DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SAVANNAH DISTRICT
4751 BEST ROAD, SUITE 140
COLLEGE PARK, GEORGIA 30337-5600

June 10, 2022

Regulatory Division
SAS-2001-06790

JOINT PUBLIC NOTICE
Savannah District/State of Georgia

The Savannah District has received an application for a Department of the Army Permit, pursuant to Section 404 of the Clean Water Act (33 U.S.C. § 1344), as follows:

The comment period for the Department of the Army Permit application will close 30 days from the date of this public notice. Written comments, including suggestions for modifications or objections to the proposed work, stating reasons thereof, are being solicited from anyone having interest in this permit, and must be submitted so as to be received on or before the last day of the comment period. Written comments concerning the Department of the Army Permit application must reference the Applicant's name and the Permit Application Number and be forwarded to the US Army Corps of Engineers (Corps) at the above address.

This Joint Public Notice announces a request for authorizations from both the U.S. Army Corps of Engineers and the State of Georgia. The applicant's proposed work may also require local governmental approval.

Application Number: SAS-2001-06790

Applicant: Mr. Jonathan M. Crawford
Cyber Housing, LLC
2743 Perimeter Parkway, Building 100, Suite 370
Augusta, Georgia 30909

Agent: Mr. Stephen W. Dockery
Nutter & Associates, Incorporated
360 Hawthorne Lane
Athens, Georgia 30606

Location of Proposed Work: The project area is an approximately 41.7-acre portion of a 143.92-acre property, composed of four adjoining parcels, located at 2384 Gordon Highway in Augusta, Richmond County, Georgia (centered approximately at latitude: 33.4394, longitude: -82.1011). This project is located within the Middle Savannah River watershed/Butler Creek basin (12-digit Hydrologic Unit Code: 030601060602).

Description of Work Subject to the Jurisdiction of the Corps: The proposed project by Cyber Housing, LLC, a subsidiary of Southeastern Development Associates, involves

the construction of a two-lane road to serve as the entrance drive for the proposed Miller's Crossing (Section 1), a residential development consisting of 117 townhomes and 65 single family homes. Approximately 9,500 cubic yards of fill material would be placed in 1.01 acres of wetlands and 199 linear feet (0.014-acre) of perennial stream as a result of the road construction. An 80-foot, 48-inch reinforced concrete pipe (RCP) would convey flows from the perennial stream channel under the road, and an 80-foot, 24-inch RCP culvert would convey flows from wetlands separated by the road. A total of 6.06 legacy wetland mitigation credits and 1,069 legacy stream mitigation credits would be purchased as compensation for the aquatic resource impacts.

BACKGROUND

On July 20, 2001, Southeastern Development Associates was issued verification under Nationwide Permits No. 7 and No. 14 (NWP 7 & 14), for proposed adverse impacts to 188 linear feet of intermittent stream and 0.22-acre of wetland in conjunction with the construction of road crossing and stormwater outfall structure for Belfair Lakes - Section 1. The Applicant was required to purchase 1.5 legacy wetland mitigation credits as compensation for adverse impacts incurred from this work. The legacy wetland credits were purchased from the Millhaven Mitigation Bank on August 10, 2001.

On July 5, 2018, Southeastern Development Associates was issued verification under Nationwide Permit No. 14 (NWP 14), for proposed adverse impacts to 162 linear feet (0.06-acre) of intermittent stream channel in conjunction with the construction of a new permanent entrance road for The Cottages at Elbow Branch residential development. The Applicant was required to purchase 664.2 legacy stream mitigation credits as compensation for adverse impacts incurred from this work. Southeastern Development Associates did not conduct the work authorized by the issued NWP due to a stipulation from the Georgia Department of Transportation (GDOT) that required the entrance road to be aligned with the existing median break. No legacy stream credits were purchased from a mitigation bank.

We understand that the current proposed Miller's Crossing – Section 1 residential development is a townhome community that would include single family residential houses. Additional portions of the property have been phased for future development, according to the applicant's overall development plan sheet (see enclosed Sheet 2). Per Richmond County zoning ordinances, a secondary entrance to Miller's Crossing would be required whenever a development constructs an excess of 100 single family lots. Miller's Crossing would then share a roadway with the adjacent Belaire Lakes subdivision.

STATE OF GEORGIA

Water Quality Certification: The Georgia Department of Natural Resources, Environmental Protection Division will review the proposed project for Water Quality Certification, in accordance with the provisions of Section 401 of the Clean Water Act. The applicant has requested a Water Quality Certification from the State of Georgia. Prior to issuance of a Department of the Army Permit for a project located in, on, or adjacent to the waters of the State of Georgia, review for Water Quality Certification in accordance with Section 401 of the Clean Water Act is required. A reasonable period of time, which shall not exceed one year, is established under the Clean Water Act for the State to act on a request for Water Quality Certification, after which, issuance of such a Department of the Army Permit may proceed.

State-owned Property and Resources: The applicant may also require assent from the State of Georgia, which may be in the form of a license, easement, lease, permit or another appropriate instrument.

U.S. ARMY CORPS OF ENGINEERS

The Savannah District must consider the purpose and the impacts of the applicant's proposed work, prior to a decision on issuance of a Department of the Army Permit.

Cultural Resources Assessment: Georgia's Natural, Archaeological, and Historic Resources GIS (GNAHRGIS) and National Register of Historic Places (NRHP) mapping does not indicate that there are natural, archaeological, or historic resources within the proposed project's permit area. A Georgia Historic Railroad 1833 to 2015 (OID 36) is located approximately 60 meters north of the project area. A Phase I cultural resources survey was completed by Nutter & Associates, Incorporated, within the project area in February 2022. Based on this survey and as discussed in the attached report of findings, no sites listed or eligible for listing on the NRHP are present within the subject site. The Corps is presently reviewing available information in order to further assess the potential for effects to cultural and/or historic resources as a result of the project's construction. Presently unknown archaeological, scientific, prehistorical, or historical data may be located at the site and could be affected by the proposed work.

Endangered Species: Pursuant to Section 7(c) of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 et seq.), we request information from the U.S. Department of the Interior, Fish and Wildlife Service, the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service; or, any other interested party, on whether any species listed or proposed for listing may be present in the area. Based on the *IPaC Trust Resource Report,* no Federally-designated critical habitats are located onsite. However, this report does list the following Federally-protected species that may potentially be affected at this location: endangered Red-cockaded Woodpecker (*Picoides borealis*),

threatened Wood Stork (*Mycteria americana*), candidate Gopher Tortoise (*Gopherus polyphemus*), candidate Monarch Butterfly (*Danaus plexippus*), and endangered Relict Trillium (*Trillium reliquum*). The Applicant conducted a habitat assessment for the project site, concluding that the proposed development of the site is not anticipated to affect any of the federally listed species or their preferred habitat.

Public Interest Review: The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors, which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and in general, the needs and welfare of the people.

Consideration of Public Comments: The U.S. Army Corps of Engineers is soliciting comments from the public; federal, state, and local agencies and officials; Native American Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the U.S. Army Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

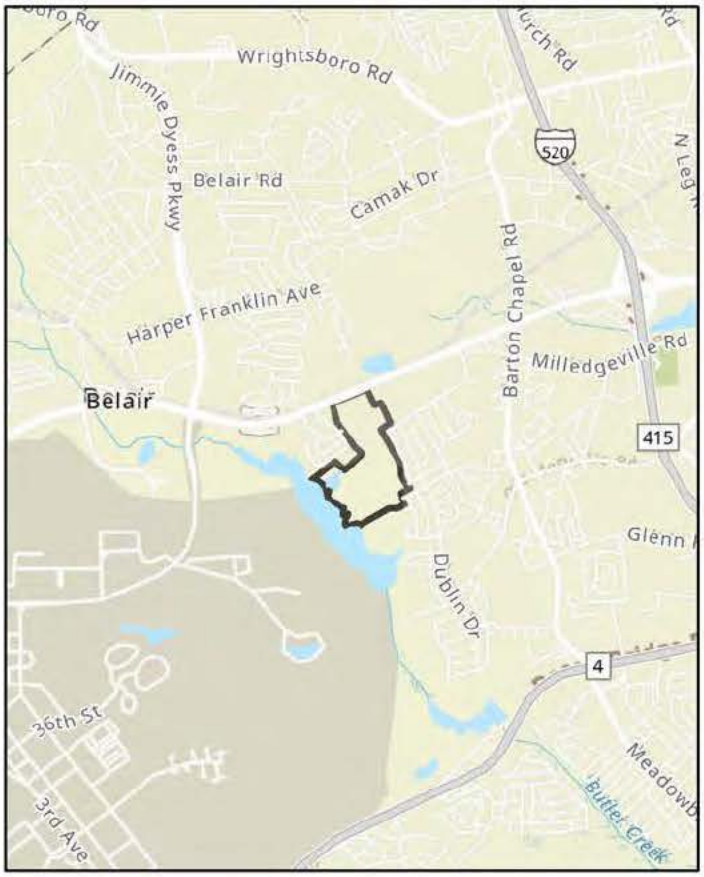
Application of Section 404(b)(1) Guidelines: The proposed activity involves the discharge of dredged or fill material into the waters of the United States. The Savannah District's evaluation of the impact of the activity on the public interest will include application of the guidelines promulgated by the Administrator, Environmental Protection Agency, under the authority of Section 404(b) of the Clean Water Act, including an evaluation of practicable alternatives. The Applicant’s current proposal reviewed two (2) onsite alternatives and five (5) off-site alternatives for construction of the development. All alternatives will be further evaluated in conjunction with the application.

Public Hearing: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application for a Department of the Army permit. Requests for public hearings shall state, with particularity, the reasons for requesting a public hearing. The decision whether to hold a public hearing is at the discretion of the District Engineer, or his designated appointee, based on the need for additional substantial information necessary in evaluating the proposed project.

Comment Period: Anyone wishing to comment on this application for a Department of the Army Permit should submit comments in writing to: Commander, U.S. Army Corps of Engineers, Savannah District, Attention: Justin Edwards, 4751 Best Road, Suite 140, College Park, Georgia 30337-5600, no later than **30 days** from the date of this notice. Submittal of comments via email, to the address listed below, is also acceptable. Please refer to the Applicant's name (Cyber Housing, LLC) and the assigned Regulatory file number (SAS-2001-06790) in your comments.

If you have any further questions concerning this public notice, please contact Justin M. Edwards, Regulatory Specialist, Piedmont Branch at 678-422-2724, or justin.m.edwards@usace.army.mil.

Encls
1. Site Vicinity and Location Map
2. Aquatic Resource Delineation Map
3. Project Development Plan
4. Aquatic Resource Impact Exhibit
5. Off-Site Alternatives Drawings



Site vicinity and location map of the proposed Miller's Crossing development, 2384 Gordon Highway, Augusta-Richmond County, Georgia.

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Feet

N

NUTTER+ASSOCIATES
ENVIRONMENTAL CONSULTANTS

Figure 5. Aquatic resources delineation map, 2384 Gordon Highway Delineation, Augusta, Richmond County, Georgia.

NUTTER+ASSOCIATES
ENVIRONMENTAL CONSULTANTS

DEVELOPMENT PLAN FOR:

MILLER'S CROSSING - SECTION I

AUGUSTA-RICHMOND COUNTY, GEORGIA

GENERAL NOTES:

1. ALL EXISTING UTILITIES SHOWN AND TOPOGRAPHIC INFORMATION TAKEN FROM SURVEY BY DAVID JACHENS DATED JUNE 2021. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACTUAL FIELD LOCATION AND PROTECTION OF EXISTING UTILITIES.
2. ALL DISTURBED AREAS TO BE REVEGETATED IMMEDIATELY FOLLOWING CONSTRUCTION IN ACCORDANCE WITH THE GEORGIA MANUAL OF EROSION AND SEDIMENT CONTROL.
3. ALL INITIAL PHASE BMP'S SHALL BE INSTALLED PRIOR TO ANY LAND DISTRUBING ACTIVITIES.
4. ANY NECESSARY TRAFFIC AND SIGNAGE CONTROL SHALL BE IN ACCORDANCE WITH THE TRAFFIC CONTROL MANUAL GUCC CURRENT EDITION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF ANY PROPERTY CORNERS RIGHT OF WAY MONUMENTS SIGNS OR OTHER STRUCTURES DISTURBED DURING CONSTRUCTION.
6. ALL DRAINAGE EASEMENTS AND DISTURBED AREAS MUST BE GRASSED AND/OR RIP-RAPPED AS REQUIRED TO CONTROL EROSION.
7. ALL CONSTRUCTION WITHIN AUGUSTA RIGHTS-OF-WAYS SHALL CONFORM TO AUGUSTA GEORGIA STANDARDS AND SPECIFICATIONS.
8. ALL INITIAL PHASE BMP'S MUST BE PLACED PRIOR TO CLEARING. NO LAND DISTURBING ACTIVITY SHALL BE DONE UNTIL INITIAL PHASE BMP INSTALLATION IS COMPLETED.
9. CONTRACTOR SHALL CONTACT THE INSPECTION DIVISION OF THE PUBLIC WORKS DEPARTMENT AT LEAST 48 HOURS PRIOR TO STARTING WORK ON THE PROJECT.
10. THERE ARE NO KNOWN GRAVESITES CEMETERIES OR BURIAL GROUNDS LOCATED ON THIS PROPERTY. SHOULD ANY SUCH SITE BE DISCOVERED DURING CONSTRUCTION THE CONTRACTOR SHALL CONTACT THE PLANNING COMMISSION IMMEDIATELY. APPROVAL BY AUGUSTA GEORGIA IS FOR THE IMPROVEMENTS SHOWN IN THE SITE PLAN. ANY VARIATION FROM THE APPROVED
11. SITE PLAN MUST BE APPROVED BY THE COUNTY ENGINEER.
12. LAND USE INTENDED TO BE RESIDENTIAL.
13. THE COST OF INSPECTION BY THE CITY OF AUGUSTA-RICHMOND COUNTY'S DEPARTMENT OF PUBLIC WORKS AND ENGINEERING BEFORE OR AFTER REGULAR WORKING HOURS ON SATURDAYS SUNDAYS OR LEGAL HOLIDAYS SHALL BE PAID FOR BY THE INDIVIDUAL REQUESTING THE INSPECTION AT A RATE OF 1-1/2 TIMES THE REGULAR SALARY PER HOUR OF THE INSPECTOR PLUS 7.65% FROM THE EMPLOYER'S FICA/MEDICARE MATCH. APPROVAL FOR THE INSPECTION OUTSIDE OF NORMAL WORKING HOURS SHALL BE OBTAINED FROM THE COUNTY ENGINEER 48-HOURS IN ADVANCE. PRIOR TO THE COMMENCEMENT OF WORK REQUIREING INSPECTION OUTSIDE OF NORMAL WORKING HOURS THE INDIVIDUAL REQUESTING THE INSPECTION SHALL SIGN A FORM WHICH IS FURNISHED BY THE DEPARTMENT OF PUBLIC WORKS AND ENGINEERING AREEING TO PAY THE OVERTIME. THE INDIVIDUAL REQUESTING THE INSPECTION SHALL SIGN A FORM WHICH IS FURNISHED BY THE DEPARTMENT OF PUBLIC WORKS AND ENGINEERING AREEING TO PAY THE OVERTIME. THE INDIVIDUAL REQUESTING THE INSPECTION WILL BE BILLED BY THE DEPARMENT OF PUBLIC WORKS AND ENGINEERING FOR PAYMENT.
14. A PRECONSTRUCTION CONFERENCE SHALL BE HELD WITH THE COUNTY ENGINEER OR HIS DESIGNATED REPRESENTATIVE PRIOR TO BEGINNING CONSTRUCTION. THIS MEETING SHALL BE SCHEDULED WITH THE DEPARTMENT OF PUBLIC WORKS AT THE TIME THE NOTIFICATION OF WORK COMMENCEMENT IS GIVEN.
15. THE CONTRACTOR SHALL BE REQUIRED TO HAVE ON SITE A COPY OF THE GEORGIA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS AND CONSTRUCTION STANDARD DETAILS CURRENT EDITION.
16. ALL STORM PIPE AND PAVING SHALL BE IN ACCORDANCE WITH GA D.O.T. CONSTRUCTION STANDARDS.
17. THE CONTRACTOR SHALL VERIFY INVERT ELEVATIONS OF ALL EXISTING PIPES & ROAD GRADE ELEVATION OF EXISTING ROADS BEFORE BEGINNING CONSTRUCTION.
18. ALL LOT CORNERS DISTURBED BY CONSTRUCTION ACTIVITIES WILL BE REPLACED BY THE CONTRACTOR.
19. DATE OF FIELD SURVEY: JUNE 2021
20. THE CONTRACTOR SHALL COORDINATE THE WORK OF THE UTILITY COMPANIES & SCHEDULE THE INSTALLATION OF ANY CROSSINGS.
21. COMPACTION IN ALL FILL AREAS SHALL BE COMPACTED TO 95% MODIFIED PROCTOR MAXIMUM DENSITY THE CONTRACTOR SHALL EMPLOY A SOILS TESTING FIRM TO PERFORM A SUFFICIENT NUMBER OF TESTS TO CERTIFY COMPACTION REQUIREMENTS HAVE BEEN MET. THESE TESTS SHALL BE AT THE CONTRACTORS EXPENSE.
22. ACCORDING TO FEMA FIRM HAZARD MAP #13245C 0105 G DATED NOVEMBER 15 2019 NO PORTION OF THIS PROPERTY LIES WITHIN A DESIGNATED 100 YEAR FLOOD PLAIN.
23. ALL WATER AND SEWER TO BE CONSTRUCTED IN ACCORDANCE WITH AUGUSTA/RICHMOND COUNTY SPECIFICATIONS.
24. SOURCE OF VERTICAL DATUM: NAVD 1988.
25. CURRENT ZONING = R1-C
26. THERE ARE FIELD DELINEATED WETLANDS ON THIS PROPERTY.
27. TAX MAP PARCELS 082-0-002-00-0 082-0-003-00-0 & 082-0-007-00-0.

INITIAL BMP INSTALLATION INSPECTION

CERTIFICATION OF COMPLIANCE:
I CERTIFY THAT I HAVE VISITED THE ABOVE NAMED PROJECT SITE WITHIN 7 DAYS AFTER INITIAL CONSTRUCTION ACTIVITIES BEGAN AND HAVE DOCUMENTED ANY AND ALL DEFICIENCIES ON THE SITE THAT EXISTED AT THE TIME OF MY VISIT.

I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THAT THE ABOVE PROJECT WAS IN COMPLIANCE WITH THE EROSION SEDIMENTATION AND POLLUTION CONTROL PLAN AND THE GENERAL NPDES PERMIT NO. GAR 100003 ON THE DATE NOTED. ANY NON-COMPLIANCE AREAS FOUND ARE LISTED ABOVE AND HAVE BEEN REPORTED TO THE CONTRACTOR AND OWNER/OPERATOR.

SCOTT L. JOHNSON P.E. DATE OF INSPECTION

*** CONTRACTOR OR OWNER/OPERATOR SHALL NOTIFY THE DESIGN PROFESSIONAL IMMEDIATELY FOLLOWING COMPLETION OF INITIAL PHASE BMP INSTALLATION. FAILURE TO DO SO WILL CONSTITUE A NON-COMPLIANCE ISSUE.

E,S&PC PLAN DESIGNER

SCOTT L. JOHNSON, P.E.
LEVEL 2 CERTIFICATION #0000002172
EXPIRATION DATE - 02/01/21
PHONE: (706) 465-0900

STATEMENT OF CERTIFICATION

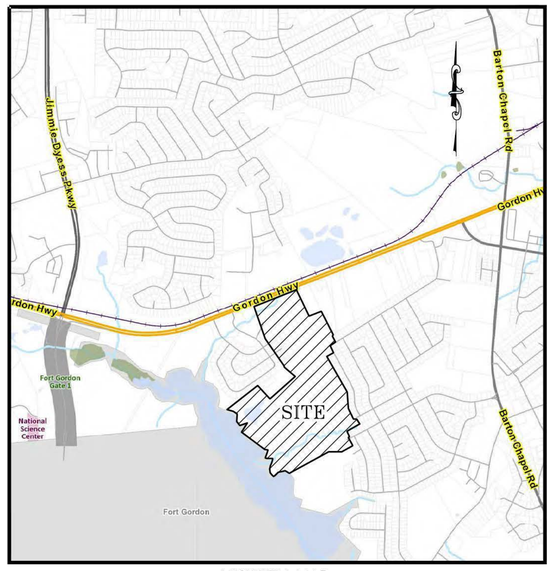
I AM THE OWNER OF THE PROPERTY AFFECTED BY THIS SITE PLAN. PRIOR TO REQUESTING A CERTIFICATE OF OCCUPANCY, I WILL SUBMIT A NOTARIZED STATEMENT AS FOLLOWS, "I CERTIFY THAT THE SITE IMPROVEMENTS ARE COMPLETE AND IN ACCORDANCE WITH PLANS AND SPECIFICATIONS." THIS CERTIFICATION WILL BE BASED ON OBSERVATIONS OF AND SUPERVISION OF CONSTRUCTION BY MY REPRESENTATIVE OR ME. I UNDERSTAND THAT A CERTIFICATE OF OCCUPANCY WILL NOT BE APPROVED UNTIL THIS CERTIFICATION HAS BEEN MADE.

NOTE:
AN ELECTRONIC COPY OF THE AS-BUILT OF THIS PROJECT WILL BE PROVIDED TO THE AUGUSTA ENGINEERING DEPARTMENT PRIOR TO ANY C.O. BEING ISSUED.

Soil erosion control measures must be in place prior to any land disturbing activity

OWNER/DEVELOPER

SOUTHEASTERN DEVELOPMENT
2743 PERIMETER PARKWAY, BLDG. 100 SUITE 370
AUGUSTA, GA 30909
(706) 854-6710



VICINITY MAP
N.T.S.

INDEX TO DRAWINGS

STORMWATER QUALITY CHART

SWQ #	SHEET #	STORM STR. #	STRUCTURE TYPE	BRAND OF UNIT	TYPE	MODEL #
SWQ-1	4-6	LOTS	DOWNSPOUT DISCONNECT	NA	NA	NA
SWQ-2	4-6	LOTS	VEG. FILTER STRIP	NA	NA	NA
SWQ-3	4-6 21	POND	WET POND	NA	WET POND	NA

GENERAL AUD NOTES

1 ALL CONSTRUCTION OF WATER DISTRIBUTION SYSTEMS AND WASTEWATER COLLECTION SYSTEM LINES SHALL BE IN ACCORDANCE WITH AUGUSTA UTILITIES DEPARTMENT (AUD) WATER & SANITARY SEWER SYSTEMS-DESIGN STANDARDS CONSTRUCTION SPECIFICATIONS AND DETAILS (LATEST PUBLICATION)
2 THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXACT LOCATION SIZE AND MATERIAL OF ANY EXISTING WATER OR SANITARY SEWER UTILITY PROPOSED FOR CONNECTION OR USE BY THE PROJECT
3 CONTRACTOR SHALL CONTACT THE UTILITIES PROTECTION INC CALL BEFORE YOU DIG SERVICE (811) IN ORDER TO LOCATE UTILITIES PRIOR TO STARTING ANY EXCAVATION OR CONSTRUCTION THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN ON PLANS ARE APPROXIMATE AS DETERMINED FROM EXISTING RECORDS
4 THE CONTRACTOR SHALL COORDINATE THE WORK OF THE UTILITY COMPANIES
5 THE AUGUSTA ENGINEERING DEPARTMENT (AED) SHALL BE NOTIFIED AT LEAST 48 HOURS (TWO WORKING DAYS) IN ADVANCE DURING REGULAR WORKING HOURS (8:30AM TO 5:00PM MONDAY-FRIDAY EXCLUDING AUGUSTA GEORGIA HOLIDAYS) PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY WITHIN AUGUSTA GEORGIA RIGHT-OF-WAY CONTACT AED AT (706-821-1706)
6 THE AUD ENGINEERING DIVISION SHALL BE NOTIFIED AT LEAST 48 HOURS (TWO WORKING DAYS) IN ADVANCE DURING REGULAR WORKING HOURS (8:30 AM TO 5:00 PM MONDAY- FRIDAY EXCLUDING AUGUSTA GEORGIA HOLIDAYS) PRIOR TO ANY CONSTRUCTION TIE-INS OR TESTING OF WATER OR WASTEWATER UTILITIES NO WORK SHALL COMMENCE UNTIL CONTACT IS MADE WITH THE PROJECTS AUD INSPECTIONS REPRESENTATIVE
7 DISTURBANCE OF ANY SURVEY MARKERS OR MONUMENTS REQUIRES RE-ESTABLISHMENT BY A PROFESSIONAL LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE DOCUMENTATION OF THE WORK MUST BE PRESENTED TO THE AUD ENGINEERING DIVISION BEFORE THE PROJECT IS COMPLETED
8 ANY DISCREPANCIES ERRORS OR OMISSIONS DISCOVERED ON PLANS OR IN THE SPECIFICATIONS SHOULD BE NOTED ON THE CONTRACT PROPOSAL AND DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO CORRECT THE SAME
9 ALL CONCRETE SHALL AND HAVE MINIMUM 28-DAY STRENGTH OF 3 000 PSI
10 IF A CONFLICT ARISES BETWEEN THE NEW WORK AND THE EXISTING WATER AND SEWER UTILITIES DURING THE COURSE OF CONSTRUCTION IT WILL BE THE RESPONSIBILITY OF THE OWNER/DEVELOPER/CONTRACTOR AT THEIR EXPENSE AND NOT AUD'S TO CORRECT THE DISCREPANCY AS DIRECTED BY A REPRESENTATIVE OF AUD
11 ALL EXISTING AUGUSTA ROAD STRUCTURES SUCH AS STORM MANHOLES INLET BOXES ETC SHALL BE MAINTAINED AND OR ADJUSTED AS IS APPROPRIATE TO ENSURE PROPER USE
12 ALL MATERIALS DEEMED SALVAGEABLE BY AUD ARE THE PROPERTY OF AUGUSTA GEORGIA AND WILL BE REMOVED AND STORED ON SITE IN A SECURED AREA DETERMINED DURING CONSTRUCTION BY THE CONTRACTOR AND AUGUSTA UTILITIES DEPARTMENT
13 FOR PRIVATE DEVELOPMENTS AUD SHALL NOT BE RESPONSIBLE FOR PAVEMENT PATCHING AND/OR REPLACEMENT AND THE SITE RESTORATION WHENEVER AUD PERFORMS REPAIR REPLACEMENT OR INSTALLATION WORK
14 IF AUD MUST REPAIR OR REPLACE UTILITIES ON THE WORK SITE THEN THE RESPONSIBLE PARTY SHALL ARRANGE FOR ACCESS BY AUD AS REQUIRED TO REPAIR OR REPLACE THE UTILITY
15 A MINIMUM (20') UTILITY EASEMENT CENTERED OVER ALL WATER LINES AND A MINIMUM 20' UTILITY EASEMENT CENTERED OVER ALL WASTEWATER LINES SHALL BE DEEDED TO AUGUSTA GEORGIA AT COMPLETION AND ACCEPTANCE OF SAID LINES EASEMENTS CONTAINING BOTH WATER AND SEWER SHALL BE 10' FROM THE CENTER OF THE UTILITY TO OUTSIDE OF THE EASEMENT WHILE MAINTAINING MINIMUM SEPARATION REQUIREMENTS AS LISTED IN AUD'S WATER AND SANITARY SEWER SYSTEMS-DESIGN STANDARDS CONSTRUCTION SPECIFICATIONS AND DETAILS
16 A RIGHT-OF-WAY ENCROACHMENT PERMIT SHALL BE OBTAINED FROM AED PRIOR TO COMMENCING ANY WORK WITHIN AN AUGUSTA GEORGIA RIGHT-OF-WAY THE UTILITIES ENCROACHMENT PERMIT MUST BE APPLIED FOR THROUGH AUD
17 A GEORGIA DOT RIGHT-OF-WAY ENCROACHMENT PERMIT MAY BE REQUIRED FOR WORK ON TEMPORARY OR PERMANENT STATE ROUTES CONTACT AUD ENGINEERING DIVISION TO DETERMINE IF A PERMIT IS REQUIRED THE UTILITIES ENCROACHMENT PERMIT MUST BE APPLIED FOR THROUGH AUD CONDITIONS OF THE PERMIT MUST BE COMPLIED WITH FULLY THE PERMIT MUST BE IN HAND A MINIMUM 24 HOURS NOTICE GIVEN TO GDOT PRIOR TO BEGINNING ANY WORK IN THE GDOT RIGHT-OF-WAY
18 TRAFFIC CONTROL DEVICES SHALL MEET AND BE INSTALLED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) ALSO A TRAFFIC CONTROL/DETOUR PLAN SHALL BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL AS NOTED IN THE AUGUSTA- RICHMOND COUNTY GEORGIA-RIGHTS OF WAY ENCROACHMENT GUIDELINES
19 THE CONTRACTOR AND AUD REPRESENTATIVE SHALL HAVE A COPY OF THE AUGUSTA- RICHMOND COUNTY GEORGIA-RIGHTS OF WAY ENCROACHMENT GUIDELINES DEVELOPMENT DOCUMENT #15 ADOPTED JUNE 1999 AMENDED AUGUST 2000 THE REQUIREMENTS SET FORTH IN THIS DOCUMENT SHALL BE ADHERED TO AT ALL TIMES
20 CLEARING AND GRUBBING SHALL BE AT THE CONTRACTOR'S DISCRETION SUBJECT TO AUD APPROVAL TO FACILITATE CONSTRUCTION
21 THE IMPLEMENTATION OF BEST MANAGEMENT PRACTICES (BMPS) FOR EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA SHALL BE INSTALLED AND MAINTAINED AT ALL TIMES

AUD WATER NOTES

1) AN AUD INSPECTOR SHALL BE PRESENT OR SECTION LEFT UNCOVERED UNTIL INSPECTED BY THE INSPECTOR WHEN A TAP TIE-IN OCCURS RESTRAINED JOINTS ARE INSTALLED BENDS FITTINGS FIRE HYDRANTS VALVES AND PRESSURE TESTING CONTRACTOR IS TO PROVIDE AT LEAST 48 HOUR NOTICE (TWO WORKING DAYS) IN ADVANCE DURING REGULAR WORKING HOURS (8:30 AM TO 5:00 PM MONDAY-FRIDAY EXCLUDING AUGUSTA GEORGIA HOLIDAYS)
2) ALL PVC WATER LINES SHALL BE A MINIMUM DR-18 PVC MEETING AWWA C-900 AND/OR C-905 UNLESS OTHERWISE SHOWN OR SPECIFIED
3) ALL DIP WATER LINES SHALL BE CLASS 350 FOR LINES 16 DIAMETER AND SMALLER AND CLASS 300 FOR LINES 18 DIAMETER THROUGH 24 DIAMETER UNLESS OTHERWISE SPECIFIED OR SHOWN
4) ALL NEW WATER LINES SHALL BE INSTALLED PER PIPELINE MANUFACTURER RECOMMENDATIONS

5) ALL WATER LINES SHALL BE TESTED CHLORINATED AND CHECKED FOR BACTERIA PER AUD'S WATER & SANITARY SEWER SYSTEMS-DESIGN STANDARDS CONSTRUCTION SPECIFICATIONS AND DETAILS
6) COPPER WIRE (12-GAUGE INSULATED SINGLE STRAND) SHALL BE ATTACHED ALONG TOP OF ALL BURIED WATER LINES WRAPPED AROUND SERVICE CORPORATIONS AND BROUGHT UP ON THE OUTSIDE OF ALL VALVE BOXES STUBBING OUT AT THE TOP TO FACILITATE TRACEABILITY THIS WIRE SHALL BE PROPERLY SPLICED WITH A WATER PROOF CONNECTOR FOR ELECTRICAL CONNECTIVITY AND THEN INSULATED TO PROTECT AGAINST CORROSION (REFERENCE AUD DETAILS WHEN APPLICABLE)
7) DETECTOR TAPE SHALL BE 4 INCHES WIDE AND PLACED 2 FEET ABOVE PIPE ADD SIMILAR DEVICE TO CONDUIT PER AUD DETAIL 4 3
8) ALL WATER VALVES ON THE MAIN LINES INCLUDING HYDRANT LATERALS SHALL BE OPEN-LEFT IF INSTALLED SOUTH OF GORDON HIGHWAY (S R 10) OR OPEN-RIGHT IF INSTALLED NORTH OF GORDON HIGHWAY
9) THE CONTRACTOR SHALL FURNISH INSTALL AND MAINTAIN A METER BOX AT THE TERMINATION POINT OF ALL WATER SERVICES METER BOXES WILL IN NO WAY BE PLACED UNDER DRIVEWAYS METER BOXES WILL PREFERABLY BE LOCATED IN THE CENTER OF THE LOT AND WITHIN 1' INSIDE OF THE R/W AND MAINTAINED BY THE CONTRACTOR UNTIL SUCH TIME THE METER IS INSTALLED
10) WATER SERVICES SHALL HAVE MINIMUM DIAMETER OF 1 INCH (REFERENCE AUD DETAILS WHEN APPLICABLE)
11) ANY EXISTING WATER SERVICE LINES WHICH ARE EXTENSIONS OFF AN EXISTING WATER MAIN TO BE ABANDONED DISCOVERED DURING CONSTRUCTION SHALL BE REPLACED THESE NEW SERVICE LINES ARE TO TIE INTO THE NEW WATER MAIN AND BE RECONNECTED TO THE EXISTING WATER METER
12) ALL EXISTING WATER SERVICES SHALL BE EXTENDED AND METER BOXES RELOCATED AS REQUIRED BEYOND THE LIMITS OF CONSTRUCTION THE SERVICES SHALL BE CONNECTED TO THE NEW WATER MAIN AFTER SAID MAIN HAS BEEN STERILIZED PRESSURE TESTED AND PUT INTO SERVICE IN THE EVENT THAT THE SERVICE LINE IS NOT ACTIVE A NEW WATER SERVICE WILL BE REQUIRED TO BE CONSTRUCTED
13) ALL WATER METERS SHALL BE PURCHASED FROM AUD CONSTRUCTION AND MAINTENANCE DIVISION
14) THE DEVELOPER/CONTRACTOR SHALL LOCATE WATER SERVICES AND VALVES BY ETCHING A W FOR THE WATER SERVICE AND A "V" FOR A VALVE IN THE CURB OR IN THE PAVEMENT IF NO CURB IS AVAILABLE AND HIGHLIGHT THE ETCHING WITH BLUE PAINT PER THE APWA UNIFORM COLOR CODE IN THE EVENT THAT THE VALVE IS LOCATED BEHIND THE CURB OR PAVEMENT INVERT THE "V" MARKING SO THAT IT POINTS TO THE VALVE OUTSIDE THE ROADWAY
15) FIRE HYDRANTS ARE TO BE LOCATED A MINIMUM OF ONE FOOT INSIDE EXISTING RIGHT-OF-WAY WITH A 3 FOOT RADIUS CLEARANCE
16) EXISTING FIRE HYDRANTS AND METERS THAT ARE REMOVED SHALL BE TURNED OVER TO AUD
17) PER AUD'S WATER & SANITARY SEWER SYSTEMS-DESIGN STANDARDS CONSTRUCTION SPECIFICATIONS AND DETAILS:
  a) FOR BACKFLOW INSTALLATIONS FOR NON-RESIDENTIAL DEVELOPMENT A MINIMUM DOUBLE-CHECK BACKFLOW-PREVENTION DEVICE SHALL BE INSTALLED ON THE CUSTOMER'S SIDE OF ALL SERVICES
  b) FIRE LINES REQUIRE A MINIMUM DOUBLE DETECTOR BACKFLOW DEVICE
  c) FOR BACKFLOW INSTALLATIONS FOR RESIDENTIAL DEVELOPMENTS A DUAL CHECK BACKFLOW DEVICE SHALL BE INSTALLED ON THE CUSTOMER'S SIDE OF THE SERVICE LINE AT THE POINT OF TIE-IN TO THE WATER METER
  d) FOR SOME MEDIUM HAZARD TO HIGH HAZARD LOCATIONS A REDUCED PRESSURE ZONE (RPZ) BACKFLOW DEVICE WILL BE REQUIRED
18) BACKFLOW DEVICES SHALL BE TESTED BY A CERTIFIED PERSON WITHIN FIVE (5) WORKING DAYS OF INSTALLATION AND THE RESULTS FURNISHED TO THE AUD BACK FLOW INSPECTOR WITHIN 10 WORKING DAYS OF INSTALLATION PRIOR TO ANY WATER USE AUD SHALL BE NOTIFIED PRIOR TO TESTING CONTACT THE AUGUSTA UTILITIES BACK FLOW INSPECTOR AT 706-722-1639

AUD SEWER NOTES

1 AN AUD INSPECTOR SHALL BE PRESENT OR SECTION LEFT UNCOVERED UNTIL INSPECTED BY THE INSPECTOR WHEN A CORE TAP TIE-IN OCCURS MANHOLE INSTALLED AND ALL REQUIRED TESTING CONTRACTOR IS TO PROVIDE AT LEAST 48 HOUR NOTICE (TWO WORKING DAYS) IN ADVANCE DURING REGULAR WORKING HOURS (8:30 AM TO 5:00 PM MONDAY-FRIDAY EXCLUDING AUGUSTA GEORGIA HOLIDAYS)
2 THE CONTRACTOR IS TO VERIFY THE INVERT ELEVATIONS (I E) OF EXISTING PIPES PRIOR TO BEGINNING CONSTRUCTION
3 SEWER FORCE MAIN SHALL BE PVC DR-18 C-900 OR C-905 AS APPLICABLE OR DIP CLASS 350 EPOXY LINED
4 ALL NEW SEWER LINES SHALL BE INSTALLED PER PIPELINE MANUFACTURER REQUIREMENTS
5 COPPER WIRE (12-GAUGE INSULATED SINGLE STRAND) SHALL BE ATTACHED ALONG TOP OF ALL BURIED SEWER LINES TO FACILITATE TRACEABILITY THE WIRE SHALL RUN ALONG THE TOP OF THE MAIN AND ALONG INDIVIDUAL SERVICE LINES AND BROUGHT UP ON THE OUTSIDE OF ALL MANHOLES CLEANOUTS OR OTHER ABOVE-GROUND FEATURES STUBBING OUT AT THE TOP FOR LOCATING PURPOSES THIS WIRE SHALL BE PROPERLY SPLICED WITH A WATER PROOF CONNECTOR FOR ELECTRICAL CONNECTIVITY AND THEN INSULATED TO PROTECT AGAINST CORROSION (REFERENCE AUD DETAILS WHEN APPLICABLE)
6 DETECTOR TAPE SHALL BE 4 INCHES WIDE AND PLACED 2 FEET ABOVE PIPE ADD SIMILAR DEVICE TO CONDUIT PER AUD DETAIL 4 3
7 ALL TIE-INS TO EXISTING MANHOLES SHALL BE CORED UNLESS OTHERWISE APPROVED BY AUD INSPECTOR
8 ALL MANHOLES REQUIRE K OR N SEAL OR EQUAL RUBBER BOOTS UNLESS OTHERWISE APPROVED BY AUD INSPECTOR
9 NO CONNECTION SHALL BE MADE TO EXISTING WASTEWATER LINES UNTIL THE PROPOSED LINE IS INSPECTED AND APPROVED BY AUD'S ENGINEERING DIVISION
10 ALL WASTEWATER MANHOLES SHALL HAVE AN ELEVATION DROP OF 0 2 FOOT ACROSS THE INLET AND OUTLET INVERTS
11 WASTEWATER CLEAN-OUTS SHALL BE INSTALLED AT ALL INDIVIDUAL SERVICES AS SHOWN IN AUD-DETAILS AND SHALL NOT BE INSTALLED UNDER DRIVEWAYS OR ANY PAVED AREAS WITHOUT PRIOR APPROVAL FROM AUD
12 SERVICE LINES TO SANITARY SEWER MAIN SHALL BE BEDDED PER THESE AUD SPECIFICATIONS AND AUD DETAILS
13 MAXIMUM SANITARY SEWER INFILTRATION SHALL NOT EXCEED 100 GPD/INCH OF PIPE DIAMETER PER MILE
14 THE CONTRACTOR SHALL LOCATE SANITARY SEWER SERVICES BY ETCHING AN S IN THE CURB OR IN THE PAVEMENT IF NO CURB IS AVAILABLE AND HIGHLIGHT THE ETCHING WITH GREEN PAINT PER THE APWA UNIFORM COLOR CODE
15 FINISHED FLOOR ELEVATIONS OF ALL PROPOSED BUILDINGS SHALL BE A MINIMUM OF FIVE (5) FEET ABOVE THE INVERT ELEVATION OF THE WASTEWATER MAIN OR MANHOLE AT THE POINT OF TIE-IN IN INSTANCES WHERE THIS IS NOT POSSIBLE A BACKWATER VALVE SHALL BE INSTALLED IN THE SEWER SERVICE

CERTIFICATION STATEMENTS

"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT CERTIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY 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."

"I CERTIFY THAT THE PERMITTEE'S EROSION SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL) PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTRUBING 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 100003."

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

SCOTT L. JOHNSON P.E. | 0000002172 LEVEL II CERTIFICATION NO. | 2/01/24 EXPIRATION

CIVILDESIGN SOLUTIONS

REVISION BLOCK

BY	DESCRIPTION	DATE

GEORGIA SCOTT L. JOHNSON No. 28302 PROFESSIONAL ENGINEER

CIVILDESIGN SOLUTIONS
371 MAIN STREET
P.O. BOX 603
WARRENTON, GA 30828
706.465.0900 OFFICE
706.465.0909 FAX
civildesignsolutions.com

COVER SHEET

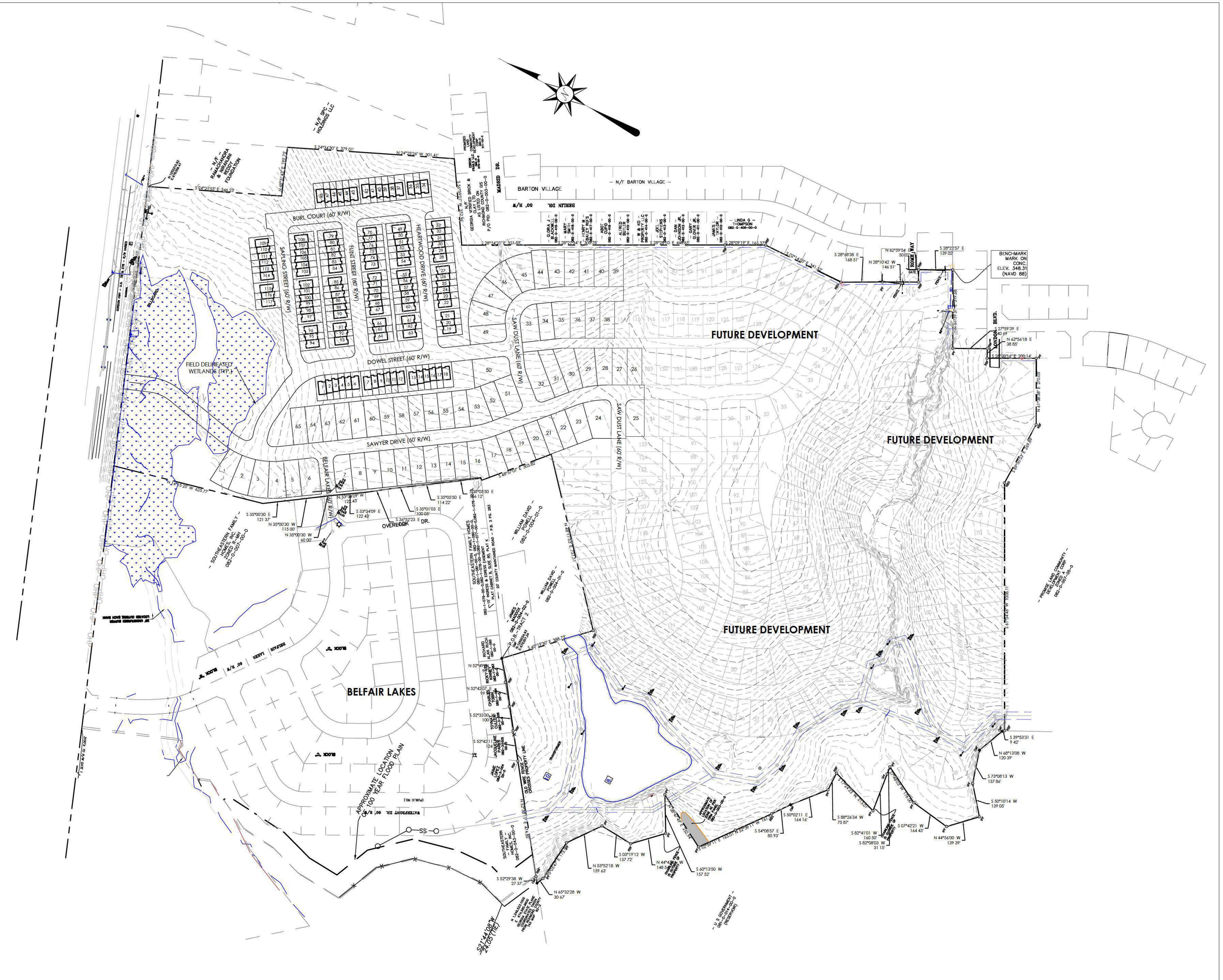
MILLER'S CROSSING - SECTION I
GORDON HIGHWAY
TAX PARCELS 082-0-002-00-0, 082-0-003-00-0, & 082-0-007-00-0 - 143.92 ACRES
AUGUSTA-RICHMOND COUNTY, GEORGIA

DATE:	11/3/21
SCALE:	NTS
DESIGNED BY:	SLJ
CHECKED BY:	LHH
ACAD FILE:	21-082
DRAWING NO:	21-082-1
SHEET NO.	1
OF	31 SHEETS

NOTE:
CONTRACTOR TO REMOVE ALL EXISTING ABOVE GROUND AND BELOW GROUND STRUCTURES AND UTILITIES ON THE SITE UNLESS STATED OTHERWISE.

NOTE:
ANY EXISTING BUILDINGS, PAVING, FENCING, ETC. TO BE REMOVED MUST BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.

NOTE:
ALL EXISTING WATER SERVICE LINES AND APPURTENANCES TO BE REMOVED. ANY EXISTING WATER METER NOT TO BE RE-USED MUST BE RETURNED TO AUGUSTA UTILITIES DEPARTMENT.



GEORGIA811
www.Georgia811.com
Know what's below. Call before you dig.

Soil erosion control measures must be in place prior to any land disturbing activity

200' 0 200' 400'
GRAPHIC SCALE 1" = 200'

REVISION BLOCK

DATE	DESCRIPTION	BY

SCOTT L. JOHNSON PROFESSIONAL ENGINEER GEORGIA
11-3-21

CIVILDESIGN SOLUTIONS
371 MAIN STREET
P.O. BOX 603
WARRENTON, GA 30828
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OVERALL DEVELOPMENT PLAN

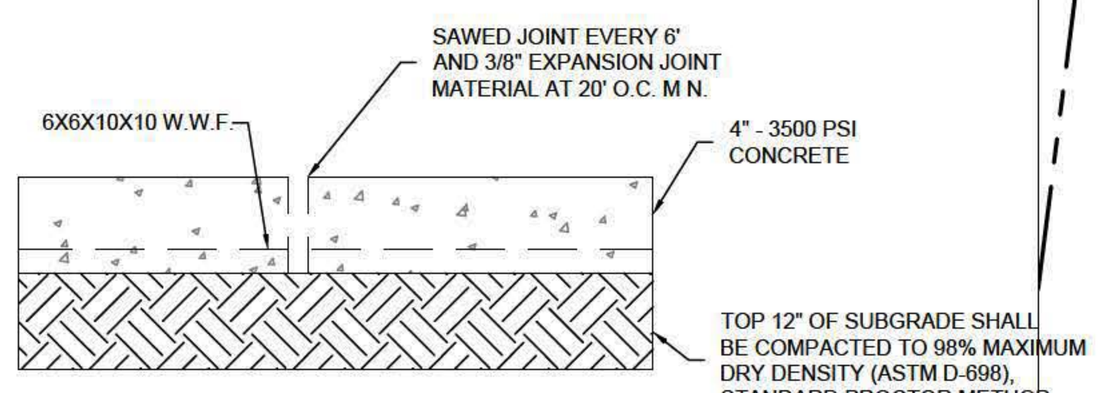
MILLER'S CROSSING - SECTION I
GORDON HIGHWAY
TAX PARCELS 082-0-002-00-0, 082-0-003-00-0, & 082-0-007-00-0 - 143.92 ACRES
AUGUSTA-RICHMOND COUNTY, GEORGIA

DATE:	11/3/21
SCALE:	1"=200'
DESIGNED BY:	SLJ
CHECKED BY:	LHH
ACAD FILE:	21-082
DRAWING NO:	21-082-2

SHEET NO. 2 OF 31 SHEETS

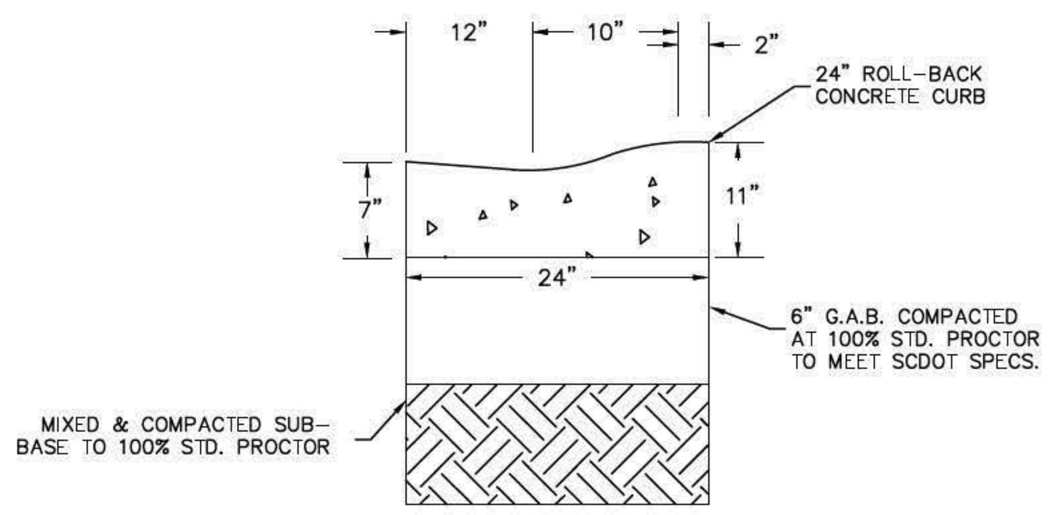
PROJECT DATA

TAX PARCEL NO.:	082-0-003-00-0, 082-0-002-00-0, & 082-0-007-00-0
PARCEL ADDRESS:	2384 GORDON HIGHWAY & 2836 GORDON HIGHWAY
TOTAL PARCEL ACREAGE:	143.92 ACRES
PROPOSED ZONING:	R-1C
NO. TOWNHOME LOTS:	117
TOWNHOME ACREAGE:	25.71 ACRES
NO. 60' FRONTAGE LOTS:	65 (60' X 150' TYPICAL)
PROJECT DENSITY:	3.05 LOTS/ACRE
TH FRONT SETBACK:	15'
TH REAR SETBACK:	25'
TH SIDE SETBACK:	5'
S.F. FRONT SETBACK:	30'
S.F. REAR SETBACK:	30'
S.F. SIDE SETBACK:	7'
DISTURBED ACREAGE:	41.7 ACRES



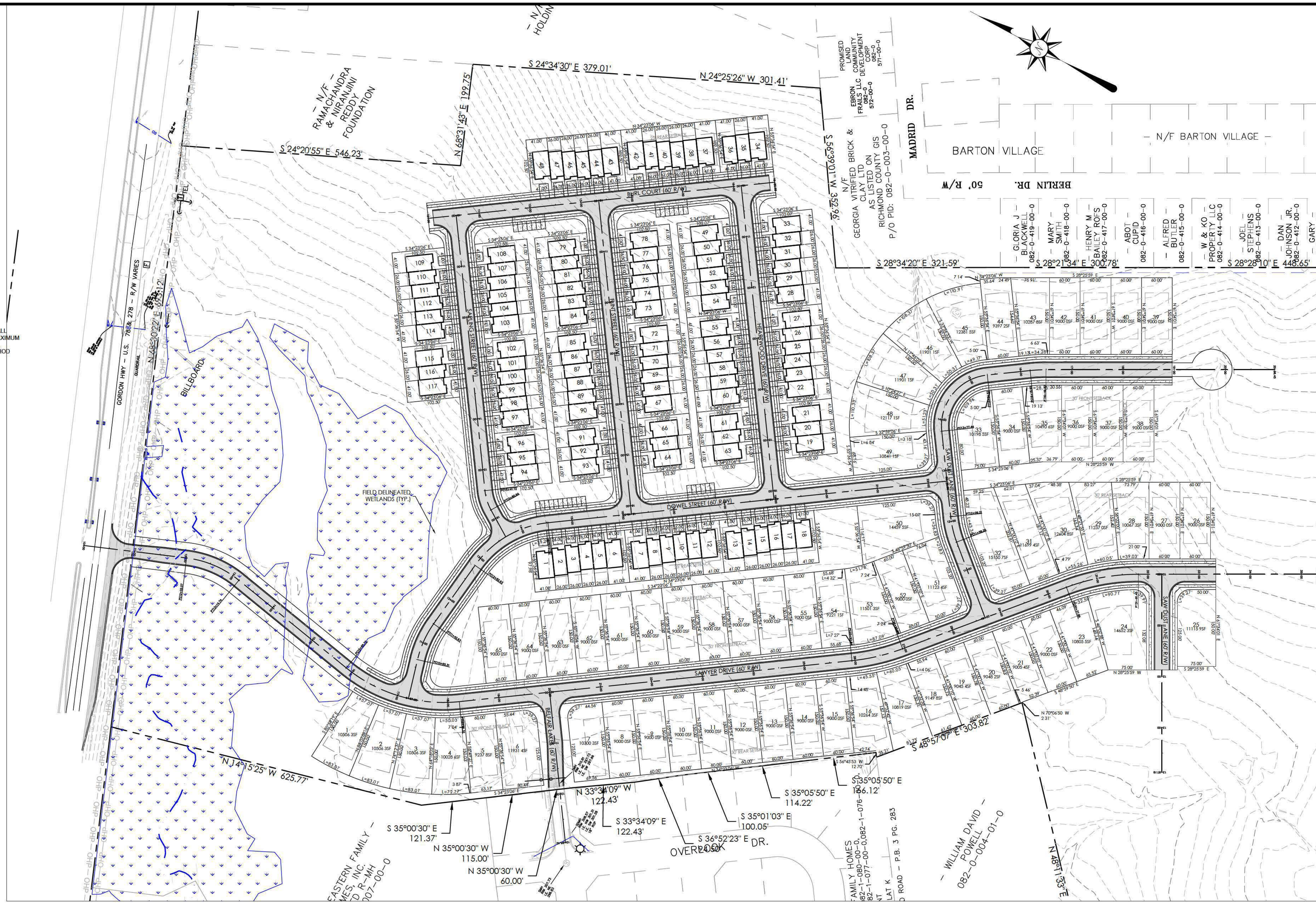
CONCRETE SIDEWALK DETAIL

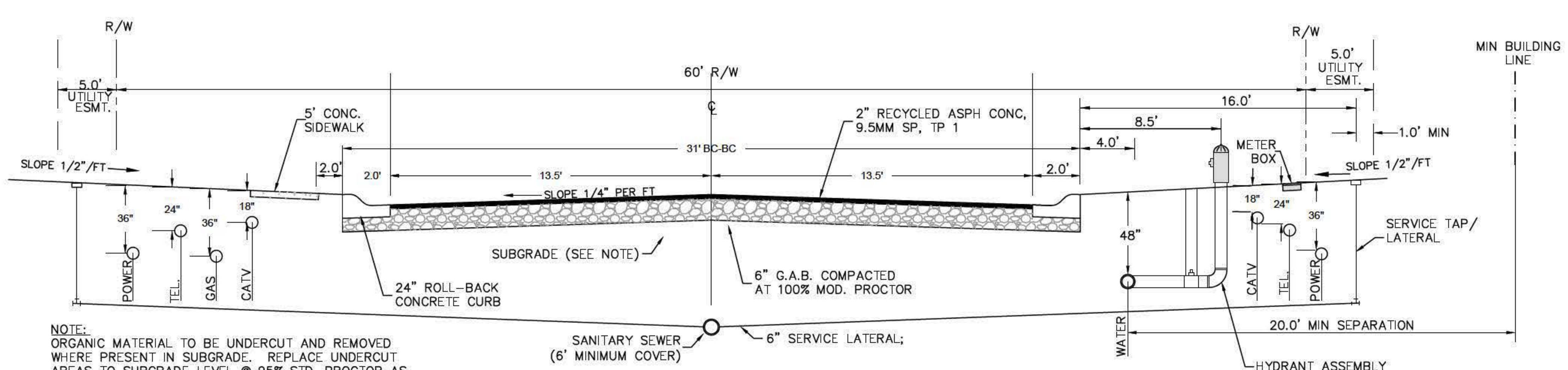
NOT TO SCALE



CURB & GUTTER DETAIL

NOT TO SCALE





NOTE:
ORGANIC MATERIAL TO BE UNDERCUT AND REMOVED WHERE PRESENT IN SUBGRADE. REPLACE UNDERCUT AREAS TO SUBGRADE LEVEL @ 95% STD. PROCTOR AS PER ASTM D-698. COMPACT UPPER 12" OF THIS FILL TO 100% STD. PROCTOR AS PER ASTM D-698.

TYPICAL CROSS SECTION (60' R/W-PRIVATE)

N.T.S.

NOTE:
AN ELECTRONIC COPY OF THE AS-BUILT OF THIS PROJECT WILL BE PROVIDED TO THE AUGUSTA ENGINEERING DEPARTMENT PRIOR TO ANY C.O. BEING ISSUED.

GRAPHIC SCALE 1" = 100'

REVISION BLOCK

DATE	DESCRIPTION	BY

11-3-21

CIVILDESIGN SOLUTIONS
371 MAIN STREET
P.O. BOX 603
WARRENTON, GA 30828
706.465.0900 OFFICE
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civildesignsolutions.com

SECTION I PLAN

MILLER'S CROSSING - SECTION I
GORDON HIGHWAY
TAX PARCELS 082-0-002-00-0, 082-0-003-00-0, & 082-0-007-00-0 - 143.92 ACRES
AUGUSTA-RICHMOND COUNTY, GEORGIA

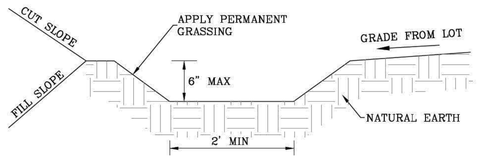
DATE:	11/3/21
SCALE:	1"=100'
DESIGNED BY:	SLJ
CHECKED BY:	LHH
ACAD FILE:	21-082
DRAWING NO:	21-082-3

SHEET NO. 3 OF 31 SHEETS

NOTE:
NO FENCES SHALL BE INSTALLED THAT MAY OBSTRUCT MAINTENANCE OF THE STORM SWALES ALONG PROPERTY LINES.

NOTE:
ALL STOP SIGNS TO BE 30" REFLECTIVE R1-1.
STREET NAME SIGNS TO BE 2 SIDED 6" REFLECTIVE

NOTE:
FILL AREAS SHALL BE PREPARED BEFORE ACCEPTING FILL MATERIAL BY REMOVING ALL TOPSOIL AND ORGANIC MATTER. FILL MATERIAL SHALL BE FREE OF LARGE STONES, CONCRETE, AND CLAY LUMPS. ROOTS, STUMPS AND OTHER DECOMPOSING MATERIALS WILL NOT BE PERMITTED. FILL SHALL BE PLACED IN 6" LIFTS AND COMPACTED TO 95% MOD. PROCTOR MAXIMUM DENSITY. THE CONTRACTOR SHALL EMPLOY A SOILS TESTING FIRM TO PERFORM A SUFFICIENT NUMBER OF TESTS TO CERTIFY COMPACTION REQUIREMENTS HAVE BEEN MET. THESE TESTS SHALL BE AT THE CONTRACTOR'S EXPENSE.



DRAINAGE SWALE DETAIL
(NTS)

STORM STRUCTURE SCHEDULE

STRUCTURE #	TYPE	I.E. IN (UPSTREAM STR #)		I.E. OUT	TOP ELEV.
1	F.E. SECTION	---	---	307.46	---
2	CONC. RISER	---	---	308 00	318 00
3	F.E. SECTION	---	---	312 00	---
4	S.W. TRAP	---	333 07(5)	327 00	339 07
5	S.W. TRAP	---	---	339 37	345 37
6	S.W. TRAP	---	---	346 31	352 31
7	S.W. TRAP	---	---	355 53	361 53
8	S.W. TRAP	---	---	356 53	361 53
9	WEIR INLET	---	---	357 50	362 00
10	WEIR INLET	---	---	366 50	370 50
11	WEIR INLET	---	---	349 50	353 50
12	F.E. SECTION	---	---	310 00	---
13	WEIR INLET	---	321.50(14)	315 00	332 50
14	S.W. TRAP	---	---	324 26	331 76
15	S.W. TRAP	---	---	324 76	331 76
16	WEIR INLET	---	---	327 00	332 00
17	S.W. TRAP	---	---	340 27	347 77
18	S.W. TRAP	---	---	340 77	347 77
19	WEIR INLET	---	---	343 00	348 00
20	S.W. TRAP	---	---	354 00	361 50
21	S.W. TRAP	---	---	354 50	361 50
22	WEIR INLET	---	---	356 50	361 50
23	WEIR INLET	---	---	366 00	371 00
24	F.E. SECTION	---	---	309 00	---
25	WEIR INLET	---	---	309 36	320 00
26	S.W. TRAP	---	---	310 24	324 51
27	S.W. TRAP	---	---	311 05	321 74
28	S.W. TRAP	---	---	312.14	318 86
29	S.W. TRAP	---	---	312.48	318 86
30	WEIR INLET	---	---	313 66	323 50
31	S.W. TRAP	---	---	315 37	321 53
32	S.W. TRAP	---	---	316 09	319 09
33	S.W. TRAP	---	---	319.40	325.40
34	S.W. TRAP	---	---	324.97	330.97
35	S.W. TRAP	---	---	330 76	336 76
36	S.W. TRAP	---	---	333 87	341 87
37	S.W. TRAP	---	---	334.98	340.98
38	S.W. TRAP	---	---	337 61	343 61
39	S.W. TRAP	---	---	341 51	347 51
40	WEIR INLET	---	---	342 00	346 00
41	S.W. TRAP	---	---	336.17	341.17
42	WEIR INLET	---	---	339 00	343 00
43	S.W. TRAP	---	---	332 01	338 01
44	S.W. TRAP	---	---	327 03	332 03
45	WEIR INLET	---	---	328 00	332 00
46	S.W. TRAP	---	---	321 03	326 03
47	WEIR INLET	---	---	323 50	327 50
48	S.W. TRAP	---	---	314 50	320 50
49	S.W. TRAP	---	---	324.93	330.93
50	S.W. TRAP	---	---	327.12	334.12
51	WEIR INLET	---	---	330 00	336 00
52	S.W. TRAP	---	---	338.93	344.93
53	S.W. TRAP	---	---	341.10	348.10
54	S.W. TRAP	---	---	345 34	351 34
55	S.W. TRAP	---	---	351.43	357.43
56	S.W. TRAP	---	---	353 68	358 68
57	WEIR INLET	---	---	346 00	350 00
58	WEIR INLET	---	---	349 50	353 50
59	WEIR INLET	---	---	334 50	338 50
60	S.W. TRAP	---	---	326 74	332 74
61	WEIR INLET	---	---	319 50	323 50
62	F.E. SECTION	---	---	296 00	---
63	D.W. TRAP	---	---	296.11	301 25
64	D.W. TRAP	---	---	296.41	301 25
65	F.E. SECTION	---	---	296 52	---
66	S.W. TRAP	---	---	298 60	303 81
67	S.W. TRAP	---	---	300 23	305 23
68	S.W. TRAP	---	---	303 25	308 25
69	HEADWALL	---	---	289 20	---
70	HEADWALL	---	294.20	---	---
71	HEADWALL	---	---	297 00	---
72	HEADWALL	---	297.80	---	---

STORM PIPING SCHEDULE

OUTLET STR.	INLET STR.	PIPE DESCRIPTION	Q25 (CFS)	CAPACITY
1	2	54'-24" RCP @ 1 00%		
3	4	151'-18" RCP @ 9.93%	9.36	33.10
4	5	96'-18" RCP @ 6 56%	8.93	26.90
5	6	109'-18" RCP @ 6.37%	8.26	26.50
6	7	186'-18" RCP @ 4.96%	6.01	23.38
7	8	34'-18" RCP @ 2.94%	0.83	18.01
7	9	115'-18" RCP @ 1.71%	3.05	13.74
9	10	186'-18" RCP @ 4.84%	1.60	23.10
6	11	116'-18" RCP @ 2.75%	1.32	17.41
12	13	51'-24" RCP @ 9 80%	17 56	70.82
13	14	113'-24" RCP @ 2.44%	16 85	35.35
14	15	34'-24" RCP @ 1.47%	15 58	27.43
15	16	111'-24" RCP @ 2.02%	14.13	32.13
16	17	136'-24" RCP @ 9.76%	12 63	70.65
17	18	34'-24" RCP @ 1.47%	11 21	27.43
18	19	111'-18" RCP @ 2.01%	9.64	14.88
19	20	136'-18" RCP @ 8.09%	7.97	29.87
20	21	34'-18" RCP @ 1.47%	6.49	12.73
21	22	116'-18" RCP @ 1.72%	4.84	13.79
22	23	140'-18" RCP @ 6.79%	2.39	27.35
24	25	36'-42" RCP @ 1 00%	60 85	100.6
25	26	176'-42" RCP @ 0.50%	61 29	71.14
26	27	126'-42" RCP @ 0.64%	61 07	80.67
27	28	109'-36" RCP @ 1.00%	38 01	66.69
28	29	34'-36" RCP @ 1 00%	36 53	66.69
29	30	118'-36" RCP @ 1 020%	35 57	66.69
30	31	171'-36" RCP @ 1.00%	34.47	66.69
31	32	72'-18" RCP @ 1 00%	2.60	10.50
31	33	240'-30" RCP @ 1.68%	31 68	53.14
33	34	240'-24" RCP @ 2.32%	27 04	34.46
34	35	220'-24" RCP @ 2.63%	22 80	36.69
35	36	184'-24" RCP @ 1.69%	18 34	29.40
36	37	93'-24" RCP @ 1.19%	17 22	24.71
37	38	233'-18" RCP @ 1.13%	9.27	11.16
38	39	126'-18" RCP @ 310%	2.83	18.48
38	40	167'-18" RCP @ 2.63%	4.66	17.03
37	41	38'-18" RCP @ 3.13%	2.15	18.58
37	42	219'-18" RCP @ 1.84%	5.04	14.23
37	43	59'-18" RCP @ 2.12%	2.56	15.29
34	44	53'-18" RCP @ 3.08%	2.56	20.70
33	45	166'-18" RCP @ 1.83%	1.53	14.19
33	46	53'-18" RCP @ 3.08%	2.41	18.42
33	47	166'-18" RCP @ 2.47%	1.90	16.50
27	48	111'-30" RCP @ 3.11%	25.27	72.30
48	49	115'-24" RCP @ 9.07%	23.25	68.12
49	50	75'-24" RCP @ 2.92%	17.65	38.65
50	51	115'-24" RCP @ 2.50%	15.97	35.79
51	52	115'-18" RCP @ 7.77%	13.76	29.26
52	53	75'-18" RCP @ 2.89%	10.30	17.86
53	54	85'-18" RCP @ 4.99%	5.56	23.45
54	55	209'-18" RCP @ 2.91%	4.70	17.93
55	56	66'-18" RCP @ 3.41%	1.00	19.39
57	58	116'-18" RCP @ 4.22%	3.09	21.58
58	59	108'-18" RCP @ 3.24%	2.17	18.90
59	60	108'-18" RCP @ 4.17%	1.84	21.44
60	61	49'-18" RCP @ 3.69%	3.00	20.18
61	62	108'-18" RCP @ 4.63%	1.74	22.59
62	63	21'-30" RCP @ 0.52%	15.81	29.68
63	64	60'-30" RCP @ 0.50%	14.13	29.00
64	65	21'-30" RCP @ 0.52%	7.22	29.68
65	66	35'-18" RCP @ 1 00%	---	---
73	67	60'-18" RCP @ 2.72%	3.19	17.31
66	68	110'-18" RCP @ 4.23%	2.71	21.59
69	70	80'-78" RCP @ 2.72%(EMBED 20%)	3.19	17.31
71	72	80'-24" RCP @ 1.00%(EMBED 20%)	2.71	21.59

GRAPHIC SCALE 50' 0 50' 100' (1" = 50')

REVISION BLOCK

DATE	DESCRIPTION	BY

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 26302 SCOTT L. JOHNSON
11-3-21

CIVILDESIGN SOLUTIONS
371 MAIN STREET
P.O. BOX 603
WARRENTON, GA 30828
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SITE PLAN

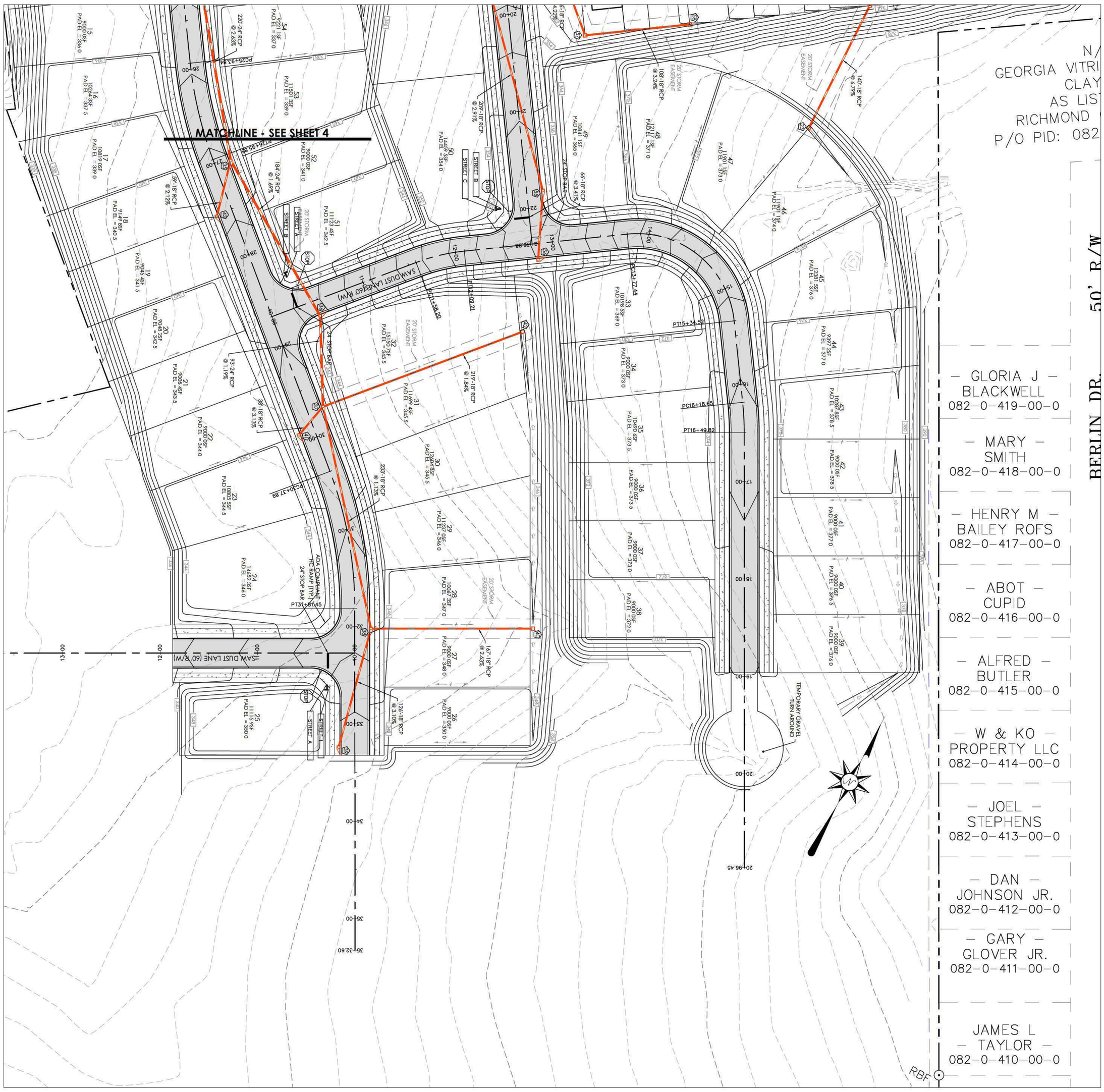
MILLER'S CROSSING - SECTION I
GORDON HIGHWAY
TAX PARCELS 082-0-002-00-0, 082-0-003-00-0,
& 082-0-007-00-0 - 143.92 ACRES
AUGUSTA-RICHMOND COUNTY, GEORGIA

DATE:	11/3/21
SCALE:	1"=50'
DESIGNED BY:	SLJ
CHECKED BY:	LHH
ACAD FILE:	21-082
DRAWING NO:	21-082-4
SHEET NO.	4
OF	31 SHEETS

NOTE:
NO FENCES SHALL BE INSTALLED THAT MAY OBSTRUCT MAINTENANCE OF THE STORM SWALES ALONG PROPERTY LINES.

NOTE:
ALL STOP SIGNS TO BE 30" REFLECTIVE R1-1.
STREET NAME SIGNS TO BE 2 SIDED 6"
REFLECTIVE

NOTE:
FILL AREAS SHALL BE PREPARED BEFORE ACCEPTING FILL MATERIAL BY REMOVING ALL TOPSOIL AND ORGANIC MATTER. FILL MATERIAL SHALL BE FREE OF LARGE STONES, CONCRETE, AND CLAY LUMPS. ROOTS, STUMPS AND OTHER DECOMPOSING MATERIALS WILL NOT BE PERMITTED. FILL SHALL BE PLACED IN 6" LIFTS AND COMPACTED TO 95% MOD. PROCTOR MAXIMUM DENSITY. THE CONTRACTOR SHALL EMPLOY A SOILS TESTING FIRM TO PERFORM A SUFFICIENT NUMBER OF TESTS TO CERTIFY COMPACTION REQUIREMENTS HAVE BEEN MET. THESE TESTS SHALL BE AT THE CONTRACTOR'S EXPENSE.



SHEET NO. 5 OF 31 SHEETS

ACAD FILE: 21-082
DRAWING NO: 21-082-5

DATE: 11/3/21
SCALE: 1"=50'
DESIGNED BY: SLJ
CHECKED BY: LHH

SITE PLAN

MILLER'S CROSSING - SECTION I

GORDON HIGHWAY
TAX PARCELS 082-0-002-00-0, 082-0-003-00-0,
& 082-0-007-00-0 - 143.92 ACRES
AUGUSTA-RICHMOND COUNTY, GEORGIA

CIVILDESIGN SOLUTIONS
371 MAIN STREET
P.O. BOX 603
WARRENTON, GA 30828
706.465.0900 OFFICE
706.465.0909 FAX
civildesignsolutions.com

GEORGIA REGISTERED No. 26302 PROFESSIONAL ENGINEER SCOTT L. JOHNSON
11-3-21

REVISION BLOCK

DATE	DESCRIPTION	BY

NOTE:
NO FENCES SHALL BE INSTALLED THAT MAY OBSTRUCT MAINTENANCE OF THE STORM SWALES ALONG PROPERTY LINES.

NOTE:
ALL STOP SIGNS TO BE 30" REFLECTIVE R1-1.
STREET NAME SIGNS TO BE 2 SIDED 6" REFLECTIVE

NOTE:
FILL AREAS SHALL BE PREPARED BEFORE ACCEPTING FILL MATERIAL BY REMOVING ALL TOPSOIL AND ORGANIC MATTER. FILL MATERIAL SHALL BE FREE OF LARGE STONES, CONCRETE, AND CLAY LUMPS, ROOTS, STUMPS AND OTHER DECOMPOSING MATERIALS WILL NOT BE PERMITTED. FILL SHALL BE PLACED IN 6" LIFTS AND COMPACTED TO 95% MOD. PROCTOR MAXIMUM DENSITY. THE CONTRACTOR SHALL EMPLOY A SOILS TESTING FIRM TO PERFORM A SUFFICIENT NUMBER OF TESTS TO CERTIFY COMPACTION REQUIREMENTS HAVE BEEN MET. THESE TESTS SHALL BE AT THE CONTRACTOR'S EXPENSE.

50' 0 50' 100'
GRAPHIC SCALE 1" = 50'

REVISION BLOCK

BY	DESCRIPTION	DATE

GEORGIA REGISTERED PROFESSIONAL ENGINEER SCOTT L. JOHNSON 11-3-21

CIVILDESIGN SOLUTIONS
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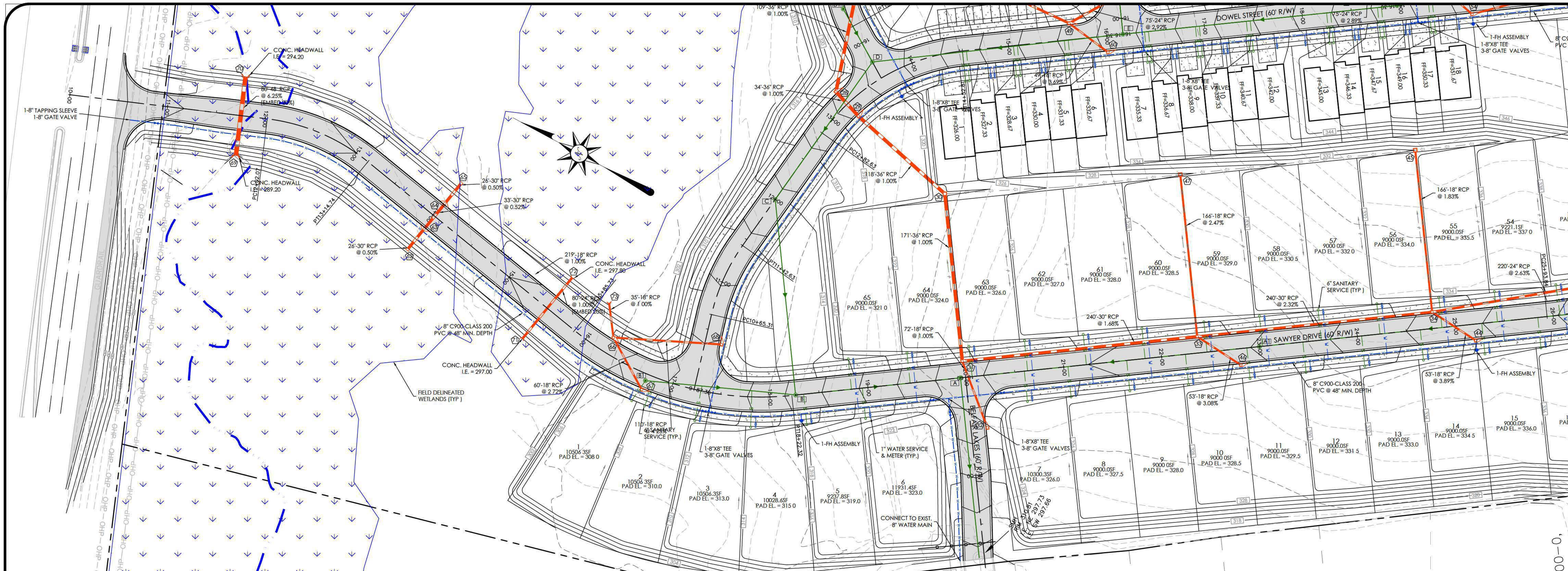
civildesignsolutions.com

SITE PLAN

MILLER'S CROSSING - SECTION I

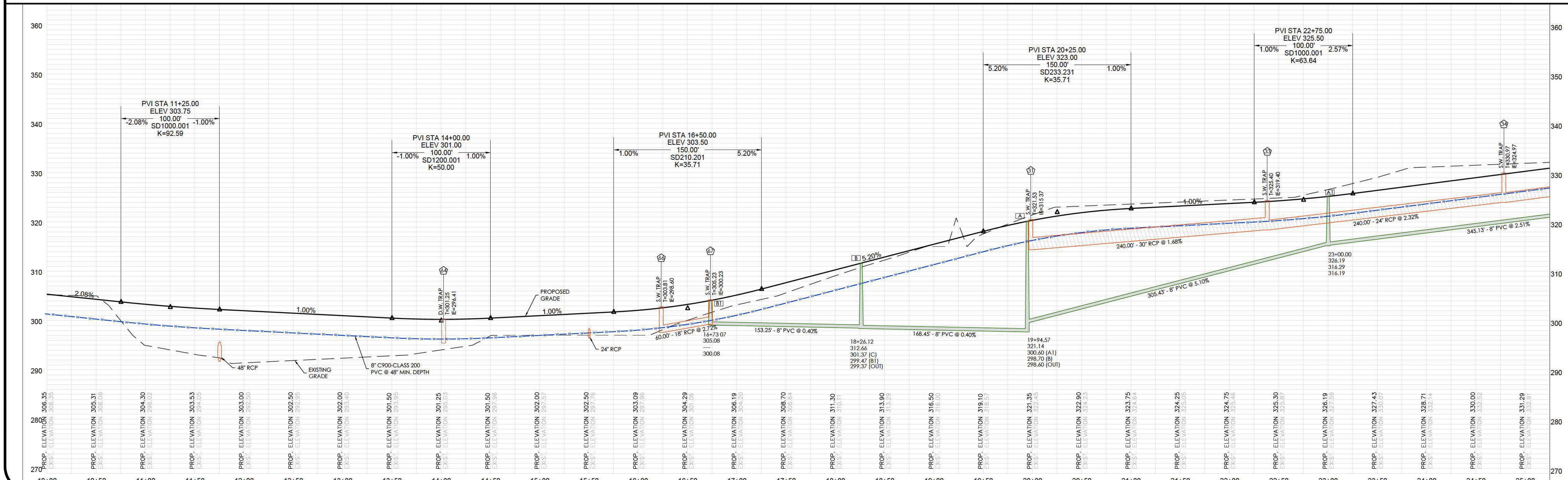
GORDON HIGHWAY
TAX PARCELS 082-0-002-00-0, 082-0-003-00-0,
& 082-0-007-00-0 - 143.92 ACRES
AUGUSTA-RICHMOND COUNTY, GEORGIA

DATE:	11/3/21
SCALE:	1"=50'
DESIGNED BY:	SLJ
CHECKED BY:	LHH
ACAD FILE:	21-082
DRAWING NO:	21-082-6
SHEET NO.	6
OF	31 SHEETS



SAWYER DRIVE (PUBLIC, 60'R/W)

SCALE: 1"= 50' (HORIZONTAL)
1"= 10' (VERTICAL)



REVISION BLOCK

DATE	DESCRIPTION	BY

SCOTT L. JOHNSON PROFESSIONAL ENGINEER GEORGIA No. 28302
11-3-21

CIVILDESIGN SOLUTIONS
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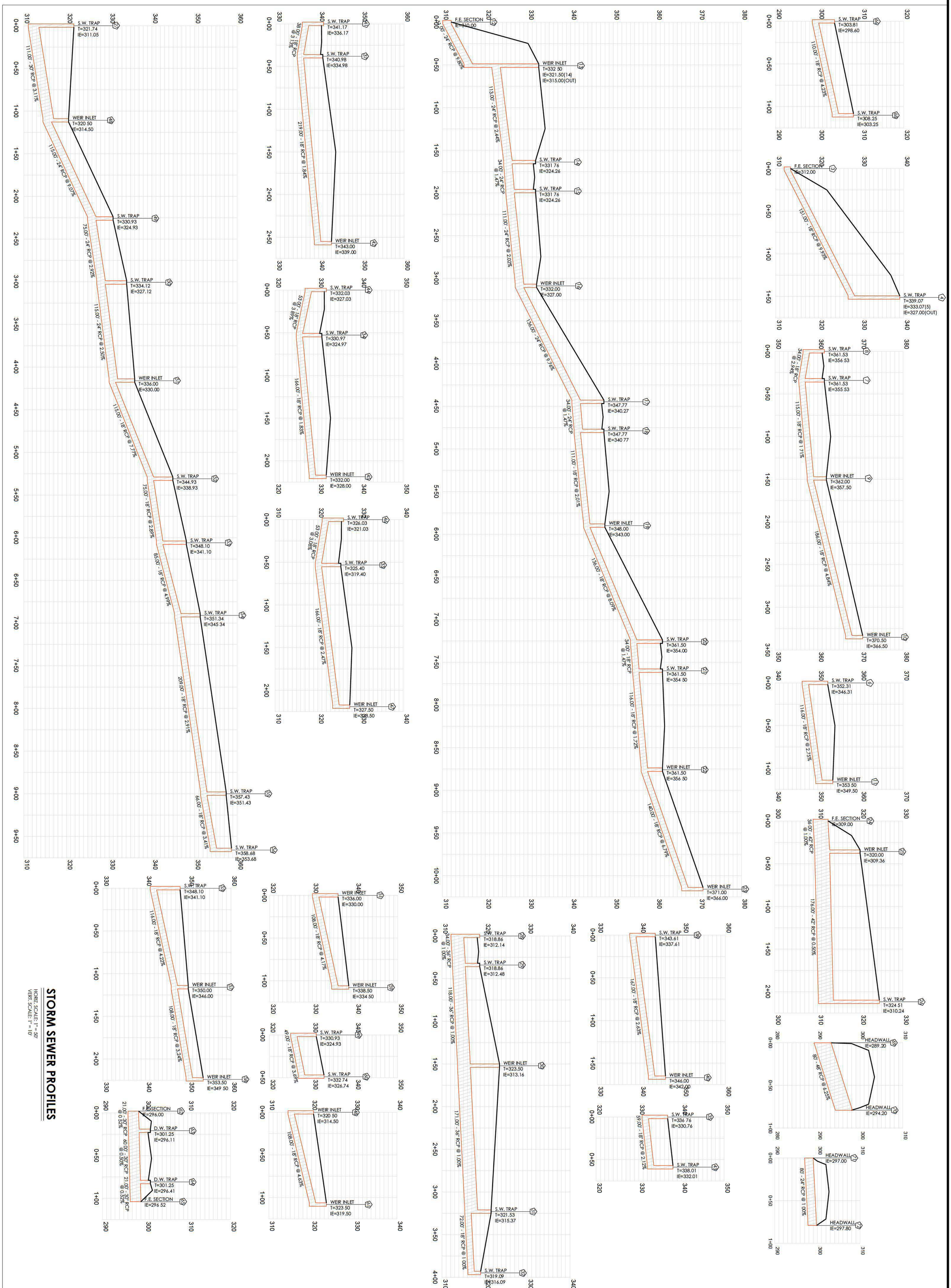
PLAN & PROFILE

MILLER'S CROSSING - SECTION I

GORDON HIGHWAY
TAX PARCELS 082-0-002-00-0, 082-0-003-00-0,
& 082-0-007-00-0 - 143.92 ACRES
AUGUSTA-RICHMOND COUNTY, GEORGIA

DATE:	11/3/21
SCALE:	1"=50'
DESIGNED BY:	SLJ
CHECKED BY:	LHH
ACAD FILE:	21-082
DRAWING NO:	21-082-10



STORM SEWER PROFILES

HORIZ. SCALE: 1" = 50'
VERT. SCALE: 1" = 10'

SHEET NO. 20 OF 31 SHEETS

ACAD FILE: 21-082
DRAWING NO: 21-082-20

CHECKED BY: LHH
DESIGNED BY: SLJ
SCALE: 1"=50'
DATE: 11/3/21

PROFILES

MILLER'S CROSSING - SECTION I

GORDON HIGHWAY
TAX PARCELS 082-0-002-00-0, 082-0-003-00-0,
& 082-0-007-00-0 - 143.92 ACRES
AUGUSTA-RICHMOND COUNTY, GEORGIA

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GEORGIA REGISTERED No. 26302 PROFESSIONAL ENGINEER SCOTT L. JOHNSON
11-3-21

REVISION BLOCK

DATE	DESCRIPTION	BY

NOTE:
WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.

NOTE:
BECAUSE THIS PROJECT DOES NOT DISCHARGE INTO OR WITHIN 1 MILE OF AN IMPAIRED STREAM SEGMENT, NO TMDL IMPLEMENTATION PLAN FOR SEDIMENT HAS BEEN FINALIZED.

NOTE:
THERE ARE NO BUFFER ENCROACHMENTS OR WETLAND IMPACTS FOR THIS PROJECT. IT IS THE OWNERS RESPONSIBILITY TO OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION COMMENCEMENT.

NOTE:
A BUFFER VARIANCE IS NOT REQUIRED FOR THIS PROJECT DUE TO THE FACT THAT ROADWAY AND UTILITY CROSSINGS ARE EXEMPT FROM VARIANCE REQUIREMENTS.

NOTE:
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.

NOTE:
THIS PROJECT DOES NOT DISCHARGE INTO AN IMPAIRED STREAM SEGMENT, OR WITHIN 1 LINEAR MILE UPSTREAM OF AND WITHIN THE SAME WATERSHED AS ANY PORTION OF A BIOTA IMPAIRED STREAM SEGMENT.

PRIMARY PERMITEE

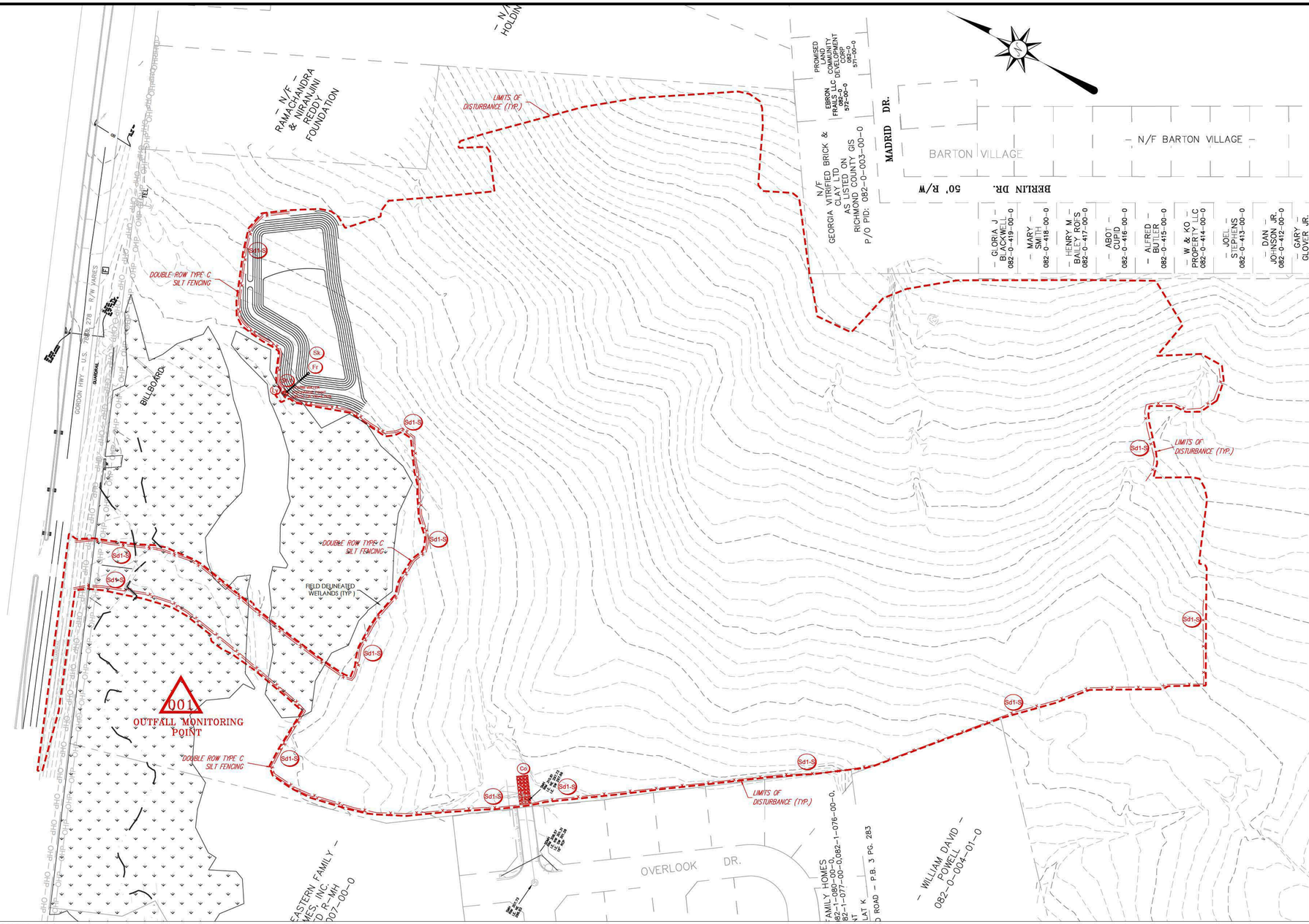
SOUTHEASTERN DEVELOPMENT
2743 PERIMETER PKWY. BLDG. 100 SUITE 370
AUGUSTA, GA 30909
PHONE: (706) 854-6710

24 HOUR EMERGENCY CONTACT

MATT MILLS
2743 PERIMETER PKWY. BLDG. 100 SUITE 370
AUGUSTA, GA 30909
PHONE: (706) 854-6710

DUST CONTROL NOTES

BMP'S WILL BE IMPLEMENTED TO EFFECTIVELY REDUCE THE GENERATION OF DUST AND PREVENT AIRBORNE SEDIMENT FROM ESCAPING THE SITE. DISTURBED AREAS SHALL BE PROVIDED WITH APPROPRIATE GROUND COVER AS SPECIFIED ON THE PLANS TO EFFECTIVELY STABILIZE THE SOIL SURFACE. THE BMP'S APLLIED TO CONTROL DUST GENERATION ON THIS SITE WILL INCLUDE TEMPORARY GRASSING, MULCH, ROCK, AND IRRIGATION. ROCK WILL BE USED FOR G.A.B. WHERE PAVEMENT WILL BE PLACED AND CONSTRUCTION EXITS, AS SPECIFIED ON THE PLANS, AND WILL HELP MINIMIZE DUST CREATED BY CONSTRUCTION VEHICLES. AREAS OUTSIDE OF THOSE BEING PAVED WILL BE AT LEAST TEMPORARILY SEEDED AND MULCHED TO STABILIZED AND COVER DISTURBED SURFACES. IN AREAS WHERE ADDITIONAL BMP'S ARE NEEDED TO REDUCE DUST GENERATION, SUFFICIENTLY WETTING OR IRRIGATING THE GROUND SURFACE WITH WATER SHOULD EFFECTIVELY LIMIT AIRBOURNE SEDIMENT ON AND AROUND THE SITE. SEE THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA FOR MORE DETAILS AND SPECIFICATIONS.



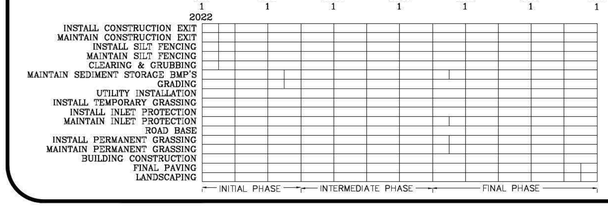
******* MAINTENANCE STATEMENTS *******

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.

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.

THE CONSTRUCTION SCHEDULE SHOWN BELOW IS ONLY APPROXIMATE. SOIL EROSION AND SEDIMENT CONTROL STRUCTURES WILL BE INSTALLED IN THE ORDER SHOWN ABOVE AND/OR AS DIRECTED BY AUGUSTA-RICHMOND COUNTY.

CONSTRUCTION SCHEDULE



NPDES NOTES

1. CURRENT LAND USE = PASTURE
   PROPOSED LAND USE = RESIDENTIAL
2. ON-SITE DRAINAGE AREA = 41.7 ACRES
   OFF-SITE DRAINAGE AREA = 0.00 ACRES
3. NEW IMPERVIOUS DRAINAGE AREA = 10.5 ACRES
4. RECEIVING BASIN = BUTLER CREEK
5. PRE-DEVELOPED SITE RUN-OFF COEFFICIENT = 61 (ROLLING, CLAY, PASTURE)
   POST-DEVELOPED SITE RUN-OFF COEFFICIENT = 76 (HIGH DENSITY SUBDIVISION)

PROJECT LOCATION AND DESCRIPTION

The site is located along Gordon Highway near its intersection with Jimie Dyess Pkwy. in Augusta-Richmond County, Georgia. The site consists of mostly wooded and partial scrub brushed sloped terrain. The intent of this plan is to construct a residential development along with the associated roadways and utilities. There will be 65 single family residential lots constructed and 117 townhomes constructed. The approximate disturbed acreage is 41.7 acres.

NOTE:
ALL TAXES OWED ON THIS PROPERTY HAVE BEEN PAID IN FULL.

NOTE:
THERE ARE NO STATE WATERS ON OR WITHIN 200' OF THIS PROPERTY.

NOTE:
THE CONSTRUCTION EXIT IS LOCATED AT LAT. 33.441670 AND LON. 82.101670°.

NOTE:
ALL CONSTRUCTION SHALL COMPLY WITH NPDES PERMIT GAR 100003.

NOTE:
ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH AND TEMPORARY SEEDING. (NO EXCEPTION FOR WORK CONTINUING WITHIN 21 DAYS.)

Soil erosion control measures must be in place prior to any land disturbing activity

E,S&PC PLAN DESIGNER

E,S&PC PLANS PREPARED BY CERTIFIED DESIGN PROFESSIONAL:

SCOTT L. JOHNSON, P.E. — 0000002171 LEVEL II CERTIFICATION NO. — 2/01/24 EXPIRATION

* 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.

GRAPHIC SCALE 100' 0 100' 200' 1" = 100'

REVISION BLOCK

BY	DESCRIPTION	DATE

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 26302 SCOTT L. JOHNSON 11-3-21

CIVILDESIGN SOLUTIONS
706.465.0900 OFFICE
706.465.0909 FAX
civildesignsolutions.com
371 MAIN STREET
P.O. BOX 603
WARRENTON, GA 30828

INITIAL E,S&PC PLAN

MILLER'S CROSSING - SECTION I

GORDON HIGHWAY
TAX PARCELS 082-0-002-00-0, 082-0-003-00-0, & 082-0-007-00-0 - 143.92 ACRES
AUGUSTA-RICHMOND COUNTY, GEORGIA

DATE:	11/3/21
SCALE:	1"=100'
DESIGNED BY:	SLJ
CHECKED BY:	LHH
ACAD FILE:	21-082
DRAWING NO:	21-082-22

SHEET NO. 22 OF 31 SHEETS

MAINTENANCE PRACTICES

1. ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER. IF REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF THE REPORT.
2. THE SITE SUPERINTENDENT WILL ASSIGN AT LEAST 2 INDIVIDUALS WHO WILL BE RESPONSIBLE FOR MAINTENANCE OF THE EROSION AND SEDIMENTATION CONTROL PRACTICES. THE PERSONNEL SELECTED WILL RECEIVE TRAINING ON PROPER INSTALLATION AND MAINTENANCE PROCEDURES.
3. EROSION AND SEDIMENTATION CONTROLS WILL BE MAINTAINED AS SPECIFIED IN THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA AND AS SPECIFIED IN THE PLAN FOR THE SITE.

EROSION NOTES

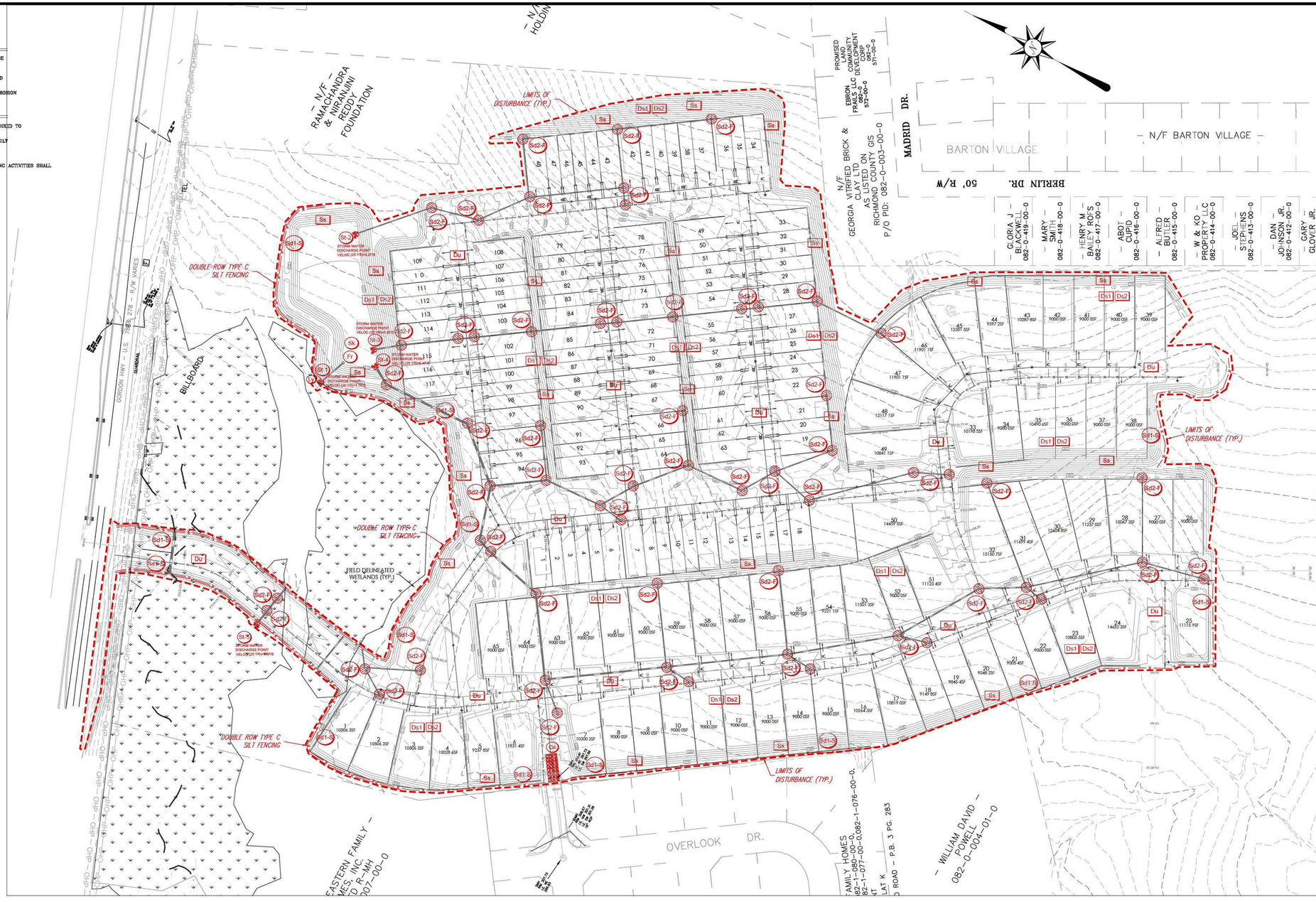
1. ANY DRAINAGE EASEMENTS OR DISTURBED AREAS MUST BE GRASSED AND/OR RIP-RAPPED AS REQUIRED TO CONTROL EROSION.
2. ANY SOIL STOCK PILED ON SITE MUST BE IMMEDIATELY MULCHED AND TEMPORARILY SEEDED AND SILT FENCE MUST BE PLACED AS APPROPRIATE TO PREVENT EROSION.
3. ALL CONSTRUCTION MUST CONFORM TO AUGUSTA-RICHMOND COUNTY STANDARDS.
4. ALL INITIAL PHASE BMP'S MUST BE PLACED PRIOR TO CLEARING & GRUBBING. NO LAND DISTURBING ACTIVITIES SHALL BE DONE UNTIL INITIAL PHASE BMP INSTALLATION IS COMPLETED.

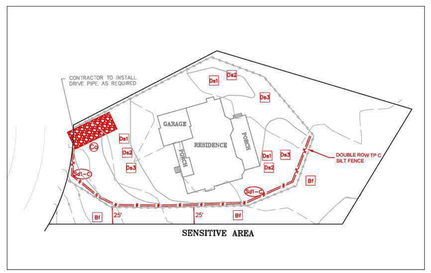
NOTE:
ANY DISTURBED SLOPES STEEPER THAN 2.5:1 SHALL BE PROTECTED WITH EROSION CONTROL MATTING/BLANKETS.

NOTE:
THERE ARE NO STATE WATERS ON OR WITHIN 200' OF THIS PROPERTY.

NOTE:
ALL TAXES OWED ON THIS PROPERTY HAVE BEEN PAID IN FULL.

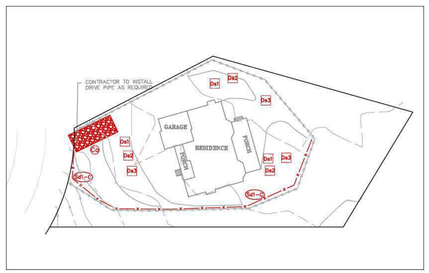
NOTE:
ALL CONSTRUCTION SHALL COMPLY WITH NPDES PERMIT GAR 100003.





E&SC PLAN FOR LOT BORDERING ENVIRONMENTALLY SENSITIVE AREAS

SCALE: 1"= 50'



E&SC PLAN FOR A TYPICAL LOT

SCALE: 1"= 50'

NOTE:
CONTRACTOR SHALL MAINTAIN CONSTRUCTION EXIT AND SILT BARRIERS INSTALLED IN INITIAL PHASE.

NOTE:
ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH AND TEMPORARY SEEDING. (NO EXCEPTION FOR WORK CONTINUING WITHIN 21 DAYS.)

SECONDARY PERMITEE'S ACKNOWLEDGMENT

I HAVE READ, UNDERSTAND AND AGREE TO ABIDE BY THE REQUIREMENTS OUTLINED IN THE ATTACHED "EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN." I AGREE TO INFORM ALL MY EMPLOYEES AND SUBCONTRACTORS OF THE REQUIREMENTS OF THE PLAN AND TO ENSURE THAT MY EMPLOYEES AND SUBCONTRACTORS UNDERSTAND AND FOLLOW THE RULES STATED THEREIN.

SIGNATURE	COMPANY & ADDRESS	RESPONSIBLE FOR

*** EACH SECONDARY PERMITTEE IS TO BE PROVIDED WITH A COPY OF THE PLAN OR PORTION OF THE PLAN APPLICABLE TO THEIR SITE AND EACH SECONDARY PERMITTEE SHALL SIGN THE PLAN OR PORTION OF THE PLAN APPLICABLE TO THEIR SITE.

Soil erosion control measures must be in place prior to any land disturbing activity

E,S&PC PLAN DESIGNER

E,S&PC PLANS PREPARED BY CERTIFIED DESIGN PROFESSIONAL:

SCOTT L. JOHNSON, P.E. — 0000002171 LEVEL II CERTIFICATION NO. — 2/01/24 EXPIRATION

* 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.

100' 0 100' 200'
GRAPHIC SCALE 1" = 100'

REVISION BLOCK

BY	DESCRIPTION	DATE

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 28302 SCOTT L. JOHNSON 11-3-21

CIVILDESIGN SOLUTIONS
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INTERMEDIATE E,S&PC PLAN

MILLER'S CROSSING - SECTION I
GORDON HIGHWAY
TAX PARCELS 082-0-002-00-0, 082-0-003-00-0, & 082-0-007-00-0 - 143.92 ACRES
AUGUSTA-RICHMOND COUNTY, GEORGIA

DATE:	11/3/21
SCALE:	1"=100'
DESIGNED BY:	SLJ
CHECKED BY:	LHH
ACAD FILE:	21-082
DRAWING NO:	21-082-23
SHEET NO.	23
OF	31 SHEETS

STORM DRAIN OUTLET PROTECTION

St — St-1 CALCULATIONS
Outlet Pipe Diameter(Do) = 24" = 2.0'
3 x Do = 6.0'
La(min.) = 12'
W = Do + 0.4La = 6.8' (USE 10.0')
VELOCITY=4.7 FT/S (Tw >.5 Do)
Avg Stone Diameter (d50) = 4"
D = 1.5 x d50 = 6"

St-2 CALCULATIONS
Outlet Pipe Diameter(Do) = 18" = 1.5'
3 x Do = 4.5'
La(min.) = 12'
W = Do + 0.4La = 6.3' (USE 10.0')
VELOCITY=3.2 FT/S (Tw >.5 Do)
Avg Stone Diameter (d50) = 4"
D = 1.5 x d50 = 6"

St-3 CALCULATIONS
Outlet Pipe Diameter(Do) = 24" = 2.0'
3 x Do = 6.0'
La(min.) = 12'
W = Do + 0.4La = 6.8' (USE 10.0')
VELOCITY=4.7 FT/S (Tw >.5 Do)
Avg Stone Diameter (d50) = 4"
D = 1.5 x d50 = 6"

St-4 CALCULATIONS
Outlet Pipe Diameter(Do) = 42" = 3.5'
3 x Do = 10.5'
La(min.) = 12'
W = Do + 0.4La = 8.3' (USE 10.0')
VELOCITY=6.4 FT/S (Tw >.5 Do)
Avg Stone Diameter (d50) = 4"
D = 1.5 x d50 = 6"

St-5 CALCULATIONS
Outlet Pipe Diameter(Do) = 30" = 2.5'
3 x Do = 7.5'
La(min.) = 12'
W = Do + 0.4La = 7.8' (USE 10.0')
VELOCITY=6.4 FT/S (Tw >.5 Do)
Avg Stone Diameter (d50) = 4"
D = 1.5 x d50 = 6"

SEASON	PLANTING RATE
FEB. 15–AUG. 31	4 LBS./AC–WEEPING LOVE GRASS & 50 LBS./AC–SCARIFIED INTERSTATE LESPEDEZA
SEPT. 1–FEB. 14	50 LBS./AC–RYE GRASS, OATS (CEREAL GRAINS) & 75 LBS./AC–UNSCARIFIED INTERSTATE LESPEDEZA

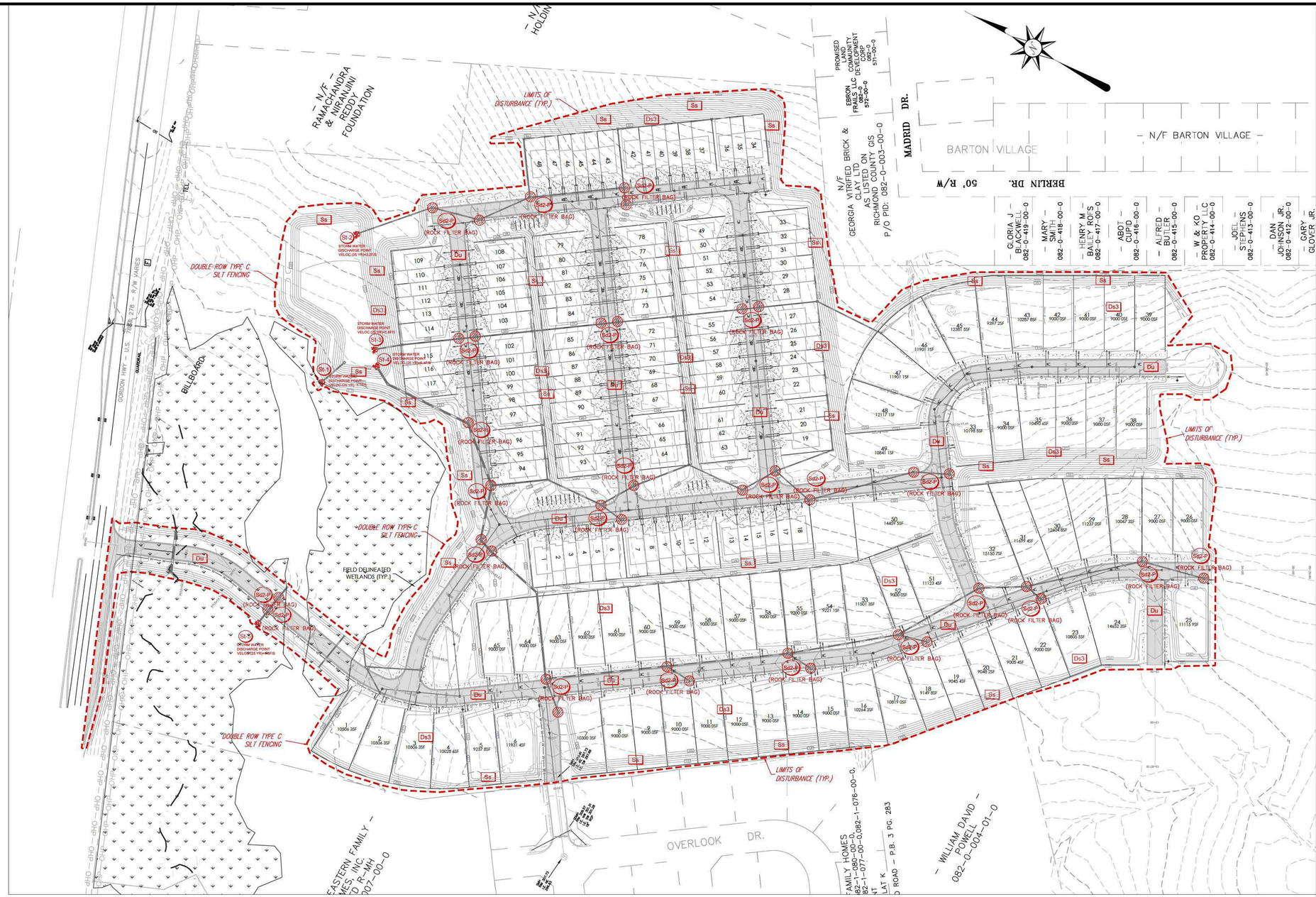
NOTE:
ALL CONSTRUCTION SHALL COMPLY WITH NPDES PERMIT GAR 100003.

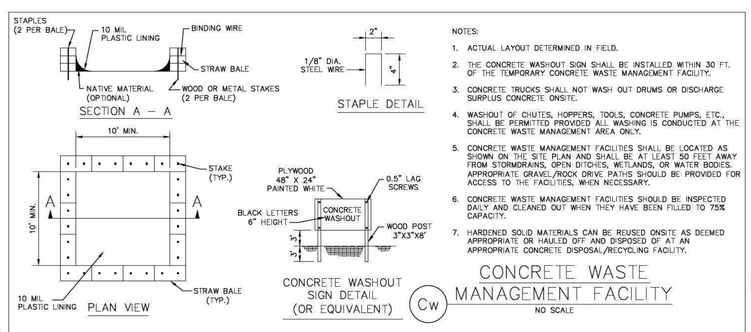
NOTE:
ALL TAXES OWED ON THIS PROPERTY HAVE BEEN PAID IN FULL.

NOTE:
ANY DISTURBED SLOPES STEEPER THAN 2.5:1 SHALL BE PROTECTED WITH EROSION CONTROL MATTING/BLANKETS.

NOTE:
THERE ARE NO STATE WATERS ON OR WITHIN 200' OF THIS PROPERTY.

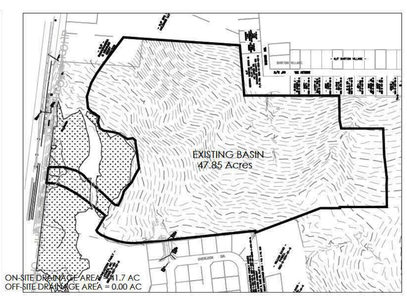
NOTE:
NO FENCES SHALL BE INSTALLED THAT MAY OBSTRUCT MAINTENANCE OF THE STORM SWALES ALONG PROPERTY LINES.



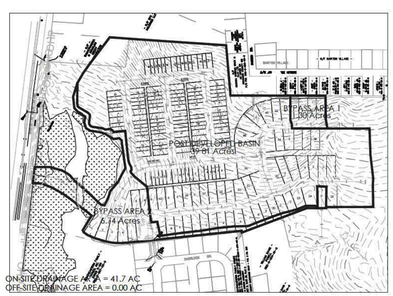


NOTES:
1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASTE MANAGEMENT FACILITY.
3. CONCRETE TRUCKS SHALL NOT WASH OUT DRUMS OR DISCHARGE SURPLUS CONCRETE ONSITE.
4. WASHOUT OF CHUTES, HOPPERS, TOOLS, CONCRETE PUMPS, ETC., SHALL BE PERMITTED PROVIDED ALL WASHING IS CONDUCTED AT THE CONCRETE WASTE MANAGEMENT AREA ONLY.
5. CONCRETE WASTE MANAGEMENT FACILITIES SHALL BE LOCATED AS SHOWN ON THE SITE PLAN AND SHALL BE AT LEAST 50 FEET AWAY FROM STORMDRAINS, OPEN DITCHES, WETLANDS, OR WATER BODIES. APPROPRIATE GRAVEL/ROCK DRIVE PATHS SHOULD BE PROVIDED FOR ACCESS TO THE FACILITIES, WHEN NECESSARY.
6. CONCRETE WASTE MANAGEMENT FACILITIES SHOULD BE INSPECTED DAILY AND CLEANED OUT WHEN THEY HAVE BEEN FILLED TO 75% CAPACITY.
7. HARDENED SOLID MATERIALS CAN BE REUSED ONSITE AS DEEMED APPROPRIATE OR HAULED OFF AND DISPOSED OF AT AN APPROPRIATE CONCRETE DISPOSAL/RECYCLING FACILITY.

CW CONCRETE WASTE MANAGEMENT FACILITY
NO SCALE



PRE–DEVELOPED DRAINAGE MAP
SCALE: 1"=500'



POST–DEVELOPED DRAINAGE MAP
SCALE: 1"=500'

NOTE:
ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH AND TEMPORARY SEEDING. (NO EXCEPTION FOR WORK CONTINUING WITHIN 21 DAYS.)

Soil erosion control measures must be in place prior to any land disturbing activity
E,S&PC PLAN DESIGNER

E,S&PC PLANS PREPARED BY CERTIFIED DESIGN PROFESSIONAL:
SCOTT L. JOHNSON, P.E.
0000002171 — LEVEL II CERTIFICATION NO.
2/01/24 — EXPIRATION

* 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.

100' 0 100' 200'
GRAPHIC SCALE 1" = 100'

REVISION BLOCK

BY	DESCRIPTION	DATE

GEORGIA REGISTERED PROFESSIONAL SCOTT L. JOHNSON No. 26302 — 11-3-21

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FINAL E,S&PC PLAN

MILLER'S CROSSING - SECTION I
GORDON HIGHWAY
TAX PARCELS 082-0-002-00-0, 082-0-003-00-0, & 082-0-007-00-0 - 143.92 ACRES
AUGUSTA-RICHMOND COUNTY, GEORGIA

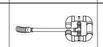
DATE:	11/3/21
SCALE:	1"=100'
DESIGNED BY:	SLJ
CHECKED BY:	LHH
ACAD FILE:	21-082
DRAWING NO:	21-082-24
SHEET NO.	24
OF	31 SHEETS

SOILS MAP
NOT TO SCALE

SOIL PROPERTIES CHART

SOIL SERIES	Soil Symbol
Ailey Loamy Sand, 2-5%	AgB
Ailey Loamy Sand, 5-8%	AgC
Bibb and Osier Soils	Bo
Troup Fine Sand, 1-5%	TwB
Troup Fine Sand, 5-10%	TwC
Troup Fine Sand, 10-17%	TwD
Vaucluse-Ailey Complex, 5-8%	VaC
Vaucluse-Ailey Complex, 8-17%	VaD

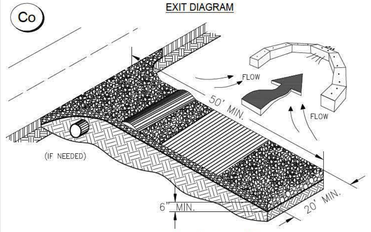
GEORGIA UNIFORM CODING SYSTEM FOR SOIL EROSION AND SEDIMENT CONTROL PARCTICES

Co	CONSTRUCTION EXIT		 (LABEL)	A crushed stone pad located at the construction site exit to provide a place for removing mud from tires thereby protecting public streets.
Fr	FILTER RING			A temporary stone barrier constructed at storm drain inlets and pond outlets.
Sd1	SEDIMENT BARRIER		(INDICATE TYPE)	A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, brush, logs and poles, gravel, or a silt fence.
Sd2	INLET SEDIMENT TRAP			An impounding area created by excavating around a storm drain drop inlet. The excavated area will be filled and stabilized on completion of construction activities.
Sk	FLOATING SURFACE SKIMMER		Sk (LABEL)	A buoyant device that releases/drains water from the surface of sediment ponds, traps, or basins at a controlled rate of flow.
St	STORMDRAIN OUTLET PROTECTION		St (LABEL)	A paved or short section of riprap channel at the outlet of a storm drain system preventing erosion from the concentrated runoff.
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		Ds1	Establishing a temporary vegetative cover with fast growing seedings on disturbed areas.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMP SEEDING)		Ds2	Establishing temporary protection for disturbed areas where seedlings may not have a suitable growing season to produce an erosion retarding cover.
Ds3	DISTURBED AREA STABILIZATION (WITH PERM SEEDING)		Ds3	Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
Du	DUST CONTROL ON DISTURBED AREAS		Du	Controlling surface and air movement of dust on construction site, roadways and similar sites.
Ss	SLOPE STABILIZATION		Ss	A protective covering used to prevent erosion and establish temporary or permanent vegetation on steep slopes, shore lines, or channels.
Lv	LEVEL SPREADER			A structure to convert concentrated flow of water into less erosive sheet flow. This should be constructed only on undisturbed soils.

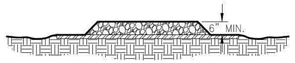
CRUSHED STONE CONSTRUCTION EXIT

Co

EXIT DIAGRAM



ENTRANCE ELEVATION

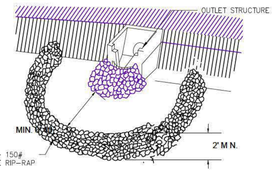


NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
4. GRAVEL PAD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

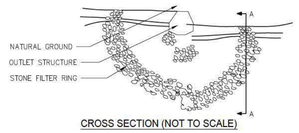
STONE FILTER RING

Fr

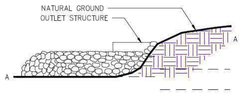
PERSPECTIVE VIEW



PLAN VIEW (NOT TO SCALE)



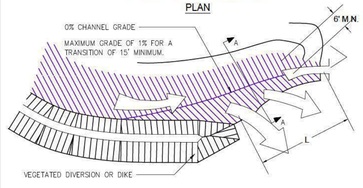
CROSS SECTION (NOT TO SCALE)



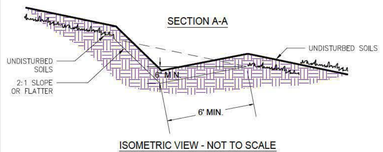
LEVEL SPREADER

Lv

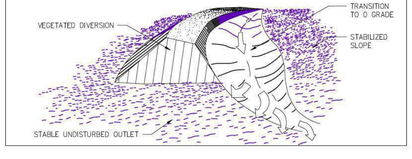
PLAN



SECTION A-A



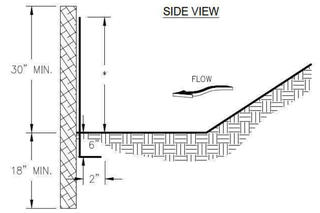
ISOMETRIC VIEW - NOT TO SCALE



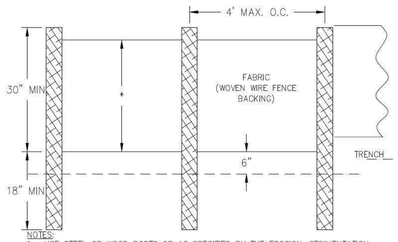
SILT FENCE - TYPE SENSITIVE

Sd1-S

SIDE VIEW



FRONT VIEW

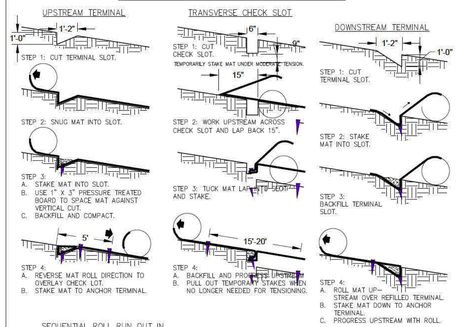


NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

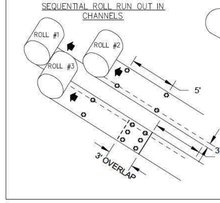
TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP)

Ss

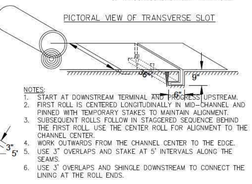
BLANKET AND MATTING CROSS-SECTIONS



SEQUENTIAL ROLL RUN OUT IN CHANNELS:



PICTORAL VIEW OF TRANSVERSE SLOT

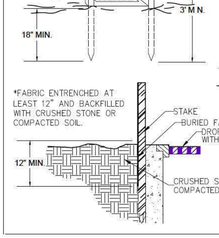


NOTES:
1. START AT DOWNSTREAM TERMINAL AND PROCESS UPSTREAM.
2. FIRST ROLL IS CENTERED LONGITUDINALLY IN MID-CHANNEL AND PINNED WITH TEMPORARY STAKES TO MAINTAIN ALIGNMENT.
3. SUBSEQUENT ROLLS FOLLOW IN STAGGERED SEQUENCE BEHIND THE FIRST ROLL. USE THE CENTER ROLL FOR ALIGNMENT TO THE CHANNEL CENTER.
4. WORK OUTWARDS FROM THE CHANNEL CENTER TO THE EDGE.
5. USE 3" OVERLAPS AND STAKE AT 5' INTERVALS ALONG THE SEAMS.
6. USE 3' OVERLAPS AND SHINGLE DOWNSTREAM TO CONNECT THE LINING AT THE ROLL ENDS.

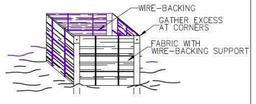
FABRIC AND SUPPORTING FRAME FOR INLET PROTECTION

Sd2-F

STEEL FRAME AND SILT FENCE INSTALLATION



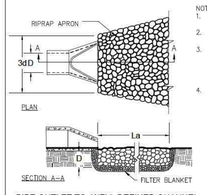
NOTES:
1. DESIGN IS FOR SLOPES NO GREATER THAN 5% (NOT DESIGNED FOR CONCENTRATED FLOWS).
2. THE STEEL POSTS SUPPORTING THE SILT FENCE MATERIAL SHOULD BE SPACED EVENLY AROUND THE PERIMETER OF THE INLET (MAXIMUM OF 3' APART).
3. THE STEEL POSTS SHOULD BE SECURELY DRIVEN AT LEAST 18" DEEP.
4. THE FABRIC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



RIPRAP OUTLET PROTECTION

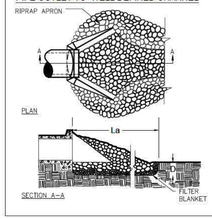
St

PIPE OUTLET TO FLAT AREA -- NO WELL DEFINED CHANNEL



NOTES:
1. La IS THE LENGTH OF THE RIPRAP APRON.
2. D = 1.5 TIMES THE MAXIMUM STONE DIAMETER.
3. IN A WELL-DEFINED CHANNEL, EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK (WHICHEVER IS LESS).
4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND THE SOIL FOUNDATION.

PIPE OUTLET TO WELL DEFINED CHANNEL



St-1 CALCULATIONS
Outlet Pipe Diameter(Do) = 18" = 1.5'
3 x Do = 4.5'
La(min.) = 12'
W = Do + 0.4La = 6.3' (USE 10.0')
VELOCITY=5.7 FT/S (Tw >.5 Do)
Avg Stone Diameter (d50) = 4"
D = 1.5 x d50 = 6"

St-2 CALCULATIONS
Outlet Pipe Diameter(Do) = 24" = 2.0'
3 x Do = 6.0'
La(min.) = 12'
W = Do + 0.4La = 6.8' (USE 10.0')
VELOCITY=7.25 FT/S (Tw >.5 Do)
Avg Stone Diameter (d50) = 4"
D = 1.5 x d50 = 6"

St-3 CALCULATIONS
Outlet Pipe Diameter(Do) = 30" = 2.5'
3 x Do = 7.5'
La(min.) = 12'
W = Do + 0.4La = 7.3' (USE 10.0')
VELOCITY=7.25 FT/S (Tw >.5 Do)
Avg Stone Diameter (d50) = 4"
D = 1.5 x d50 = 6"

E,S&PC PLAN DESIGNER

E,S&PC PLANS PREPARED BY CERTIFIED DESIGN PROFESSIONAL:

SCOTT L. JOHNSON, P.E. | 0000002171 LEVEL II CERTIFICATION NO. | 2/01/24 EXPIRATION

REVISION BLOCK

BY	DESCRIPTION	DATE

GEORGIA REGISTERED PROFESSIONAL ENGINEER SCOTT L. JOHNSON No. 025302 PROFESSIONAL

11-3-21

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DRAWING NO:	21-082-25

SHEET NO. 25 OF 31 SHEETS

Applying Mulch
When mulch is used without seeding, mulch shall be applied to provide full coverage of the exposed area.
1. Dry straw or hay mulch and wood chips shall be applied uniformly by hand or by mechanical equipment.
2. If the area will eventually be covered with perennial vegetation, 20–30 pounds of nitrogen per acre in addition to the normal amount shall be applied to offset the uptake of nitrogen caused by the decomposition of the organic mulches.
3. Cutback asphalt shall be applied uniformly. Care should be taken in areas of pedestrian traffic due to problems of "tracking in" or damage to shoes, clothing, etc.

Anchoring Mulch
1. Straw or hay mulch can be pressed into the soil with a disk harrow with the disk set straight or with a special "packer disk". Disk may be smooth or serrated and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the disk should be dull enough not to cut the mulch but to press it into the soil leaving much of it in an erect position. Straw or hay mulch shall be anchored immediately after application.
2. Straw or hay mulch spread with special blower–type equipment may be anchored with emulsified asphalt (Grade AE–5 or SS–1). The asphalt emulsion shall be sprayed onto the mulch as it is ejected from the machine. use 100 gallons of emulsified asphalt and 100 gallons of water per ton of mulch. Tackifiers and binders can be substituted for emulsified asphalt. (See Tackifiers and Binders specifications.)
3. Plastic mesh or netting with mesh no larger than one inch by one inch shall be installed according to manufacturer's specifications.
4. Netting of the appropriate size shall be used to anchor wood waste. Openings of the netting shall not be larger than the average size of the wood waste chips.
5. Polyethylene film shall be anchor trenched at the top as well as incrementally as necessary.

Ds1

DISTURBED AREA STABILIZATION (W/MULCH ONLY)

SPECIFICATIONS
ALL DISTURBED AREAS WILL RECEIVE PERMANENT GRASS OR 4" – 6" LAYER OF PINE STRAW MULCH (DS1). FINAL LANDSCAPE BED LINES AND SHRUB PLANTING WILL BE ACCORDING TO FINAL LANDSCAPE PLANS TO BE ISSUED IN SEPARATE PACKAGE.

Grading and Shaping
1. 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.
2. 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.
3. 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.

Lime and Fertilizer Rates and Analysis
1. 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. Agricultural lime shall be within the specifications of the Georgia Department of Agriculture.
2. Lime spread by conventional equipment shall be " ground limestone." Ground limestone is calcitic or dolomitic limestone ground so that 90 percent of the material will pass through a 10–mesh sieve, not less than 50 percent will pass through a 50–mesh sieve and not less than 25 percent will pass through a 100–mesh sieve.

Lime and Fertilizer Application
Conventional Seeding: When conventional planting is to be done, lime and fertilizer shall be applied uniformly in one of the following ways:
1. Apply before land preparation so that it will be mixed with the soil during seedbed preparation.
2. Mix with the soil used to fill the holes, distribute in furrows.
3. Broadcast after steep surfaces are scarified, pitted, or trenched.
4. A fertilizer pellet shall be placed at root depth in the closing hole beside each pine tree seedling.

Ryegrass shall not be used in any seeding mixtures containing perennial species due to its ability to out–compete desired species chosen for permanent perennial cover.

Seedbed Preparation
1. Seedbed preparation may not be required where hydraulic seeding and fertilizing equipment is to be used.
2. When conventional seeding is to be used, seedbed preparation will be done as follows:

Broadcast plantings
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 6 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
1. Conventional Seeding – Seeding will be done on a freshly prepared and firmed 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.
2. Individual Plants – Shrubs, vines, and sprigs may be planted with appropriate planters or hand tools. Pine trees shall be planted manually in the subsoil furrow. Each plant shall be set in a manner that will avoid crowding the roots.
3. 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.
4. Where individual holes are dug, 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 seeded 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 weed 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. Sericea 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 seeded areas.
6. When using temporary erosion control blankets or black sod, mulch is not required.
7. Bituminous treated roving may be applied on planted areas, on slopes, in ditches, or dry waterways to prevent erosion. Bituminous treated roving 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
1. 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.
2. Wood cellulose or wood 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 asphalt emulsion and water shall consist of a homogeneous mixture satisfactory for spraying. The mixture shall consist of 100 gallons of grade SS–1 h or CSS–1 h 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 plowed into the soil.
3. Synthetic tackifiers or binders approved by GDOT shall be applied in 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 mulch. 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 areas. These materials shall be installed and anchored according to manufacturer's specifications.

Bedding Material
Mulch is used as a bedding material to conserve moisture and control weeds in nurseries, ornamental beds, around shrubs, and on bare areas on lawns.

Material	Depth
Grain straw	4" to 6"
Grass Hay	4" to 6"
Pine needles	3" to 5"
Wood waste	4" to 6"

Irrigation
Irrigation will be applied at a rate that will not cause runoff.

Topdressing
Topdressing will be applied on all temporary and permanent (perennial) species planted alone or in mixtures with other species. Recommended rates of application are listed in Table 6–5.1 (MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, page 6–46).

Second Year and Maintenance Fertilization
Second year fertilizer rates and maintenance fertilizer rates are listed in Table 6–5.1 (MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, page 6–46).

Lime Maintenance Application
Apply one ton of agricultural lime every 4 to 6 years or as indicated by soil tests. Soil tests can be conducted to determine more accurate requirements if desired.

Use and Management
Mow Sericea lespedeza only after frost to ensure that the seeds are mature. Mow between November and March. Bermudagrass, Bahiagrass and Tall Fescue may be mowed as desired. Maintain at least 6 inches of top growth under any use and management. Moderate use of top growth is beneficial after establishment.
Exclude traffic until the plants are well established. Because of the quail nesting season, mowing should not take place between May and September.

Ds3

DISTURBED AREA STABILIZATION (W/PERMANENT SEEDING)

E,S&PC PLAN DESIGNER

E,S&PC PLANS PREPARED BY CERTIFIED DESIGN PROFESSIONAL:

SCOTT L. JOHNSON, P.E. | 0000002171 LEVEL II CERTIFICATION NO. | 2/01/24 EXPIRATION

PERMANENT COVER SPECIFICATIONS

1. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE GRASSED ACCORDING TO THE FOLLOWING SPECS.
2. ANY VARIATIONS FROM THE VEGETATIVE PLAN SHALL BE APPROVED BY THE LOCAL S.C.S. REPRESENTATIVE.

SEEDING	
GRASS TYPE	LESPEDEZA, SERICEA – UNSCARIFIED
PLANTING DATES	YEAR–ROUND
APPLICATION RATE	75 POUNDS/ACRE OR 1.7 POUNDS/1000 SQUARE FEET
FERTILIZER (FIRST YEAR)	
LIME	2600 POUNDS/ACRE OR 60 POUNDS/1000 SQUARE FEET
6–12–12	1500 POUNDS PER ACRE
TOP–DRESSING	75 POUNDS PER ACRE
FERTILIZER (SECOND YEAR BY OWNER)	
LIME	1600 POUNDS/ACRE OR 36 POUNDS/1000 SQUARE FEET
6–12–12	1000 POUNDS PER ACRE
TOP–DRESSING	---

PERMANENT COVER SPECIFICATIONS

ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE GRASSED ACCORDING TO THE FOLLOWING SPECS.

ANY VARIATIONS FROM THE VEGETATIVE PLAN SHALL BE APPROVED BY THE LOCAL S.C.S. REPRESENTATIVE.

SEEDING	
GRASS TYPE	UNHULLED BERMUDA
PLANTING DATES	OCTOBER 1 – FEBRUARY 28
APPLICATION RATE	10 POUNDS/ACRE OR 0.2 POUNDS/1000 SQUARE FEET
FERTILIZER (FIRST YEAR)	
LIME	2600 POUNDS/ACRE OR 60 POUNDS/1000 SQUARE FEET
6–12–12	1500 POUNDS PER ACRE
TOP–DRESSING	75 POUNDS PER ACRE
FERTILIZER (SECOND YEAR BY OWNER)	
LIME	1600 POUNDS/ACRE OR 36 POUNDS/1000 SQUARE FEET
6–12–12	1000 POUNDS PER ACRE
TOP–DRESSING	75 POUNDS PER ACRE

PERMANENT COVER SPECIFICATIONS

ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE GRASSED ACCORDING TO THE FOLLOWING SPECS.

ANY VARIATIONS FROM THE VEGETATIVE PLAN SHALL BE APPROVED BY THE LOCAL S.C.S. REPRESENTATIVE.

SEEDING	
GRASS TYPE	COMMON BERMUDA (HULLED)
PLANTING DATES	MARCH 1 – JUNE 30
APPLICATION RATE	10 POUNDS/ACRE OR 0.2 POUNDS/1000 SQUARE FEET
FERTILIZER (FIRST YEAR)	
LIME	2600 POUNDS/ACRE OR 60 POUNDS/1000 SQUARE FEET
6–12–12	1500 POUNDS PER ACRE
TOP–DRESSING	75 POUNDS PER ACRE
FERTILIZER (SECOND YEAR BY OWNER)	
LIME	1600 POUNDS/ACRE OR 36 POUNDS/1000 SQUARE FEET
6–12–12	800 POUNDS PER ACRE
TOP–DRESSING	75 POUNDS PER ACRE

EROSION AND SEDIMENTATION CONTROLS
Temporary Stabilization:
Topsoil stockpiles and disturbed portions of the site where construction activity temporarily ceases for at least 21 days will be stabilized with temporary seed and/or mulch no later than 14 days from the last construction activity in that area. The application rate for mulching and seeding are specified on the plan.

OTHER CONTROLS
Waste Disposal
WASTE MATERIALS
1. During construction, all trash, construction materials, debris, and waste shall be contained daily and kept neat.
2. All personnel working on the project site are to assist in keeping the areas in which they work or travel free of discarded materials such as lunch bags, drink cans, etc. Objects such as these should be contained so as not to blow out of the vehicle and shall NOT be thrown from the vehicle.
3. Dumpsters:
a. The construction site will have a construction dumpster in the location indicated on the plans.
b. Dumpster containers will have lids or covers that can be placed over the container prior to rainfall.
c. All trash and construction debris from the site will be deposited in the dumpster. Waste collection shall occur before containers overflow.
d. The construction site will have a construction dumpster at the location shown on the plan. The waste disposal company will be a licensed solid waste management company and shall meet all local and any State solid waste management regulations. Trash will be emptied a minimum of once every 2 weeks and more frequently as needed.
4. If a dumpster spills, the contractor will provide clean up immediately and will follow all guidelines listed below under Spill Control Practices.
5. Stockpiling or dumping off site is not permitted.
6. No construction waste materials will be buried on site.
7. All personnel will be instructed regarding the correct procedure for waste disposal.
8. Waste Materials shall not be discharged to waters of the State, except as authorized by a Section 404 permit.
9. Non–exempt activities shall not be conducted within the 25 of 50–foot undisturbed stream buffers as measured from the point of wrested vegetation without first acquiring the necessary variances and permits.

The site superintendent will be responsible for seeing that these procedures are followed.
HAZARDOUS WASTE:
1. All hazardous waste materials will be disposed of in a manner specified by local or State regulation or by the manufacturer.
2. Site personnel will be instructed in these practices and the site superintendent will be responsible for seeing that these procedures are followed.
SANITARY WASTE
1. The construction site will have a port–a–john unit to be located at the discretion of the contractor's site superintendent.
2. A licensed sanitary waste management contractor, as required by local regulations, shall empty the port–a–john unit at least twice per week between May through September and once per week from October through April.
OFFSITE VEHICLES TRACKING
1. Stabilized construction entrance: a stabilized construction entrance will be provided at all locations where vehicles enter and exit the construction site and will be in place prior to clearing, grading, and building construction.
2. The paved street adjacent to the site entrance will be maintained free of debris, mud, and gravel tracked from the site, even if this means sweeping the road daily.
3. All open top trucks hauling sand, crush and run, fill dirt, trash, clearing debris or any other loose material from the construction site, will be required to have the load tarped or efficiently covered to prevent material from blowing out of the truck.
Trucks
hauling any of the above mentioned materials will be required to have tailgates and sideboards to prevent the spillage of materials on the roadways. Clearing debris cannot extend over sideboards or tailboards. Cleanup of spilled materials is the responsibility of the truck driver.
4. The contractor is responsible for all spills and dirt tracking associated with their construction activities. If spills or dirt tracking are not cleaned up immediately, then the contractor may elect to clean up the materials with its own staff or contractor and bill the responsible company for the expense of the clean up.
INVENTORY OF MATERIALS AT RISK OF CAUSING POLLUTION
The materials listed below are expected to be onsite during construction:
1. Concrete
2. Detergents
3. Paints (enamel and latex)
4. Metal Studs
5. Tar
6. Roofing Shingles
7. Fertilizers
8. Pesticides
9. Petroleum Based Products
10. Cleaning Solvents
11. Wood
12. Masonry Block/Brick/Stone
SPILL PREVENTION
MATERIAL MANAGEMENT PRACTICES
The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff.
Good Housekeeping:
The following good housekeeping practices will be followed onsite during construction projects:
1. Only the amount of products needed or required to do the job will be stored onsite.
2. All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
3. Products must be kept in their original containers with the original manufacturer label.
4. Chemicals will not be mixed together unless recommended by the manufacturer.
5. An effort will be made to use all of the product before disposing of the container, when feasible.
6. The manufacturer's recommendations for proper use and disposal will be followed at all times.
7. Daily site inspections will be made by the site superintendent to ensure proper use and disposal of materials onsite.
HAZARDOUS PRODUCTS
These practices will be used to reduce the risk associated with hazardous materials:
1. Products classified as hazardous will be kept in its original containers unless they are not resealable.
2. Original labels and material safety data must be retained until disposal of the product.
3. If surplus product must be disposed of, manufacturers' or local and State recommended methods for proper disposal must be followed.
PRODUCT SPECIFIC PRACTICES
The following product specific practices will be followed onsite:
Petroleum Products:
1. All onsite vehicles must be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage.
2. Petroleum products will be stored in tightly sealed containers that are clearly labeled. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations.
3. Construction sites will have equipment on site or on board maintenance fueling vehicles to contain and clean up petroleum spills in fuel storage areas.
4. Petroleum products will be stored in covered areas, where possible.
5. Spills will be contained and cleaned up.
Fertilizers:
1. Fertilizers used will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to limit exposure to storm water. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.
2. Fertilizers should be applied more frequently, but at lower application rates.
3. Hydroseeding where lime and fertilizer are applied to the ground surface in one application will be limited where possible.
Pesticides:
1. Pesticides will be stored in a dry covered area.
2. The construction site will have measures on site to contain and clean up spills of pesticides.
3. Pesticides used will be applied only in minimum amounts recommended by the manufacturer.
Paints:
1. All containers will be tightly sealed and stored when not required for use.
2. Excess paint and paint products will not be discharge to the storm sewer system or directly on ground, but will be properly disposed of according to manufacturer's instructions or State and local regulations.
Concrete Trucks:
1. Concrete delivery trucks may NOT be washed out on the construction site.

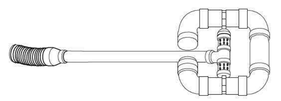
SPILL CONTROL PRACTICES
In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup:
1. Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
2. Materials and equipment necessary for spill cleanup will be kept in the material storage area on site. Equipment and materials will include but not be limited to broom, dustpans, mops, rags, gloves, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
3. All spills will be cleaned up immediately after discovery.
4. The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
5. Spills of toxic or hazardous material will be reported to the appropriate State or local government agency, regardless of the size. Notify EPD at (404) 656–4863 or (800) 241–4113 and the National Response Center (800) 424–8802 immediately.
6. The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.
7. The site superintendent will be the spill prevention and cleanup coordinator. At least 1 site personnel will be designated who will receive spill prevention and cleanup training. This individual will become responsible for prevention and cleanup. The names of responsible spill personnel will be posted in the material storage area in the office trailer on site.
NON–STORM WATER DISCHARGES
It is expected that the following non–storm water discharges will occur from construction sites during the construction period:
1. Water from water line flushings.
2. Irrigation drainage.
3. Discharges from fire fighting activities.
4. Air conditioning condensate.
5. Uncontaminated ground water (from dewatering excavation).
6. Foundation or footing drains where flows are not contaminated with process materials such as solvents.
7. Pavement wash waters where where spills or leaks of toxic or hazardous materials have not occurred and where detergents are not used.
8. New construction exterior building wash down discharges.

Sk

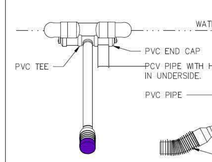
TEMPORARY SEDIMENT POND

NOTE:
SKIMMER CONFIGURATION SHOWN IS TYPICAL. THE DESIGNER/ENGINEER MAY SUBMIT AN ALTERNATE SKIMMER DETAIL FOR REVIEW.

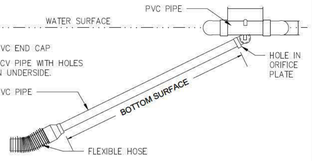
SKIMMER PERSPECTIVE



SKIMMER FRONTAL SECTION VIEW



SKIMMER SIDE SECTION VIEW



TO BE SHOWN ON THE EROSION, SEDIMENT AND POLLUTION CONTROL PLAN

When a FLOATING SURFACE SKIMMER is used, show the following information along with each sediment pond, trap or basin being used on the site:

1. Pond, trap or basin size, length* (top and bottom) width* (top and bottom) and depth = _____
2. Time to Drain (hrs) = 72 HOURS
3. Skimmer Dimensions (orifice and head size)** 8" ORIFICE, 4" HEAD SIZE
4. Manufacturer's name FAIRCLOTH

*feet, ** inches

NOTE:
SANITARY SEWER FOR THIS DEVELOPMENT WILL BE HANDLED THROUGH A GRAVITY COLLECTION SYSTEM THAT WILL BE DEEDED TO AUGUSTA–RICHMOND COUNTY UPON ACCEPTANCE BY COUNTY STAFF. THE COLLECTION SYSTEM FEEDS TO A COUNTY TREATMENT FACILITY.

DEFINITION
A temporary vegetative cover with fast growing seedings for up to a 12–month period or until permanent vegetation is established.

SPECIFICATIONS
Seedbed Preparation
1. Grading or shaping are not required if slopes can be planted with a hydroseeder or by hand–seeding.
2. Seedbed preparation is not required if soil is loose and not sealed by rain.
3. 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
1. Agricultural lime is not required.
2. Fertilize low fertility soils prior to or during planting at the rate of 500–700 pounds per acre of 10–10–10 fertilizer or equivalent (12–16 pounds / 1000 sf).

Seeding
1. It is imperative to check the tag on the bag of seed to verify the type and germination of the seed to be planted.
2. 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 deep.
3. Apply in accordance with specifications on the E,S&PC plan. If it is not provided, select a temporary cover from Table 1.
4. Temporary cover shall be applied to all disturbed areas left idle for fourteen days.

MAINTENANCE
Re–seed areas where an adequate stand of temporary vegetation fails to emerge or where a poor stand exists.

TABLE NOTES:
1. UNUSUAL SITE CONDITIONS MAY REQUIRE HEAVIER SEEDING RATES.
2. SEEDING DATES MAY NEED TO BE ALTERED TO FIT TEMPERATURE VARIATIONS AND LOCAL CONDITIONS.
3. M–L –MOUNTAIN, BLUE RIDGE, RIDGES AND VALLEYS; P –SOUTHERN PIEDMONT; C –SOUTHERN COASTAL PLAIN, SAND HILLS, BLACK LANDS, ATLANTIC COAST FLATWOODS (SEE MANUAL FOR MAP AREAS)
4. SEEDING RATES ARE BASED ON PURE LIVE SEED (PLS).

Ds2

DISTURBED AREA STABILIZATION (W/TEMP. SEEDING)

TABLE1. SOME TEMPORARY PLANT SPECIES, SEEDING RATES AND PLANTING DATES

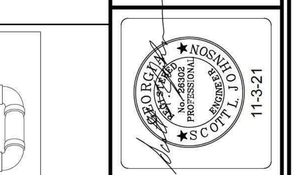
SPECIES	RATES PER 1,000 SF	RATES PER ACRE	PLANTING DATES BY REGION M–L	P	C
BARLEY ALONE	3.3 LBS	3 BU	9/1–10/31	9/15–11/15	10/1–12/31
BARLEY IN MIXTURES	0.6 LBS	0.5 BU			
LESPEDEZA, ANNUAL	0.9 LBS	40 LBS	3/1–3/31	3/1–3/31	2/1–2/28
LESPEDEZA IN MIXTURES	0.2 LBS	10 LBS			
MILLET, BROWNTOP	0.9 LBS	40 LBS	4/15–6/15	4/15–6/30	4/15–6/30
MILLET IN MIXTURES	0.2 LBS	10 LBS			
MILLET, PEARL	1.1 LBS	50 LBS	5/15–7/15	5/1–7/31	4/15–8/15
OATS ALONE	2.99 LBS	4 BU	9/15–11/15	9/15–11/15	9/15–11/15
OATS IN MIXTURES	0.7 LBS	1 BU			
RYE (GRAIN) ALONE	3.9 LBS	3 BU	8/15–10/31	9/15–11/30	10/1–12/31
RYE IN MIXTURES	0.6 LBS	0.5 BU			
RYEGRASS	1.9 LBS	40 LBS	8/15–11/15	9/1–12/15	9/15–12/31
SUDANGRASS	1.4 LBS	60 LBS	5/1–7/31	5/1–7/31	4/1–7/31
WHEAT ALONE	4.1 LBS	3 BU	9/15–11/30	10/1–12/15	10/15–12/31
WHEAT IN MIXTURES	0.7 LBS	0.5 BU			

TABLE2. FERTILIZER REQUIREMENTS FOR TEMPORARY VEGETATION

TYPES OF SPECIES	PLANTING YEAR	FERTILIZER (N–P–K)	RATE (LBS/AC)	N TOP DRESSING RATE (LBS/AC)
COOL SEASON GRASSES	FIRST	6–12–12	1500	50–100
	SECOND	6–12–12	1000	---
	MAINTENANCE	10–10–10	400	30
COOL SEASON GRASSES AND 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

REVISION BLOCK

BY	DESCRIPTION	DATE



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E,S&PC DETAILS

MILLER'S CROSSING - SECTION I
GORDON HIGHWAY
TAX PARCELS 082-0-002-00-0, 082-0-003-00-0, & 082-0-007-00-0 - 143.92 ACRES
AUGUSTA-RICHMOND COUNTY, GEORGIA

DATE: 11/3/21
SCALE: NTS
DESIGNED BY: SLJ
CHECKED BY: LHH

ACAD FILE: 21-082
DRAWING NO: 21-082-26

SHEET NO. 26 OF 31 SHEETS

SAMPLING

Sampling Requirements – The following procedures constitute EPD's guidelines for sampling turbidity.

A. Sampling Reuirements shall include the following:

(1) a USGS 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 infrastructure construction; (a) the location of all perennial and intermittent streams and other bodies as shown on a USGS topographic map, and all other perennial and intermittent streams and other water bodies located during mandatory field verification, into which the storm water is discharged and (b) the receiving water and/or outfall sampling locations for each representative stormwater outfall. When the permittee has chosen to use a USGS topographic map and the receiving water(s) is not shown on the USGS map, the location o fthe receiving water(s) must be hand–drawn on the USGS topographic map from where the storm water(s) enters the receiving water(s) shown to the point where the storm water(s) combines with the first blue line stream shown on the USGS topographic map;

(2) the analytical method used to collect and analyze the samples including quality control/quality assurance procedures. The narrative must include precise sampling methodology for each sampling location;

(3) when the permittee has determined that some or all outfalls will be monitored, a rationale must be included for the NTU limit(s) selected from Appendix B. This rationale must include the size of the faciclity or infrastructure construction, the calculation of the size of the surface water drainage area, and the type of receiving water(s) (i.e., trout stream or supporting water 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. Sampling Type

All sampling shall be collected by "grab samples" and the analysis of these samples must be conducted in accordance with methodology and test procedures established by 40 CFR Part 136 (unless other test procedures have been approved); the guidance document titled "NPDES Storm Water Sampling Guidance Document, EPA 833–B–92–001" and guidance documents that may be prepared by the EPD.

(1) Sample containers should be labeled prior to collecting samples.

(2) Samples should be well mixed before transferring to a secondary container.

(3) Large mouth, well cleaned and rinsed glass or plastic jars should be used for collecting samples. The jars should be cleaned thoroughly to avoid contamination.

(4) Manual, automatic or rising stage sampling may be utilized. Samples required by this permit should be analyzed immediately, but in no case later than 48 hours after collection. However, samples from automatic samplers must be collected no later than the next business day after their accumulation, unless flow through automated analysis is utilized. Dilution of samples is not required. Samples may be analyzed directly with a properly calibrated turbidimeter. Samples are not required to be cooled.

(5) Sampling and analysis of the receiving water(s) or outfalls beyond the minimum frequency stated in this permit must be reported to EPD as specified in Part IV.E.

C. Sampling Points

(1) For construction activities the primary permittee must sample all perennial and intermittent streams and other water bodies shown on the USGS topographic map and all other field verified perennial and intermittent streams and other water bodies, or all outfalls into such streams and other water bodies, or a combination thereof. However, provided for in and in accordance with Part IV.D.5.c. (2) of this permit, primary permittees on an infrastructure construction project may sample the representative perennial and intermittent streams, other water bodies or outfalls, or a combination thereof. 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 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.

(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 structures, 100% of the soil surface is uniformly covered in permanent vegetation with a density of 70% or greater, or equivalent permanent stabilization measures (such as the use of rip rap, gabions, permanent mulches or geotextiles) have been used. Permanent vegetation shall consist of: planted trees, shrubs, perennial vines; a crop of perennial vegetation and a seeding of target crop perennials appropriate for the region. For infrastructure construction projects on land used for agricultural or silvicultural purposes, final stabilization may be accomplished by stabilizing the disturbed land for its agricultural or silvicultural use. Final stabilization applies to each phase of construction.

(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 facility/site is in compliance with the standard set forth in Parts III.C.3. or III.C.4., whichever is applicable.

D. Sampling Frequency

(1) The primary permitte must sample in accordance with the Plan at least once for each rainfall event described below. For a qualifying event, samples must be taken within forty–five (45) minutes of:

(a) the accumulation of the minimum amount of rainfall for the qualifying event, if the storm water discharge to a monitored receiving water or from a monitored outfall has begun at or prior to the accumulation, or

(i) the beginning of any storm water discharge to a monitored receiving water or from a monitored outfall, if the discharge begins after the accumulation of the minimum amount of rainfall for the qualifying event.

(2) However, where manual and automatic sampling are impossible (as defined in the permit), or are beyond the permittees control, the permittee shall take samples as soon as possible, but in no case more than twelve (12) hours after the beginning of the storm water discharge.

(3) Sampling by the permittee shall occur for the following events:

(a) For each area of the site that discharges to a receiving stream, the first rain event that reaches or exceeds 0.5 inch and allows for monitoring during normal business hours* (Monday thru Friday, 8:00 AM to 5:00 PM and Saturday 8:00 AM to 5:00 PM when construction activity is being conducted by the Primary permittee) that occurs after all clearing and grubbing operations have been completed in the drainage area of the location selected as the representative sampling location;

(b) In addition to (a) above, for each area of the site that discharges to a receiving stream, the first rain event that reaches or exceeds 0.5 inch and allows for monitoring during normal business hours* that occurs either 90 days after the first sampling event or after all mass grading operations have been completed in the drainage area of the location selected as the representative sampling location, whichever comes first;

(c) At the time of sampling performed pursuant to (a) and (b) above, if BMPs are found to be properly designed, intalled and maintained, no further action in required. If BMPs in any area of the site that discharges to a receiving stream are not properly designed, installed and maintained, corrective action shall be defined and implemented within 2 business days, and turbidity samples shall be taken from discharges from that area of the site for each subsequent rain event that reaches or exceeds 0.5 inch during normal business hours* until the selected turbidity standard is attained, or until post–storm event inspections determine that BMPs are properly designes, installed and maintained; and

(d) Existing construction activitis, i.e., those that are occurring on or before the effective date of this permit, that have met the sampling required by (a) above shall sample in accordance with (b). Those existing construction activities that have met the sampling required by (b) above shall not be required to conduct additional sampling other than as required by (c) above.

* Note that the Permittee may choose to meet the requirements of (a) and (b) above by collecting turbidity samples from any rain event that reaches or exceeds 0.5 inch and allows for monitoring at any time of the day or week.

REPORTING

1. The applicable permittees are required to submit a summary of the monitoring 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 month 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. Sampling reports must be submitted to EPD until such time as a NOT is submitted in accordance with Part VI.
2. Each permittee must retain copies of all monitoring results reported by that permittee in accordance with this Part. In addition to other record keeping requirements, the monitoring information shall include:
   a. The date, exact place, and time of sampling or measurements;
   b. The name(s) of the individual(s) who performed the sampling and measurements;
   c. The date(s) analyses were performed;
   d. The time(s) analysis were initialed;
   e. The names(s) of the individual(s) 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, intrument readouts, computer disks or tapes, etc., used to determine these results; and
   h. Results which exceed 1000 NTU shall be reported as "exceeds 1000 NTU."

INSPECTIONS

PRIMARY PERMITTEE REQUIREMENTS:

(1). Each day when any type of construction activity has taken place at a primary permittee's site, certified personnel provided by the primary permittee shall inspect: (a) all areas at the primary permittee's site where petroleum products are stored, used, or handled for spills and leaks from vehicles and equipment; (b) all locations at the primary permittee's site where vehicles enter or exit the site for evidence of off–site sediment tracking; and (c) measure rainfall once each 24 hour period at the site. These inspections must be conducted until a Notice of Termination is submitted.

(2). 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 or rainfall or greater (unless such storm ends after 5:00 PM on any Friday or on any non–working Saturday, non–working Sunday or any non–working Federal holiday in which case the inspection shall be completed by the end of the next business day and/or working day, whichever occurs first): (a) disturbed areas of the primary permittee's construction site that have not undergone final stabilization; (b) areas used by the primary permittee for storage of materials that are exposed to precipitation that have not undergone final stabilization; and (c) structural control measures. Erosion and sediment control measures identified in the Plan applicable to the primary permittee's site shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s). For areas of a site that have undergone final stabilization, the permittee must comply with Part IV.D.4.a.(3). These inspections must be conducted until a Notice of Termination is submitted.

(3). 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 is received by EPD) the areas of the site that have undergone final stabilization. These areas shall be inspected for evidence of, or the potential for, pollutants entering the drainage system and the receiving waters(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).

(4). 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.

(5). A report of each inspection that includes the name(s) of personnel making each inspection, the date(s) of each inspection, 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.(4). 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 identify any incidents of non–compliance, the report shall contain a certification that the construction site is in compliance the the Erosion, Sedimentation and Pollution Control Plan and this permit. The report shall be signed in accordance with Part V.G. of this 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 alternative location from commencement of construction until such time as a NOT 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 monitoring information, results, and reports required by this permit;
   e. A copy of all inspection reports generated in accordance with Part IV.D.4.a. of this permit;
   f. A copy of 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.(1)(c) of this permit.
2. Each secondary 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 NOT 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 the permit or the applicable portion of the Erosion, Sedimentation and Pollution Control Plan for their activities at the construction site required by this permit;
   c. A copy of all inspection reports generated in accordance with Part IV.D.4.a. of this permit; and
   d. A copy of all violation summaries and violation summary reports generated in accordance with Part III.D.2. of this permit.
3. Each tertiary 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 NOT is submitted in accordance with Part VI:
   a. A copy of all Notices of Intent submitted to EPD; and
   b. A copy of the Erosion, Sedimentation and Pollution Control Plan required by the permit;
   c. The design professional's report of the results of the inspection conducted in accordance with Part IV.A.5. of this permit;
   d. A copy of all monitoring information, results, and reports required by this permit;
   e. A copy of all inspection reports generated in accordance with Part IV.D.4.a. of this permit; and
   f. A copy of all violation summaries and violation summary reports generated in accordance with Part III.D.2. of this permit;
   g. Daily rainfall information collected in accordance with Part IV.D.4.c.(1)(c) of this permit.
4. Copies of all Notices of Intent, Notices of Termination, reports, plans, monitoring reports, monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, Erosion, Sedimentation and Pollution Control Plans, records of all data used to complete the Notice of Intent to be covered by the permit and all other records required by the 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 NOT is submitted in accordance with Part VI of the 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.

APPENDIX B
NEPHELOMETRIC TURBIDITY UNIT (NTU) TABLES

COLD WATER (TROUT STREAM)

SURFACE WATER DRA NAGE AREA, SQUARE MILES

SITE SIZE, ACRES		0-4 99	5-9 99	10-24 99	25-49 99	50-99 99	100-249 99	250-499 99	500+
	1 00-10	25	50	75	150	300	500	500	500
	10.01-25	25	25	50	75	150	200	500	500
	25.01-50	25	25	25	50	75	100	300	500
	50.01-100	20	25	25	35	59	75	150	300
	100.01+	20	20	25	25	25	50	60	100

WARM WATER (SUPPORTING WARM WATER FISHERIES)

SURFACE WATER DRA NAGE AREA, SQUARE MILES

SITE SIZE, ACRES		0-4 99	5-9 99	10-24 99	25-49 99	50-99 99	100-249 99	250-499 99	500+
	1 00-10	75	150	200	400	750	750	750	750
	10.01-25	50	100	100	200	300	500	750	750
	25.01-50	50	50	100	100	200	300	750	750
	50.01-100	50	50	50	100	100	150	300	600
	100.01+	50	50	50	50	50	100	200	100

TO USE THESE TABLES, SELECT THE SIZE (ACRES) OF THE FACILITY OR COMMON DEVELOPMENT. THEN, SELECT THE SURFACE WATER DRAINAGE AREA (SQUARE MILES.) THE NTU MATRIX VALUE ARRIVED AT FROM THE ABOVE TABLES IS THE ONE TO USE IN PART III.C.4.

EXAMPLE 1: FOR A SITE SIZE OF 12.5 ACRES AND A COLD WATER DRAINAGE AREA OF 37.5 SQUARE MILES, THE NTU VALUE TO USE IN PART III.C.4 IS 75 NTU.

EXAMPLE 2: FOR A SITE SIZE OF 51.7 ACRES AND A WARM WATER DRAINAGE AREA OF 72 SQUARE MILES, THE NTU VALUE TO USE IN PART III.C.4 IS 100 NTU.

SECONDARY PERMITTEE REQUIREMENTS:

(1). Each day when any type of construction activity has taken place at a secondary permittee's site, certified personnel provided by the secondary permittee shall inspect: (a) all areas used by the secondary permittee where petroleum products are stored, used, or handled for spills and leaks from vehicles and equipment; and (b) all locations at the secondary permittee site where that permittee's 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. This paragraph is not applicable to utilty companies and utility contractors if they are secondary permittees.

(2). Certified personnel (provided by the utility companies and utility contractors if they are secondary permittees) shall inspect the following each day any type of construction activity has taken place at the construction site: (a) areas of the construction site disturbed by the utility companies and utility contractors that have not undergone final stabilization; (b) areas used by the utility companies and utility contractors for storage of materials that are exposed to precipitation that have not undergone final stabilization; and (c) structural control measures. Erosion and sediment control measures identified in the Plan applicable to the utility companies and utility contractors' construction activities shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain wheter erosion control measures are effective in preventing significant impacts to receiving water(s). This paragraph is not applicable to utility companies and utility contractors when they are secondary permittees performing service line installations or when conducting repairs on existing line installations. The certification requirements of this paragraph shall be applicable 90 days after the effective date of this permit.

(3). Certified personnel (provided by the secondary permittee) shall inspect the following at least once every seven calendar days and within 24 hours of the end of a storm that is 0.5 inches rainfall or greater (unless such storm ends after 5:00 PM on any non–working Saturday, non–working Sunday or any non–working Sunday or any non–working Federal holiday in which case the inspection shall be completed by the end of the next business day and/or working day, whichever occurs first): (a) disturbed areas of the secondary permittee's construction site that have not undergone final stabilization; (b) areas used by the secondary permittee for storage of materials that are exposed to precipitation that have not undergone final stabilization; and (c) structural control measures. Erosion and sediment control measures indentified in the Plan applicable to the secondary permittee's site shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s). For areas of a site that have undergone final stabilization, the permittee must comply with Part IV.D.4.b.(4). These inspections must be conducted until a Notice of Termination is submitted. This paragraph is not applicable to utility companies and utility contractors if they are secondary permittees.

(4). Certified personnel (provided by the secondary permittee) shall inspect at least once per month during the term of this permit (i.e., until a Notice of Termination is received by EPD) the areas of their sites that have undergone final stabilization. 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). This paragraph is not applicable to utility companies and utility contractors if they are secondary permittees.

(5). Based on the results of each inspection, the secondary permittee must notify the primary permittee within 24–hours of any suspected BMP design deficiencies. The primary permittee must evaluate whether these deficiencies exist within 48–hours of such notice, and if these deficiencies are found to exist must amend the Plan in accordance with Part IV.C. of this permit to address those deficient BMPs within seven (7) days of being notified by the secondary permittee. When the Plan is amended, the primary permittee must notify and provide a copy of the amendment to all affected secondary permittee(s) within this seven (7) day period. The secondary permittees must implement any new Plan requirements affecting their site(s) within 48–hours of notification by the primary permittee.

(6). A report of each inspection that includes the name(s) of personnel making each inspection, the date(s) of each inspection, 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 has undergone final stabilization and a Notice of Termination is submitted to EPD. Such reports shall identify any incidents of non–compliance. Where the report does not identify any non–compliance, the report shall contain a certification that the construction site is in compliance with the Erosion, Sedimentation and Pollution Control Plan and this permit. The report shall be signed in accordance with Part V.G. of this permit. This paragraph is not applicable to utility companies and utility contractors if they are secondary permittees performing only service line installations or when conducting repairs on existing line installations.

TERTIARY PERMITTEE REQUIREMENTS:

(1). Each day when any type of construction activity has taken place at a tertiary permittee's site, certified personnel provided by the tertiary permittee shall inspect: (a) all areas used by the tertiary permittee where petroleum products are stored, used, or handled for spills and leaks from vehicles and equipment; and (b) all locations at the tertiary permittee site where that permittee's 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. This paragraph is not applicable to utilty companies and utility contractors performing only service line installations or when conducting repairs on existing line installations.

(2). Certified personnel (provided by the tertiary permittee) shall inspect the following at least once every seven calendar days and within 24 hours of the end of a storm that is 0.5 inches rainfall or greater (unless such storm ends after 5:00 PM on any non–working Saturday, non–working Sunday or any non–working Sunday or any non–working Federal holiday in which case the inspection shall be completed by the end of the next business day and/or working day, whichever occurs first): (a) disturbed areas of the tertiary permittee's construction site that have not undergone final stabilization; (b) areas used by the tertiary permittee for storage of materials that are exposed to precipitation that have not undergone final stabilization; and (c) structural control measures. Erosion and sediment control measures indentified in the Plan applicable to the tertiary permittee's site shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s). For areas of a site that have undergone final stabilization, the permittee must comply with Part IV.D.4.c.(3). These inspections must be conducted until a Notice of Termination is submitted. This paragraph is not applicable to utility companies and utility contractors performing only service line installations or when conducting repairs on existing line installations.

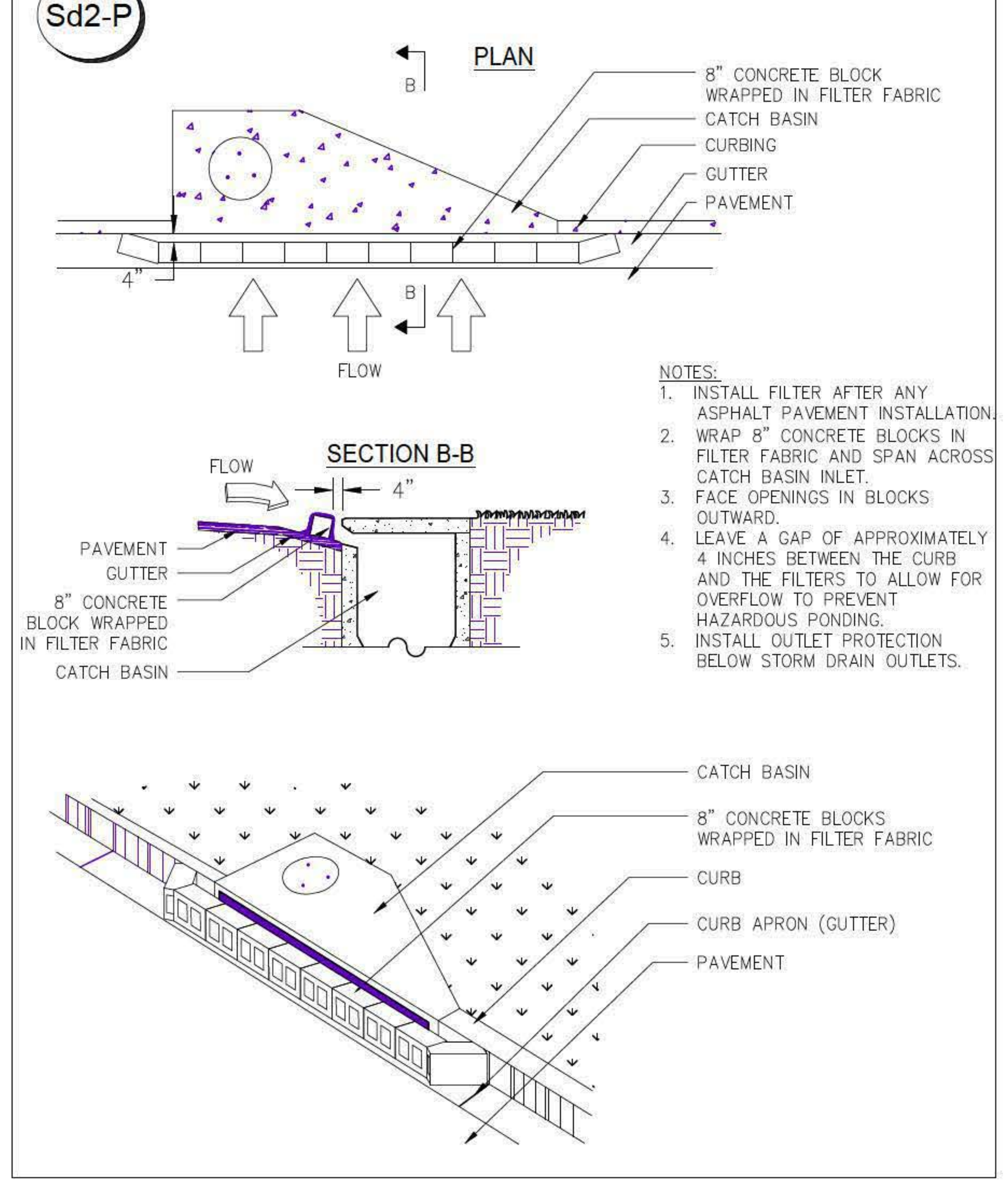
(3). Certified personnel (provided by the tertiary permittee) shall inspect at least once per month during the term of this permit (i.e., until a Notice of Termination is received by EPD) the areas of their sites that have undergone final stabilization. These areas shall be inspected for evidence of, 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). This paragraph is not applicable to utility companies and utility contractors performing only service line installations or when conducting repairs on existing line installations.

(4). 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 the inspection.

(5). A report of each inspection that includes the name(s) of personnel making each inspection, the date(s) of each inspection, major observations relating to the implementation of the Erosion, Sedimentation and Pollution Control Plan, and actions taken in accordance shall be made and retained at the site or be readily available at a designated alternate location until the entire site has undergone final stabilization and a Notice of Termination is submitted to EPD. Such reports shall identify any incidents of non–compliance. Where the report does not identify any non–compliance, the report shall contain a certification that the construction site is in compliance with the Erosion, Sedimentation and Pollution Control Plan and this permit. The report shall be signed in accordance with Part V.G. of this permit. This paragraph is not applicable to utility companies and utility contractors performing only service line installations or when conducting repairs on existing line installations.

CURB INLET FILTER "PIGS IN BLANKET"

Sd2-P



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

DETENTION BASIN 1 WITH SKIMMER INSTALLED

TO BE SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN

SEDIMENT STORAGE CALCULATIONS

Storage Calculations

1. Required stormwater storage = _8765.3_ cy (as determined by local ordinance)
2. Required sediment storage = _2793.9_ cy (67 cy/ac * _41.7_ ac disturbed area)
3. Total required storage = _8765.3_ + _2793.9_ = _11,559.2_ cy
4. Available storage = _13,351.3_ cy
5. Is the available storage (4) greater than the total required storage (3)? _X_ yes ______ no
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 = _311.5_ ft (Elevation corresponding to 22 cy/ac * _41.7_ ac disturbed area)
8. Is the length-width ratio 2:1 or greater? _X_ yes ______ no
9. If "no", the length of flow must be increased. Choose the method to be used:
   ______ Baffles (Type of baffle: ______)
   ______ Other ______

E,S&PC PLAN DESIGNER

E,S&PC PLANS PREPARED BY CERTIFIED DESIGN PROFESSIONAL:

SCOTT L. JOHNSON, P.E. | 0000002171 LEVEL II CERTIFICATION NO. | 2/01/24 EXPIRATION

REVISION BLOCK

DATE	DESCRIPTION	BY

GEORGIA No. 028302 PROFESSIONAL ENGINEER SCOTT L. JOHNSON 11-3-21

CIVILDESIGN SOLUTIONS
371 MAIN STREET
P.O. BOX 603
WARRENTON, GA 30828
706.465.0900 OFFICE
706.465.0909 FAX
civildesignsolutions.com

E,S&PC DETAILS

MILLER'S CROSSING - SECTION I
GORDON HIGHWAY
TAX PARCELS 082-0-002-00-0, 082-0-003-00-0, & 082-0-007-00-0 - 143.92 ACRES
AUGUSTA-RICHMOND COUNTY, GEORGIA

DATE:	11/3/21
SCALE:	NTS
DESIGNED BY:	SLJ
CHECKED BY:	LHH
ACAD FILE:	21-082
DRAWING NO:	21-082-27

SITE DATA SUMMARY

TOTAL PROJECT AREA = 143.92 ACRES
TOTAL UPLAND AREA = 134.16 ACRES
TOTAL WETLAND AREA = 9.76 ACRES
TOTAL AREA IN PONDS = 0.00 ACRES
TOTAL STREAM LENGTH = 1,781.53 L.F.
TOTAL WETLAND IMPACT = 1.0083 ACRES
TOTAL STREAM IMPACT = 199.00 L.F.
TOTAL STREAM IMPACT = 597.00 S.F.

STREAM IMPACT TABLE

MPACT	DESCR PTION	AREA IMPACT (S.F.)	AREA IMPACT (ACRES)	STREAM IMPACT(LF)	IMPACT TYPE	STORM PIPE DESCRIPTION
1	ROAD CROSSING	345 00	0.008	115 00	PERMANENT	80' OF 48" RCP
2	ROAD CROSSING	252 00	0.006	84.00	PERMANENT	

WETLAND IMPACT TABLE

IMPACT	DESCR PTION	AREA MPACT (S F.)	AREA MPACT (ACRES)	IMPACT TYPE	STORM PIPE DESCRIPTION
1	EMBANKMENT	33,032 0	0.7583	PERMANENT	
2	EMBANKMENT	10,889.35	0.2500	PERMANENT	80' OF 24" RCP
TOTAL PERMANENT WETLAND IMPACT = 1 0083 ACRES					

LINE DATA FOR WETLAND IMPACT AREA #1

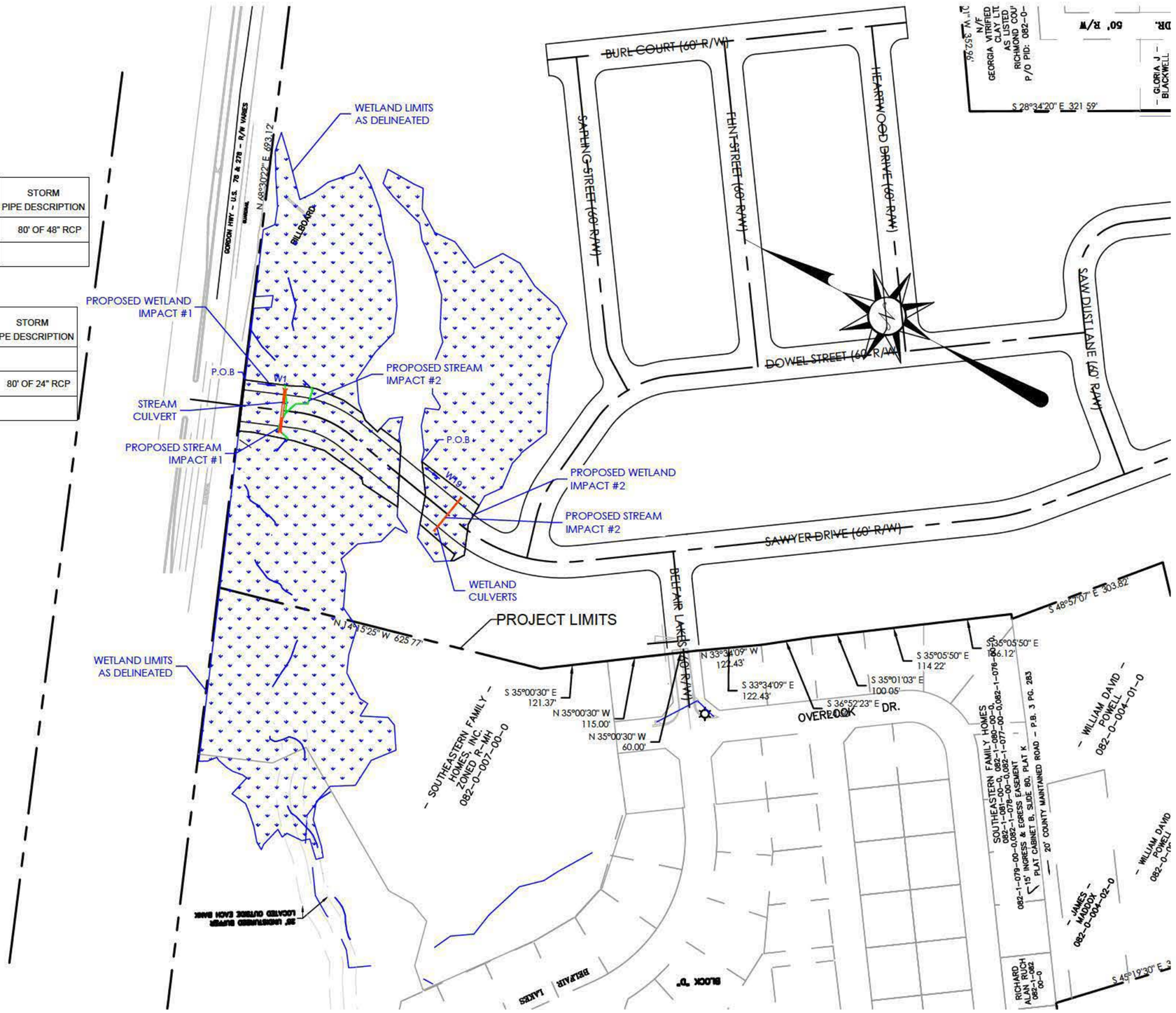
LINE	BEARING	DISTANCE
W1	S 20°35'50" E	82.45'
W2	S 25°57'30" E	30.22'
W3	S 17°41'26" E	23.15'
W4	N 05°19'40" W	56.33'
W5	S 06°30'46" W	43.16'
W6	N 41°13'59" E	13.10'
W7	N 14°42'01" E	31.88'
W8	S 76°14'18" E	8.84'
W9	N 08°30'10" E	46.09'

LINE	BEARING	DISTANCE
W10	S 53°56'48" W	9.85'
W11	N 64°41'57" E	111.10'
W12	S 05°03'06" W	78.54'
W13	N 50°53'01" E	13.18'
W14	S 07°08'39" W	86.33'
W15	S 10°57'31" E	60.00'
W16	S 16°35'43" E	77.28'
W17	N 22°45'07" W	28.48'
W18	N 68°29'51" E	97.12'

LINE DATA FOR WETLAND IMPACT AREA #2

LINE	BEAR NG	DISTANCE
W19	N 09°00'33" E	135 90'
W20	N 88°11'53" W	40.83'
W21	S 68°55'31" W	58.89'
W22	S 56°16'28" E	21.75'
W23	S 31°42'07" E	5.54'

LINE	BEAR NG	DISTANCE
W24	S 88°07'38" E	13.45'
W25	N 12°27'28" E	86.74'
W26	N 72°11'41" E	57.03'
W27	S 55°21'47" W	62.69'



REVISION BLOCK			
DATE	DESCRIPTION	BY
6/1/22	AS PER COE COMMENT	LHH

GEORGIA REGISTERED PROFESSIONAL ENGINEER LAWTON HUNT HARRISON 6/1/22

CIVILDESIGN SOLUTIONS
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civildesignsolutions.com
371 MAIN STREET
P.O. BOX 603
WARRENTON, GA 30828

OVERALL WETLAND EXHIBIT

MILLER'S CROSSING - SECTION 1
GORDON HIGHWAY
TAX PARCELS 082-0-002-00-0, 082-0-003-00-0, & 082-0-007-00-0 - 143.92 ACRES
AUGUSTA-RICHMOND COUNTY, GEORGIA

DATE	3/16/22
SCALE	1"=200'
DESIGNED BY	LHH
CHECKED BY	SLJ
ACAD FILE	21-082
DRAWING NO	21-082-OW
SHEET NO.	1
OF 01 SHEETS	

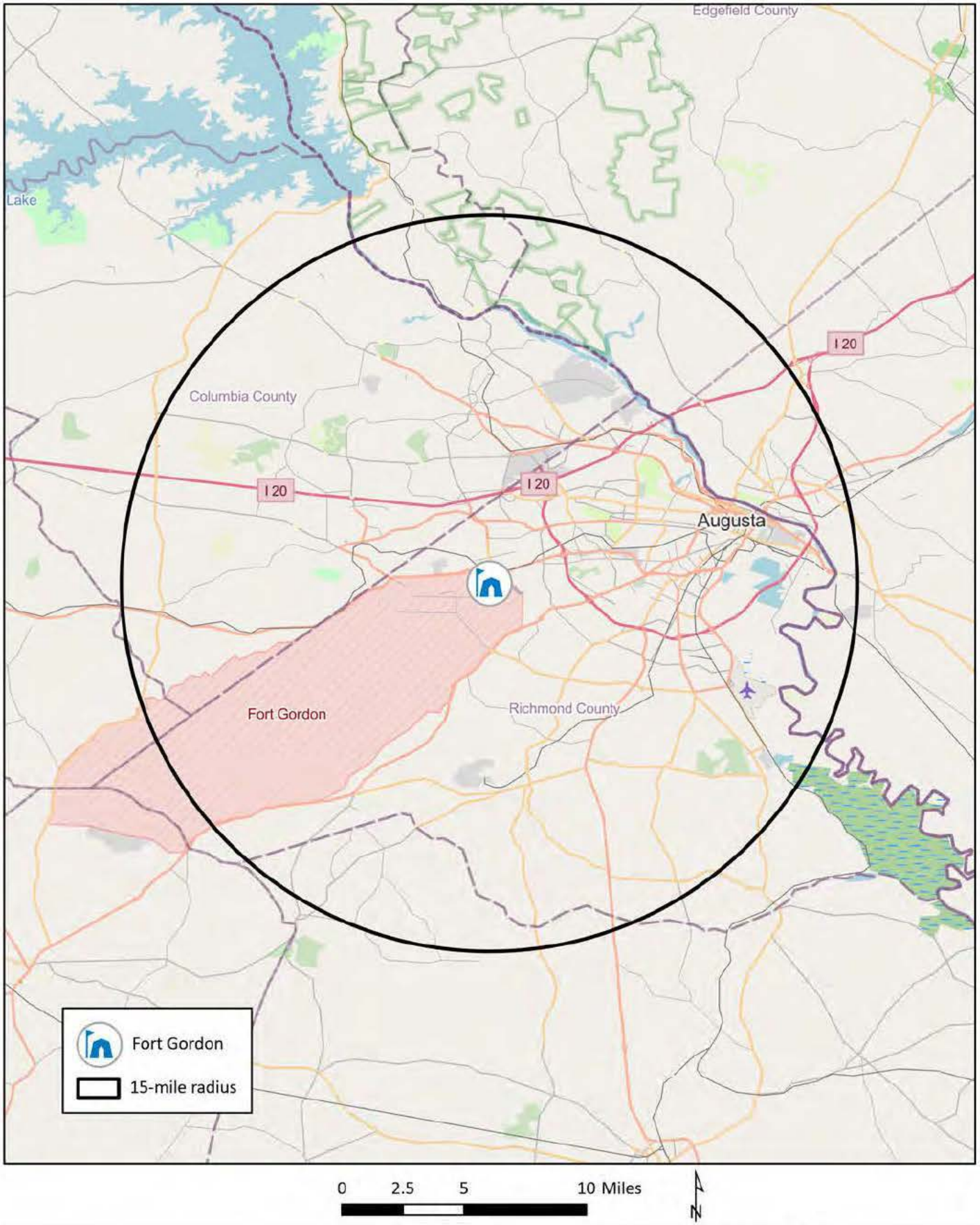

Figure 1. Alternative site search area for the proposed Miller's Crossing residential development located in Augusta, Richmond County, Georgia.

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Figure 2. Location of the median break and Gordon Woods adjacent to the proposed Miller's Crossing residential development located in Augusta, Richmond County, Georgia.

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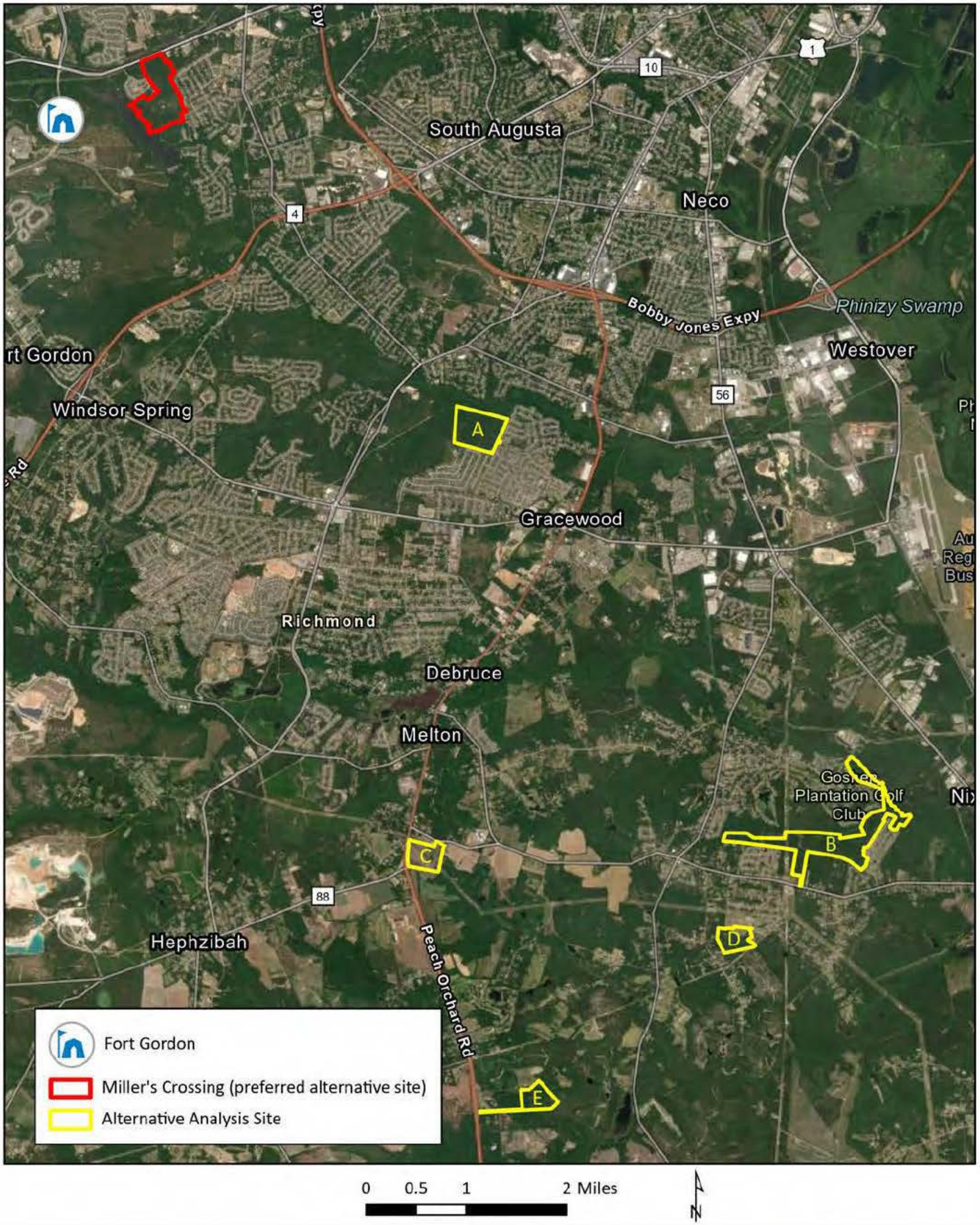

Figure 3. Alternative sites for the proposed Miller's Crossing residential development located in Augusta, Richmond County, Georgia.

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Figure 4. Alternative analysis site A (Alternative 4) for the proposed Miller's Crossing residential development located in Augusta, Richmond County, Georgia.

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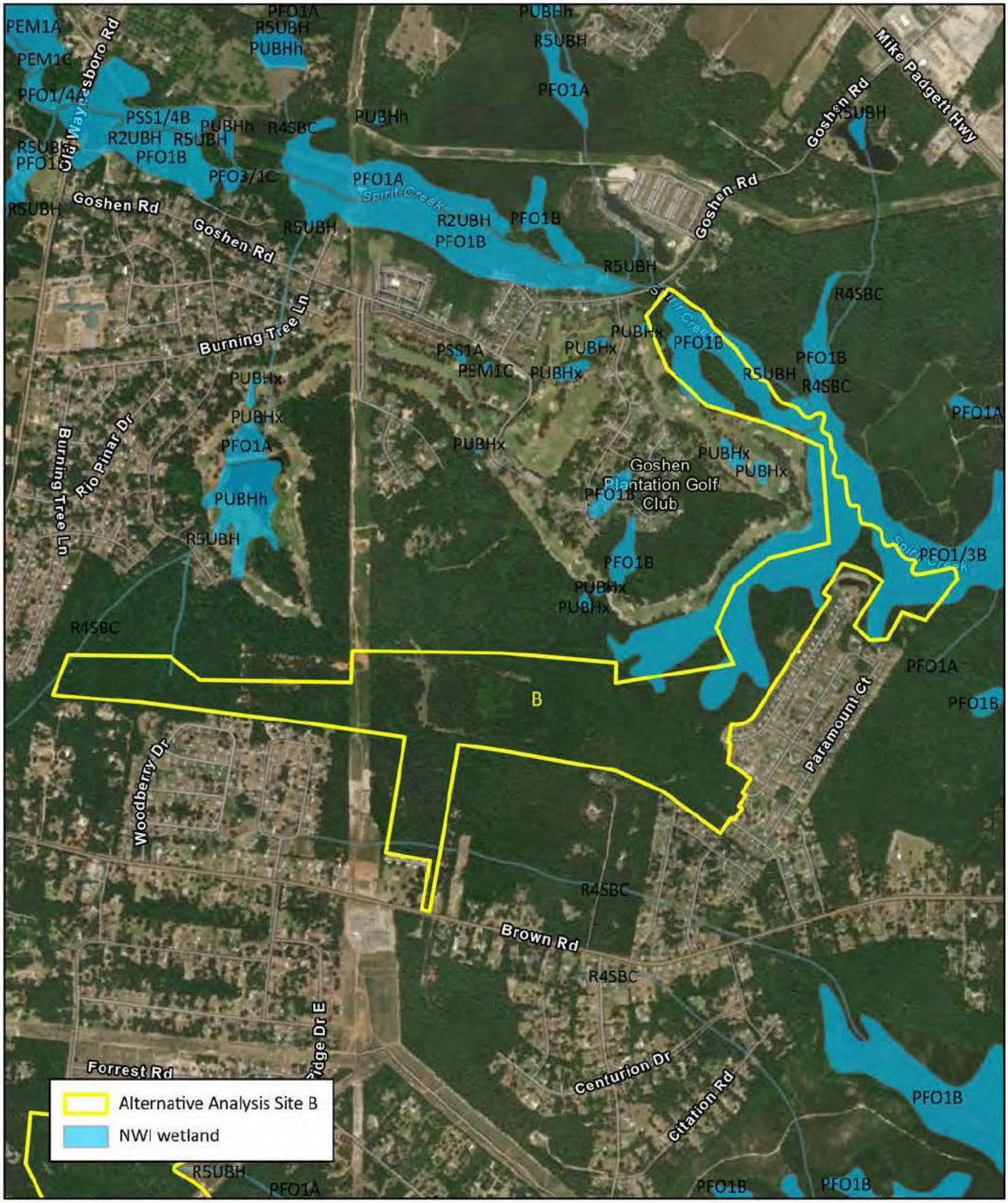

Figure 5. Alternative analysis site B (Alternative 5) for the proposed Miller's Crossing residential development located in Augusta, Richmond County, Georgia.

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Figure 6. Alternative analysis site C (Alternative 6) for the proposed Miller's Crossing residential development located in Augusta, Richmond County, Georgia.

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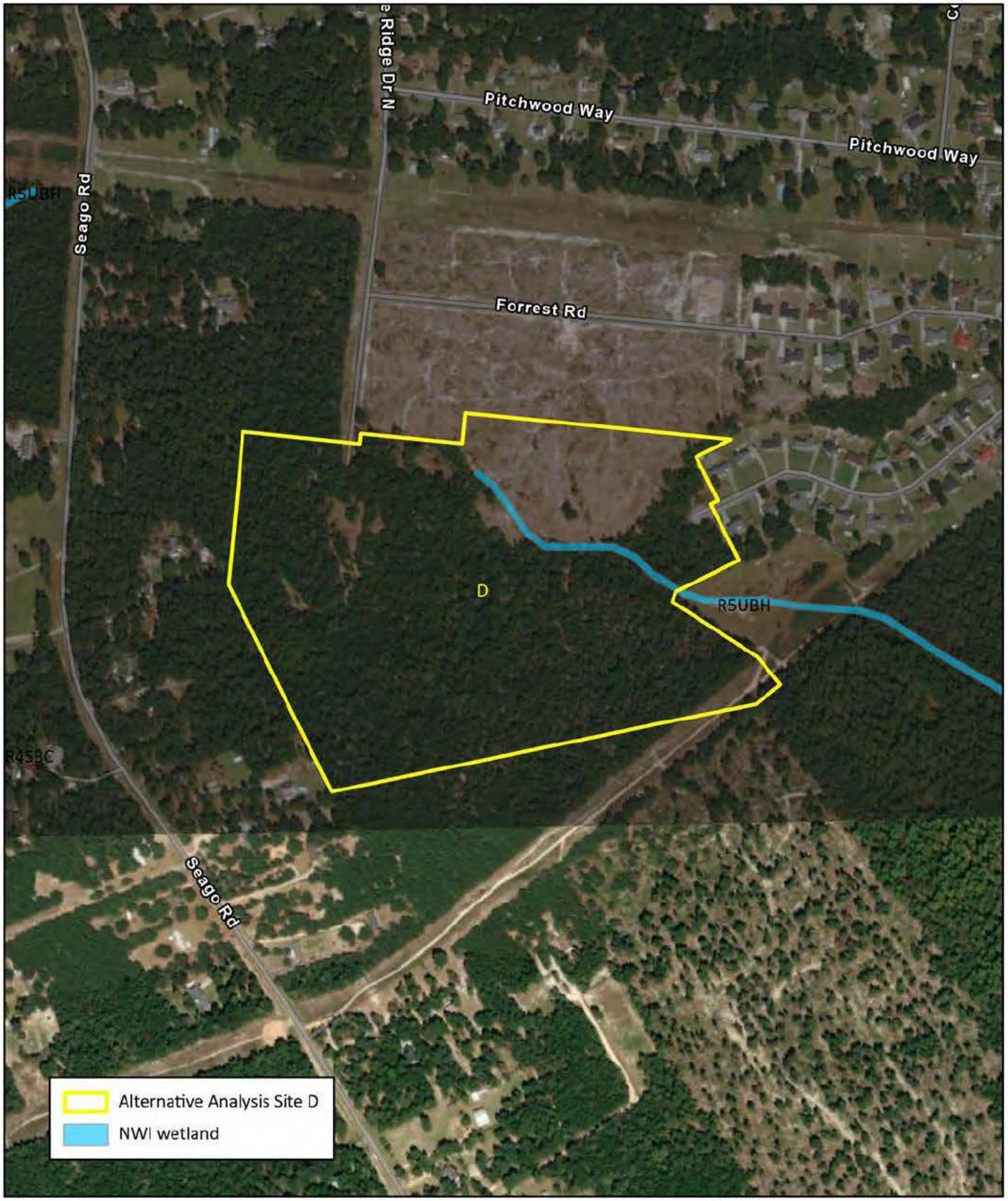

Figure 7. Alternative analysis site D (Alternative 7) for the proposed Miller's Crossing residential development located in Augusta, Richmond County, Georgia.

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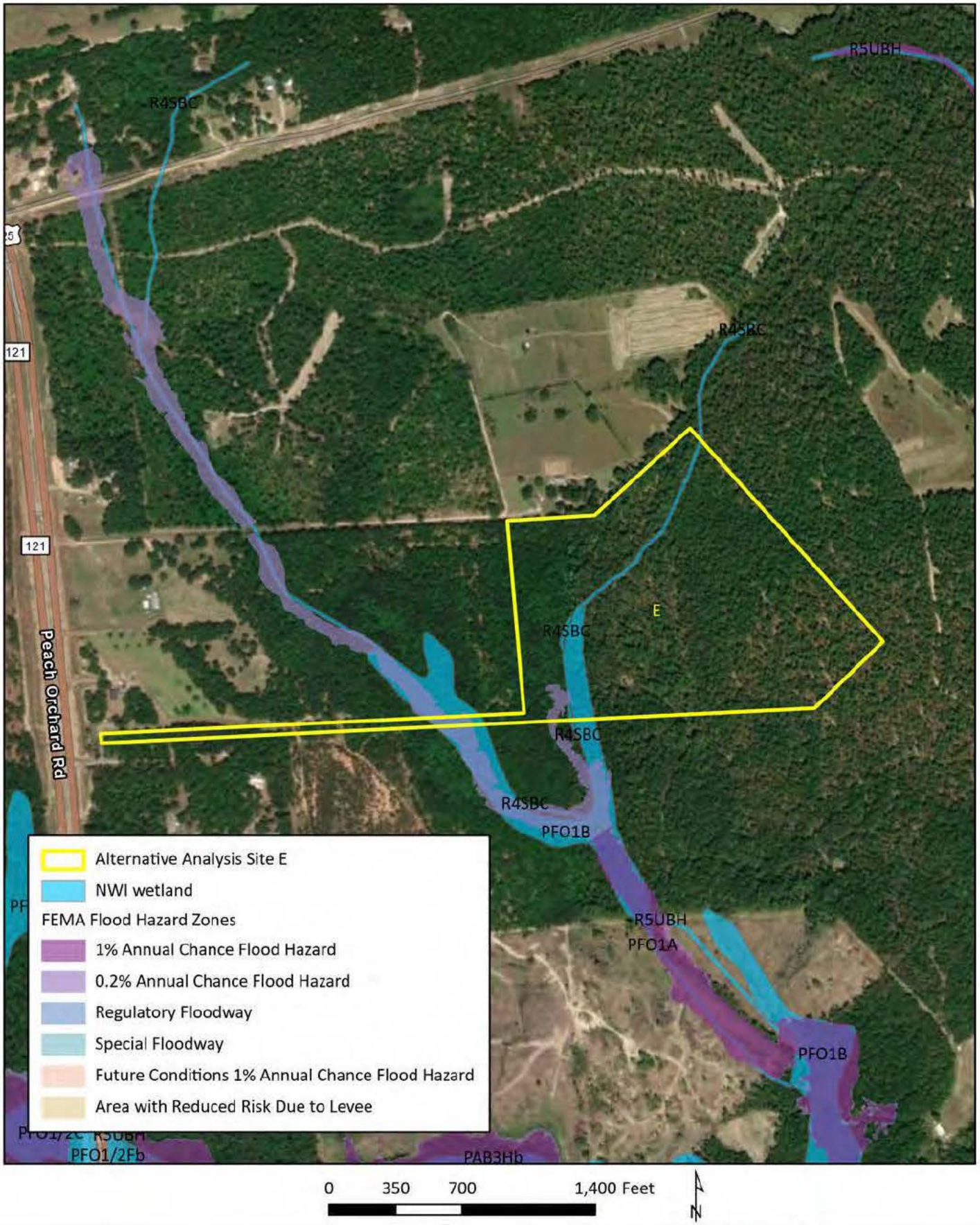

Figure 8. Alternative analysis site E (Alternative 8) for the proposed Miller's Crossing residential development located in Augusta, Richmond County, Georgia.

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ENVIRONMENTAL CONSULTANTS