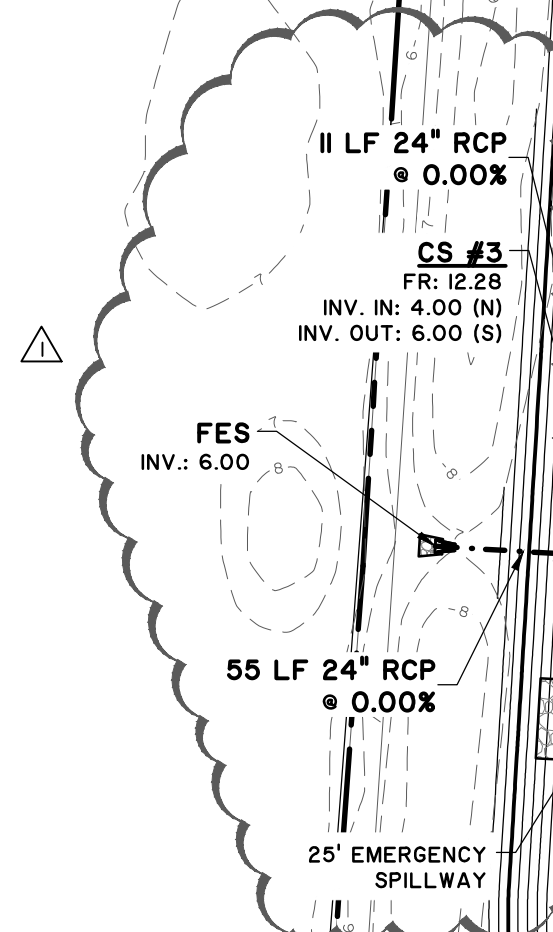
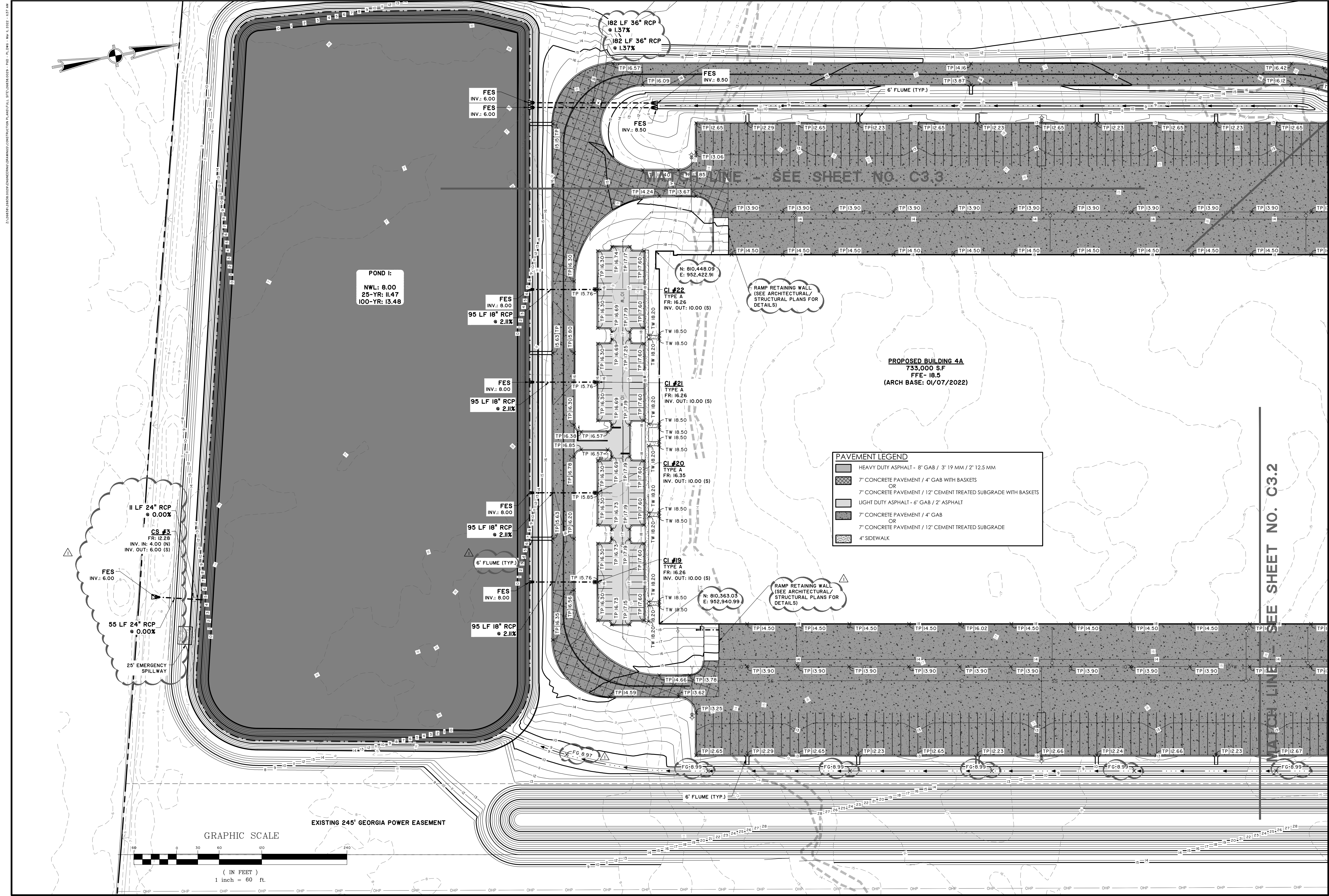
CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA
 GITC - BUILDING 4A
 PAVING, GRADING & DRAINAGE PLAN

JOB NO:	J-26838.0029
DATE:	01/26/2022
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JGC
SCALE:	1" = 60'

C3.3

PERMIT SET - FOR REVIEW PURPOSES ONLY





EXISTING 245' GEORGIA POWER EASEMENT

FES
INV.: 6.00
FES
INV.: 6.00

POND I:
NWL: 8.00
25-YR: 11.47
100-YR: 13.48

FES
INV.: 8.00
95 LF 18\"/>

FES
INV.: 8.00
95 LF 18\"/>

FES
INV.: 8.00
95 LF 18\"/>

FES
INV.: 8.00
95 LF 18\"/>

182 LF 36\"/>

FES
INV.: 8.50
6' FLUME (TYP.)

FES
INV.: 8.50

CI #22
TYPE A
FR: 16.26
INV. OUT: 10.00 (S)

CI #21
TYPE A
FR: 16.26
INV. OUT: 10.00 (S)

CI #20
TYPE A
FR: 16.35
INV. OUT: 10.00 (S)

CI #19
TYPE A
FR: 16.25
INV. OUT: 10.00 (S)

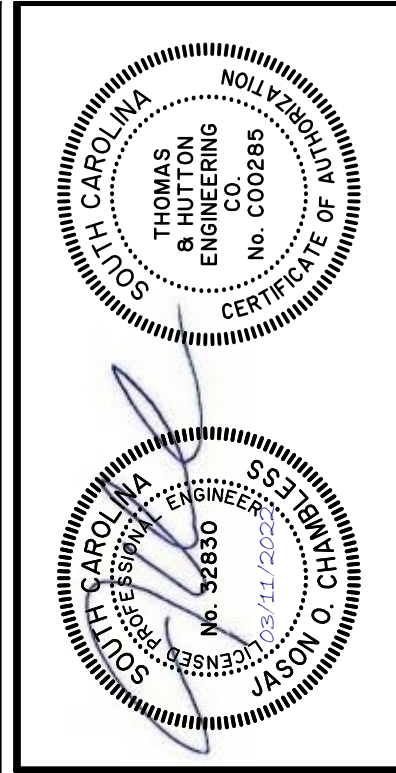
PAVEMENT LEGEND

- HEAVY DUTY ASPHALT - 8" GAB / 3" 19 MM / 2" 12.5 MM
- 7" CONCRETE PAVEMENT / 4" GAB WITH BASKETS
OR
7" CONCRETE PAVEMENT / 12" CEMENT TREATED SUBGRADE WITH BASKETS
- LIGHT DUTY ASPHALT - 6" GAB / 2" ASPHALT
- 7" CONCRETE PAVEMENT / 4" GAB
OR
7" CONCRETE PAVEMENT / 12" CEMENT TREATED SUBGRADE
- 4" SIDEWALK

PROPOSED BUILDING 4A
733,000 S.F.
FFE- 18.5
(ARCH BASE: 01/07/2022)

RAMP RETAINING WALL
(SEE ARCHITECTURAL/
STRUCTURAL PLANS FOR
DETAILS)

RAMP RETAINING WALL
(SEE ARCHITECTURAL/
STRUCTURAL PLANS FOR
DETAILS)



NO.	REVISIONS	BY	DATE
1	REVISED PER CITY OF PORT WENTWORTH COMMENTS	SGJ	3/10/22

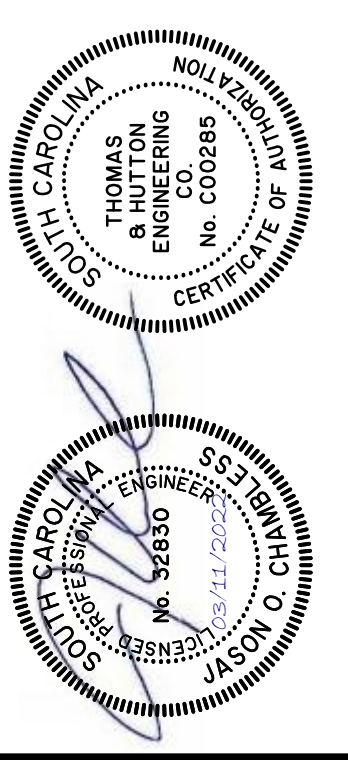
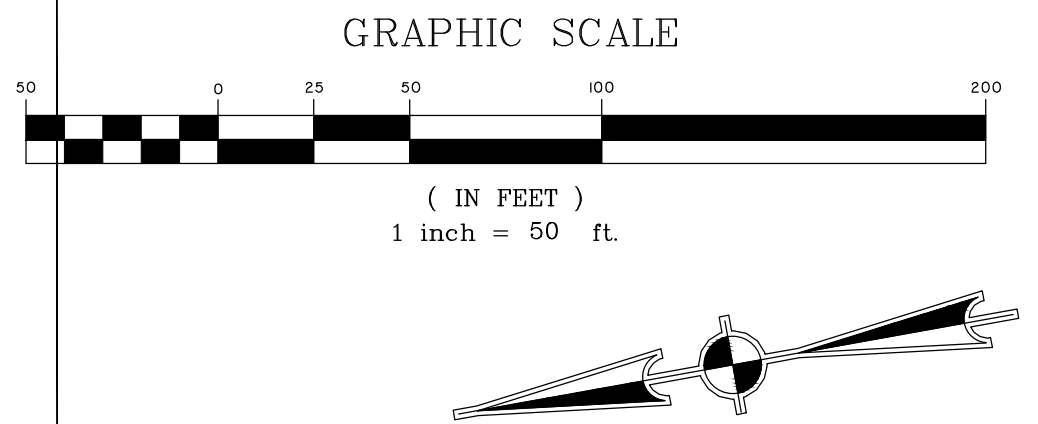
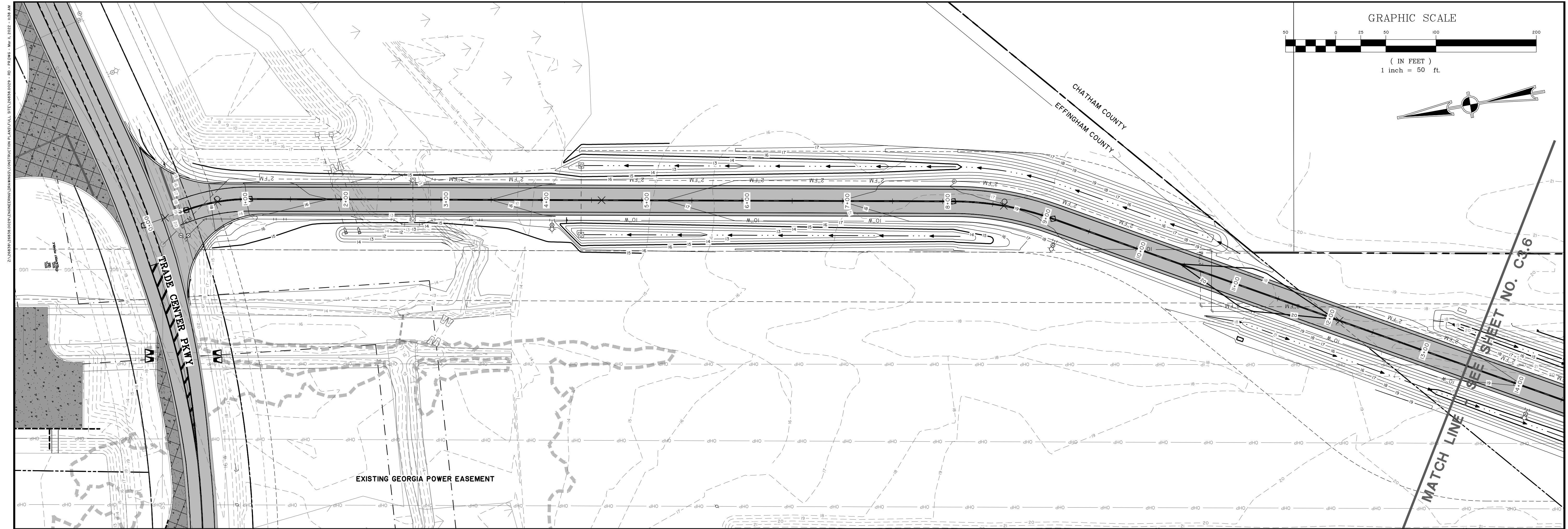
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PAVING, GRADING & DRAINAGE PLAN

JOB NO:	J-26838.0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JOC
SCALE:	1" = 60'

C3.4

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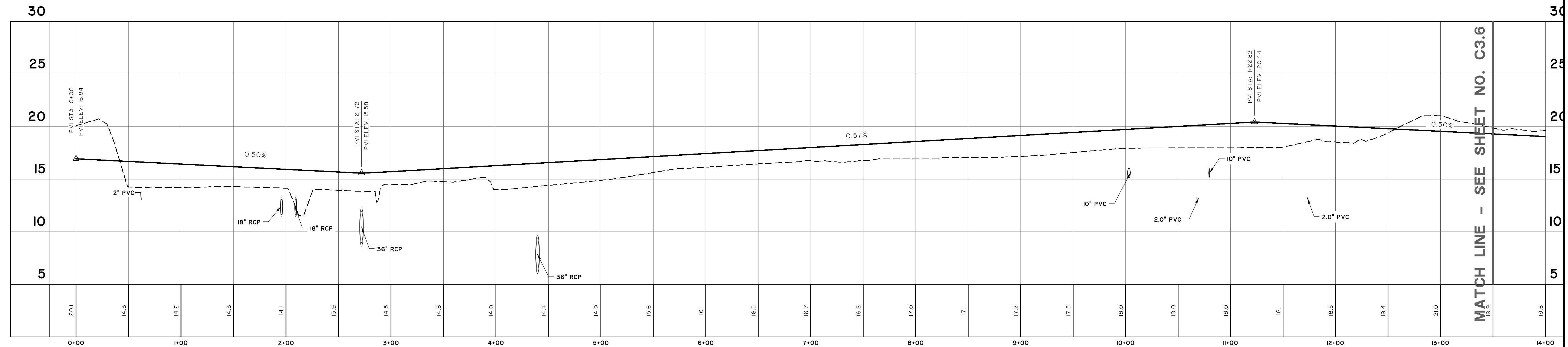
NO.	REVISIONS	BY	DATE

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CHESTERFIELD LLC
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 GITC - BUILDING 4A
 ROAD PLAN & PROFILE

JOB NO: J-26838.0029
 DATE: 01/26/2022
 DRAWN: SGJ
 DESIGNED: SGJ
 REVIEWED: FIT
 APPROVED: JOC
 SCALE: AS NOTED

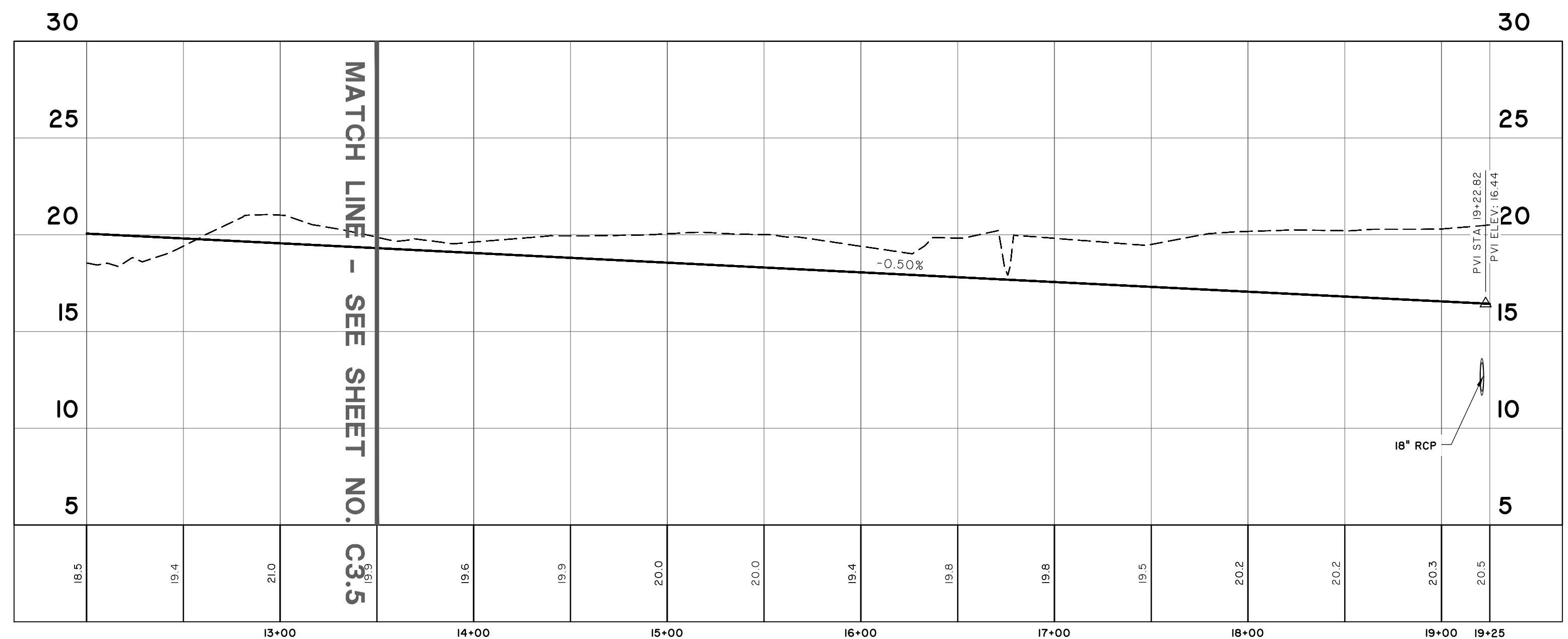
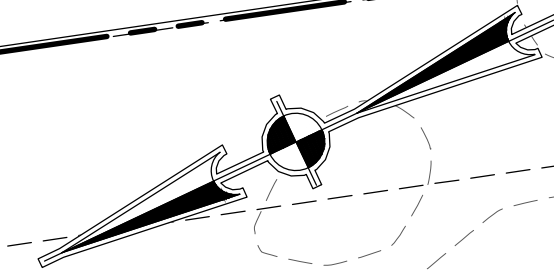
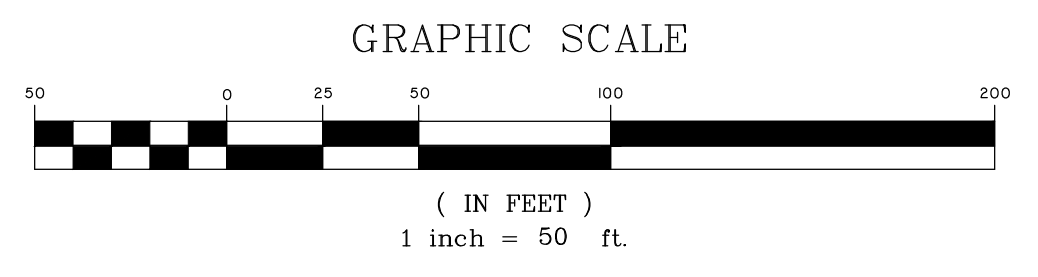
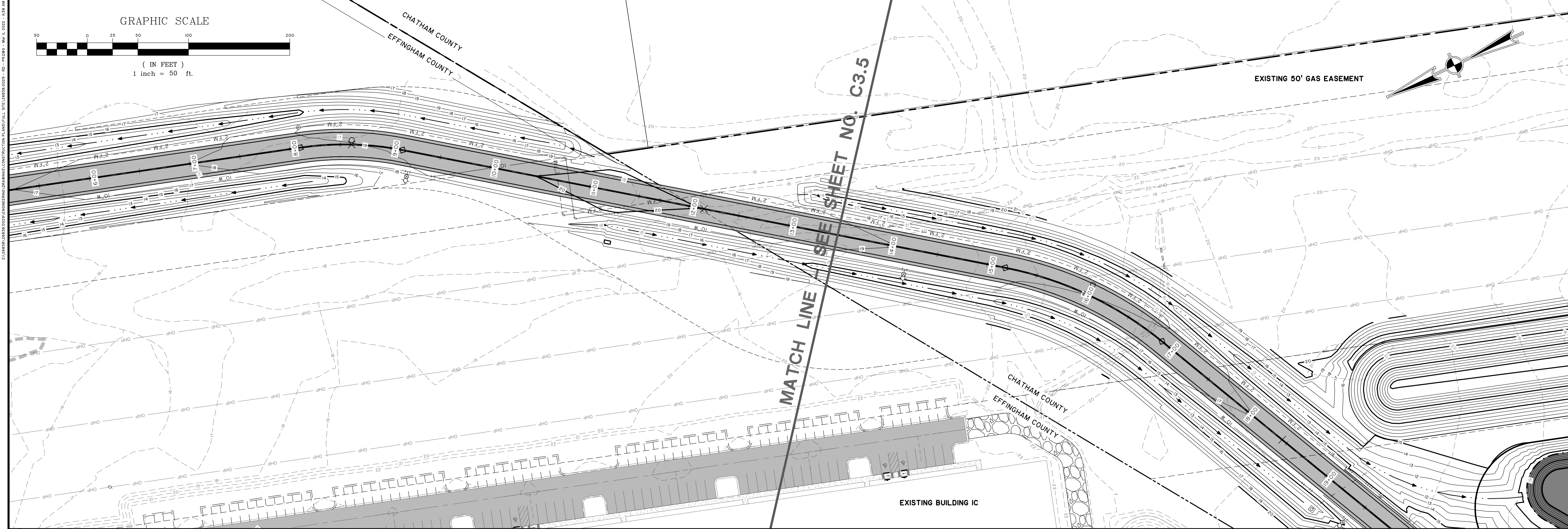
C3.5



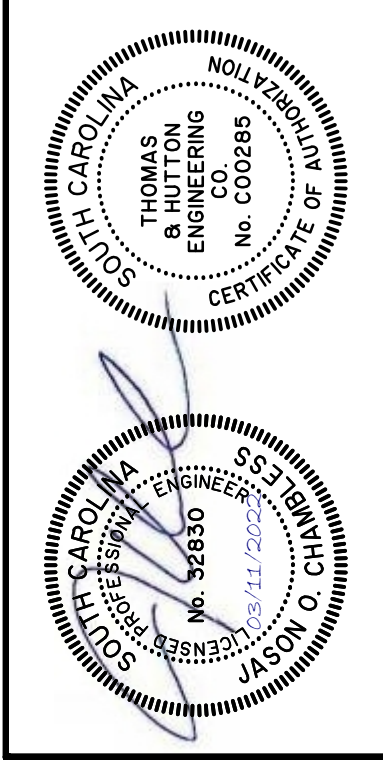
MAIN ROADWAY
 STATIONS: -0+25 - 14+00
 SCALE: HORIZ.: 1" = 1'
 VERT.: 1" = 0'

MATCH LINE - SEE SHEET NO. C3.6

PERMIT SET - FOR REVIEW PURPOSES ONLY



MAIN ROADWAY
 STATIONS: 12+00 - 19+25
 SCALE: HORZ.: 1" = 1'
 VERT.: 1" = 0'



NO.	REVISIONS	BY	DATE

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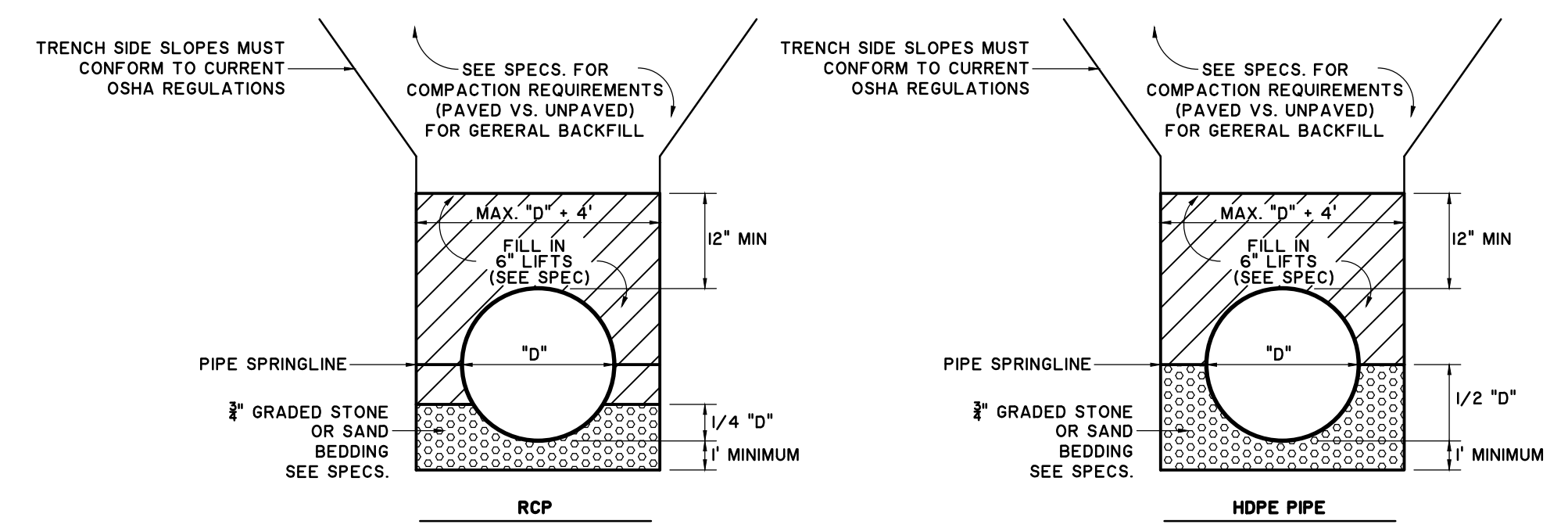
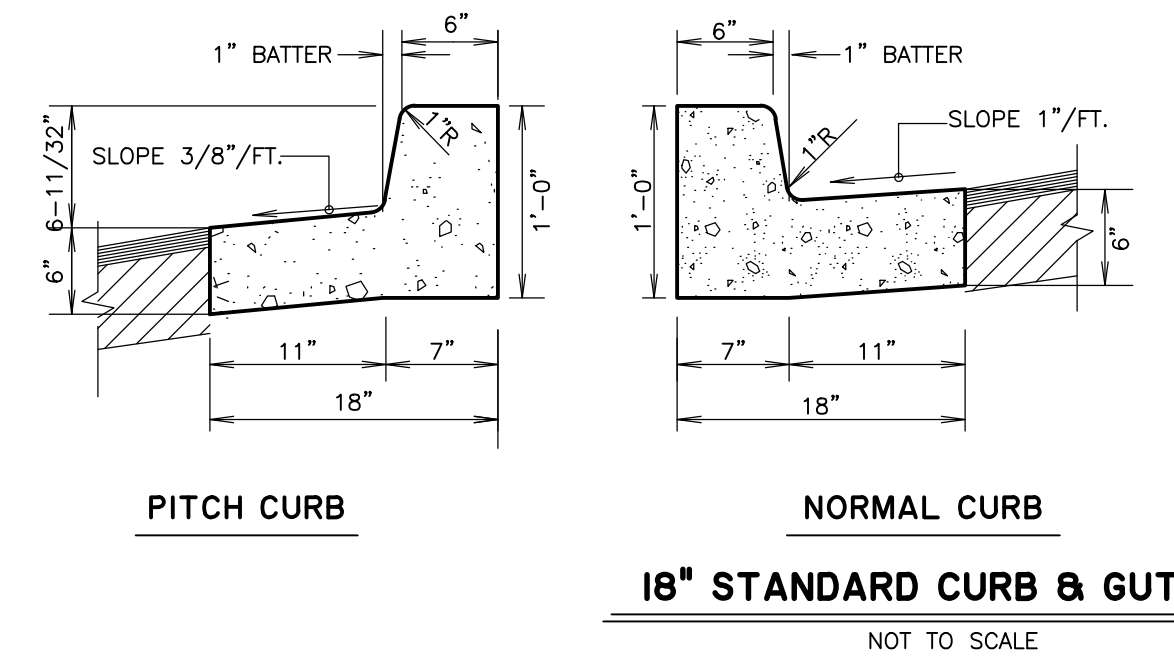
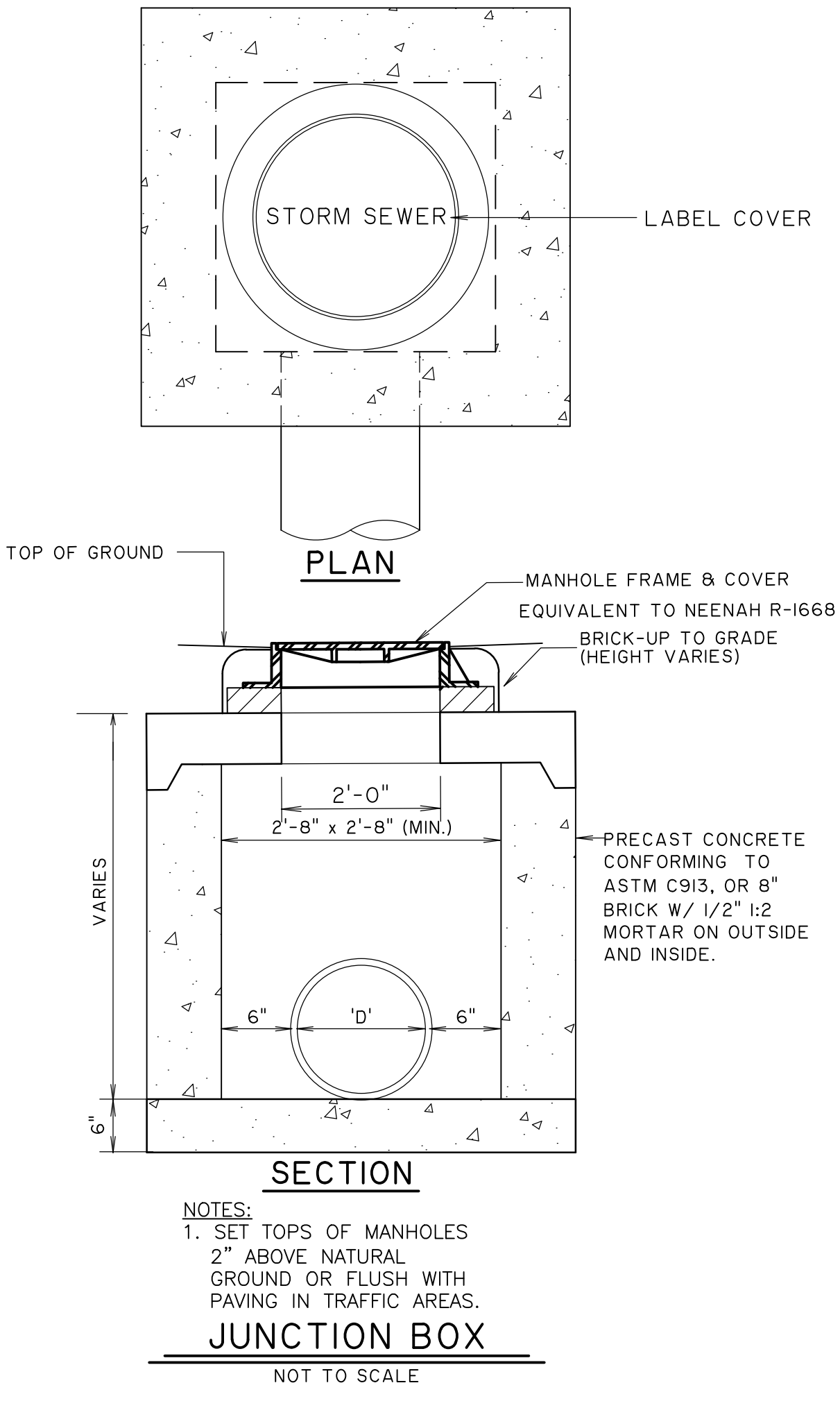
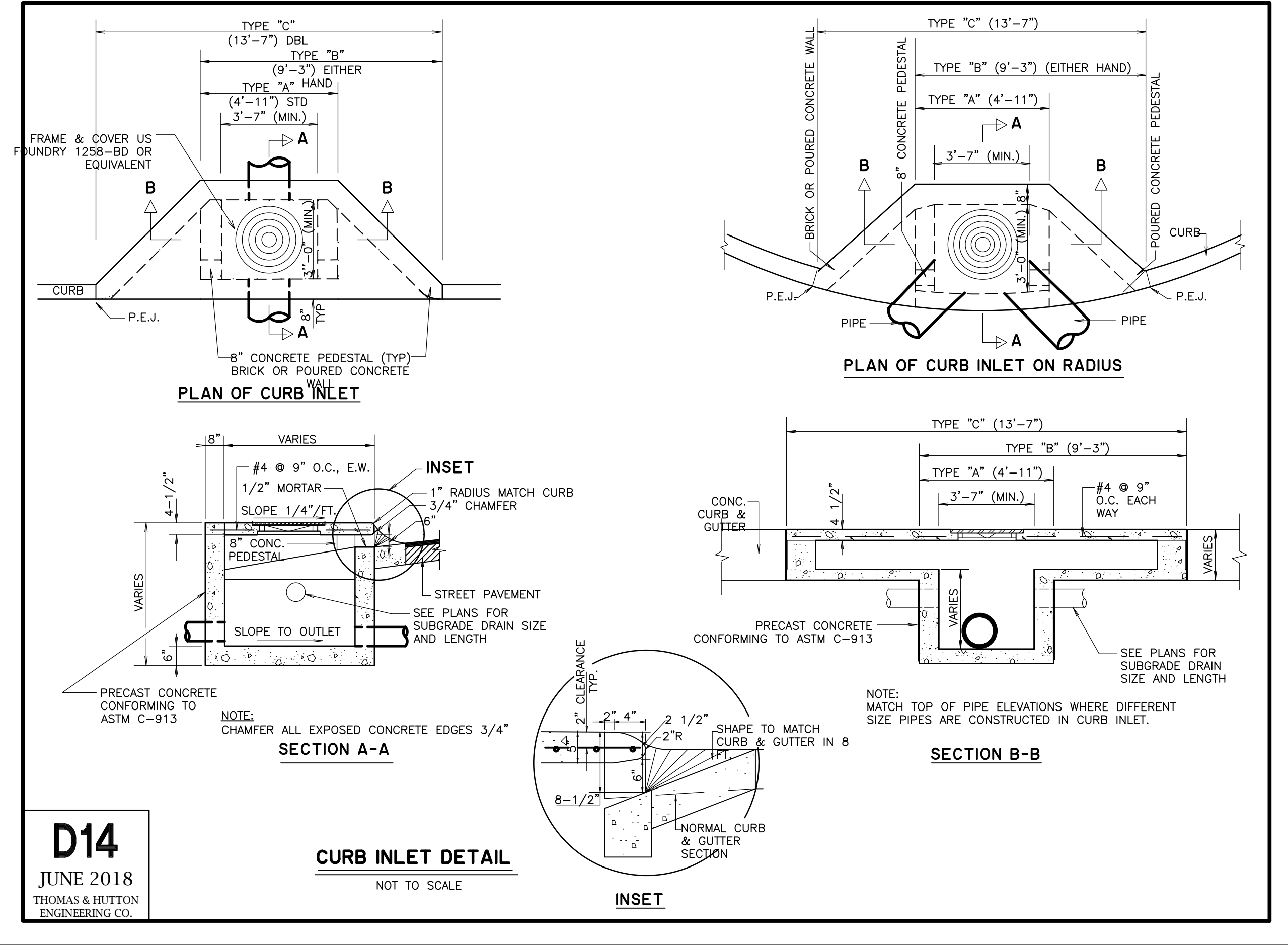
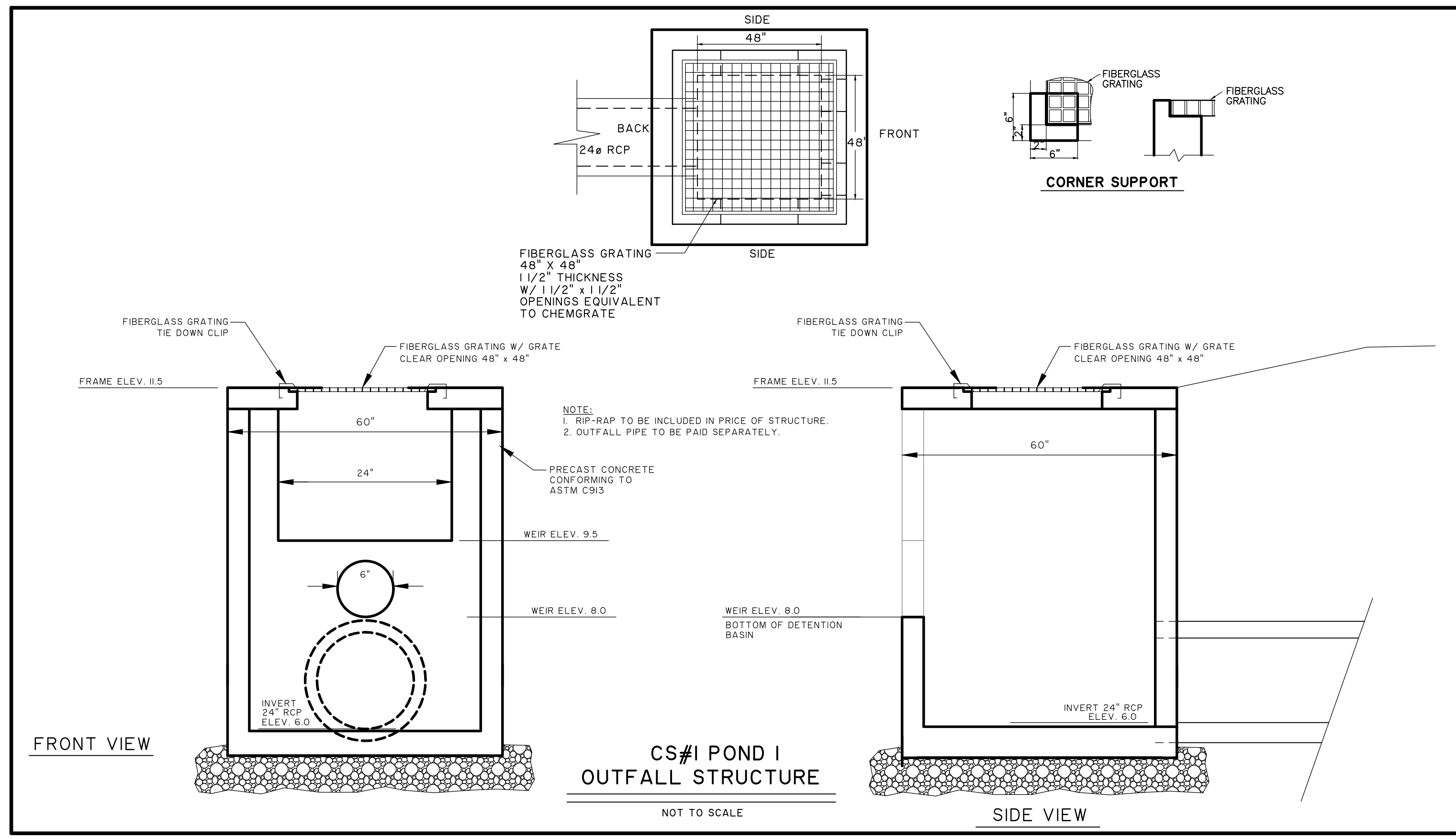
CHESTERFIELD LLC
 CHATHAM & EFFINGHAM COUNTY, GEORGIA

GITC - BUILDING 4A
 ROAD PLAN & PROFILE

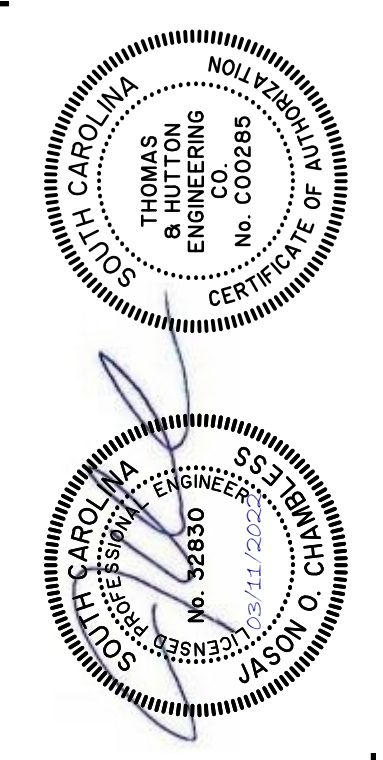
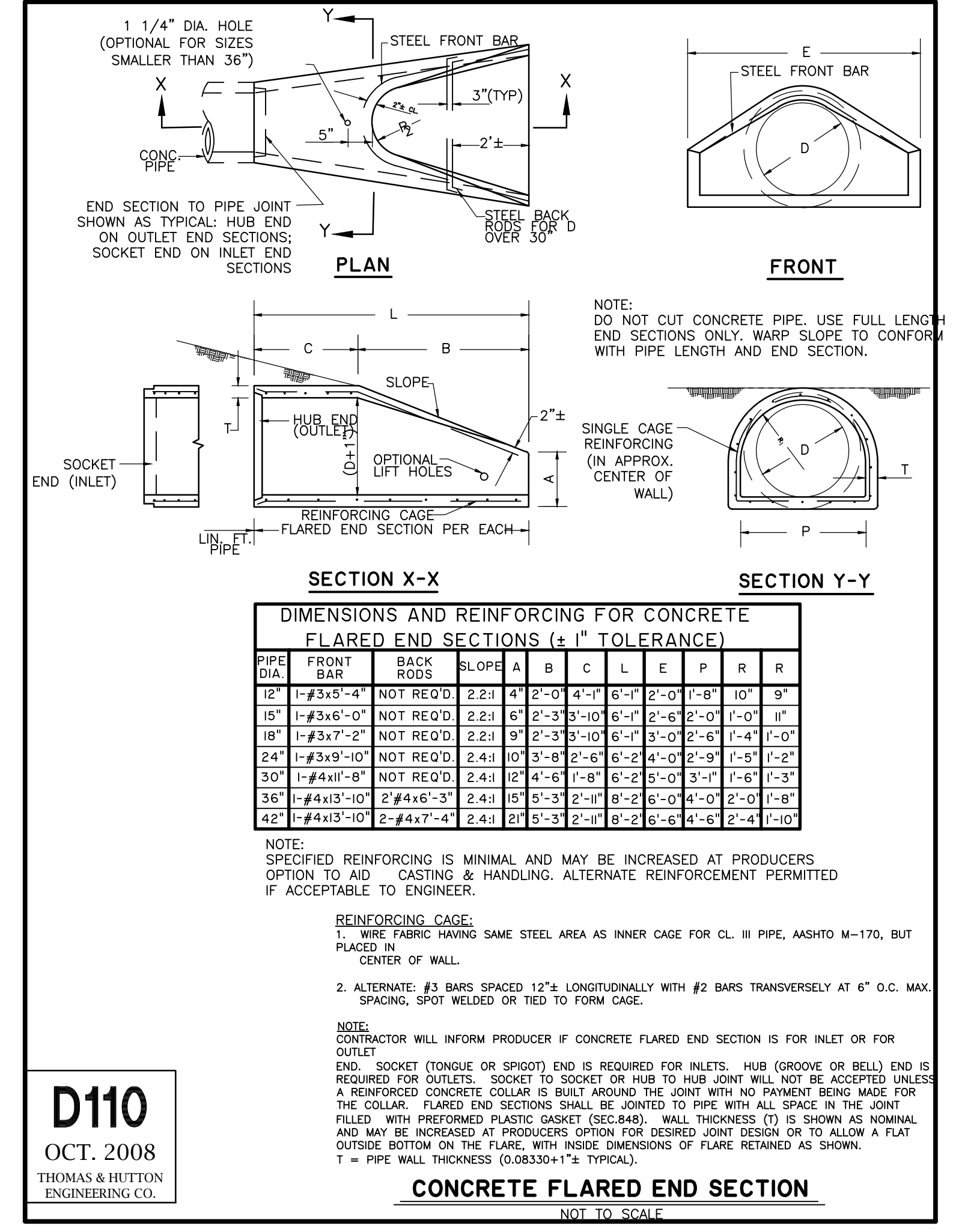
JOB NO:	J-26838.0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JOC
SCALE:	AS NOTED

C3.6

PERMIT SET - FOR REVIEW PURPOSES ONLY



- NOTES:**
- THIS DETAIL SHALL ONLY APPLY WHEN IN PLACE MATERIALS ARE UNSUITABLE FOR PIPE BEDDING. SEE THE SPECIFICATIONS FOR BEDDING REQUIREMENTS.
 - FOR PIPE UNDER 48" THE MINIMUM BEDDING DEPTH BELOW THE PIPE IS 1'. FOR 48" AND LARGER, 2' OF BEDDING SHALL BE USED UNDER PIPE. (ONLY APPLIES TO THIS DETAIL WHERE EXISTING MATERIALS ARE UNSUITABLE FOR BEDDING)
 - WHERE THE ENGINEER DETERMINES ADDITIONAL UNDERCUTTING AND STONE BEDDING IS REQUIRED BEYOND THAT SHOWN ON THE DETAILS TO PROVIDE A STABLE SUBGRADE, IT SHALL BE PAID FOR AT THE COST OF REMOVING THE ADDITIONAL UNSUITABLE MATERIAL BEYOND THAT SHOWN ON THE DETAILS, AND FURNISHING AND INSTALLING ADDITIONAL STONE BEDDING. NO PAYMENT FOR ADDITIONAL STONE OR SAND BEDDING BEYOND THE QUANTITY SHOWN ON THE DETAILS SHALL BE PAID WITHOUT PRIOR WRITTEN APPROVAL OF LOCATION, QUANTITY, AND OVERALL PRICE BY ENGINEER.
 - ALL STORMPIPE JOINTS SHOULD BE WRAPPED IN FILTER FABRIC.



NO.	REVISIONS	BY	DATE

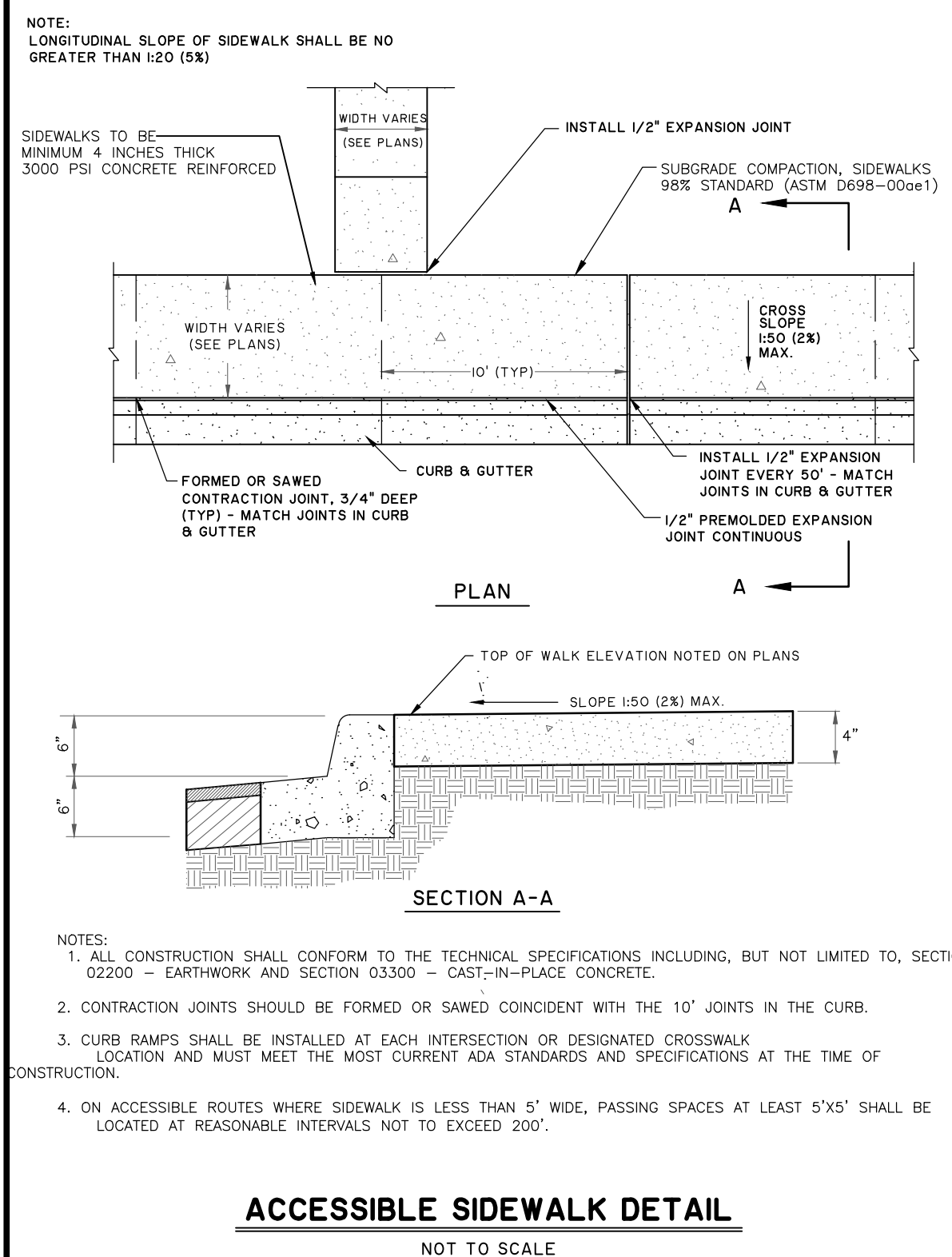
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G1C - BUILDING 4-A
PAYING GRADING AND DRAINAGE DETAILS

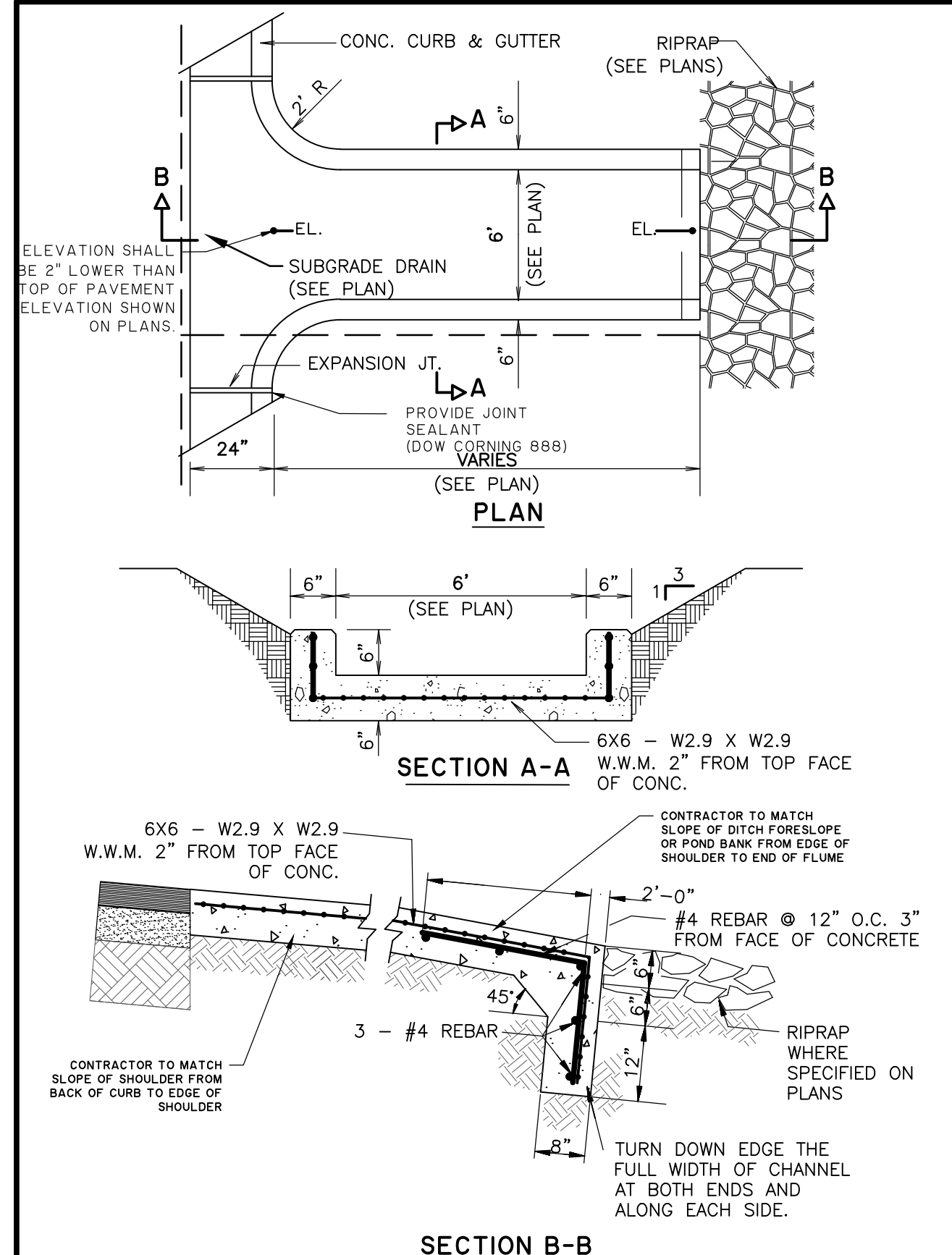
JOB NO: J-26838 0029
DATE: 01/26/2022
DRAWN: SGJ
DESIGNED: SGJ
REVIEWED: FIT
APPROVED: JOC
SCALE: 1" = 1'-0"

C4.1

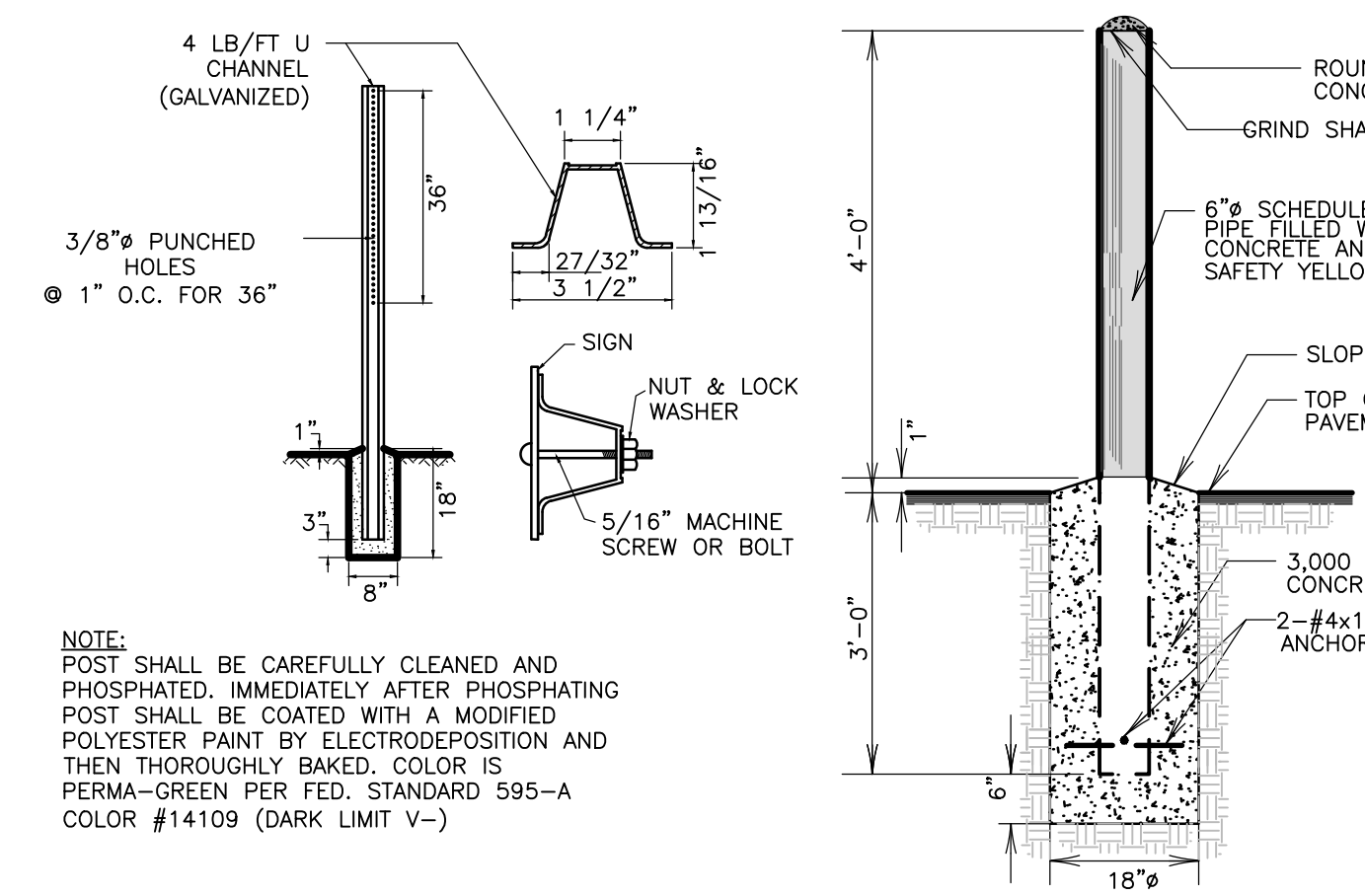
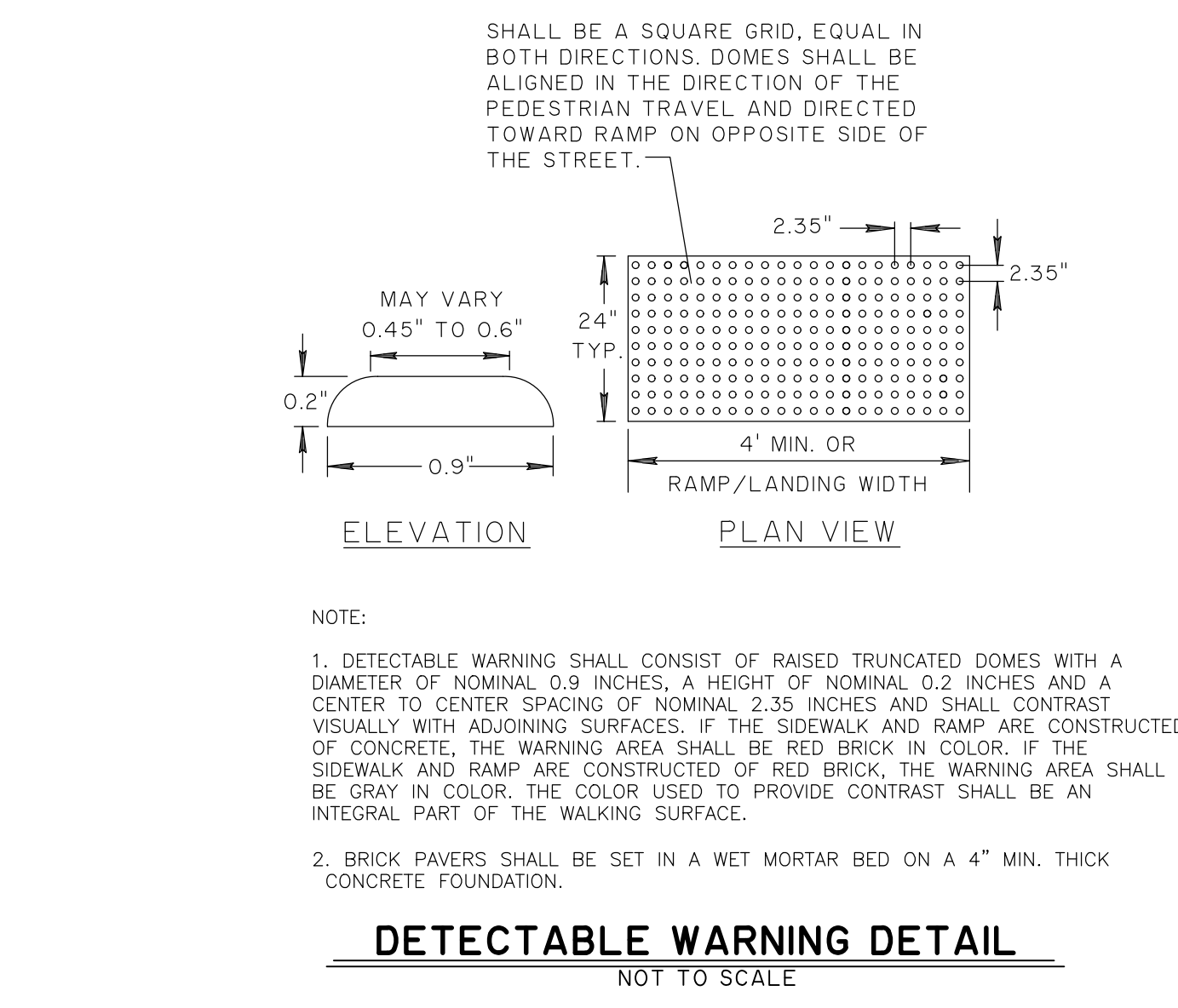
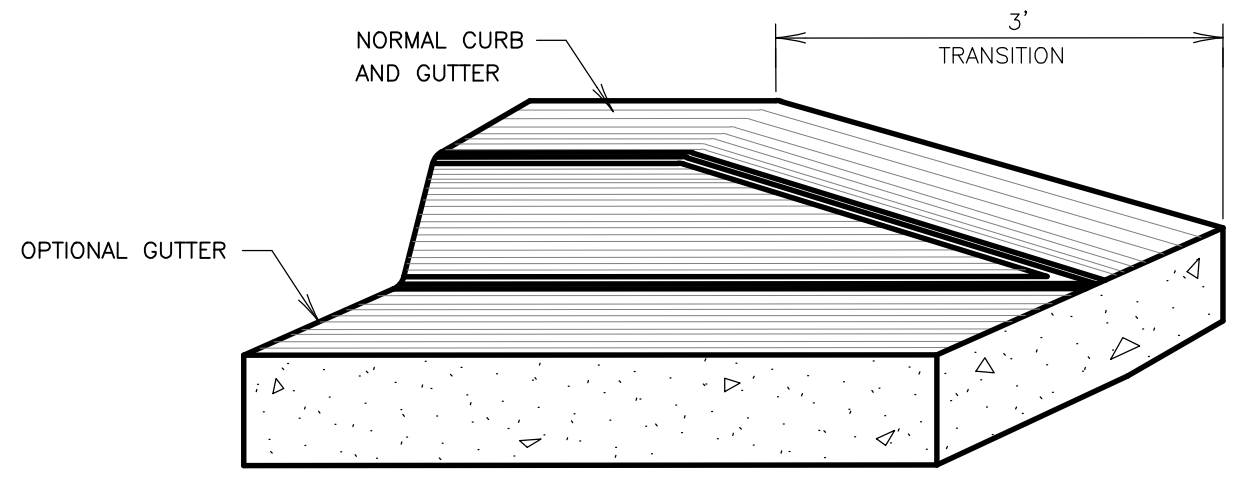
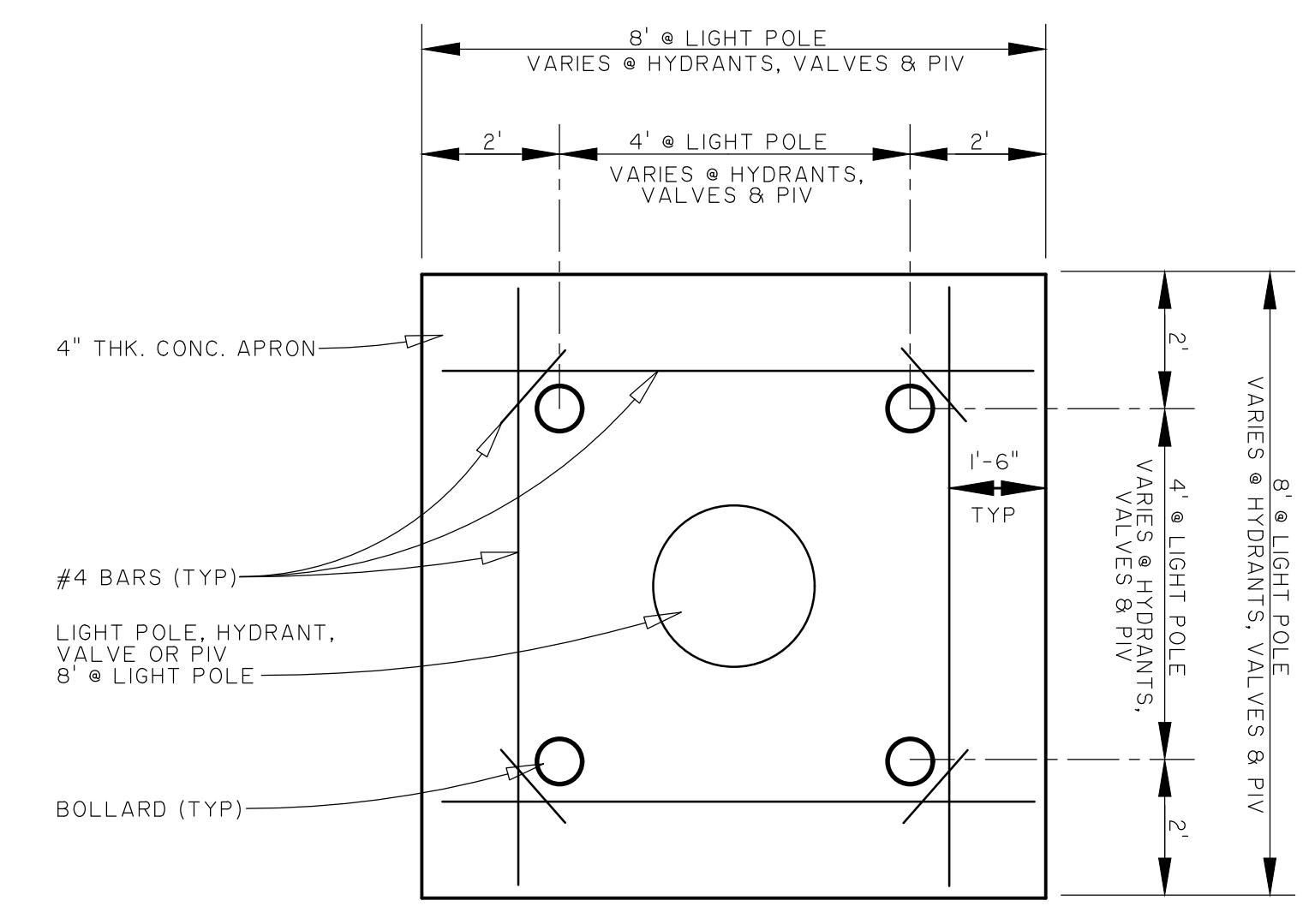
PERMIT SET - FOR REVIEW PURPOSES ONLY



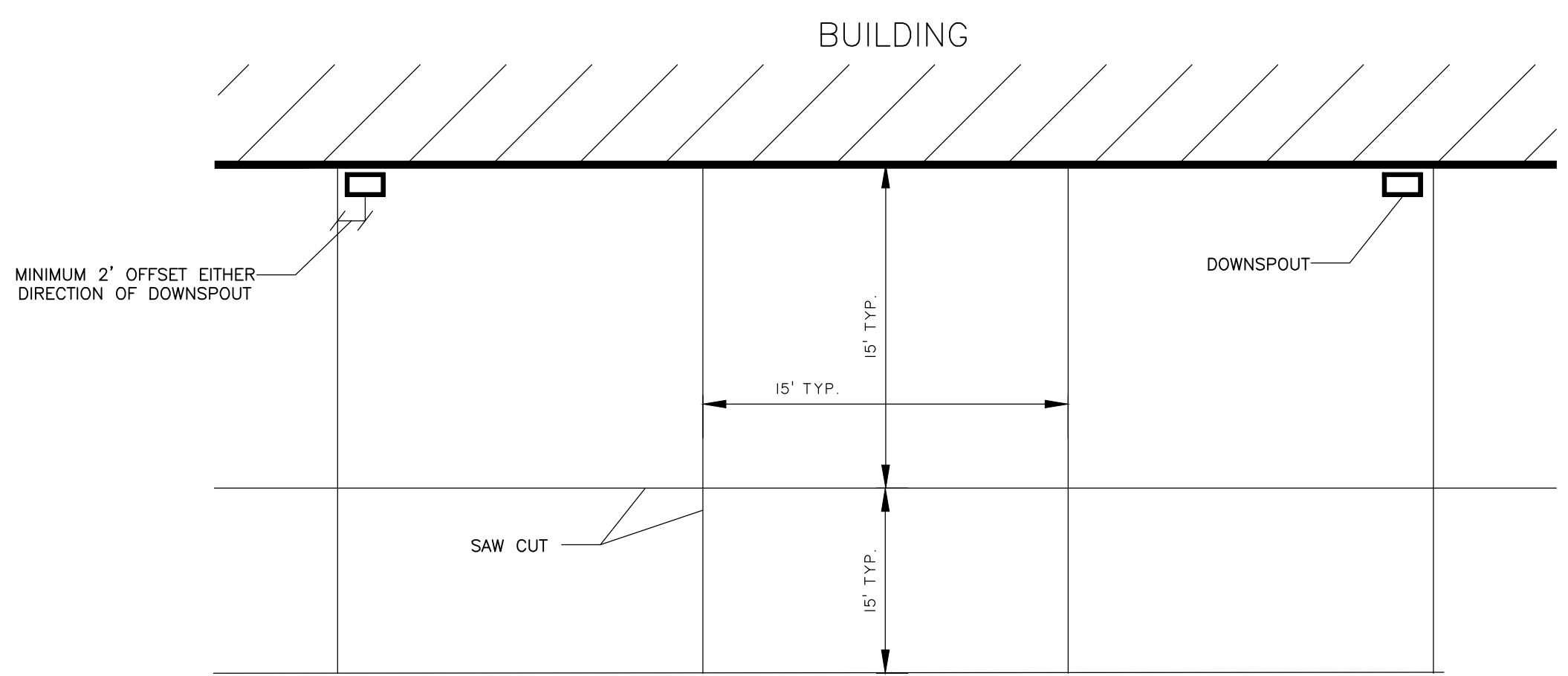
A5.1
FEB. 2009
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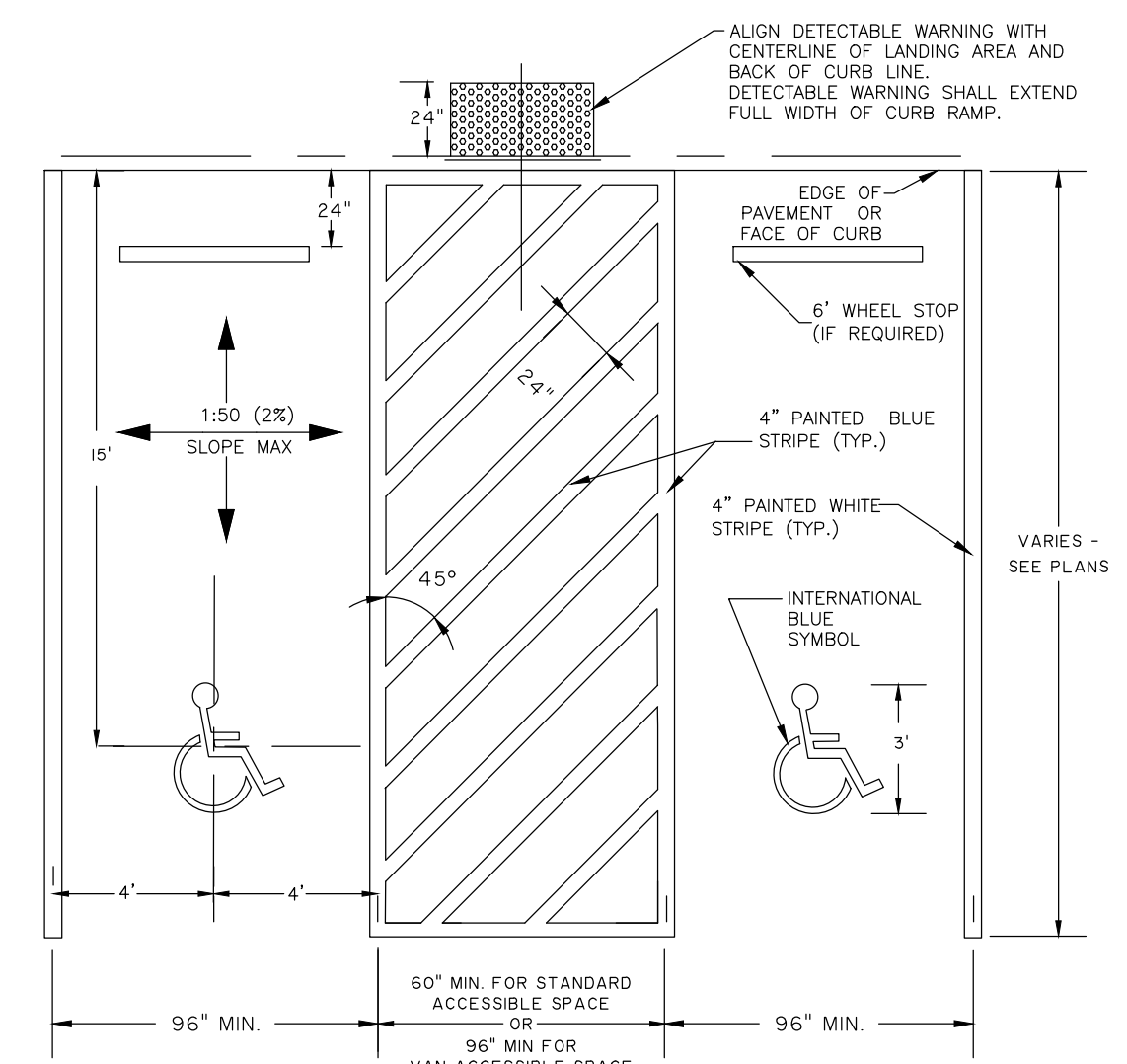
D31M
JUN. 2016
THOMAS & HUTTON
ENGINEERING CO.



SIGN POST DETAIL
NOT TO SCALE

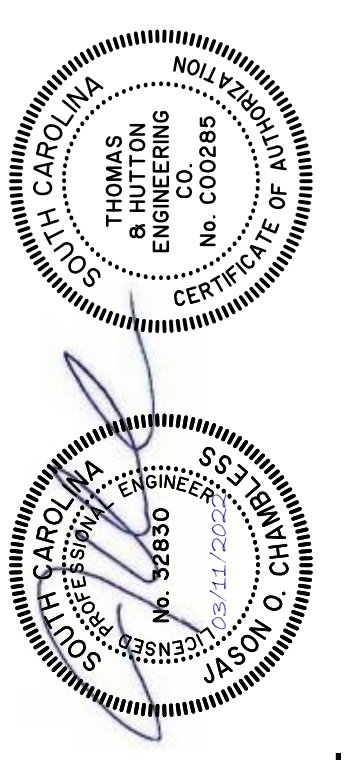
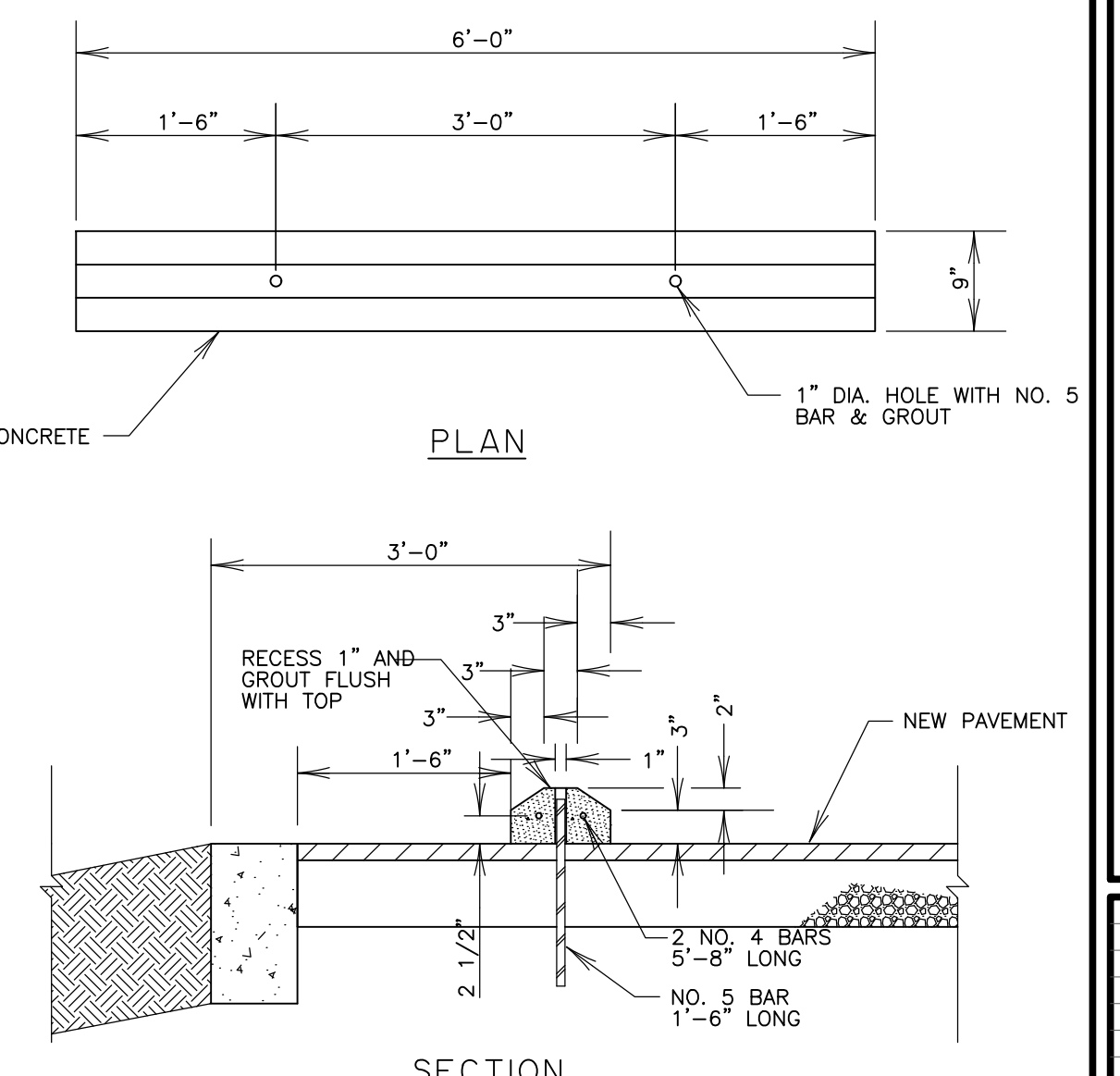
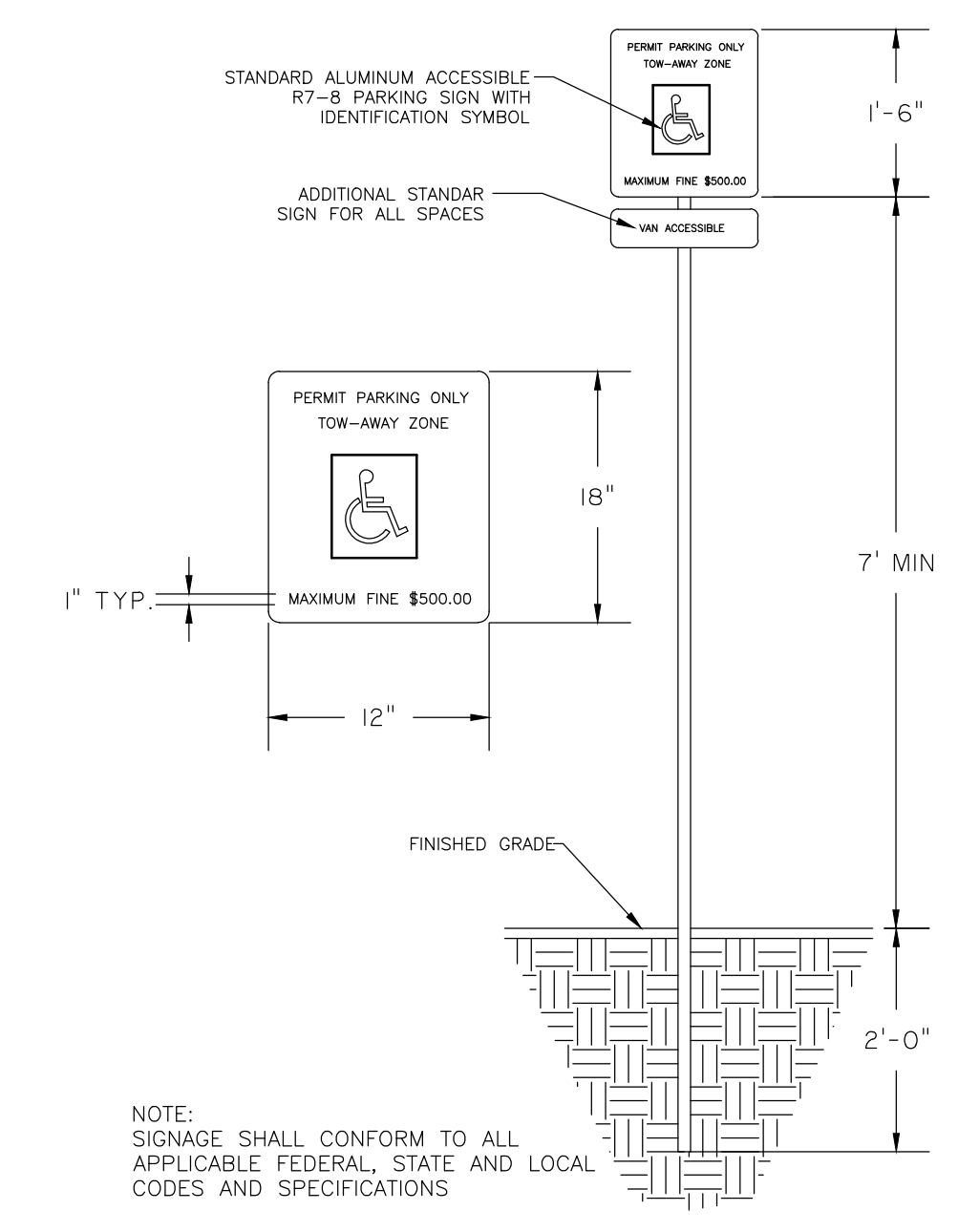


TYPICAL SAW JOINT SPACING PLAN
CONTRACTOR TO PROVIDE FINAL PLAN FOR REVIEW



ACCESSIBLE PARKING SPACE STRIPING DETAIL
NOT TO SCALE

NOTES:
1. STRIPING AND CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND SPECIFICATIONS.
2. 2% MAXIMUM SLOPE IN ALL DIRECTIONS WITHIN ACCESSIBLE SPACE AND ACCESS AISLE.
3. ONE IN EVERY 8 ACCESSIBLE SPACES SHALL BE SERVED BY AN 8' WIDE ACCESS AISLE AND SHALL BE DESIGNATED "VAN ACCESSIBLE".



NO.	REVISIONS	BY	DATE

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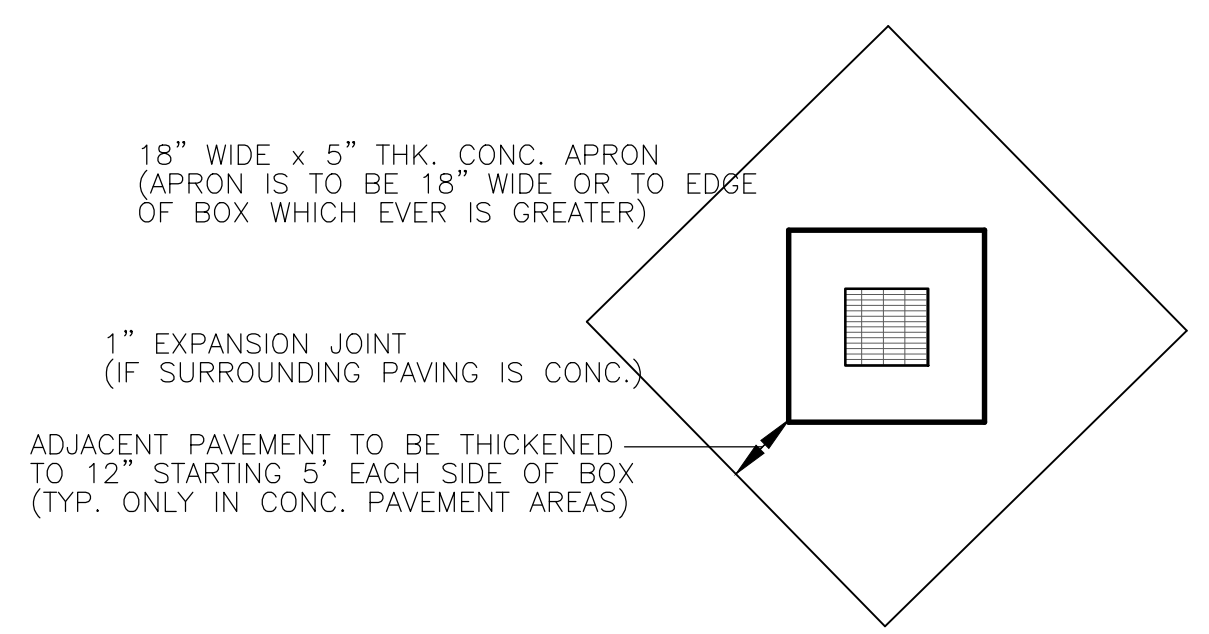
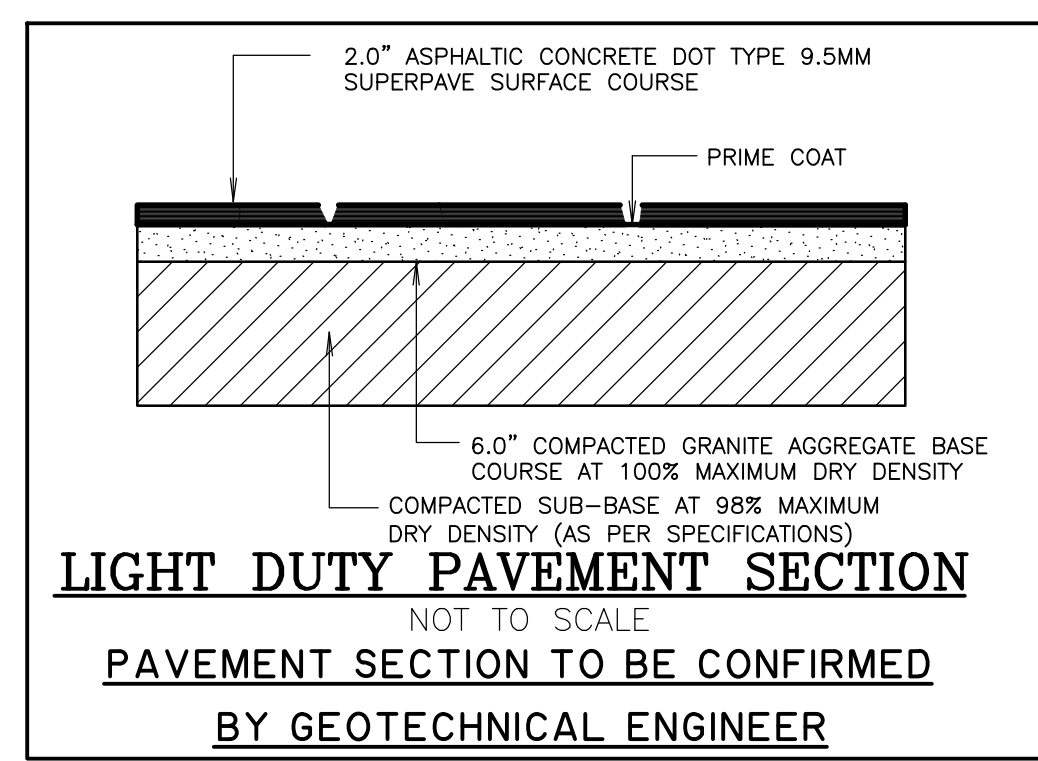
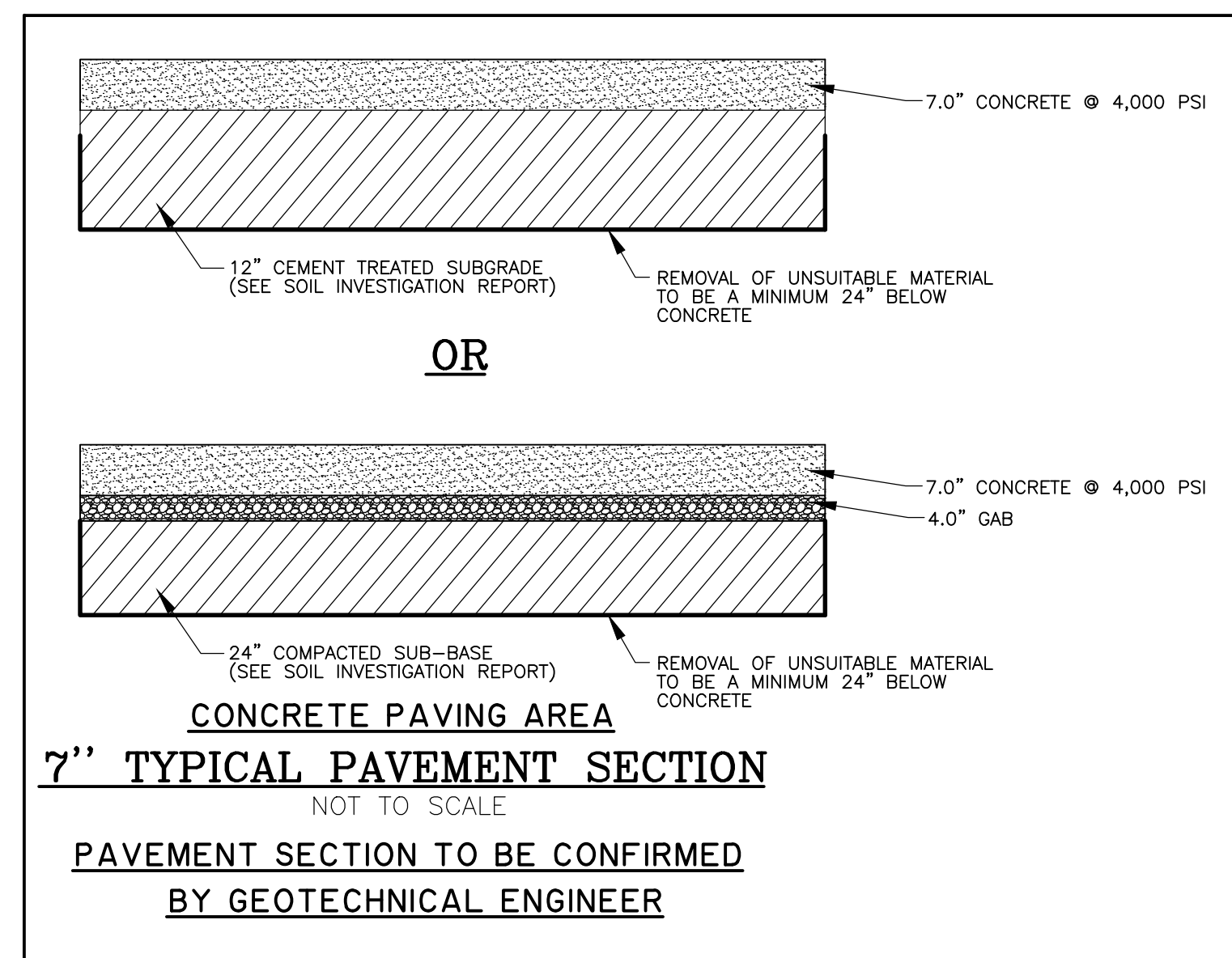
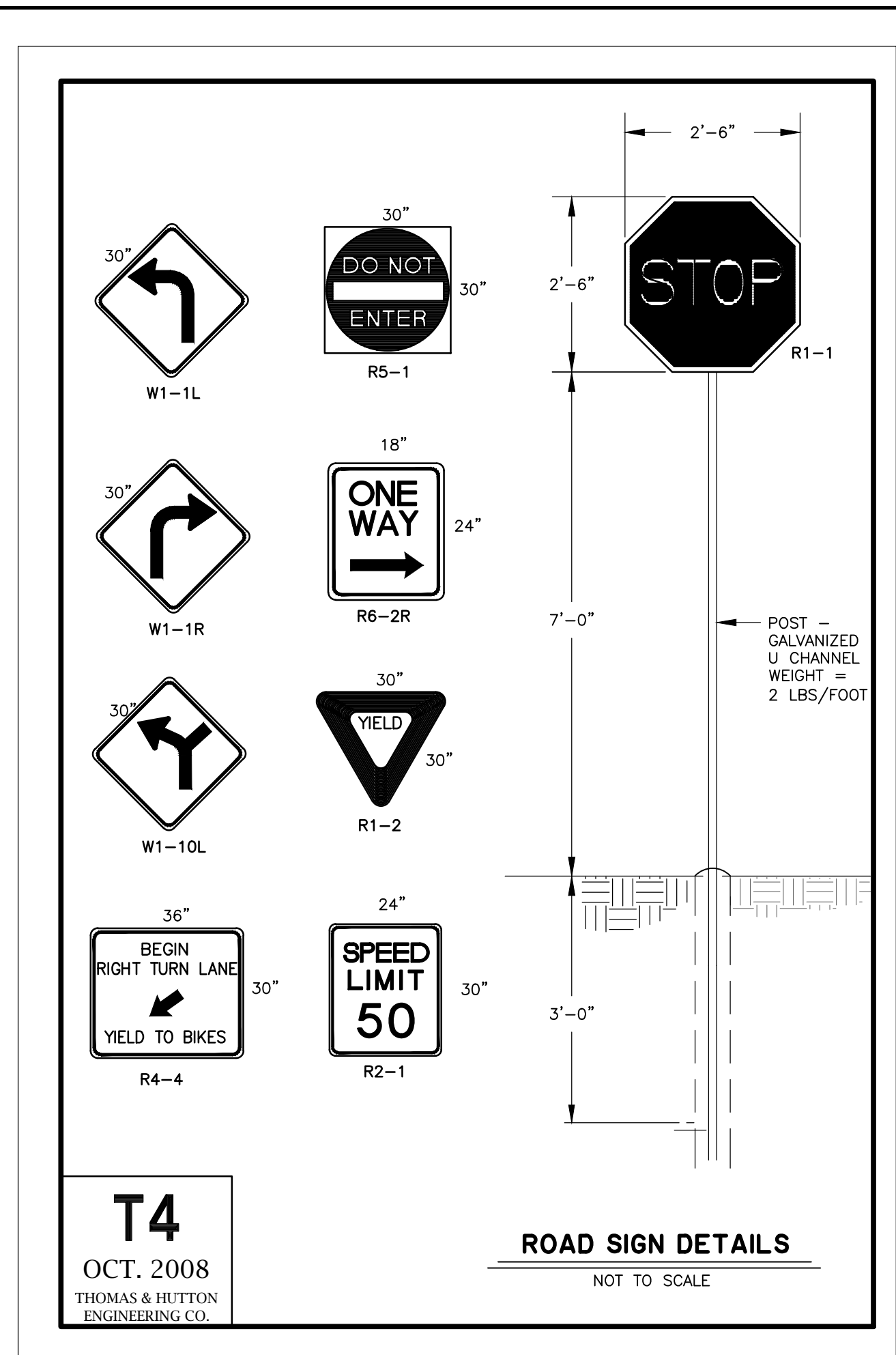
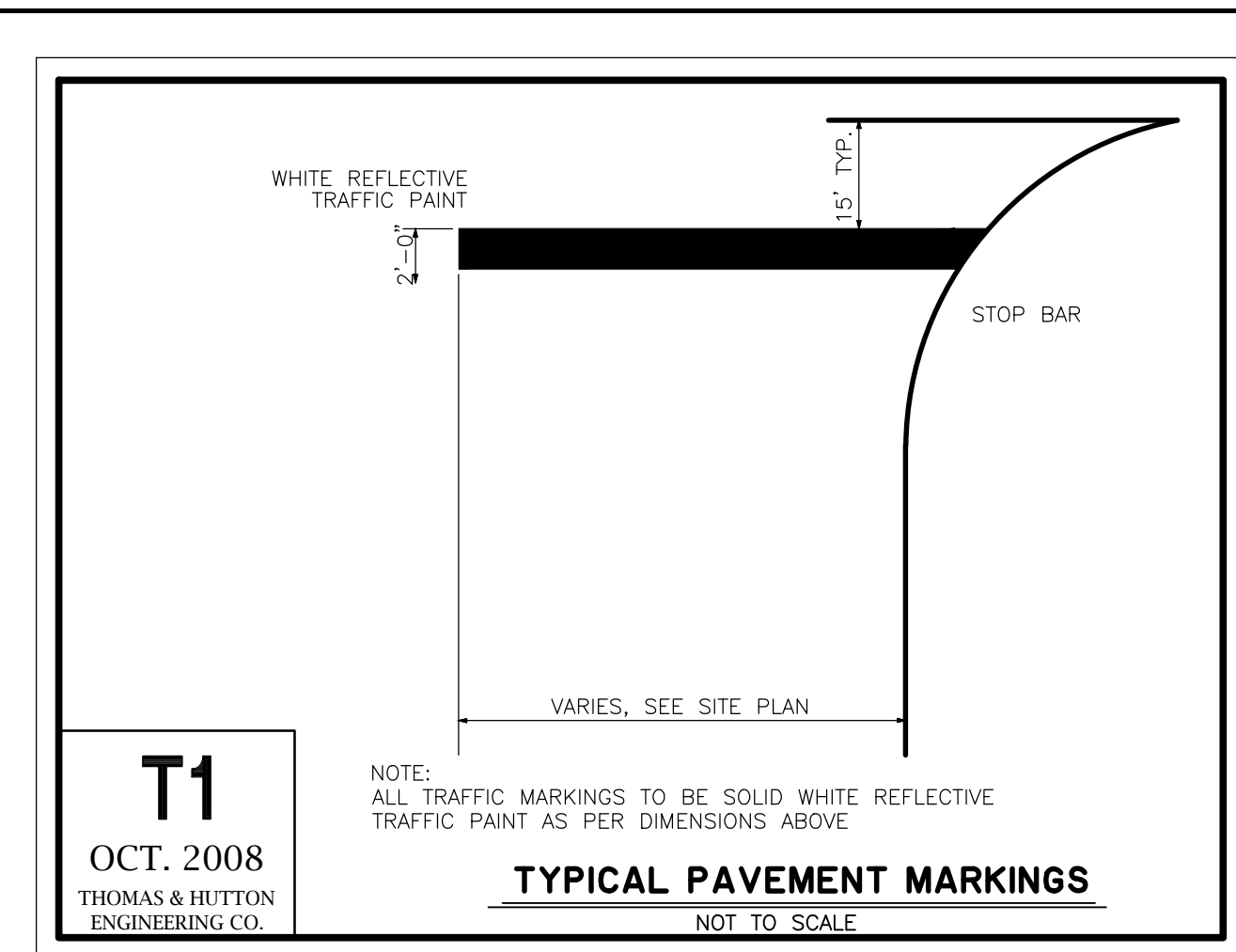
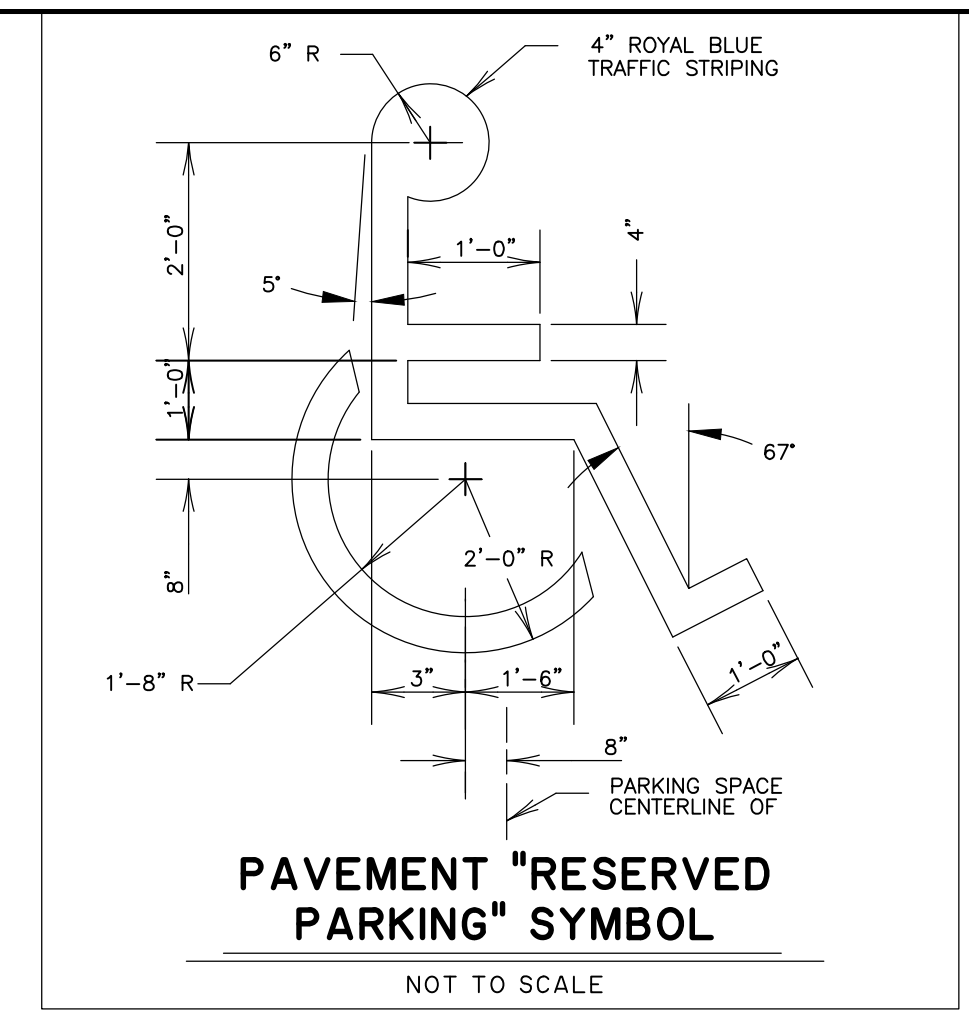
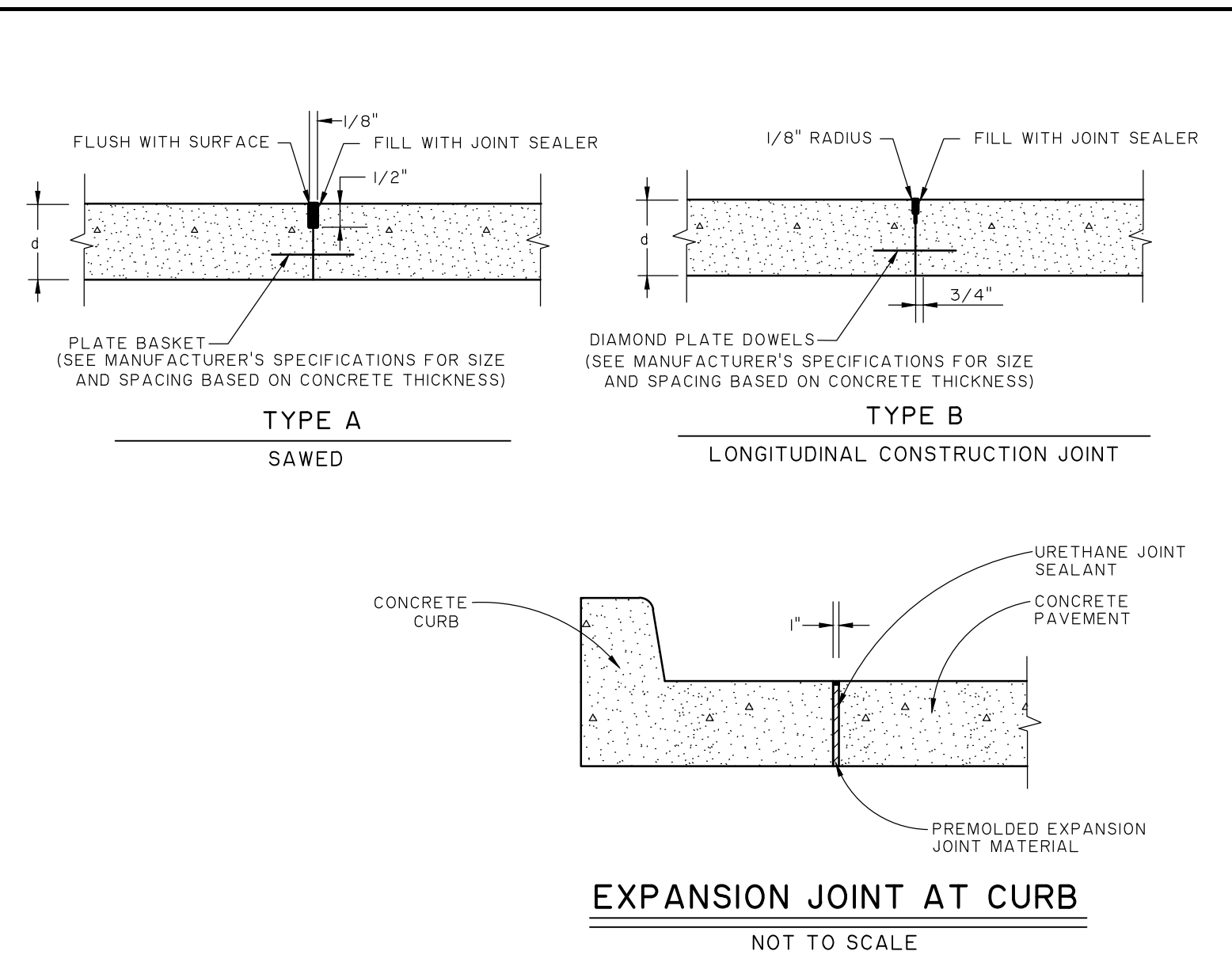
CHESTERFIELD LLC
CHATHAM & EFFINGHAM COUNTY, GEORGIA
GITC - BUILDING 4-A
PAVING GRADING AND DRAINAGE DETAILS

JOB NO: J-26838 0029
DATE: 01/26/2022
DRAWN: SGJ
DESIGNED: SGJ
REVIEWED: FIT
APPROVED: JOC
SCALE: 1" = 1'

C4.2

PERMIT SET - FOR REVIEW PURPOSES ONLY

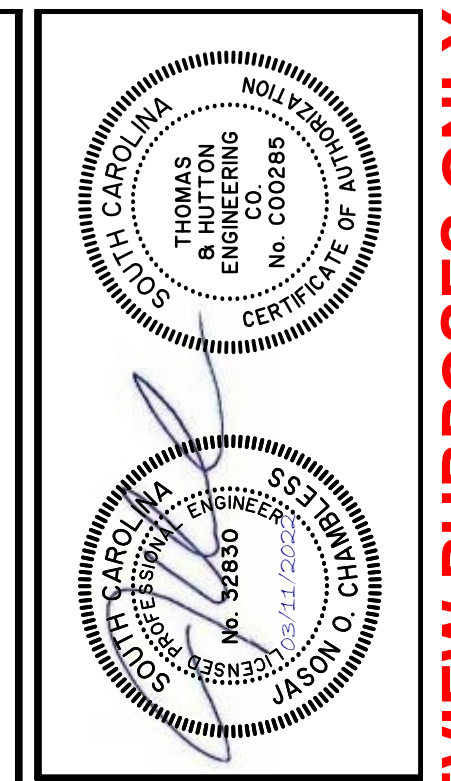
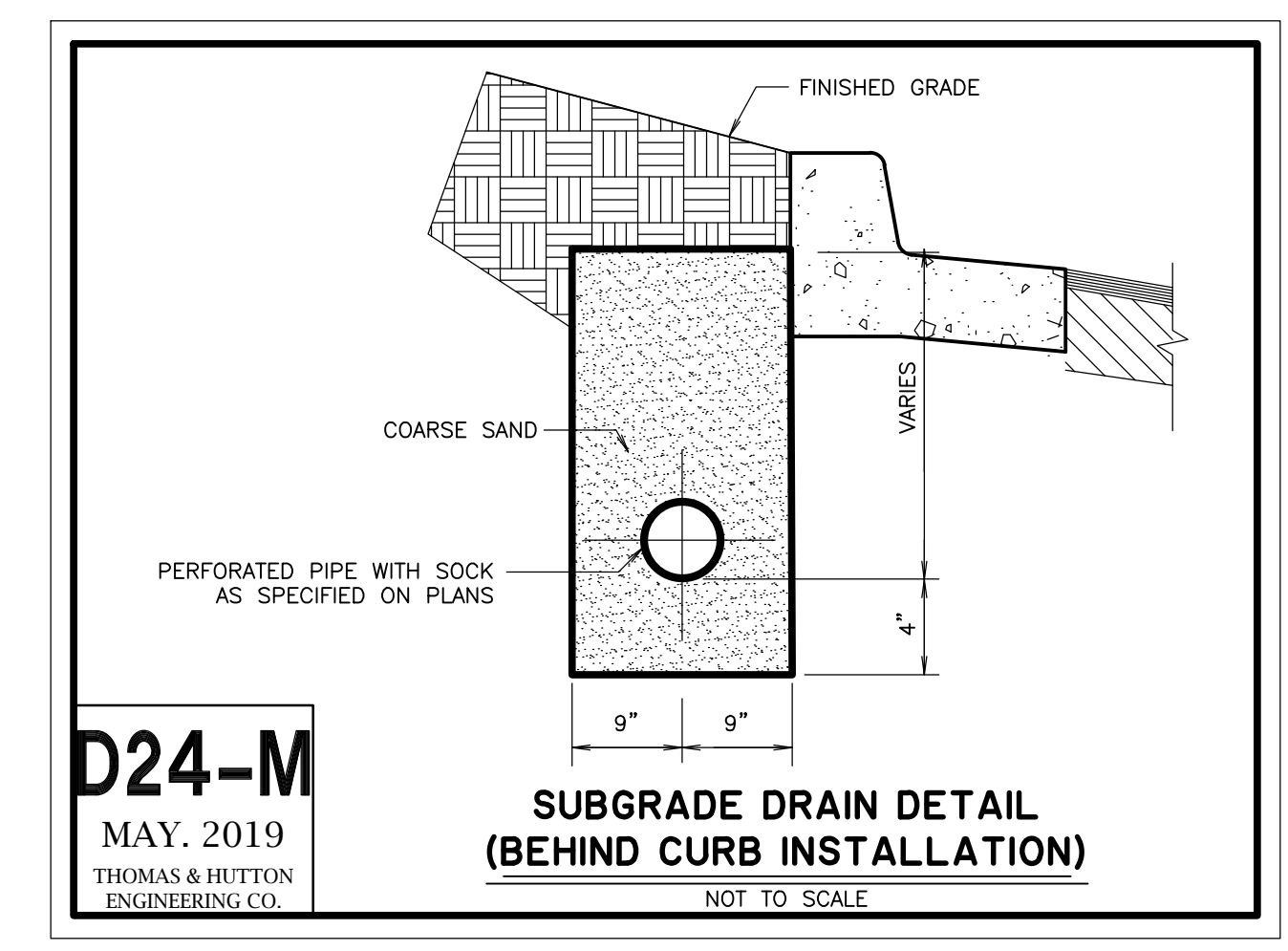
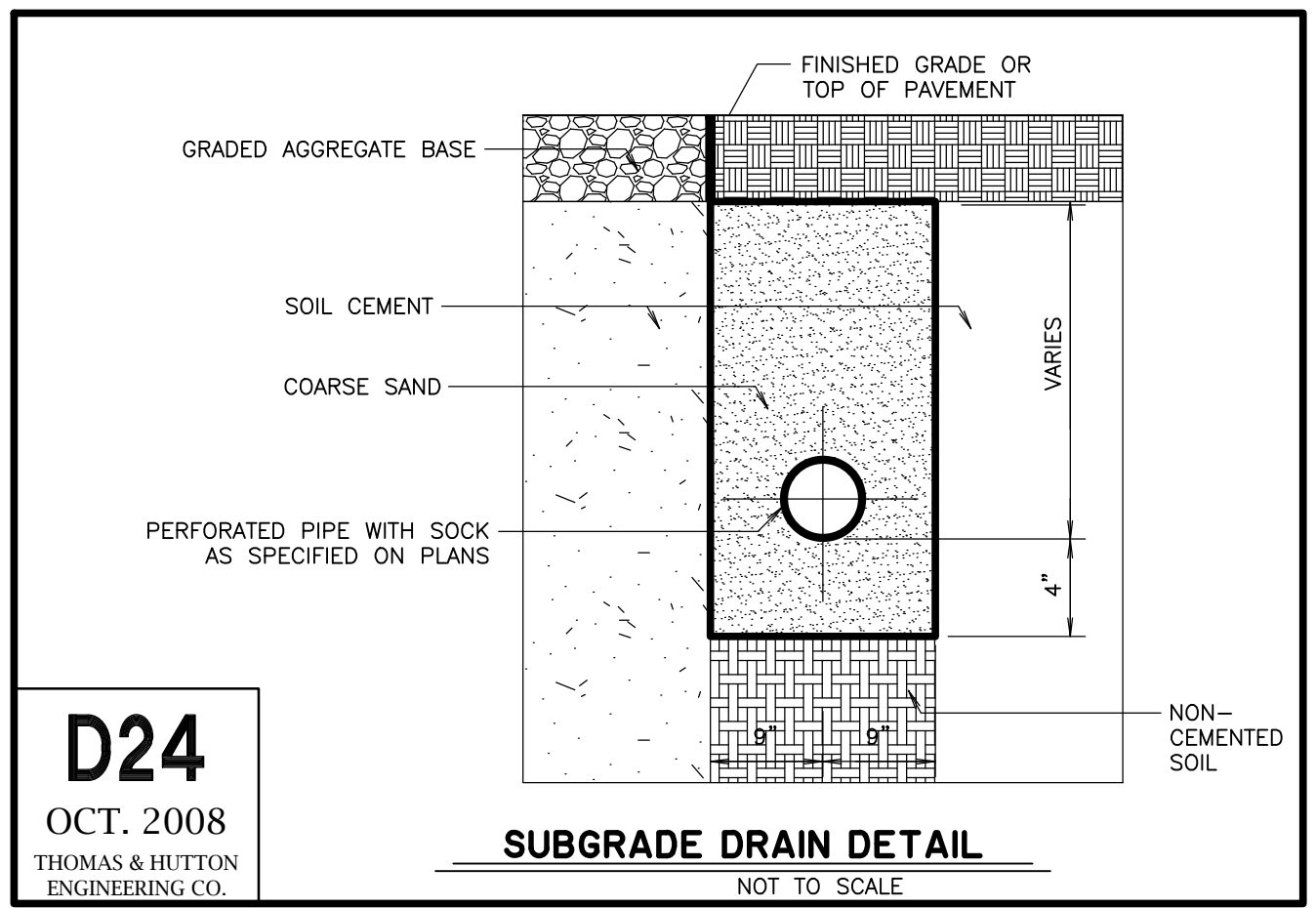
2/18/2018 10:08:00 AM Engineering/Drawings/General/Plan/3/18/2018 001 - P00-DT1.dwg - Mr. S. 2022 - 433539.DWG



- ALL CATCH BASINS SHALL BE SEPARATED FROM THE PAVEMENT AND CURB BY BOXING OUT AROUND BASIN AS SHOWN ABOVE. EXPANSION JOINT MATERIAL SHALL RUN COMPLETELY THROUGH CURB AND SLAB. MANHOLE CASTINGS WITHIN THE PAVEMENT SHALL BE BOXED IN LIKE MANNER EXCEPT WHEN TELESCOPING TYPE CASTINGS ARE USED.
- WHEN A JOINT FALLS WITHIN 5' OF OR CONTACTS BASINS, MANHOLES, OR OTHER STRUCTURES, SHORTEN ONE OR MORE PANELS EITHER SIDE OF OPENING TO PERMIT JOINT TO FALL ON ROUND STRUCTURES AND AT OR BETWEEN CORNERS OF RECTANGULAR STRUCTURES.
- ALL TRANSVERSE JOINTS MUST EXTEND THROUGH CURBS AND MUST BE CONTINUOUS ACROSS PAVEMENT, EXCEPT TIED TRANSVERSE CONSTRUCTION JOINTS. EXPANSION JOINTS WILL NOT BE REQUIRED EXCEPT AT STRUCTURES OR AS SHOWN ON THE PLANS.
- ALL SOFT AND YIELDING MATERIAL AND OTHER PORTIONS OF THE SUBGRADE WHICH WILL NOT COMPACT READILY WHEN ROLLED OR TAMPED SHALL BE REMOVED AS DIRECTED AND REPLACED WITH SUITABLE MATERIAL PLACED AND COMPACTED.
THE SUBGRADE SHALL BE THOROUGHLY COMPACTED WITH SUITABLE EQUIPMENT TO HAVE UNIFORM DENSITY AT MOISTURE CONTENTS OF NOT LESS THAN STANDARD OPTIMUM(AASHTO 98). ALL SEWER TRENCHES AND STRUCTURE EXCAVATIONS SHALL BE BACKFILLED TO NATURAL OR FINISHED GRADE AS SOON AS CONDITIONS PERMIT. ALL BACKFILL SHALL BE COMPACTED WITH MECHANICAL TAMPERS IN LAYERS OF NOT OVER 6" LOOSE MATERIAL IN ORDER TO PREVENT DIFFERENTIAL HEAVE. THE BACKFILL MATERIAL SHALL BE THE SAME MATERIAL AS THE SUBGRADE ADJACENT TO THE TRENCH.
- THE MINIMUM CEMENT CONTENT SHALL NOT BE LESS THAN 6.0 SACKS (94 LB. PER SACK) PER CU. YD. OF CONCRETE. THE MAXIMUM SIZE AGGREGATE SHALL NOT EXCEED 1/4 OF THE SLAB THICKNESS. THE MAXIMUM SLUMP SHALL NOT EXCEED 3". ALL CONCRETE SHALL BE AIR ENTRAINED IN ACCORDANCE WITH THE FOLLOWING TABLE:

MAX. SIZE OF COARSE AGGREGATE, INCHES	AIR CONTENT, PER CENT BY VOLUME
1-1/2 ± 2	5 ± 1
3/4 ± 1	6 ± 1
3/8 ± 1/2	7-1/2 ± 1

CONCRETE PAVEMENT DETAILS
NOT TO SCALE



NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300
www.thomasandhutton.com

CHESTERFIELD LLC
CHATHAM & EFFINGHAM COUNTY, GEORGIA
G17C - BUILDING 4A
PAVING GRADING AND DRAINAGE DETAILS

JOB NO:	J-26838.0029
DATE:	01/26/2022
DRAWN:	SGJ
DESIGNED:	SGJ
REVIEWED:	FIT
APPROVED:	JOC
SCALE:	1" = 1'

C4.3

PERMIT SET - FOR REVIEW PURPOSES ONLY



STORMWATER MANAGEMENT REPORT

FOR:

**GITC – CHATHAM BUILDING
BUILDING 4A**

PORT WENTWORTH, GEORGIA

**PREPARED FOR:
CHESTERFIELD, LLC**



J – 26838.0029

JANUARY 2022

TABLE OF CONTENTS

Section 1 – Summary of ResultsPage 1
 Section 2 – Project NarrativePage 2
 Section 3 – Purpose.....Page 2
 Section 4 – Pre–Development ConditionsPage 3
 Section 5 – Post–Development Conditions.....Page 3
 Section 6 – Stormwater Runoff Reduction MethodologyPage 3
 Section 7 – Stormwater Quality Treatment MethodologyPage 4
 Section 8 – Stormwater Quantity Methodology.....Page 5
 Section 9 – Hydrology.....Page 5
 Section 10 – Runoff CalculationsPage 6
 Section 11 – Aquatic Resource ProtectionPage 7
 Section 12 – ConclusionPage 7

FIGURES/ TABLES

Table 1 – Summary of Results – Peak Runoff.....Page 1
 Table 2 – Summary of Results – Peak Pond StagesPage 1
 Table 3 – Rainfall Depths.....Page 6

APPENDICES

Pre–Development SSA Model Input and Output..... Appendix A
 Post–Development SSA Model Input and Output Appendix B
 SECONDARY PIPE SIZING CALCULATIONSAppendix C

The following can be found at the end of this report:

- Pre–Development Drainage Exhibit
- Post–Development Drainage Exhibit
- Soils Map
- Location Map
- FEMA Flood Map

SECTION 1 – SUMMARY OF RESULTS

TABLE 1 Summary of Results										
Analysis Point	Peak Runoff (cfs)									
	2-yr		10-yr		25-yr		50-yr		100-yr	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Outfall D	42	31	80	48	98	59	115	75	133	133
Outfall TA	164	131	458	119	578	337	**	**	920	502

**All flows are reported in cfs.*

***50-yr Storm Analysis not required in Effingham County*

TABLE 2 Summary of Results – Peak Pond Stages							
Pond	NWL (ft)	TOB (ft)*	Peak Pond Stage (ft)				
			2-yr	10-yr	25-yr	50-yr	100-yr
1	8	14	10.19	11.17	11.47	12.20	13.48
2	9	15	10.80	11.47	11.72	12.21	13.62
3	9	15	10.80	11.47	11.72	12.21	13.62
4	9	15	10.80	11.47	11.72	12.21	13.62

*TOB – Top of Bank

SECTION 2 – PROJECT NARRATIVE

Chesterfield, LLC has retained Thomas & Hutton to provide site design services for an industrial warehouse within the Georgia International Trade Center (GITC), a 1,184-acre master-planned industrial park located in Effingham County and the City of Port Wentworth, Georgia. This phase of development encompasses approximately 84 acres of generally bordered by Georgia Highway 21 to the north, by the Rice Creek residential subdivision to the east, and by undeveloped land to the south. The project area is mostly wooded and is adjacent to wetlands. The existing elevations on site range from 6 to 23 feet (NAVD 88). The proposed work consists of constructing a ±733,000 square foot warehouse, retention ponds, and associated roadway and drainage infrastructure.

Stormwater from the proposed site will be collected by a stormwater drainage system and a series of interconnected ponds and swales before discharging to outfall D. This drainage will then be conveyed directly to Black Creek and ultimately outfall into the Savannah River.

SECTION 3 – PURPOSE

- To define the limits of the drainage basin(s) that contains this project.
- To document that major drainage infrastructure such as road crossings, drainage connectors, ponds, and outfalls are adequately sized for all existing and proposed development within the drainage basin.
- To document compliance with regulatory requirements of the City of Port Wentworth and the State of Georgia summarized as follows:

City of Port Wentworth

- Post-Development peak runoff rates shall not exceed the 2-, 5-, 10-, 25-, and 50-year, 24-hour storm pre-developed rates.
- Storm drainage culverts and pipe systems shall be sized to accommodate runoff from the 25-year, 24-hour storm.
- Aquatic Resource Protection shall be provided for each site through management and extended detention of the 1-year, 24-hour storm event released over a period of 24-hours.
- Reduce on-site the stormwater runoff volume generated by the 85th percentile storm event to the maximum extent practicable. This equates to reducing the storm water runoff volume generated by the 1.2-inch rainfall event and first 1.2 inches of all larger events.
- Intercept and treat any of the stormwater runoff generated by the 1.2-inch rainfall event (and the first 1.2 inches of all larger events) that is not reduced by runoff reduction in one or more storm water management practices that: (1) provide for at least an 80 percent reduction in TSS loads; and (2) reduce nitrogen and bacteria loads to the maximum extent practical.
- All stormwater management systems shall be designed to control and/or safely convey the post-development peak discharge generated by the 100-year, 24-hour storm event.

Georgia EPD

- Sediment shall be prevented from leaving the site during construction.

SECTION 4 – PRE-DEVELOPMENT CONDITIONS

The existing site is largely pervious and wooded. Pre-development site soils consist of Hydrologic Soil Group (HSG) C/D. Currently, the eastern portion of runoff on-site sheet flows from the north towards the south and discharges directly to outfall D. The western portion of the site sheet flows into the adjacent wetlands that discharge to outfall TA. Both outfalls discharge directly to Black Creek which ultimately outfalls into the Savannah River.

SECTION 5 – POST-DEVELOPMENT CONDITIONS

The proposed site will be graded and developed, altering the land use from wooded areas to mostly impervious. Stormwater runoff from the site will be intercepted by a stormwater drainage network and conveyed to on-site detention ponds. All ponds are interconnected by pipes or ditches, as shown in the Post-Development Drainage Exhibit, and discharges into Outfall D via a control outfall pipe and earthen weir.

SECTION 6 – STORMWATER RUNOFF REDUCTION METHODOLOGY

The Port Wentworth Ordinance mandates developments to meet the guidelines set for in the Coastal Stormwater Supplement Section 4.4.1. The criteria state the following:

“Reduce the storm water runoff volume generated by the 85th percentile storm event (and the “first flush” of the storm water runoff volume generated by all larger storm events) on a development site through the use of appropriate green infrastructure practices. In coastal Georgia, this equates to reducing the storm water runoff volume generated by the 1.2-inch rainfall event (and the storm water runoff generated by the first 1.2 inches of all larger rainfall events).”

The following equation is used to determine the Runoff Reduction Volume:

$$RR_v = (P) (R_v) (A) \div (12)$$

Where:

RR_v = runoff reduction volume (acre-feet)
 P = target runoff reduction rainfall (inches)
 R_v = volumetric runoff coefficient
 A = site area (acres)
 12 = unit conversion factor (in./ft.)

$$R_v = 0.05 + 0.009(I)$$

Where:

I = site imperviousness (%)

The spreadsheet included with the Coastal Stormwater Supplement provides various techniques/devises that may be implemented within a development to meet the Runoff Reduction

Volume. The proposed design dry swales, vegetated filter strips and stormwater detention ponds to reduce the runoff reduction volume to the maximum extent practicable. Any remaining volume to be treated shall be conveyed through stormwater wetlands in order to achieve the required 80 percent reduction in TSS loads and reduce nitrogen and bacteria loads to the maximum extent practical. The applicant is requesting a waiver from the City of Port Wentworth for the remaining runoff reduction volume. See Appendix D for the CSS spreadsheet calculations.

SECTION 7 – STORMWATER QUALITY TREATMENT METHODOLOGY

The Port Wentworth Ordinance mandates developments to meet the guidelines set for in the Coastal Stormwater Supplement Section 4.4.2. The criteria state the following:

“Adequately treat post–construction storm water runoff before it is discharged from a development site. In coastal Georgia, these criteria can be satisfied simply by satisfying the storm water runoff reduction criteria. However, if any of the storm water runoff generated by the 1.2–inch storm event (and the first 1.2 inches of all larger rainfall events), cannot be reduced on a development site, due to site characteristics or constraints, it should be intercepted and treated in one or more storm water management practices that: (1) provide for at least an 80 percent reduction in TSS loads; and (2) reduce nitrogen and bacteria loads to the maximum extent practical.”

Stormwater Quality Treatment is calculated in the same manner as Runoff Reduction with the exception that the volume reduction made in Section 5 may be deducted from the “Water Quality Volume” in this section.

Stormwater Quality Treatment is essentially equivalent to the standard set forth in the Georgia Storm Water Management Manual for water quality. Per Section 1.2.2.2 “Minimum Standard #2– Storm Water Runoff Quality” of the Georgia Storm Water Management Manual, it is presumed that a storm water management system complies with the performance standard if:

- It is sized to capture and treat the prescribed water quality treatment volume, which is defined as the runoff volume resulting from the first 1.2 inches of rainfall from impervious areas; and
- Appropriate structural storm water controls are selected, designed, constructed and maintained according to the specific criteria in this Manual.

In order to meet stormwater quality treatment requirements from the first 1.2 inches of rainfall from impervious areas, stormwater wetlands are used. According to the Georgia Storm Water Management Manual Section 3.2.1 stormwater wetlands reduce TSS by 80%, total phosphorus by 50%, nitrogen by 30%, metals by 50%, and pathogens by 70%.

SECTION 8 – STORMWATER QUANTITY METHODOLOGY

The existing and proposed conditions were analyzed using the Storm and Sanitary Analysis (SSA 2020) developed by Autodesk. The program is used to model rainfall and stormwater runoff and to perform hydraulic routing through the storm drainage system. The SSA program analyzes complex interconnected drainage systems dynamically over extended time periods.

The hydrologic input data consists of information for each drainage basin, or sub watershed, within the project area of analysis. Input variables include land use designation, hydrologic soil group, rainfall distribution pattern, hydrograph peaking factor, drainage basin area, and time of

concentration. (See the Hydrologic Analysis section of this report for a detailed description of the variables that were used in this model.) Hydrographs are generated by SSA using the SCS TR-55 Unit Hydrograph Method. The SSA program calculates flow at each time step based on a unit hydrograph. Then hydrographs are added together through an aggregation process to form a composite runoff hydrograph for each sub basin. The individual hydrographs are generated based on a dimensionless unit hydrograph and user-specified sub-basin properties.

The model hydraulic input data consists of a node and link network. Nodes represent locations where flows enter or exit the system. Stage, storage, and time relationships are applied to nodes. Nodes can also designate a change in link characteristics, such as switching from a pipe link to a channel link or a change in link geometry. Links represent traditional types of hydraulic conveyance such as pipes, channels, drop structures, weirs, etc. The sizes, inverts, lengths, and Manning's n values for all modeled pipes connecting the ponds are input into the model. In addition to pipe information, all pond and detention area stage-storage information and the respective outfall structure information is input into the model. The node and link conditions are analyzed within the model for a given storm, and flow conditions are determined.

The basic equation used by SSA to route flows through the system is:

$$\Delta S = (Q_{in} - Q_{out}) \Delta t$$

Where:

ΔS	=	Change in storage for time step
Q_{in}	=	Flow into a node at time "t"
Q_{out}	=	Flow out of a node at time "t"
Δt	=	Length of time step; user defined range from 1.0 sec to 0.1 sec.

Hydrographs for each drainage area are merged within the SSA program, and the hydrologic results are then combined with the hydraulic information to model the hydraulic interactions of the entire drainage system. The results include lagoon and detention area discharge rates and stage/storage information during the design storm.

For the design of the storm drainage system, a warning stage elevation is set for each lagoon and detention area and structure to assure no stormwater ponding. In addition, stages are compared to determine adequate pipe and control structure sizes. Knowing these two factors, the drainage system is designed by trial and error.

SECTION 9 – HYDROLOGY

- SCS Unit Hydrograph Method is used.
- Amount of rainfall for each storm frequency is determined based on NOAA, Atlas 14. The following 24-hour design storms are used in the model simulations:

Storm Event	Rainfall (inches)
2-year	4.4
10-year	6.5
25-year	8.1
50-year	9.5
100-year	10.9

- SCS Type III Statistical Rainfall Distribution is used. This distribution pattern is determined by the Soil Conservation Service comparing regional rain-gage data.
- A 323 Hydrograph Peaking Factor is used. The 323 Factor is based on statistical analysis of actual rainfall and runoff data from the Southeastern United States and is typical for coastal areas.

SECTION 10 – RUNOFF CALCULATIONS

Peak flow rates for each design storm are calculated by SSA based on drainage area, hydrologic and hydraulic parameters, and the following runoff parameters:

10.1 Curve Numbers

Curve numbers are generated according to procedures set forth in SCS Technical Release 55 (TR-55). The composite curve numbers for each drainage basin are calculated using soils information from the SCS Soil Survey of Chatham County. Pre-Development Curve Numbers were weighted based on the type and amount of soil within the basin. WinTR-55 was used to calculate the weighted curve number. Curve number calculations from WinTR-55 can be found in Appendix A.

10.2 Time of Concentration

Times of concentration were calculated according to procedures set forth in SCS Hydrology Technical Note No. N4, as referenced in TR-55. The travel times (T_t) for overland flow, shallow concentrated flow, and channel flow are added together for the drainage basin to get the total time of concentration T_c . The total time of concentration path used for each basin is shown on the Pre-Development Drainage Basins Exhibit and the Post-Development Drainage Basins Exhibit.

o Overland Flow

The equation for overland flow travel time is as follows:

$$T_t = \frac{0.007 (nL)^{0.8}}{P_2^{0.5} S^{0.4}} \quad \text{Where: } \begin{array}{l} n = \text{Manning's friction factor} \\ L = \text{slope length (ft)} \\ S = \text{Slope (ft/ft)} \\ P_2 = \text{24-hour precipitation} \\ \text{(inches)} \end{array}$$

The travel time as calculated in the above equation in hours.

o Shallow Concentrated Flow

The equation for shallow concentrated flow travel time is as follows:

$$T_t = \frac{L}{60v} \quad (\text{min}) \quad \text{Where: } \begin{array}{l} L = \text{length (ft)} \\ v = \text{velocity (ft/sec)} \end{array}$$

o Channel and Pipe Flow

The equation for channel flow travel time is as follows:

$$T_t = \frac{L}{v} \quad (\text{min}) \quad \text{Where: } L = \text{length of channel (ft)}$$

60v

v = velocity (ft/sec)

The velocity is determined using Manning's equation:

$$v = \frac{1.49}{n} r^{2/3} S^{1/2}$$

Where: r = hydraulic radius (ft) = A/P
 A_x = cross-sectional area (sf)
 P = wetted perimeter (ft)
 S = slope (ft/ft)

Channel flow was assumed to have a velocity of 2 fps.

SECTION 11 – AQUATIC RESOURCE PROTECTION

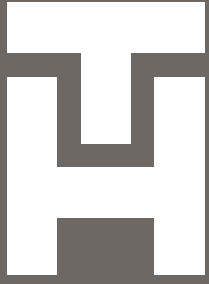
The Port Wentworth Ordinance mandates developments to meet the guidelines set forth in the Coastal Stormwater Supplement Section 4.4.3. The criteria states the following:

"24 hours of extended detention be provided for the stormwater runoff volume generated by the 1-year, 24-hour storm event before it is discharged from a development site. Providing the storage needed to provide 24 hours of extended detention for the stormwater runoff volume generated by the 1-year, 24-hour storm event, which is known as the aquatic resource protection volume (ARPV) (Section 5.3), will not only help control streambank erosion in coastal Georgia's freshwater rivers and streams (by reducing the frequency and duration of channel forming bankfull and near bankfull events), but will also help control the harmful salinity fluctuations that occur in the region's tidal creeks, coastal marshlands and other vital estuarine resources."

The drawdown of Ponds 1, 2, 3, and 4 showing extended detention over 24 hours for the 1-year 24-hour storm event can be found in the 1-year simulation graph in Appendix F. The graph demonstrates that the ponds release runoff for 72 hours and are therefore in compliance with the CSS and Port Wentworth Ordinance.

SECTION 12 – CONCLUSIONS

In accordance with the City of Port Wentworth Ordinance, post-development peak runoff rates are less than pre-development rates for the 2- through 50-year rainfall events and are safely conveyed for the 100-year storm event. Stormwater runoff reduction, water quality treatment, and aquatic resource protection have been addressed on-site per the City of Port Wentworth's Stormwater Management Ordinance. The proposed development was analyzed using the methods identified in this report and were found to be compliant with the City of Port Wentworth's requirements and Georgia EPD regulations.



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STORMWATER MANAGEMENT REPORT

GITC – CHATHAM TRACT CHATHAM BUILDING

APPENDIX A

PRE-DEVELOPMENT SSA INPUT AND OUTPUT

26838.0029

Project Description

File Name Pre-Development Conditions.SPF

Project Options

Flow Units CFS
 Elevation Type Elevation
 Hydrology Method SCS TR-55
 Time of Concentration (TOC) Method SCS TR-55
 Link Routing Method Hydrodynamic
 Enable Overflow Ponding at Nodes YES
 Skip Steady State Analysis Time Periods NO

Analysis Options

Start Analysis On Oct 18, 2021 00:00:00
 End Analysis On Oct 21, 2021 00:00:00
 Start Reporting On Oct 18, 2021 00:00:00
 Antecedent Dry Days 0 days
 Runoff (Dry Weather) Time Step 0 01:00:00 days hh:mm:ss
 Runoff (Wet Weather) Time Step 0 00:05:00 days hh:mm:ss
 Reporting Time Step 0 00:05:00 days hh:mm:ss
 Routing Time Step 1 seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins.....	5
Nodes.....	6
<i>Junctions</i>	4
<i>Outfalls</i>	2
<i>Flow Diversions</i>	0
<i>Inlets</i>	0
<i>Storage Nodes</i>	0
Links.....	5
<i>Channels</i>	3
<i>Pipes</i>	1
<i>Pumps</i>	0
<i>Orifices</i>	0
<i>Weirs</i>	1
<i>Outlets</i>	0
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	OUTFALL-D	64.56	323.00	74.93	4.70	2.20	142.23	41.97	0 01:22:00
2	TA02	2.14	323.00	77.14	4.70	2.39	5.11	2.79	0 00:31:00
3	TA03	28.22	323.00	80.84	4.70	2.71	76.39	32.74	0 00:48:00
4	TA04	17.14	323.00	79.63	4.70	2.60	44.57	14.10	0 01:16:00
5	TA05	25.06	323.00	81.78	4.70	2.79	69.98	21.61	0 01:19:00

Node Summary

SN	Element ID	Element Type	Invert Elevation	Ground/Rim (Max) Elevation	Initial Water Elevation	Surcharge Elevation	Ponded Area	Peak Inflow	Max HGL Elevation Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
			(ft)	(ft)	(ft)	(ft)	(ft ²)	(cfs)	(ft)	(ft)	(ft)	(days hh:mm)	(ac-in)	(min)
1	Jun-TA-02	Junction	6.09	10.40	8.23	10.40	10.00	152.49	9.70	0.00	9.62	0 00:00	0.00	0.00
2	Jun-TA03	Junction	6.21	13.29	7.29	13.29	10.00	143.36	9.73	0.00	5.72	0 00:00	0.00	0.00
3	Jun-TA04	Junction	8.03	10.16	8.23	10.16	10.00	135.62	9.74	0.00	7.53	0 00:00	0.00	0.00
4	Jun-TA05	Junction	8.40	10.65	8.40	16.30	10.00	113.62	9.76	0.00	4.96	0 00:00	0.00	0.00
5	Out-D	Outfall	6.00					41.94	6.00					
6	Out-TA	Outfall	4.46					164.41	9.70					

Link Summary

SN	Element ID	Element Type	From (Inlet Node)	To (Outlet Node)	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/Total Depth Ratio	Total Time Reported (min)	Surcharged Condition
1	Link-3	Pipe	Jun-TA03	Jun-TA-02	30.00	6.21	6.09	0.4000	60.000	0.0150	96.98	142.76	0.68	8.92	3.57	0.71	0.00	Calculated
2	Link-01	Channel	Jun-TA05	Jun-TA04	912.00	8.40	8.03	0.0400	75.840	0.0320	113.67	7712.10	0.01	0.32	1.53	0.24	0.00	
3	Link-2	Channel	Jun-TA04	Jun-TA03	1142.00	8.03	6.21	0.1600	110.880	0.0320	136.46	42865.96	0.00	0.14	2.61	0.28	0.00	
4	Link-4	Channel	Jun-TA-02	Out-TA	127.00	6.09	4.46	1.2800	158.760	0.0320	153.94	163732.65	0.00	0.08	4.43	0.33	0.00	
5	Weir-01	Weir	Jun-TA03	Jun-TA-02		6.21	6.09				122.99							

Junction Results

SN Element ID	Peak Inflow	Peak Lateral Inflow	Max HGL Elevation Attained	Max HGL Depth Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Average HGL Elevation Attained	Average HGL Depth Attained	Time of Max HGL Occurrence	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
	(cfs)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(days hh:mm)	(ac-in)	(min)
1 Jun-TA-02	152.49	0.00	9.70	3.61	0.00	9.62	8.50	2.41	0 11:00	0 00:00	0.00	0.00
2 Jun-TA03	143.36	32.73	9.73	3.52	0.00	5.72	8.68	2.47	0 13:01	0 00:00	0.00	0.00
3 Jun-TA04	135.62	30.19	9.74	1.71	0.00	7.53	8.69	0.66	0 13:03	0 00:00	0.00	0.00
4 Jun-TA05	113.62	113.62	9.76	1.36	0.00	4.96	9.02	0.62	0 13:06	0 00:00	0.00	0.00

Project Description

File Name Pre-Development Conditions.SPF

Project Options

Flow Units CFS
 Elevation Type Elevation
 Hydrology Method SCS TR-55
 Time of Concentration (TOC) Method SCS TR-55
 Link Routing Method Hydrodynamic
 Enable Overflow Ponding at Nodes YES
 Skip Steady State Analysis Time Periods NO

Analysis Options

Start Analysis On Oct 18, 2021 00:00:00
 End Analysis On Oct 21, 2021 00:00:00
 Start Reporting On Oct 18, 2021 00:00:00
 Antecedent Dry Days 0 days
 Runoff (Dry Weather) Time Step 0 01:00:00 days hh:mm:ss
 Runoff (Wet Weather) Time Step 0 00:05:00 days hh:mm:ss
 Reporting Time Step 0 00:05:00 days hh:mm:ss
 Routing Time Step 1 seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins.....	5
Nodes.....	6
<i>Junctions</i>	4
<i>Outfalls</i>	2
<i>Flow Diversions</i>	0
<i>Inlets</i>	0
<i>Storage Nodes</i>	0
Links.....	5
<i>Channels</i>	3
<i>Pipes</i>	1
<i>Pumps</i>	0
<i>Orifices</i>	0
<i>Weirs</i>	1
<i>Outlets</i>	0
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	OUTFALL-D	64.56	323.00	74.93	7.00	4.14	267.41	80.40	0 01:22:00
2	TA02	2.14	323.00	77.14	7.00	4.38	9.37	5.14	0 00:31:00
3	TA03	28.22	323.00	80.84	7.00	4.79	135.08	57.72	0 00:48:00
4	TA04	17.14	323.00	79.63	7.00	4.65	79.79	25.32	0 01:16:00
5	TA05	25.06	323.00	81.78	7.00	4.89	122.61	37.77	0 01:19:00

Node Summary

SN	Element ID	Element Type	Invert Elevation	Ground/Rim (Max) Elevation	Initial Water Elevation	Surcharge Elevation	Ponded Area	Peak Inflow	Max HGL Elevation Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
			(ft)	(ft)	(ft)	(ft)	(ft ²)	(cfs)	(ft)	(ft)	(ft)	(days hh:mm)	(ac-in)	(min)
1	Jun-TA-02	Junction	6.09	10.40	8.23	10.40	10.00	459.82	11.60	0.00	7.72	0 00:00	0.00	0.00
2	Jun-TA03	Junction	6.21	13.29	7.29	13.29	10.00	363.22	11.61	0.00	3.84	0 00:00	0.00	0.00
3	Jun-TA04	Junction	8.03	10.16	8.23	10.16	10.00	291.59	11.61	0.00	5.66	0 00:00	0.00	0.00
4	Jun-TA05	Junction	8.40	10.65	8.40	16.30	10.00	234.28	11.62	0.00	3.10	0 00:00	0.00	0.00
5	Out-D	Outfall	6.00					80.40	6.00					
6	Out-TA	Outfall	4.46					458.15	11.60					

Link Summary

SN Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/Total Depth Ratio	Total Time Reported (min)	Surcharged Condition	
1	Link-3	Pipe	Jun-TA03	Jun-TA-02	30.00	6.21	6.09	0.4000	60.000	0.0150	102.62	142.76	0.72	9.31	5.00	1.00	271.00	SURCHARGED
2	Link-01	Channel	Jun-TA05	Jun-TA04	912.00	8.40	8.03	0.0400	75.840	0.0320	255.89	7712.10	0.03	0.32	3.40	0.54	0.00	
3	Link-2	Channel	Jun-TA04	Jun-TA03	1142.00	8.03	6.21	0.1600	110.880	0.0320	354.36	42865.96	0.01	0.24	4.49	0.49	0.00	
4	Link-4	Channel	Jun-TA-02	Out-TA	127.00	6.09	4.46	1.2800	158.760	0.0320	448.60	163732.65	0.00	0.17	6.33	0.48	0.00	
5	Weir-01	Weir	Jun-TA03	Jun-TA-02		6.21	6.09				440.15							

Junction Results

SN Element ID	Peak Inflow	Peak Lateral Inflow	Max HGL Elevation Attained	Max HGL Depth Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Average HGL Elevation Attained	Average HGL Depth Attained	Time of Max HGL Occurrence	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
	(cfs)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(days hh:mm)	(ac-in)	(min)
1 Jun-TA-02	459.82	0.00	11.60	5.51	0.00	7.72	8.84	2.75	0 11:03	0 00:00	0.00	0.00
2 Jun-TA03	363.22	57.70	11.61	5.40	0.00	3.84	9.00	2.79	0 13:00	0 00:00	0.00	0.00
3 Jun-TA04	291.59	51.28	11.61	3.58	0.00	5.66	9.02	0.99	0 11:03	0 00:00	0.00	0.00
4 Jun-TA05	234.28	234.28	11.62	3.22	0.00	3.10	9.32	0.92	0 11:04	0 00:00	0.00	0.00

Project Description

File Name Pre-Development Conditions.SPF

Project Options

Flow Units CFS
 Elevation Type Elevation
 Hydrology Method SCS TR-55
 Time of Concentration (TOC) Method SCS TR-55
 Link Routing Method Hydrodynamic
 Enable Overflow Ponding at Nodes YES
 Skip Steady State Analysis Time Periods NO

Analysis Options

Start Analysis On Oct 18, 2021 00:00:00
 End Analysis On Oct 21, 2021 00:00:00
 Start Reporting On Oct 18, 2021 00:00:00
 Antecedent Dry Days 0 days
 Runoff (Dry Weather) Time Step 0 01:00:00 days hh:mm:ss
 Runoff (Wet Weather) Time Step 0 00:05:00 days hh:mm:ss
 Reporting Time Step 0 00:05:00 days hh:mm:ss
 Routing Time Step 1 seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins.....	5
Nodes.....	6
<i>Junctions</i>	4
<i>Outfalls</i>	2
<i>Flow Diversions</i>	0
<i>Inlets</i>	0
<i>Storage Nodes</i>	0
Links.....	5
<i>Channels</i>	3
<i>Pipes</i>	1
<i>Pumps</i>	0
<i>Orifices</i>	0
<i>Weirs</i>	1
<i>Outlets</i>	0
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	OUTFALL-D	64.56	323.00	74.93	8.00	5.03	325.00	97.93	0 01:22:00
2	TA02	2.14	323.00	77.14	8.00	5.29	11.32	6.19	0 00:31:00
3	TA03	28.22	323.00	80.84	8.00	5.72	161.49	68.70	0 00:48:00
4	TA04	17.14	323.00	79.63	8.00	5.58	95.70	30.28	0 01:16:00
5	TA05	25.06	323.00	81.78	8.00	5.83	146.22	44.96	0 01:19:00

Node Summary

SN	Element ID	Element Type	Invert Elevation	Ground/Rim (Max) Elevation	Initial Water Elevation	Surcharge Elevation	Ponded Area	Peak Inflow	Max HGL Elevation Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
			(ft)	(ft)	(ft)	(ft)	(ft ²)	(cfs)	(ft)	(ft)	(ft)	(days hh:mm)	(ac-in)	(min)
1	Jun-TA-02	Junction	6.09	10.40	8.23	10.40	10.00	563.52	12.50	0.00	6.82	0 00:00	0.00	0.00
2	Jun-TA03	Junction	6.21	13.29	7.29	13.29	10.00	504.91	12.52	0.00	2.93	0 00:00	0.00	0.00
3	Jun-TA04	Junction	8.03	10.16	8.23	10.16	10.00	406.35	12.52	0.00	4.75	0 00:00	0.00	0.00
4	Jun-TA05	Junction	8.40	10.65	8.40	16.30	10.00	332.39	12.52	0.00	2.20	0 00:00	0.00	0.00
5	Out-D	Outfall	6.00					97.71	6.00					
6	Out-TA	Outfall	4.46					578.53	12.50					

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Reported (min)	Surcharged Condition
1	Link-3	Pipe	Jun-TA03	Jun-TA-02	30.00	6.21	6.09	0.4000	60.000	0.0150	104.56	142.76	0.73	9.43	5.00	1.00	508.00	SURCHARGED
2	Link-01	Channel	Jun-TA05	Jun-TA04	912.00	8.40	8.03	0.0400	75.840	0.0320	362.29	7712.10	0.05	0.32	4.30	0.68	0.00	
3	Link-2	Channel	Jun-TA04	Jun-TA03	1142.00	8.03	6.21	0.1600	110.880	0.0320	492.27	42865.96	0.01	0.31	5.40	0.58	0.00	
4	Link-4	Channel	Jun-TA-02	Out-TA	127.00	6.09	4.46	1.2800	158.760	0.0320	568.01	163732.65	0.00	0.20	7.23	0.55	0.00	
5	Weir-01	Weir	Jun-TA03	Jun-TA-02		6.21	6.09				531.81							

Junction Results

SN Element ID	Peak Inflow	Peak Lateral Inflow	Max HGL Elevation Attained	Max HGL Depth Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Average HGL Elevation Attained	Average HGL Depth Attained	Time of Max HGL Occurrence	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
	(cfs)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(days hh:mm)	(ac-in)	(min)
1 Jun-TA-02	563.52	0.00	12.50	6.41	0.00	6.82	9.00	2.91	0 11:03	0 00:00	0.00	0.00
2 Jun-TA03	504.91	68.69	12.52	6.31	0.00	2.93	9.18	2.97	0 13:00	0 00:00	0.00	0.00
3 Jun-TA04	406.35	63.29	12.52	4.49	0.00	4.75	9.19	1.16	0 13:00	0 00:00	0.00	0.00
4 Jun-TA05	332.39	332.39	12.52	4.12	0.00	2.20	9.49	1.09	0 11:04	0 00:00	0.00	0.00

Project Description

File Name Pre-Development Conditions.SPF

Project Options

Flow Units CFS
 Elevation Type Elevation
 Hydrology Method SCS TR-55
 Time of Concentration (TOC) Method SCS TR-55
 Link Routing Method Hydrodynamic
 Enable Overflow Ponding at Nodes YES
 Skip Steady State Analysis Time Periods NO

Analysis Options

Start Analysis On Oct 18, 2021 00:00:00
 End Analysis On Oct 21, 2021 00:00:00
 Start Reporting On Oct 18, 2021 00:00:00
 Antecedent Dry Days 0 days
 Runoff (Dry Weather) Time Step 0 01:00:00 days hh:mm:ss
 Runoff (Wet Weather) Time Step 0 00:05:00 days hh:mm:ss
 Reporting Time Step 0 00:05:00 days hh:mm:ss
 Routing Time Step 1 seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins.....	5
Nodes.....	6
<i>Junctions</i>	4
<i>Outfalls</i>	2
<i>Flow Diversions</i>	0
<i>Inlets</i>	0
<i>Storage Nodes</i>	0
Links.....	5
<i>Channels</i>	3
<i>Pipes</i>	1
<i>Pumps</i>	0
<i>Orifices</i>	0
<i>Weirs</i>	1
<i>Outlets</i>	0
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	OUTFALL-D	64.56	323.00	74.93	9.00	5.94	383.74	115.60	0 01:22:00
2	TA02	2.14	323.00	77.14	9.00	6.22	13.30	7.25	0 00:31:00
3	TA03	28.22	323.00	80.84	9.00	6.67	188.24	79.70	0 00:48:00
4	TA04	17.14	323.00	79.63	9.00	6.52	111.83	35.30	0 01:16:00
5	TA05	25.06	323.00	81.78	9.00	6.79	170.11	52.11	0 01:19:00

Node Summary

SN	Element ID	Element Type	Invert Elevation	Ground/Rim (Max) Elevation	Initial Water Elevation	Surcharge Elevation	Ponded Area	Peak Inflow	Max HGL Elevation Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
			(ft)	(ft)	(ft)	(ft)	(ft ²)	(cfs)	(ft)	(ft)	(ft)	(days hh:mm)	(ac-in)	(min)
1	Jun-TA-02	Junction	6.09	10.40	8.23	10.40	10.00	573.67	12.50	0.00	6.82	0 00:00	0.00	0.00
2	Jun-TA03	Junction	6.21	13.29	7.29	13.29	10.00	515.03	12.52	0.00	2.93	0 00:00	0.00	0.00
3	Jun-TA04	Junction	8.03	10.16	8.23	10.16	10.00	409.82	12.52	0.00	4.75	0 00:00	0.00	0.00
4	Jun-TA05	Junction	8.40	10.65	8.40	16.30	10.00	334.48	12.52	0.00	2.20	0 00:00	0.00	0.00
5	Out-D	Outfall	6.00					115.32	6.00					
6	Out-TA	Outfall	4.46					588.82	12.50					

Link Summary

SN	Element ID	Element Type	From (Inlet Node)	To (Outlet Node)	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/Total Depth Ratio	Total Time Reported (min)	Surcharged Condition
1	Link-3	Pipe	Jun-TA03	Jun-TA-02	30.00	6.21	6.09	0.4000	60.000	0.0150	104.62	142.76	0.73	9.43	5.00	1.00	508.00	SURCHARGED
2	Link-01	Channel	Jun-TA05	Jun-TA04	912.00	8.40	8.03	0.0400	75.840	0.0320	364.39	7712.10	0.05	0.32	4.30	0.68	0.00	
3	Link-2	Channel	Jun-TA04	Jun-TA03	1142.00	8.03	6.21	0.1600	110.880	0.0320	495.79	42865.96	0.01	0.31	5.40	0.58	0.00	
4	Link-4	Channel	Jun-TA-02	Out-TA	127.00	6.09	4.46	1.2800	158.760	0.0320	578.16	163732.65	0.00	0.20	7.23	0.55	0.00	
5	Weir-01	Weir	Jun-TA03	Jun-TA-02		6.21	6.09				541.38							

Junction Results

SN Element ID	Peak Inflow	Peak Lateral Inflow	Max HGL Elevation Attained	Max HGL Depth Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Average HGL Elevation Attained	Average HGL Depth Attained	Time of Max HGL Occurrence	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
	(cfs)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(days hh:mm)	(ac-in)	(min)
1 Jun-TA-02	893.84	0.00	13.50	7.41	0.00	5.82	9.17	3.08	0 11:00	0 00:00	0.00	0.00
2 Jun-TA03	818.09	79.69	13.54	7.33	0.00	1.91	9.36	3.15	0 13:00	0 00:00	0.00	0.00
3 Jun-TA04	672.87	125.24	13.55	5.52	0.00	3.72	9.37	1.34	0 13:01	0 00:00	0.00	0.00
4 Jun-TA05	541.47	541.47	13.55	5.15	0.00	1.17	9.66	1.26	0 13:02	0 00:00	0.00	0.00

Project Description

File Name Pre-Development Conditions.SPF

Project Options

Flow Units CFS
 Elevation Type Elevation
 Hydrology Method SCS TR-55
 Time of Concentration (TOC) Method SCS TR-55
 Link Routing Method Hydrodynamic
 Enable Overflow Ponding at Nodes YES
 Skip Steady State Analysis Time Periods NO

Analysis Options

Start Analysis On Oct 18, 2021 00:00:00
 End Analysis On Oct 21, 2021 00:00:00
 Start Reporting On Oct 18, 2021 00:00:00
 Antecedent Dry Days 0 days
 Runoff (Dry Weather) Time Step 0 01:00:00 days hh:mm:ss
 Runoff (Wet Weather) Time Step 0 00:05:00 days hh:mm:ss
 Reporting Time Step 0 00:05:00 days hh:mm:ss
 Routing Time Step 1 seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins.....	5
Nodes.....	6
<i>Junctions</i>	4
<i>Outfalls</i>	2
<i>Flow Diversions</i>	0
<i>Inlets</i>	0
<i>Storage Nodes</i>	0
Links.....	5
<i>Channels</i>	3
<i>Pipes</i>	1
<i>Pumps</i>	0
<i>Orifices</i>	0
<i>Weirs</i>	1
<i>Outlets</i>	0
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	OUTFALL-D	64.56	323.00	74.93	10.00	6.87	443.40	133.44	0 01:22:00
2	TA02	2.14	323.00	77.14	10.00	7.15	15.31	8.30	0 00:31:00
3	TA03	28.22	323.00	80.84	10.00	7.63	215.24	90.81	0 00:48:00
4	TA04	17.14	323.00	79.63	10.00	7.47	128.12	40.32	0 01:16:00
5	TA05	25.06	323.00	81.78	10.00	7.75	194.19	59.18	0 01:19:00

Node Summary

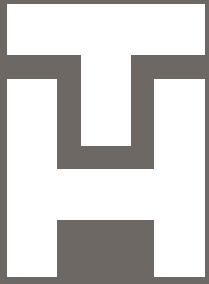
SN	Element ID	Element Type	Invert Elevation	Ground/Rim (Max) Elevation	Initial Water Elevation	Surcharge Elevation	Ponded Area	Peak Inflow	Max HGL Elevation Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
			(ft)	(ft)	(ft)	(ft)	(ft ²)	(cfs)	(ft)	(ft)	(ft)	(days hh:mm)	(ac-in)	(min)
1	Jun-TA-02	Junction	6.09	10.40	8.23	10.40	10.00	903.67	13.50	0.00	5.82	0 00:00	0.00	0.00
2	Jun-TA03	Junction	6.21	13.29	7.29	13.29	10.00	828.22	13.55	0.00	1.90	0 00:00	0.00	0.00
3	Jun-TA04	Junction	8.03	10.16	8.23	10.16	10.00	676.42	13.55	0.00	3.72	0 00:00	0.00	0.00
4	Jun-TA05	Junction	8.40	10.65	8.40	16.30	10.00	543.55	13.55	0.00	1.17	0 00:00	0.00	0.00
5	Out-D	Outfall	6.00					133.30	6.00					
6	Out-TA	Outfall	4.46					920.10	13.50					

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Reported (min)	Surcharged Condition
1	Link-3	Pipe	Jun-TA03	Jun-TA-02	30.00	6.21	6.09	0.4000	60.000	0.0150	106.78	142.76	0.75	9.55	5.00	1.00	675.00	SURCHARGED
2	Link-01	Channel	Jun-TA05	Jun-TA04	912.00	8.40	8.03	0.0400	75.840	0.0320	596.72	7712.10	0.08	0.37	5.34	0.84	0.00	
3	Link-2	Channel	Jun-TA04	Jun-TA03	1142.00	8.03	6.21	0.1600	110.880	0.0320	805.56	42865.96	0.02	0.38	6.43	0.70	0.00	
4	Link-4	Channel	Jun-TA-02	Out-TA	127.00	6.09	4.46	1.2800	158.760	0.0320	909.35	163732.65	0.01	0.24	8.23	0.62	0.00	
5	Weir-01	Weir	Jun-TA03	Jun-TA-02		6.21	6.09				852.81							

Junction Results

SN Element ID	Peak Inflow	Peak Lateral Inflow	Max HGL Elevation Attained	Max HGL Depth Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Average HGL Elevation Attained	Average HGL Depth Attained	Time of Max HGL Occurrence	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
	(cfs)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(days hh:mm)	(ac-in)	(min)
1 Jun-TA-02	903.67	0.00	13.50	7.41	0.00	5.82	9.17	3.08	0 11:00	0 00:00	0.00	0.00
2 Jun-TA03	828.22	90.69	13.55	7.34	0.00	1.90	9.36	3.15	0 13:00	0 00:00	0.00	0.00
3 Jun-TA04	676.42	130.24	13.55	5.52	0.00	3.72	9.37	1.34	0 13:01	0 00:00	0.00	0.00
4 Jun-TA05	543.55	543.55	13.55	5.15	0.00	1.17	9.67	1.27	0 13:02	0 00:00	0.00	0.00



THOMAS
&
HUTTON

STORMWATER MANAGEMENT REPORT

GITC – CHATHAM TRACT CHATHAM BUILDING

APPENDIX B

POST-DEVELOPMENT SSA INPUT AND OUTPUT

26838.0029

Project Description

File Name Post Development.SPF

Project Options

Flow Units CFS
 Elevation Type Elevation
 Hydrology Method SCS TR-55
 Time of Concentration (TOC) Method User-Defined
 Link Routing Method Hydrodynamic
 Enable Overflow Ponding at Nodes YES
 Skip Steady State Analysis Time Periods NO

Analysis Options

Start Analysis On Oct 19, 2021 00:00:00
 End Analysis On Oct 22, 2021 00:00:00
 Start Reporting On Oct 19, 2021 00:00:00
 Antecedent Dry Days 0 days
 Runoff (Dry Weather) Time Step 0 01:00:00 days hh:mm:ss
 Runoff (Wet Weather) Time Step 0 00:05:00 days hh:mm:ss
 Reporting Time Step 0 00:05:00 days hh:mm:ss
 Routing Time Step 1 seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins.....	16
Nodes.....	22
<i>Junctions</i>	16
<i>Outfalls</i>	2
<i>Flow Diversions</i>	0
<i>Inlets</i>	0
<i>Storage Nodes</i>	4
Links.....	24
<i>Channels</i>	13
<i>Pipes</i>	6
<i>Pumps</i>	0
<i>Orifices</i>	1
<i>Weirs</i>	4
<i>Outlets</i>	0
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	OUTFALL-D	28.80	323.00	84.00	4.70	3.00	86.31	32.12	0 01:00:00
2	POND1	14.71	323.00	98.00	4.70	4.46	65.67	44.38	0 00:15:00
3	POND2	2.54	323.00	98.00	4.70	4.46	11.34	7.66	0 00:15:00
4	POND3	1.60	323.00	98.00	4.70	4.46	7.14	4.83	0 00:15:00
5	POND4	10.60	323.00	98.00	4.70	4.46	47.32	31.97	0 00:15:00
6	PostBasin1-A	4.98	323.00	95.00	4.70	4.12	20.53	14.54	0 00:15:00
7	PostBasin1-B	6.77	323.00	95.00	4.70	4.12	27.91	19.77	0 00:15:00
8	PostBasin1-C	5.51	323.00	95.00	4.70	4.12	22.71	16.09	0 00:15:00
9	PostBasin2-A	4.29	323.00	95.00	4.70	4.12	17.68	12.52	0 00:15:00
10	PostBasin2-B	6.79	323.00	95.00	4.70	4.12	27.99	19.83	0 00:15:00
11	PostBasin2-C	6.11	323.00	95.00	4.70	4.12	25.19	17.85	0 00:15:00
12	TA02	2.14	323.00	77.14	4.70	2.39	5.11	2.79	0 00:31:00
13	TA03	17.80	323.00	86.43	4.70	3.23	57.49	31.88	0 00:30:00
14	TA04	6.24	323.00	92.31	4.70	3.83	23.90	11.04	0 00:40:00
15	TA05-A	9.24	323.00	94.60	4.70	4.08	37.68	19.83	0 00:30:00
16	TA05-B	12.00	323.00	77.47	4.70	2.41	28.97	14.89	0 00:35:00

Node Summary

SN	Element ID	Element Type	Invert Elevation	Ground/Rim (Max) Elevation	Initial Water Elevation	Surcharge Elevation	Ponded Area	Peak Inflow	Max HGL Elevation Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
			(ft)	(ft)	(ft)	(ft)	(ft ²)	(cfs)	(ft)	(ft)	(ft)	(days hh:mm)	(ac-in)	(min)
1	Jun-15	Junction	8.00	10.00	8.25	10.00	10.00	2.68	9.85	0.00	11.15	0 00:00	0.00	0.00
2	Jun-16	Junction	8.00	15.00	8.25	15.00	100.00	32.04	9.85	0.00	5.15	0 00:00	0.00	0.00
3	Jun-BAS1-A	Junction	8.50	14.00	8.50	14.00	60000.00	49.62	10.65	0.00	3.35	0 00:00	0.00	0.00
4	Jun-BAS1-B	Junction	8.81	13.15	8.81	13.15	60000.00	35.52	10.93	0.00	2.22	0 00:00	0.00	0.00
5	Jun-BAS1-C	Junction	9.00	13.15	9.00	13.15	60000.00	16.02	10.96	0.00	2.19	0 00:00	0.00	0.00
6	Jun-BAS2-A	Junction	9.00	13.15	9.00	13.15	10.00	21.46	10.63	0.00	11.37	0 00:00	0.00	0.00
7	Jun-BAS2-B	Junction	9.00	13.15	9.00	13.15	10.00	19.74	10.70	0.00	11.30	0 00:00	0.00	0.00
8	Jun-BAS2-C	Junction	9.00	13.15	9.00	13.15	10.00	24.70	10.78	0.00	11.22	0 00:00	0.00	0.00
9	Jun-CS	Junction	6.00	14.00	6.00	14.00	10.00	2.68	9.85	0.00	6.65	0 00:00	0.00	0.00
10	Jun-OUTFALL D	Junction	8.00	15.00	8.25	15.00	10.00	32.04	10.09	0.00	4.91	0 00:00	0.00	0.00
11	Jun-POND4	Junction	14.00	19.00	18.30	19.00	10.00	14.82	18.15	0.00	0.85	0 00:00	0.00	0.00
12	Jun-TA02	Junction	6.09	10.40	8.23	10.40	10.00	128.95	9.70	0.00	9.62	0 00:00	0.00	0.00
13	Jun-TA03	Junction	6.21	13.29	8.23	13.29	10.00	128.66	9.72	0.00	7.60	0 00:00	0.00	0.00
14	Jun-TA04	Junction	8.03	10.16	8.03	10.16	10.00	127.98	9.95	0.00	9.19	0 00:00	0.00	0.00
15	Jun-TA05	Junction	8.40	10.65	8.40	16.30	10.00	110.40	9.97	0.00	4.75	0 00:00	0.00	0.00
16	Jun-TA05B	Junction	18.41	20.00	18.41	20.00	10.00	14.82	19.67	0.00	0.74	0 00:00	0.00	0.00
17	Out-D	Outfall	6.00					30.65	9.70					
18	OUT-TA	Outfall	4.46					130.56	9.70					
19	Stor-POND1	Storage Node	1.00	14.00	8.25		100.00	112.74	10.19				0.00	0.00
20	Stor-POND2	Storage Node	1.00	15.00	9.00		10.00	8.73	10.80				0.00	0.00
21	Stor-POND3	Storage Node	1.00	15.00	9.00		10.00	12.18	10.80				0.00	0.00
22	Stor-POND4	Storage Node	1.00	15.00	9.00		10.00	129.72	10.80				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/Total Depth Ratio	Total Time Reported Surcharged	Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-01	Pipe	Stor-POND2	Stor-POND3	130.00	4.00	4.00	0.0000	36.000	0.0130	7.48	1.85	4.04	1.06	3.00	1.00	4320.00	SURCHARGED
2	Link-02	Pipe	Stor-POND3	Stor-POND4	160.00	4.00	4.00	0.0000	36.000	0.0130	12.18	1.67	7.31	1.72	3.00	1.00	4320.00	SURCHARGED
3	Link-06	Pipe	Jun-TA03	Jun-TA02	30.00	6.21	6.09	0.4000	60.000	0.0250	85.29	85.65	1.00	7.96	3.56	0.71	0.00	Calculated
4	Link-12	Pipe	Jun-TA05B	Jun-POND4	60.00	18.41	15.00	5.6800	12.000	0.0250	4.35	4.42	0.98	6.08	0.90	0.90	0.00	Calculated
5	Link-15	Pipe	Jun-BAS1-A	Stor-POND1	200.00	8.50	8.00	0.2500	36.000	0.0130	49.49	66.70	0.74	5.32	1.94	0.65	0.00	Calculated
6	Link-18	Pipe	Jun-CS	Jun-15	55.00	8.00	8.00	0.0000	24.000	0.0130	2.68	0.96	2.78	1.82	1.85	0.92	0.00	> CAPACITY
7	Link-03	Channel	Jun-TA05	Jun-TA04	912.00	8.40	8.03	0.0400	75.840	0.0320	107.42	6430.95	0.02	0.20	1.74	0.28	0.00	
8	Link-07	Channel	Jun-TA02	OUT-TA	127.00	6.09	4.46	1.2800	158.760	0.0320	130.38	163386.95	0.00	0.08	4.43	0.33	0.00	
9	Link-09	Channel	Stor-POND4	Jun-BAS2-C	250.00	9.00	9.00	0.0000	156.000	0.0320	23.43	191.77	0.12	1.61	1.79	0.14	0.00	
10	Link-10	Channel	Jun-BAS2-C	Jun-BAS2-B	737.24	9.00	9.00	0.0000	48.000	0.0320	11.51	6.30	1.83	0.68	1.70	0.43	0.00	
11	Link-11	Channel	Jun-BAS2-A	Stor-POND1	260.00	9.00	9.00	0.0000	48.000	0.0320	20.43	10.62	1.92	2.07	1.19	0.30	0.00	
12	Link-13	Channel	Jun-POND4	Stor-POND4	857.90	14.00	13.00	0.1200	48.000	0.0320	129.72	184.81	0.70	3.34	1.95	0.72	0.00	
13	Link-14	Channel	Jun-BAS1-C	Jun-BAS1-B	61.31	9.00	8.81	0.3100	48.000	0.0320	15.86	211.77	0.07	1.12	2.02	0.51	0.00	
14	Link-16	Channel	Jun-16	Out-D	10.00	8.00	8.00	0.0000	48.000	0.0010	30.65	1217.33	0.03	3.83	1.78	0.44	0.00	
15	Link-19	Channel	Jun-15	Jun-16	150.00	8.00	8.00	0.0000	48.000	0.0320	2.68	9.82	0.27	1.28	1.85	0.46	0.00	
16	Link-22	Channel	Jun-TA04	Jun-TA03	1142.00	8.03	6.21	0.1600	133.320	0.0320	126.89	34346.01	0.00	0.46	2.66	0.24	0.00	
17	Link-23	Channel	Jun-BAS2-B	Jun-BAS2-A	597.76	9.00	9.00	0.0000	156.000	0.0320	13.59	124.02	0.11	0.84	1.66	0.13	0.00	
18	Link-24	Channel	Jun-BAS1-B	Jun-BAS1-A	98.69	8.81	8.50	0.3100	48.000	0.0320	35.25	213.21	0.17	2.33	2.11	0.53	0.00	
19	Link-26	Channel	Jun-16	Jun-OUTFALL D	100.00	8.00	8.00	0.0000	48.000	0.0320	32.04	13.28	2.41	2.06	1.97	0.49	0.00	
20	Orifice-01	Orifice	Stor-POND1	Jun-CS		1.00	6.00		6.000		1.05							
21	ES-Weir	Weir	Stor-POND1	Jun-15		1.00	8.00				0.00							
22	Weir-02	Weir	Jun-TA05B	Jun-POND4		18.41	14.00				10.50							
23	Weir-03	Weir	Jun-TA03	Jun-TA02		6.21	6.09				85.16							
24	Weir-06	Weir	Stor-POND1	Jun-CS		1.00	6.00				1.63							

Junction Results

SN Element ID	Peak Inflow	Peak Lateral Inflow	Max HGL Elevation Attained	Max HGL Depth Attained	Max Surge Depth Attained	Min Freeboard Attained	Average HGL Elevation Attained	Average HGL Depth Attained	Time of Max HGL Occurrence	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
	(cfs)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(days hh:mm)	(ac-in)	(min)
1 Jun-15	2.68	0.00	9.85	1.85	0.00	11.15	8.90	0.90	0 12:50	0 00:00	0.00	0.00
2 Jun-16	32.04	0.00	9.85	1.85	0.00	5.15	8.61	0.61	0 12:50	0 00:00	0.00	0.00
3 Jun-BAS1-A	49.62	14.48	10.65	2.15	0.00	3.35	9.73	1.23	0 12:16	0 00:00	0.00	0.00
4 Jun-BAS1-B	35.52	19.69	10.93	2.12	0.00	2.22	9.81	1.00	0 12:16	0 00:00	0.00	0.00
5 Jun-BAS1-C	16.02	16.02	10.96	1.96	0.00	2.19	9.83	0.83	0 12:16	0 00:00	0.00	0.00
6 Jun-BAS2-A	21.46	12.47	10.63	1.63	0.00	11.37	9.88	0.88	0 12:23	0 00:00	0.00	0.00
7 Jun-BAS2-B	19.74	19.74	10.70	1.70	0.00	11.30	9.91	0.91	0 12:23	0 00:00	0.00	0.00
8 Jun-BAS2-C	24.70	17.77	10.78	1.78	0.00	11.22	9.93	0.93	0 13:38	0 00:00	0.00	0.00
9 Jun-CS	2.68	0.00	9.85	3.85	0.00	6.65	8.96	2.96	0 12:50	0 00:00	0.00	0.00
10 Jun-OUTFALL D	32.04	32.04	10.09	2.09	0.00	4.91	8.62	0.62	0 12:50	0 00:00	0.00	0.00
11 Jun-POND4	14.82	0.00	18.15	4.15	0.00	0.85	14.13	0.13	0 00:00	0 00:00	0.00	0.00
12 Jun-TA02	128.95	0.00	9.70	3.61	0.00	9.62	8.50	2.41	0 11:00	0 00:00	0.00	0.00
13 Jun-TA03	128.66	31.75	9.72	3.51	0.00	7.60	8.71	2.50	0 12:48	0 00:00	0.00	0.00
14 Jun-TA04	127.98	23.74	9.95	1.92	0.00	9.19	9.00	0.97	0 17:12	0 00:00	0.00	0.00
15 Jun-TA05	110.40	110.40	9.97	1.57	0.00	4.75	9.06	0.66	0 17:10	0 00:00	0.00	0.00
16 Jun-TA05B	14.82	14.82	19.67	1.26	0.00	0.74	18.50	0.09	0 12:35	0 00:00	0.00	0.00

Project Description

File Name Post Development.SPF

Project Options

Flow Units CFS
 Elevation Type Elevation
 Hydrology Method SCS TR-55
 Time of Concentration (TOC) Method User-Defined
 Link Routing Method Hydrodynamic
 Enable Overflow Ponding at Nodes YES
 Skip Steady State Analysis Time Periods NO

Analysis Options

Start Analysis On Oct 19, 2021 00:00:00
 End Analysis On Oct 22, 2021 00:00:00
 Start Reporting On Oct 19, 2021 00:00:00
 Antecedent Dry Days 0 days
 Runoff (Dry Weather) Time Step 0 01:00:00 days hh:mm:ss
 Runoff (Wet Weather) Time Step 0 00:05:00 days hh:mm:ss
 Reporting Time Step 0 00:05:00 days hh:mm:ss
 Routing Time Step 1 seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins.....	16
Nodes.....	22
<i>Junctions</i>	16
<i>Outfalls</i>	2
<i>Flow Diversions</i>	0
<i>Inlets</i>	0
<i>Storage Nodes</i>	4
Links.....	24
<i>Channels</i>	13
<i>Pipes</i>	6
<i>Pumps</i>	0
<i>Orifices</i>	1
<i>Weirs</i>	4
<i>Outlets</i>	0
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	OUTFALL-D	28.80	323.00	84.00	7.00	5.14	148.03	54.54	0 01:00:00
2	POND1	14.71	323.00	98.00	7.00	6.76	99.45	66.36	0 00:15:00
3	POND2	2.54	323.00	98.00	7.00	6.76	17.17	11.46	0 00:15:00
4	POND3	1.60	323.00	98.00	7.00	6.76	10.82	7.22	0 00:15:00
5	POND4	10.60	323.00	98.00	7.00	6.76	71.67	47.80	0 00:15:00
6	PostBasin1-A	4.98	323.00	95.00	7.00	6.41	31.90	22.09	0 00:15:00
7	PostBasin1-B	6.77	323.00	95.00	7.00	6.41	43.37	30.04	0 00:15:00
8	PostBasin1-C	5.51	323.00	95.00	7.00	6.41	35.30	24.44	0 00:15:00
9	PostBasin2-A	4.29	323.00	95.00	7.00	6.41	27.48	19.02	0 00:15:00
10	PostBasin2-B	6.79	323.00	95.00	7.00	6.41	43.50	30.12	0 00:15:00
11	PostBasin2-C	6.11	323.00	95.00	7.00	6.41	39.14	27.11	0 00:15:00
12	TA02	2.14	323.00	77.14	7.00	4.38	9.37	5.14	0 00:31:00
13	TA03	17.80	323.00	86.43	7.00	5.41	96.37	52.49	0 00:30:00
14	TA04	6.24	323.00	92.31	7.00	6.09	38.01	17.18	0 00:40:00
15	TA05-A	9.24	323.00	94.60	7.00	6.36	58.76	30.24	0 00:30:00
16	TA05-B	12.00	323.00	77.47	7.00	4.42	53.00	27.31	0 00:35:00

Node Summary

SN	Element ID	Element Type	Invert Elevation	Ground/Rim (Max) Elevation	Initial Water Elevation	Surcharge Elevation	Ponded Area	Peak Inflow	Max HGL Elevation Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
			(ft)	(ft)	(ft)	(ft)	(ft ²)	(cfs)	(ft)	(ft)	(ft)	(days hh:mm)	(ac-in)	(min)
1	Jun-15	Junction	8.00	10.00	8.25	10.00	10.00	7.29	11.62	0.00	9.38	0 00:00	0.00	0.00
2	Jun-16	Junction	8.00	15.00	8.25	15.00	100.00	54.53	11.62	0.00	3.38	0 00:00	0.00	0.00
3	Jun-BAS1-A	Junction	8.50	14.00	8.50	14.00	60000.00	74.83	11.44	0.00	2.56	0 00:00	0.00	0.00
4	Jun-BAS1-B	Junction	8.81	13.15	8.81	13.15	60000.00	53.76	11.60	0.00	1.55	0 00:00	0.00	0.00
5	Jun-BAS1-C	Junction	9.00	13.15	9.00	13.15	60000.00	24.34	11.62	0.00	1.53	0 00:00	0.00	0.00
6	Jun-BAS2-A	Junction	9.00	13.15	9.00	13.15	10.00	34.44	11.18	0.00	10.82	0 00:00	0.00	0.00
7	Jun-BAS2-B	Junction	9.00	13.15	9.00	13.15	10.00	30.00	11.22	0.00	10.78	0 00:00	0.00	0.00
8	Jun-BAS2-C	Junction	9.00	13.15	9.00	13.15	10.00	36.33	11.42	0.00	10.58	0 00:00	0.00	0.00
9	Jun-CS	Junction	6.00	14.00	6.00	14.00	10.00	7.12	11.50	0.00	5.00	0 00:00	0.00	0.00
10	Jun-OUTFALL D	Junction	8.00	15.00	8.25	15.00	10.00	54.51	11.66	0.00	3.34	0 00:00	0.00	0.00
11	Jun-POND4	Junction	14.00	19.00	18.30	19.00	10.00	27.21	18.15	0.00	0.85	0 00:00	0.00	0.00
12	Jun-TA02	Junction	6.09	10.40	8.23	10.40	10.00	114.35	9.70	0.00	9.62	0 00:00	0.00	0.00
13	Jun-TA03	Junction	6.21	13.29	8.23	13.29	10.00	114.50	9.73	0.00	7.59	0 00:00	0.00	0.00
14	Jun-TA04	Junction	8.03	10.16	8.03	10.16	10.00	78.53	9.81	0.00	9.33	0 00:00	0.00	0.00
15	Jun-TA05	Junction	8.40	10.65	8.40	16.30	10.00	46.92	9.82	0.00	4.90	0 00:00	0.00	0.00
16	Jun-TA05B	Junction	18.41	20.00	18.41	20.00	10.00	27.21	19.82	0.00	0.59	0 00:00	0.00	0.00
17	Out-D	Outfall	6.00					47.84	11.60					
18	OUT-TA	Outfall	4.46					118.93	9.70					
19	Stor-POND1	Storage Node	1.00	14.00	8.25		100.00	177.50	11.17				0.00	0.00
20	Stor-POND2	Storage Node	1.00	15.00	9.00		10.00	13.73	11.47				0.00	0.00
21	Stor-POND3	Storage Node	1.00	15.00	9.00		10.00	14.25	11.47				0.00	0.00
22	Stor-POND4	Storage Node	1.00	15.00	9.00		10.00	129.72	11.46				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/Total Depth Ratio	Total Time Reported Surcharged (min)	Reported Condition
1	Link-01	Pipe	Stor-POND2	Stor-POND3	130.00	4.00	4.00	0.0000	36.000	0.0130	7.48	1.85	4.04	1.06	3.00	1.00	4320.00	SURCHARGED
2	Link-02	Pipe	Stor-POND3	Stor-POND4	160.00	4.00	4.00	0.0000	36.000	0.0130	12.18	1.67	7.31	1.72	3.00	1.00	4320.00	SURCHARGED
3	Link-06	Pipe	Jun-TA03	Jun-TA02	30.00	6.21	6.09	0.4000	60.000	0.0250	61.36	85.65	0.72	5.75	3.56	0.71	0.00	Calculated
4	Link-12	Pipe	Jun-TA05B	Jun-POND4	60.00	18.41	15.00	5.6800	12.000	0.0250	4.54	4.42	1.03	6.08	0.98	0.98	0.00	> CAPACITY
5	Link-15	Pipe	Jun-BAS1-A	Stor-POND1	200.00	8.50	8.00	0.2500	36.000	0.0130	74.63	66.70	1.12	6.00	2.84	0.95	0.00	> CAPACITY
6	Link-18	Pipe	Jun-CS	Jun-15	55.00	8.00	8.00	0.0000	24.000	0.0130	7.12	0.96	7.38	2.74	2.00	1.00	751.00	SURCHARGED
7	Link-03	Channel	Jun-TA05	Jun-TA04	912.00	8.40	8.03	0.0400	75.840	0.0320	40.93	6430.95	0.01	0.08	1.60	0.25	0.00	
8	Link-07	Channel	Jun-TA02	OUT-TA	127.00	6.09	4.46	1.2800	158.760	0.0320	114.35	163386.95	0.00	0.05	4.43	0.33	0.00	
9	Link-09	Channel	Stor-POND4	Jun-BAS2-C	250.00	9.00	9.00	0.0000	156.000	0.0320	33.54	191.77	0.17	1.59	2.44	0.19	0.00	
10	Link-10	Channel	Jun-BAS2-C	Jun-BAS2-B	737.24	9.00	9.00	0.0000	48.000	0.0320	25.86	6.30	4.10	0.94	2.32	0.58	0.00	
11	Link-11	Channel	Jun-BAS2-A	Stor-POND1	260.00	9.00	9.00	0.0000	48.000	0.0320	33.65	10.62	3.17	2.44	2.17	0.54	0.00	
12	Link-13	Channel	Jun-POND4	Stor-POND4	857.90	14.00	13.00	0.1200	48.000	0.0320	129.72	184.81	0.70	3.34	1.95	0.72	0.00	
13	Link-14	Channel	Jun-BAS1-C	Jun-BAS1-B	61.31	9.00	8.81	0.3100	48.000	0.0320	23.93	211.77	0.11	1.13	2.68	0.68	0.00	
14	Link-16	Channel	Jun-16	Out-D	10.00	8.00	8.00	0.0000	48.000	0.0010	47.84	1217.33	0.04	4.55	3.61	0.90	0.00	
15	Link-19	Channel	Jun-15	Jun-16	150.00	8.00	8.00	0.0000	48.000	0.0320	7.29	9.82	0.74	1.66	3.62	0.90	0.00	
16	Link-22	Channel	Jun-TA04	Jun-TA03	1142.00	8.03	6.21	0.1600	133.320	0.0320	81.80	34346.01	0.00	0.44	2.65	0.24	0.00	
17	Link-23	Channel	Jun-BAS2-B	Jun-BAS2-A	597.76	9.00	9.00	0.0000	156.000	0.0320	29.85	124.02	0.24	1.18	2.18	0.17	0.00	
18	Link-24	Channel	Jun-BAS1-B	Jun-BAS1-A	98.69	8.81	8.50	0.3100	48.000	0.0320	53.14	213.21	0.25	2.33	2.85	0.72	0.00	
19	Link-26	Channel	Jun-16	Jun-OUTFALL D	100.00	8.00	8.00	0.0000	48.000	0.0320	54.53	13.28	4.11	1.16	3.64	0.91	0.00	
20	Orifice-01	Orifice	Stor-POND1	Jun-CS		1.00	6.00		6.000			1.55						
21	ES-Weir	Weir	Stor-POND1	Jun-15		1.00	8.00				0.00							
22	Weir-02	Weir	Jun-TA05B	Jun-POND4		18.41	14.00				22.72							
23	Weir-03	Weir	Jun-TA03	Jun-TA02		6.21	6.09				96.26							
24	Weir-06	Weir	Stor-POND1	Jun-CS		1.00	6.00				5.66							

Junction Results

SN Element ID	Peak Inflow	Peak Lateral Inflow	Max HGL Elevation Attained	Max HGL Depth Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Average HGL Elevation Attained	Average HGL Depth Attained	Time of Max HGL Occurrence	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
	(cfs)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(days hh:mm)	(ac-in)	(min)
1 Jun-15	7.29	0.00	11.62	3.62	0.00	9.38	9.42	1.42	0 12:45	0 00:00	0.00	0.00
2 Jun-16	54.53	0.00	11.62	3.62	0.00	3.38	9.06	1.06	0 12:45	0 00:00	0.00	0.00
3 Jun-BAS1-A	74.83	22.00	11.44	2.94	0.00	2.56	10.37	1.87	0 12:17	0 00:00	0.00	0.00
4 Jun-BAS1-B	53.76	29.91	11.60	2.79	0.00	1.55	10.45	1.64	0 12:17	0 00:00	0.00	0.00
5 Jun-BAS1-C	24.34	24.34	11.62	2.62	0.00	1.53	10.46	1.46	0 12:17	0 00:00	0.00	0.00
6 Jun-BAS2-A	34.44	18.94	11.18	2.18	0.00	10.82	10.48	1.48	0 21:42	0 00:00	0.00	0.00
7 Jun-BAS2-B	30.00	30.00	11.22	2.22	0.00	10.78	10.50	1.50	0 13:04	0 00:00	0.00	0.00
8 Jun-BAS2-C	36.33	27.00	11.42	2.42	0.00	10.58	10.51	1.51	0 13:14	0 00:00	0.00	0.00
9 Jun-CS	7.12	0.00	11.50	5.50	0.00	5.00	9.52	3.52	0 13:01	0 00:00	0.00	0.00
10 Jun-OUTFALL D	54.51	54.51	11.66	3.66	0.00	3.34	9.06	1.06	0 12:45	0 00:00	0.00	0.00
11 Jun-POND4	27.21	0.00	18.15	4.15	0.00	0.85	14.17	0.17	0 00:00	0 00:00	0.00	0.00
12 Jun-TA02	114.35	0.00	9.70	3.61	0.00	9.62	8.50	2.41	0 11:00	0 00:00	0.00	0.00
13 Jun-TA03	114.50	52.19	9.73	3.52	0.00	7.59	8.62	2.41	0 12:40	0 00:00	0.00	0.00
14 Jun-TA04	78.53	37.94	9.81	1.78	0.00	9.33	8.88	0.85	0 13:00	0 00:00	0.00	0.00
15 Jun-TA05	46.92	46.92	9.82	1.42	0.00	4.90	8.94	0.54	0 13:00	0 00:00	0.00	0.00
16 Jun-TA05B	27.21	27.21	19.82	1.41	0.00	0.59	18.53	0.12	0 12:30	0 00:00	0.00	0.00

Project Description

File Name Post Development.SPF

Project Options

Flow Units CFS
 Elevation Type Elevation
 Hydrology Method SCS TR-55
 Time of Concentration (TOC) Method User-Defined
 Link Routing Method Hydrodynamic
 Enable Overflow Ponding at Nodes YES
 Skip Steady State Analysis Time Periods NO

Analysis Options

Start Analysis On Oct 19, 2021 00:00:00
 End Analysis On Oct 22, 2021 00:00:00
 Start Reporting On Oct 19, 2021 00:00:00
 Antecedent Dry Days 0 days
 Runoff (Dry Weather) Time Step 0 01:00:00 days hh:mm:ss
 Runoff (Wet Weather) Time Step 0 00:05:00 days hh:mm:ss
 Reporting Time Step 0 00:05:00 days hh:mm:ss
 Routing Time Step 1 seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins.....	16
Nodes.....	22
<i>Junctions</i>	16
<i>Outfalls</i>	2
<i>Flow Diversions</i>	0
<i>Inlets</i>	0
<i>Storage Nodes</i>	4
Links.....	24
<i>Channels</i>	13
<i>Pipes</i>	6
<i>Pumps</i>	0
<i>Orifices</i>	1
<i>Weirs</i>	4
<i>Outlets</i>	0
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	OUTFALL-D	28.80	323.00	84.00	8.00	6.10	175.54	64.41	0 01:00:00
2	POND1	14.71	323.00	98.00	8.00	7.76	114.15	75.93	0 00:15:00
3	POND2	2.54	323.00	98.00	8.00	7.76	19.71	13.11	0 00:15:00
4	POND3	1.60	323.00	98.00	8.00	7.76	12.42	8.26	0 00:15:00
5	POND4	10.60	323.00	98.00	8.00	7.76	82.26	54.69	0 00:15:00
6	PostBasin1-A	4.98	323.00	95.00	8.00	7.40	36.86	25.36	0 00:15:00
7	PostBasin1-B	6.77	323.00	95.00	8.00	7.40	50.10	34.49	0 00:15:00
8	PostBasin1-C	5.51	323.00	95.00	8.00	7.40	40.78	28.07	0 00:15:00
9	PostBasin2-A	4.29	323.00	95.00	8.00	7.40	31.75	21.84	0 00:15:00
10	PostBasin2-B	6.79	323.00	95.00	8.00	7.40	50.25	34.59	0 00:15:00
11	PostBasin2-C	6.11	323.00	95.00	8.00	7.40	45.22	31.13	0 00:15:00
12	TA02	2.14	323.00	77.14	8.00	5.29	11.32	6.19	0 00:31:00
13	TA03	17.80	323.00	86.43	8.00	6.38	113.60	61.42	0 00:30:00
14	TA04	6.24	323.00	92.31	8.00	7.08	44.18	19.82	0 00:40:00
15	TA05-A	9.24	323.00	94.60	8.00	7.35	67.94	34.73	0 00:30:00
16	TA05-B	12.00	323.00	77.47	8.00	5.33	63.95	32.84	0 00:35:00

Node Summary

SN	Element ID	Element Type	Invert Elevation	Ground/Rim (Max) Elevation	Initial Water Elevation	Surcharge Elevation	Ponded Area	Peak Inflow	Max HGL Elevation Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
			(ft)	(ft)	(ft)	(ft)	(ft ²)	(cfs)	(ft)	(ft)	(ft)	(days hh:mm)	(ac-in)	(min)
1	Jun-15	Junction	8.00	10.00	8.25	10.00	10.00	7.01	11.53	0.00	9.47	0 00:00	0.00	0.00
2	Jun-16	Junction	8.00	15.00	8.25	15.00	100.00	64.29	11.53	0.00	3.47	0 00:00	0.00	0.00
3	Jun-BAS1-A	Junction	8.50	14.00	8.50	14.00	60000.00	85.56	11.86	0.00	2.14	0 00:00	0.00	0.00
4	Jun-BAS1-B	Junction	8.81	13.15	8.81	13.15	60000.00	61.57	11.97	0.00	1.18	0 00:00	0.00	0.00
5	Jun-BAS1-C	Junction	9.00	13.15	9.00	13.15	60000.00	27.96	11.98	0.00	1.17	0 00:00	0.00	0.00
6	Jun-BAS2-A	Junction	9.00	13.15	9.00	13.15	10.00	42.92	11.47	0.00	10.53	0 00:00	0.00	0.00
7	Jun-BAS2-B	Junction	9.00	13.15	9.00	13.15	10.00	38.09	11.47	0.00	10.53	0 00:00	0.00	0.00
8	Jun-BAS2-C	Junction	9.00	13.15	9.00	13.15	10.00	40.79	11.67	0.00	10.33	0 00:00	0.00	0.00
9	Jun-CS	Junction	6.00	14.00	6.00	14.00	10.00	6.91	11.44	0.00	5.06	0 00:00	0.00	0.00
10	Jun-OUTFALL D	Junction	8.00	15.00	8.25	15.00	10.00	64.27	11.59	0.00	3.41	0 00:00	0.00	0.00
11	Jun-POND4	Junction	14.00	19.00	18.30	19.00	10.00	33.55	18.15	0.00	0.85	0 00:00	0.00	0.00
12	Jun-TA02	Junction	6.09	10.40	8.23	10.40	10.00	330.10	12.50	0.00	6.82	0 00:00	0.00	0.00
13	Jun-TA03	Junction	6.21	13.29	8.23	13.29	10.00	276.93	12.50	0.00	4.82	0 00:00	0.00	0.00
14	Jun-TA04	Junction	8.03	10.16	8.03	10.16	10.00	146.33	12.52	0.00	6.62	0 00:00	0.00	0.00
15	Jun-TA05	Junction	8.40	10.65	8.40	16.30	10.00	56.87	12.52	0.00	2.20	0 00:00	0.00	0.00
16	Jun-TA05B	Junction	18.41	20.00	18.41	20.00	10.00	32.76	19.87	0.00	0.54	0 00:00	0.00	0.00
17	Out-D	Outfall	6.00					58.24	11.50					
18	OUT-TA	Outfall	4.46					337.24	12.50					
19	Stor-POND1	Storage Node	1.00	14.00	8.25		100.00	203.21	11.47				0.00	0.00
20	Stor-POND2	Storage Node	1.00	15.00	9.00		10.00	15.84	11.72				0.00	0.00
21	Stor-POND3	Storage Node	1.00	15.00	9.00		10.00	16.37	11.72				0.00	0.00
22	Stor-POND4	Storage Node	1.00	15.00	9.00		10.00	129.72	11.72				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/Total Depth Ratio	Total Time Reported Surcharged (min)	Reported Condition
1	Link-01	Pipe	Stor-POND2	Stor-POND3	130.00	4.00	4.00	0.0000	36.000	0.0130	7.48	1.85	4.04	1.06	3.00	1.00	4320.00	SURCHARGED
2	Link-02	Pipe	Stor-POND3	Stor-POND4	160.00	4.00	4.00	0.0000	36.000	0.0130	12.18	1.67	7.31	1.72	3.00	1.00	4320.00	SURCHARGED
3	Link-06	Pipe	Jun-TA03	Jun-TA02	30.00	6.21	6.09	0.4000	60.000	0.0250	69.45	85.65	0.81	6.64	5.00	1.00	503.00	SURCHARGED
4	Link-12	Pipe	Jun-TA05B	Jun-POND4	60.00	18.41	15.00	5.6800	12.000	0.0250	4.57	4.42	1.04	6.08	1.00	1.00	26.00	SURCHARGED
5	Link-15	Pipe	Jun-BAS1-A	Stor-POND1	200.00	8.50	8.00	0.2500	36.000	0.0130	85.39	66.70	1.28	6.64	2.98	0.99	0.00	> CAPACITY
6	Link-18	Pipe	Jun-CS	Jun-15	55.00	8.00	8.00	0.0000	24.000	0.0130	6.91	0.96	7.16	2.94	2.00	1.00	731.00	SURCHARGED
7	Link-03	Channel	Jun-TA05	Jun-TA04	912.00	8.40	8.03	0.0400	75.840	0.0320	101.11	6430.95	0.02	0.16	4.30	0.68	0.00	
8	Link-07	Channel	Jun-TA02	OUT-TA	127.00	6.09	4.46	1.2800	158.760	0.0320	334.71	163386.95	0.00	0.09	7.23	0.55	0.00	
9	Link-09	Channel	Stor-POND4	Jun-BAS2-C	250.00	9.00	9.00	0.0000	156.000	0.0320	37.12	191.77	0.19	1.55	2.69	0.21	0.00	
10	Link-10	Channel	Jun-BAS2-C	Jun-BAS2-B	737.24	9.00	9.00	0.0000	48.000	0.0320	33.15	6.30	5.26	1.02	2.56	0.64	0.00	
11	Link-11	Channel	Jun-BAS2-A	Stor-POND1	260.00	9.00	9.00	0.0000	48.000	0.0320	43.19	10.62	4.07	2.61	2.47	0.62	0.00	
12	Link-13	Channel	Jun-POND4	Stor-POND4	857.90	14.00	13.00	0.1200	48.000	0.0320	129.72	184.81	0.70	3.34	1.95	0.72	0.00	
13	Link-14	Channel	Jun-BAS1-C	Jun-BAS1-B	61.31	9.00	8.81	0.3100	48.000	0.0320	27.36	211.77	0.13	1.13	3.06	0.77	0.00	
14	Link-16	Channel	Jun-16	Out-D	10.00	8.00	8.00	0.0000	48.000	0.0010	58.24	1217.33	0.05	4.70	3.52	0.88	0.00	
15	Link-19	Channel	Jun-15	Jun-16	150.00	8.00	8.00	0.0000	48.000	0.0320	7.01	9.82	0.71	1.73	3.53	0.88	0.00	
16	Link-22	Channel	Jun-TA04	Jun-TA03	1142.00	8.03	6.21	0.1600	133.320	0.0320	253.47	34346.01	0.01	0.49	5.39	0.48	0.00	
17	Link-23	Channel	Jun-BAS2-B	Jun-BAS2-A	597.76	9.00	9.00	0.0000	156.000	0.0320	38.18	124.02	0.31	1.29	2.47	0.19	0.00	
18	Link-24	Channel	Jun-BAS1-B	Jun-BAS1-A	98.69	8.81	8.50	0.3100	48.000	0.0320	60.76	213.21	0.28	2.33	3.25	0.82	0.00	
19	Link-26	Channel	Jun-16	Jun-OUTFALL D	100.00	8.00	8.00	0.0000	48.000	0.0320	64.29	13.28	4.84	1.42	3.56	0.89	0.00	
20	Orifice-01	Orifice	Stor-POND1	Jun-CS		1.00	6.00		6.000		1.51							
21	ES-Weir	Weir	Stor-POND1	Jun-15		1.00	8.00				0.00							
22	Weir-02	Weir	Jun-TA05B	Jun-POND4		18.41	14.00				29.18							
23	Weir-03	Weir	Jun-TA03	Jun-TA02		6.21	6.09				313.17							
24	Weir-06	Weir	Stor-POND1	Jun-CS		1.00	6.00				5.57							

Junction Results

SN Element ID	Peak Inflow	Peak Lateral Inflow	Max HGL Elevation Attained	Max HGL Depth Attained	Max Surge Depth Attained	Min Freeboard Attained	Average HGL Elevation Attained	Average HGL Depth Attained	Time of Max HGL Occurrence	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
	(cfs)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(days hh:mm)	(ac-in)	(min)
1 Jun-15	7.01	0.00	11.53	3.53	0.00	9.47	9.45	1.45	0 12:45	0 00:00	0.00	0.00
2 Jun-16	64.29	0.00	11.53	3.53	0.00	3.47	9.08	1.08	0 12:45	0 00:00	0.00	0.00
3 Jun-BAS1-A	85.56	25.26	11.86	3.36	0.00	2.14	10.56	2.06	0 12:18	0 00:00	0.00	0.00
4 Jun-BAS1-B	61.57	34.35	11.97	3.16	0.00	1.18	10.64	1.83	0 12:18	0 00:00	0.00	0.00
5 Jun-BAS1-C	27.96	27.96	11.98	2.98	0.00	1.17	10.65	1.65	0 12:18	0 00:00	0.00	0.00
6 Jun-BAS2-A	42.92	21.76	11.47	2.47	0.00	10.53	10.67	1.67	0 21:47	0 00:00	0.00	0.00
7 Jun-BAS2-B	38.09	34.45	11.47	2.47	0.00	10.53	10.69	1.69	0 21:45	0 00:00	0.00	0.00
8 Jun-BAS2-C	40.79	31.01	11.67	2.67	0.00	10.33	10.70	1.70	0 13:09	0 00:00	0.00	0.00
9 Jun-CS	6.91	0.00	11.44	5.44	0.00	5.06	9.58	3.58	0 13:00	0 00:00	0.00	0.00
10 Jun-OUTFALL D	64.27	64.27	11.59	3.59	0.00	3.41	9.08	1.08	0 12:45	0 00:00	0.00	0.00
11 Jun-POND4	33.55	0.00	18.15	4.15	0.00	0.85	14.19	0.19	0 00:00	0 00:00	0.00	0.00
12 Jun-TA02	330.10	0.00	12.50	6.41	0.00	6.82	8.99	2.90	0 11:00	0 00:00	0.00	0.00
13 Jun-TA03	276.93	61.06	12.50	6.29	0.00	4.82	9.09	2.88	0 12:34	0 00:00	0.00	0.00
14 Jun-TA04	146.33	46.75	12.52	4.49	0.00	6.62	9.33	1.30	0 11:05	0 00:00	0.00	0.00
15 Jun-TA05	56.87	56.87	12.52	4.12	0.00	2.20	9.38	0.98	0 11:04	0 00:00	0.00	0.00
16 Jun-TA05B	32.76	32.76	19.87	1.46	0.00	0.54	18.55	0.14	0 12:30	0 00:00	0.00	0.00

Project Description

File Name Post Development.SPF

Project Options

Flow Units CFS
 Elevation Type Elevation
 Hydrology Method SCS TR-55
 Time of Concentration (TOC) Method User-Defined
 Link Routing Method Hydrodynamic
 Enable Overflow Ponding at Nodes YES
 Skip Steady State Analysis Time Periods NO

Analysis Options

Start Analysis On Oct 19, 2021 00:00:00
 End Analysis On Oct 22, 2021 00:00:00
 Start Reporting On Oct 19, 2021 00:00:00
 Antecedent Dry Days 0 days
 Runoff (Dry Weather) Time Step 0 01:00:00 days hh:mm:ss
 Runoff (Wet Weather) Time Step 0 00:05:00 days hh:mm:ss
 Reporting Time Step 0 00:05:00 days hh:mm:ss
 Routing Time Step 1 seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins.....	16
Nodes.....	22
<i>Junctions</i>	16
<i>Outfalls</i>	2
<i>Flow Diversions</i>	0
<i>Inlets</i>	0
<i>Storage Nodes</i>	4
Links.....	24
<i>Channels</i>	13
<i>Pipes</i>	6
<i>Pumps</i>	0
<i>Orifices</i>	1
<i>Weirs</i>	4
<i>Outlets</i>	0
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	OUTFALL-D	28.80	323.00	84.00	9.00	7.06	203.30	74.16	0 01:00:00
2	POND1	14.71	323.00	98.00	9.00	8.76	128.86	85.47	0 00:15:00
3	POND2	2.54	323.00	98.00	9.00	8.76	22.25	14.76	0 00:15:00
4	POND3	1.60	323.00	98.00	9.00	8.76	14.02	9.29	0 00:15:00
5	POND4	10.60	323.00	98.00	9.00	8.76	92.86	61.56	0 00:15:00
6	PostBasin1-A	4.98	323.00	95.00	9.00	8.40	41.82	28.60	0 00:15:00
7	PostBasin1-B	6.77	323.00	95.00	9.00	8.40	56.85	38.90	0 00:15:00
8	PostBasin1-C	5.51	323.00	95.00	9.00	8.40	46.27	31.65	0 00:15:00
9	PostBasin2-A	4.29	323.00	95.00	9.00	8.40	36.03	24.63	0 00:15:00
10	PostBasin2-B	6.79	323.00	95.00	9.00	8.40	57.02	39.01	0 00:15:00
11	PostBasin2-C	6.11	323.00	95.00	9.00	8.40	51.31	35.11	0 00:15:00
12	TA02	2.14	323.00	77.14	9.00	6.22	13.30	7.25	0 00:31:00
13	TA03	17.80	323.00	86.43	9.00	7.36	130.94	70.30	0 00:30:00
14	TA04	6.24	323.00	92.31	9.00	8.07	50.37	22.45	0 00:40:00
15	TA05-A	9.24	323.00	94.60	9.00	8.35	77.14	39.21	0 00:30:00
16	TA05-B	12.00	323.00	77.47	9.00	6.26	75.08	38.40	0 00:35:00

Node Summary

SN	Element ID	Element Type	Invert Elevation	Ground/Rim (Max) Elevation	Initial Water Elevation	Surcharge Elevation	Ponded Area	Peak Inflow	Max HGL Elevation Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
			(ft)	(ft)	(ft)	(ft)	(ft ²)	(cfs)	(ft)	(ft)	(ft)	(days hh:mm)	(ac-in)	(min)
1	Jun-15	Junction	8.00	10.00	8.25	10.00	10.00	33.71	12.60	0.00	8.40	0 00:00	0.00	0.00
2	Jun-16	Junction	8.00	15.00	8.25	15.00	100.00	74.16	12.61	0.00	2.39	0 00:00	0.00	0.00
3	Jun-BAS1-A	Junction	8.50	14.00	8.50	14.00	60000.00	96.11	12.31	0.00	1.69	0 00:00	0.00	0.00
4	Jun-BAS1-B	Junction	8.81	13.15	8.81	13.15	60000.00	69.24	12.38	0.00	0.77	0 00:00	0.00	0.00
5	Jun-BAS1-C	Junction	9.00	13.15	9.00	13.15	60000.00	31.51	12.39	0.00	0.76	0 00:00	0.00	0.00
6	Jun-BAS2-A	Junction	9.00	13.15	9.00	13.15	10.00	52.61	12.20	0.00	9.80	0 00:00	0.00	0.00
7	Jun-BAS2-B	Junction	9.00	13.15	9.00	13.15	10.00	44.10	12.20	0.00	9.80	0 00:00	0.00	0.00
8	Jun-BAS2-C	Junction	9.00	13.15	9.00	13.15	10.00	44.70	12.21	0.00	9.79	0 00:00	0.00	0.00
9	Jun-CS	Junction	6.00	14.00	6.00	14.00	10.00	9.38	12.46	0.00	4.04	0 00:00	0.00	0.00
10	Jun-OUTFALL D	Junction	8.00	15.00	8.25	15.00	10.00	74.15	12.65	0.00	2.35	0 00:00	0.00	0.00
11	Jun-POND4	Junction	14.00	19.00	18.30	19.00	10.00	39.25	18.15	0.00	0.85	0 00:00	0.00	0.00
12	Jun-TA02	Junction	6.09	10.40	8.23	10.40	10.00	338.63	12.50	0.00	6.82	0 00:00	0.00	0.00
13	Jun-TA03	Junction	6.21	13.29	8.23	13.29	10.00	285.53	12.50	0.00	4.82	0 00:00	0.00	0.00
14	Jun-TA04	Junction	8.03	10.16	8.03	10.16	10.00	159.71	12.52	0.00	6.62	0 00:00	0.00	0.00
15	Jun-TA05	Junction	8.40	10.65	8.40	16.30	10.00	111.71	12.52	0.00	2.20	0 00:00	0.00	0.00
16	Jun-TA05B	Junction	18.41	20.00	18.41	20.00	10.00	38.35	19.92	0.00	0.49	0 00:00	0.00	0.00
17	Out-D	Outfall	6.00					74.16	12.60					
18	OUT-TA	Outfall	4.46					346.16	12.50					
19	Stor-POND1	Storage Node	1.00	14.00	8.25		100.00	257.75	12.20				0.00	0.00
20	Stor-POND2	Storage Node	1.00	15.00	9.00		10.00	17.91	12.21				0.00	0.00
21	Stor-POND3	Storage Node	1.00	15.00	9.00		10.00	18.33	12.21				0.00	0.00
22	Stor-POND4	Storage Node	1.00	15.00	9.00		10.00	129.72	12.21				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/Total Depth Ratio	Total Time Reported Surcharged (min)	Reported Condition
1	Link-01	Pipe	Stor-POND2	Stor-POND3	130.00	4.00	4.00	0.0000	36.000	0.0130	7.48	1.85	4.04	1.06	3.00	1.00	4320.00	SURCHARGED
2	Link-02	Pipe	Stor-POND3	Stor-POND4	160.00	4.00	4.00	0.0000	36.000	0.0130	12.18	1.67	7.31	1.72	3.00	1.00	4320.00	SURCHARGED
3	Link-06	Pipe	Jun-TA03	Jun-TA02	30.00	6.21	6.09	0.4000	60.000	0.0250	90.78	85.65	1.06	8.34	5.00	1.00	504.00	SURCHARGED
4	Link-12	Pipe	Jun-TA05B	Jun-POND4	60.00	18.41	15.00	5.6800	12.000	0.0250	4.58	4.42	1.04	6.08	1.00	1.00	39.00	SURCHARGED
5	Link-15	Pipe	Jun-BAS1-A	Stor-POND1	200.00	8.50	8.00	0.2500	36.000	0.0130	95.79	66.70	1.44	7.22	3.00	1.00	1598.00	SURCHARGED
6	Link-18	Pipe	Jun-CS	Jun-15	55.00	8.00	8.00	0.0000	24.000	0.0130	9.38	0.96	9.73	3.23	2.00	1.00	921.00	SURCHARGED
7	Link-03	Channel	Jun-TA05	Jun-TA04	912.00	8.40	8.03	0.0400	75.840	0.0320	138.78	6430.95	0.02	0.16	4.30	0.68	0.00	
8	Link-07	Channel	Jun-TA02	OUT-TA	127.00	6.09	4.46	1.2800	158.760	0.0320	343.23	163386.95	0.00	0.11	7.23	0.55	0.00	
9	Link-09	Channel	Stor-POND4	Jun-BAS2-C	250.00	9.00	9.00	0.0000	156.000	0.0320	40.02	191.77	0.21	1.49	3.21	0.25	0.00	
10	Link-10	Channel	Jun-BAS2-C	Jun-BAS2-B	737.24	9.00	9.00	0.0000	48.000	0.0320	36.58	6.30	5.80	0.96	3.21	0.80	0.00	
11	Link-11	Channel	Jun-BAS2-A	Stor-POND1	260.00	9.00	9.00	0.0000	48.000	0.0320	51.50	10.62	4.85	2.47	3.20	0.80	0.00	
12	Link-13	Channel	Jun-POND4	Stor-POND4	857.90	14.00	13.00	0.1200	48.000	0.0320	129.72	184.81	0.70	3.34	1.95	0.72	0.00	
13	Link-14	Channel	Jun-BAS1-C	Jun-BAS1-B	61.31	9.00	8.81	0.3100	48.000	0.0320	30.74	211.77	0.15	1.07	3.48	0.87	0.00	
14	Link-16	Channel	Jun-16	Out-D	10.00	8.00	8.00	0.0000	48.000	0.0010	41.28	1217.33	0.03	5.14	4.00	1.00	302.00	
15	Link-19	Channel	Jun-15	Jun-16	150.00	8.00	8.00	0.0000	48.000	0.0320	33.71	9.82	3.43	1.90	4.00	1.00	302.00	
16	Link-22	Channel	Jun-TA04	Jun-TA03	1142.00	8.03	6.21	0.1600	133.320	0.0320	258.92	34346.01	0.01	0.49	5.39	0.48	0.00	
17	Link-23	Channel	Jun-BAS2-B	Jun-BAS2-A	597.76	9.00	9.00	0.0000	156.000	0.0320	43.19	124.02	0.35	1.23	3.20	0.25	0.00	
18	Link-24	Channel	Jun-BAS1-B	Jun-BAS1-A	98.69	8.81	8.50	0.3100	48.000	0.0320	68.21	213.21	0.32	2.12	3.68	0.92	0.00	
19	Link-26	Channel	Jun-16	Jun-OUTFALL D	100.00	8.00	8.00	0.0000	48.000	0.0320	74.16	13.28	5.59	1.32	4.00	1.00	302.00	
20	Orifice-01	Orifice	Stor-POND1	Jun-CS		1.00	6.00		6.000									
21	ES-Weir	Weir	Stor-POND1	Jun-15		1.00	8.00				25.10							
22	Weir-02	Weir	Jun-TA05B	Jun-POND4		18.41	14.00				34.94							
23	Weir-03	Weir	Jun-TA03	Jun-TA02		6.21	6.09				321.26							
24	Weir-06	Weir	Stor-POND1	Jun-CS		1.00	6.00				7.73							

Junction Results

SN Element ID	Peak Inflow	Peak Lateral Inflow	Max HGL Elevation Attained	Max HGL Depth Attained	Max Surge Depth Attained	Min Freeboard Attained	Average HGL Elevation Attained	Average HGL Depth Attained	Time of Max HGL Occurrence	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
	(cfs)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(days hh:mm)	(ac-in)	(min)
1 Jun-15	33.71	0.00	12.60	4.60	0.00	8.40	9.73	1.73	0 12:50	0 00:00	0.00	0.00
2 Jun-16	74.16	0.00	12.61	4.61	0.00	2.39	9.33	1.33	0 12:45	0 00:00	0.00	0.00
3 Jun-BAS1-A	96.11	28.47	12.31	3.81	0.00	1.69	11.01	2.51	0 12:18	0 00:00	0.00	0.00
4 Jun-BAS1-B	69.24	38.72	12.38	3.57	0.00	0.77	11.09	2.28	0 12:18	0 00:00	0.00	0.00
5 Jun-BAS1-C	31.51	31.51	12.39	3.39	0.00	0.76	11.10	2.10	0 12:18	0 00:00	0.00	0.00
6 Jun-BAS2-A	52.61	24.53	12.20	3.20	0.00	9.80	11.10	2.10	0 17:57	0 00:00	0.00	0.00
7 Jun-BAS2-B	44.10	38.83	12.20	3.20	0.00	9.80	11.12	2.12	0 17:57	0 00:00	0.00	0.00
8 Jun-BAS2-C	44.70	34.95	12.21	3.21	0.00	9.79	11.12	2.12	0 17:57	0 00:00	0.00	0.00
9 Jun-CS	9.38	0.00	12.46	6.46	0.00	4.04	9.89	3.89	0 13:00	0 00:00	0.00	0.00
10 Jun-OUTFALL D	74.15	74.15	12.65	4.65	0.00	2.35	9.33	1.33	0 12:44	0 00:00	0.00	0.00
11 Jun-POND4	39.25	0.00	18.15	4.15	0.00	0.85	14.20	0.20	0 00:00	0 00:00	0.00	0.00
12 Jun-TA02	338.63	0.00	12.50	6.41	0.00	6.82	8.99	2.90	0 11:00	0 00:00	0.00	0.00
13 Jun-TA03	285.53	69.88	12.50	6.29	0.00	4.82	9.14	2.93	0 12:33	0 00:00	0.00	0.00
14 Jun-TA04	159.71	33.77	12.52	4.49	0.00	6.62	9.39	1.36	0 11:05	0 00:00	0.00	0.00
15 Jun-TA05	111.71	111.71	12.52	4.12	0.00	2.20	9.45	1.05	0 11:04	0 00:00	0.00	0.00
16 Jun-TA05B	38.35	38.35	19.92	1.51	0.00	0.49	18.56	0.15	0 12:29	0 00:00	0.00	0.00

Project Description

File Name Post Development.SPF

Project Options

Flow Units CFS
 Elevation Type Elevation
 Hydrology Method SCS TR-55
 Time of Concentration (TOC) Method User-Defined
 Link Routing Method Hydrodynamic
 Enable Overflow Ponding at Nodes YES
 Skip Steady State Analysis Time Periods NO

Analysis Options

Start Analysis On Oct 19, 2021 00:00:00
 End Analysis On Oct 22, 2021 00:00:00
 Start Reporting On Oct 19, 2021 00:00:00
 Antecedent Dry Days 0 days
 Runoff (Dry Weather) Time Step 0 01:00:00 days hh:mm:ss
 Runoff (Wet Weather) Time Step 0 00:05:00 days hh:mm:ss
 Reporting Time Step 0 00:05:00 days hh:mm:ss
 Routing Time Step 1 seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins.....	16
Nodes.....	22
<i>Junctions</i>	16
<i>Outfalls</i>	2
<i>Flow Diversions</i>	0
<i>Inlets</i>	0
<i>Storage Nodes</i>	4
Links.....	24
<i>Channels</i>	13
<i>Pipes</i>	6
<i>Pumps</i>	0
<i>Orifices</i>	1
<i>Weirs</i>	4
<i>Outlets</i>	0
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	OUTFALL-D	28.80	323.00	84.00	10.00	8.03	231.24	83.97	0 01:00:00
2	POND1	14.71	323.00	98.00	10.00	9.76	143.55	94.98	0 00:15:00
3	POND2	2.54	323.00	98.00	10.00	9.76	24.79	16.40	0 00:15:00
4	POND3	1.60	323.00	98.00	10.00	9.76	15.61	10.33	0 00:15:00
5	POND4	10.60	323.00	98.00	10.00	9.76	103.45	68.41	0 00:15:00
6	PostBasin1-A	4.98	323.00	95.00	10.00	9.40	46.79	31.87	0 00:15:00
7	PostBasin1-B	6.77	323.00	95.00	10.00	9.40	63.60	43.34	0 00:15:00
8	PostBasin1-C	5.51	323.00	95.00	10.00	9.40	51.77	35.27	0 00:15:00
9	PostBasin2-A	4.29	323.00	95.00	10.00	9.40	40.30	27.45	0 00:15:00
10	PostBasin2-B	6.79	323.00	95.00	10.00	9.40	63.79	43.47	0 00:15:00
11	PostBasin2-C	6.11	323.00	95.00	10.00	9.40	57.40	39.12	0 00:15:00
12	TA02	2.14	323.00	77.14	10.00	7.15	15.31	8.30	0 00:31:00
13	TA03	17.80	323.00	86.43	10.00	8.34	148.36	79.22	0 00:30:00
14	TA04	6.24	323.00	92.31	10.00	9.07	56.57	25.07	0 00:40:00
15	TA05-A	9.24	323.00	94.60	10.00	9.35	86.36	43.68	0 00:30:00
16	TA05-B	12.00	323.00	77.47	10.00	7.20	86.35	44.00	0 00:35:00

Node Summary

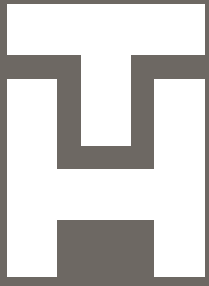
SN	Element ID	Element Type	Invert Elevation	Ground/Rim (Max) Elevation	Initial Water Elevation	Surcharge Elevation	Ponded Area	Peak Inflow	Max HGL Elevation Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
			(ft)	(ft)	(ft)	(ft)	(ft²)	(cfs)	(ft)	(ft)	(ft)	(days hh:mm)	(ac-in)	(min)
1	Jun-15	Junction	8.00	10.00	8.25	10.00	10.00	105.21	13.48	0.00	7.52	0 00:00	0.00	0.00
2	Jun-16	Junction	8.00	15.00	8.25	15.00	100.00	144.22	13.50	0.00	1.50	0 00:00	0.00	0.00
3	Jun-BAS1-A	Junction	8.50	14.00	8.50	14.00	60000.00	89.61	13.48	0.00	0.52	0 00:00	0.00	0.00
4	Jun-BAS1-B	Junction	8.81	13.15	8.81	13.15	60000.00	68.19	13.48	0.33	0.00	0 12:15	8.55	279.00
5	Jun-BAS1-C	Junction	9.00	13.15	9.00	13.15	60000.00	35.12	13.48	0.33	0.00	0 12:17	8.44	279.00
6	Jun-BAS2-A	Junction	9.00	13.15	9.00	13.15	10.00	53.30	13.48	0.00	8.52	0 00:00	0.00	0.00
7	Jun-BAS2-B	Junction	9.00	13.15	9.00	13.15	10.00	68.27	13.48	0.00	8.52	0 00:00	0.00	0.00
8	Jun-BAS2-C	Junction	9.00	13.15	9.00	13.15	10.00	70.96	13.62	0.00	8.38	0 00:00	0.00	0.00
9	Jun-CS	Junction	6.00	14.00	6.00	14.00	10.00	10.59	13.48	0.00	3.02	0 00:00	0.00	0.00
10	Jun-OUTFALL D	Junction	8.00	15.00	8.25	15.00	10.00	83.85	13.56	0.00	1.44	0 00:00	0.00	0.00
11	Jun-POND4	Junction	14.00	19.00	18.30	19.00	10.00	44.88	18.15	0.00	0.85	0 00:00	0.00	0.00
12	Jun-TA02	Junction	6.09	10.40	8.23	10.40	10.00	343.93	12.50	0.00	6.82	0 00:00	0.00	0.00
13	Jun-TA03	Junction	6.21	13.29	8.23	13.29	10.00	290.87	12.51	0.00	4.81	0 00:00	0.00	0.00
14	Jun-TA04	Junction	8.03	10.16	8.03	10.16	10.00	160.23	12.52	0.00	6.62	0 00:00	0.00	0.00
15	Jun-TA05	Junction	8.40	10.65	8.40	16.30	10.00	112.01	12.52	0.00	2.20	0 00:00	0.00	0.00
16	Jun-TA05B	Junction	18.41	20.00	18.41	20.00	10.00	43.90	19.97	0.00	0.44	0 00:00	0.00	0.00
17	Out-D	Outfall	6.00					132.37	13.50					
18	OUT-TA	Outfall	4.46					351.86	12.50					
19	Stor-POND1	Storage Node	1.00	14.00	8.25		100.00	309.47	13.48				0.00	0.00
20	Stor-POND2	Storage Node	1.00	15.00	9.00		10.00	21.74	13.62				0.00	0.00
21	Stor-POND3	Storage Node	1.00	15.00	9.00		10.00	23.82	13.62				0.00	0.00
22	Stor-POND4	Storage Node	1.00	15.00	9.00		10.00	154.02	13.62				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope (%)	Diameter or Height (in)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/Total Depth Ratio	Total Time Reported Surcharged (min)	Reported Condition
1	Link-01	Pipe	Stor-POND2	Stor-POND3	130.00	4.00	4.00	0.0000	36.000	0.0130	9.27	1.85	5.01	1.31	3.00	1.00	4320.00	SURCHARGED
2	Link-02	Pipe	Stor-POND3	Stor-POND4	160.00	4.00	4.00	0.0000	36.000	0.0130	17.20	1.67	10.32	2.43	3.00	1.00	4320.00	SURCHARGED
3	Link-06	Pipe	Jun-TA03	Jun-TA02	30.00	6.21	6.09	0.4000	60.000	0.0250	91.23	85.65	1.07	8.37	5.00	1.00	504.00	SURCHARGED
4	Link-12	Pipe	Jun-TA05B	Jun-POND4	60.00	18.41	15.00	5.6800	12.000	0.0250	4.59	4.42	1.04	6.08	1.00	1.00	48.00	SURCHARGED
5	Link-15	Pipe	Jun-BAS1-A	Stor-POND1	200.00	8.50	8.00	0.2500	36.000	0.0130	89.46	66.70	1.34	6.33	3.00	1.00	1877.00	SURCHARGED
6	Link-18	Pipe	Jun-CS	Jun-15	55.00	8.00	8.00	0.0000	24.000	0.0130	10.59	0.96	10.97	3.37	2.00	1.00	1135.00	SURCHARGED
7	Link-03	Channel	Jun-TA05	Jun-TA04	912.00	8.40	8.03	0.0400	75.840	0.0320	139.08	6430.95	0.02	0.16	4.30	0.68	0.00	
8	Link-07	Channel	Jun-TA02	OUT-TA	127.00	6.09	4.46	1.2800	158.760	0.0320	348.53	163386.95	0.00	0.11	7.23	0.55	0.00	
9	Link-09	Channel	Stor-POND4	Jun-BAS2-C	250.00	9.00	9.00	0.0000	156.000	0.0320	69.98	191.77	0.36	1.68	4.62	0.36	0.00	
10	Link-10	Channel	Jun-BAS2-C	Jun-BAS2-B	737.24	9.00	9.00	0.0000	48.000	0.0320	67.14	6.30	10.65	0.99	4.00	1.00	267.00	
11	Link-11	Channel	Jun-BAS2-A	Stor-POND1	260.00	9.00	9.00	0.0000	48.000	0.0320	79.34	10.62	7.47	1.17	4.00	1.00	261.00	
12	Link-13	Channel	Jun-POND4	Stor-POND4	857.90	14.00	13.00	0.1200	48.000	0.0320	129.72	184.81	0.70	3.34	1.95	0.72	0.00	
13	Link-14	Channel	Jun-BAS1-C	Jun-BAS1-B	61.31	9.00	8.81	0.3100	48.000	0.0320	28.39	211.77	0.13	0.79	4.00	1.00	318.00	
14	Link-16	Channel	Jun-16	Out-D	10.00	8.00	8.00	0.0000	48.000	0.0010	132.37	1217.33	0.11	6.01	4.00	1.00	497.00	
15	Link-19	Channel	Jun-15	Jun-16	150.00	8.00	8.00	0.0000	48.000	0.0320	135.37	9.82	13.78	2.60	4.00	1.00	499.00	
16	Link-22	Channel	Jun-TA04	Jun-TA03	1142.00	8.03	6.21	0.1600	133.320	0.0320	261.05	34346.01	0.01	0.49	5.39	0.48	0.00	
17	Link-23	Channel	Jun-BAS2-B	Jun-BAS2-A	597.76	9.00	9.00	0.0000	156.000	0.0320	52.42	124.02	0.42	0.71	4.48	0.34	0.00	
18	Link-24	Channel	Jun-BAS1-B	Jun-BAS1-A	98.69	8.81	8.50	0.3100	48.000	0.0320	62.10	213.21	0.29	1.72	4.00	1.00	435.00	
19	Link-26	Channel	Jun-16	Jun-OUTFALL D	100.00	8.00	8.00	0.0000	48.000	0.0320	83.86	13.28	6.32	1.50	4.00	1.00	498.00	
20	Orifice-01	Orifice	Stor-POND1	Jun-CS		1.00	6.00		6.000									
21	ES-Weir	Weir	Stor-POND1	Jun-15		1.00	8.00				98.02							
22	Weir-02	Weir	Jun-TA05B	Jun-POND4		18.41	14.00				40.62							
23	Weir-03	Weir	Jun-TA03	Jun-TA02		6.21	6.09				326.28							
24	Weir-06	Weir	Stor-POND1	Jun-CS		1.00	6.00				8.98							

Junction Results

SN Element ID	Peak Inflow	Peak Lateral Inflow	Max HGL Elevation Attained	Max HGL Depth Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Average HGL Elevation Attained	Average HGL Depth Attained	Time of Max HGL Occurrence	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
	(cfs)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(days hh:mm)	(ac-in)	(min)
1 Jun-15	105.21	0.00	13.48	5.48	0.00	7.52	10.02	2.02	0 16:09	0 00:00	0.00	0.00
2 Jun-16	144.22	0.00	13.50	5.50	0.00	1.50	9.58	1.58	0 12:54	0 00:00	0.00	0.00
3 Jun-BAS1-A	89.61	31.73	13.48	4.98	0.00	0.52	11.27	2.77	0 16:11	0 00:00	0.00	0.00
4 Jun-BAS1-B	68.19	43.16	13.48	4.67	0.33	0.00	11.34	2.53	0 16:12	0 12:15	8.55	279.00
5 Jun-BAS1-C	35.12	35.12	13.48	4.48	0.33	0.00	11.35	2.35	0 16:13	0 12:17	8.44	279.00
6 Jun-BAS2-A	53.30	27.33	13.48	4.48	0.00	8.52	11.34	2.34	0 16:10	0 00:00	0.00	0.00
7 Jun-BAS2-B	68.27	43.28	13.48	4.48	0.00	8.52	11.35	2.35	0 16:09	0 00:00	0.00	0.00
8 Jun-BAS2-C	70.96	38.95	13.62	4.62	0.00	8.38	11.37	2.37	0 17:29	0 00:00	0.00	0.00
9 Jun-CS	10.59	0.00	13.48	7.48	0.00	3.02	10.18	4.18	0 16:08	0 00:00	0.00	0.00
10 Jun-OUTFALL D	83.85	83.85	13.56	5.56	0.00	1.44	9.58	1.58	0 12:44	0 00:00	0.00	0.00
11 Jun-POND4	44.88	0.00	18.15	4.15	0.00	0.85	14.21	0.21	0 00:00	0 00:00	0.00	0.00
12 Jun-TA02	343.93	0.00	12.50	6.41	0.00	6.82	9.04	2.95	0 11:00	0 00:00	0.00	0.00
13 Jun-TA03	290.87	78.76	12.51	6.30	0.00	4.81	9.18	2.97	0 12:33	0 00:00	0.00	0.00
14 Jun-TA04	160.23	36.32	12.52	4.49	0.00	6.62	9.43	1.40	0 11:05	0 00:00	0.00	0.00
15 Jun-TA05	112.01	112.01	12.52	4.12	0.00	2.20	9.49	1.09	0 11:04	0 00:00	0.00	0.00
16 Jun-TA05B	43.90	43.90	19.97	1.56	0.00	0.44	18.58	0.17	0 12:30	0 00:00	0.00	0.00



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STORMWATER MANAGEMENT REPORT

GITC – CHATHAM TRACT CHATHAM BUILDING

APPENDIX C

SECONDARY PIPE SIZING CALCULATIONS

26838.0029

HEC-22
Energy Grade Line Computations

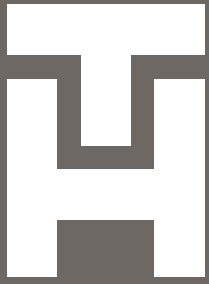
Struct. ID	Q (cfs)	EGLo (ft)	HGLo (ft)	Total Pipe Loss (ft)	EGLi (ft)	HGLi (ft)	Ea (ft)	EGLa (ft)	Surface Elev. (ft)
23		11.47	11.47						10.25
19	2.162	11.49	11.47	0.04	11.53	11.51	1.55	11.55	16.26
24		11.47	11.47						10.25
20	2.32	11.5	11.47	0.05	11.54	11.52	1.57	11.57	16.35
26		11.47	11.47						10.25
21	2.602	11.5	11.47	0.06	11.56	11.53	1.59	11.59	16.26
27		11.47	11.47						10.25
22	2.127	11.49	11.47	0.04	11.53	11.51	1.55	11.55	16.26
18 (12)		11.72	11.72						6.8
30	8.717	12.1	11.72	0.35	12.44	12.07	5.91	12.65	16.26
29	6.765	12.74	12.51	0.56	13.3	13.07	5.32	13.41	14.2
28	2.881	13.42	13.38	0.03	13.46	13.41	4.97	13.47	14.02
898		11.72	11.72						13.6
8	3.177	12.78	12.63	0.2	12.98	12.83	1.01	13.01	13.73

HEC-22
Storm Drain Computations

Structure ID		Length (ft)	Drainage Area (ac)	Runoff Coeff "C"	Tc (min)	Rain "I" (in/hr)	Runoff "Q" (cfs)	Known Q (cfs)	Total Q (cfs)	Pipe Dia. (in)	Velocity Design (ft/s)	Invert Elevation		Slope
From	To											U/S	D/S	
19	23	94.6	0.247992	0.95	10	9.1	2.162	0	2.162	18	6.114	10	8	2.12%
20	24	94.62	0.266153	0.95	10	9.1	2.32	0	2.32	18	6.239	10	8	2.11%
21	26	94.63	0.298455	0.95	10	9.1	2.602	0	2.602	18	6.447	10	8	2.11%
22	27	94.6	0.244032	0.95	10	9.1	2.127	0	2.127	18	6.085	10	8	2.12%
30	18 (12)	50.12	0.244032	0.95	10.49	8.874	8.717	0	8.717	18	10.748	6.74	5	3.47%
29	30	135.64	0.450886	0.95	10.13	9.038	6.765	0	6.765	18	6.315	8.09	6.74	1.00%
28	29	40.77	0.330529	0.95	10	9.1	2.881	0	2.881	18	5.07	8.5	8.09	1.00%
8	898	75.12	0.579129	0.8	15	6.8	3.177	0	3.177	18	3.188	12	11.8	0.27%

HEC-22
Inlet Capacity Results

Structure	Q=CIA/Kc (cfs)	Known Q (cfs)	Longitudinal Slope SL (ft/ft)	Cross Slope Sx (ft/ft)	Cross Slope Sw (ft/ft)	Prev. Bypass Flow (cfs)	Total Gutter Flow (cfs)	Depth d (ft)	Gutter Width (ft)	Spread T (ft)	Inlet Type	Grate Length (in)	Grate Width (in)	Curb Opening Length (in)	Curb Opening Height (in)	Intercept Flow Qi (cfs)	Bypass Flow Qb (cfs)	Bypass Structure	Remark
19	2.162	0	-1	0.02	0.083	0	2.162	0.36	1	14.86	Curb inlet			48	6	2.162	0		
20	2.32	0	-1	0.02	0.083	0	2.32	0.37	1	15.58	Curb inlet			48	6	2.32	0		
21	2.602	0	-1	0.02	0.083	0	2.602	0.4	1	16.82	Curb inlet			48	6	2.602	0		
22	2.127	0	-1	0.02	0.083	0	2.127	0.36	1	14.7	Curb inlet			48	6	2.127	0		
28	2.881	0	-1	0.02	0.083	0	2.881	0.27	1	10.27	Curb inlet			140.04	6	2.881	0		
29	3.93	0	-1	0.02	0.083	0	3.93	0.32	1	12.63	Curb inlet			140.04	6	3.93	0		
30	2.127	0	-1	0.02	0.083	0	2.127	0.36	1	14.7	Curb inlet			48	6	2.127	0		



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STORMWATER MANAGEMENT REPORT

GITC – CHATHAM TRACT CHATHAM BUILDING

EXHIBITS

26838.0029



LOCATION MAP

GITC - CHATHAM BUILDING
10/20/2021










Parcels

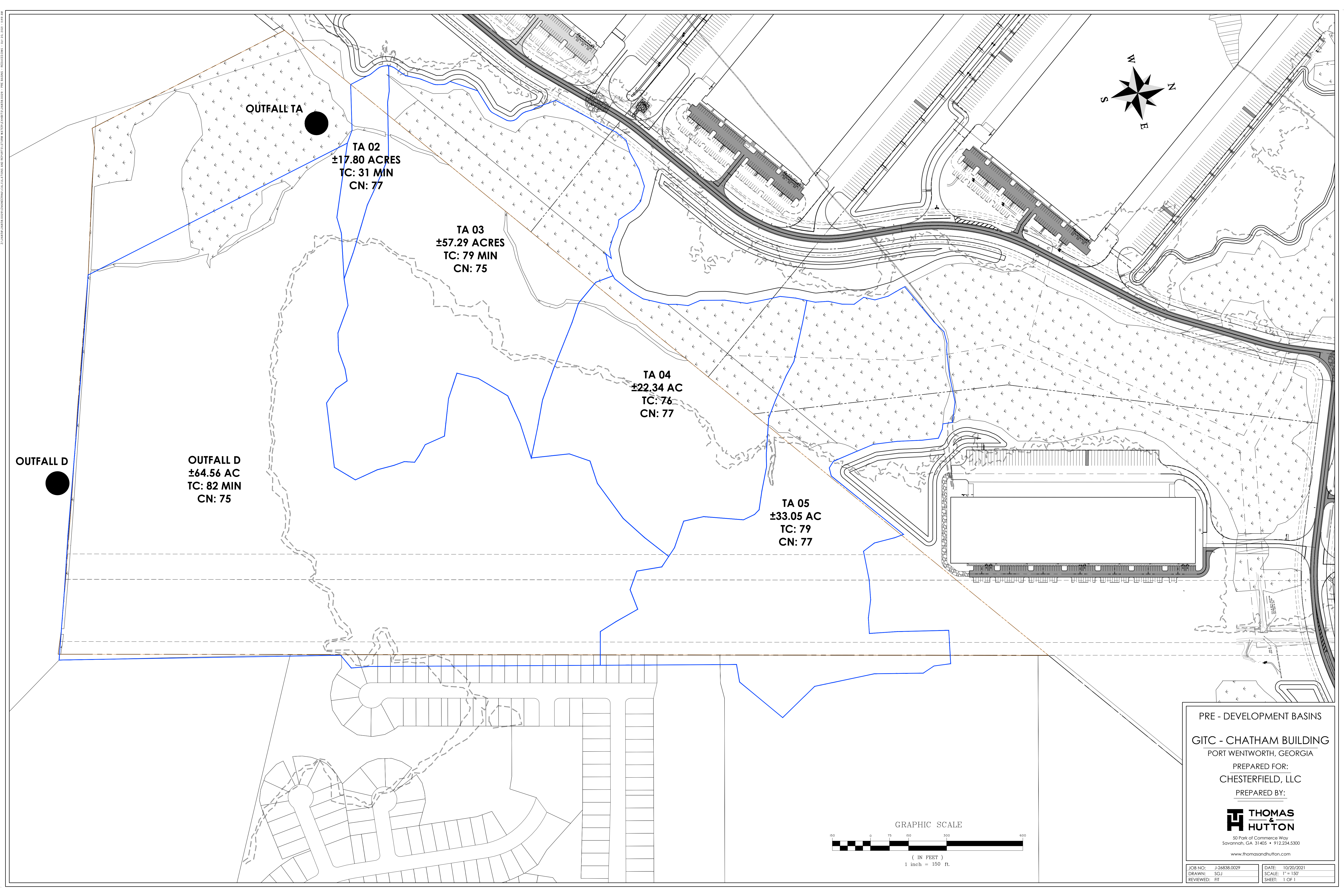




FEMA Flood Map

GITC - CHATHAM BUILDING
10/20/2021

-  Parcels
-  1% Annual Chance Flood Hazard
-  Regulatory Floodway
-  Special Floodway
-  Area of Undetermined Flood Hazard
-  0.2% Annual Chance Flood Hazard
-  Future Conditions 1% Annual Chance Flood Hazard
-  Area with Reduced Risk Due to Levee
-  Area of Minimal Flood Hazard



OUTFALL TA

TA 02
±17.80 ACRES
TC: 31 MIN
CN: 77

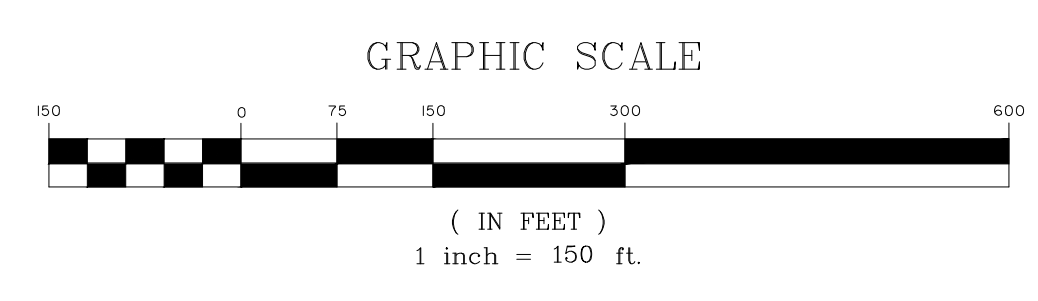
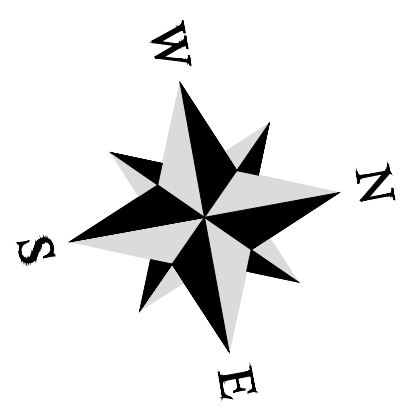
TA 03
±57.29 ACRES
TC: 79 MIN
CN: 75

TA 04
±22.34 AC
TC: 76
CN: 77

TA 05
±33.05 AC
TC: 79
CN: 77

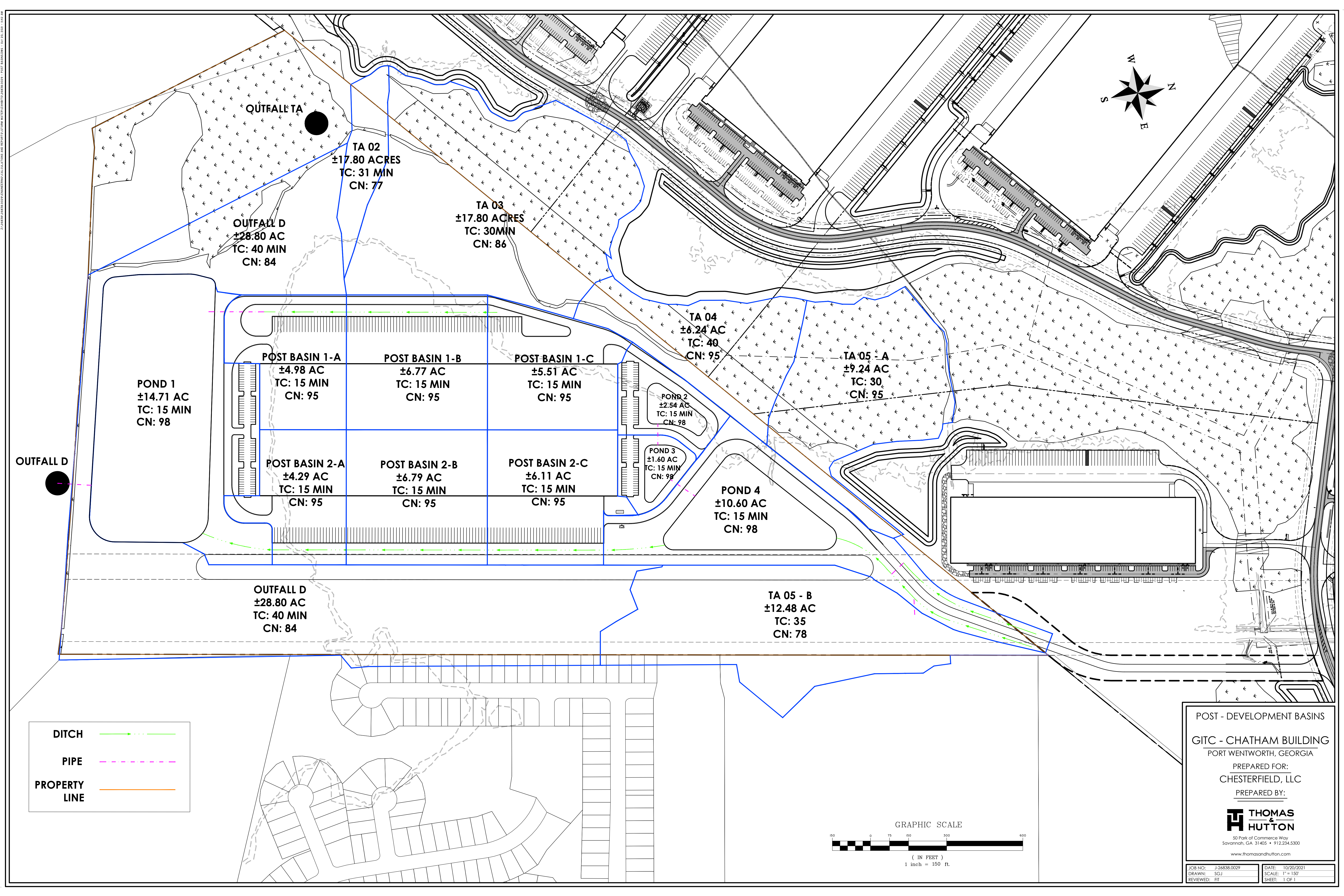
OUTFALL D

OUTFALL D
±64.56 AC
TC: 82 MIN
CN: 75



PRE - DEVELOPMENT BASINS
GITC - CHATHAM BUILDING
PORT WENTWORTH, GEORGIA
PREPARED FOR:
CHESTERFIELD, LLC
PREPARED BY:
THOMAS & HUTTON
50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300
www.thomasandhutton.com

JOB NO: J-26838.0029	DATE: 10/20/2021
DRAWN: SGJ	SCALE: 1" = 150'
REVIEWED: FIT	SHEET: 1 OF 1



OUTFALL TA

TA 02
±17.80 ACRES
TC: 31 MIN
CN: 77

TA 03
±17.80 ACRES
TC: 30MIN
CN: 86

OUTFALL D
±28.80 AC
TC: 40 MIN
CN: 84

TA 04
±6.24 AC
TC: 40
CN: 95

TA 05 - A
±9.24 AC
TC: 30
CN: 95

POND 1
±14.71 AC
TC: 15 MIN
CN: 98

POST BASIN 1-A
±4.98 AC
TC: 15 MIN
CN: 95

POST BASIN 1-B
±6.77 AC
TC: 15 MIN
CN: 95

POST BASIN 1-C
±5.51 AC
TC: 15 MIN
CN: 95

POND 2
±2.54 AC
TC: 15 MIN
CN: 98

OUTFALL D

POST BASIN 2-A
±4.29 AC
TC: 15 MIN
CN: 95

POST BASIN 2-B
±6.79 AC
TC: 15 MIN
CN: 95


POST BASIN 2-C
±6.11 AC
TC: 15 MIN
CN: 95


POND 3
±1.60 AC
TC: 15 MIN
CN: 98


POND 4
±10.60 AC
TC: 15 MIN
CN: 98

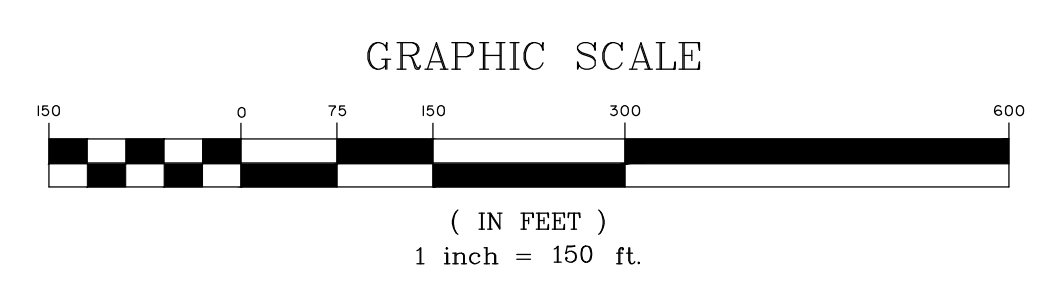
OUTFALL D
±28.80 AC
TC: 40 MIN
CN: 84

TA 05 - B
±12.48 AC
TC: 35
CN: 78

DITCH 

PIPE 

PROPERTY LINE 



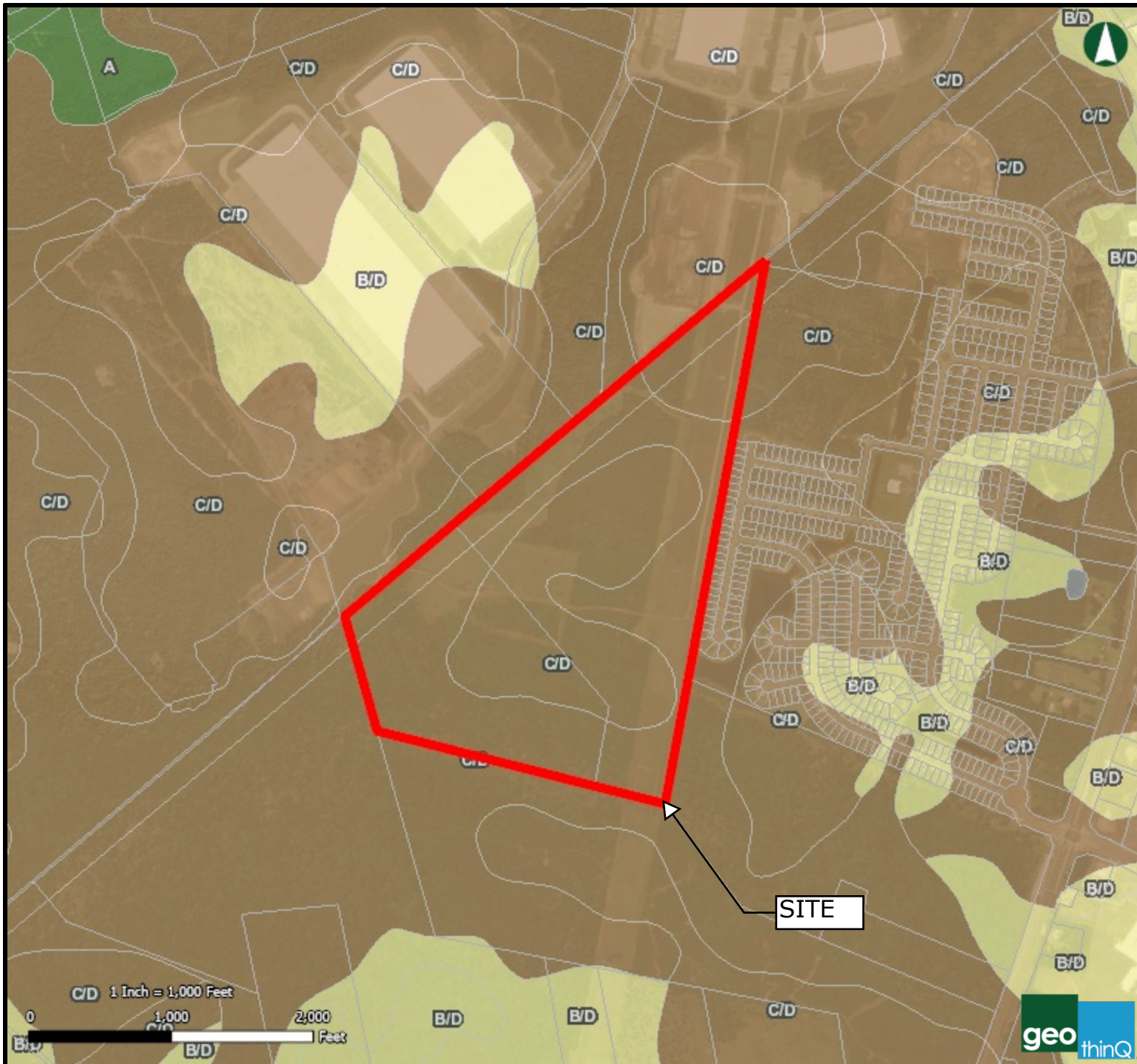
POST - DEVELOPMENT BASINS
GITC - CHATHAM BUILDING
PORT WENTWORTH, GEORGIA
PREPARED FOR:
CHESTERFIELD, LLC
PREPARED BY:
THOMAS & HUTTON
50 Park of Commerce Way
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JOB NO: J-26838.0029	DATE: 10/20/2021
DRAWN: SGJ	SCALE: 1" = 150'
REVIEWED: FIT	SHEET: 1 OF 1

SOILS MAP

GITC - CHATHAM BUILDING
10/20/2021

- Parcels
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not Classified





City Council
7224 GA Highway 21
Port Wentworth, GA 31407

Meeting: 04/28/22 07:00 PM
Department: Development Services
Category: Planning/Zoning Item
Prepared By: Melanie Ellis
Department Head: Brian Harvey

SCHEDULED

AGENDA ITEM (ID # 2644)

DOC ID: 2644

Site Plan Review Application submitted by Port Wentworth SFR, LLC., for PIN # 7-0906-04-024 (Magnolia Blvd, Parcel 4 - A portion of Tract A1-1 of the Chisholm Tract) for a General Development Site Plan to allow a Single Family Rental Community in a M-P-O (Master Plan Overlay) Zoning District

Issue/Item: Site Plan Review Application submitted by Port Wentworth SFR, LLC., for PIN # 7-0906-04-024 (Magnolia Blvd, Parcel 4 - A portion of Tract A1-1 of the Chisholm Tract) for a General Development Site Plan to allow a Single Family Rental Community 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.

Facts and Findings: The subject parcel is located on the east side of Highway 21 and at the south end of Magnolia Blvd. The general site plan consist of 106 total rental units to be developed with the appearance of a detached single family subdivision, pool/clubhouse amentia area, and associated storm water detention and parking. The access will be off of Highway 21 using the same access as the Novare apartment development. This project complies with the current City of Port Wentworth 2021-2041 Comprehensive Plan.

Funding: N/A

Recommendation: The Planning Commission will hear this application on Monday, April 11, 2022 at 6:30 P.M. / **UPDATE: THE PLANNING COMMISSION VOTED UNANIMOUSLY TO APPROVE THIS APPLICATION.**

ATTACHMENTS:

- 7-0906-04-024 NOVARE SINGLE FAMILY PROJECT G-SITE PLAN APRIL 2022 - Application (PDF)
- 7-0906-04-024 NOVARE SINGLE FAMILY PROJECT G-SITE PLAN APRIL 2022 - Project Narrative (PDF)
- 7-0906-04-024 NOVARE SINGLE FAMILY PROJECT G-SITE PLAN APRIL 2022 - Timeline (DOCX)
- Planning Commission Minutes April 11, 2022 DRAFT (PDF)

220129



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: Magnolia Blvd., Port Wentworth, GA 31407 (adjacent to Novare Multifamily & Village at Rice Hope)
PIN #(s): 7-0906-04-024 (Parcel 4 - A portion of Tract A1-1 of the Chisholm Tract)
Zoning: M-P-O (Master Plan Overlay Phase 2) Estimated Cost of Construction: \$ 18 Million
Type of Construction: Single Family Rental Community

Applicant's Name: Port Wentworth SFR, LLC
Mailing Address: 1545 Peachtree Street Suite 260, Atlanta, GA 30309

Phone #: 404-815-1234 Email: tandersen@novaregroup.com

Owner's Name (If Different form Applicant): Same as applicant
Mailing Address: 1545 Peachtree Street Suite 260, Atlanta, GA 30309

Phone #: 404-815-1234 Email: tandersen@novaregroup.com

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

T.C. Anderson
Applicant's Signature

2-4-22
Date

Owner's Signature (If Different form Applicant)

Date

Please see page 2 for required submittal checklist

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)
- N/A 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 (either flash drive or CD)
- 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

Todd C. Anderson
Applicant's Signature

2-4-22
Date

CITY OF PORT WENTWORTH
(912) 964-4379

REC#: 00343082 2/08/2022 8:43 AM
OPER: ME TERM: 011
REF#: CK 112904

TRAN: 112.0000 BLDG PERMIT
220129 256.00CR
PORT WENTWORTH SFR, LLC
7-0906-04-024 PAR 4
DEV-SPR 256.00CR

TENDERED: 256.00 CHECK
APPLIED: 256.00-

CHANGE: 0.00

WWW.CITYOFPORTWENTWORTH.COM

Map Number	Owner Name	Parcel Number	Owner Address
1	RICE HOPE CJ LLC	7090604037	PO BOX 450233, ATLANTA, GA 31145-0233
2	CHISHOLM, PAMELA R	70907A07013	19 TREADWAY ST, PORT WENTWORTH, GA 31407-9621
3	SAVANNAH PROP SALES & MGMT LLC	70907A07014	17 TREADWAY ST, PORT WENTWORTH, GA 31407-9621
4	RICE HOPE CJ LLC	7090604065	PO BOX 450233, ATLANTA, GA 31145-0233
5	CHRISTIAN, BRENDA SUE	7097502008	6 HASLEITERS RETREAT, SAVANNAH, GA 31411-3107
6	JOHNSON, EDWARD	7097502012	2127 MASON DR, SAVANNAH, GA 31404-5652
7	FIELDSTONE GROUP LLC	7097502014	204 WILEY BOTTOM RD, SAVANNAH, GA 31411-1537
8	FIELDSTONE GROUP LLC	7097502015	204 WILEY BOTTOM RD, SAVANNAH, GA 31411-1537
9	9641 LEHIGH AVENUE LLC	70907A02009	9641 LEHIGH AVE, SAVANNAH, GA 31406-8524
10	JONES, CAROL D	70907A02011	22 TREADWAY ST, PORT WENTWORTH, GA 31407-9620
11	SMITH, ERIC C	7097502009	PO BOX 2264, RINCON, GA 31326-2264
12	ROBINSON, CHARLES JEROME	70907A03003	112 BLACK CREEK RD, PORT WENTWORTH, GA 31407-9732
13	SCRUGGS, NICHOLE L	70907A07011	24 PONDEROSA DR, PORT WENTWORTH, GA 31407-9778
14	VOGEL, BRIAN R	70907A07012	68 STAGECOACH RD, BLOOMINGDALE, GA 31302-5072
15	OTTO, JAMES PAUL	70907A02010	322 CONAWAY RD, BLOOMINGDALE, GA 31302-9203
16	MACK, EVON	70907A03001	216 BLACK CREEK RD, PORT WENTWORTH, GA 31407-9628
17	NAPPIER, TERRY L & NAPPIER, LINDA KAY	70907A03005	108 BLACK CREEK RD, PORT WENTWORTH, GA 31407-9732
18	JAMES, WILLIAM T	70907A07010	22 PONDEROSA DR, PORT WENTWORTH, GA 31407-9778
19	WILSON, DAVID JOHNSON EDWARD	7097502011	2119 BISCAYNE DR, SAVANNAH, GA 31406-2801
20	FIELDSTONE GROUP LLC	7097502013	204 WILEY BOTTOM RD, SAVANNAH, GA 31411-1537
21	CHEATHAM, LULA GHYLL ROBERTS	7097502010	1595 BERKELEY AVE, NORTH BALDWIN, NY 11510-1635
22	BEP RICE HOPE LLC	7090604075	100 LAKESIDE BLVD, PORT WENTWORTH, GA 31407-3391
23	BIRCH CIRCLE LLC	7097502006	514 S MAIN ST Unit A, HINESVILLE, GA 31313-4355
24	EXLEY, THOMAS L	7090701003	PO BOX 1338, RINCON, GA 31326-1338
25	EDGE, MELISSA G	70907A03002	102 RILEY CT, SPRINGFIELD, GA 31329-4650
26	PELTON, JOSHUA	70907A03004	110 BLACK CREEK RD, PORT WENTWORTH, GA 31407-9732
27	JAMES WOO INDUSTRIES LLC	7097502007	136 POST HOUSE TRL, POOLER, GA 31322-9624
Total Results: 27			
This map was created using geothinq www.geothinq.com Mapping Smart Land Decisions			

**Novare Single Family Rental Project
Parcel 4 – Port Wentworth, Georgia
Concept Plan Narrative
J-28595.0004**

Project Description and Existing Conditions

The project is located on the east side of Ga. Highway 21 (Augusta Road) and at the south end of Magnolia Boulevard in Port Wentworth, Georgia. The property is approximately 33.03 acres in size and is undeveloped. The site is bordered on the north by the Village at Rice Hope Apartment Community, on the south and east by Black Creek and its adjoining wetlands, and on the west by the Novare Multifamily site (currently under construction). The site is approximately 1 mile west of Interstate 95. This narrative is based on the program information supplied by Port Wentworth SFR, LLC and the Concept Plan by Thomas & Hutton, dated February 7, 2022. The development team includes:

Developer - Novare Group – Todd Andersen, Kenny Budd, Wil Garrett

Landscape Architecture/Planning – Thomas & Hutton, Ryan Thompson, Matt Mitchell

Civil Engineer - Thomas & Hutton, Lamar Mercer, Scott Monson

Legal Representative – Hunter McLean – Harold Yellin, Josh Yellin

The development plan includes 106 total rental units to be developed with the appearance of a detached single family subdivision. The unit count will provide 22 one bedroom, 45 two bedroom units, and 39 three bedroom units. The site also includes two storm water detention ponds, a pool/clubhouse amenity area, and ample open space (18 +/- acres, approximately 55% of the project site).

Zoning

The subject site is zoned M-P-O, Master Plan Overlay, a zoning suitable for single family rental development with all relevant ancillary uses.

The zoning standards set forth in M-P-O provide the following development standards:

- Minimum Front Yard setback is 0-35' for a minor street
- Minimum Building separation is 10 feet
- Wetland Buffer as shown on Exhibit.
- Maximum Building Height is 35 feet.
- Maximum Building Coverage is 40%.

The site plan presented meets or exceeds all development standards.

**Novare Single Family Rental Project
Parcel 4 – Port Wentworth, Georgia
Concept Plan Narrative
J-28595.0004**

Site Access

Access to the site is obtained through a private entry drive being constructed through the adjacent Novare multifamily site, with all traffic having direct access to Highway 21. The Georgia Department of Transportation has provided a letter of intent to provide access along the multifamily frontage. The permanent access will be designed and permitted at that location. There is secondary emergency access provided at the east end of the project.

Water and Sanitary Sewer

Water and sanitary sewer for the project will be provided by the City of Port Wentworth. Water distribution will be extended to the site from an existing 16" city main along the property's northern border. Sanitary sewer will be collected on site through a gravity system, lift station and force main being constructed as part of the multifamily site. Ultimate discharge will be to the City of Port Wentworth WWTF.

Drainage & Storm Sewer

The storm drainage system for the project will include detention ponds, pipe networks, curb and grate inlets to collect, detain, treat and convey storm water runoff according to Port Wentworth, state, and federal regulations. Following collection, treatment, and detention, stormwater runoff will be discharged to Black Creek to maintain existing predevelopment rates and drainage patterns.

Parking

Parking is provided for each unit as shown in the table below.

Unit Type	Unit Count	Parking Spaces/Unit	Total Parking Spaces
One Bedroom	22	2	44
Two Bedroom	34	2	68
Two Bedroom (2 story)	11	2	22
Three Bedroom	16	4	64
Three Bedroom (2 story)	23	4	92
	<u>106</u>		<u>290</u>
			Guest Parking
			<u>63</u>
			<u>Total Parking</u>
			<u>353</u>

Melanie Ellis

From: Monson, Scott <monson.s@tandh.com>
Sent: Tuesday, February 8, 2022 9:49 AM
To: Melanie Ellis; Todd Anderson (tandersen@novaregroup.com)
Cc: Mercer, Lamar; Brian Harvey; Kristen St John; Omar Senati-Martinez
Subject: RE: Novare Single Family Rental Project General Site Plan

Please disable any popup blockers and click the following link to download your files (this link will not work on mobile devices):

https://ftp.thomasandhutton.com:443/AHT/AHT_UI/public/index.html#/password?package=%2fipMG9KkLR8R6ip%2b3PxiWn5el3Qv62Rfuc%2fjJ88IKyDU0rqWj9PezCck%2f1uds%2fw0jmtl0EmZ7uFLXkkFd6NK5YZvLLitbnQN46WYLaC6de8%3d

Melanie:

Good morning!

We have added the Adjoining Property Owners within 250' of the subject parcel and revised the narrative to include the parking breakdown.

The 1BR & 2BR units each have a 1 car garage and one external space in the driveway.

The 3BR units each have a 2 car garage and 2 driveway spaces. The additional 63 guest spaces are shown graphically on the Concept Plan.

All items are provided for download via the FTP link.

Thank you!

SCOTT MONSON, PE | Principal/Project Manager
THOMAS & HUTTON - TRANSFORMING COMMUNITIES FOR 75 YEARS!
p 912-721-4132 m 912-665-2935
e monson.s@tandh.com
a 50 Park of Commerce Way | Savannah, GA 31405
[vCard](#) | [Website](#) | [LinkedIn](#) | [Facebook](#) | [Twitter](#) | [Instagram](#)

PRIVILEGED AND CONFIDENTIAL: This electronic message and any attachments are confidential property of Thomas & Hutton. The information is intended only for the use of the person to whom it is addressed. Any other interception, copying, accessing, or disclosure of this message is prohibited. If you have received this message in error, please immediately notify Thomas & Hutton and purge the message received. Do not forward this message without permission.

From: Melanie Ellis <mellis@cityofportwentworth.com>
Sent: Tuesday, February 8, 2022 8:33 AM
To: Todd Anderson (tandersen@novaregroup.com) <TAndersen@novaregroup.com>
Cc: Mercer, Lamar <mercer.l@tandh.com>; Monson, Scott <monson.s@tandh.com>; Brian Harvey <bharvey@cityofportwentworth.com>; Kristen St John <kstjohn@cityofportwentworth.com>; Omar Senati-Martinez <osenatimartinez@cityofportwentworth.com>
Subject: Novare Single Family Rental Project General Site Plan

Good morning,

We received a submittal yesterday for the Novare Single Family Rental Project. I am missing the following information: list of the names, PIN #'s, and mailing addresses of property owners within 250 feet of the property lines and a PDF on either a Flash drive

or digital download. We no longer accept CD's. Also, please clarify the parking for this project. Will the homes have driveways and garages? The site plan references 353 parking spaces but only shows a small percentage on the plan.

Sincerely,

Melanie B. Ellis, CPT

Building Inspector

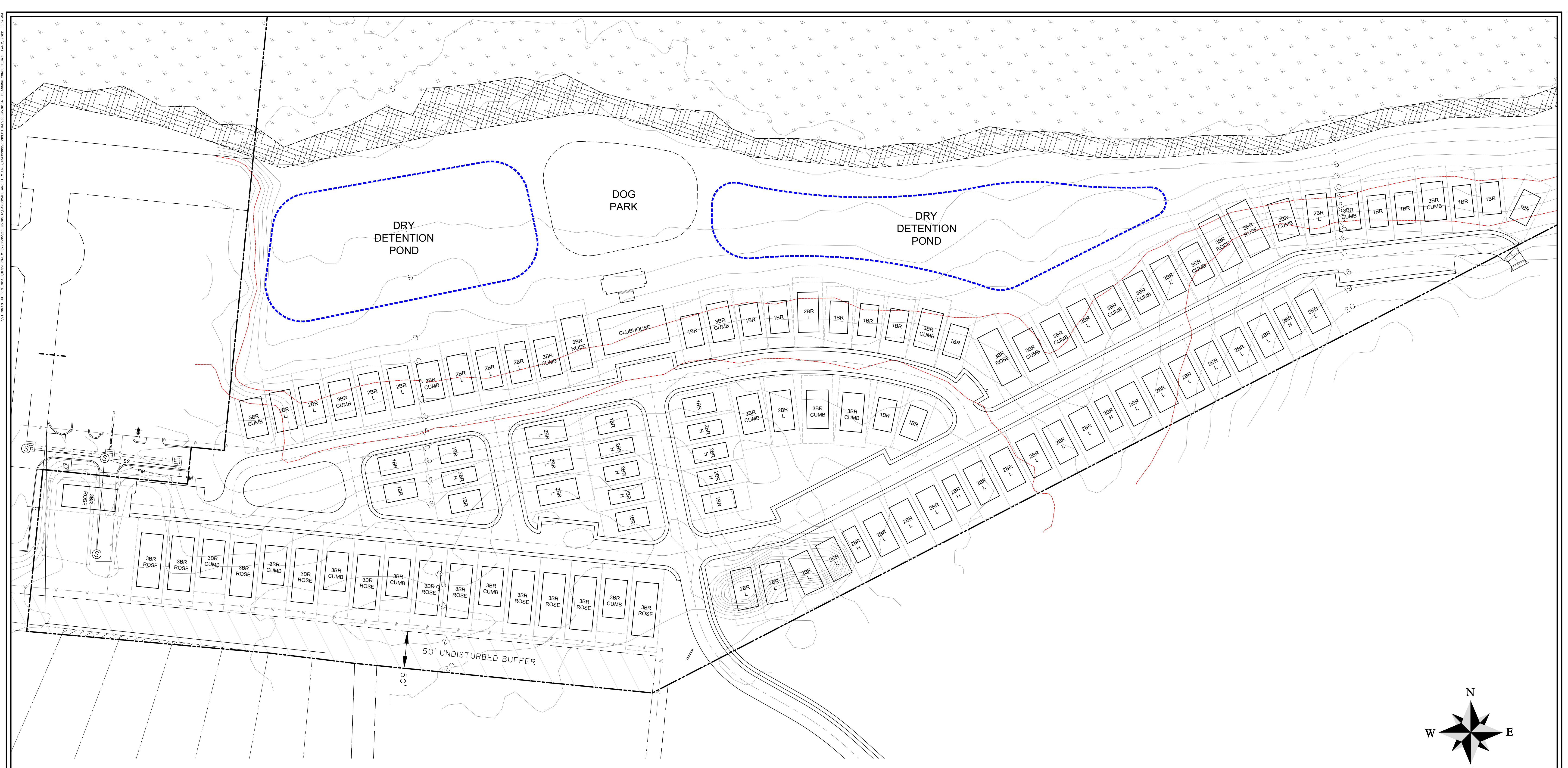
City of Port Wentworth

Email: mellis@cityofportwentworth.com

Office: 912-999-2084



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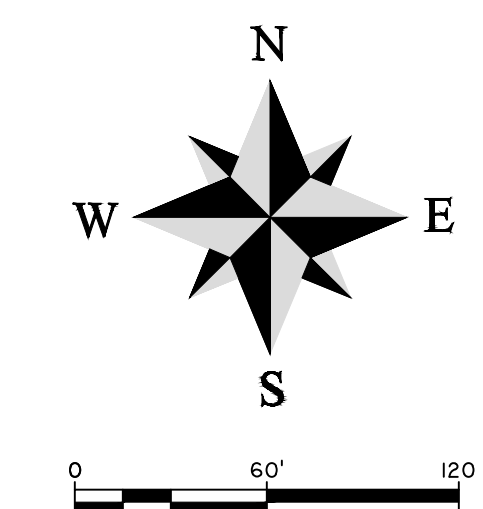


UNIT COUNTS

1BR:	22 UNITS
2BR - LAURENS:	34 UNITS
2BR - HUDSON:	11 UNITS
3BR - ROSE:	16 UNITS
3BR - CUMBER.:	23 UNITS
	106 UNITS

ADDITIONAL PARKING

63 SPACES



PORT WENTWORTH SF
 Port Wentworth, GA
 PREPARED FOR:
 NOVARE
 PREPARED BY:
THOMAS & HUTTON
 5553 Peachtree Road • Suite 175
 Chamblee, GA 30341 • 470.893.1700
 www.thomasandhutton.com

JOB NO: J-28595.0004	DATE: 2/2/22
DRAWN: MM	SCALE: 1" = 60' - 0"
REVIEWED: MM	SHEET: MP-1



City Council
7224 GA Highway 21
Port Wentworth, GA 31407

Meeting: 04/28/22 07:00 PM
Department: Development Services
Category: Planning/Zoning Item
Prepared By: Melanie Ellis
Department Head: Brian Harvey

SCHEDULED

AGENDA ITEM (ID # 2643)

DOC ID: 2643

Site Plan Review Application submitted by Toss Allen, P.E., Allen Engineering Services, LLC., on behalf of Peachtree Development and Investments, LLC., for PIN # 7-0037-02-008 (Magellan Blvd) for a General Development Site Plan to allow an Advanced Auto Parts Store in a P-C-3 (Planned General Business) Zoning District

Issue/Item: Site Plan Review Application submitted by Toss Allen, P.E., Allen Engineering Services, LLC., on behalf of Peachtree Development and Investments, LLC., for PIN # 7-0037-02-008 (Magellan Blvd) for a General Development Site Plan to allow an Advanced Auto Parts Store in a P-C-3 (Planned General Business) Zoning District

Background: The subject property is currently vacant woodland. There are no buildings or structures on the subject property.

Facts and Findings: The subject parcel is located on Magellan Blvd. The general site plan consist of a 6,889 square foot building with associated parking, stormwater detention and drainage. Access is proposed to be on Magellan Blvd and through the Murphy's gas station parking lot. This project complies with the current City of Port Wentworth 2021-2041 Comprehensive Plan.

Funding: N/A

Recommendation: The Planning Commission will hear this application on Monday, April 11, 2022 at 6:30 P.M. / **UPDATE: THE PLANNING COMMISSION VOTED UNANIMOUSLY TO APPROVE THIS APPLICATION.**

ATTACHMENTS:

- 7-0037-02-008 ADVANCE AUTO PARTS G-SITE PLAN APRIL 2022 - Application (PDF)
- 7-0037-02-008 ADVANCE AUTO PARTS G-SITE PLAN APRIL 2022 - Timeline (DOCX)
- Planning Commission Minutes April 11, 2022 DRAFT (PDF)

220163

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: 0 Magellan Boulevard
PIN #(s): 70037 02008
Zoning: P-C-3 Estimated Cost of Construction: \$ 750,000.00
Type of Construction: Commercial

Applicant's Name: Allen Engineering Services
Mailing Address: P.O. Box 1749,
Rincon, GA 31326
Phone #: (912) 667-2667 Email: tallen@allenengineering.org

Owner's Name (if Different form Applicant): Peachtree Development and Investments, LLC
Mailing Address: 4477 Legendary Drive, Unit 101
Destin, FL 32541
Phone #: (404) 430-5177 Email: jbennett@peachtreedev.com

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

Applicant's Signature

3/2/2022
Date

Owner's Signature (if Different form Applicant)

3/3/22
Date

Please see page 2 for required submittal checklist

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)
- ~~N/A~~ 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 1/2" X 11" of site plan civil drawings or concept plan (depending on type of site plan)
- PDF of entire submittal (either flash drive or CD)
- ~~N/A~~ 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


Applicant's Signature

3/2/2022
Date

Property Owners Within 250' of Proposed Advanced Auto Parts Property Lines

PIN	Owner	Mailing_Address	City	State	Zip
70037 02006	DOUBLE REVERSE, LLC	250 N. ORANGE AVENUE SUITE 1500	ORLANDO	FL	32801
70037 02007	PORT CITY CAR WASH LLC	118 PIPEMAKERS CIRCLE, SUITE 100	POOLER	GA	31322
70037 02008	DOUBLE REVERSE, LLC	250 N. ORANGE AVENUE SUITE 1500	ORLANDO	FL	32801
70037 02009	MURPHY OIL USA INC	200 EAST PEACH ST	EL DORADO	AR	71730
70037 02010	BRADLEY CREEK PROPERTIES LLC	PO BOX 637	STATESBORO	GA	30459
70037 02016	WPB ESTATE MANAGEMENT LLC	4107 COLUMBIA ROAD	AUGUSTA	GA	30907

CITY OF PORT WENTWORTH
(912) 964-4379

REC#: 00347502 3/14/2022 11:36 AM
OPER: ME TERM: 011
REF#: CK 1297

TRAN: 112.0000 BLDG PERMIT
220163 256.00CR
PEACHTREE DEVELOPMENT & INVEST
7-0037-02-008
DEV-SPR 256.00CR

TENDERED: 256.00 CHECK
APPLIED: 256.00-

CHANGE:
0.00

WWW.CITYOFPORTWENTWORTH.COM

SITE DATA:

- P.I.N.: 70037 02008
 - PROPERTY ADDRESS: 0 MAGELLAN BLVD
PORT WENTWORTH, GEORGIA 31407
 - ZONING: P-C-3
 - TOTAL LAND ACREAGE = 1.450 ACRES
DISTURBED = 0.99 ACRES
 - FRONT YARD SETBACK = 40' FROM CENTER OF STREET
SIDE YARD SETBACK (STREET) = 10'
REAR YARD SETBACK = --
MAXIMUM BUILDING HEIGHT = --
MAXIMUM % BUILDING COVERAGE = --
 - PROPOSED BUILDING SIZE:
6,889 S.F.
 - ALL DIMENSIONS ARE TO EDGE OF PAVEMENT OR FACE OF BUILDING, UNLESS OTHERWISE LABELED.
 - ACCORDING TO FIRM FLOOD INSURANCE RATE MAP, COMMUNITY NO.1351 62, MAP 13051C, PANEL NO. 0030G, DATED AUGUST 16, 2018, THIS ENTIRE SITE IS LOCATED IN ZONE X.
 - ELEVATIONS SHOWN ARE BASED ON NAVD 88 DATUM.
 - WATER TO BE PROVIDED BY THE CITY OF PORT WENTWORTH.
SEWER TO BE PROVIDED BY THE CITY OF PORT WENTWORTH.
 - PARKING CRITERIA
1 SPACE PER 400 S.F. PLUS 1 SPACE PER EMPLOYEE ON MAXIMUM SHIFT (AUTOMOTIVE PARTS, EQUIPMENT AND ACCESSORY SALES)
- PARKING CALCULATIONS
AAP BUILDING: 6,889 S.F. X (1 SPACE/400 S.F.) = 18 SPACES
MAXIMUM EMPLOYEES = 5
- PARKING REQUIRED = 23 SPACES
22 STANDARD SPACES (9' X 20')
1 HANDICAPPED SPACE
(MINIMUM 1 VAN ACCESSIBLE SPACE, AS PER ADA REQUIREMENT)
- PARKING PROVIDED = 37
15 STANDARD SPACES (10' X 20')
20 STANDARD SPACES (9' X 20')
2 HANDICAPPED SPACES
(MINIMUM 1 VAN ACCESSIBLE SPACE, AS PER ADA REQUIREMENT)

SITE ARCHITECTURAL KEY NOTES:

- 6' HIGH TREATED WOOD DUMPSTER SCREEN. PAINT TO MATCH THE BUILDING. REFER TO DETAILS SHEET C2.
- INSTALL NEW 6" THICK CONCRETE LOADING PAD OF 4000 PSI BROOM FINISHED CONCRETE WITH 6"x6"x 1/8" WWF STEEL REINFORCEMENT. SLOPE AWAY FROM BUILDING FOR POSITIVE DRAINAGE. REFER TO DETAIL 1/C2.
- ASPHALT PAVEMENT PARKING LINES 4" WIDE PAINTED WHITE WITH TWO (2) COATS OF SHERWIN WILLIAMS "HOTLINE" FAST DRYING TRAFFIC MARKING PAINT. HANDICAP PARKING & HANDICAP SYMBOL TO BE PAINTED COLOR & SIZE AS REQUIRED BY THE GOVERNING ACCESSIBILITY CODE. CONCRETE PAVEMENT PARKING LINES FOR ACCESSIBLE SPACES SHALL BE THE SAME AS ABOVE EXCEPT USE BLUE OR YELLOW PAINT. REFER TO DETAILS 1/C3 AND 2/C3 FOR ADDITIONAL INFORMATION.
- CONSTRUCT 6" HIGH CONC. CURB & GUTTER CONTINUOUS AROUND SITE. BACKFILL TO TOP OF CURB. REFER TO DETAIL 3/C2. PROVIDE CATCH & SPILL WHERE APPLICABLE.
- ANCHOR DOWN CONCRETE WHEEL STOPS 42" FROM FACE OF BUILDING. REFER TO DETAIL 10/C2.
- ANCHOR DOWN CONCRETE WHEEL STOPS 30" FROM FACE OF CONCRETE WALK/SIDEWALK. REFER TO DETAIL 10/C2.
- HANDICAP PARKING SIGN FOR SPACES ADJACENT TO BUILDING ENTRANCE. REFER TO DETAIL 5/C3.
- NEW BROOM FINISHED CONCRETE SIDEWALK SLOPED AWAY FROM BUILDING 1/8"/FT. FOR POSITIVE DRAINAGE.
- ROAD Pylon SIGN FURNISHED & INSTALLED BY ADVANCE AUTO PARTS- REFER TO SHEET SL1 FOR ELECTRICAL REQUIREMENTS. G.C. IS RESPONSIBLE TO PROVIDE ELECTRICAL. VERIFY LOCATION WITH AAP AND SIGN INSTALLER.
-IF MONUMENT SIGN IS REQUIRED, GC TO CONSULT WITH ADVANCE AUTO PARTS' SIGN COORDINATOR AND ARCHITECTURAL DESIGNER FOR DETAILS. GC IS TO PROVIDE AND INSTALL MONUMENT FOUNDATION DESIGNED FOR SITE SPECIFIC SOIL CONDITIONS AND RELATED ELECTRICAL BASED ON ENGINEERING PROVIDED BY SIGN PERMITTING VENDOR. RE: 9/A8
- ASPHALT PAVEMENT DESIGN AS PER GEOTECHNICAL REPORT SPECIFICATIONS.
- LANDSCAPING - AREA OF NEW SOD.
- PROVIDE BOLLARDS AT ALL EXTERIOR MOUNTED METERING DEVICES. (GAS, WATER, ELECTRIC) MIN. (2) TWO AS REQUIRED - SEE DETAIL 5/C2.
- SEEDED AREA
- AREA OF HEAVY DUTY ASPHALT PAVEMENT.
- 6" CONCRETE APRON WITH 6" X 6" X 1/2" W.W.F. STEEL REINFORCEMENT. USE 4000 PSI CONCRETE MIX. DO NOT USE SLAG OR FLY ASH FOR CEMENTITIOUS MATERIAL.
- LIGHT POLE AND BASE. RE: SHEET SL1 FOR SITE LIGHTING REQUIREMENTS AND DETAIL 7/S5 FOR STRUCTURAL POLE BASE INFORMATION.
- POWER COMPANY PAD MOUNTED TRANSFORMER.

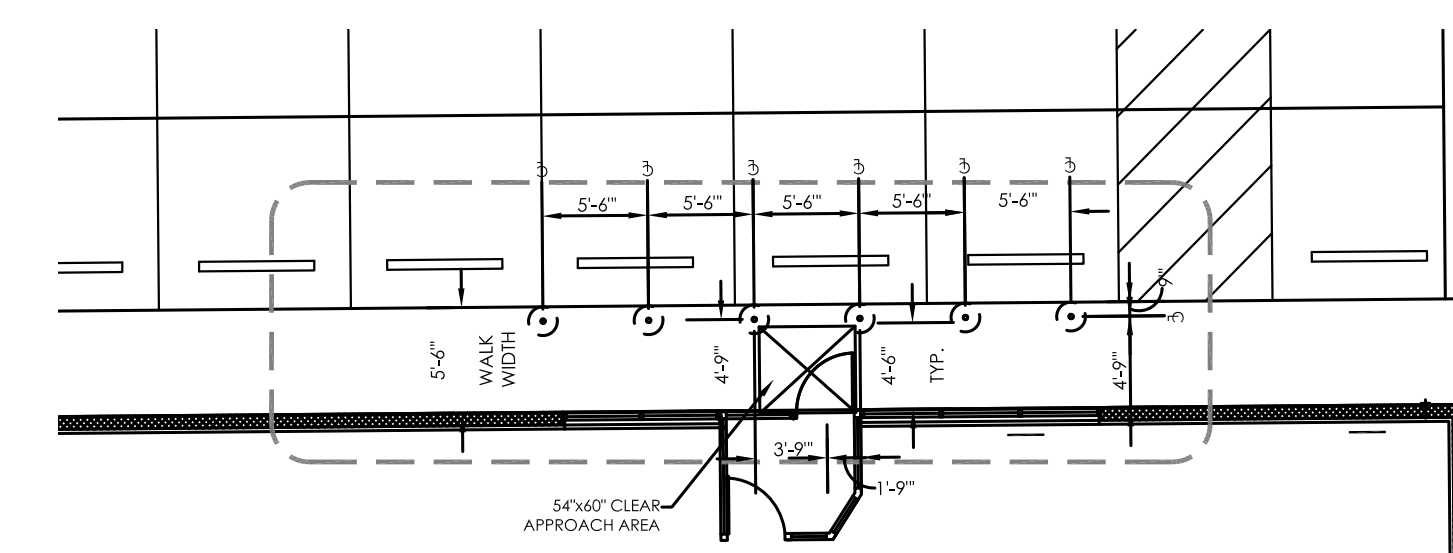
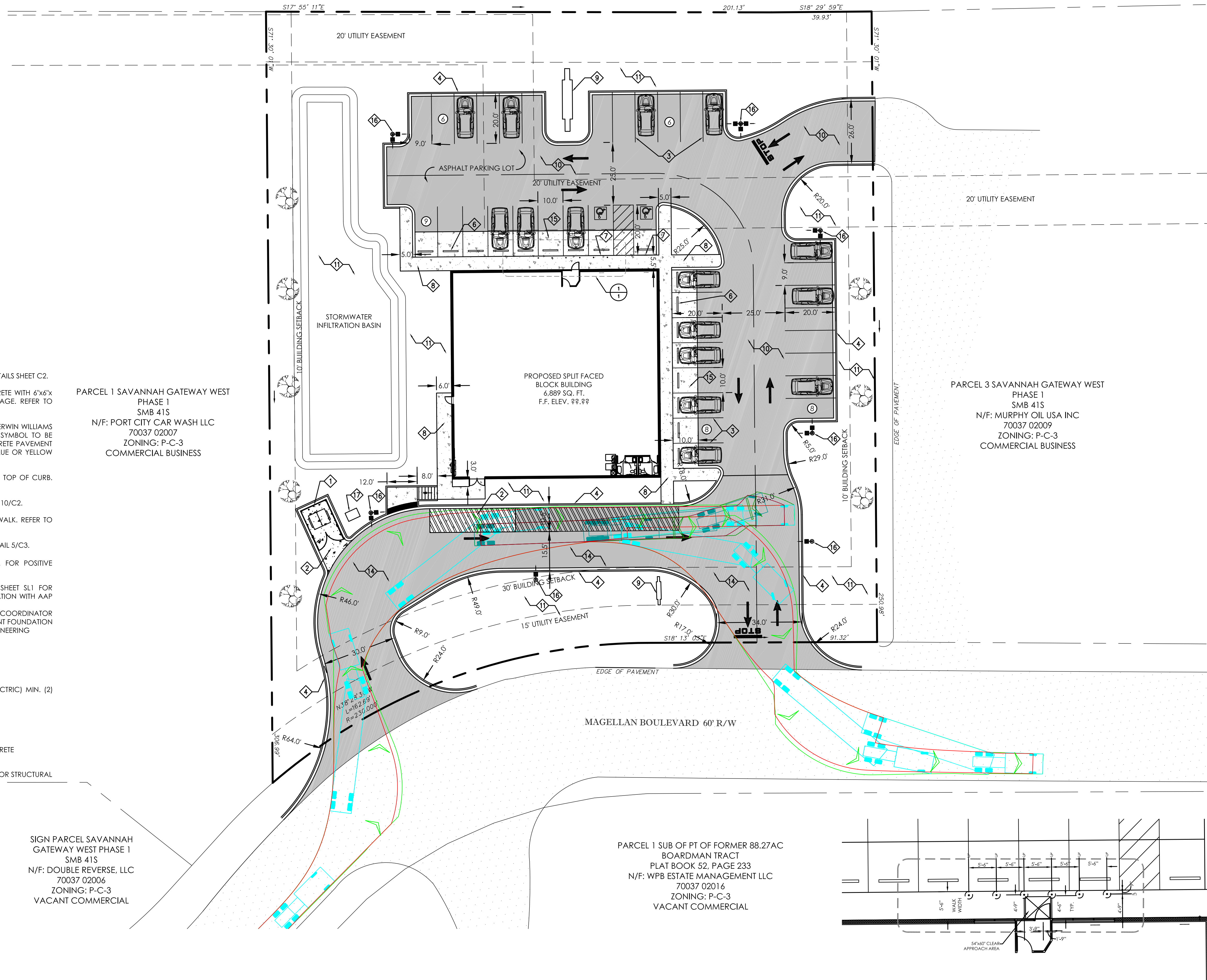
PARCEL 1 SAVANNAH GATEWAY WEST
PHASE 1
SMB 41S
N/F: PORT CITY CAR WASH LLC
70037 02007
ZONING: P-C-3
COMMERCIAL BUSINESS

SIGN PARCEL SAVANNAH
GATEWAY WEST PHASE 1
SMB 41S
N/F: DOUBLE REVERSE, LLC
70037 02006
ZONING: P-C-3
VACANT COMMERCIAL

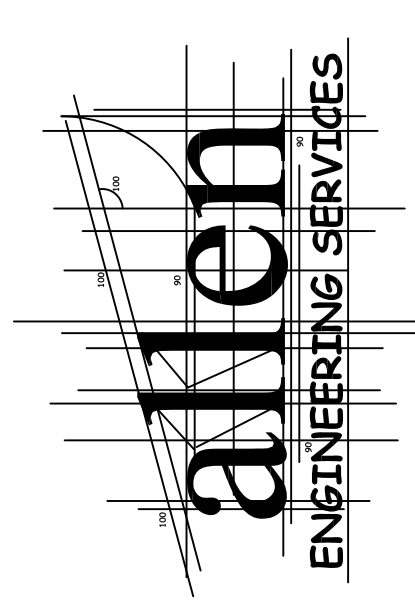
PARCEL 1 SUB OF PT OF FORMER 88.27AC
BOARDMAN TRACT
PLAT BOOK 52, PAGE 233
N/F: WPB ESTATE MANAGEMENT LLC
70037 02016
ZONING: P-C-3
VACANT COMMERCIAL

GEORGIA HIGHWAY NO. 21 (AUGUSTA ROAD) 300' R/W

MAGELLAN BOULEVARD 60' R/W



P.O. BOX 1749
RINCON, GA 31326
PH: (912) 667-2647
E-MAIL: talien@allenengineering.org



REVISIONS		DESIGNED	DRAWN	CHECKED	DATE	JOB NO.	SCALE
NO.	DATE	ATA	ATA	ATA	02/25/2022	22-022	1" = 20'

DESIGNED	DRAWN	CHECKED	DATE	JOB NO.	SCALE
ATA	ATA	ATA	02/25/2022	22-022	1" = 20'

GRAPHIC SCALE: 1"=20'-0"

PORT WENTWORTH ADVANCE AUTO PARTS
PREPARED FOR:
PEACHTREE DEVELOPMENT AND INVESTMENTS, LLC
GENERAL / CONCEPT PLAN

SHEET NUMBER
1
OF 1

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION
ANTHONY T. ALLEN
Level II Certified Design Professional
CERTIFICATION NUMBER 000044936
ISSUED 08/21/2007 EXPIRES 08/21/2022

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



City Council
7224 GA Highway 21
Port Wentworth, GA 31407

Meeting: 04/28/22 07:00 PM
Department: Development Services
Category: Planning/Zoning Item
Prepared By: Melanie Ellis
Department Head: Brian Harvey

SCHEDULED

AGENDA ITEM (ID # 2640)

DOC ID: 2640

Site Plan Review Application submitted by Ben Lockhart, EMC Engineering Services, Inc., on behalf of Christian Orr, Simoncre for PIN # 7-0037-02-016 (Magellan Blvd) for a General Development Site Plan to allow a Carvana Dealership in a P-C-3 (Planned General Business) Zoning District

Issue/Item: Site Plan Review Application submitted by Ben Lockhart, EMC Engineering Services, Inc., on behalf of Christian Orr, Simoncre for PIN # 7-0037-02-016 (Magellan Blvd) for a General Development Site Plan to allow a Carvana Dealership in a P-C-3 (Planned General Business) Zoning District

Background: The subject property is currently vacant woodland. There are no buildings or structures on the subject property.

Facts and Findings: The subject parcel is located on Magellan Blvd. The general site plan consist of a 9,345 square foot building, 677 car storage parking spaces, 36 customer parking spaces and 9 single hauler spaces and stormwater detention and drainage. This project complies with the current City of Port Wentworth 2021-2041 Comprehensive Plan.

Funding: N/A

Recommendation: The Planning Commission will hear this application on Monday, April 11, 2022 at 6:30 P.M. / **UPDATE: THE PLANNING COMMISSION VOTED TO UNANIMOUSLY TO APPROVE THIS APPLICATION.**

ATTACHMENTS:

- 7-0037-02-016 CARVANA G-SITE PLAN APRIL 2022 - Application (PDF)
- 7-0037-02-016 CARVANA G-SITE PLAN APRIL 2022 - Preliminary ARB Approval (PDF)
- 7-0037-02-016 CARVANA G-SITE PLAN APRIL 2022 - Timeline (DOCX)
- Planning Commission Minutes April 11, 2022 DRAFT (PDF)

220127

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: 0 HIGHWAY 21

PIN #(s): 70037 02016

Zoning: P-C-3 Estimated Cost of Construction: \$ \$5,500,000

Type of Construction: CARVANA DEALERSHIP

Applicant's Name: EMC ENGINEERING SERVICES, INC. CONTACT: BEN LOCKHART

Mailing Address: 27 CHATHAM CENTER SOUTH DRIVE, SUITE A
SAVANNAH, GA 31405

Phone #: (912) 644-3228 Email: ben_lockhart@emc-eng.com

Owner's Name (If Different form Applicant): SIMONCRE CONTACT: CHRISTIAN ORR

Mailing Address: 6900 E 2ND STREET
SCOTTSDALE, AZ 85251

Phone #: (480) 805-1543 Email: christian.orr@simoncre.com

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



Applicant's Signature

2-3-22

Date

(See attached owner authorization)

Owner's Signature (If Different form Applicant)

Date

Please see page 2 for required submittal checklist

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 1/2" X 11" of site plan civil drawings or concept plan (depending on type of site plan)
- PDF of entire submittal (either flash drive or CD)
- Other Engineering details or reports may be required once submittal has been received
- Site plan review fee check
 - o No Land Disturbance- \$206.00 Site Plan Fee + \$50.00 Admin Fee = Total \$256.00
 - o 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



Applicant's Signature

02/03/2022

Date

01 Feb 2022

Re: APN: 7003702016 / SWC Hwy 30 and Magellan Blvd, Port Wentworth
SimonCRE JC Ocotillo II, LLC

To Whom It May Concern:

This letter will serve as authorization for SimonCRE JC Ocotillo II, LLC and retained consultants listed here below, to act as an agent on behalf of _____, for the purpose of preparing and processing the necessary documents relative to my property with the City of Port Wentworth, Chatham County, and the State of Georgia, respectively.

Thank you,



Signature

Phone

Name (printed)

Address

Email

Address

CONTACT INFORMATION

SIMONCRE JC Ocotillo	CIVIL ENGINEERING	ARCHITECTURAL	GENERAL CONTRACTOR
Joshua Simon	Ben Lockhart or EMC Rep	Jim Hodges or WHN Rep	TBD
Manager	EMC Engineering Services	WHN Architects	
(602) 672-4559	(912) 644-3228	(704) 390-7880	
joshua@simoncre.com	ben_lockhart@emc-eng.com	jim@whnarch.com	
Peter Krahenbuhl			
VP of Development			
(480) 887-0644			
Peter.krahenbuhl@simoncre.com			
Christian Orr			
Development Project Manager			
(801) 310-9977			
Christian.Orr@simoncre.com			



APN	OWNER	STREET NUMBER	CITY/ZIP CODE
7097602031	Frank & Reitas II, LLC	1716 E Highway 80	Bloomingtondale, GA 31302
7097602030	Frank & Reitas II, LLC	1716 E Highway 80	Bloomingtondale, GA 31302
7097602029	Frank Neville Floyd	120 GA Highway 30	Port Wentworth, GA 31407
7003702007	Port City Wash, LLC	118 Pipemakers Circle #100	Pooler, GA 31322
7003702006	Double Reverse, LLC	250 N Orange Ave #1500	Orlando, FL 32801
7003702008	Double Reverse, LLC	251 N Orange Ave #1500	Orlando, FL 32802
7003702009	Murphy Oil USA, Inc.	200 E Peach Street	El Dorado, AR 71730
7003702010	Bradley Creek Properties, LLC	PO Box 637	Statesboro, GA 30459
7003702011	Double Reverse, LLC	251 N Orange Ave #1500	Orlando, FL 32802
7003702012	3681 Fifth Avenue LLC & 3687 Fifth Avenue, LLC	1018 Guildford CT	Encinitas, CA 92024
7003702013	Double Reverse, LLC	251 N Orange Ave #1500	Orlando, FL 32802
7003702018	Double Reverse, LLC	252 N Orange Ave #1500	Orlando, FL 32803
7003702017	Shayanam, LLC (Hemlata Patel)	3758 US 17	Richmond Hill, GA 31324

CITY OF PORT WENTWORTH

(912) 964-4379

REC#: 00343084 2/08/2022 8:44 AM

OPER: ME TERM: 011

REF#: CK 93107

TRAN: 112.0000 BLDG PERMIT
220127 256.00CR

SIMONCRE
7-0037-02-016

DEV-SPR 256.00CR

TENDERED: 256.00 CHECK

APPLIED: 256.00-

CHANGE:
0.00

Mr. Christian Orr
Development Project Manager
SimonCRE JC Ocotillo II, LLC
6900 E. 2nd Street
Scottsdale, AZ 85251

Re: Determination by Architectural Review Committee of Savannah Gateway West

Dear Christian:

On behalf of Pointe Grand Savannah, LLC, the Declarant under the Master Declaration of Easements, Covenants, Conditions and Restrictions for Savannah Gateway West (the "Declaration"), is in receipt of the submittals from SimonCRE JC Ocotillo II, LLC provided to Steven Campisi. Submittals for SimonCRE JC Ocotillo II, LL included a general site plan and elevation sketch (the "Submitted Plans"):

Regarding the Submitted Plans:

- The Committee has used best efforts to review the Submitted Plans but the Committee's approvals do not mean and should not be construed to mean that the Committee is warranting or signing off on the quality or standards of design.
- The Committee assumes EMC Engineering will use best practices in design and construction methods for all work and that all municipal and county codes will be adhered to.
- The Committee assumes that adjacent property owner's rights afforded by the Declaration and matters of title are taken into consideration and not interfered with, without that party's advance approval, which SimonCRE JC Ocotillo II, LLC should seek directly from that party.
- Pay particular attention to work that might affect shared roads and driveways that benefit individual lots already subdivided. Examples include trees or street lighting where a property owner has or plans to have an ingress/egress point.
- The Submitted Plans did not include the following items, which are required for full and final approval: for (i) general description of building materials, (ii) signage and lighting plans and (iii) grading plans.

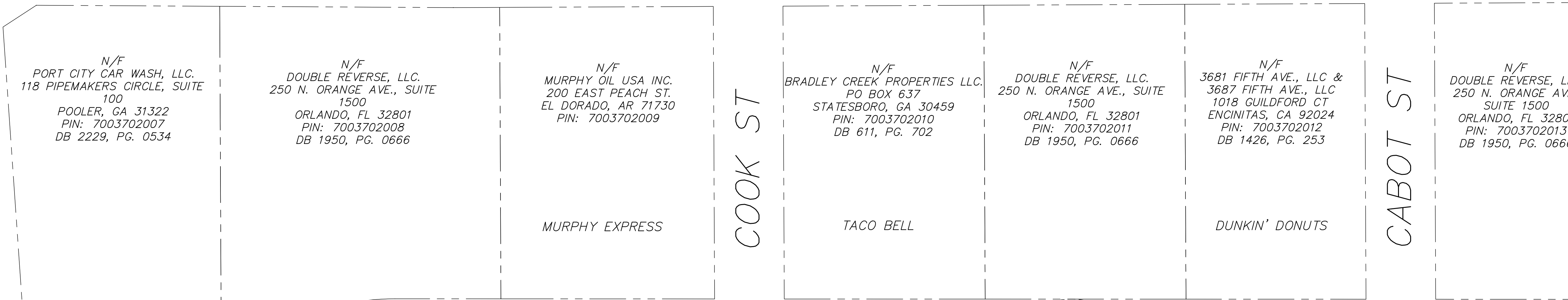
Consider this response a partial approval by the Committee of the Submitted Plans, which included only the general site plan and elevation sketch. You are required to submit to the committee (i) general description of building materials, (ii) signage and lighting plans and (iii) grading plans prior to full approval.

Sincerely,



Steven Campisi

SR 21



N/F
DOUBLE REVERSE, LLC.
250 N. ORANGE AVE.,
SUITE 1500
ORLANDO, FL 32801
PIN: 7003702006
DB 1950, PG. 0666

N/F
FLOYD FRANK NEVILLE
120 HWY 30
PORT WENTWORTH, GA
31407
PIN: 7097602029

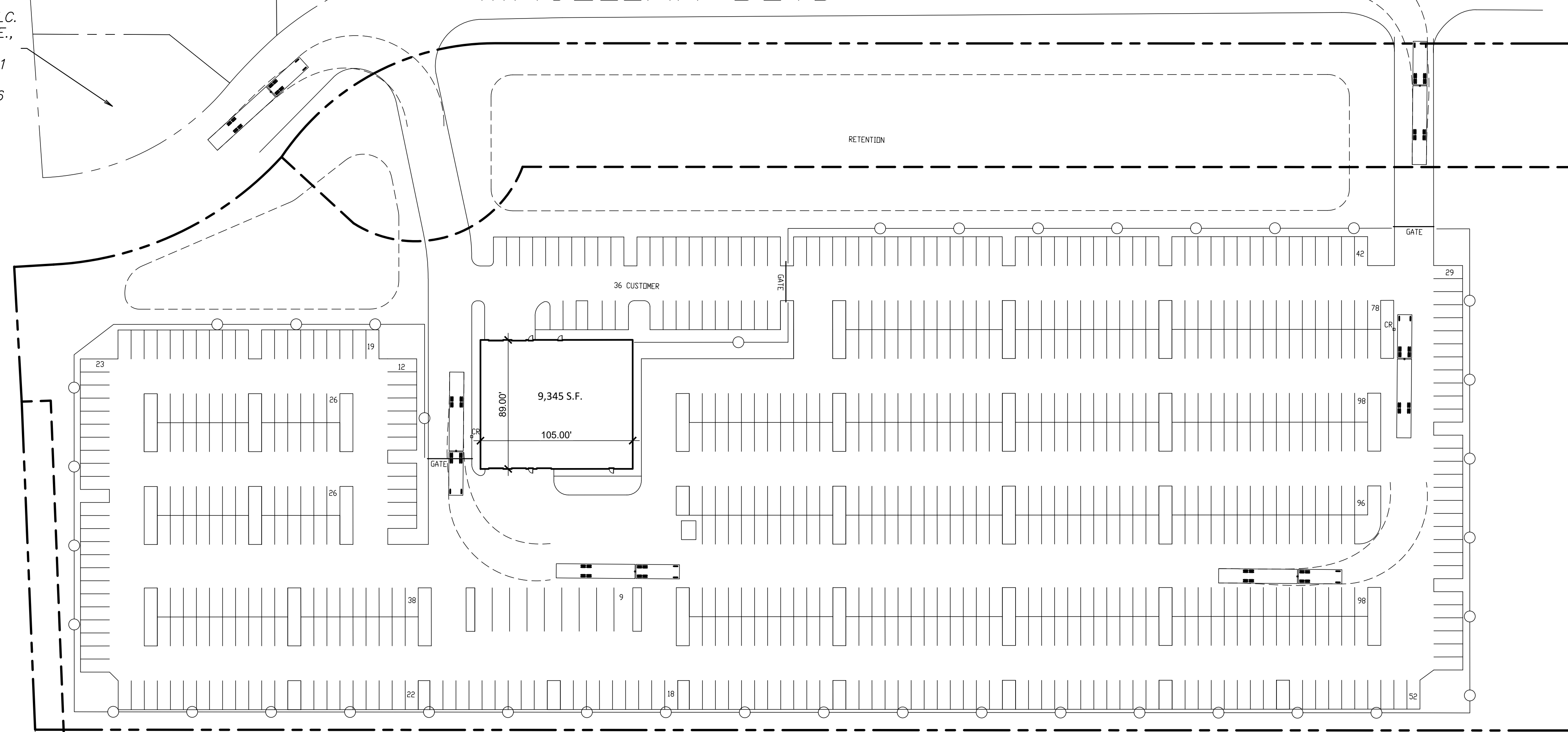
N/F
FRANK AND REITA'S, LLC.
1716 E HWY. 80
BLOOMINGDALE, GA 31302
PIN: 7097602030
DB 361W, PG. 704

N/F
FRANK AND REITA'S, LLC.
1716 E HWY. 80
BLOOMINGDALE, GA 31302
PIN: 7097602031
DB 375E, PG. 960

N/F
FLOYD CHARLES LYNN
5336 GA HWY. 119 N
CLYO, GA 31303
PIN: 7097602032
DB 351N, PG. 620

HWY 30

MAGELLAN BLVD



677 STORAGE SPACES
36 CUSTOMER SPACES
9 SINGLE HAULER SPACES

N/F
DOUBLE REVERSE, LLC.
250 N. ORANGE AVE., SUITE 1500
ORLANDO, FL 32801
PIN: 7003702018
DB 1950, PG. 0666

N/F
SHAYANAM, LLC.
ATTN: HEMLATA PATEL, MANAGER 3758
US 17
RICHMOND HILL, GA 31324
PIN: 7003702017
DB 1950, PG. 0666

NO.	REVISION DESCRIPTION	DATE



GRAPHIC SCALE: 1" = 50'

EMC ENGINEERING SERVICES, INC.
27 Chatham Center South, Suite A
Savannah, GA 31405
Pin: (912) 232-5580
savannah@emc-eng.com
www.emc-eng.com

emc
CIVIL
MARINE
ENVIRONMENTAL

ALBANY • ATLANTA • AUGUSTA • BRUNSWICK • COLUMBUS
SAVANNAH • STATESBORO • THOMASTON • VALDOSTA

CONCEPT PLAN

CARVANA DEALERSHIP
8TH GMD
PORT WENTWORTH, GEORGIA
Prepared for:
SIMONCRE

PROJECT NO.:	22-0024
DRAWN BY:	KPL
DESIGNED BY:	-
SURVEYED BY:	-
CHECKED BY:	BWL
SCALE:	1" = 50'
DATE:	02/02/22

G:\2022\12-9999-PORT WENTWORTH-CARVANA\DWG\CONCEPT.DWG 2/2/2022 4:20 PM



City Council
7224 GA Highway 21
Port Wentworth, GA 31407

Meeting: 04/28/22 07:00 PM
Department: Development Services
Category: Ordinance
Prepared By: Melanie Ellis
Department Head: Brian Harvey

SCHEDULED

AGENDA ITEM (ID # 2641)

DOC ID: 2641

Zoning Map Amendment Application submitted by Phillip McCorkle, McCorkle, Johnson & McCoy, LLP., on behalf of Pointe Grand Savannah, LLC., for PIN # 7-0037-02-019 (Newport Blvd) to Rezone from P-C-3 (Planned General Business) to P-RIP (Planned Residential Institutional) Zoning District for the purpose of multi-family apartments

Issue/Item: Zoning Map Amendment Application submitted by Phillip McCorkle, McCorkle, Johnson & McCoy, LLP., on behalf of Pointe Grand Savannah, LLC., for PIN # 7-0037-02-019 (Newport Blvd) to Rezone from P-C-3 (Planned General Business) to P-RIP (Planned Residential Institutional) Zoning District for the purpose of multi-family apartments

Background: The subject property is currently vacant woodland. There are no buildings or structures on the subject property.

Facts and Findings: The number of acres to be rezoned is approximately 24.354. If rezoned the owner intends to construct multi-family apartments. This project complies with the current City of Port Wentworth 2021-2041 Comprehensive Plan.

Funding: N/A

Recommendation: The Planning Commission will hear this application on Monday, April 11, 2022 at 6:30 P.M. / **UPDATE: THE PLANNING COMMISSION VOTED 3-1 TO APPROVE THE APPLICATION.**

ATTACHMENTS:

- ZMA 7-0037-02-019 PC3 TO PRIP APRIL 2022 - Application (PDF)
- ZMA 7-0037-02-019 PC3 TO PRIP APRIL 2022 - Timeline (DOCX)
- Planning Commission Minutes April 11, 2022 DRAFT (PDF)

210437

APPLICATION TO AMEND THE ZONING MAP OF PORT WENTWORTH, GEORGIA



Name of Applicant: Phillip R. McCorkle Phone #: 912-232-6000

Mailing Address: 319 Tattnell Street, Savannah, Georgia 31401

Name of Property Owner: Pointe Grand Savannah, LLC Phone #: 407-794-0434
(Use back if more than one owner)

Address of Property: Newport Blvd. west of Magellan Blvd.

PIN #: 7-0037-02-019

Number of Acres: 24.354 acres

Zoning Classification: Present P-C-3 Requested P-RIP
Use of Property: Present Vacant Requested Multi-Family

X If the requested change is to extend an existing adjacent zoning district to include this property, explain below why the proposed change should be made.

If the requested change is not to extend an adjacent zoning district, explain below why this property should be placed in a different zoning district than all adjoining properties. (How does it differ from adjoining properties and why should it be subject to different restrictions than those applying to adjoining properties?)

Newport is a mixture of single family detached, single family attached townhomes, and multi-family, all zoned P-RIP. The recently developed Pointe Grand Multi-Family development is fully leased. More apartments are needed in Port Wentworth.

Attach the following documents:

- 1. Written legal description of the property (e.g. copy of deed) – full metes and bounds description rather than plat reference.
2. Name, PIN #, property address and mailing address of owners of all properties within 250 feet of this property.
3. Plat showing property lines with lengths and bearings, adjoining streets, locations of existing buildings, north arrow and scale. Submit fifteen (15) copies of the plat in 11"x17" or larger and one copy in 8.5"x11".
4. Site Plan of proposed use of property. Submit fifteen (15) copies in 11"x17" or larger and one copy in 8.5"x11".
5. Disclosure of Campaign Contributions and Gifts form.
6. Disclosure of Financial Interests form.
7. If property owner and applicant are not the same, Authorization by Property Owner form or Authorization of Attorney form.
8. Filing fee of \$356 + \$50 per acre + \$50 Administrative Fee, payable to the City of Port Wentworth.

APPLICATION MUST BE FILED 20 BUSINESS DAYS PRIOR TO THE PLANNING COMMISSION MEETING AT WHICH THEY ARE TO BE CONSIDERED.

I hereby authorize the staff of the City of Port Wentworth to inspect the premises of the above described property and to post this property with the duly required notices. I hereby depose and say that all statements herein and attached statements submitted are true and correct to the best of my knowledge and belief.

Sworn to and subscribed before me this 10th day of March, 2022.

Krystal Rae Horsley
Notary Public



Signature of Applicant

DISCLOSURE OF FINANCIAL INTERESTS

(Required by Title 36, Chapter 67A, Official Code of Georgia Annotated)

Reference: Application filed on _____, 20_____, to rezone real property described as follows:

The undersigned official of the City of Port Wentworth has a property interest (Note 1) in said property as follows:

The undersigned official of the City of Port Wentworth has financial interest (Note 2) in a business entity (Note 3) which has property interest in said property, which financial interest is as follows:

The undersigned official of the City of Port Wentworth has a member of the family (Note 4) having a property interest in said property or a financial interest in a business entity which has a property interest in said property, which family member and property interest or financial interest are as follows:

-
- Note 1: Property Interest – Direct ownership of real property, including any percentage of ownership less than total ownership
 - Note 2: Financial Interest – All direct ownership interests of the total assets or capital stock of a business entity where such ownership interest is 10 percent or more
 - Note 3: Business Entity – Corporation, partnership, limited partnership, firm, enterprise, franchise, association or trust
 - Note 4: Member of the family – Spouse, mother, father, brother, sister, son or daughter
-

I hereby depose and say that all statements herein are true, correct and complete to the best of my knowledge and belief.

Sworn to and subscribed before me this _____ day of _____, 20_____.

Signature of Official

Notary Public

AUTHORIZATION OF PROPERTY OWNER

Application for Rezoning or Variance

I swear that I am the owner of the property which is the subject matter of the attached application, as is shown in the records of Port Wentworth, Georgia.

I authorize the person named below to act as applicant in the pursuit of a variance or for the rezoning of this property.

Name of Applicant: Phillip R. McCorkle

Address: 319 Tattnall Street, Savannah, Georgia 31401

Telephone Number: 912-232-6000

Pointe Grand Savannah, LLC

By: [Signature]

Its: Authorized Person

Personally appeared before me

Steven Campisi

who swears that the information contained in this authorization is true and correct to the best of his or her knowledge and belief.

Kyla Lu
Notary Public



10/20/2021
Date

CITY OF PORT WENTWORTH
(912) 964-4379

REC#: 00331848 11/02/2021 10:27 AM
OPER: ME TERM: 011
REF#: CK 1372

TRAN: 112.0000 BLDG PERMIT
210437 1,623.70CR
POINTE GRAND SAVANNAH, LLC
7-0037-02-019
DEV-ZMA 1,623.70CR

TENDERED: 1,623.70 CHECK
APPLIED: 1,623.70-

CHANGE: 0.00

WWW.CITYOFPORTWENTWORTH.COM

Type: WD
Kind: WARRANTY DEED
Recorded: 2/28/2020 4:15:00 PM
Fee Amt: \$1,304.60 Page 1 of 6
Transfer Tax: \$1,279.60
Chatham, Ga. Clerk Superior Court
Tammie Mosley Clerk Superior Court

Participant ID(s): 1983094574,
7067927936

BK 1861 PG 352 - 357

Prepared by:
Shannon S. Vukmir, Esquire
Sitko Bruno, LLC
2740 Smallman Street, Suite 300
Pittsburgh, PA 15222

Return to:
Weiner, Shearouse, Weitz,
Greenberg & Shawe, LLP
Attn: Stuart R. Halpern
14 E State Street
Savannah, GA 31401

When Recorded Return To:
Heather Townsend
First American Title Insurance Company
National Commercial Services
Six Concourse Parkway, Ste. 2000
Atlanta, GA 30328
File No: NCS 992277

STATE OF FLORIDA
COUNTY OF ORANGE

LIMITED WARRANTY DEED

THIS LIMITED WARRANTY DEED ("**Deed**"), made as of February 27, 2020, between **LAND HOLDING, LLC**, a Delaware limited liability company ("**Grantor**"), having an office c/o PNC Bank, National Association, 201 E. Pine Street, Suite 100, Locator: A1-P812-01-2, Orlando, FL 32801,

AND

COASTAL CLUB PORT WENTWORTH, LLC, a Georgia limited liability company ("**Grantee**"), having an address at 1031 W. Morse Boulevard, Suite 240, Winter Park, Florida 32789 (the words "**Grantor**" and "**Grantee**" include their respective heirs, successors and assigns as applicable).

WITNESSETH that Grantor, for and in consideration of ONE MILLION THREE HUNDRED FIFTY-SIX THOUSAND and 00/100ths DOLLARS (\$1,356,000.00) in hand paid at and before the execution and delivery of these presents, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, has granted, bargained, sold, aliened, conveyed and confirmed, and by these presents does grant, bargain, sell, alien, convey and confirm unto Grantee, its heirs, successors and assigns, the following described real property (the "**Property**"), to-wit:

*All that tract or parcel of land lying and being in Chatham County, Georgia, and being more particularly described on the attached **Exhibit "A" Leal Description**.*

TO HAVE AND TO HOLD the Property with all and singular the rights, members and appurtenances thereof, to the same being, belonging, or in anywise appertaining, to the only proper use, benefit and behoof of Grantee, its heirs, successors and assigns, forever, in FEE SIMPLE.

UNDER AND SUBJECT TO those matters shown on Exhibit "B" attached hereto and made a part hereof.

IT IS ACKNOWLEDGED THAT THE PROPERTY HAS BEEN ACQUIRED BY GRANTOR THROUGH DEED IN LIEU OF FORECLOSURE AND THAT GRANTOR HAS NEVER OCCUPIED THE PROPERTY. GRANTEE BY ACCEPTANCE OF THIS DEED SPECIFICALLY ACKNOWLEDGES THAT NEITHER GRANTOR NOR ANYONE ON BEHALF OF GRANTOR MAKES ANY WARRANTIES OR COVENANTS, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, HABITABILITY OR FITNESS FOR A PARTICULAR PURPOSE IN RESPECT OF THE PROPERTY, AND IT IS EXPRESSLY UNDERSTOOD THAT THE PROPERTY IS BEING CONVEYED IN AN "AS IS" AND "WITH ALL FAULTS" CONDITION. BY ACCEPTANCE OF THIS DEED, GRANTEE AFFIRMS THAT THERE ARE NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED OR STATUTORY, EXCEPT THOSE ASSOCIATED WITH TITLE.

AND Grantor will warrant and forever defend the right and title to the Property unto Grantee against the claims of all persons claiming by, through or under Grantor, but not otherwise.

SIGNATURE PAGE TO FOLLOW

IN WITNESS WHEREOF, Grantor has caused this Deed to be executed as of the day and year first above written.

Signed and delivered as to all signatories in the presence of:

GRANTOR:

LAND HOLDING, LLC, a Delaware limited liability company

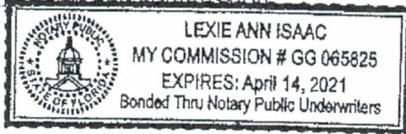
Kristina Sandez

Unofficial Witness

By:

John R. Gassie, Vice President

Notary Public (Affirm seal and commission expiration date)



STATE OF GEORGIA

Secretary of State
Corporations Division
313 West Tower
2 Martin Luther King, Jr. Dr.
Atlanta, Georgia 30334-1530

CERTIFICATE OF AMENDMENT NAME CHANGE

I, **Brad Raffensperger**, the Secretary of State and the Corporation Commissioner of the State of Georgia, hereby certify under the seal of my office that

Coastal Club Port Wentworth, LLC
a Domestic Limited Liability Company

has filed articles/certificate of amendment in the Office of the Secretary of State on 03/20/2020 changing its name to

Pointe Grand Savannah, LLC
a Domestic Limited Liability Company

and has paid the required fees as provided by Title 14 of the Official Code of Georgia Annotated. Attached hereto is a true and correct copy of said articles/ certificate of amendment.

WITNESS my hand and official seal in the City of Atlanta
and the State of Georgia on 03/25/2020.



Brad Raffensperger

Brad Raffensperger
Secretary of State

EXHIBIT "A"

Legal Description

PARCEL 1:

ALL THAT CERTAIN LOT, TRACT OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE EIGHTH G.M. DISTRICT, CITY OF PORT WENTWORTH, CHATHAM COUNTY, GEORGIA, BEING PARCEL 2A OF SAVANNAH GATEWAY WEST, AS PER PLAT RECORDED FEBRUARY 27, 2020 IN PLAT BOOK 52, PAGE 363, CHATHAM COUNTY RECORDS.

PARCEL 2:

EASEMENTS AND OTHER INTERESTS IN REAL PROPERTY AS CONTAINED IN THAT CERTAIN MASTER DECLARATION OF EASEMENTS, COVENANTS, CONDITIONS AND RESTRICTIONS FOR SAVANNAH GATEWAY WEST, DATED MARCH 26, 2009, AND RECORDED IN DEED BOOK 350-U, PAGE 687, CHATHAM COUNTY RECORDS, TO WHICH INSTRUMENT THIS CONVEYANCE IS EXPRESSLY SUBJECT.

BEING a portion of the same property which Savannah Gateway West, LLC d/b/a Savannah West, LLC, by Deed Under Power of Sale dated June 2, 2015 and recorded on July 21, 2015 with the Chatham, Georgia Clerk of Superior Court in Book 586, Page 156, Document No. 028959640006, granted and conveyed unto Land Holding, LLC, a Delaware limited liability company, Grantor herein.

Exhibit "A"

Legal Description

All that certain tract of land located in the 8th G.M. District, City of Port Wentworth, Chatham County, Georgia, and containing 24.354 acres, more or less, being shown as "Parcel 2A" on that certain Minor Subdivision Plat of Parcel 2A, Savannah Gateway West, a Portion of Tax Parcel No. 7-0037-02-004, dated February 27, 2020, and recorded in Plat Book 52, Page 363, in the Office of the Clerk of the Superior Court of Chatham County, Georgia, being more particularly described as follows:

Commencing at a 5/8" reinforcing bar found W/SLS CAP 2509 on the western side of Magellan Boulevard R/W (Public Road) being the northeast corner of Parcel 2A, and being said POINT OF BEGINNING; thence S18°17'53"E a distance of 299.39' to a 5/8" reinforcing bar found; thence S71°59'28"W a distance of 31.59' to a 5/8" reinforcing bar found; thence S22°16'28"W a distance of 1687.06' to a 5/8" reinforcing bar found; thence N19°10'47"W a distance of 706.57' to a reinforcing bar found; thence N19°11'24"W a distance of 875.54' to a 5/8" reinforcing bar found; thence N71°45'46"E a distance of 1153.37' to a 5/8" reinforcing bar found W/SLS CAP 2509, and being said POINT OF BEGINNING.

DISCLOSURE OF CAMPAIGN CONTRIBUTIONS

(Required by Title 36, Chapter 67A, Official Code of Georgia Annotated)

Reference: Application filed on October _____, 2021 _____, to rezone real property described as follows:

Parcel 2A as shown on plat recorded in Plat Book 52, page 363.

Within the two years preceding the above filing date, the applicant has made campaign contributions aggregating \$250.00 or more to each member of the City Council of the City of Port Wentworth who will consider the application and is listed below. List (1) the name and official position of the local government official and (2) the dollar amount, description and date of each such campaign contribution.

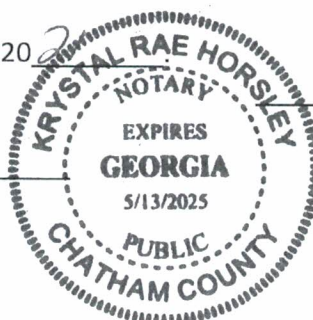
None

I hereby depose and say that all statements herein are true, correct and complete to the best of my knowledge and belief.

Sworn to and subscribed before me this

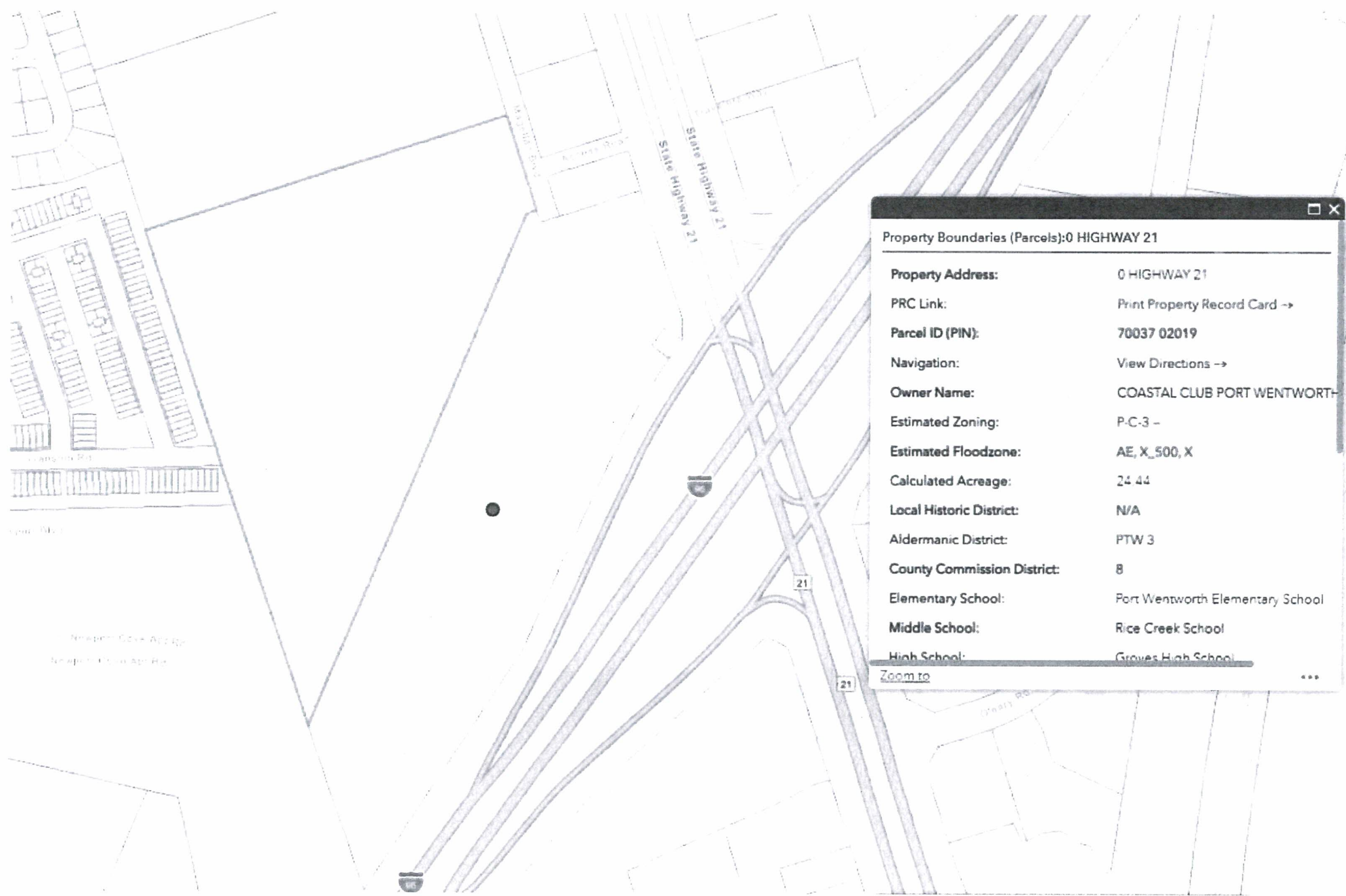
20th day of October _____, 2021

Krystal Rae Horsley
Notary Public



[Signature]

Signature of Applicant



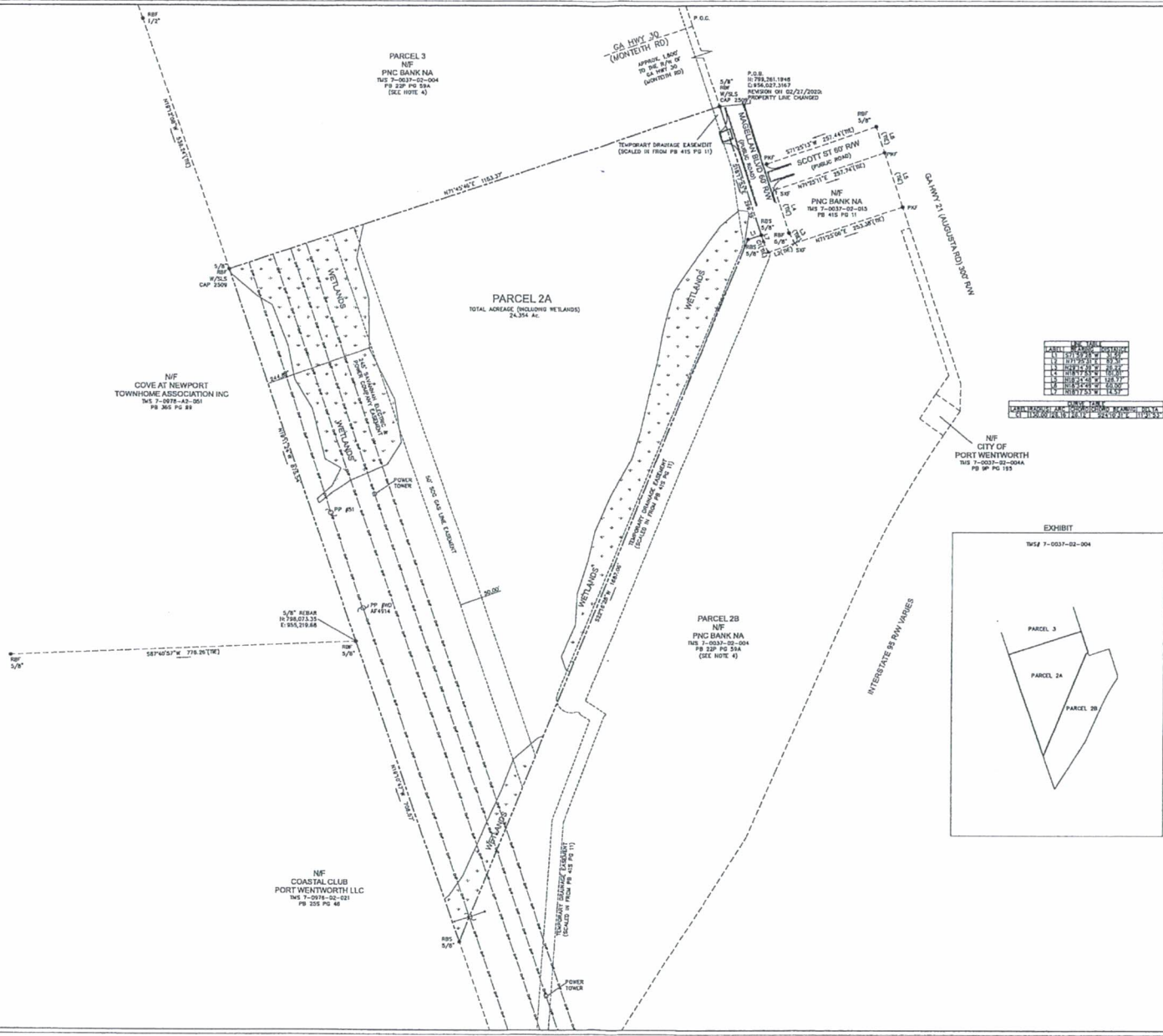
Property Boundaries (Parcels): 0 HIGHWAY 21

Property Address:	0 HIGHWAY 21
PRC Link:	Print Property Record Card ->
Parcel ID (PIN):	70037 02019
Navigation:	View Directions ->
Owner Name:	COASTAL CLUB PORT WENTWORTH
Estimated Zoning:	P-C-3 -
Estimated Floodzone:	AE, X_500, X
Calculated Acreage:	24.44
Local Historic District:	N/A
Aldermanic District:	PTW 3
County Commission District:	8
Elementary School:	Port Wentworth Elementary School
Middle School:	Rice Creek School
High School:	Groves High School

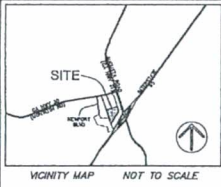
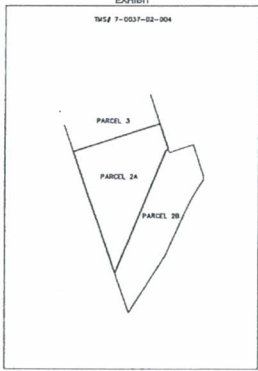
[Zoom to](#) ...

Type: PLAT
 Received: 2/27/2020 8:10:00 PM
 Fee Amt: \$10.00 Page 1 of
 Chatham Co. Clerk Superior Court
 Tamara Mosley Clerk Superior Court
 Participant ID: 8542678353
 BK 52 PG 363

THIS BLOCK RESERVED FOR THE CLERK
 OF THE SUPERIOR COURT.



PLAT	BOOK	PAGE
1	158	158
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3	202	202
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100	202	202



- LEGEND
- ▲ CALC POINT - CORNER NOT SET
 - P.C. HIAL POINT
 - HIGH REAR FOUND
 - HIGH REAR SET
 - ✕ SORMES X FOUND
 - POWER POLE
 - CITY MARK
 - ▨ EDGE OF PAVEMENT
 - ▨ FLOOD ZONE X (0.2% ANNUAL CHANCE)
 - ▨ FLOOD ZONE AL (0.1% 12.9)

- NOTES
1. THIS PARCEL APPEARS TO BE IN DUAL FLOOD ZONES AL (0.1%) & X (0.2% ANNUAL CHANCE). CONVEYANCE TO BE MADE TO THE FLOOD ZONE PLANS ON FILE WITH THE CHATHAM COUNTY PLANNING DEPARTMENT.
 2. HORIZONTAL DATUM IS GEORGIA EAST STATE PLANE GRID (NAD 83).
 3. WETLANDS ARE PER REFERENCE #8.
 4. BOUNDARY SURVEY FOR PARCELS 2B AND 3 WAS NOT PERFORMED AT THE TIME THE FIELD WORK WAS COMPLETED.

- REFERENCES
1. DEED BOOK 588 PAGE 158
 2. PLAT BOOK 52 PAGE 202
 3. PLAT BOOK 227 PAGE 594
 4. PLAT BOOK 207 PAGE 23
 5. PLAT BOOK 207 PAGE 11
 6. A WETLAND SURVEY OF THE LANDS OF PNC BANK, S.A., A PORTION OF SAVANNAH, GEORGIA, PREPARED FOR PNC BANK, S.A., BY THOMAS W. HURLEY, DATED 05-21-18, REVISED 05-18-18, BEVERLYD 05-23-18, REVISED & SEALED BY PROJECT C. POMERS, JR., S.A.L.S. LICENSE #2812.

PREPARED FOR:
 COASTAL CLUB PORT WENTWORTH, LLC
 A MINOR SUBDIVISION PLAT OF:
 PARCEL 2A,
 SAVANNAH GATEWAY WEST,
 A PORTION OF TAX PARCEL No.
 7-0037-02-004

#BY S.A.L.S.
 THE CITY OF PORT WENTWORTH
 CHATHAM COUNTY, GEORGIA

TOTAL AREA: 1,172,993.81 SQ. FT. (26,856 ACRES)
 LOC. FLDN. 1/24/18
 ANG. EOD 06° ANGLE POINT
 ALL LINES COMPAS SULE
 EOD PLAT 1/24/18
 COMP. USER TYPHOON TOTAL STATION 6159903

ATLAS
 SURVEYING, INC.

48 BRENTON COLE ROAD, SUITE #5
 FLORENCE, SC 29506
 PHONE: (843) 845-8277
 WEBSITE: WWW.ATLASURVEYING.COM



AS REQUIRED BY SUBDIVISION PLAT ACT, SECTION 15-6-41, THIS PLAT INCLUDES APPROVAL BY A LAND SURVEYOR AND APPROVED BY ALL APPLICABLE LOCAL JURISDICTIONS FOR RECORDING. AS PROVIDED BY APPROVED CERTIFICATES, SIGNATURES, STAMPS, OR OTHER METHODS, SUCH APPROVALS OR ATTESTATIONS SHOULD BE COMPLETED WITH THE APPROVED ORIGINAL RECORDS BY THE PURCHASER OR USER OF THIS PLAT AS TO INFORMED USE OF ANY PARCEL. (CONTRADICTORY TO THE UNRECORDED LAND SURVEYOR CERTIFICATE THAT THIS PLAT COMPLIES WITH THE MINIMUM TECHNICAL STANDARDS FOR PROFESSIONAL SURVEYING IN GEORGIA AS SET FORTH IN RULES AND REGULATIONS OF THE GEORGIA BOARD OF SURVEYORS FOR PROFESSIONAL SURVEYORS AND LAND SURVEYORS AND AS SET FORTH IN O.C.G.A. SECTION 15-6-41.

Thomas W. Hurley
 THOMAS W. HURLEY DATE: 2/27/2020
 S.A.L.S. No. 15000460

Adjacent Property Owners Within 250 Feet

Double Reverse, LLC
250 N. Orange Avenue, Suite 150
Orlando, Florida 32801

Coastal Club Port Wentworth, LLC
1031 West Morse Boulevard, Suite 240
Winter Park, Florida 32789

Cove at Newport Townhome Association
100 Commerce Court
Pooler, Georgia 31322

Shayanam, LLC
Attn: Hemlata Patel, Manager
3758 US 17
Richmond Hill, Georgia 31324

1311 Euclid LLC
1128 24th Street
Santa Monica, California 90403

Carlos N. Silva &
Lissete Paola Gamez Castillo
41 Cordage Circle
Port Wentworth, Georgia 31407

Dishon G. Aiken
43 Cordage Circle
Port Wentworth, Georgia 31407

Horace Harvey
59 A Bearing Circle
Port Wentworth, Georgia 31407

Cuong C. Dao
210 Fish Hawk Lane
Savannah, Georgia 31410

Helga J. Voisine
275 North Popi Trail
Hinesville, Georgia 31313

Sheila Wilcox Conyers
59 D Bearing Circle
Port Wentworth, Georgia 31407

Properties of the Low Country, Inc.
59 B Bearing Circle
Port Wentworth, Georgia 31407

RNJ Investments LLC
7640 Abercorn Street
Savannah, Georgia 31406

Mulik Simmons &
Alexis Crawford
2 Emmet Court
Savannah, Georgia 31419

Beulah Spencer
140 Cambridge Drive
Rincon, Georgia 31326

Realty Investors US LLC
105 Hillside Drive
Rincon, Georgia 31326

Pamela Marie Cervone
361 Ohio Street
Elyria, Ohio 44035

Bryan A. Hill
48 Bearing Circle
Port Wentworth, Georgia 31407

Charles H. Conner, Sr.
130 Jim Waters Road
Statesboro, Georgia 30458

Dynesha D. Dempsey
52 Bearing Circle
Port Wentworth, Georgia 31407

John P. Mitchell
54 Bearing Circle
Port Wentworth, Georgia 31407

Dante L. Raven
700 Brogdon Road
Guyton, Georgia 31312

Luann L. Foster
58 C Bearing Circle
Port Wentworth, Georgia 31407

Brion R. Hunt
58 B Bearing Circle
Port Wentworth, Georgia 31407

Christopher D. Morgan
58 Bearing Circle, Unit D
Port Wentworth, Georgia 31407

Capital Avenue Investments LLC
120 Commerce Court
Pooler, Georgia 31322

Dillard Park Investments LLC
120 Commerce Court
Pooler, Georgia 31322

Avalon Cove Investments LLC
120 Commerce Court
Pooler, Georgia 31322

Brighton Bluff Investments LLC
120 Commerce Court
Pooler, Georgia 31322

Mary Toneitha Page
46 Transom Road
Port Wentworth, Georgia 31407

Edna D. Davis
48 Transom Road
Port Wentworth, Georgia 31407

Evalyn R. Lewis
50 Transom Road
Port Wentworth, Georgia 31407

Warren Manley
117 Polk Lane
Fitzgerald, Georgia 31750

Raquisha Shantoria Jones
54 Transom Road
Port Wentworth, Georgia 31407
Michael D. Clendenen
56 Transom Road
Port Wentworth, Georgia 31407

Ashley Sullivan
58 Transom Road
Port Wentworth, Georgia 31407

Julio Jalil & Gladys Jalil
7 Hamilton Grove Drive
Pooler, Georgia 31322

Sandra E. Riley-Howlett
62 Transom Road
Port Wentworth, Georgia 31407

Tamisha L. Simmons
64 Transom Road
Port Wentworth, Georgia 31407

Charles K. Nunn, II
66 Transom Road
Port Wentworth, Georgia 31407

Natascha D. Jones
127 Bearing Circle
Port Wentworth, Georgia 31407

Bearing Putter LLC
195 Spanton Crescent
Pooler, Georgia 31322

James E. Miles
123 Bearing Circle
Port Wentworth, Georgia 31407

Jerrell T. Eiland & Carolyn A. Eiland
121 Bearing Circle
Port Wentworth, Georgia 31407

Lauren Micah Robinson
119 Bearing Circle
Port Wentworth, Georgia 31407

Keith Brown
117 Bearing Circle
Port Wentworth, Georgia 31407

Jonathon C. Neisler
115 Bearing Circle
Port Wentworth, Georgia 31407

Tyler C. Moore
213 Rosehill Drive E
Rincon, Georgia 31326

Terrance B. Conley
4125 Pittman Road
Atlanta, Georgia 30349

Monefa E. Murdock-Bey
109 Bearing Circle
Port Wentworth, Georgia 31407

LaDonia Yvonne Mathis
107 Bearing Circle
Port Wentworth, Georgia 31407

Joseph A. Christie
215 Fish Hawk Lane
Savannah, Georgia 31410

Katie Cupstid
103 Bearing Circle
Port Wentworth, Georgia 31407

LaShonda M. Johnson
101 Bearing Circle
Port Wentworth, Georgia 31407

Shawn Green & Megan Dimattio
97 Bearing Circle
Port Wentworth, Georgia 31407

Detroit Flower and Zuena Mohamed Salim
95 Bearing Circle
Port Wentworth, Georgia 31407

Alicia Cummings
93 Bearing Circle
Port Wentworth, Georgia 31407
Tiffany R. Cook
91 Bearing Circle
Port Wentworth, Georgia 31407

Kayla Gordon
89 Bearing Circle
Port Wentworth, Georgia 31407

Fisher Isle Investments LLC
120 Commerce Court
Pooler, Georgia 31322

Eden Lake Investments LLC
120 Commerce Court
Pooler, Georgia 31322

Garnett Ridge Investments LLC
120 Commerce Court
Pooler, Georgia 31322

Hardee Grove Investments LLC
120 Commerce Court
Pooler, Georgia 31322



McCorkle, Johnson
& McCoy, LLP

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Phone: (912) 232-6000 • Fax: (912) 231-2038
prn@mccorklejohnson.com
Direct: (912) 232-7416

March 10, 2022

Melanie B. Ellis, CPT
Building Inspector
City of Port Wentworth

Via Hand Delivery

Re: Pointe Grand Savannah Rezoning Application

Dear Melanie:

Enclosed is the application for the Point Grand Savannah Apartment complex. You may recall that we previously filed last year for a duplex project but my client decided in February that he would rather build another phase of his multi-family apartments. I ask you to not process his previous application to allow this modification to be filed. You agreed to do so and asked me to refile. It was also agreed that my client will not have to pay an additional filing fee as long as acreage did not change. It has not.

You had sent me a note asking me to double check the property identification number. The number on the application, 7-0037-2-019 is correct.

I'm not sure whether I will be able to get a stamped in application when this is delivered or whether it will be left in the box out front. If that's the case please send me a pdf of the front page with the "received" stamp on it. I need that for my file.

Please call if you have any questions. As always, I thank you for your help.

Sincerely,

McCORKLE, JOHNSON & McCOY, LLP

Phillip R. McCorkle
Attorney At Law

enclosure

